



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

July 23, 2013

U. S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

ATTN: Mr. Eric Alsmeyer
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 Nationwide Permits 13 and 33, Section 401 Water Quality Certification, and Neuse River Riparian Buffer Authorization** for the replacement of Bridge No. 24 over North Flat River on SR 1142 (Paynes Tavern Road) in Person County, Federal Aid Project No. BRZ-1142(7), Division 5, T.I.P No. B-4785.

Debit \$240.00 from WBS No. 38556.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace bridge No. 24 over North Flat River on SR 1142 (Paynes Tavern Road) in Person County.

Please see the enclosed copies of the Pre-Construction Notification (PCN), Preliminary Jurisdictional Determination (JD) form, stormwater management plan, permit drawings, buffer drawings, and roadway design plans for the above-referenced project. The Programmatic Categorical Exclusion (PCE) for this project was completed in March 2012. Additional copies are available upon request.

The let date for the project is March 18, 2014 with a review date of January 28, 2014. However, the let date may advance as additional funds become available.

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


TELEPHONE: 919-707-6000
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

LOCATION:
Century Center Building B
1020 Birch Ridge Drive
Raleigh, NC 27610

A copy of this permit application will be posted on the NCDOT Website at:
<https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Greg Price at gwprice@ncdot.gov or (919) 707-6148.

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 checked="" type="checkbox"/> Section 404 Permit <input type="checkbox"/> Section 10 Permit	
1b. Specify Nationwide Permit (NWP) number: 13 and 33 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 type="checkbox"/> Yes <input checked="" 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 type="checkbox"/> Yes	<input checked="" 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 No. 24 on SR 1142 (Paynes Tavern Road) over North Flat River
2b. County:	Person
2c. Nearest municipality / town:	Roxboro
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4785

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) 707-6148
3g. Fax no.:	(919) 212-5785
3h. Email address:	gwprice@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: 36.34174 (DD.DDDDDD) Longitude: - 79.02433 (-DD.DDDDDD)
1c. Property size:	0.6 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	North Flat River
2b. Water Quality Classification of nearest receiving water:	WS-III; 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: Land use in the project vicinity is primarily agriculture, interspersed with residential development and forestland.	
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: 140	
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 1-span 40.5-foot bridge with a 48-foot wide by 12-foot high precast arched bottomless culvert on the existing bridge location with an offsite 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: perennial streams and wetland	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input checked="" type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Greg Price	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. November 16, 2009.	
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):						
<input type="checkbox"/> Wetlands		<input checked="" type="checkbox"/> Streams - tributaries		<input checked="" type="checkbox"/> Buffers		
<input type="checkbox"/> Open Waters		<input type="checkbox"/> Pond Construction				
2. Wetland Impacts						
If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.						
2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)	
Site <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 <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 <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						
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 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization in Bottomless Culvert	North Flat River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	13	63
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	North Flat River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	16	61
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Access	North Flat River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	20	16
<input type="checkbox"/> P <input type="checkbox"/>			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts					Perm 124 Temp 16	
3i. Comments:						

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.	4b.	4c.			4d.	4e.		
Open water impact number – Permanent (P) or Temporary (T)	Name of waterbody (if applicable)	Type of impact			Waterbody type	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								
4g. Comments:								
5. Pond or Lake Construction								
If pond or lake construction proposed, then complete the chart below.								
5a.	5b.	5c.			5d.			5e.
		Wetland Impacts (acres)			Stream Impacts (feet)			Upland (acres)
Pond ID number	Proposed use or purpose of pond	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 checked="" type="checkbox"/> Neuse <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input 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 (Bottomless Culvert)	North Flat River	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2237	
B1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road crossing	North Flat River	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3694	3373
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts				5931	3373
6i. Comments: Bottomless culvert impacts are treated like bridge impacts due to Conspan configuration.					

D. Impact Justification and Mitigation

1. Avoidance and Minimization

- 1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.
An arched bottomless culvert is used instead of traditional box culvert and will completely span the stream. An offsite detour will be used.
- 1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.
NCDOT will use Best Management Practices for Bridge Demolition and Removal as well as Best Management Practices for the Protection of Surface Waters. Design Standards in Sensitive Watersheds will also be used.

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

- | | |
|--|--|
| 2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If no, explain: No mitigation required per email on July 18, 2013 by Eric Alsmeyer. |
| 2b. If yes, mitigation is required by (check all that apply): | <input type="checkbox"/> DWQ <input type="checkbox"/> Corps |
| 2c. If yes, which mitigation option will be used for this project? | <input type="checkbox"/> Mitigation bank
<input type="checkbox"/> Payment to in-lieu fee program
<input type="checkbox"/> Permittee Responsible Mitigation |

3. Complete if Using a Mitigation Bank

- 3a. Name of Mitigation Bank: 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 type="checkbox"/> Yes |
| 4b. Stream mitigation requested: | |
| 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): | |
| 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	<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 checked="" type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

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

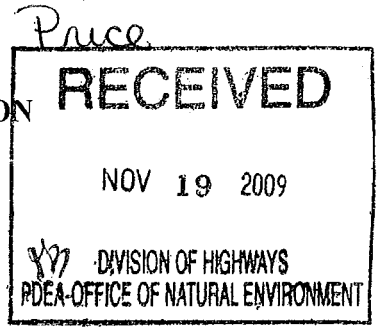
5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts? No effect for dwarf wedgemussel due to no habitat.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS county list and NCNHP database along with field surveys.		
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 type="checkbox"/> Yes	<input checked="" 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.)	<u>7.24.13</u> Date

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action ID. 2009-01768

County: Person

U.S.G.S. Quad: Hurdle Mills



NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: NCDOT; Division of Highways
Address: ATTN: Gregory J. Thorpe, Ph.D
1598 Mail Service Center
Raleigh, North Carolina 27699-1598
Telephone No.: (919) 431-1587 (Greg Price)

Property description: Study area for TIP #B-4785; On SR 1142 (Paynes Tavern Road), BR 24 over North Flat River, southwest of Roxboro, NC.

Size (acres)	<u>N/A</u>	Nearest Town	<u>Roxboro</u>
Nearest Waterway	<u>North Flat River</u>	River Basin	<u>Neuse</u>
USGS HUC	<u>03020201</u>	Coordinates	<u>N 36.3417 W -79.0243</u>

Preliminary Determination

- Based on preliminary information, there may be waters of the U.S. including wetlands on the above described project area. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).
- The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Washington, NC, at (252) 946-6481 to determine their requirements.

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact Eric Alsmeyer at 919-554-4884, Ext. 23.

Remarks

Desktop verification. The drawing, "Terrestrial Communities and Jurisdictional Areas, Figure 3 (copy att.), submitted on 8/11/2009, generally depicts the aquatic features of the US within the subject study area.

Corps Regulatory Official *Eric Alsmeyer* Date: 11/16/2009 Determination Expiration Date: 11/16/2014

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

Copy furnished (w/-att.):
*consultant

ATTACHMENT

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): 11/16/2009

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
NCDOT - Natural Environment Unit
4701 Atlantic Avenue Suite 116
Raleigh, NC 27604
ATTN: Greg Price

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: SAW, NCDOT/B-4785/SR1142/Paynes Tavern Rd/BR 24, 2009-01768.

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
TIP B-4785, Bridge No. 24 on SR 1142 over North Flat River, Person County.
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State:NC County/parish/borough: Person City: Roxboro
Center coordinates of site (lat/long in degree decimal format): Lat. 36.34174° N, Long. -79.02433°W.

Universal Transverse Mercator:

Name of nearest waterbody: North Flat River

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 771 linear feet: width (ft) and/or 0.17 acres.
Cowardin Class: Riverine
Stream Flow: Perennial
Wetlands: 0.11 acres.
Cowardin Class: Forested

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date: 11/16/2009
 Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plans or plat submitted by or on behalf of the applicant consultant
- Data sheets prepared submitted by or on behalf of the applicant consultant
- Office concurs with data sheets/delineation report.
- Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS 1:100,000 data
 - USGS 8- and 12-digit HUC maps
- U.S. Geological Survey maps (Scale, scale & grid name: 24K, Hurdle Mills, NC)
- USDA Natural Resources Conservation Service Soil Survey, Citation: *Person County*
- National wetlands inventory map(s). Cite name: *6IS*
- State local wetland inventory map(s)
- FEMA FIRMA map(s)
- 10-Year Floodplain Elevation (s): (National Geodetic Vertical Datum of 1929)
- Photograph(s) Aerial Name & Date:
or Aerial (Name & Date)
- Previous determinations. File no. and date of response letter
- Other information (please specify)

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Eric G. Adams 11/16/2009
Signature and date of
Regulatory Project Manager
(REQUIRED)

Andrew W. Price 05/11/2009
Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
North Flat River	36.34174 N	-79.02433 W	Riverine	190 linear feet	Non-section 10 – non-tidal
SA	36.34138 N	-79.02572 W	Riverine <i>Palustrine</i>	416 linear feet	Non-section 10 – non-tidal
SB	36.34292 N	-79.02250 W	Riverine <i>Palustrine</i>	150 linear feet	Non-section 10 – non-tidal
SC	36.34283 N	-79.02251 W	Riverine <i>Palustrine</i>	15 linear feet	Non-section 10 – non-tidal
WA	36.34096 N	-79.02597 W	Forested (PFO1A)	0.11 acre	Non-section 10 – wetland

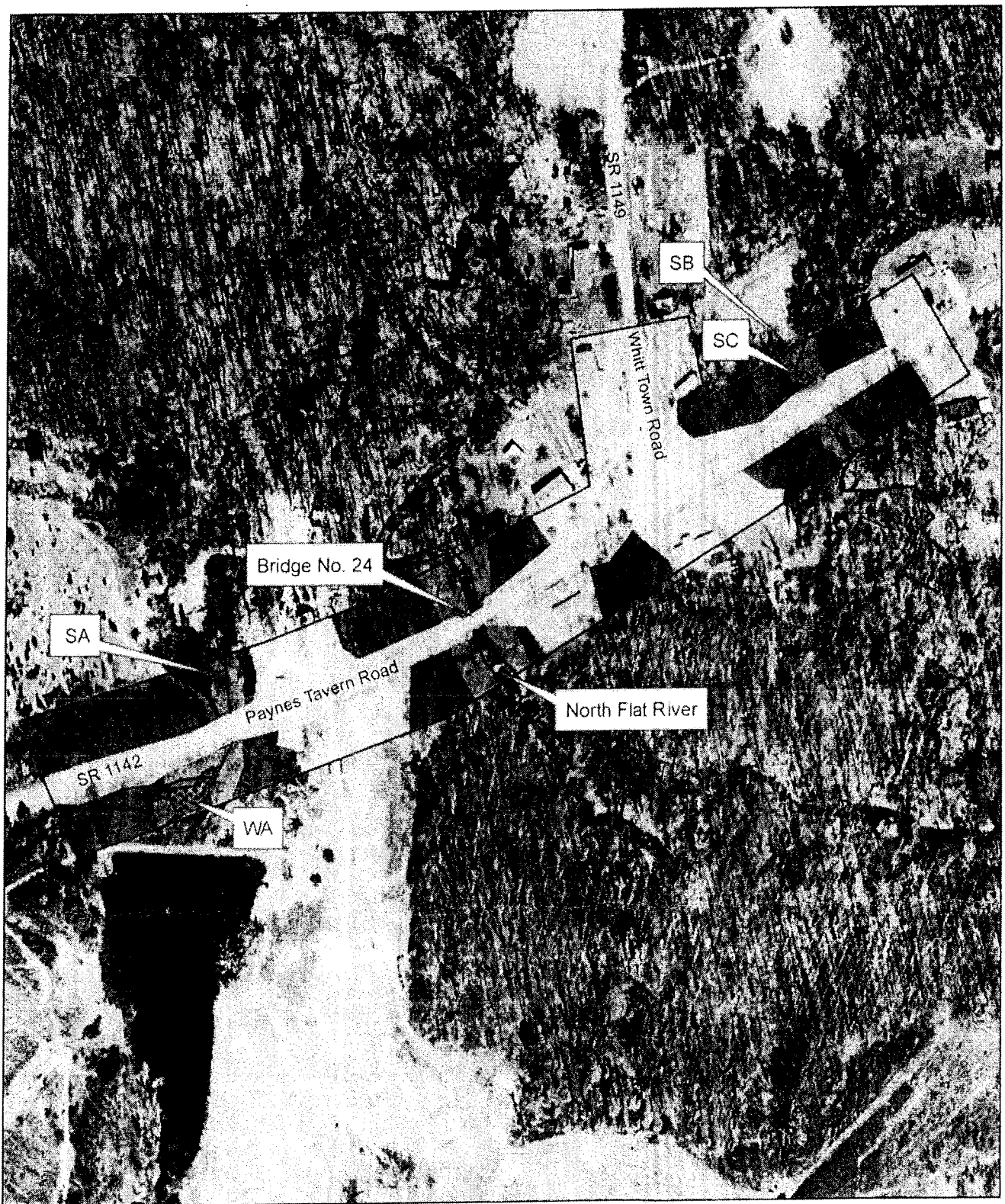
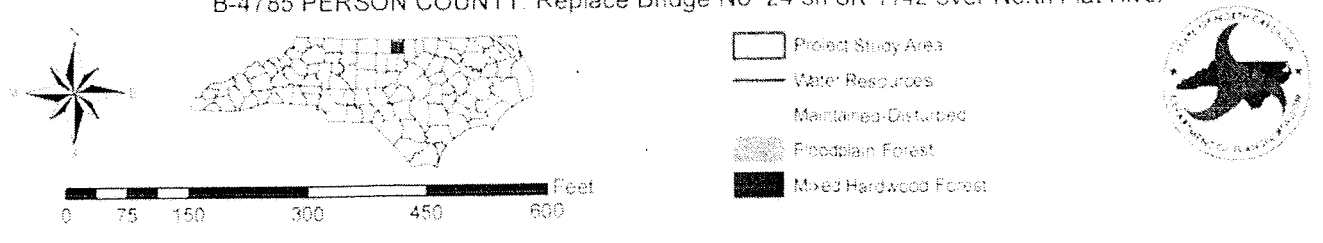


