



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

February 18, 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 23, 13, and 33, Section 401 Water Quality Certification, and Neuse Riparian Buffer Authorization for the replacement of Bridge No. 225 over Marks Creek on SR 2507 (Turnipseed Road) in Wake County, Federal Aid Project No. BRZ-2507(1), Division 5, T.I.P No. B-4663.

Debit \$240.00 from WBS No. 38458.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace bridge No. 225 over Marks Creek on SR 2507 (Turnipseed Road) in Wake County.

An offsite detour will be used during construction. Permanent stream impacts will include 41 linear feet of bank stabilization and temporary stream impacts will include 51 linear feet for a temporary causeway. Wetland impacts will include 0.03 acre of fill, 0.01 acre of excavation, and 0.03 acre of mechanized clearing.

Please see the enclosed copies of the Pre-Construction Notification (PCN), stormwater management plan, permit drawings, buffer drawings, and design plans for the above-referenced project. The Categorical Exclusion (CE) for this project was completed in July 23, 2012. Additional copies are available upon request.

The let date for the project is August 20, 2013 with a review date of July 2, 2013. However, the let date may advance as additional funds become available.

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

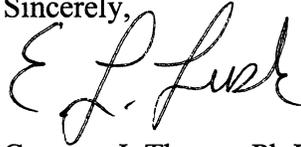
TELEPHONE: 919-707-6000
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

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: Section 404 Permit Section 10 Permit

1b. Specify Nationwide Permit (NWP) number: 23, 13, and 33 or General Permit (GP) number:

1c. Has the NWP or GP number been verified by the Corps? Yes No

1d. Type(s) of approval sought from the DWQ (check all that apply):
 401 Water Quality Certification – Regular Non-404 Jurisdictional General Permit
 401 Water Quality Certification – Express Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <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
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1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program. Yes No

1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below. Yes No

1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)? Yes No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 225 on SR 2507 (Turnipseed Road) over Marks Creek
2b. County:	Wake
2c. Nearest municipality / town:	Knightdale
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4663

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: 35.7380 (DD.DDDDDD) Longitude: - 78.4236 (-DD.DDDDDD)
1c. Property size:	0.6 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Marks Creek
2b. Water Quality Classification of nearest receiving water:	C; 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: 0.02	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 80	
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 2-span 81-foot bridge with a 2-span 125-foot bridge on the existing bridge location with an offsite detour. The new bridge will be of sufficient width to provide for two 11-foot lanes with 4-foot offsets on each side. 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 stream 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 type="checkbox"/> Preliminary <input checked="" 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. October 6, 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 checked="" type="checkbox"/> Wetlands		<input 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 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill	Beaver Impoundment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.03	
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Excavation	Beaver Impoundment	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.01	
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Mechanized Clearing	Beaver Impoundment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.03	
2g. Total wetland impacts					0.07 Perm	
2h. Comments: Permanent Impacts: 0.03 acre Fill, 0.01 acre Excavation, and 0.03 acre Mechanized Clearing.						
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	Marks Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	50	41
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Causeway	Marks Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	50	51
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<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 41 Temp 51	
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. 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				

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 checked="" type="checkbox"/> Neuse <input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Other: Jordan <input type="checkbox"/> Catawba <input type="checkbox"/> Randleman			
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bridge	Marks Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1017	52
B1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road crossing	Marks Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1355	1857
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts				2372	1909
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 replacement will take place on existing alignment and is longer, reducing the number of bents in water from 2 bents to 1 bent. 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: Impacts are minimal and less than 0.1 acres and will not impact the wetland's function.	
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?				<input type="checkbox"/> Yes <input checked="" 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			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	

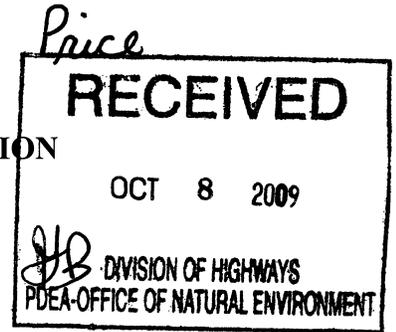
5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat? Habitat for <i>Rhus michauxii</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts? No effect: A recent survey occurred 5/16/12.	<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		
Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	 Applicant/Agent's Signature <small>(Agent's signature is valid only if an authorization letter from the applicant is provided.)</small>	2-18-13 Date

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action ID. 2008-02686

County: Wake

U.S.G.S. Quad: Clayton



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-4663; On SR 2507 (Turnipseed Road), BR 225 over Marks Creek, east of Shotwell, NC.
Size (acres) N/A Nearest Town Knightdale
Nearest Waterway Marks Creek River Basin Neuse
USGS HUC 03020201 Coordinates N 35.7380 W -78.4236

Indicate Which of the Following Apply:

A. Preliminary Determination

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

B. Approved Determination

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

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

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

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

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

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

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.

C. Basis For Determination

The study area contains relatively permanent waters, with indicators of ordinary high water marks, stream channels of Marks Creek and an unnamed tributary, and adjacent wetlands. Marks Creek is a tributary of the Neuse River, a Traditional Navigable Water.

D. Remarks

This JD was done as a desktop jurisdictional determination. The drawing, Figure 3 (copy att.), submitted on 8/27/2008, generally depicts the jurisdictional waters of the US within the subject study area.

Appeals Information (This information applies only to approved jurisdictional determinations.)

Attached to this verification is an approved jurisdictional determination. If you are not in agreement with that approved jurisdictional determination, you can make an administrative appeal under 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Division
Attn: Jean Manuele, Field Office Chief,
Raleigh Regulatory Field Office
3331 Heritage Park Drive, Suite 105
Wake Forest, North Carolina 27587

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by 11/19/2009.

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

Corps Regulatory Official  Date: **10/6/2009** Determination Expiration Date: **10/6/2014**

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.

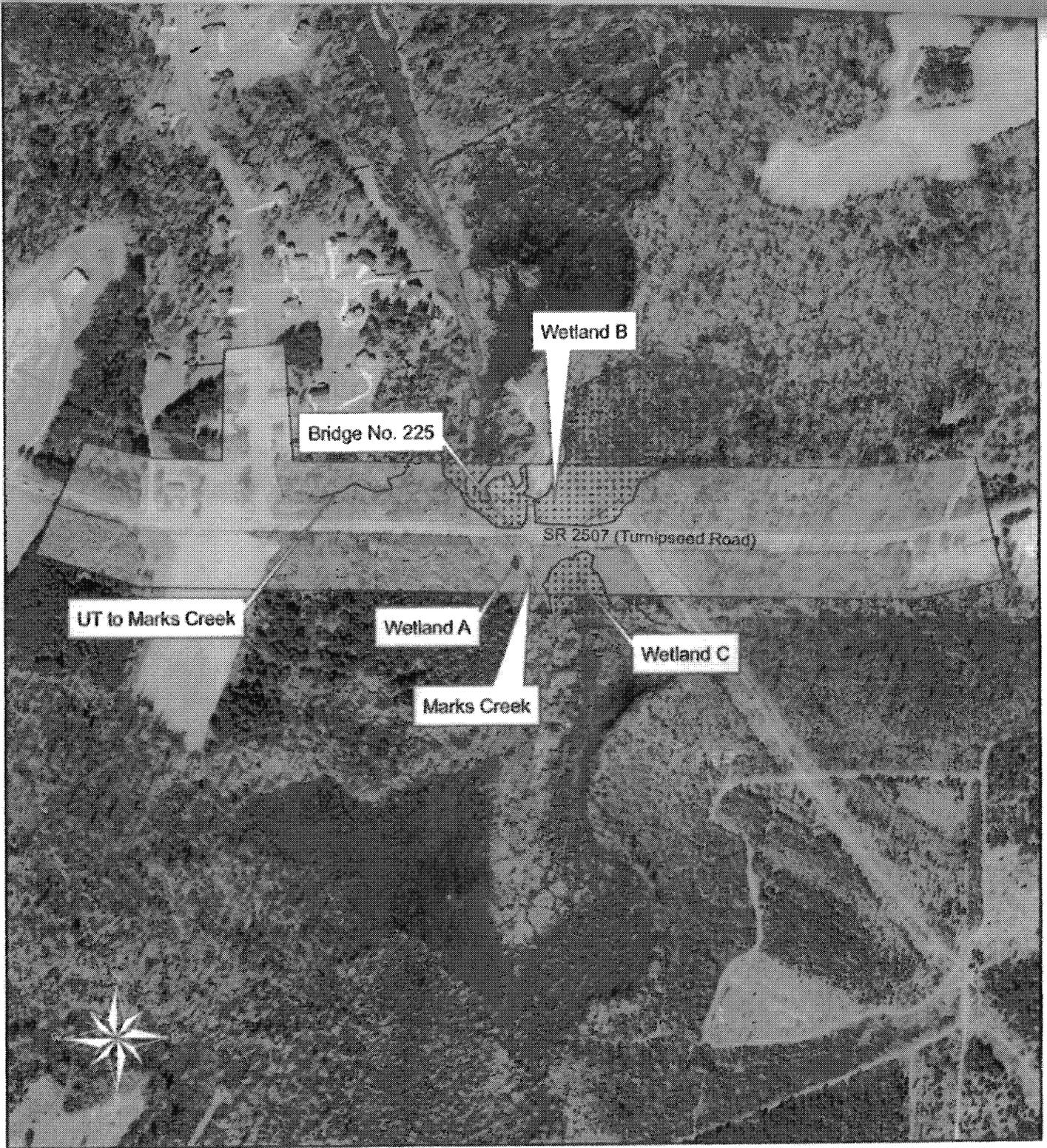
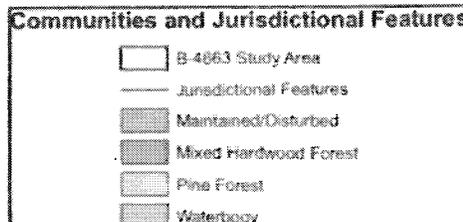
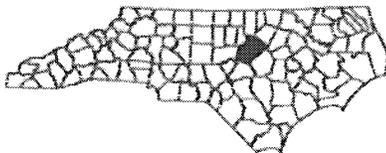


FIGURE 3: JURISDICTIONAL FEATURES AND TERRESTRIAL COMMUNITIES
 B-4863 WAKE COUNTY: Replace Bridge No. 225 on SR 2507 over Marks Creek



**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: NCDOT; Division of Highways;	File Number: 2008-02686	Date: 10/6/2009
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input checked="" type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

- A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.**
- ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
 - OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.
- B: PROFFERED PERMIT: You may accept or appeal the permit**
- ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
 - APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.**
- D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.**
- ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
 - APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.**

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Jean Manuele
U.S. Army Corps of Engineers,
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587

If you only have questions regarding the appeal process you may also contact:

Mr. Mike Bell, Administrative Appeal Review Officer
CESAD-ET-CO-R
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Date:

Telephone number:

Signature of appellant or agent.

For appeals on Initial Proffered Permits and approved Jurisdictional Determinations send this form to:

District Engineer, Wilmington Regulatory Division, Attn: Jean Manuele, Project Manager, Raleigh Regulatory Field Office, 3331 Heritage Trade Drive, Suite 105, Wake Forest, North Carolina 27587

For Permit denials and Proffered Permits send this form to:

Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Mike Bell, Administrative Appeal Officer, CESAD-ET-CO-R, 60 Forsyth Street, Room 9M15, Atlanta, Georgia 30303-8801

STORMWATER MANAGEMENT PLAN

B-4663, WBS No. 38458.1.1

WAKE COUNTY

Hydraulics Project Manager: Stephen R. Morgan, PE

Date: 10/16/2012

ROADWAY DESCRIPTION

The project involves the replacement of bridge number 225 over Marks Creek on SR 2507 (Turnipseed Road) in Wake County. The overall length of the project is 0.095 mile. The project will replace an existing 81' long two-span timber and steel bridge with a two-span concrete cored slab bridge having a total length of 125 feet length, 24'' Cored Slab. An off-site detour will be required.

ENVIRONMENTAL DESCRIPTION

The project is located in the Neuse River. The proposed bridge is over Marks Creek which is classified as C, NSW. The surrounding land use is rural residential, farmland, woodlands, and open space preserved.

PROJECT IMPACTS

Impacts resulting from the job include: 0.03 acre fill in wetlands, 0.01 acre excavation in wetlands for reshaping of stream bank, 0.03 acre clearing in wetlands, and 0.02 acre of surface water impacts due to a temporary work pad.

Approximately 3665 square feet of buffer zones will have allowable impacts.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

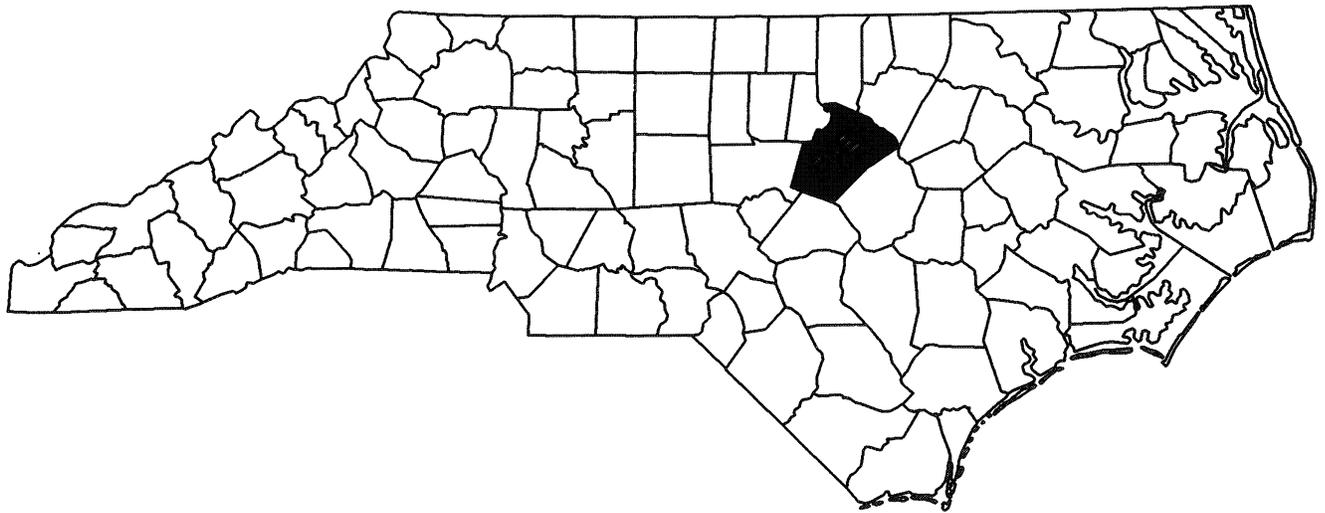
Best Management Practices (BMPs) and measures used on the project are an attempt to reduce the stormwater impacts to the receiving stream due to erosion and runoff. BMPs used on the job are primarily non-structural and consist of methods to attenuate and disperse stormwater before entering the receiving waters. Bridge deck drainage will not be allowed to directly discharge into the water, and is routed to a preformed scour hole outside the buffer zone. There is no direct discharge into the receiving water.

