



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

December 19, 2012

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

ATTN: Mr. Andy Williams
NCDOT Division 7 Coordinator

SUBJECT: **Application for Section 404 Nationwide Permits 13 and 33 and Section 401 Water Quality Certification** for the replacement of Bridge No. 35 over Rattlesnake Creek on SR 1523 (Blanch Road), Caswell County, North Carolina. Federal Aid Project No. BRZ-1523 (7), TIP No. B-5162.

Debit \$240.00 from WBS Element No. 42337.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 35 over Rattlesnake Creek on SR 1523 (Blanch Road) in Caswell County. The project will result in 30 linear feet of permanent stream impacts and 20 linear feet of temporary stream impacts to Rattlesnake Creek due to bank stabilization. Additionally, there will be <0.01 acres of temporary stream impacts to Rattlesnake Creek due to the placement of temporary work pads, which will be used in bridge demolition and construction.

Please find enclosed the Pre-Construction Notification (PCN) form, Preliminary Jurisdictional Determination form, Stormwater Management Plan, permit drawings, and roadway design plans for the above-referenced project. A Categorical Exclusion (CE) was completed for this project in July 2012 and distributed shortly thereafter. Additional copies are available upon request.

The proposed let date for this project is October 15, 2013, with a let review date of August 27, 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 SECTION
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-707-6100
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

PHYSICAL ADDRESS:
Century Center - Building B
1020 Birch Ridge Dr
Raleigh, NC 27610-4328

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 Jim Mason at either jsmason@ncdot.gov or (919) 707-6136.

Sincerely,

A handwritten signature in black ink, appearing to read "G. J. Thorpe".

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 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 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. 35 over Rattlesnake Creek on SR 1523 (Blanch Rd.)	
2b. County:	Caswell	
2c. Nearest municipality / town:	Blanch	
2d. Subdivision name:	<i>not applicable</i>	
2e. NCDOT only, T.I.P. or state project no.:	B-5162	
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) 707-6136	
3g. Fax no.:	(919) 212-5785	
3h. Email address:	jsmason@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: 36.5079 (DD.DDDDDD) Longitude: - 79.2932 (-DD.DDDDDD)
1c. Property size:	2.1 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Rattlesnake Creek
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	Roanoke
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: SR 1523 (Blanch Road) is classified as a rural minor collector in the Statewide Functional Classification System and is not a National Highway System Route. Land use within the vicinity includes Forested Land, Agriculture, and Low-Density Residential.	
3b. List the total estimated acreage of all existing wetlands on the property: 0 acres	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 160 linear feet	
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 consists of replacing the existing six-span, 120-foot long bridge with a three-span, 138-foot bridge on the existing alignment. Traffic will be maintained via an on-site detour. The detour will be constructed to the south of the existing transportation facility and a temporary bridge will be employed. Two temporary work pads are proposed and, if required, will likely be in place at the same time to allow for quick installation of the drilled piers. Rip rap bank stabilization will be added to both stream banks under the new bridge. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Principal Investigator: Jim Mason	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. Preliminary Jurisdictional Determination form attached.	
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 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 type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
2g. Total wetland impacts					0 Perm. 0 Temp.	
2h. Comments: There are no wetlands within the project boundaries.						
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	Rattlesnake Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25-30	30
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Fill	Rattlesnake Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25-30	20
Site 3 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Work Pads	Rattlesnake Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25-30	<0.01 ac.
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts					30 ft Perm 20 ft + <0.01 ac.Temp	
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				0 Permanent 0 Temporary

4g. Comments:

5. Pond or Lake Construction

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

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

5g. Comments:

5h. Is a dam high hazard permit required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, permit ID no:
5i. Expected pond surface area (acres):			
5j. Size of pond watershed (acres):			
5k. Method of construction:			

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?			<input type="checkbox"/> Neuse <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input type="checkbox"/> Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts					
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 new bridge will be longer than the existing one; An on-site detour will be employed; however, no wetland or stream impacts will result from its use; A lateral V-ditch will be installed from -L- STA. 14+50 to STA. 16+60 RT; A lateral V-ditch will be installed on the detour from -LDET- STA. 11+25 to STA. 13+60 RT; A Class B rip rap pad will be placed at -L- STA. 16+05 LT at a roadside pipe outlet; A Class B rip rap pad will be placed at -LDET- STA. 13+15.5 RT at a roadside pipe outlet.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT Best Management Practices for Bridge Demolition and Removal will be implemented during the removal of the existing bridge; Best Management Practices for the Protection of Surface Waters will be employed; Design Standards in Sensitive Watersheds will also be employed due to the project's proximity to the Dan River, which is on the North Carolina 2012 Final 303(d) List of Impaired Waters for turbidity.		
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: Bank stabilization and temporary impacts will not incur a loss of Waters of the U.S.; Permanent impacts are less than 150 linear feet and do not require mitigation by DWQ.	
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:	0 linear feet	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	0 square feet	
4e. Riparian wetland mitigation requested:	0 acres	
4f. Non-riparian wetland mitigation requested:	0 acres	
4g. Coastal (tidal) wetland mitigation requested:	0 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:				0
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input 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?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input checked="" type="checkbox"/> Raleigh <input type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NC Natural Heritage Program data, USFWS website, NCDOT 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
<u>Dr. Gregory J. Thorpe, Ph D</u> Applicant/Agent's Printed Name	 _____ Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	12-18-12 <u>12/11/12</u> Date

**ATTACHMENT
PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Mr. James Mason, N.C. Department of Transportation, 1598 Mail Service Center,
Raleigh, NC 27699-1598

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: (NCDOT/B-5162/
Bridge No. 35 over Rattlesnake Creek on SR 1523 [Blanch Rd]/Caswell County)

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES
AT DIFFERENT SITES)**

State:NC County/parish/borough: Caswell City: Blanch
Center coordinates of site (lat/long in degree decimal format):
Lat. 36.5079° N, Long. -79.2932° W.

Universal Transverse Mercator:

Name of nearest waterbody: Rattlesnake Creek

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

Non-wetland waters: 1 stream: Rattlesnake Creek; linear feet: 160; width (ft.)
and/or acres: 25-30.

Cowardin Class: Riverine

Stream Flow: Perennial

Wetlands: 0 acres.

Cowardin Class: N/A

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:

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:

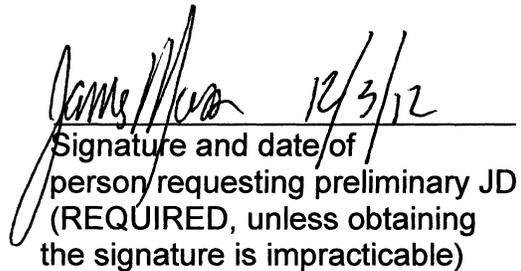
SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply

- checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Permit drawings, Roadway plans.
- 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 NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Ringgold, 1:24,000.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey website, <http://websoilsurvey.nrcs.usda.gov/app/>.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): .
or Other (Name & Date): .
- Previous determination(s). 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.

Signature and date of
Regulatory Project Manager
(REQUIRED)



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
Rattlesnake Creek	36.5079	-79.2932	Riverine	160 linear feet	Non-section 10 – perennial



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-5162

County(ies): Caswell

Page 1

of 3

General Project Information

Project No.:	B-5162	Project Type:	Bridge Replacement	Date:	10/26/2012
NCDOT Contact:	Marshall Clawson, PE Address: NCDOT Hydraulics Unit 1590 Mail Service Center Raleigh, NC 27699-1590 Phone: 919-707-6713 Email: mclawson@ncdot.gov	Contractor / Designer:	RK&K Engineers - Eleni Riggs, PE Address: 900 Ridgefield Drive Suite 350 Raleigh, NC 27809 Phone: 919-878-9560 Email: eriggs@rkk.com		
City/Town:	Yanceyville	County(ies):	Caswell		
River Basin(s):	Yadkin-Pee Dee	CAMA County?	No		
Primary Receiving Water:	See Environmental Summary	NCDWQ Stream Index No.:	See Environmental Summary		
NCDWQ Surface Water Classification for Primary Receiving Water		Primary:	Class C		
Other Stream Classification:		Supplemental:			
303(d) Impairments:	None				
Buffer Rules in Effect	N/A				