FIGURE 3. TERRESTRIAL COMMUNITIES AND JURISDICTIONAL AREAS
 B-4785 PERSON COUNTY: Replace Bridge No. 24 on SR 1142 over North Flat River





North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR LINEAR ROADWAY PROJECTS



(Version 1.2; Released July 2012)

Project/TIP No.: B-4785 **County(ies):** Person **Page** 1 **of** 3

General Project Information

Project No.:	B-4785	Project Type:	Bridge Replacement	Date:	3/20/2013
NCDOT Contact:	MARSHALL CLAWSON, PE	Contractor / Designer:	Roger Weadon, PE		
Address:	1020 Birch Ridge Road Raleigh NC, 27610	Address:	598 E Chatham Street Cary, NC 27511		
Phone:	(919) 707-6713	Phone:	(919) 297-0220		
Email:	mclawson@ncdot.gov	Email:	rweadon@earthlink.net		
City/Town:	Roxboro	County(ies):	Person		
River Basin(s):	Neuse	CAMA County?	No		
Primary Receiving Water:	North Flat River	NCDWQ Stream Index No.:	27-3-2		
NCDWQ Surface Water Classification for Primary Receiving Water		Primary:	Water Supply III (WS-III)		
		Supplemental:	Nutrient Sensitive Waters (NSW)		
Other Stream Classification:	None				
303(d) Impairments:	None				
Buffer Rules in Effect	Neuse				

Project Description

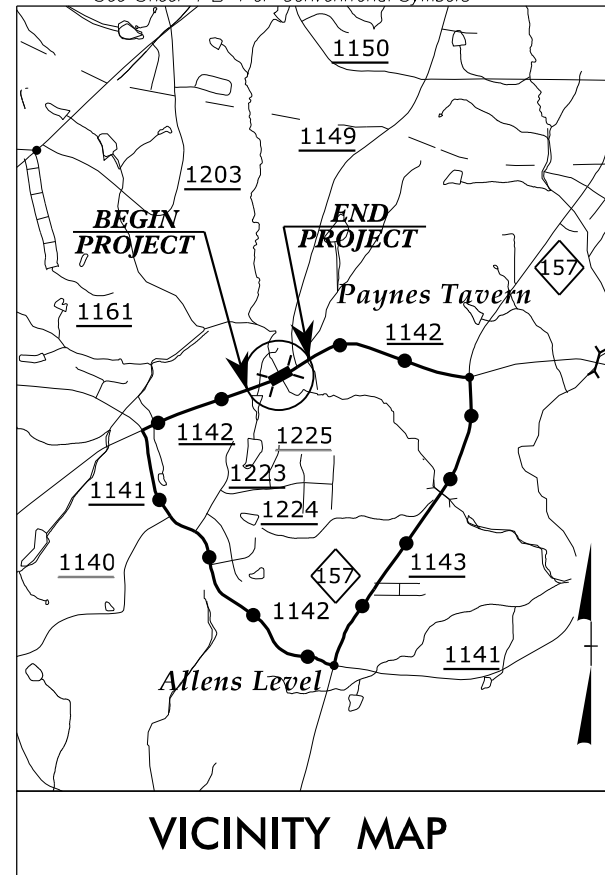
Project Length (lin. Miles or feet):	0.06	Surrounding Land Use:	Wooded		
	Proposed Project		Existing Site		
Project Built-Upon Area (ac.)	0.20	ac.	0.13	ac.	
Typical Cross Section Description:	The typical section consist of a 20 ft EOP with the 2:1 side slope. The replaced conspan (bottomless) width = 48', length = 63' and rise = 12'.		The typical section consist of a 18 ft EOP.		
Average Daily Traffic (veh/hr/day):	Design/Future:	1170	Existing:	780	

General Project Narrative: The project B-4785 consists of replacing the existing bridge with a conspan 63' long, 48' wide and rise of 12'. The project area is approximately 0.26 acres. The project drainage system consists of grass swale with rip rap outlet protection. Impacts have been minimized by using the rip rap at the swale outlet. No deck drains are required for the proposed bridge.

References

09/08/99

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



VICINITY MAP

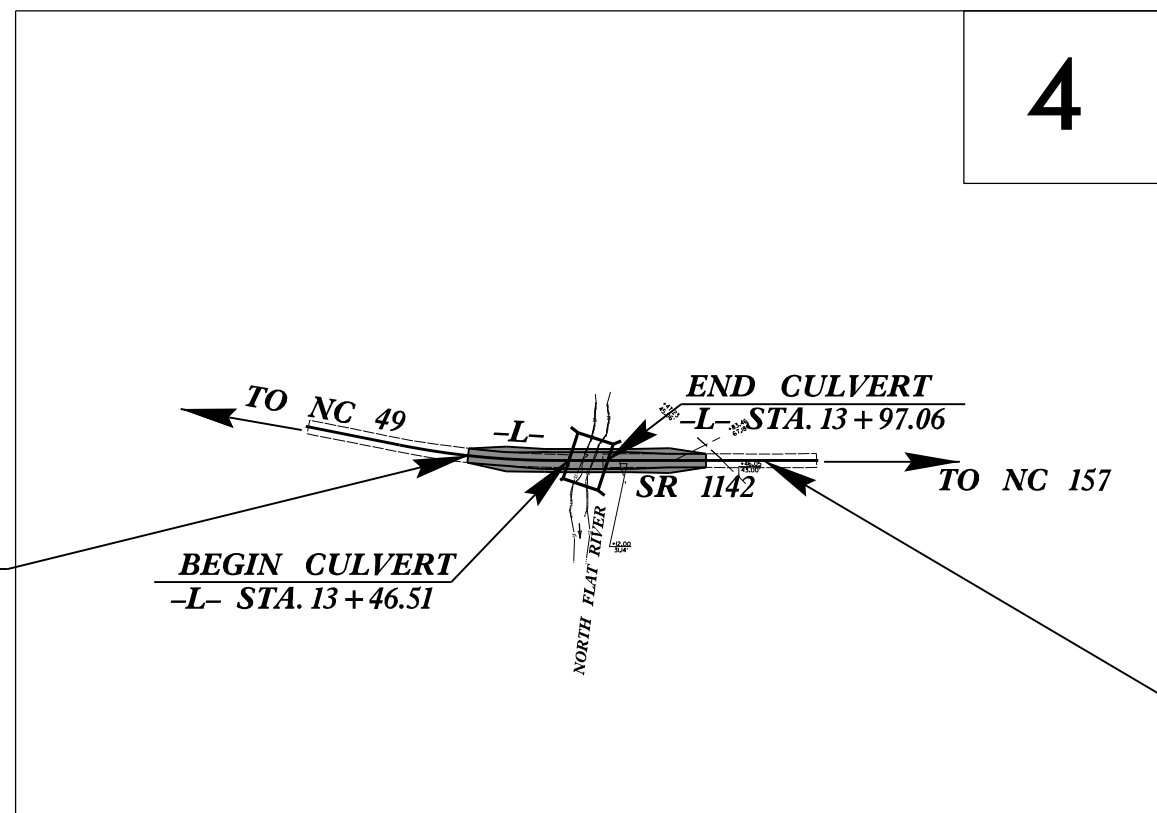
●—● OFF-SITE DETOUR

-L- STA. 12+15.00
BEGIN TIP PROJECT B-4785

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PERSON COUNTY

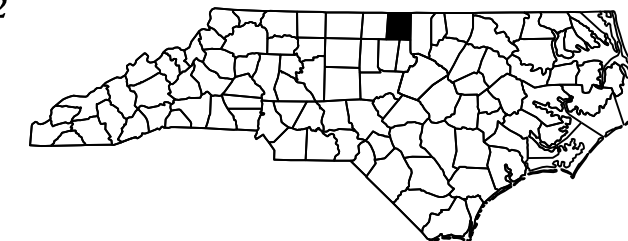
LOCATION: BRIDGE NO. 24 OVER NORTH FLAT RIVER ON SR 1142
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT

STREAM AND WETLAND PERMIT DRAWINGS

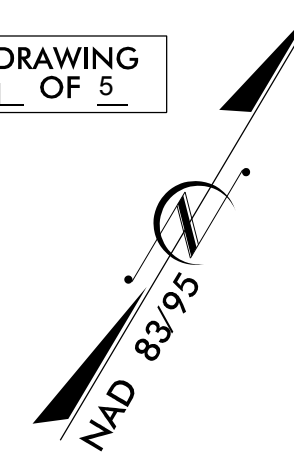


-L- STA. 16+00.00
END TIP PROJECT B-4785

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4785	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38556.1.1	BRZ-1142(7)	P.E.	
38556.2.1	BRZ-1142(7)	RW & UTL.	



PERMIT DRAWING
SHEET 1 OF 5



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

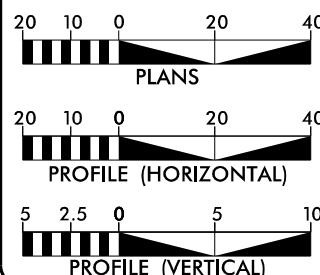
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

** DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 780 VPD
ADT 2033 = 1,170 VPD
DHV = 10 %
D = 60 %
*T = 6 %
**V = 55 MPH
* (TTST 1% + DUAL 5%)
FUNC. CLASS. = RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4785 = 0.063 MILE
LENGTH STRUCTURE TIP PROJECT B-4785 = 0.010 MILE
TOTAL LENGTH TIP PROJECT B-4785 = 0.073 MILE