BRIDGE

-L- STA 16+04.50

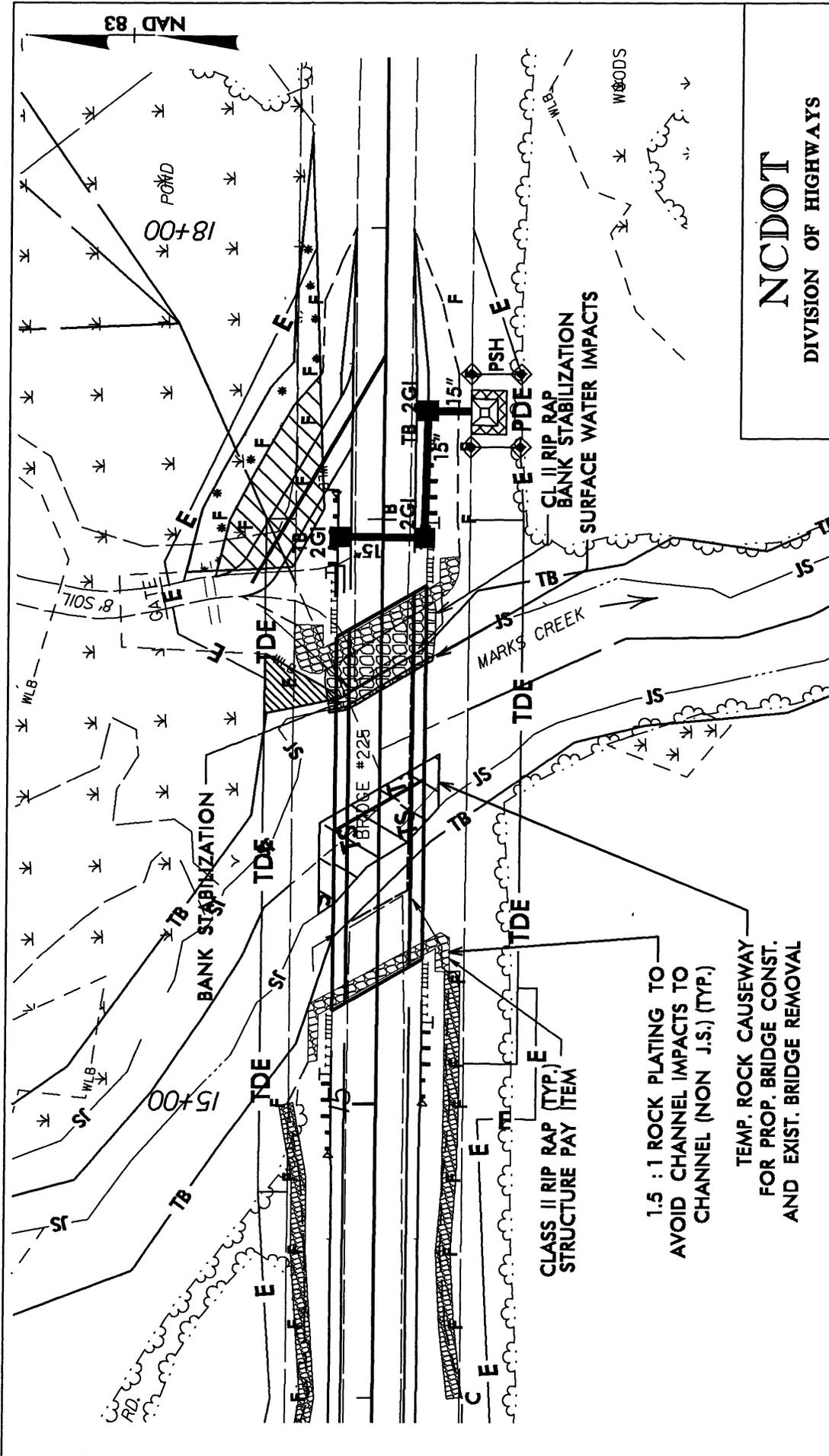
Replace existing bridge over Marks Creek. This includes a temporary rock causeway.

NORTH CAROLINA



WETLAND // SURFACE WATER
VICINITY
MAPS

NCDOT
DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 38458.11 (B-4665)
BRIDGE NO. 225 OVER
MARKS CREEK ON
SR 2507 (TURNIPSEED ROAD)



NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY

PROJECT: 38-458.1.1 (B-4663)

BRIDGE NO. 225 OVER

MARKS CREEK ON

SR 2507 (TURNPIECE ROAD)

SHEET 2 OF 10
REV. 01/31/15
10/26/12

SURFACE & TEMPORARY WATER IMPACTS ENLARGEMENT

	DENOTES TEMPORARY IMPACTS IN SURFACE WATER		DENOTES EXCAVATION IN WETLAND	 GRAPHIC SCALE
	DENOTES FILL IN WETLAND		DENOTES MECHANIZED CLEARING	

1.5 : 1 ROCK PLATING TO AVOID CHANNEL IMPACTS TO CHANNEL (NON J.S.) (TYP.)

TEMP. ROCK CAUSEWAY FOR PROP. BRIDGE CONST. AND EXIST. BRIDGE REMOVAL

CLASS II RIP RAP (TYP.) STRUCTURE PAY ITEM

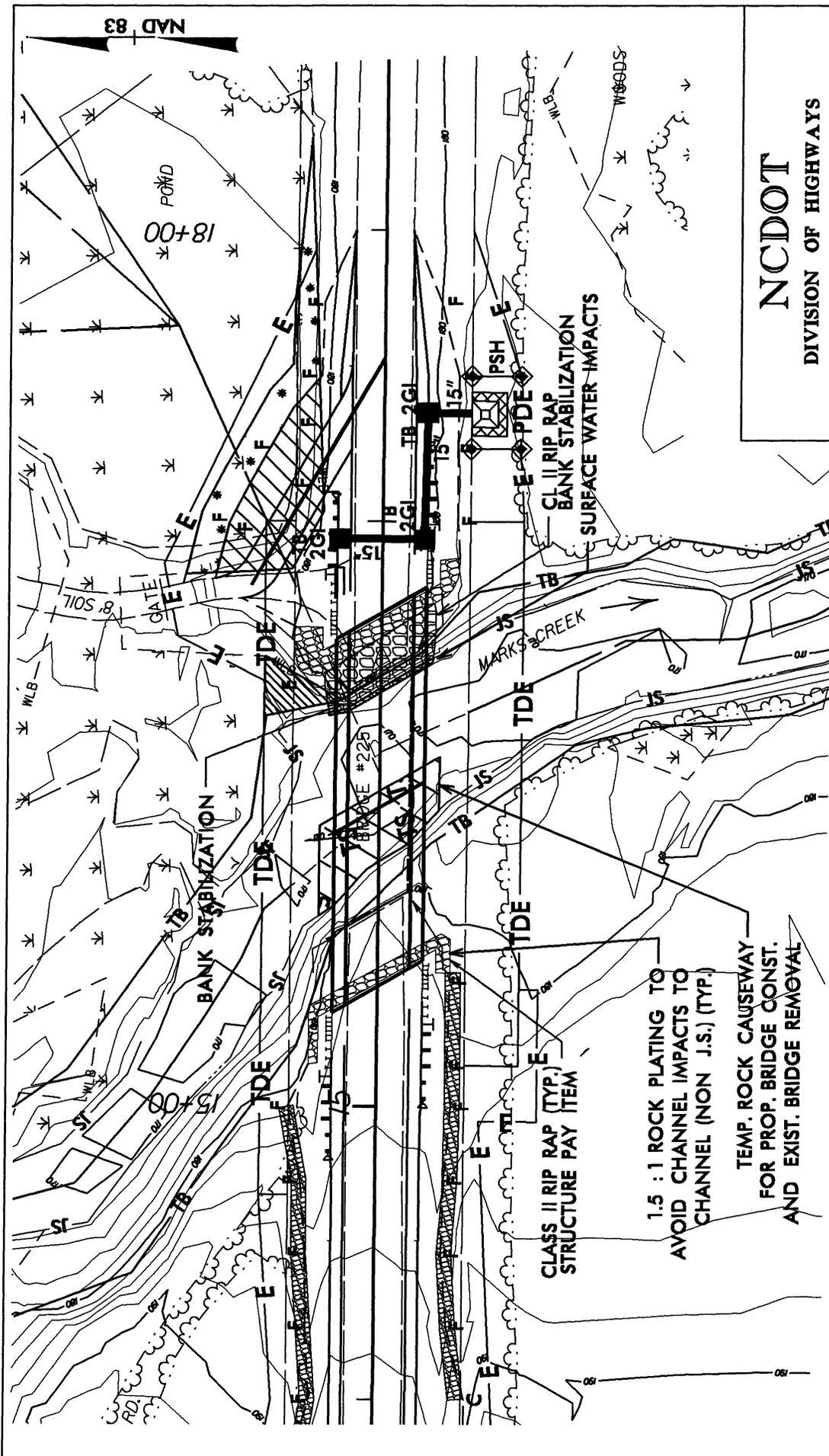
CL II RIP RAP BANK STABILIZATION SURFACE WATER IMPACTS

BANK STABILIZATION

POWD

WOODS

NAD 83



NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY

PROJECT: 38458.1.1 (B-4665)

BRIDGE NO. 225 OVER

MARKS CREEK ON

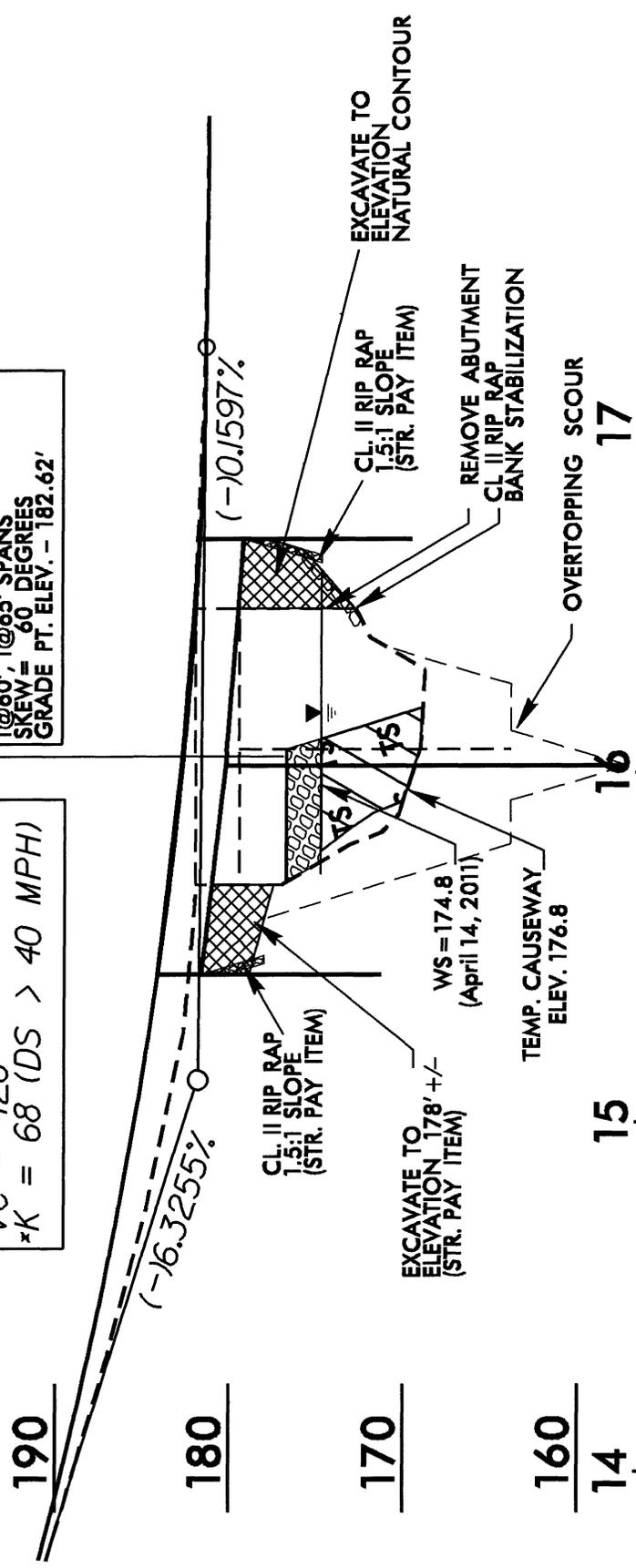
SR 2507 (TURNPIECE ROAD)

SURFACE & TEMPORARY WATER IMPACTS ENLARGEMENT

	DENOTES TEMPORARY IMPACTS IN SURFACE WATER		DENOTES EXCAVATION IN WETLAND		DENOTES MECHANIZED CLEARING
	DENOTES IMPACTS IN SURFACE WATER	 GRAPHIC SCALE			

$PI = 15+12.00$
 $EL = 181.80'$
 $VC = 420'$
 $*K = 68 (DS > 40 \text{ MPH})$

STATION 16+04.50
 125' x 24" CORED SLAB BRIDGE
 1@60', 1@65' SPANS
 SKEW = 60 DEGREES
 GRADE PT. ELEV. = 182.62'



PROFILE FOR TEMPORARY CAUSEWAY


 DENOTES TEMPORARY
 IMPACTS IN SURFACE WATER

NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY

PROJECT: 38458.1.1 (B-4663)

BRIDGE NO. 225 OVER

MARKS CREEK ON

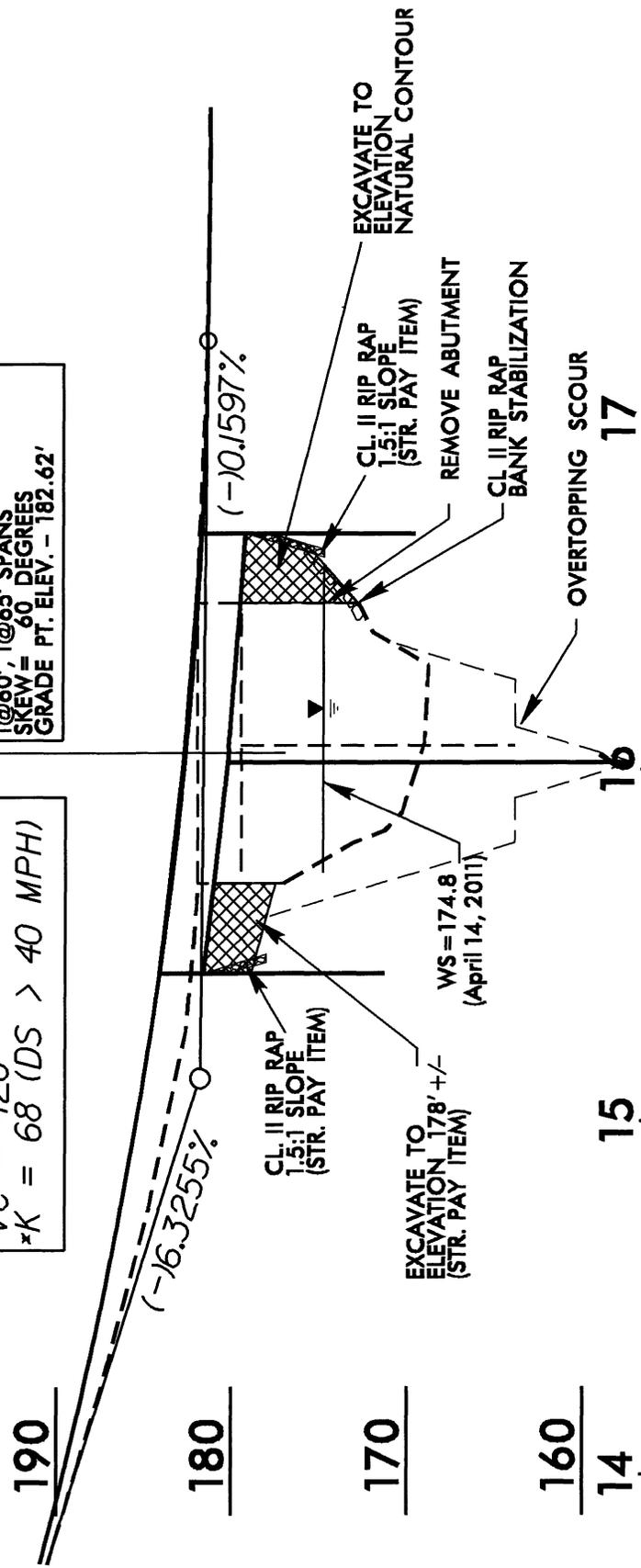
SR 2507 (TURNPIECE ROAD)