Project Description

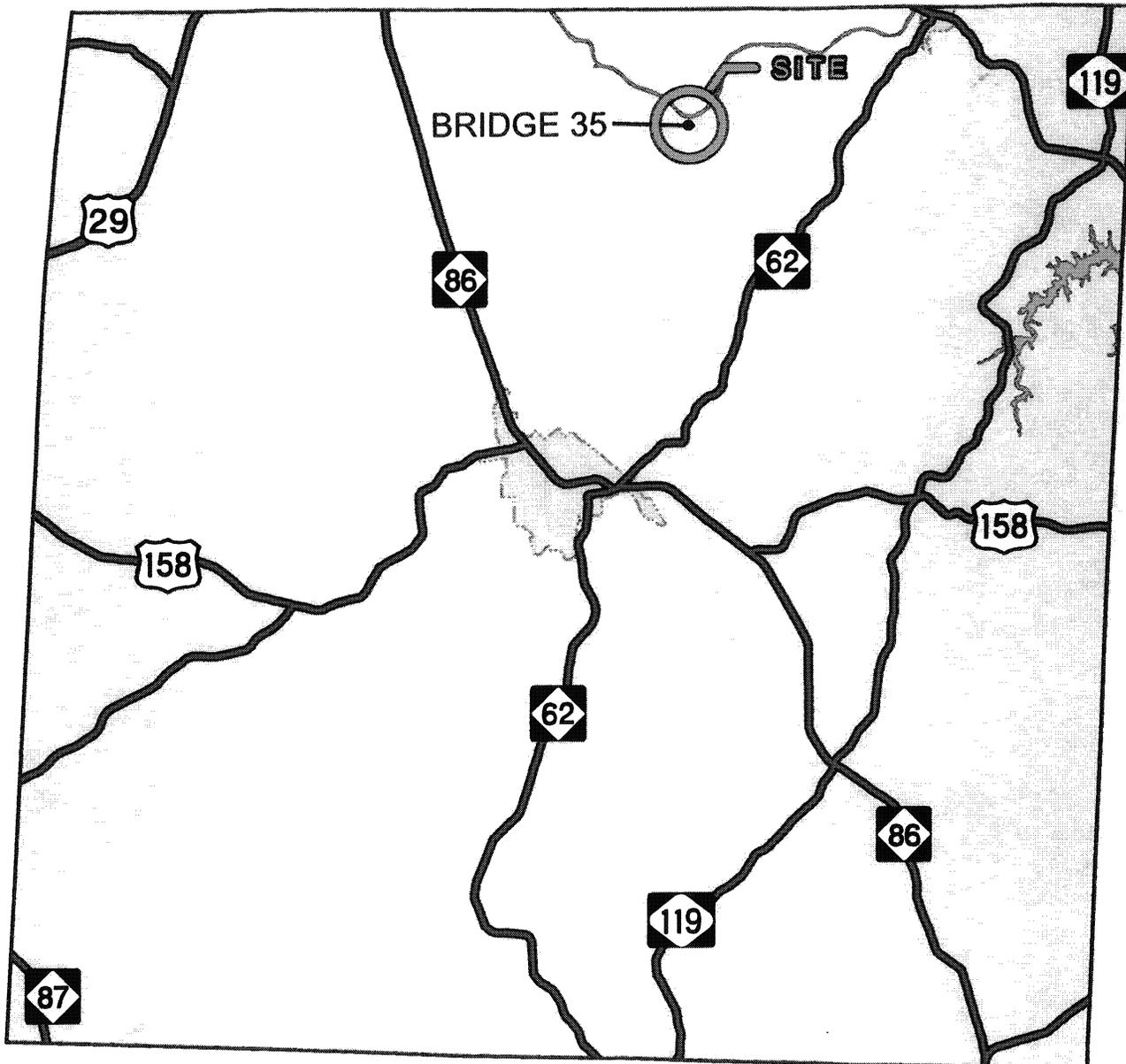
Project Length (lin. Miles or feet):	Total 0.148 miles	Surrounding Land Use:	Rural
Project Built-Upon Area (ac.)	0.38	Proposed Project	0.35
Typical Cross Section Description:	2-lanes at 10' each with 3'-11" shoulder	Existing Site	ac.

Average Daily Traffic (veh/hr/day): Design/Future: 82,900 (2033) Existing: 50,300 (2013)

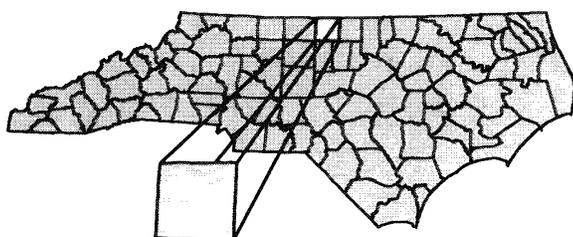
General Project Narrative: This project is replacing the existing structure (#35) on SR 1523. The existing structure is six spans at approximately 20' each span with timber deck on steel I-beam superstructures, approximately 120' long. The proposed bridge is three spans, 1 @ 40', 1 @ 55' and 1 @ 40' with 21" cored slab units, approximately 135' long. A detour structure will be utilized in order to maintain traffic during the demolition and construction of bridge #35. The detour structure will be constructed approximately 40' upstream of the existing location and will be approximately 125' long.

The Built Upon Area for the temporary detour = 0.24 acres for a total Built Upon Area when the detour is in place of 0.62 acres.

References



VICINITY MAP



CASWELL

NCDOT

DIVISION OF HIGHWAYS
CASWELL COUNTY

PROJECT: B-5162
BRIDGES NO. 35 OVER
NORTH FORK RATTLESNAKE CREEK
ON SR 1523 (Blanch Road)

SHEET 1

of 9



1 inch = 2,000 feet

LOCATION MAP

NCDOT
DIVISION OF HIGHWAYS
CASWELL COUNTY

PROJECT: B-5162
BRIDGES NO. 35 OVER
NORTH FORK RATTLESNAKE CREEK
ON SR 1523 (Blanch Road)

SHEET 2

PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
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NONE		
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NCDOT

DIVISION OF HIGHWAYS

CASWELL COUNTY

PROJECT: 42337.1.1 (B-5162)

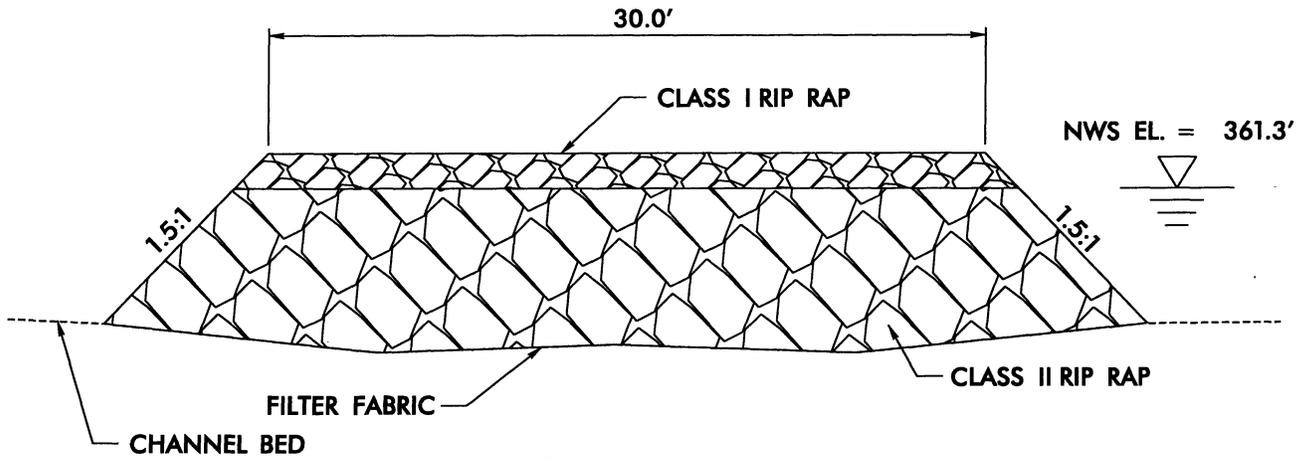
BRIDGE NO. 35 OVER

NORTH FORK RATTLESNAKE CREEK

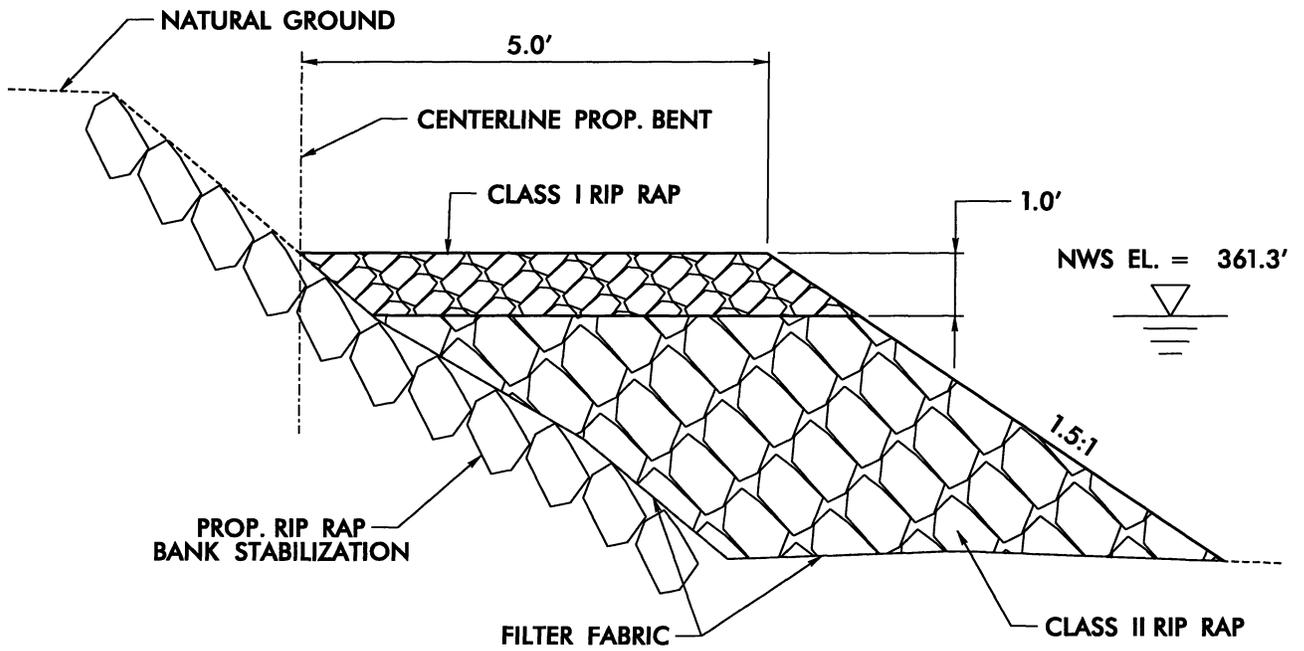
ON SR 1523 (BLANCH ROAD)

TEMPORARY WORK PAD DETAIL

NOT TO SCALE



SECTION A-A



SECTION B-B

NCDOT
DIVISION OF HIGHWAYS
CASWELL COUNTY
PROJECT: 42337.1.1 (B-5162)
BRIDGE NO. 35 OVER
NORTH FORK RATTLESNAKE CREEK
ON SR 1523 (BLANCH ROAD)