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

2012 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE:
OCTOBER 19, 2012

LETTING DATE:
MARCH 18, 2014

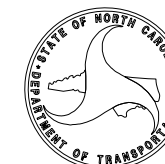
TONY HOUSER, PE
PROJECT ENGINEER

JEFFREY L. TEAGUE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

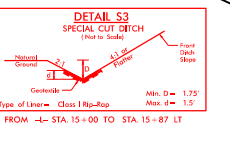
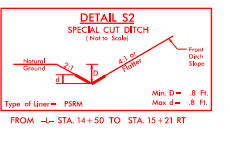
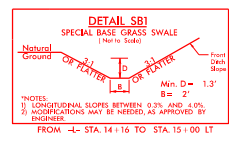
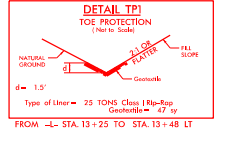
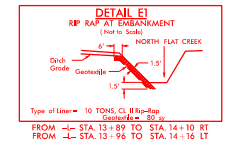
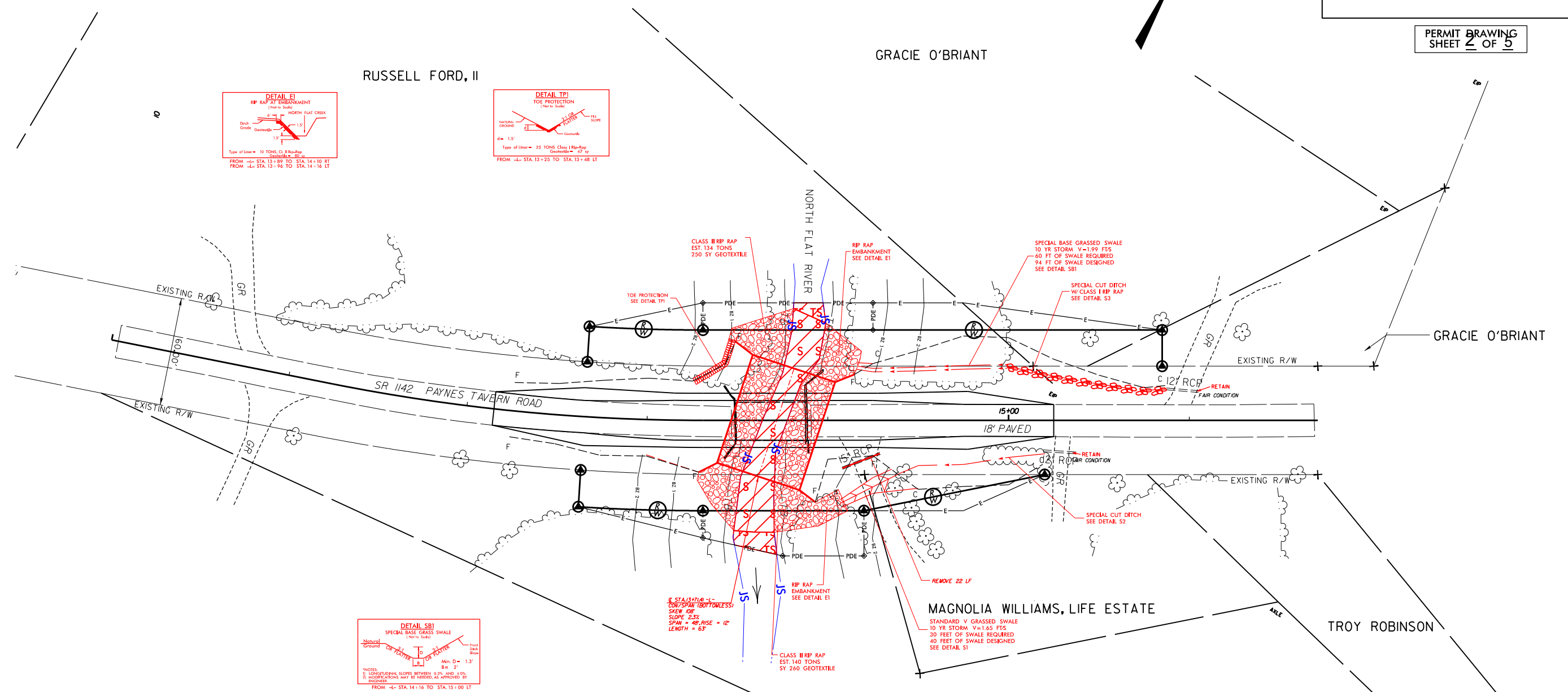
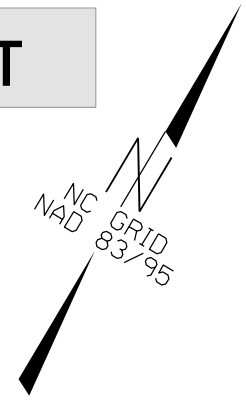


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WETLAND AND SURFACE WATER IMPACTS PERMIT

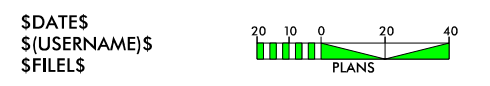
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET **2** OF **5**

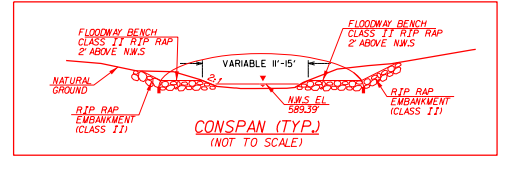


METHOD OF CLEARING - METHOD III

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



NOTE: LEVEL SPREADERS NOT AN OPTION AT END OF GRASS SWALES DUE TO TOPOGRAPHIC CONSTRAINTS



REVISIONS

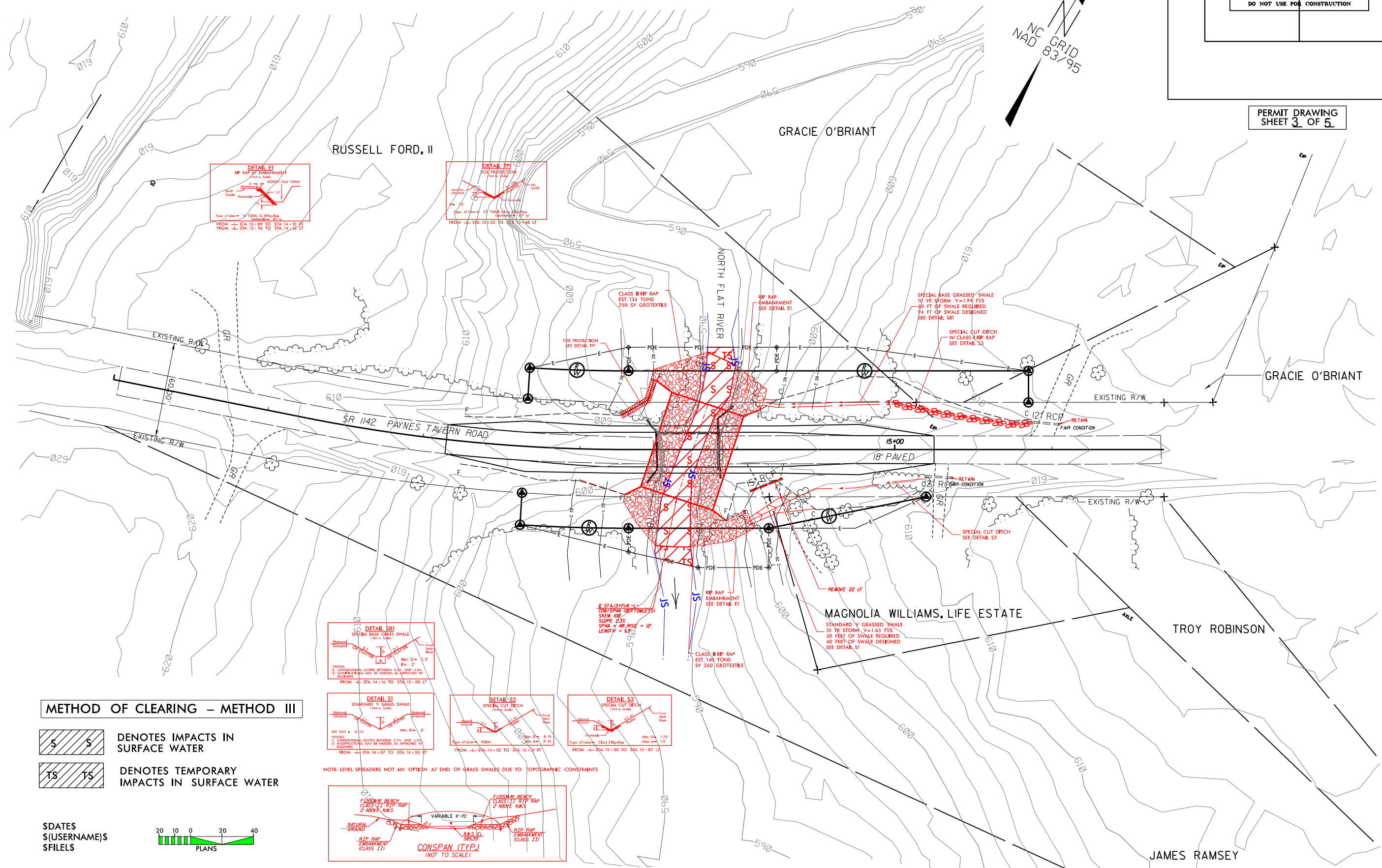
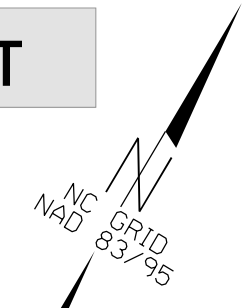
8/17/99
5/15/2013
User: jramsey
Project: B-4785 Environmental Permits
File: Hydromat-est-eshdon

JAMES RAMSEY

WETLAND AND SURFACE WATER IMPACTS PERMIT

PROJECT REFERENCE NO. B-4785	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	

PERMIT DRAWING SHEET **3** OF **5**



METHOD OF CLEARING - METHOD III

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SDATES
\$(USERNAME)\$
SFILES

PLANS

DETAIL SBT
SPECIAL BASE GRASS SWALE
(Not to Scale)

Notes:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%
2) INCORPORATION MAY BE NEEDED, AS APPROVED BY INSPECTOR

FROM STA. 14+16 TO STA. 15+00 LT

DETAIL S1
STANDARD V GRASS SWALE
(Not to Scale)

Notes:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%
2) INCORPORATION MAY BE NEEDED, AS APPROVED BY INSPECTOR

FROM STA. 14+07 TO STA. 14+50 FT

DETAIL S2
SPECIAL CUT DITCH
(Not to Scale)

Notes:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%
2) INCORPORATION MAY BE NEEDED, AS APPROVED BY INSPECTOR

FROM STA. 14+50 TO STA. 15+21 RT

DETAIL S3
SPECIAL CUT DITCH
(Not to Scale)

Notes:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%
2) INCORPORATION MAY BE NEEDED, AS APPROVED BY INSPECTOR

FROM STA. 15+00 TO STA. 15+87 LT

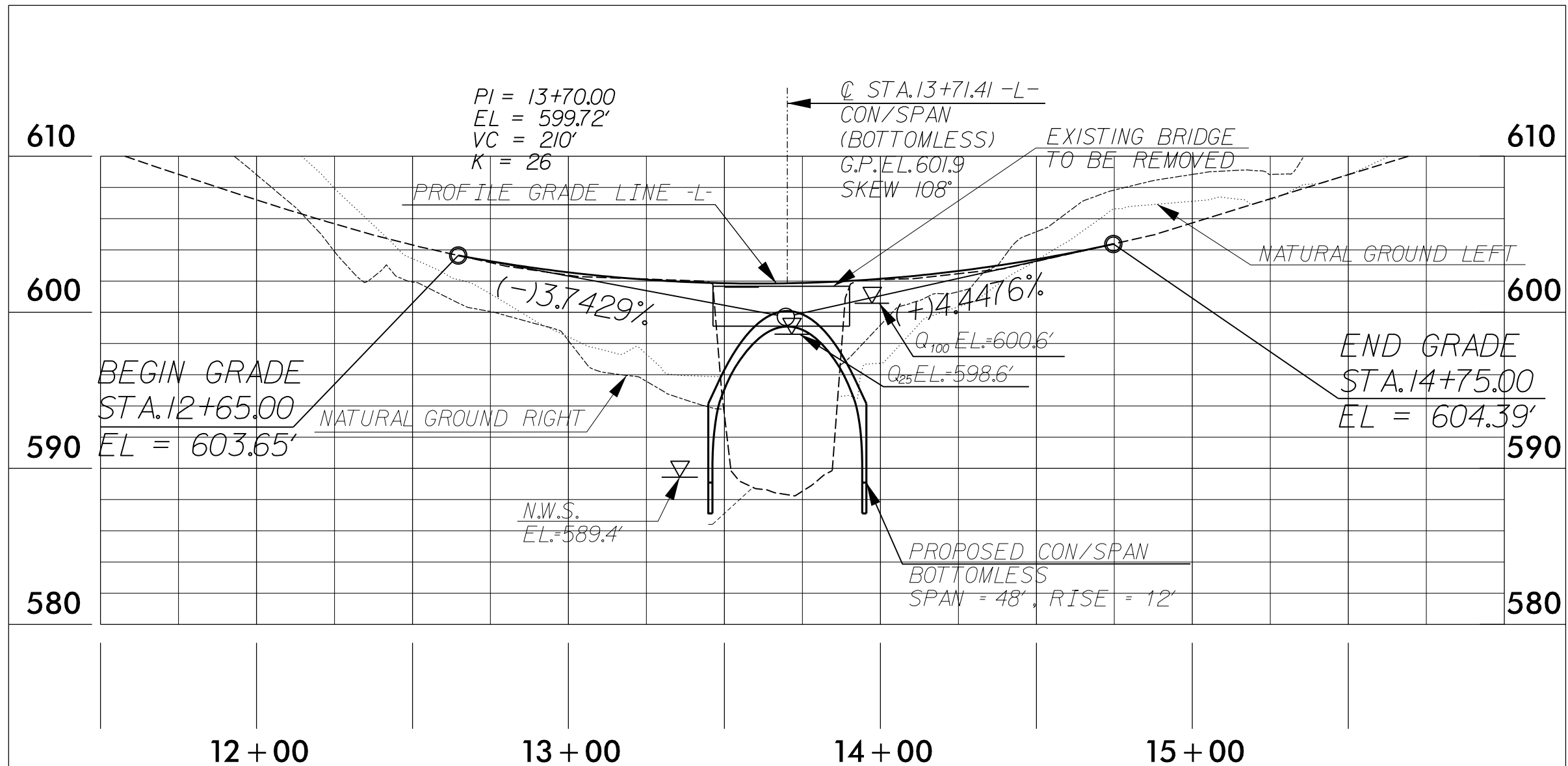
NOTE: LEVEL SPREADERS NOT AN OPTION AT END OF GRASS SWALES DUE TO TOPOGRAPHIC CONSTRAINTS

CONSPAN (TYP.)
(NOT TO SCALE)

Notes:
1) FLOODWAY BENCH CLASS II RIP RAP 2' ABOVE N.W.S.
2) RIP RAP EMBANKMENT CLASS II RIP RAP 2' ABOVE N.W.S.