REV. 01/31/13
09/12/12

SHEET 4 OF 10

$PI = 15+12.00$
 $EL = 181.80'$
 $VC = 420'$
 $*K = 68$ (DS > 40 MPH)

STATION 16+04.50
 125' x 24" CORED SLAB BRIDGE
 1@60', 1@65' SPANS
 SKEW = 60 DEGREES
 GRADE PT. ELEV. = 182.62'



PROFILE FOR PERMANENT STREAM IMPACTS

NCDOT
 DIVISION OF HIGHWAYS
 WAKE COUNTY
 PROJECT: 38458.1.1 (B-4663)
 BRIDGE NO. 225 OVER
 MARKS CREEK ON
 SR 2507 (TURNIPSEED ROAD)

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	MEADOW GLEN HOMEOWNERS ASSOCIATION, INC.	5200 CASSINO LANE RALEIGH, NC 27610
2	JUNE C. TURNIPSEED	926 GREENWOOD CIRCLE CARY, NC 27511
3	COUNTY OF WAKE	P.O. BOX 550 RALEIGH, NC 27602
4	PRESTON W. BEACH	6329 BISSETTE ROAD WENDELL, NC 27591
5	COUNTY OF WAKE	P.O. BOX 550 RALEIGH, NC 27602
6	COUNTY OF WAKE	P.O. BOX 550 RALEIGH, NC 27602
7	WAKE COUNTY	P.O. BOX 550 RALEIGH, NC 27602

NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY

PROJECT: 38458.1.1 (B-4663)

BRIDGE NO. 225 OVER
MARKS CREEK ON

SR 2507 (TURNIPSEED ROAD)

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

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

WAKE COUNTY

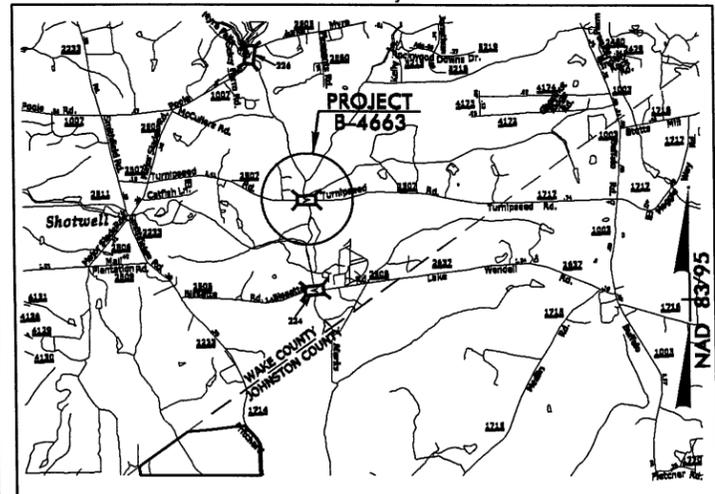
LOCATION: BRIDGE NO. 225 OVER MARKS CREEK ON
 SR 2507 (TURNIPSEED ROAD)

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

WETLAND AND SURFACE WATER IMPACTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4663	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38458.1.1	BRZ-2507(1)	P.E.	
38458.2.1	BRZ-2507(1)	RAW & UTILITIES	

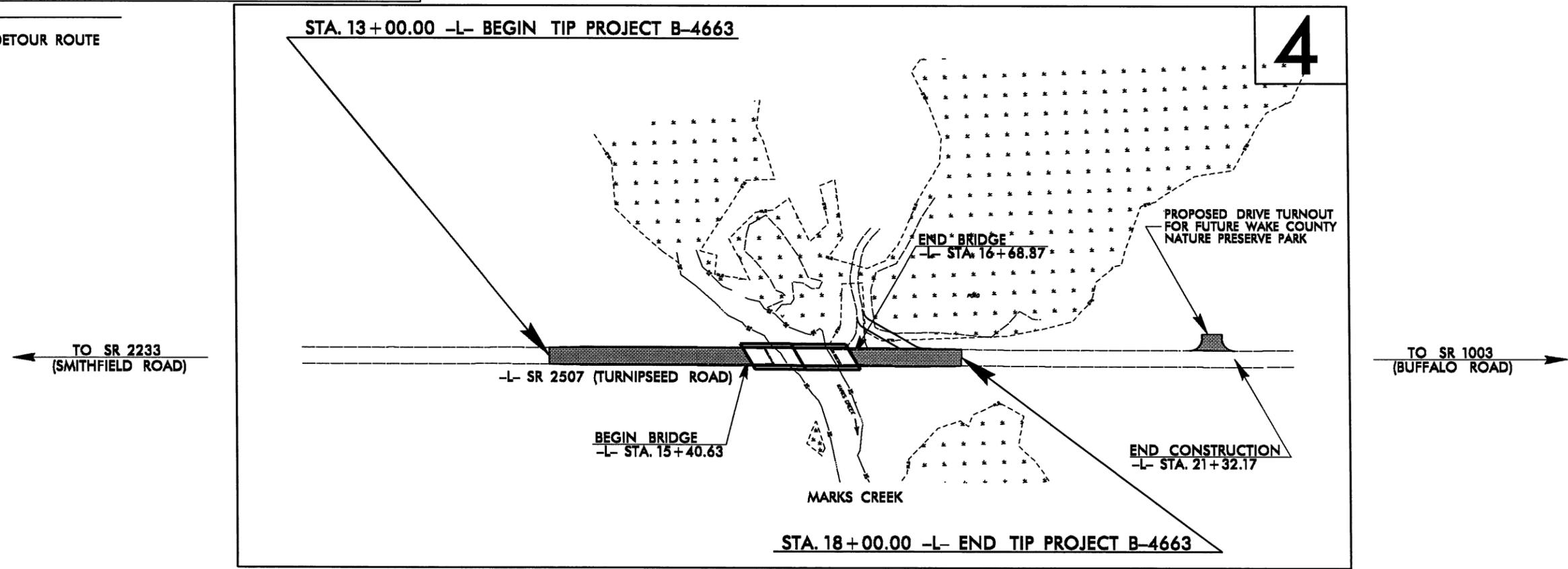
Permit Drawing
 Sheet 8 of 10



VICINITY MAP

TIP PROJECT: B-4663

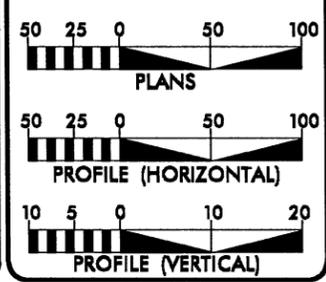
DETOUR ROUTE



DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE AND ASSOCIATED STOPPING SIGHT DISTANCE.
 THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
 CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 4660
 ADT 2030 = 8800
 DHV = 12 %
 D = 75 %
 T = 6 % *
 V = 55 MPH
 * TTST = 1% DUAL 5%
 FUNC CLASS =
 RURAL COLLECTOR
 SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4663 = 0.071 MILES
 LENGTH STRUCTURE TIP PROJECT B-4663 = 0.024 MILES
 TOTAL LENGTH OF TIP PROJECT B-4663 = 0.095 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 AUGUST 15, 2012

LETTING DATE:
 AUGUST 20, 2013

JAMES A. SPEER, PE
 PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
 ROADWAY DESIGN
 ENGINEER

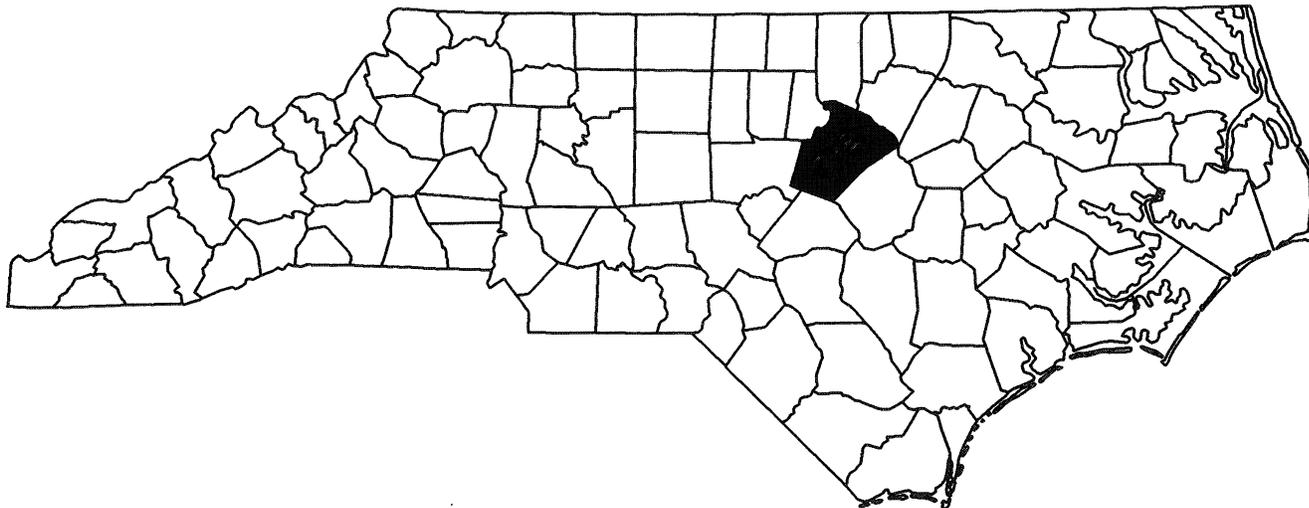
SIGNATURE: _____ P.E.



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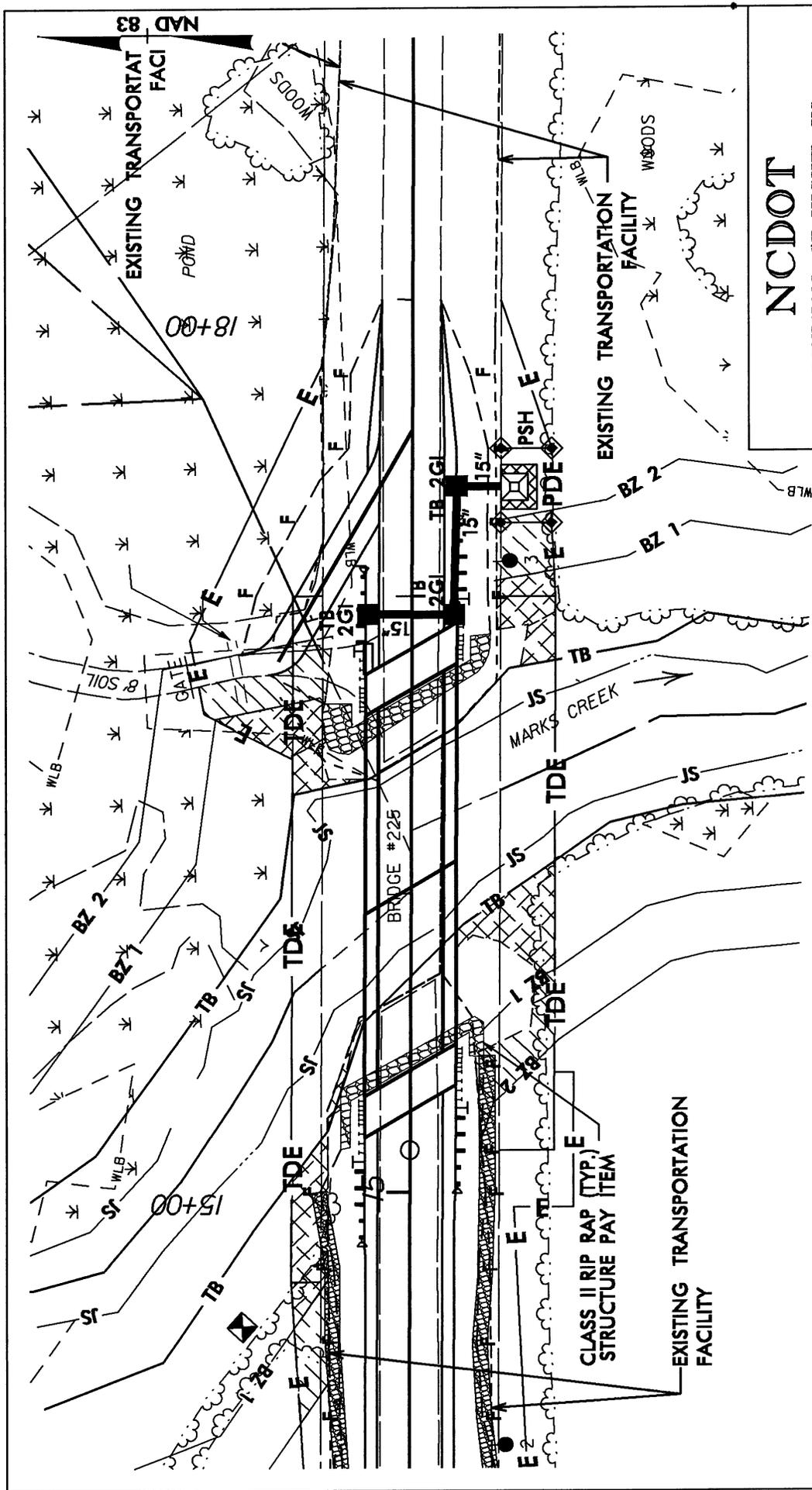
CONTRACT:

NORTH CAROLINA



BUFFER VICINITY MAPS

NCDOT
DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 38458.1.1 (B-4663)
BRIDGE NO. 225 OVER
MARKS CREEK ON
SR 2507 (TURNPISEED ROAD)



NCDOT
 DIVISION OF HIGHWAYS
 WAKE COUNTY
 PROJECT: 38458.1.1 (B-4663)
 BRIDGE NO. 225 OVER
 MARKS CREEK ON
 SR 2507 (TURNPIECE ROAD)

BUFFER IMPACT ENLARGEMENT



WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)	EXCAVATION IN WETLANDS	WETLANDS IN BUFFERS	
			ZONE 1 (ft ²)	ZONE 2 (ft ²)
1	14+61 / 18+31 -L-	EXCAVATION IN WETLANDS	276	
1	13+37-L- LT. TO 14+95-L- LT.	FILL IN WETLANDS MECHANIZED CLEARING	100 449	178 240
1	16+07-L- RT. TO 17+27-L- RT.	FILL IN WETLANDS MECHANIZED CLEARING	39 166	5 392
TOTAL:			1030	815