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)	
		BANK STABILIZATION							0.01	<0.01	30	20	
		TEMP. WORK PAD								<0.01			
TOTALS:									0.01	0.02	30	20	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

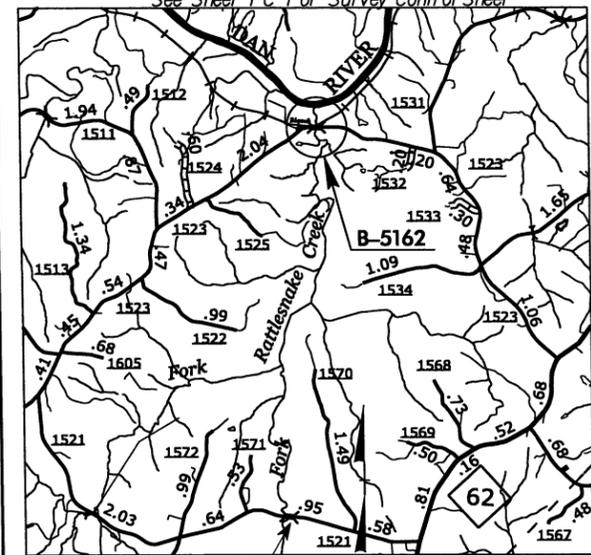
CASWELL COUNTY
WBS - 42337.1.1 (B-5162)

09/08/09
 8/22/2012 R:\Hydraulics\PERMITS_Environmental\Drawings\b5162_hyd_prm_tsh.dgn er199s

TIP PROJECT: B-5162

CONTRACT:

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



VICINITY MAP

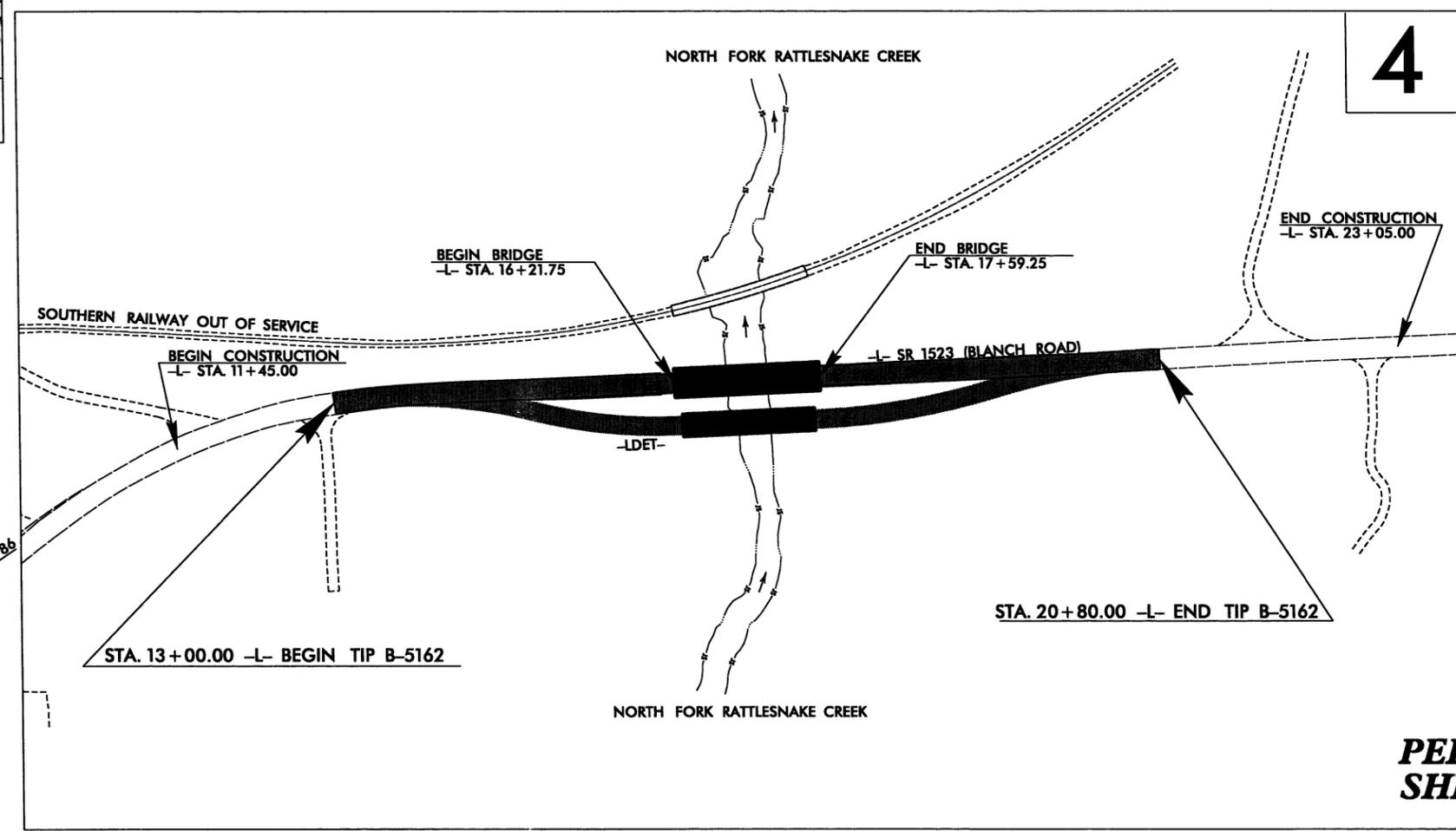
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

CASWELL COUNTY

**LOCATION: BRIDGE NO. 35 OVER NORTH FORK RATTLESNAKE CREEK
 ON SR 1523 (BLANCH ROAD)**

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

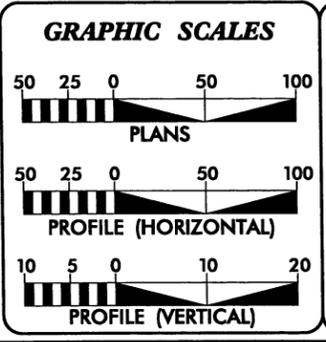
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5162	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42337.1.1	BRZ-1523(7)	PE	



**PERMIT DRAWING
SHEET 6 OF 9**

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

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



DESIGN DATA

ADT 2013 =	325
ADT 2035 =	500
DHV =	10 %
D =	60 %
T =	5 %*
V =	55 MPH
V _{DET} =	35 MPH
*TTST =	2% DUAL = 3%
FUNC CLASS =	RURAL COLLECTOR SUB-REGIONAL TIER

PROJECT LENGTH

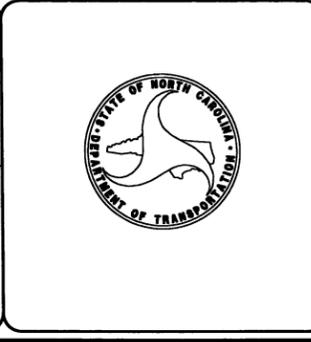
LENGTH ROADWAY TIP PROJECT B-5162 =	0.122 MILES
LENGTH STRUCTURE TIP PROJECT B-5162 =	0.026 MILES
TOTAL LENGTH OF TIP PROJECT B-5162 =	0.148 MILES

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	JAMES A. SPEER, PE PROJECT ENGINEER
LETTING DATE: OCTOBER 15, 2013	DANIEL W. GARDNER, JR., PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE: _____	P.E.