REVISIONS

5/15/2013 User: j... Environmental\LD... B-4785_Hyd.dwg... est... sh... don



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 1400	CFS
DESIGN FREQUENCY	= <u>25</u>	YRS
DESIGN HW ELEVATION	= 598.6	FT
BASE DISCHARGE	= 2,110	CFS
BASE FREQUENCY	= <u>100</u>	YRS
BASE HW ELEVATION	= 600.7	FT
OVERTOPPING DISCHARGE	= 2400	CFS
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING ELEVATION	= 601.6	FT

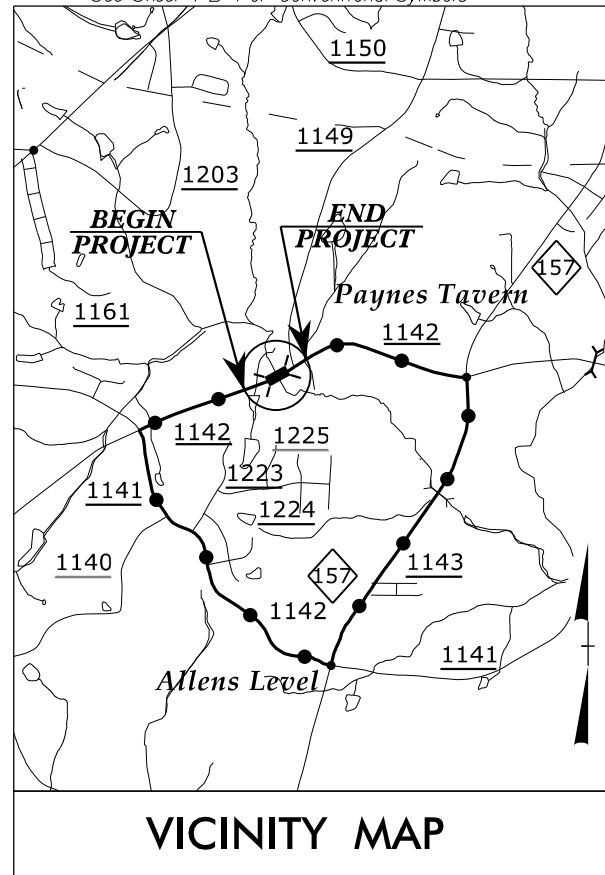
PROFILE

NCDOT
 DIVISION OF HIGHWAYS
 PERSON COUNTY
 PROJECT: 38556.11 (B-4785)
 REPLACEMENT OF
 BRIDGE B-4785
 ON SR 1142

SHEET 4 OF 5 03 // 25 // 13

09/08/99

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



VICINITY MAP

●-●-● OFF-SITE DETOUR

-L- STA. 12+15.00

BEGIN TIP PROJECT B-4785

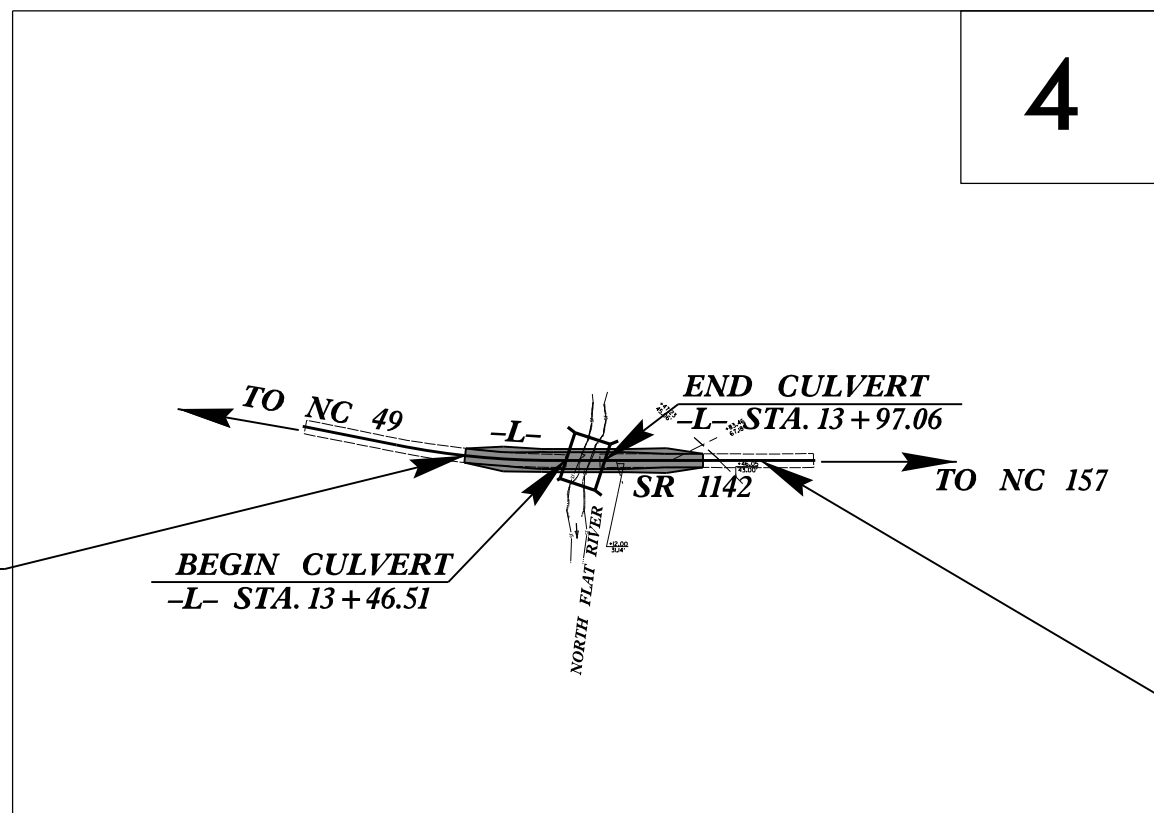
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERSON COUNTY

LOCATION: BRIDGE NO. 24 OVER NORTH FLAT RIVER ON SR 1142

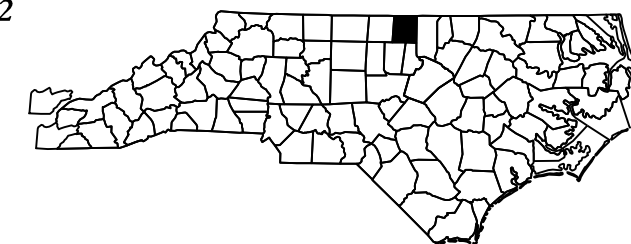
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT

BUFFER IMPACTS PERMIT

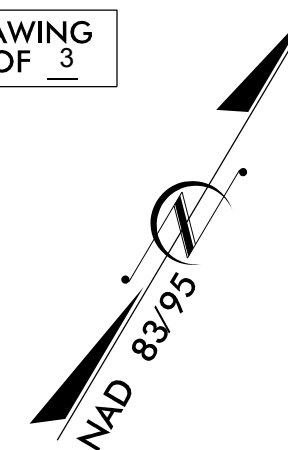


-L- STA. 16+00.00
END TIP PROJECT B-4785

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4785	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38556.1.1	BRZ-1142(7)	P.E.	
38556.2.1	BRZ-1142(7)	RW & UTL.	



BUFFER DRAWING
SHEET 1 OF 3



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

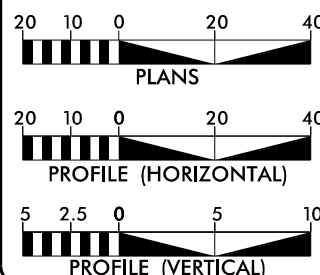
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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 780 VPD
 ADT 2033 = 1,170 VPD
 DHV = 10 %
 D = 60 %
 *T = 6 %
 **V = 55 MPH
 * (TTST 1% + DUAL 5%)
 FUNC. CLASS. = RURAL LOCAL
 SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4785 = 0.063 MILE
 LENGTH STRUCTURE TIP PROJECT B-4785 = 0.010 MILE
 TOTAL LENGTH TIP PROJECT B-4785 = 0.073 MILE

Prepared in the Office of:
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2012 STANDARD SPECIFICATIONS
 RIGHT OF WAY DATE:
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LETTING DATE:
 MARCH 18, 2014

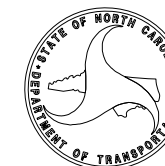
TONY HOUSER, PE
 PROJECT ENGINEER

JEFFREY L. TEAGUE, PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
 ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



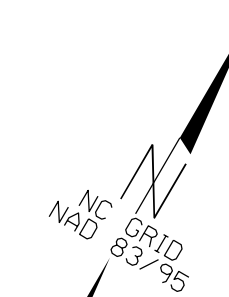
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8/17/99

REVISIONS

PROJECT REFERENCE NO. B-4785	SHEET NO. 4
RW SHEET NO.	
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BUFFER IMPACTS PERMIT