N.C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 38458.1.1 (B-4663)

 2/14/2013 SHEET **4** OF **6**

See Sheet 1-A For INDEX of SHEETS
See Sheet 1-B For Conventional Symbols
See Sheet 1-C For Survey Control Sheet

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

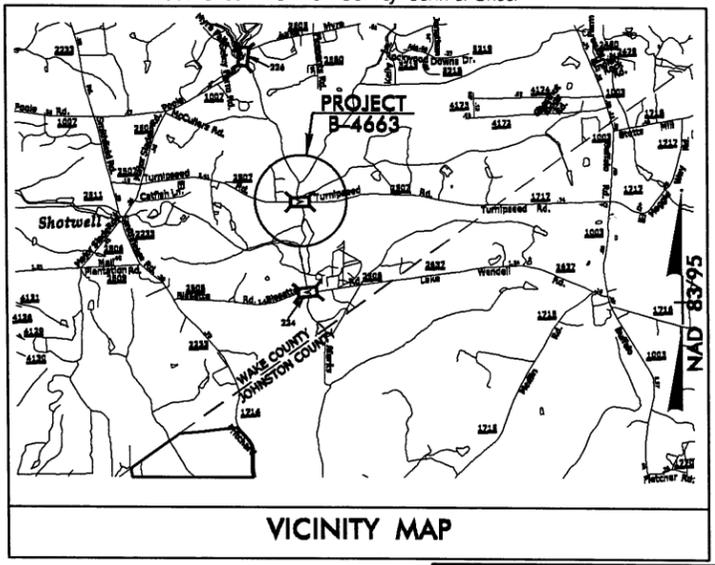
LOCATION: BRIDGE NO. 225 OVER MARKS CREEK ON
SR 2507 (TURNIPSEED ROAD)

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

BUFFER IMPACTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4663	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
38458.1.1	BRZ-2507(1)	P.E.	
38458.2.1	BRZ-2507(1)	RAW & UTILITIES	

Buffer Drawing
Sheet 5 of 6

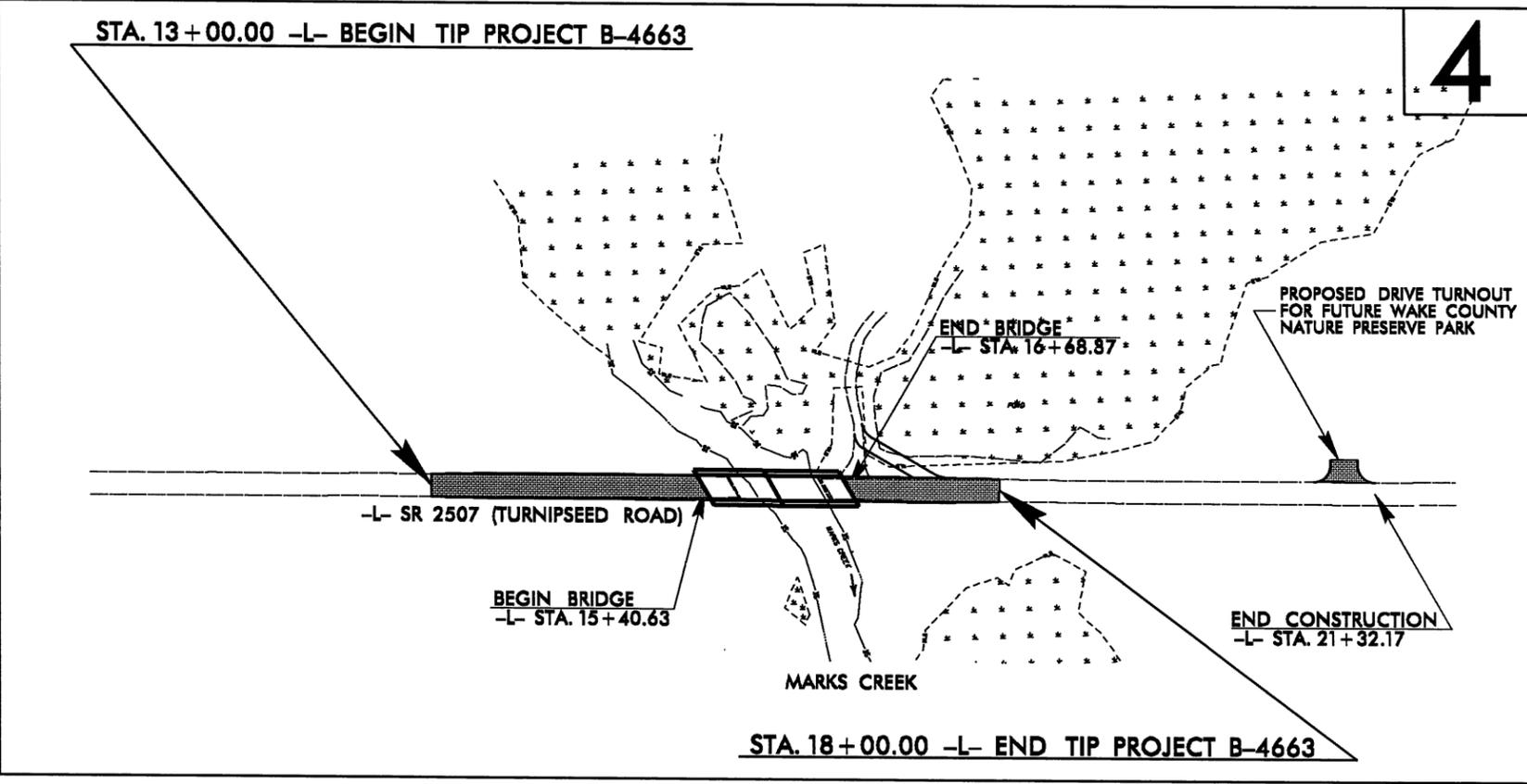


VICINITY MAP

CONTRACT: TIP PROJECT: B-4663

DETOUR ROUTE

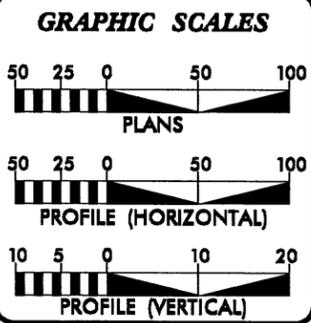
← TO SR 2233
(SMITHFIELD ROAD)



→ TO SR 1003
(BUFFALO ROAD)

DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE AND ASSOCIATED STOPPING SIGHT DISTANCE.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2013 =	4660
ADT 2030 =	8800
DHV =	12 %
D =	75 %
T =	6 % "
V =	55 MPH
* TTST =	1% DUAL 5%
FUNC CLASS =	RURAL COLLECTOR
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4663 =	0.071 MILES
LENGTH STRUCTURE TIP PROJECT B-4663 =	0.024 MILES
TOTAL LENGTH OF TIP PROJECT B-4663 =	0.095 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 15, 2012	JAMES A. SPEER, PE PROJECT ENGINEER
LETTING DATE: AUGUST 20, 2013	DANIEL W. GARDNER, JR., PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

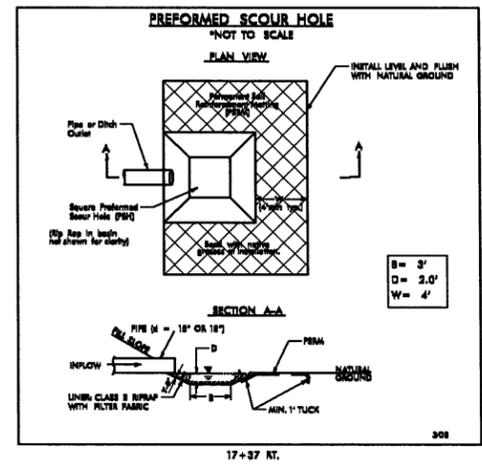
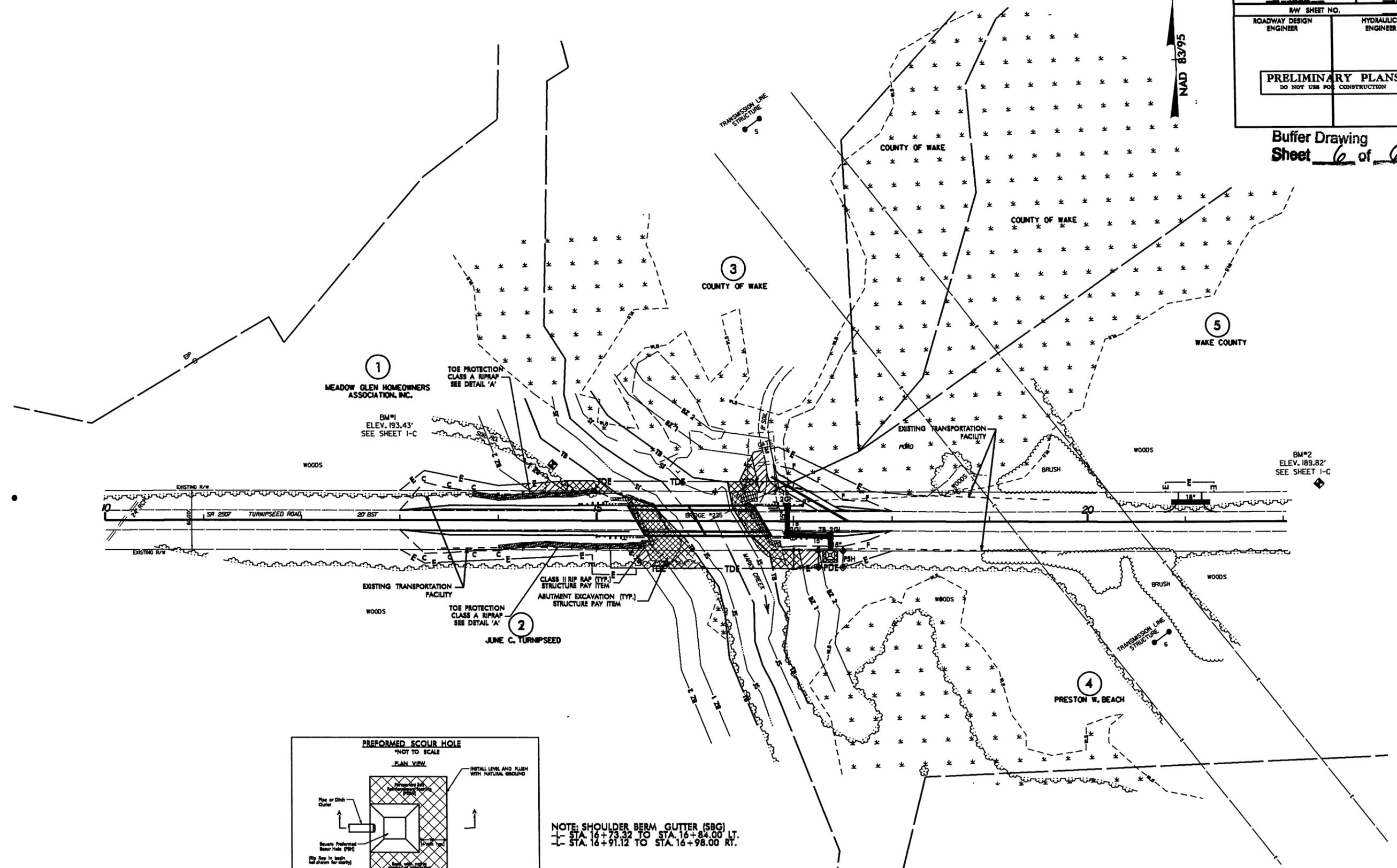


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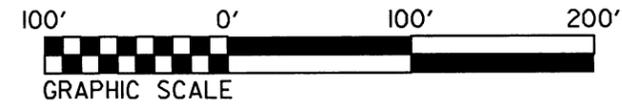
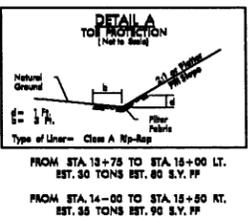
8/17/99

PROJECT REFERENCE NO. B-4663	SHEET NO. 4
NW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Buffer Drawing
Sheet 6 of 6



NOTE: SHOULDER BERM GUTTER (SBG)
 - STA. 16+73.32 TO STA. 16+84.00 LT.
 - STA. 16+91.12 TO STA. 16+98.00 RT.



SYSTEMS DESIGN CONSULTANTS

09/08/09

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

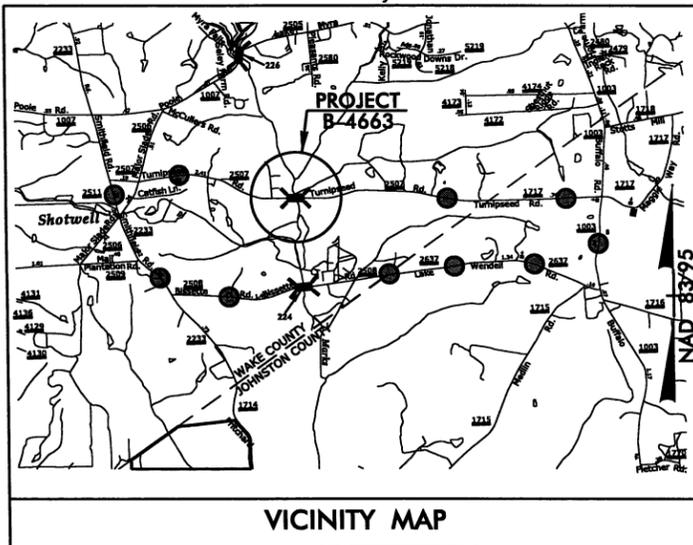
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

LOCATION: BRIDGE NO. 225 OVER MARKS CREEK ON
SR 2507 (TURNIPSEED ROAD)