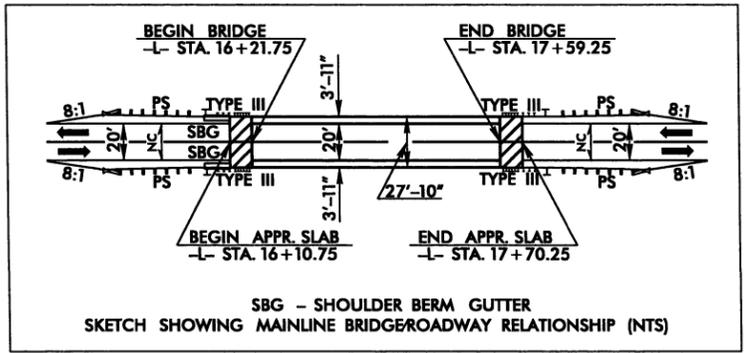


8/17/99

8/17/2012 C:\Users\PERMITS.Environmental\Drawings\B5162.dwg.pcm_4.dgn

PROJECT REFERENCE NO. B-5162	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**PERMIT DRAWING
SHEET 7 OF 9**



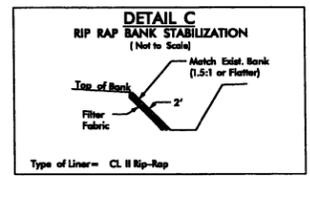
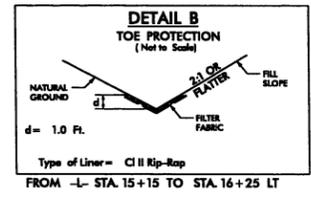
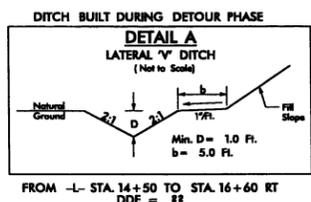
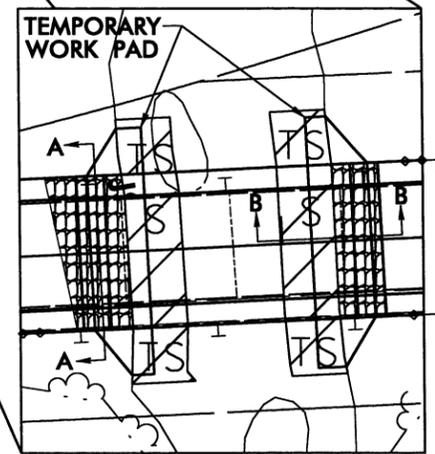
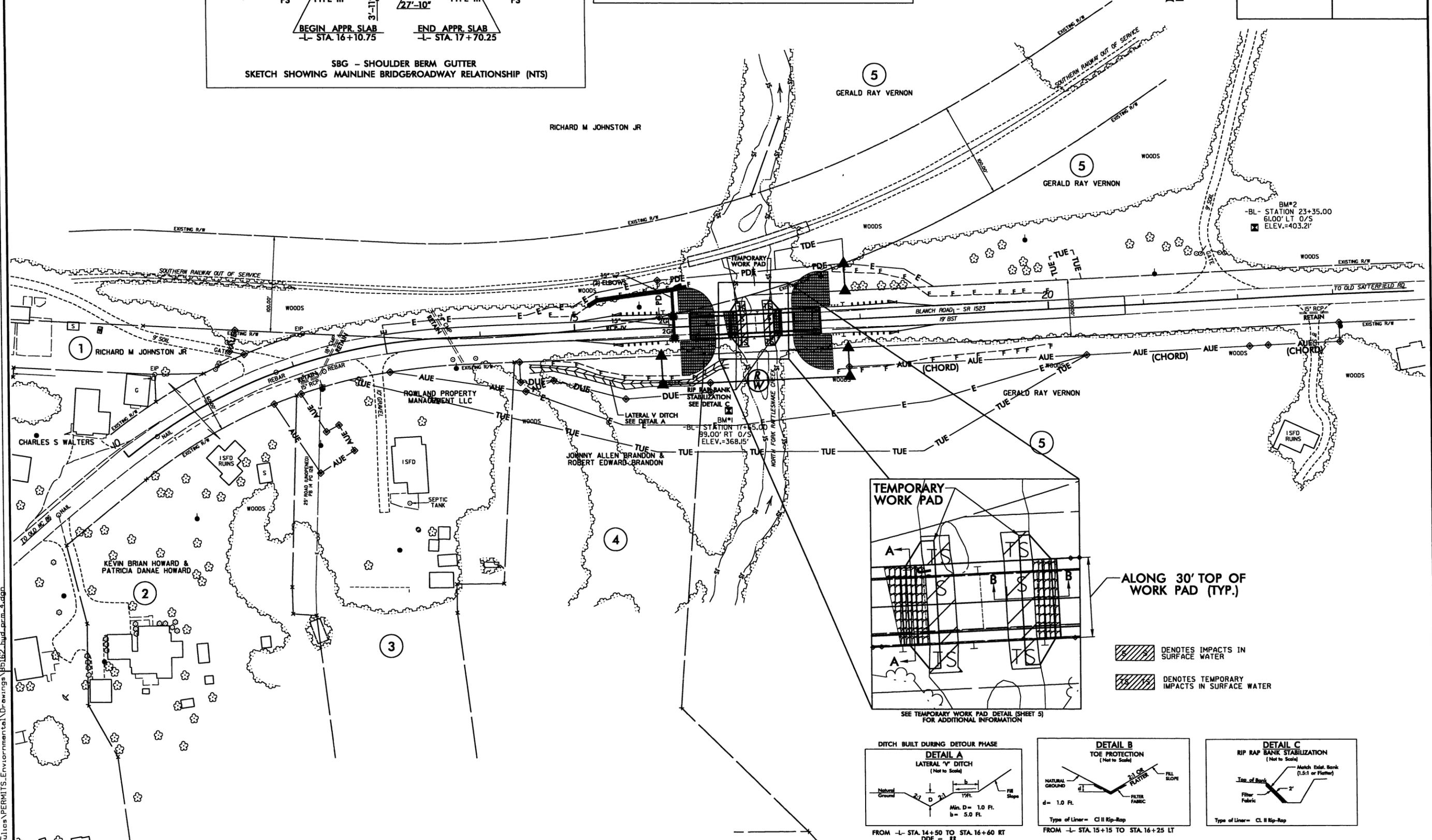
-L-

PI Sta 11+86.20 Δ = 35° 38' 31.5" (RT) D = 9° 53' 31.6" L = 360.3' T = 186.20' R = 579.21'	PI Sta 19+98.06 Δ = 0° 26' 59.9" (LT) D = 0° 06' 23.5" L = 422.44' T = 211.22' R = 53,789.3'	PI Sta 23+06.93 Δ = 1° 22' 35.2" (RT) D = 0° 52' 53.3" L = 156.15' T = 78.08' R = 6,500.00'
---	---	--

SE SEE PLANS

NAD 83/NRS 2007

REVISIONS



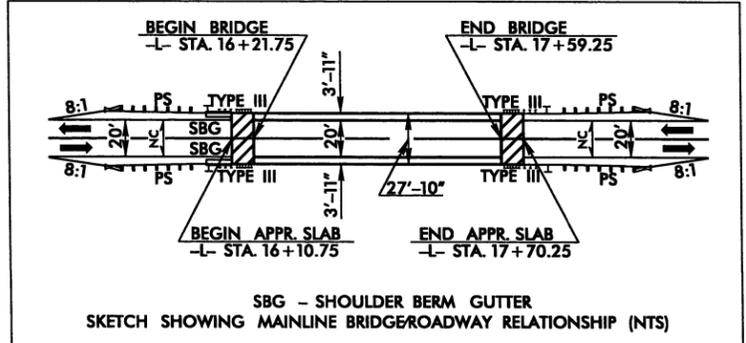
SEE SHEET 6 FOR -L- PROFILE
SEE SHEET S-1 THRU S-2 FOR STRUCTURE PLANS

8/17/99

8/22/2012 \public\PERMITS_Environmental\Drawings\B5162_bud_prcm_4.COM.dgn

PROJECT REFERENCE NO. B-5162	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

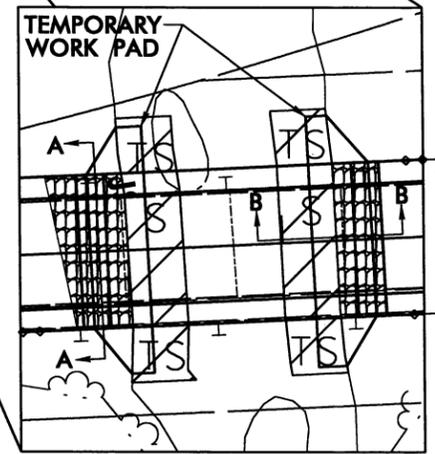
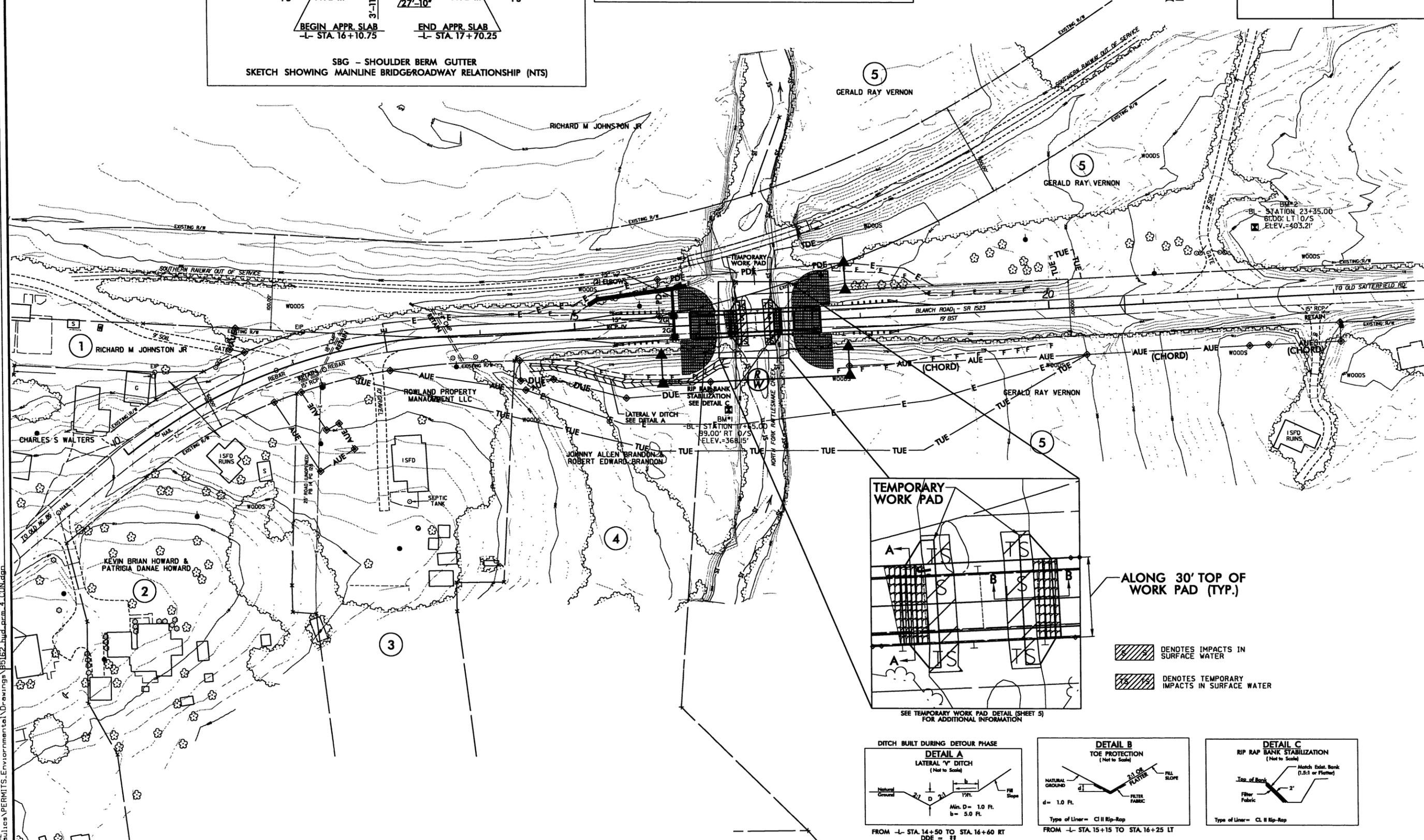
**PERMIT DRAWING
SHEET 8 OF 9**