BUFFER DRAWING SHEET 2 OF 3

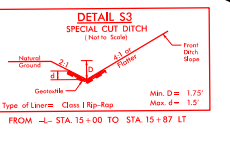
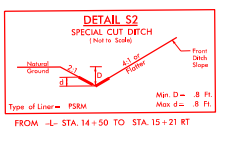
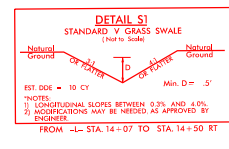
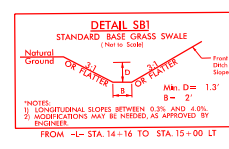
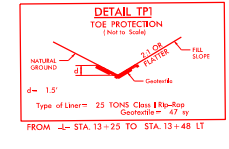
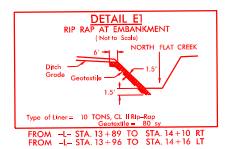
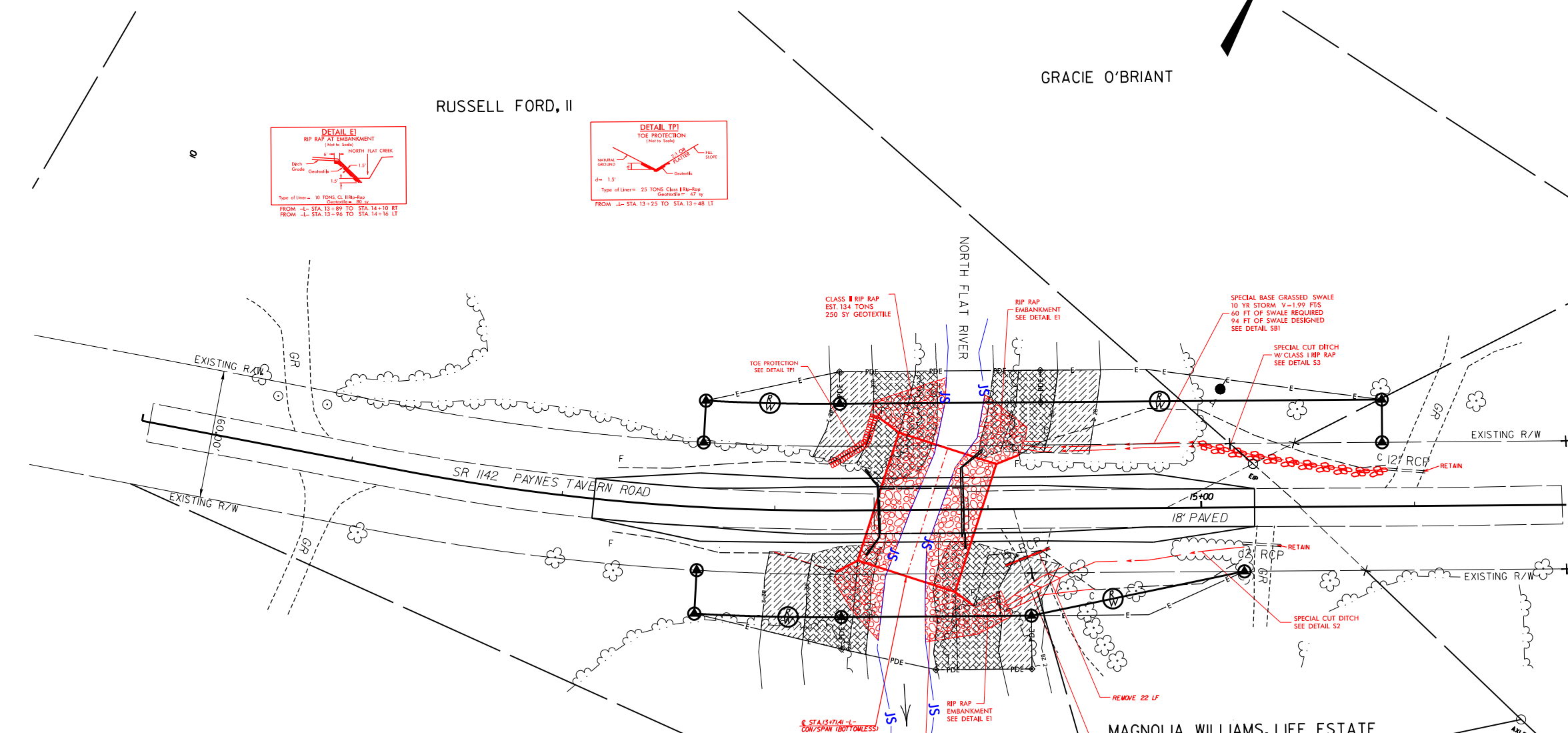
RUSSELL FORD, II

GRACIE O'BRIANT

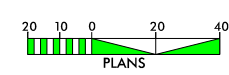
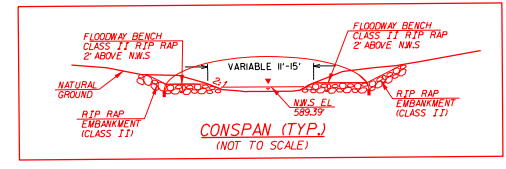
GRACIE O'BRIANT

TROY ROBINSON

JAMES RAMSEY



NOTE: LEVEL SPREADERS NOT AN OPTION AT END OF GRASS SWALES DUE TO TOPOGRAPHIC CONSTRAINTS



ALLOWABLE IMPACTS ZONE 1
 ALLOWABLE IMPACTS ZONE 2

5/14/2013 User: jramsey Environmental\Projects\B-4785_Hydrom\buf_oshdon
 Environmental\Projects\B-4785_Hydrom\buf_oshdon

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
	Roadway Fill	STA. -L- 12+95 to 14+50	X			3694	3373	7067					
	Culvert Impact	STA. -L- 13+36 to 14+14		X		2237		2237					
TOTAL:						5931	3373	9304					

Note: Bottomless culvert impacts are treated like bridge impacts due to Conspan configuration

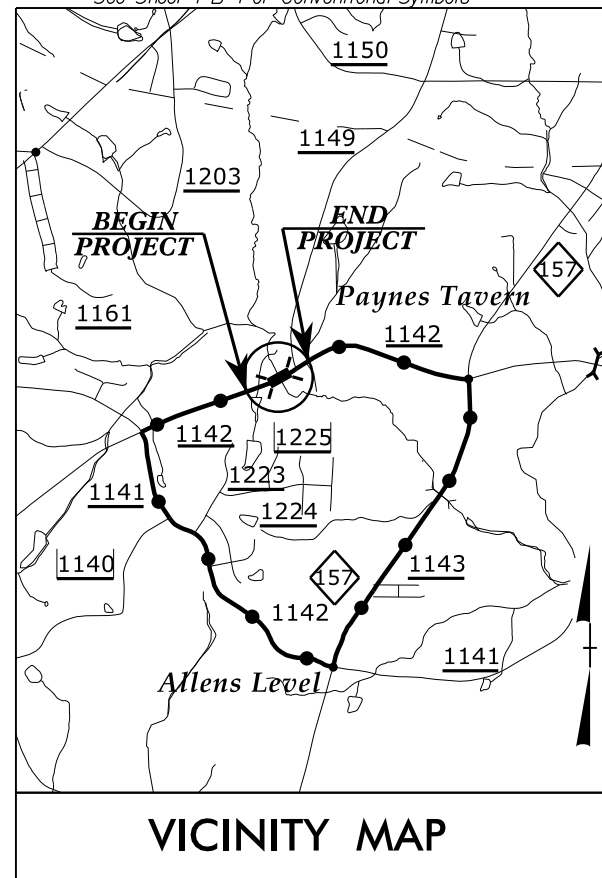
N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

PERSON COUNTY
B-4785

SHEET 3 of 3 5/14/2013

09/08/99

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



VICINITY MAP

--- OFF-SITE DETOUR

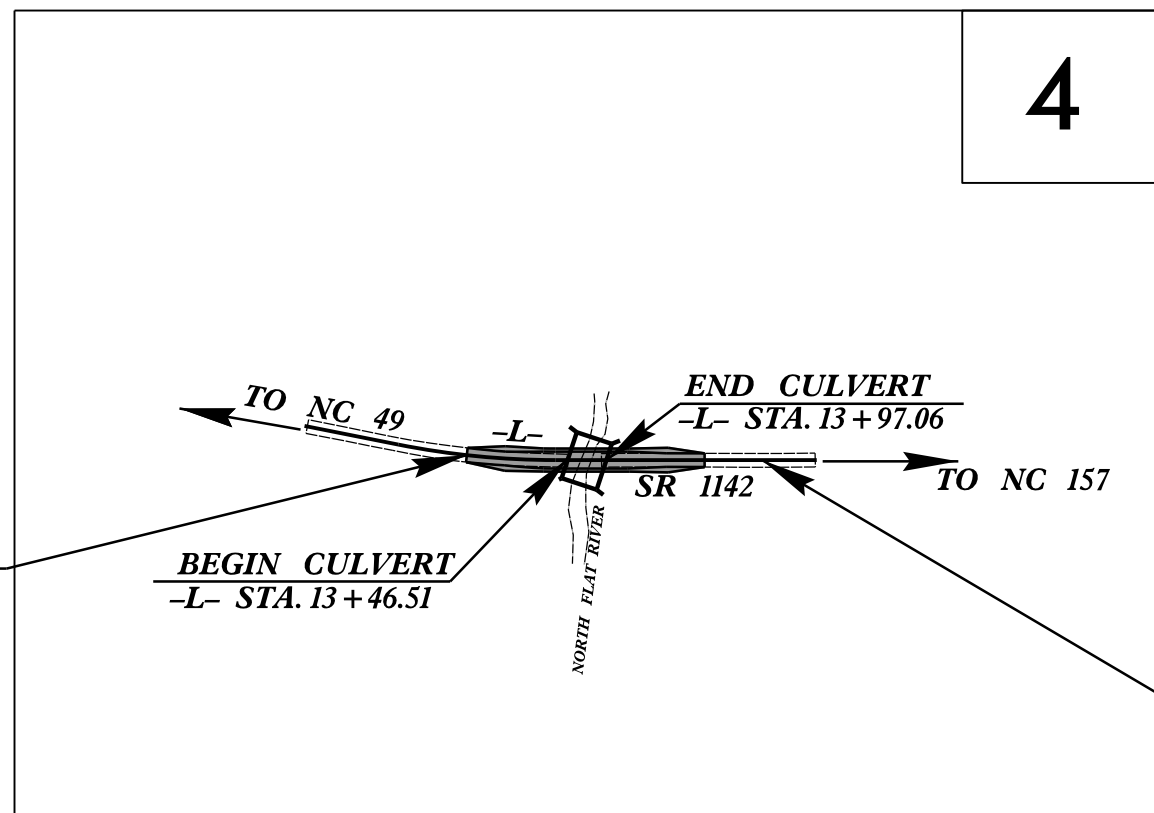
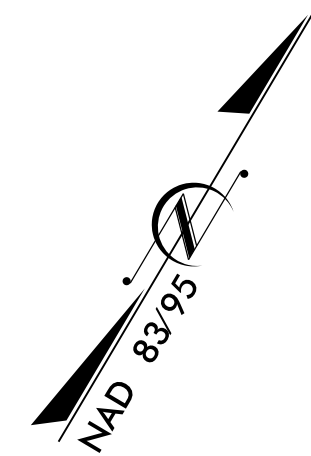
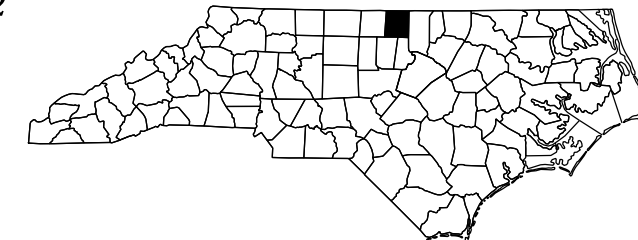
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERSON COUNTY

LOCATION: BRIDGE NO. 24 OVER NORTH FLAT RIVER ON SR 1142

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4785	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38556.1.1	BRZ-1142(7)	P.E.	
38556.2.1	BRZ-1142(7)	RW & UTL.	



-L- STA. 12+15.00

BEGIN TIP PROJECT B-4785

-L- STA. 16+00.00

END TIP PROJECT B-4785

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

** DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TIP PROJECT: B-4785

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 780 VPD
 ADT 2033 = 1,170 VPD
 DHV = 10 %
 D = 60 %
 *T = 6 %
 **V = 55 MPH

*(TTST 1% + DUAL 5%)
 FUNC. CLASS. = RURAL LOCAL
 SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4785 = 0.063 MILE
 LENGTH STRUCTURE TIP PROJECT B-4785 = 0.010 MILE
 TOTAL LENGTH TIP PROJECT B-4785 = 0.073 MILE

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 OCTOBER 19, 2012

LETTING DATE:
 MARCH 18, 2014

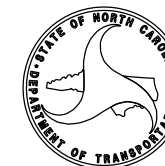
TONY HOUSER, PE
 PROJECT ENGINEER

JEFFREY L. TEAGUE, PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
 ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



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 \$\$\$USERNAME\$\$\$

04/16/11

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	○ EP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	WLB
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB
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	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	▬

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	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	□ 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	S

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	P
Designated U/G Power Line (S.U.E.*)	P

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	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	Ⓟ
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	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

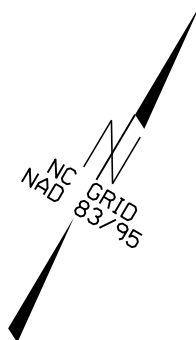
MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	Ⓟ
Utility Unknown U/G Line	U/G
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.