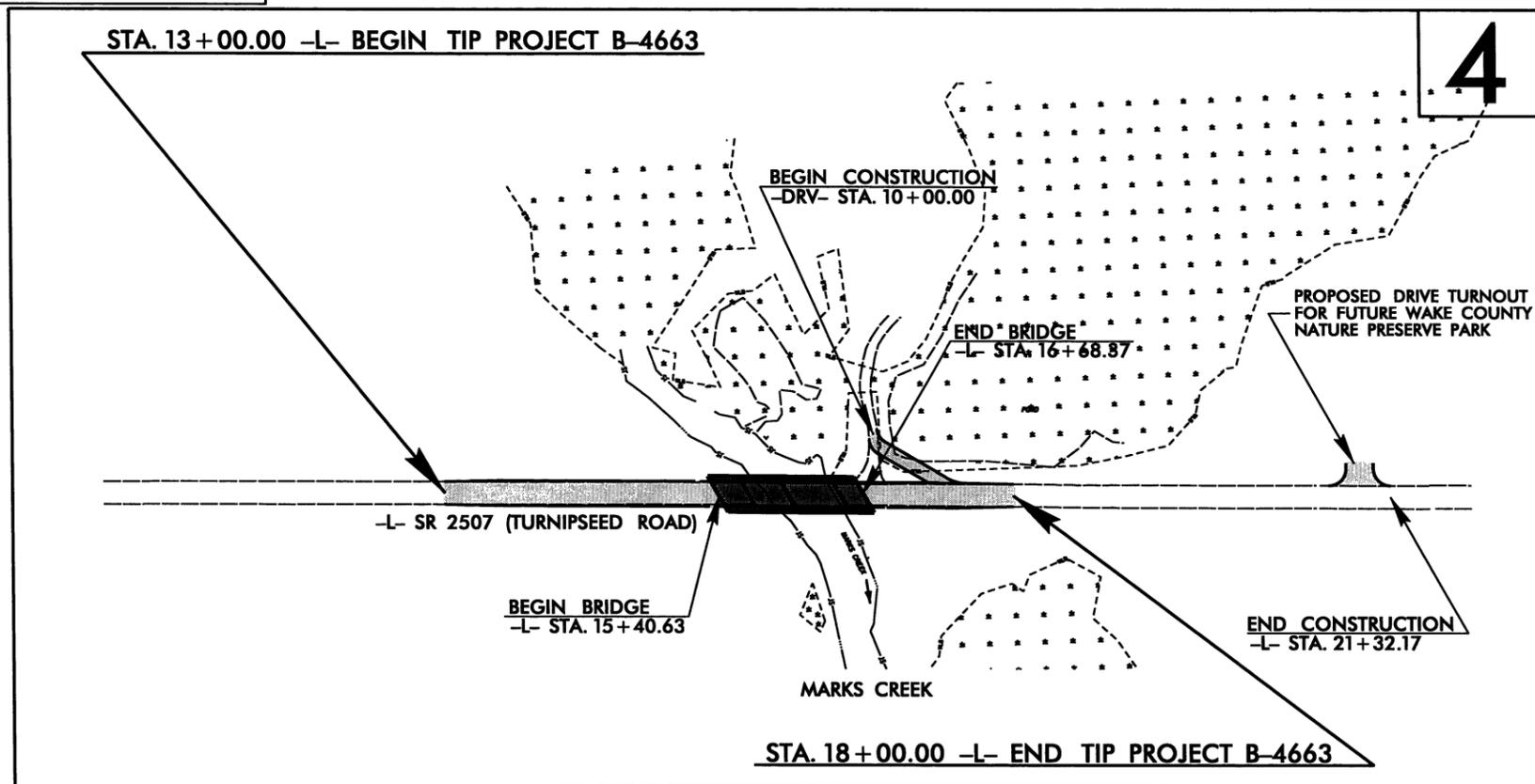
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4663	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38458.1.1	BRZ-2507(1)	P.E.	
38458.2.1	BRZ-2507(1)	RW & UTILITIES	
38458.3.1	BRZ-2507(2)	CONST.	



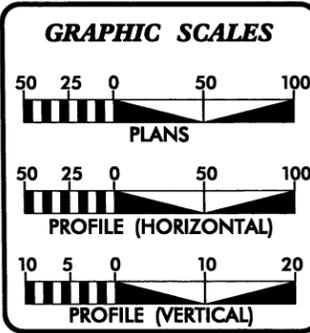
TIP PROJECT: B-4663

CONTRACT: C203204



DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE AND ASSOCIATED STOPPING SIGHT DISTANCE.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2013 =	4660
ADT 2030 =	8800
DHV =	12 %
D =	75 %
T =	6 % *
V =	50 MPH
* TTST =	1% DUAL 5%
FUNC CLASS =	RURAL COLLECTOR
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4663 =	0.071 MILES
LENGTH STRUCTURE TIP PROJECT B-4663 =	0.024 MILES
TOTAL LENGTH OF TIP PROJECT B-4663 =	0.095 MILES

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: AUGUST 15, 2012	JAMES A. SPEER, PE PROJECT ENGINEER
LETTING DATE: AUGUST 20, 2013	DANIEL W. GARDNER, JR., PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



05-FEB-2013 08:38
R:\Roadway\Proj\B4663_rdy_tsh.dgn
\$\$\$\$\$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	⊙
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	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ☠

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG 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	-----
Buffer Zone 1	-----
Buffer Zone 2	-----
Flow Arrow	-----
Disappearing Stream	-----
Spring	⊙
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite R/W Marker	-----
Proposed Control of Access Line with Concrete C/A 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	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

VEGETATION:

Single Tree	⊙
Single Shrub	⊙
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

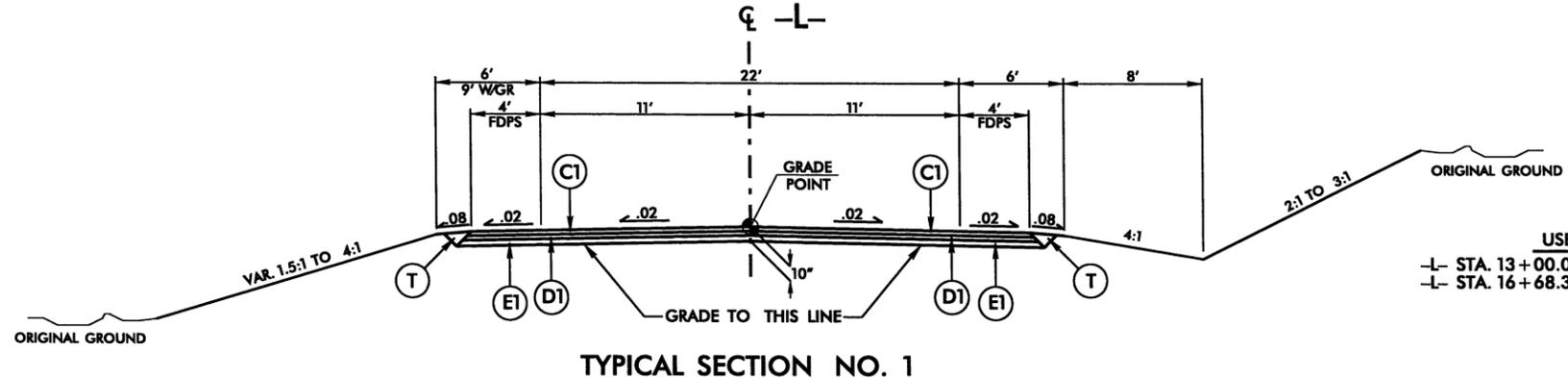
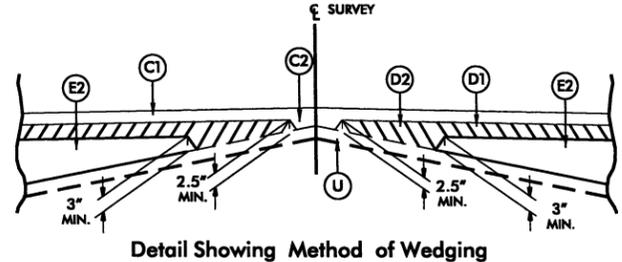
Utility Pole	-----
Utility Pole with Base	-----
Utility Located Object	-----
Utility Traffic Signal Box	-----
Utility Unknown UG Line	-----
UG Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	-----
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	-----
UG Test Hole (S.U.E.*)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

6/2/99

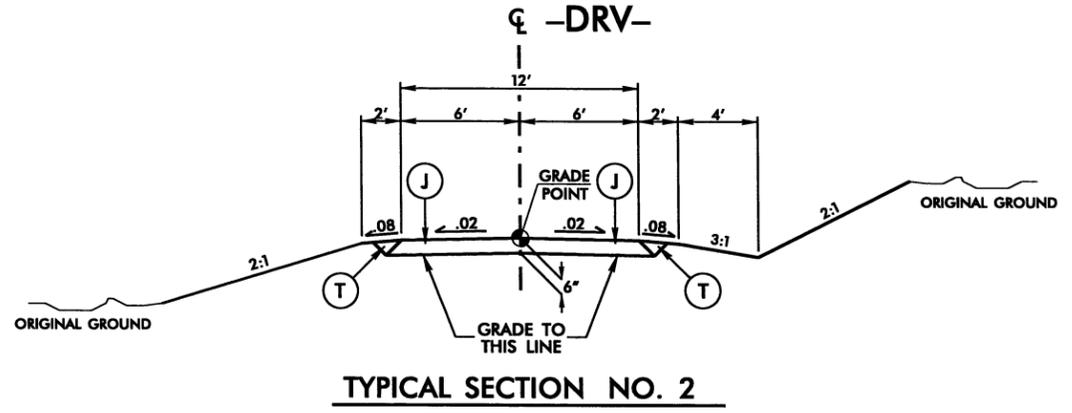
PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	J	PROP. 6" AGGREGATE BASE COURSE
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	T	EARTH MATERIAL.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

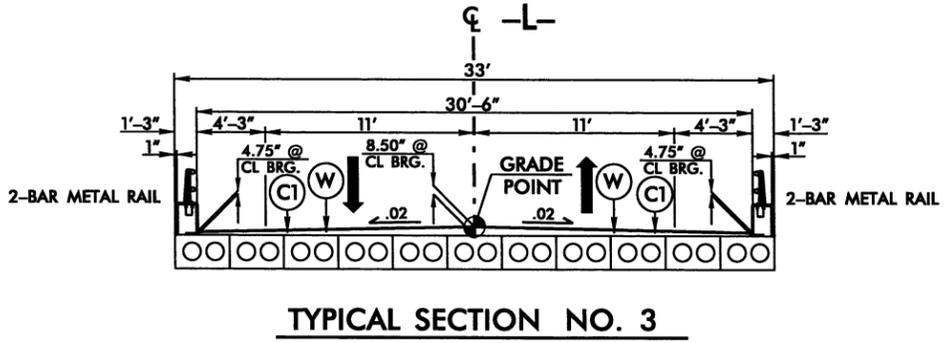
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



USE TYPICAL SECTION NO. 1 FOR
 -L- STA. 13+00.00 TO STA. 15+40.63 (BEGIN BRIDGE)
 -L- STA. 16+68.37 (END BRIDGE) TO STA. 18+00.00



USE TYPICAL SECTION NO. 2 FOR
 -DRV- STA. 10+04.00 TO STA. 10+68.00



USE TYPICAL SECTION NO. 3 FOR
 -L- STA. 15+40.63 (BEGIN BRIDGE) TO STA. 16+68.37 (END BRIDGE)

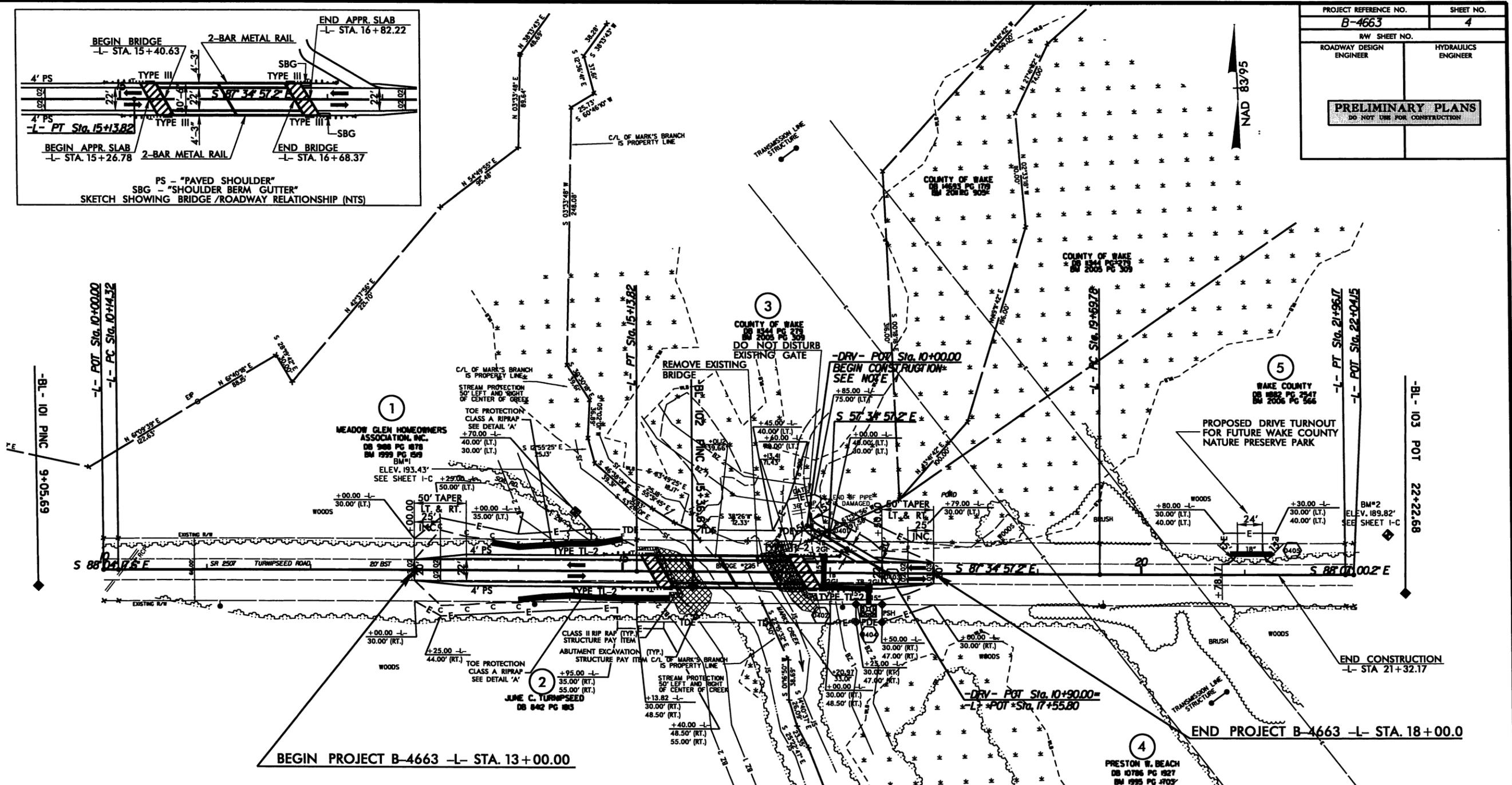
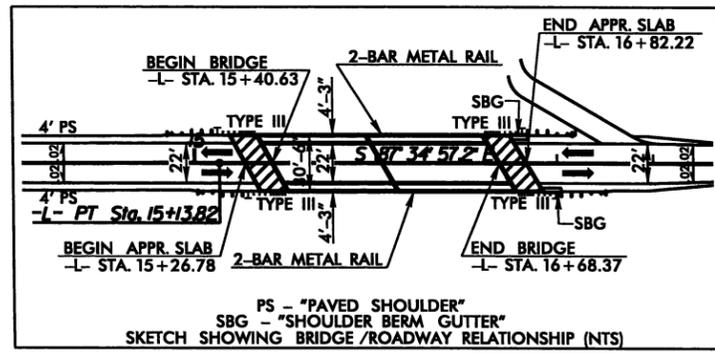
NOTE: TOWN OF KNIGHTDALE HAS SR 2507 (TURNPISEED ROAD) DESIGNATED A LOCAL BIKE ROUTE.