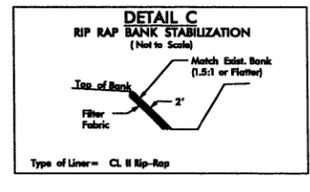
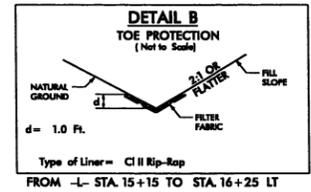
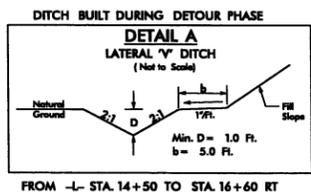
-L-

PI Sta 11+86.20 Δ = 35° 38' 31.5" (RT) D = 9° 53' 31.6" L = 360.31' T = 186.20' R = 579.21'	PI Sta 19+98.06 Δ = 0° 26' 59.9" (LT) D = 0° 06' 23.5" L = 422.44' T = 211.22' R = 53,789.13' SE SEE PLANS	PI Sta 23+06.93 Δ = 1° 22' 35.2" (RT) D = 0° 52' 53.3" L = 156.15' T = 78.08' R = 6,500.00'
--	--	--

NAD 83/NRS 2007



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



SEE SHEET 6 FOR -L- PROFILE
SEE SHEET S-1 THRU S-3 FOR STRUCTURE PLANS

5/28/95

8/22/2012
B:\2012\Drawings\PERMITS-Environmental\Drawings\B5162_hyd_prm_pfl.dgn

BRIDGE HYDRAULIC DATA

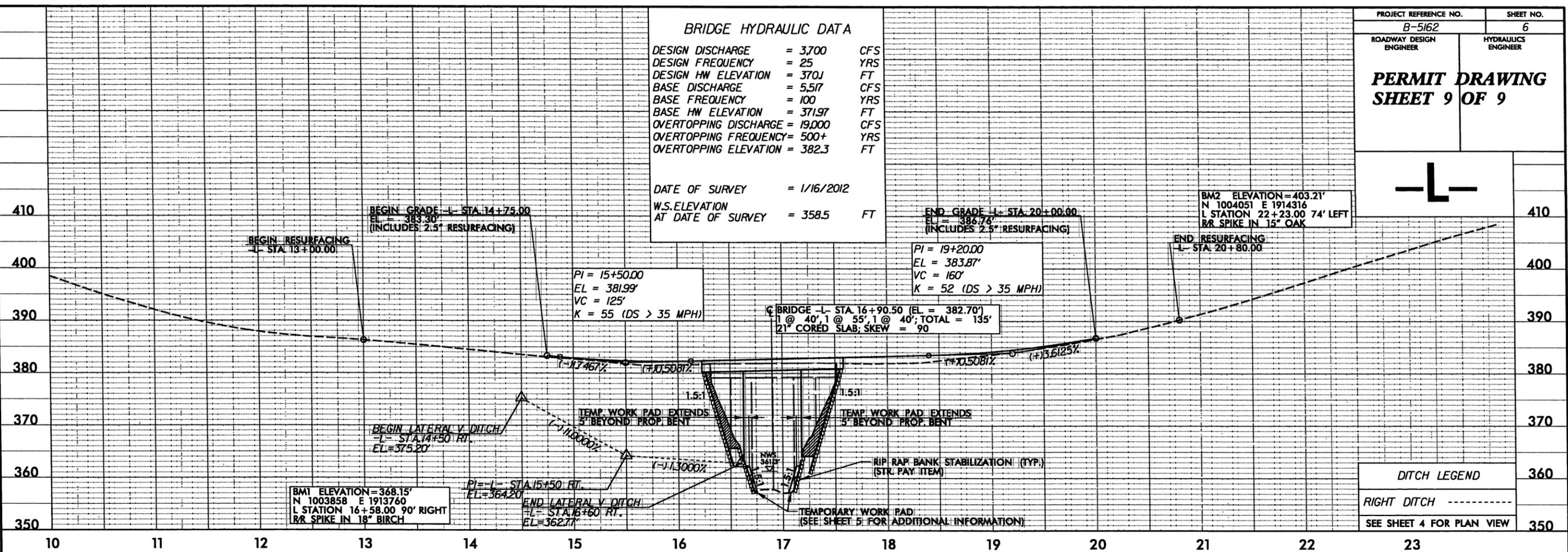
DESIGN DISCHARGE = 3700 CFS
 DESIGN FREQUENCY = 25 YRS
 DESIGN HW ELEVATION = 370J FT
 BASE DISCHARGE = 5.57 CFS
 BASE FREQUENCY = 100 YRS
 BASE HW ELEVATION = 37197 FT
 OVERTOPPING DISCHARGE = 19.000 CFS
 OVERTOPPING FREQUENCY = 500+ YRS
 OVERTOPPING ELEVATION = 382.3 FT

DATE OF SURVEY = 1/16/2012
 W.S. ELEVATION AT DATE OF SURVEY = 358.5 FT

PROJECT REFERENCE NO. B-5162
 SHEET NO. 6

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

**PERMIT DRAWING
 SHEET 9 OF 9**



DITCH LEGEND

RIGHT DITCH - - - - -

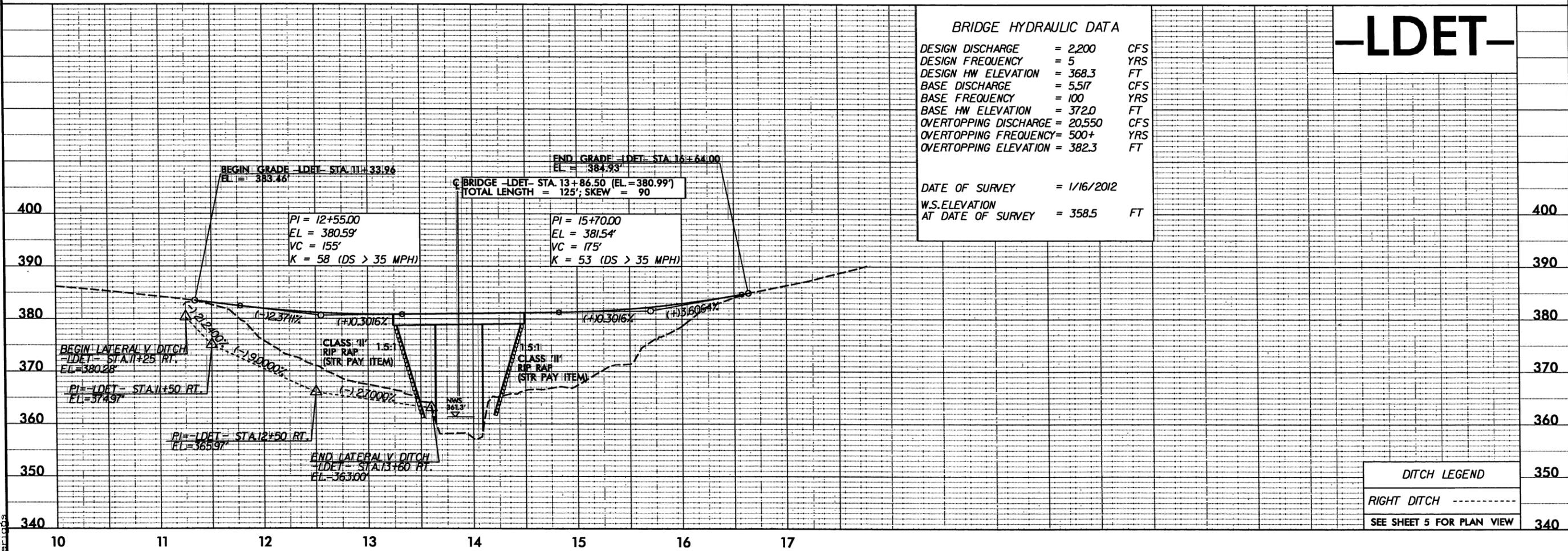
SEE SHEET 4 FOR PLAN VIEW

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = 2200 CFS
 DESIGN FREQUENCY = 5 YRS
 DESIGN HW ELEVATION = 368.3 FT
 BASE DISCHARGE = 5.57 CFS
 BASE FREQUENCY = 100 YRS
 BASE HW ELEVATION = 372.0 FT
 OVERTOPPING DISCHARGE = 20.550 CFS
 OVERTOPPING FREQUENCY = 500+ YRS
 OVERTOPPING ELEVATION = 382.3 FT