SURVEY CONTROL SHEET B-4785

PERSON COUNTY

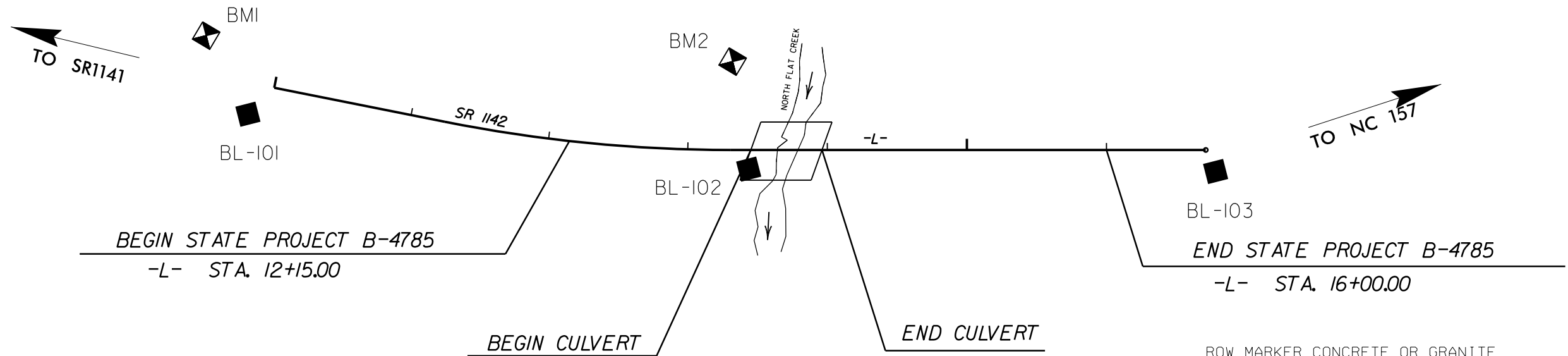
BRIDGE #24 OVER THE NORTH FLAT RIVER ON SR1142



NCDOT GPS STATION "B4785-1"
LOCALIZED PROJECT COORDINATES
N = 942640.943
E = 1990972.652

ALIGNMENT DATA

TYPE	STATION	NORTH	EAST
POT	10+00.00	943164.4870	1992498.8650
PC	11+24.55	943205.9378	1992616.3121
PT	13+30.88	943293.2210	1992802.9048
POT	16+71.15	943466.9375	1993095.4950



ALIGN	STATION	OFFSET	NORTH	EAST
L	13+30.88	65.00	943237.3297	1992836.0886
L	13+30.88	-65.00	943349.1124	1992769.7211
L	13+75.00	75.00	943251.2567	1992879.1336
L	14+20.00	75.00	943274.2301	1992917.8276
L	14+25.00	-65.00	943397.1639	1992850.6542
L	14+25.00	-50.00	943384.2651	1992858.3106

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+65.00	50.00	943216.8788	1992768.0220
L	12+65.00	29.62	943235.0252	1992758.7345
L	12+65.00	-50.00	943305.8972	1992722.4618
L	12+65.00	-30.39	943288.4364	1992731.3983
L	13+30.88	-50.00	943336.2144	1992777.3789
L	13+30.88	50.00	943250.2277	1992828.4308
L	14+20.00	50.00	943295.7267	1992905.0646
L	15+20.00	30.00	943363.9760	1992980.8409
L	15+85.00	-50.00	943465.9490	1992995.8906
L	15+85.00	-30.00	943448.7517	1993006.1010

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	943138.5510	1992492.2420	616.29	OUTSIDE PROJECT LIMITS	
102	BL-102	943287.9260	1992820.8300	601.14	13+43.59	13.70 RT
103	BL-103	943457.2620	1993109.3480	614.29	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

.....

BM1 ELEVATION = 614.74
N 943172 E 1992438
L STATION 10+00.00
N 83°15'3.50" W DIST 61.41
RR SPIKE IN 19' TWIN MAPLE
.....

BM2 ELEVATION = 595.11
N 943348 E 1992772
L STATION 13+32.00 63 LEFT
RR SPIKE IN 26' RIVER BIRCH
.....

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4785-1" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 942640.943(ft) EASTING: 1990972.652(ft) ELEVATION: 637.331(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00002722

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4785-1" TO -L- 10+00.00 IS
N 71° 03' 59" E 1613.51'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

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/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
B4785_LS_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 EXISTING HARN MONUMENTATION

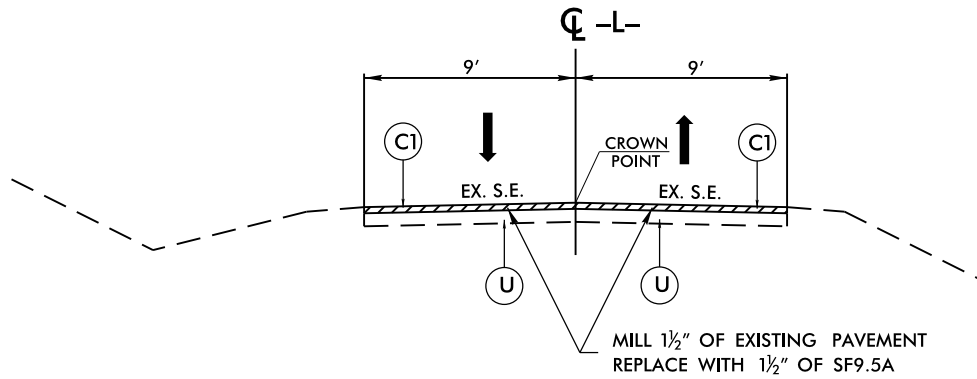
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

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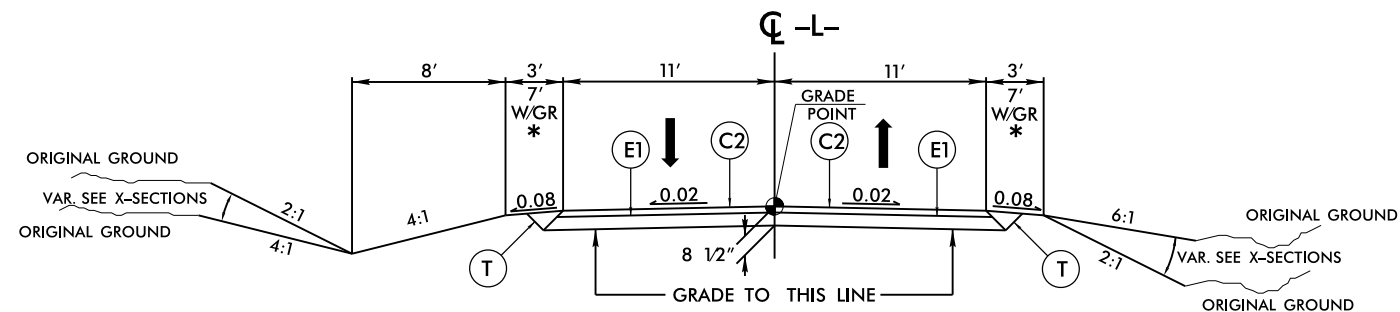
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

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



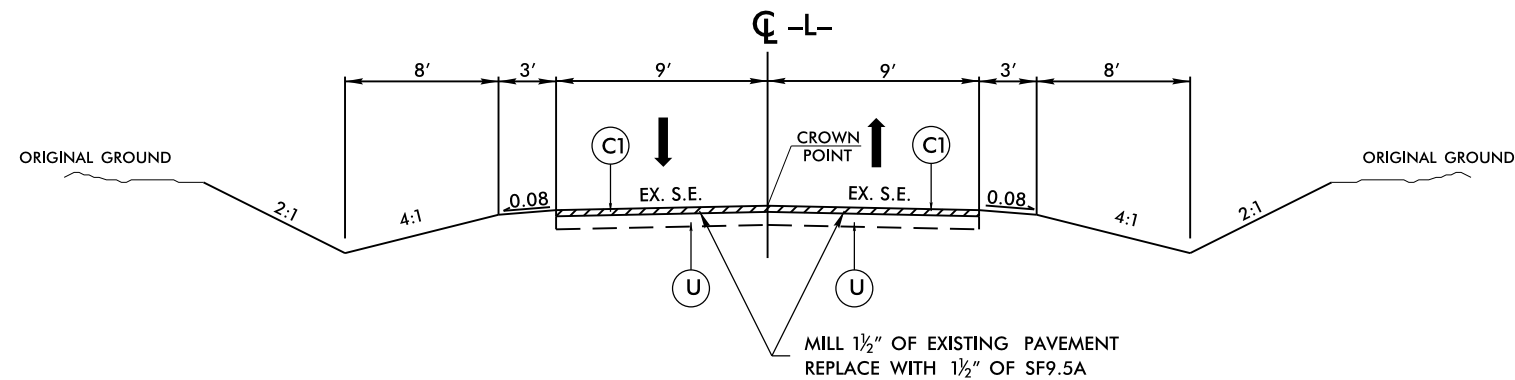
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
AT THE FOLLOWING LOCATION:
-L- STA. 12+15.00 TO STA. 12+65.00



TYPICAL SECTION NO. 2

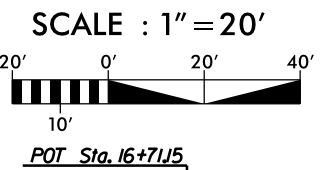
USE TYPICAL SECTION NO. 2
AT THE FOLLOWING LOCATION:
-L- STA. 12+65.00 TO STA. 14+75.00
* WIDEN SHOULDER TO 9' WITH GUARDRAIL AT
-L- STA. 12+65.00 AND -L- STA. 14+75.00



TYPICAL SECTION NO. 3

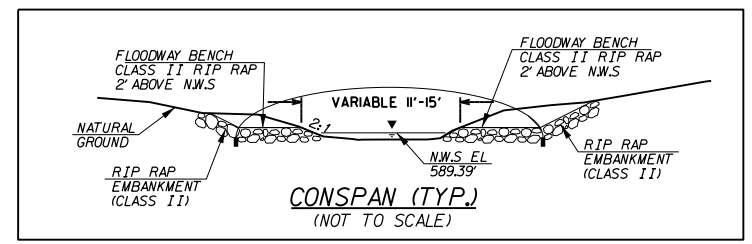
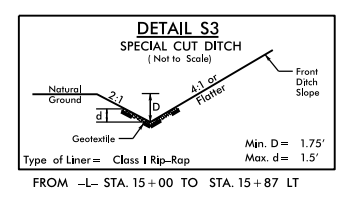
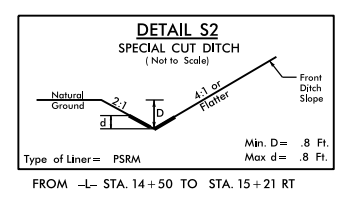
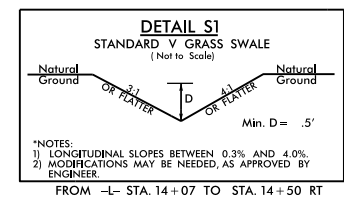
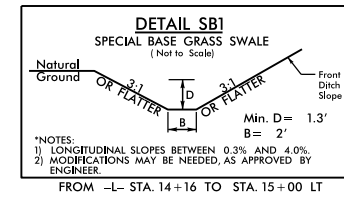
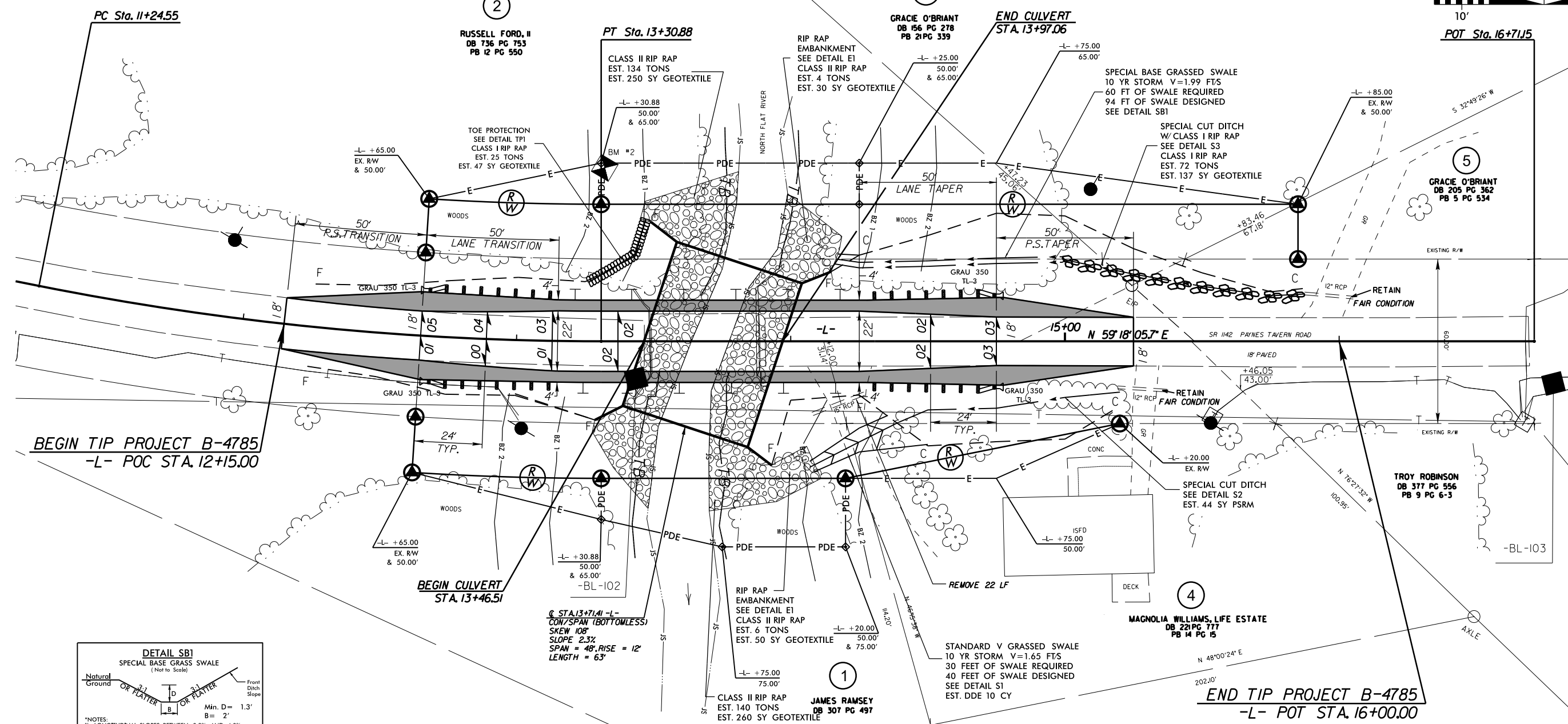
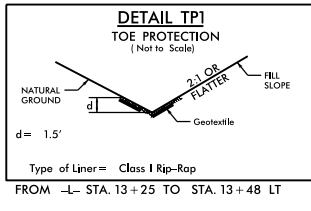
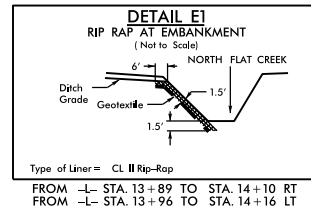
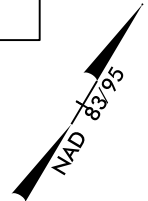
USE TYPICAL SECTION NO. 3
AT THE FOLLOWING LOCATION:
-L- STA. 14+75.00 TO STA. 15+25.00