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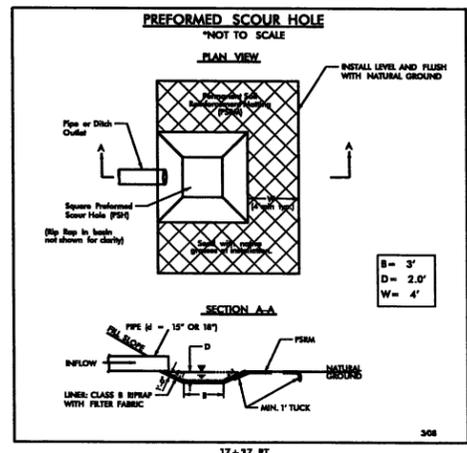
PROJECT REFERENCE NO. B-4663	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

8/17/99

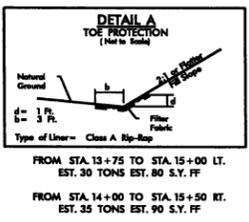
PROJECT REFERENCE NO. B-4663	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-L-	-L-
PI Sta 12+64.07	PI Sta 20+77.97
$\Delta = 0^{\circ} 29' 20.4''$ (RT)	$\Delta = 0^{\circ} 32' 03.0''$ (LT)
$D = 0^{\circ} 05' 52.4''$	$D = 0^{\circ} 13' 33.5''$
$L = 499.50'$	$L = 236.40'$
$T = 249.75'$	$T = 118.20'$
$R = 58,525.88'$	$R = 25,355.59'$
SE = SEE PLANS	



NOTE: SHOULDER BERM GUTTER (SBG)
-L- STA. 16+73.32 TO STA. 16+84.00 LT.
-L- STA. 16+91.12 TO STA. 16+98.00 RT.



NOTE 1: BEGIN -DRV- TIE-IN CONSTRUCTION SOUTH OF 36" CMP

NOTE 2: USE ROCK EMBANKMENT FROM -L- STA. 16+65.00 +/- TO STA. 17+50.00 +/- LT.
SEE SHEET 2-A FOR ROCK EMBANKMENT DETAIL
(EST. 230 TONS ROCK EMBANKMENT, 180 TONS #57 STONE, AND 170 SY GEOTEXTILE).

NOTE: SEE SHEET 5 FOR -L- PROFILE
SEE SHEET 5 FOR -DRV- PROFILE
SEE SHEETS S-1 THRU S-9 FOR STRUCTURE PLANS

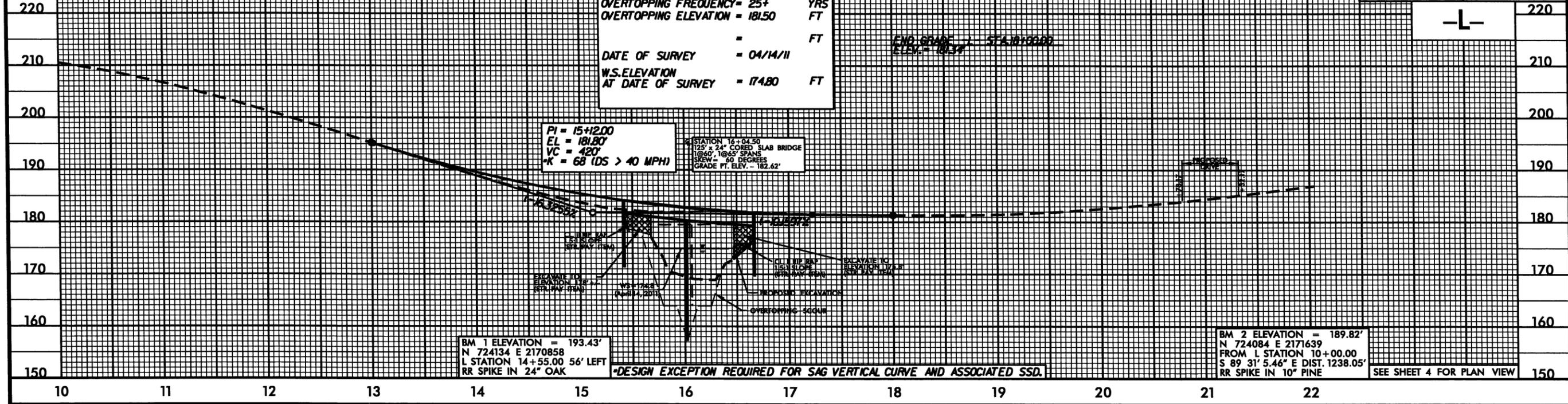
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5/28/09

PROJECT REFERENCE NO. B-4663	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 3236	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 180.50	FT
BASE DISCHARGE	= 4772	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 182.20	FT
OVERTOPPING DISCHARGE	= 3500	CFS
OVERTOPPING FREQUENCY	= 25+	YRS
OVERTOPPING ELEVATION	= 181.50	FT
DATE OF SURVEY	= 04/14/11	FT
W.S. ELEVATION AT DATE OF SURVEY	= 174.80	FT



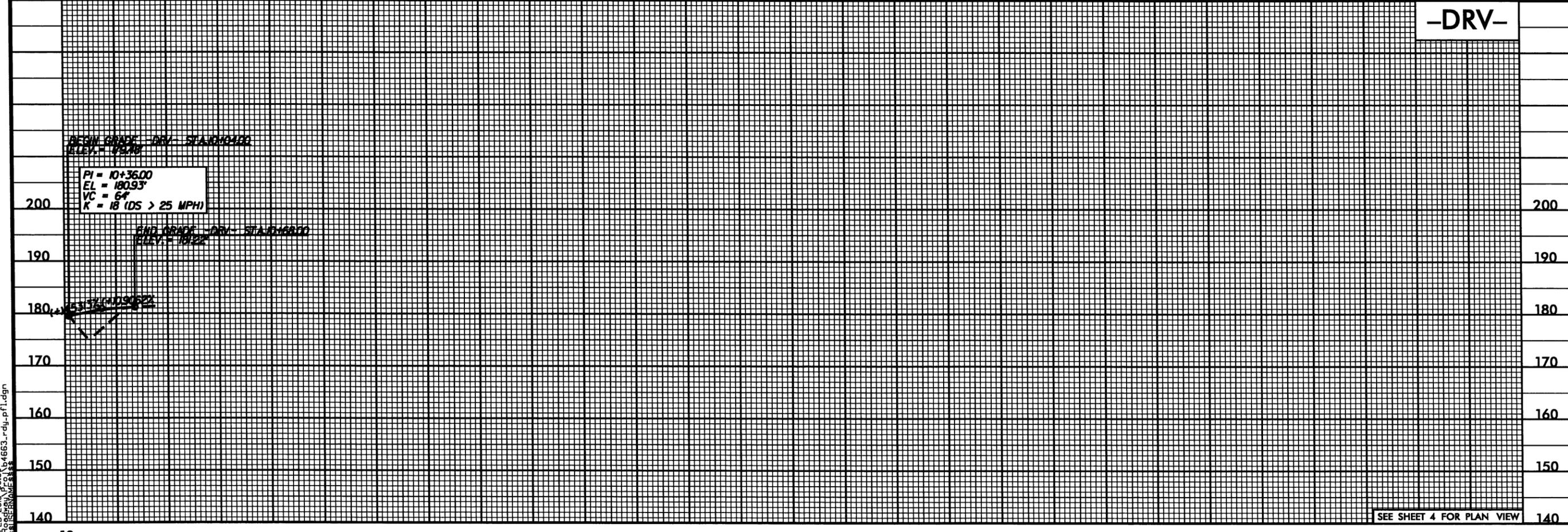
BM 1 ELEVATION = 193.43'
N 724134 E 2170858
L STATION 14+55.00 56' LEFT
RR SPIKE IN 24" OAK

BM 2 ELEVATION = 189.82'
N 724084 E 2171639
FROM L STATION 10+00.00
S 89 31' 5.46" E DIST. 1238.05'
RR SPIKE IN 10" PINE

***DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE AND ASSOCIATED SSD.**

SEE SHEET 4 FOR PLAN VIEW

-DRV-



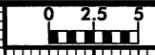
PI = 10+36.00
EL = 180.93'
VC = 64'
K = 18 (DS > 25 MPH)

10

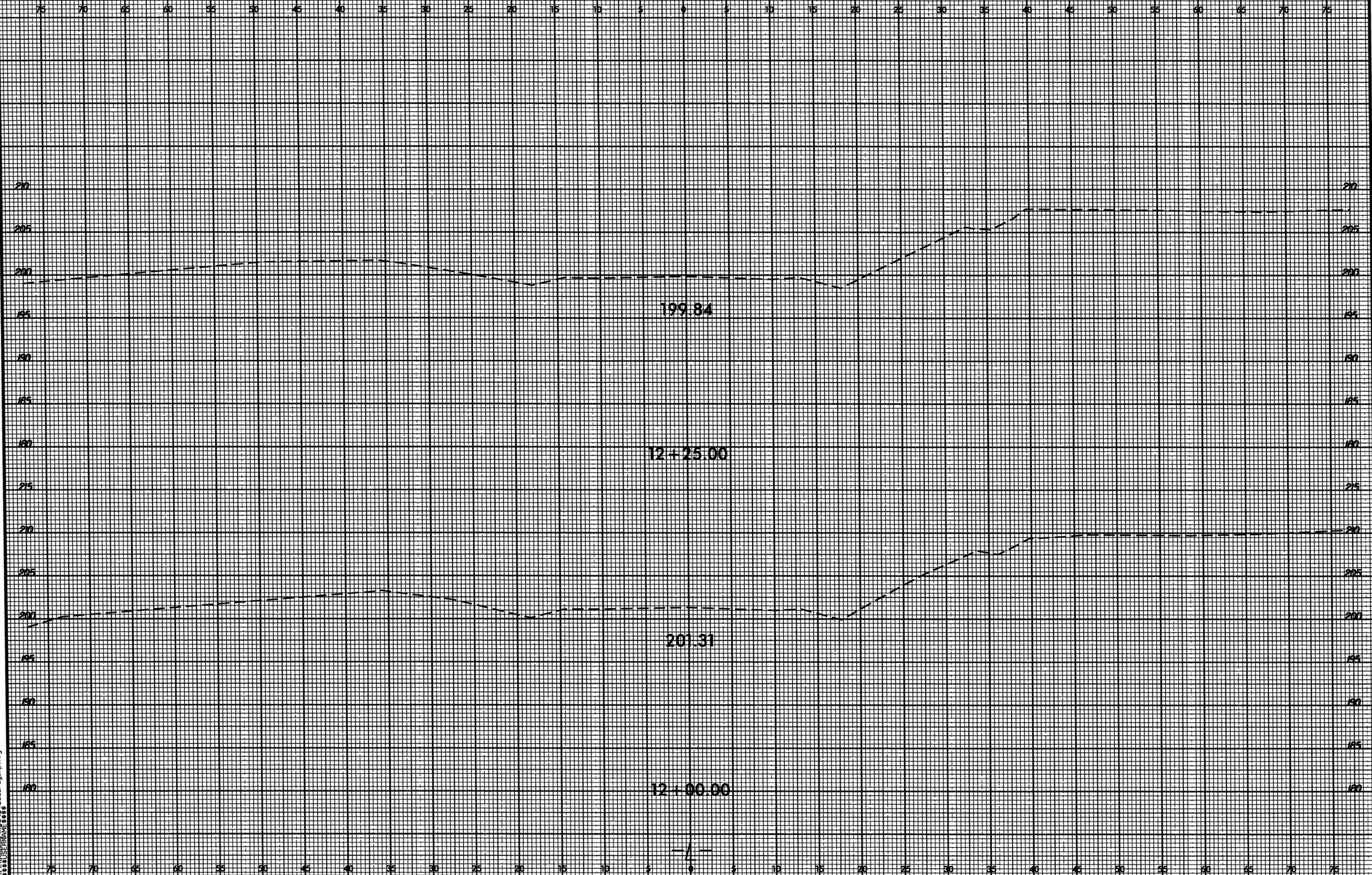
SEE SHEET 4 FOR PLAN VIEW

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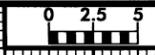