DATE OF SURVEY = 1/16/2012
 W.S. ELEVATION AT DATE OF SURVEY = 358.5 FT

-LDET-



DITCH LEGEND

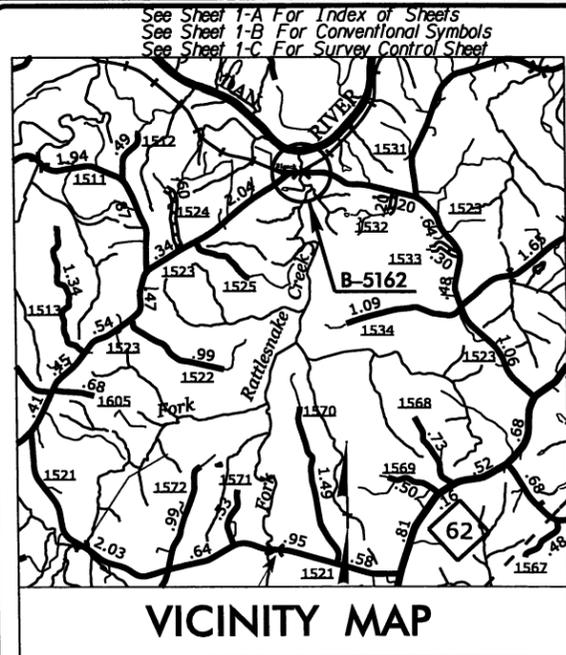
RIGHT DITCH - - - - -

SEE SHEET 5 FOR PLAN VIEW

22-OCT-2012 14:05
 R:\Roadway\Proj\B5162_rdy_tsh.dgn
 \$\$\$USERNAME\$\$\$

TIP PROJECT: B-5162

CONTRACT:



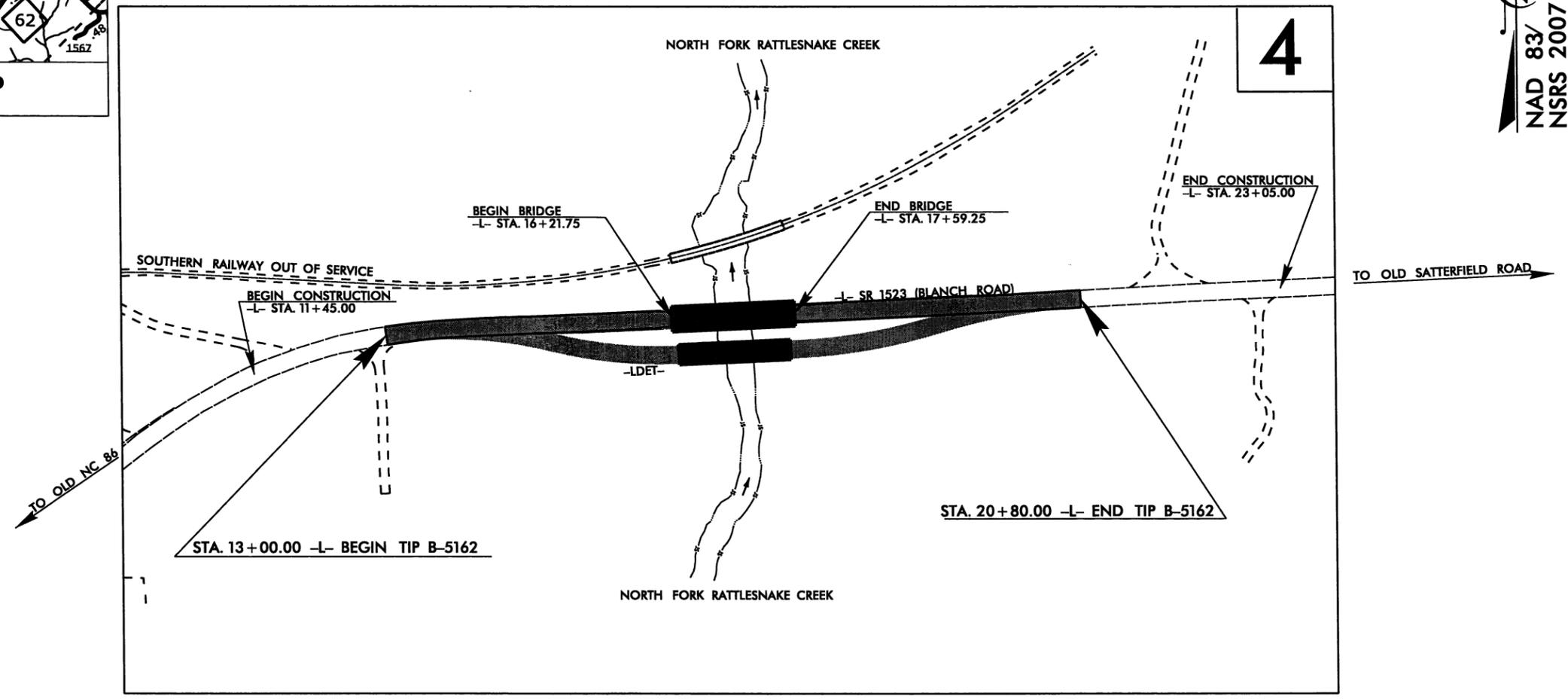
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

CASWELL COUNTY

**LOCATION: BRIDGE NO. 35 OVER NORTH FORK RATTLESNAKE CREEK
 ON SR 1523 (BLANCH ROAD)**

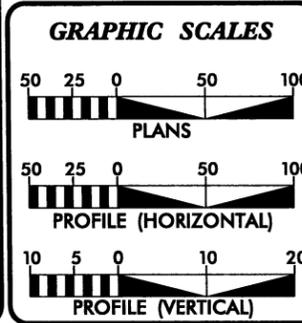
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5162	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42337.1.1	BRZ-1523(7)	PE	
42337.2.1	BRZ-1523(7)	R/W & UTILITIES	



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

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2013 =	325
ADT 2035 =	500
DHV =	10 %
D =	60 %
T =	5 %*
V =	55 MPH
V _{DET} =	35 MPH
*TTST =	2%
DUAL =	3%
FUNC CLASS =	RURAL COLLECTOR SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5162 =	0.122 MILES
LENGTH STRUCTURE TIP PROJECT B-5162 =	0.026 MILES
TOTAL LENGTH OF TIP PROJECT B-5162 =	0.148 MILES

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: OCTOBER 22, 2012	JAMES A. SPEER, PE PROJECT ENGINEER
LETTING DATE: OCTOBER 15, 2013	DANIEL W. GARDNER, JR., PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



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	②③
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 U/G Tank Cap	○
Sign	○
Well	○
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	-----
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 RW 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	-----
U/G Power Cable Hand Hole	-----
H-Frame Pole	-----
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

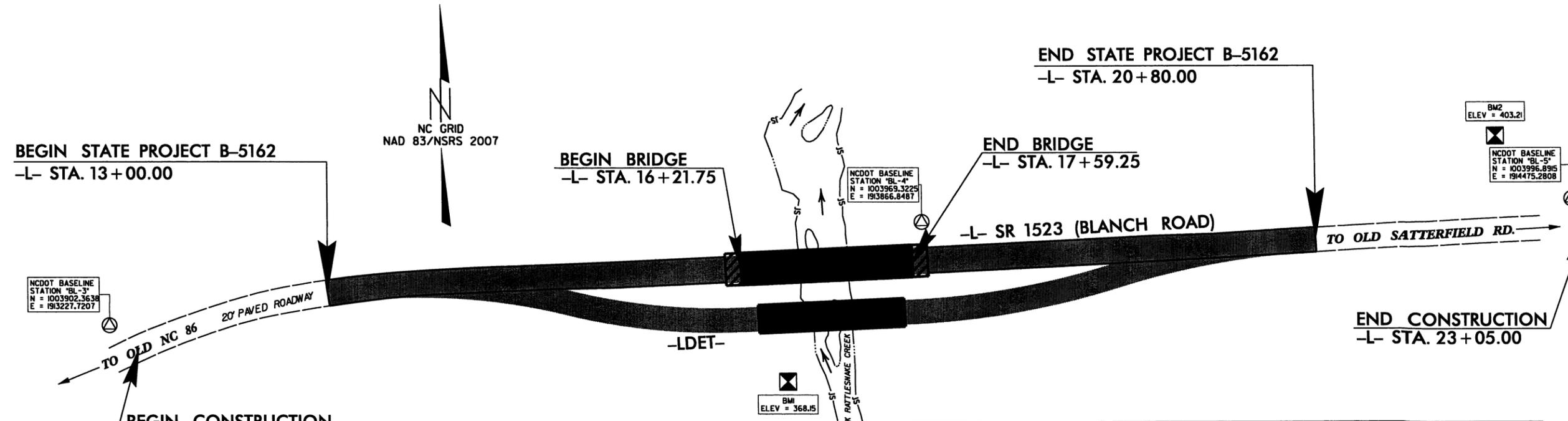
MISCELLANEOUS:

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

12/01/2005
22-OCT-2012 14:06 5162.ls_1c.dgn

SURVEY CONTROL SHEET

PROJECT REFERENCE NO. B-5162	SHEET NO. 1-C
Location and Surveys	



NCDOT BASELINE STATION "BL-3"
N = 1003902.3638
E = 1913227.7207

NCDOT BASELINE STATION "BL-4"
N = 1003963.3225
E = 1913866.8487

BM2
ELEV = 403.21

NCDOT BASELINE STATION "BL-5"
N = 1003996.8915
E = 1914475.2808

BM1
ELEV = 368.15

TYPE	STATION	NORTH	EAST
PC	10+00.00	1003809.7367	1913127.0694
PT	13+60.31	1003934.1085	1913459.0647
PC	17+86.84	1003954.3189	1913885.1172
PT	22+09.28	1003975.9922	1914306.9977
PC	22+28.85	1003977.0731	1914326.5409
PT	23+85.00	1003983.8233	1914482.5438

BASELINE DATA						
BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION
						OFFSET
2		B-5162-2	1003404.6340	1912680.7610	439.23	OUTSIDE PROJECT LIMITS
3		BL-3	1003902.3638	1913227.7207	387.50	11+31.73 25.75 LT
4		BL-4	1003969.3225	1913866.8487	380.39	17+69.30 15.85 LT
5		BL-5	1003996.8915	1914475.2808	407.64	23+78.17 13.29 LT