PROJECT REFERENCE NO.	SHEET NO.
B-4785	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	



-L-
 N 70° 33' 37.7" E (BACK)
 PI Sta 12+28.05
 $\Delta = 1' 15' 32.0"$ (LT)
 $D = 5' 27' 24.3"$
 $L = 206.33'$
 $T = 103.50'$
 $R = 1,050.00'$

* DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.



PROP. PAVED SHOULDER
 FOR -L- PROFILE, SEE SHEET NO. 5
 FOR CULVERT PLANS, SEE SHEET C-1 THRU C-3?

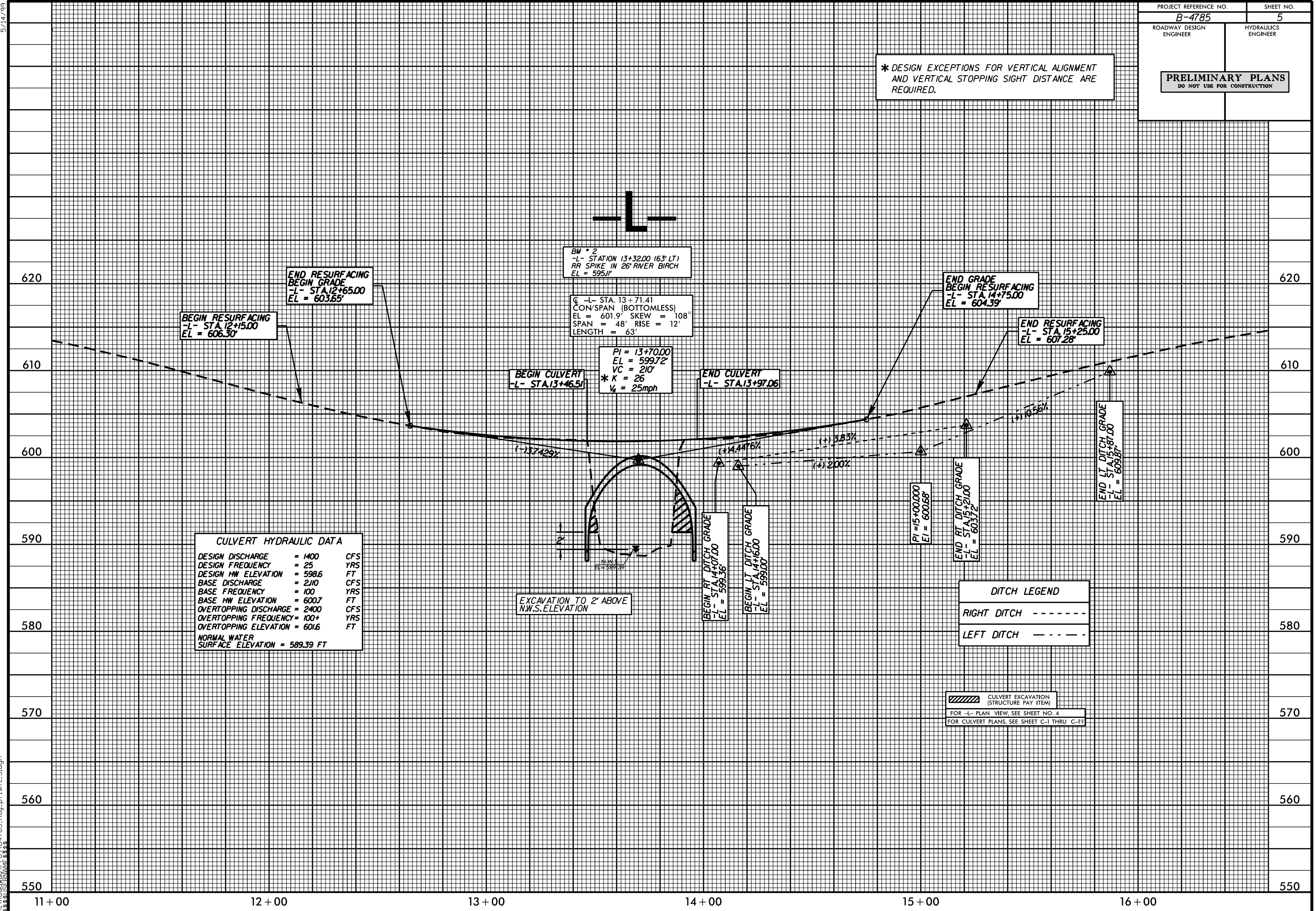
NOTE: LEVEL SPREADERS NOT AN OPTION AT END OF GRASS SWALES DUE TO TOPOGRAPHIC CONSTRAINTS

REVISIONS

8/17/99

08 JUL 2013 11:43 B-4785-Rdy_pah.dgn

* DESIGN EXCEPTIONS FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.



BEGIN RESURFACING
-L- STA. 12+15.00
EL = 606.30'

END RESURFACING
-L- STA. 12+65.00
EL = 603.85'

BM * 2
-L- STATION 13+32.00 (63' LT)
RR SPIKE IN 26" RIVER BIRCH
EL = 595.11'

C -L- STA. 13+71.41
CON/SPAN (BOTTOMLESS)
EL = 601.9' SKEW = 108°
SPAN = 48' RISE = 12'
LENGTH = 63'

BEGIN CULVERT
-L- STA. 13+46.51'

PI = 13+70.00
EL = 599.72'
VC = 210'
* K = 26
V_g = 25mph

END CULVERT
-L- STA. 13+97.06'

END GRADE
BEGIN RESURFACING
-L- STA. 14+75.00
EL = 604.39'

END RESURFACING
-L- STA. 15+25.00
EL = 607.28'

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 1400	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 598.6	FT
BASE DISCHARGE	= 2110	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 600.7	FT
OVERTOPPING DISCHARGE	= 2400	CFS
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING ELEVATION	= 601.6	FT
NORMAL WATER SURFACE ELEVATION	= 589.39	FT

EXCAVATION TO 2' ABOVE
N.W.S. ELEVATION

BEGIN RT. DITCH GRADE
-L- STA. 14+07.00
EL = 599.36'

BEGIN LT. DITCH GRADE
-L- STA. 14+16.00
EL = 599.00'

PI = 15+00.000
EL = 600.68'

END RT. DITCH GRADE
-L- STA. 15+21.00
EL = 603.72'

END LT. DITCH GRADE
-L- STA. 15+37.00
EL = 609.81'

DITCH LEGEND

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

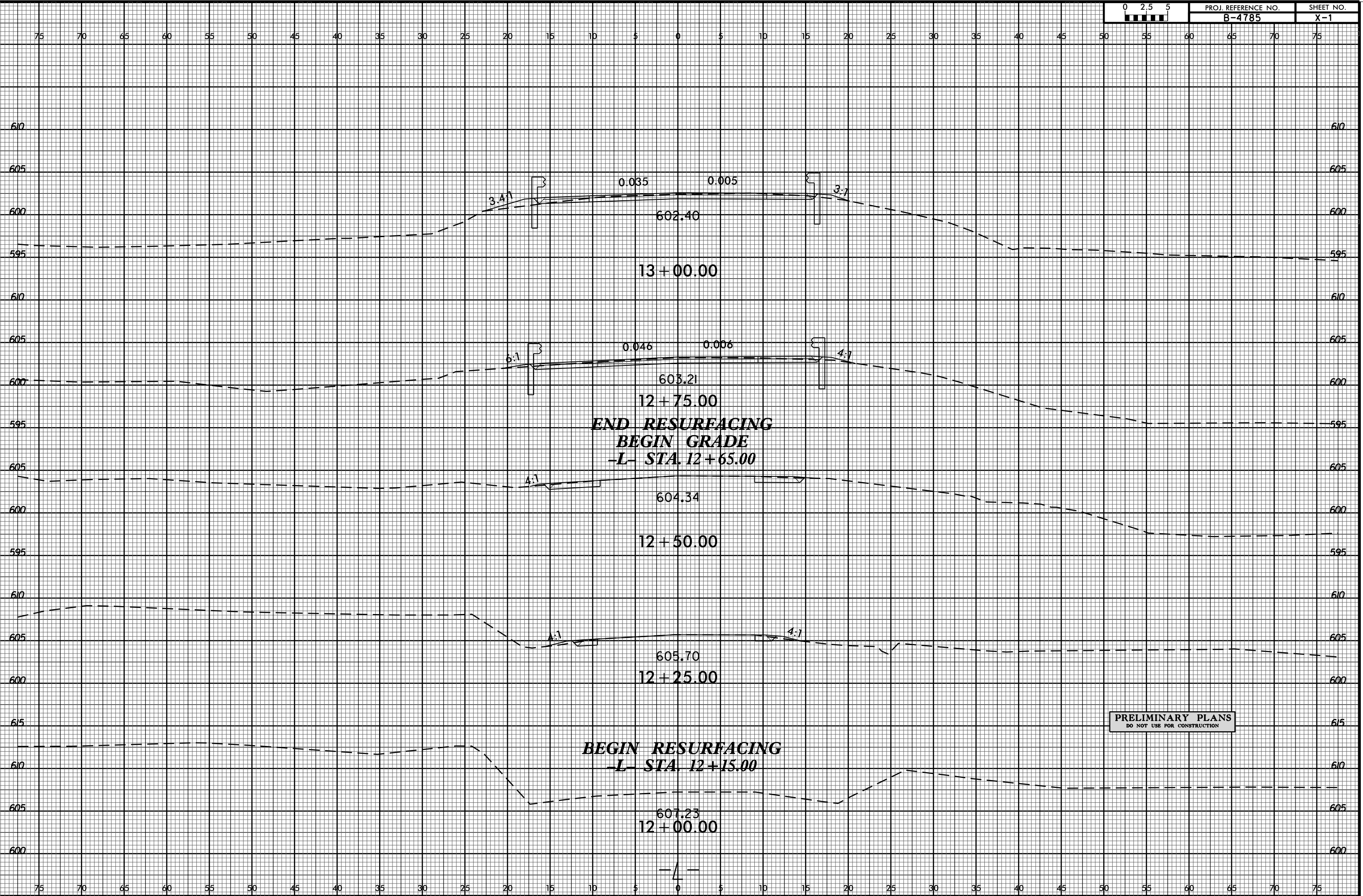
CULVERT EXCAVATION
(STRUCTURE PAY ITEM)
FOR -L- PLAN VIEW, SEE SHEET NO. 4
FOR CULVERT PLANS, SEE SHEET C-1 THRU C-22