PROJ. REFERENCE NO.	SHEET NO.
B-4663	X-2

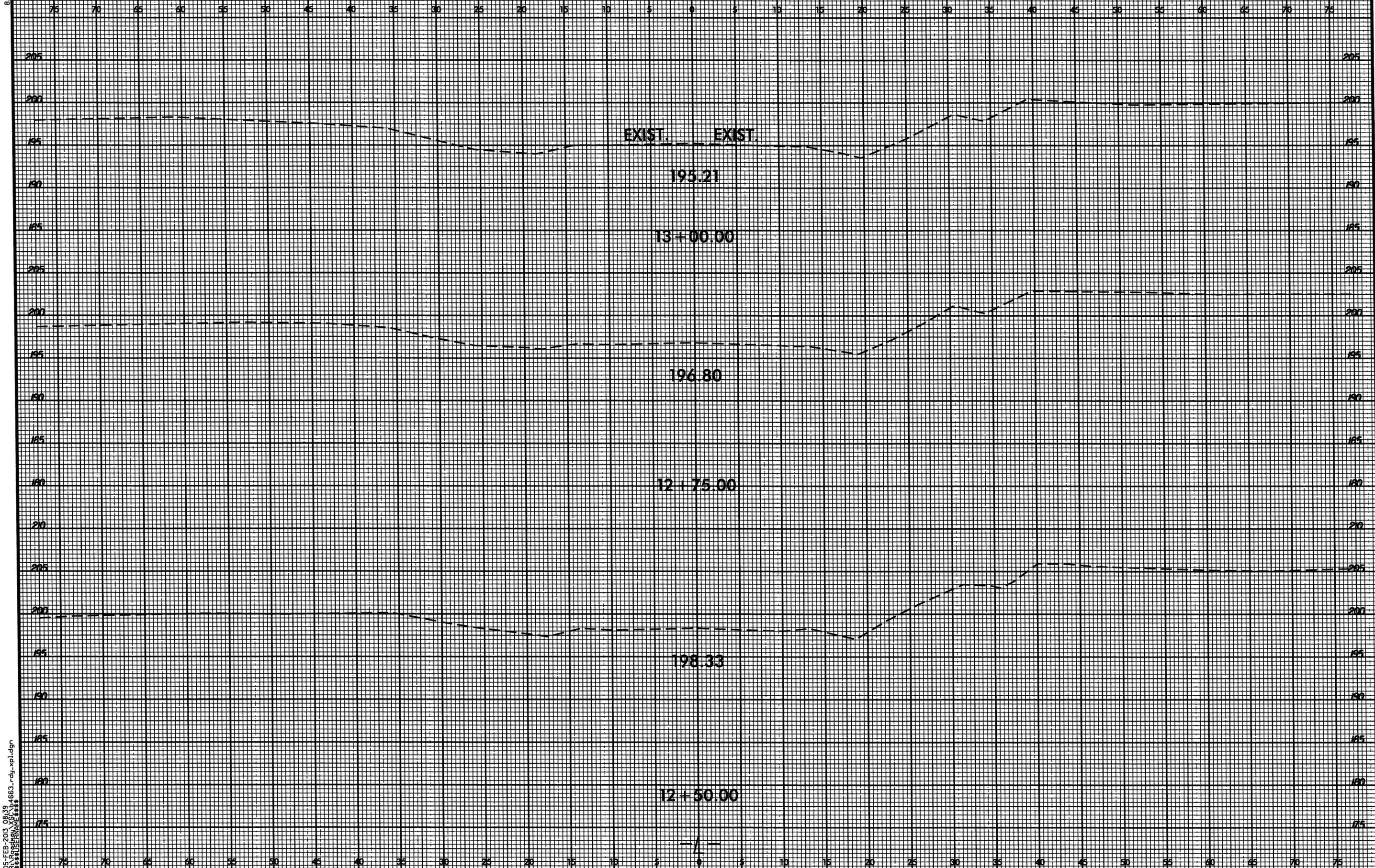


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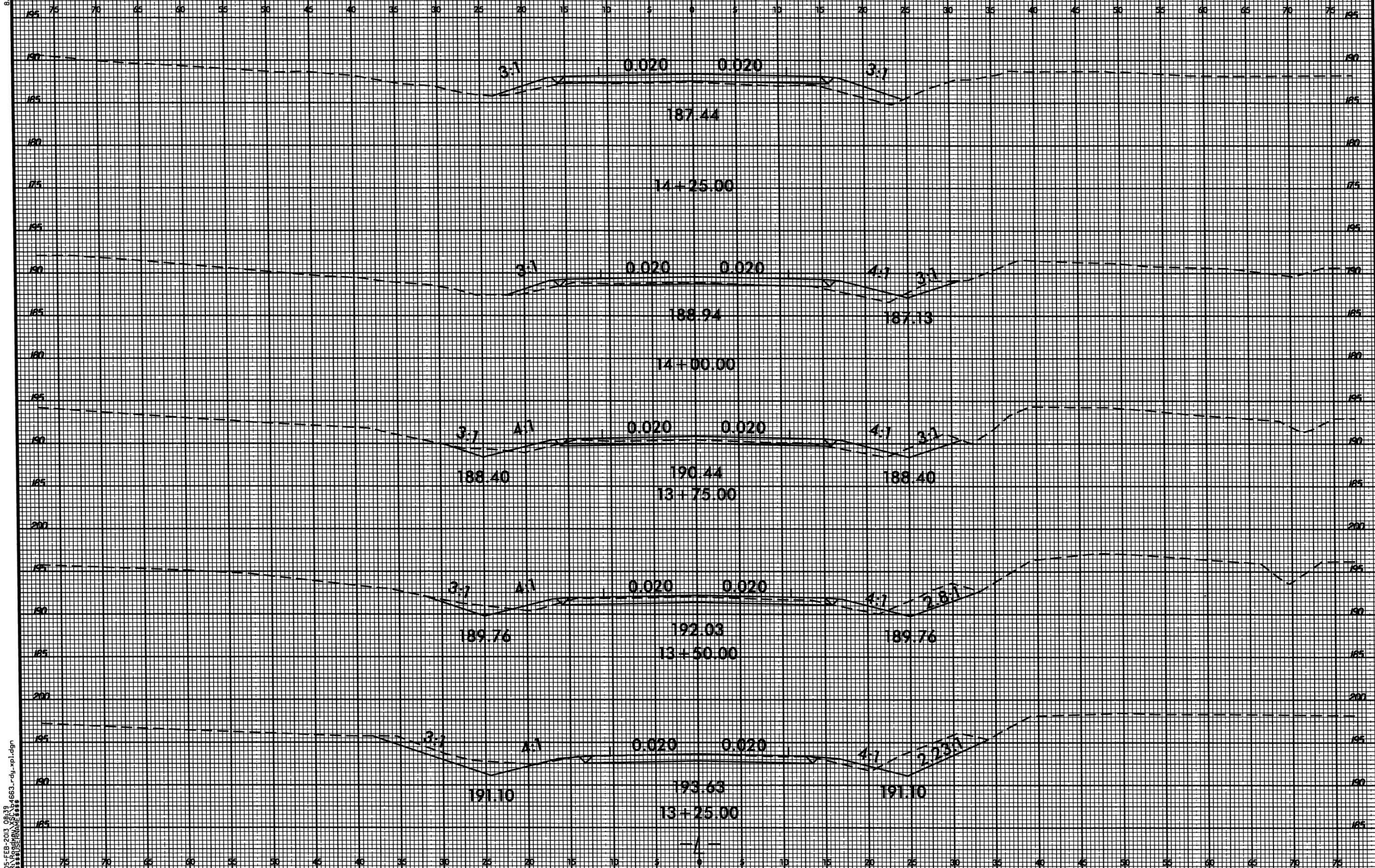


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B-4663	X-3



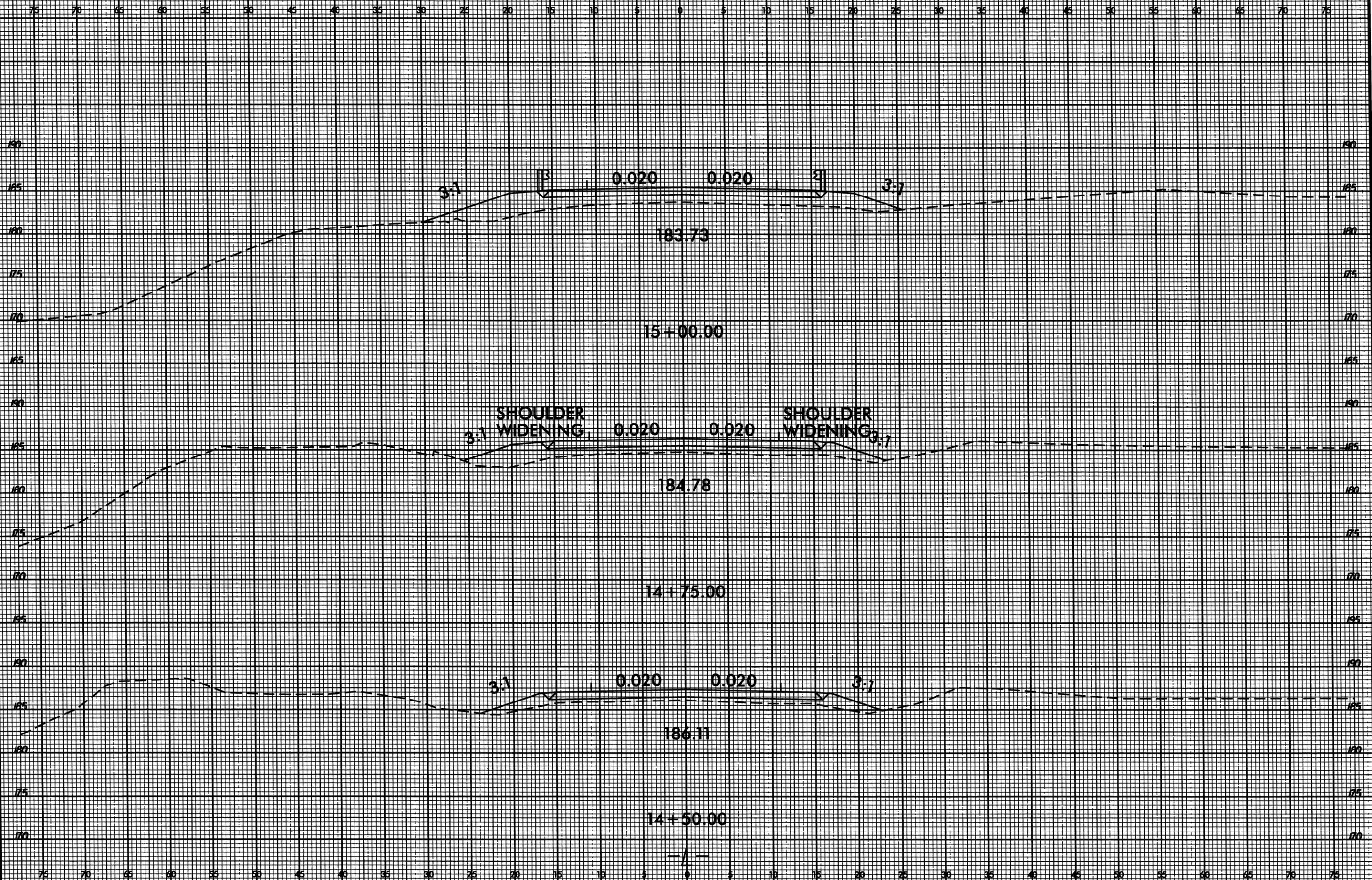
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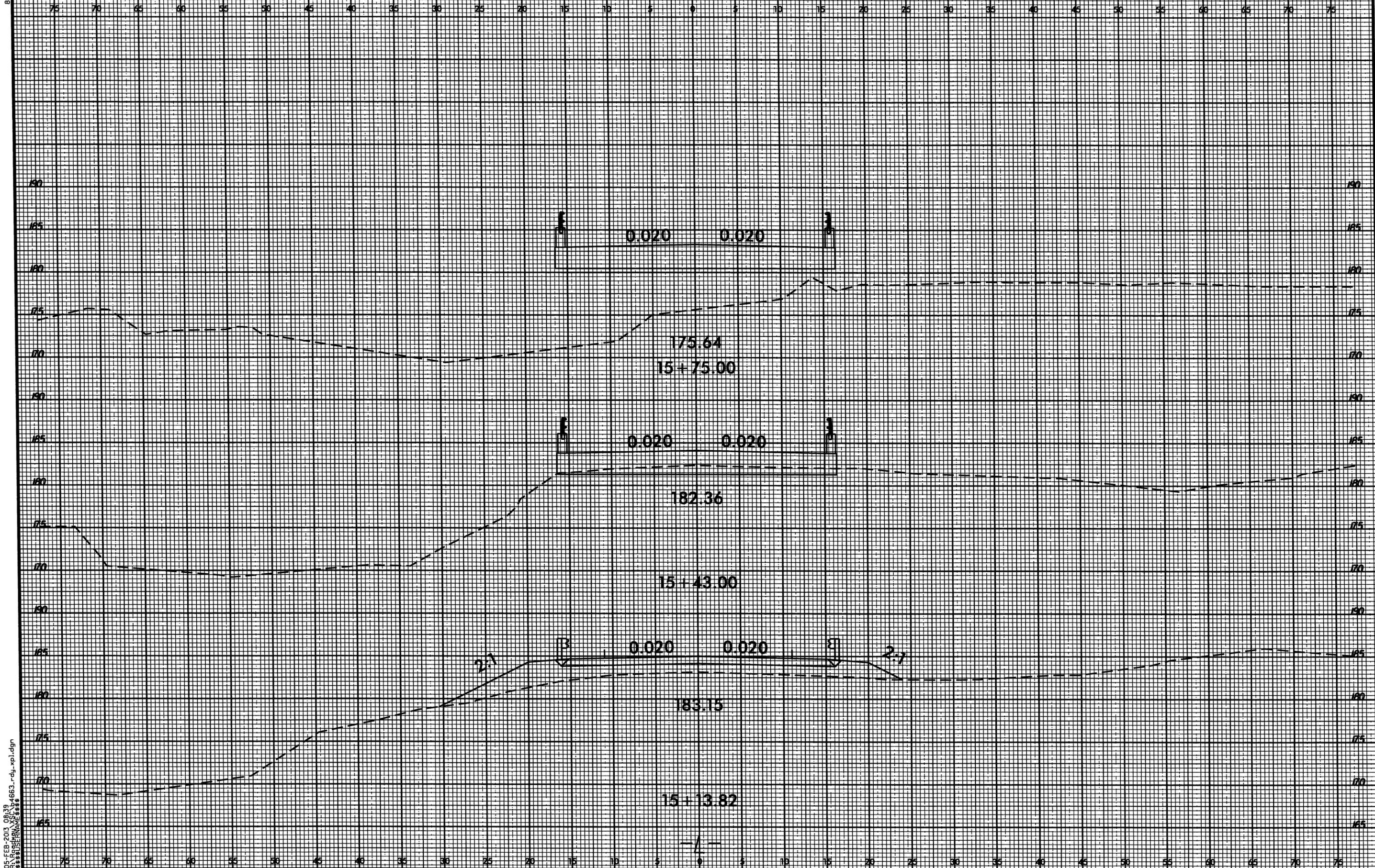
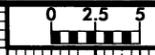


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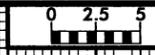
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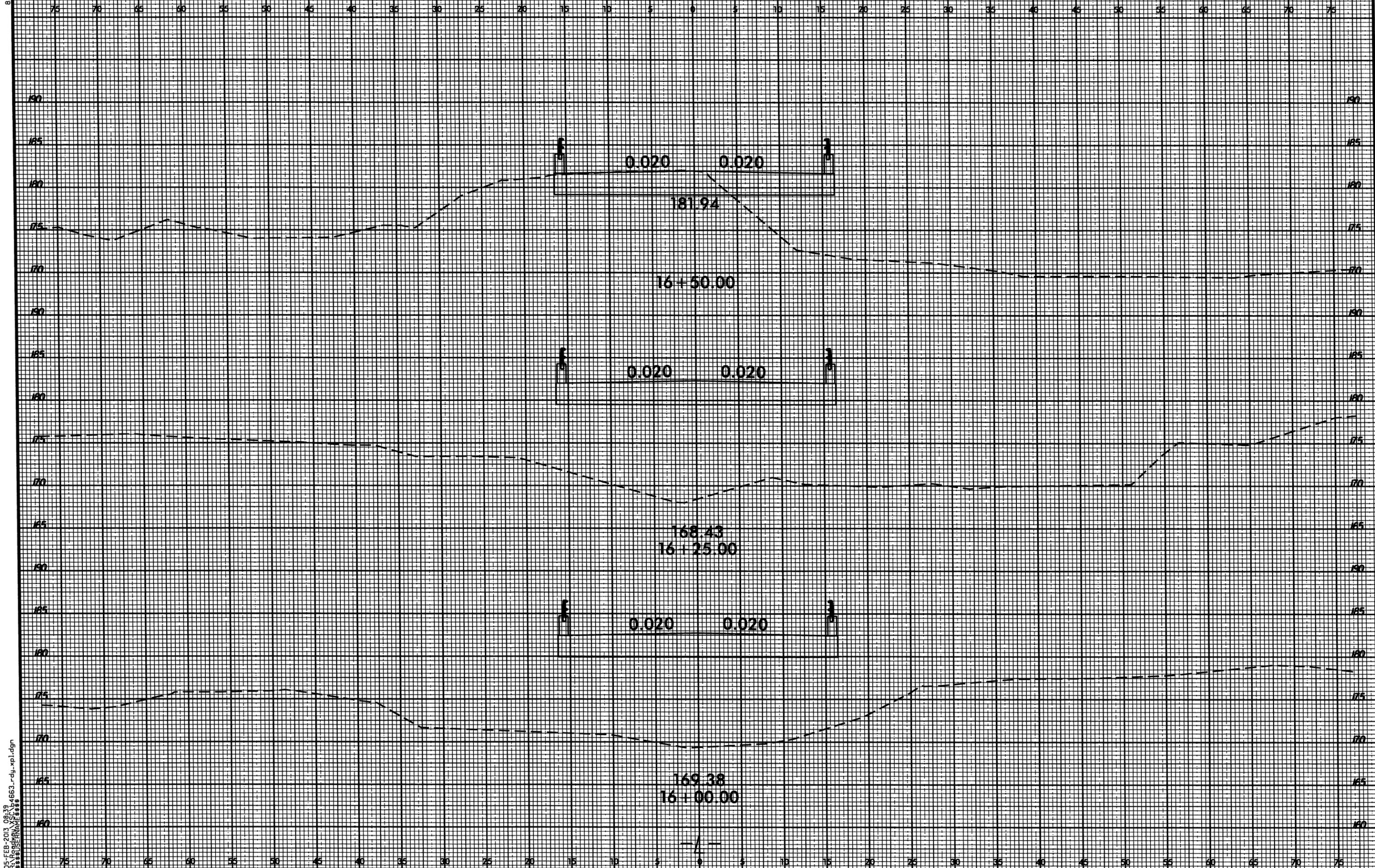
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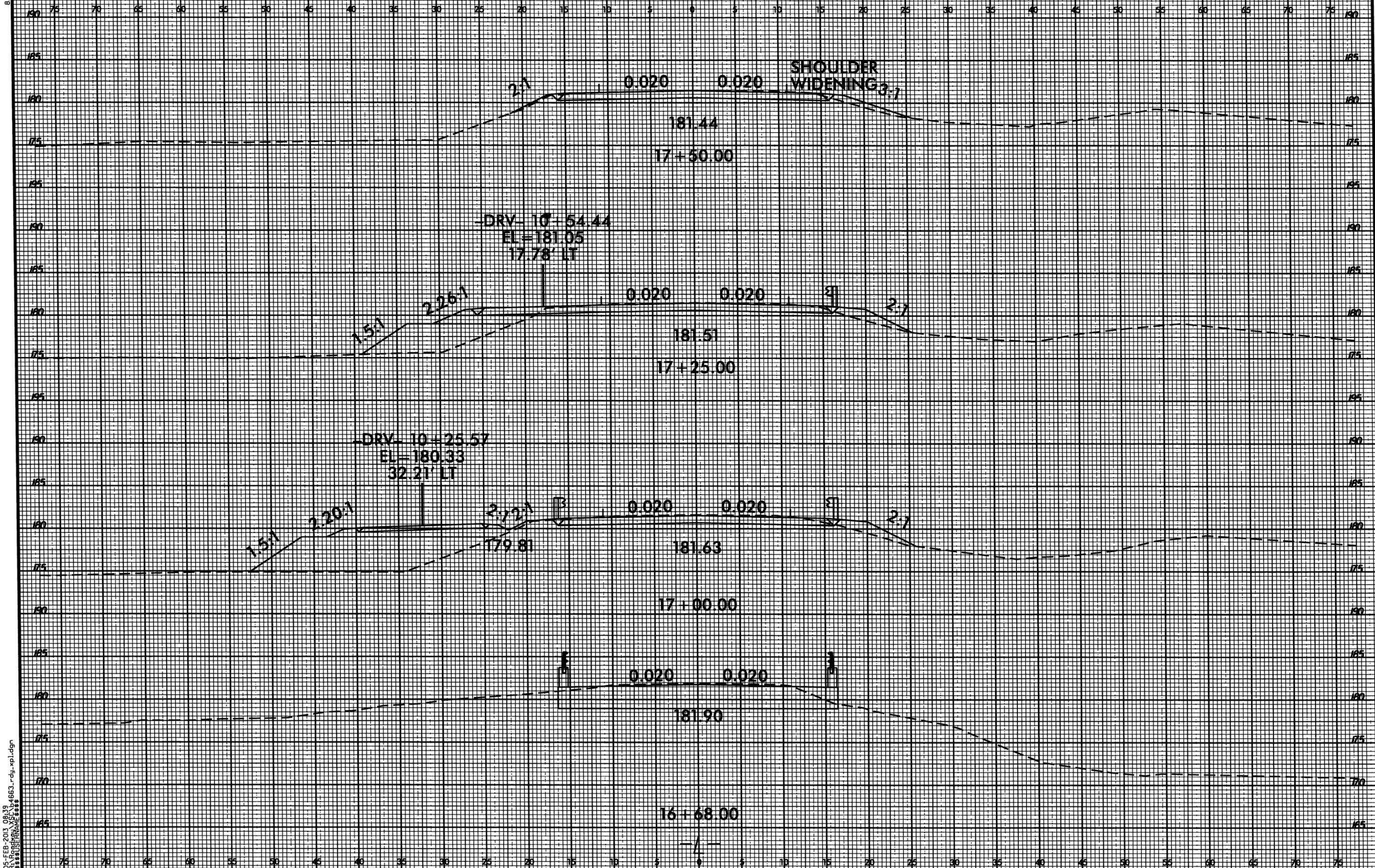