PRELIMINARY NEW R/W MONUMENTS				
ALIGN	STATION	OFFSET	NORTH	EAST
L	15+90.00	29.64	1003915.3853	1913689.9028
L	15+90.00	60.00	1003885.0594	1913691.3414
L	17+86.84	60.00	1003894.3863	1913887.9602
L	17+86.84	30.00	1003924.3526	1913886.5387
L	17+86.84	-58.71	1004012.9634	1913882.3354
L	17+86.84	-30.00	1003984.2853	1913883.6957

PRELIMINARY PERMANENT DRAINAGE EASEMENTS				
ALIGN	STATION	OFFSET	NORTH	EAST
L	15+90.00	-50.00	1003994.9359	1913686.1292
L	15+90.00	-11.45	1003956.4251	1913687.9561

PRELIMINARY PERMANENT AERIAL UTILITY EASEMENTS				
ALIGN	STATION	OFFSET	NORTH	EAST
L	11+58.00	-57.16	1003942.5071	1913240.6385
L	11+45.00	-39.00	1003920.2491	1913234.9200
L	11+57.00	-30.00	1003917.0448	1913250.1641
L	11+66.00	30.00	1003864.9936	1913281.3323
L	11+98.00	30.00	1003875.5462	1913309.7767
L	11+88.00	115.00	1003792.4230	1913329.5637
L	12+39.00	103.00	1003816.1384	1913365.5409
L	12+29.00	73.00	1003842.8613	1913349.4867
L	12+12.00	76.00	1003835.7674	1913336.1415
L	13+00.00	30.00	1003898.4664	1913403.6099
L	14+45.00	60.00	1003878.1889	1913546.5043
L	14+75.00	50.00	1003889.5991	1913575.9967
L	17+86.84	50.00	1003904.3751	1913887.4865
L	20+37.00	50.00	1003916.8211	1914137.5693
L	22+09.28	50.00	1003926.0685	1914309.7590
L	22+28.85	50.00	1003927.1494	1914329.3022
L	23+05.00	50.00	1003930.8805	1914404.7730
L	23+05.00	30.00	1003950.8615	1914403.9025

PRELIMINARY PERMANENT DRAINAGE UTILITY EASEMENTS				
ALIGN	STATION	OFFSET	NORTH	EAST
L	14+40.00	28.88	1003909.0332	1913540.0355
L	14+40.00	50.00	1003887.9407	1913541.0360
L	15+50.00	73.00	1003870.1787	1913652.0023
L	16+40.00	70.00	1003877.4398	1913741.7591
L	16+40.00	60.00	1003887.4286	1913741.2852
L	14+75.00	50.00	1003889.5991	1913575.9967

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5162-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 1003404.634(fft) EASTING: 1912680.761(fft) ELEVATION: 439.23'(fft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999034608

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5162-2" TO -L- STATION 13+00.00 IS N 53°54'59" E 888.83'

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

BENCHMARK DATA

.....

BM1 ELEVATION = 368.15
N 1003858 E 1913760
L STATION 16+58.00 90 RIGHT
R/R SPIKE IN 18' BIRCH

.....

BM2 ELEVATION = 403.21
N 1004051 E 1914316
L STATION 22+23.00 74 LEFT
R/R SPIKE IN 15' OAK

.....

NOTES

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT

THE FILES TO BE FOUND ARE AS FOLLOWS:
B5162_LS_CONTROL.TXT

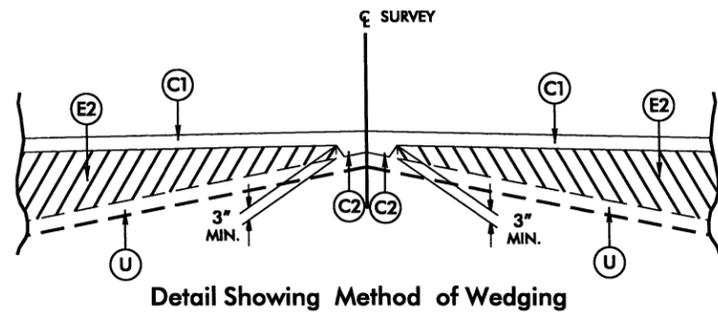
SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

⊕ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

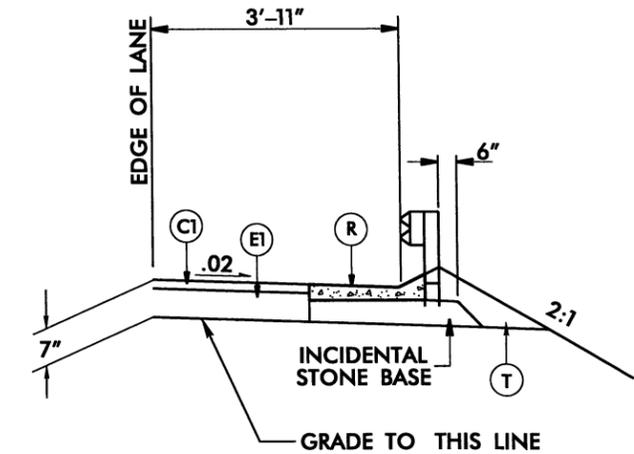
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM FROM EXISTING NCGS MONUMENTATION.

NOTE: DRAWING NOT TO SCALE

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 4½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J	6" AGGREGATE BASE COURSE
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

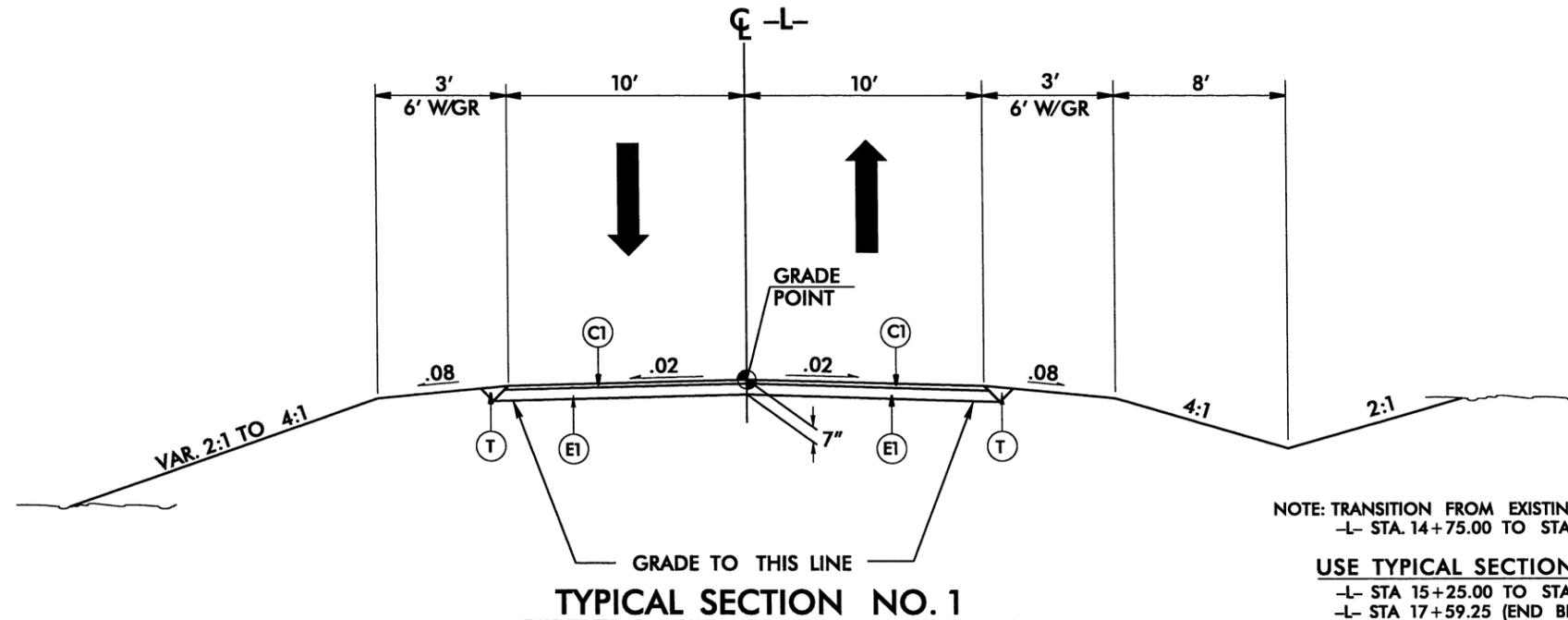


NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 1

- L- STA 16+00.00 TO BEGIN APPROACH SLAB LT.
- L- STA 16+00.00 TO BEGIN APPROACH SLAB RT.
- END OF APPROACH SLAB TO -L- STA 17+71.75 LT.
- END OF APPROACH SLAB TO -L- STA 17+71.75 RT.