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 19-MAR-2013 10:43
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 11+00 12+00 13+00 14+00 15+00 16+00 550 560 570 580 590 600 610 620

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
B-4785	X-1



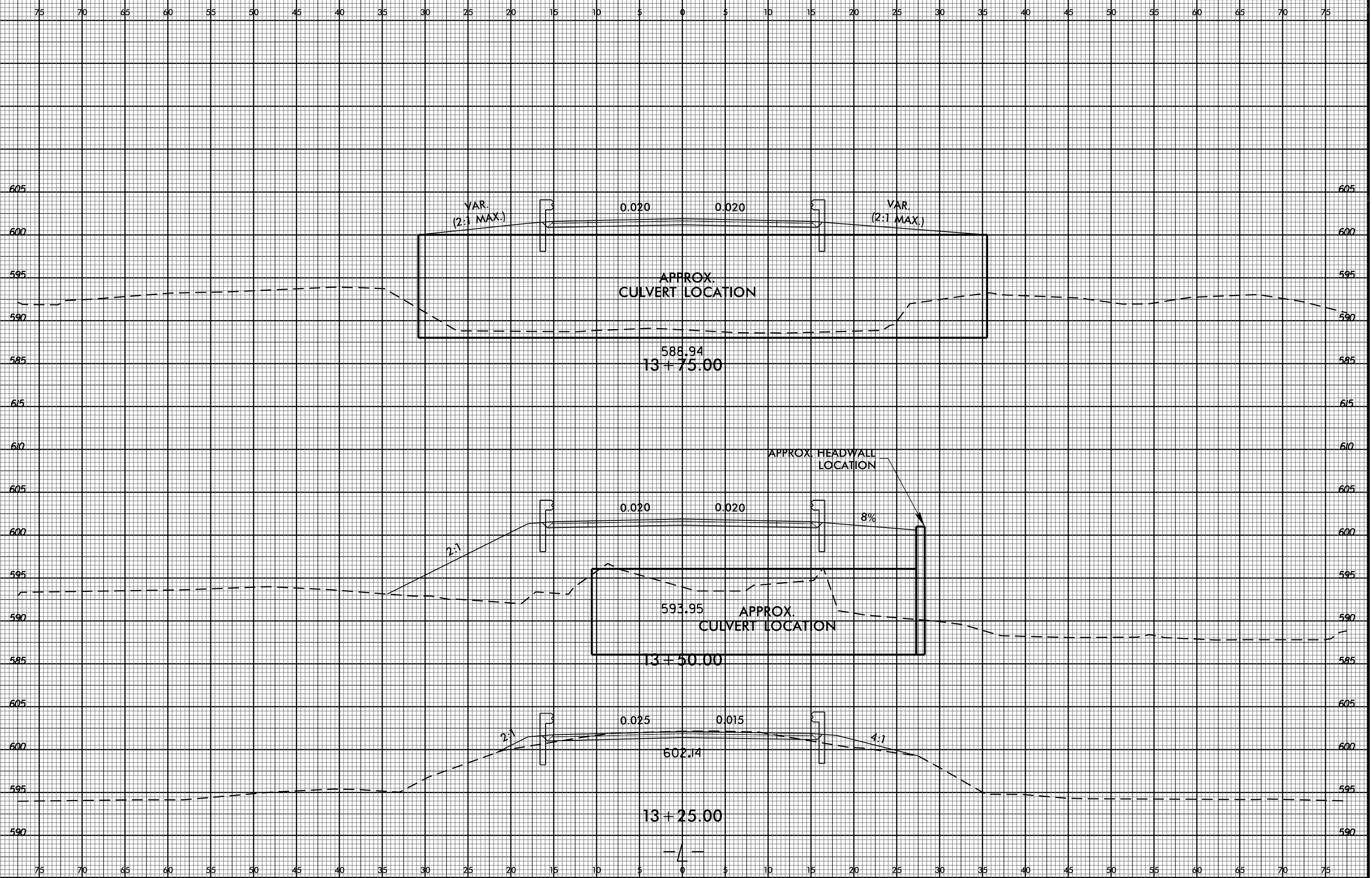
**END RESURFACING
BEGIN GRADE
-L- STA. 12+65.00**

**BEGIN RESURFACING
-L- STA. 12+15.00**

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

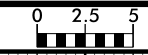
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8/23/99

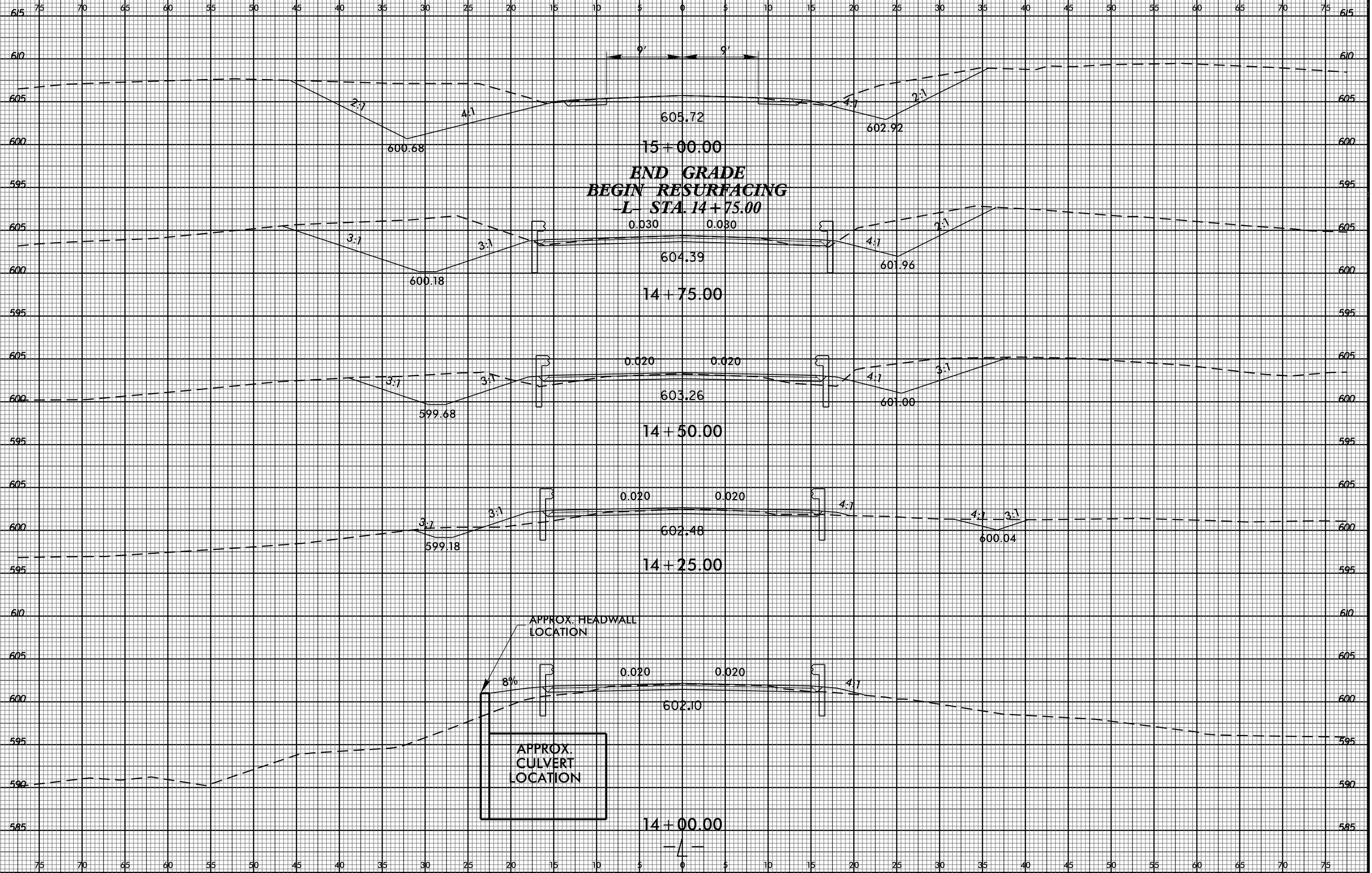


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8/23/99



PROJ. REFERENCE NO. B-4785 SHEET NO. X-3



END GRADE
BEGIN RESURFACING
-L- STA. 14+75.00

APPROX. HEADWALL
LOCATION

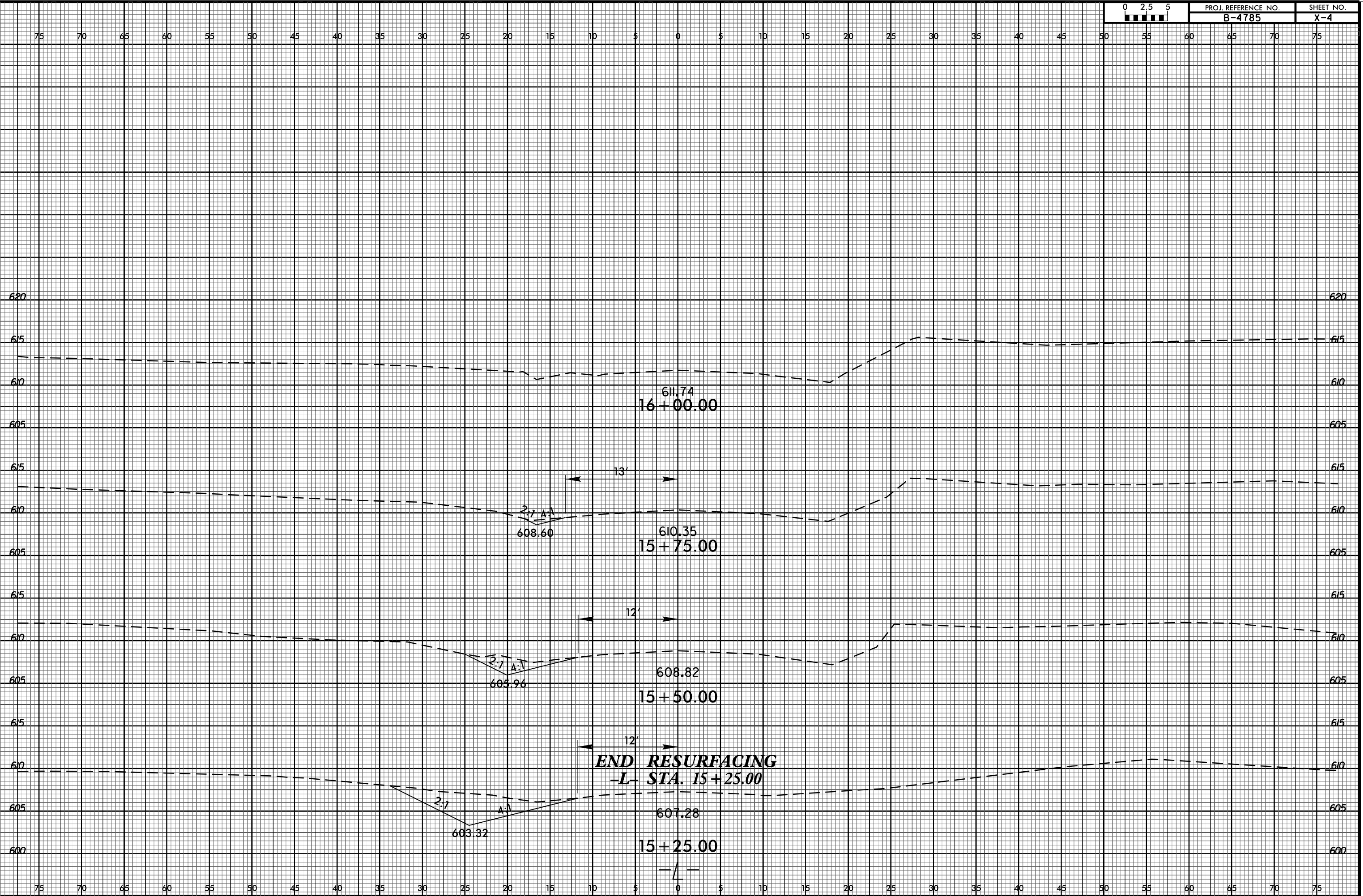
APPROX.
CULVERT
LOCATION

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PROJ. REFERENCE NO.	SHEET NO.
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END RESURFACING
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