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B-4663	X-7



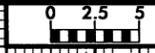
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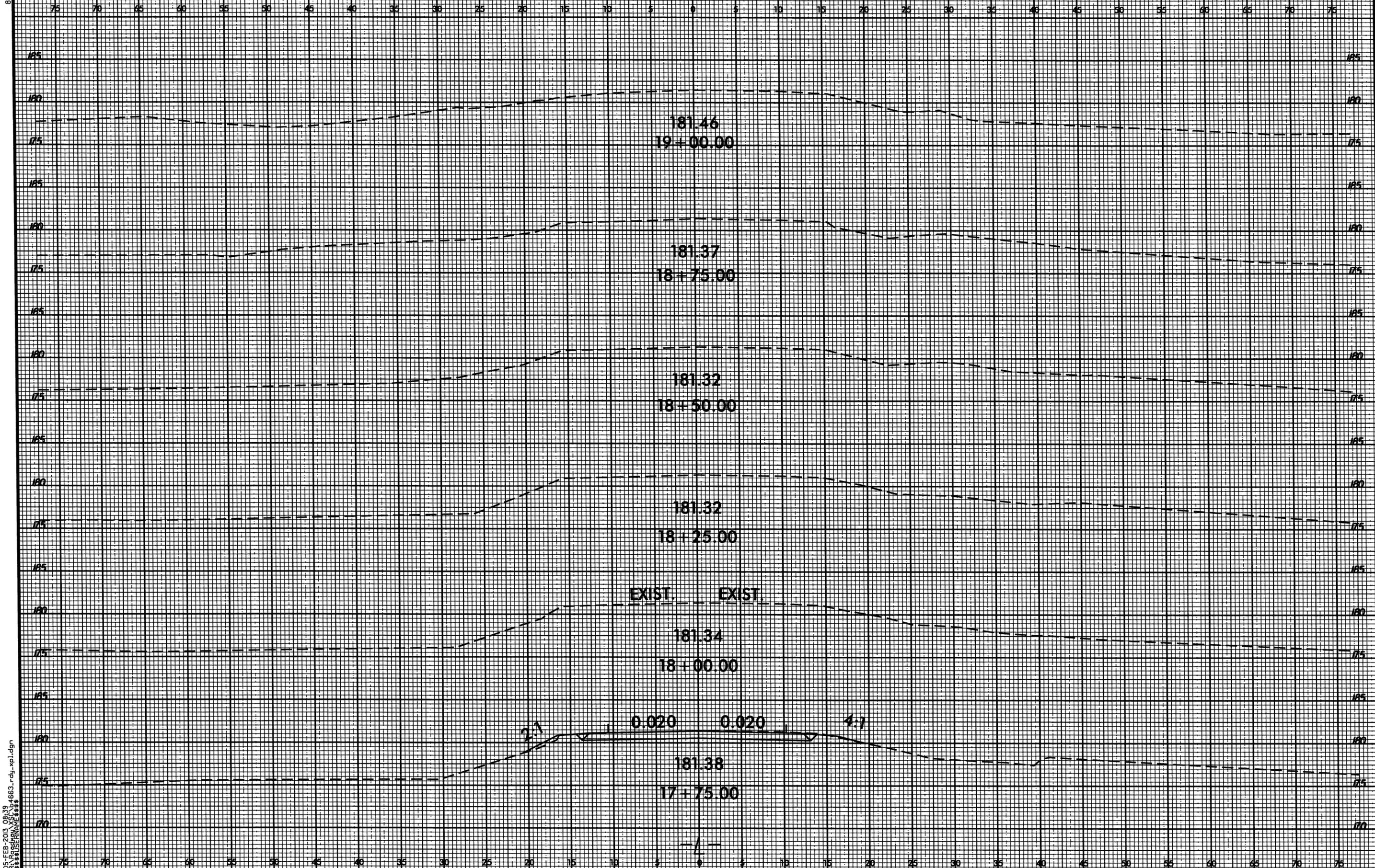
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X-9



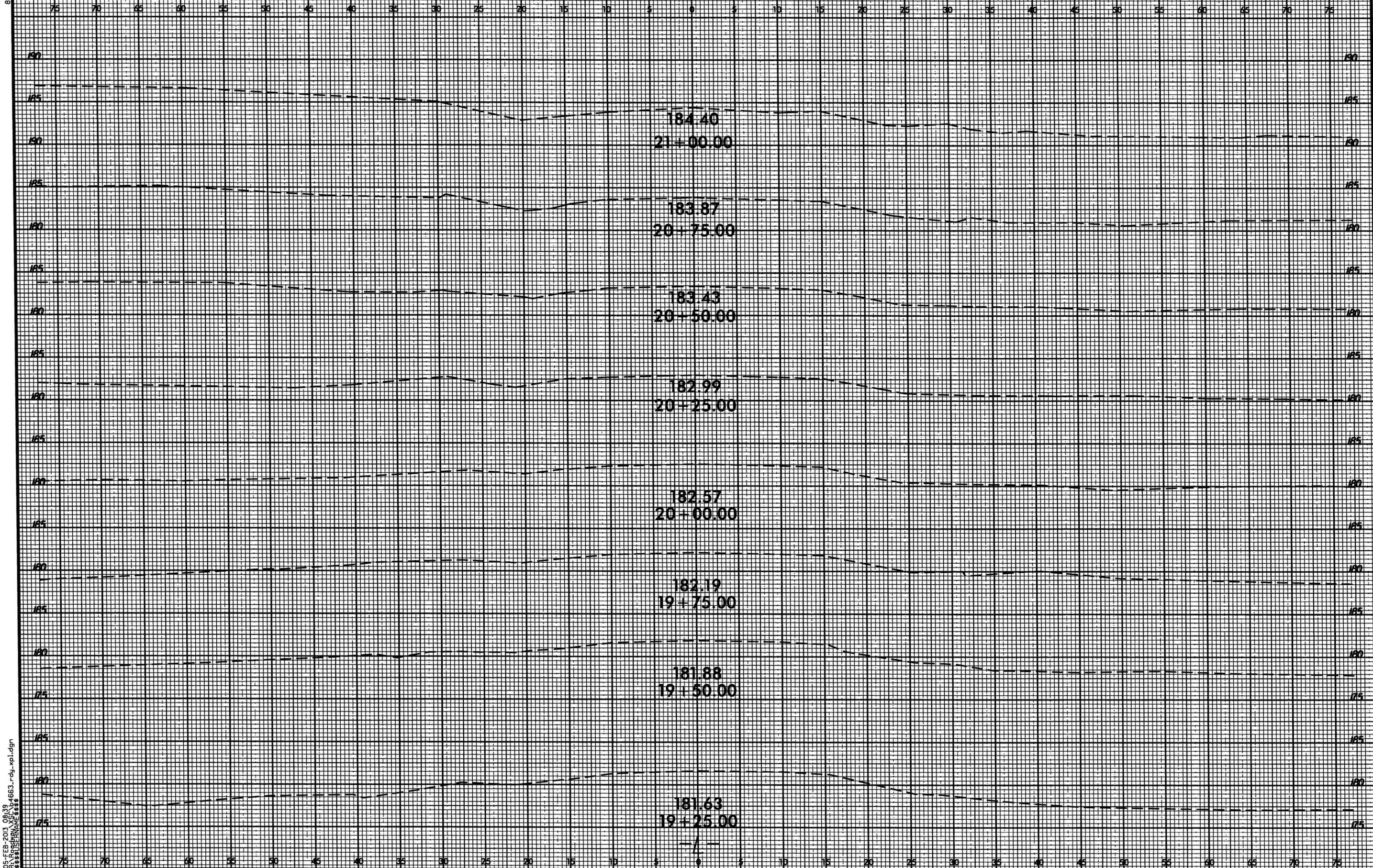
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SHEET NO.
X-10



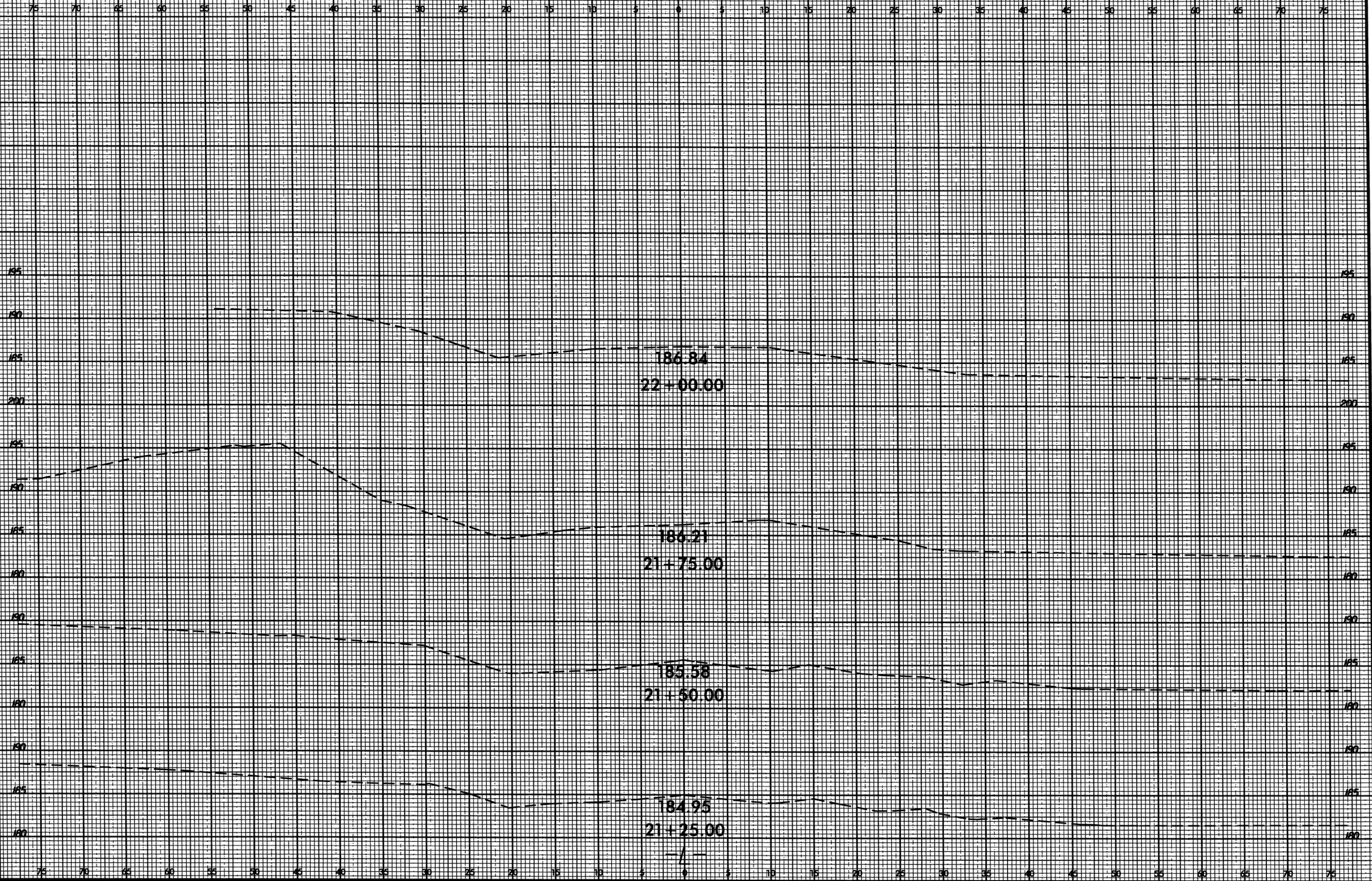
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PROJ. REFERENCE NO.
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SHEET NO.
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