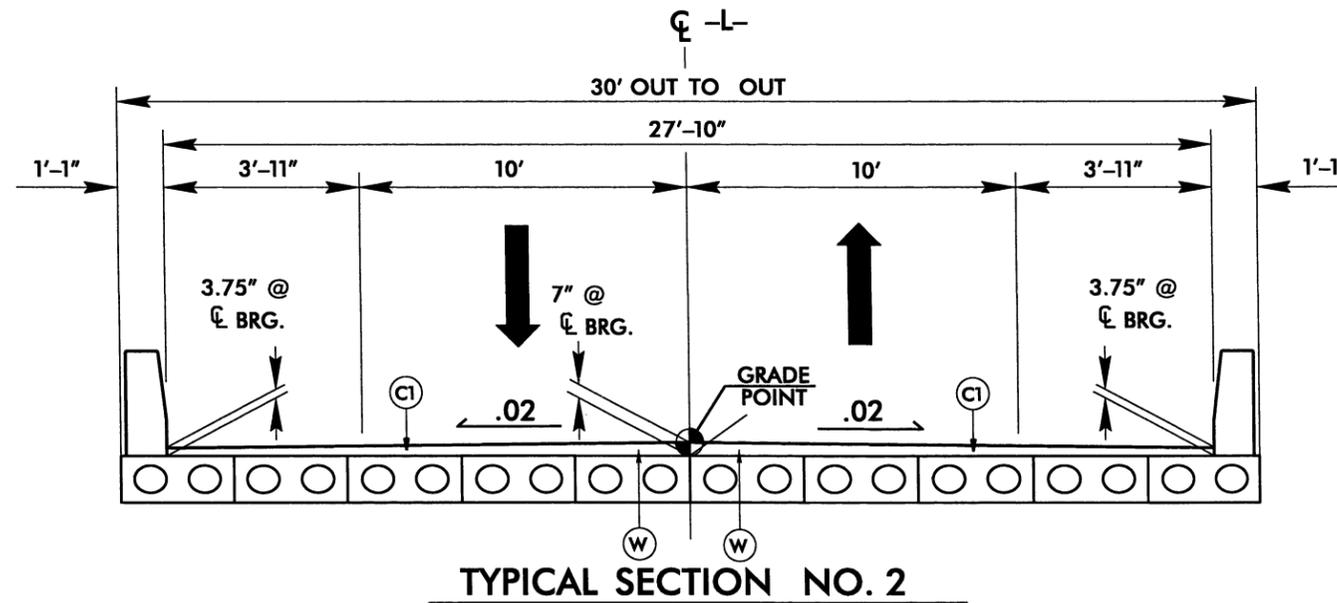
NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1
-L- STA. 14+75.00 TO STA. 15+25.00

USE TYPICAL SECTION NO. 1 AS FOLLOWS

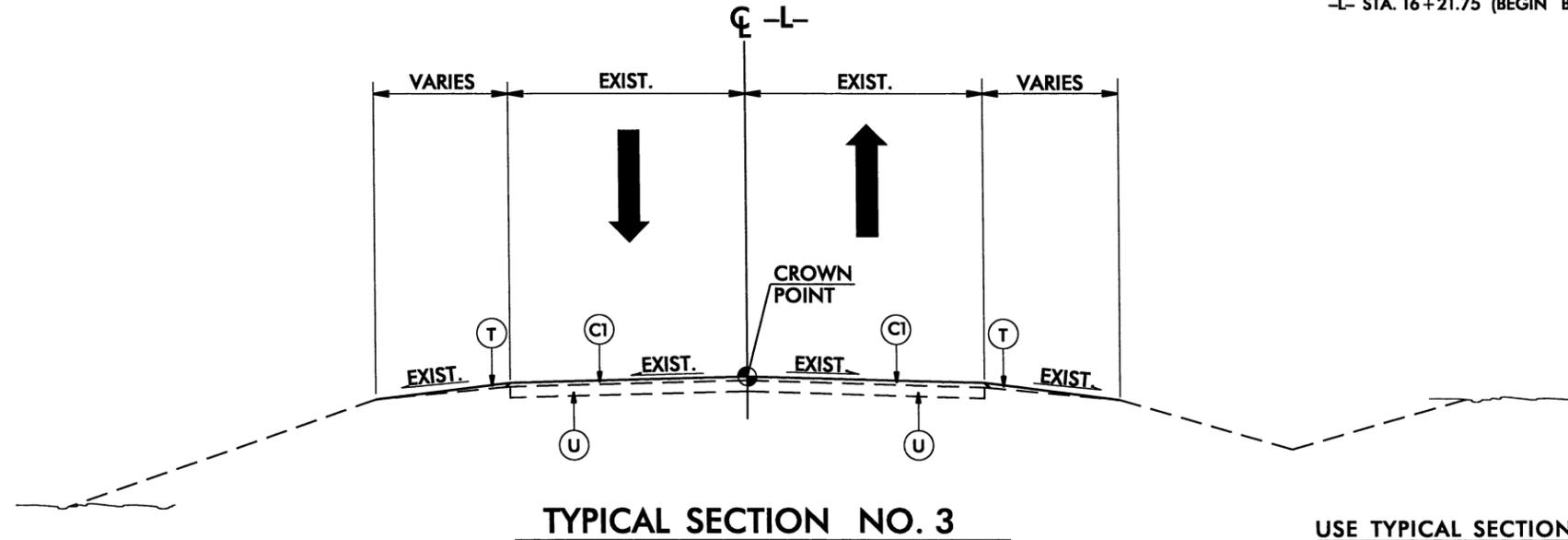
- L- STA 15+25.00 TO STA 16+21.75 (BEGIN BRIDGE)
- L- STA 17+59.25 (END BRIDGE) TO STA 19+50.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING
-L- STA. 19+50.00 TO STA. 20+00.00

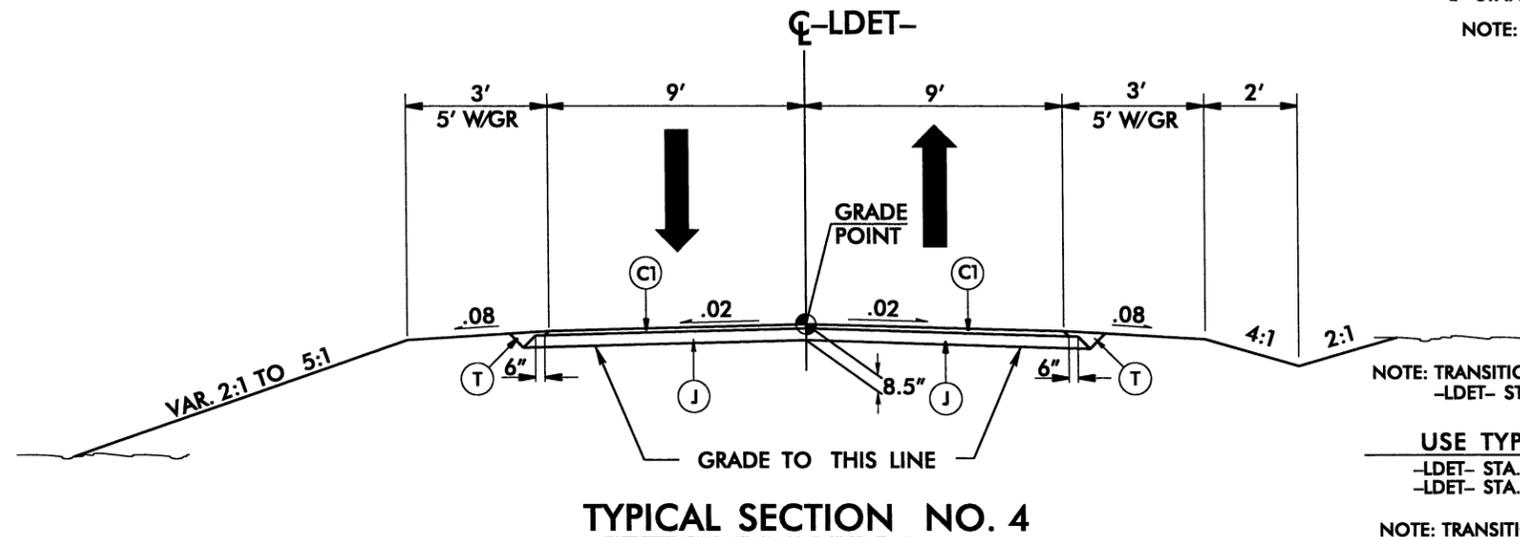
PROJECT REFERENCE NO. B-5162		SHEET NO. 2-A	
ROADWAY DESIGN ENGINEER		PAVEMENT DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
C1	2½" TYPE SF9.5A		
C2	VAR. DEPTH TYPE SF9.5A,		
E1	4½" TYPE B25.0B		
E2	VAR. DEPTH TYPE B25.0B		
J	6" ABC		
R	SHOULDER BERM GUTTER		
T	EARTH MATERIAL		
U	EXISTING PAVEMENT		
W	VAR. DEPTH PAVEMENT		



USE TYPICAL SECTION NO. 2 AS FOLLOWS
 -L- STA. 16+21.75 (BEGIN BRIDGE) TO STA. 17+59.25 (END BRIDGE)



USE TYPICAL SECTION NO. 3 AS FOLLOWS
 -L- STA. 13+00.00 TO STA. 14+75.00
 -L- STA. 20+00.00 TO STA. 20+80.00
 NOTE: MILL PAVEMENT AT TIE-INS.



NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 4
 -LDET- STA. 10+44.26 TO STA. 11+73.24

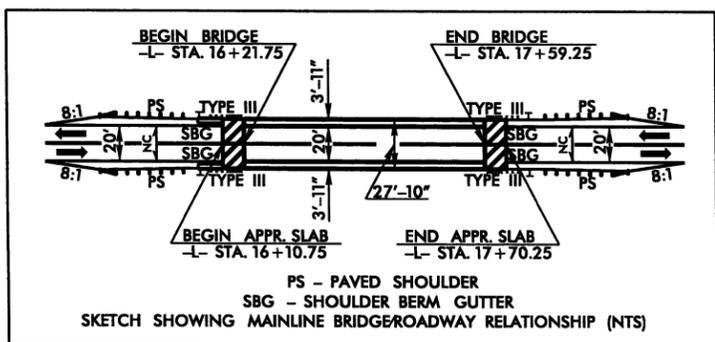
USE TYPICAL SECTION NO. 4 AS FOLLOWS
 -LDET- STA. 11+73.24 TO STA. 13+24.00 +/- (BEGIN BRIDGE)
 -LDET- STA. 14+49.00 +/- (END BRIDGE) TO STA. 16+23.17

NOTE: TRANSITION FROM TYPICAL SECTION NO. 4 TO EXISTING
 -LDET- STA. 16+23.17 TO STA. 17+46.09

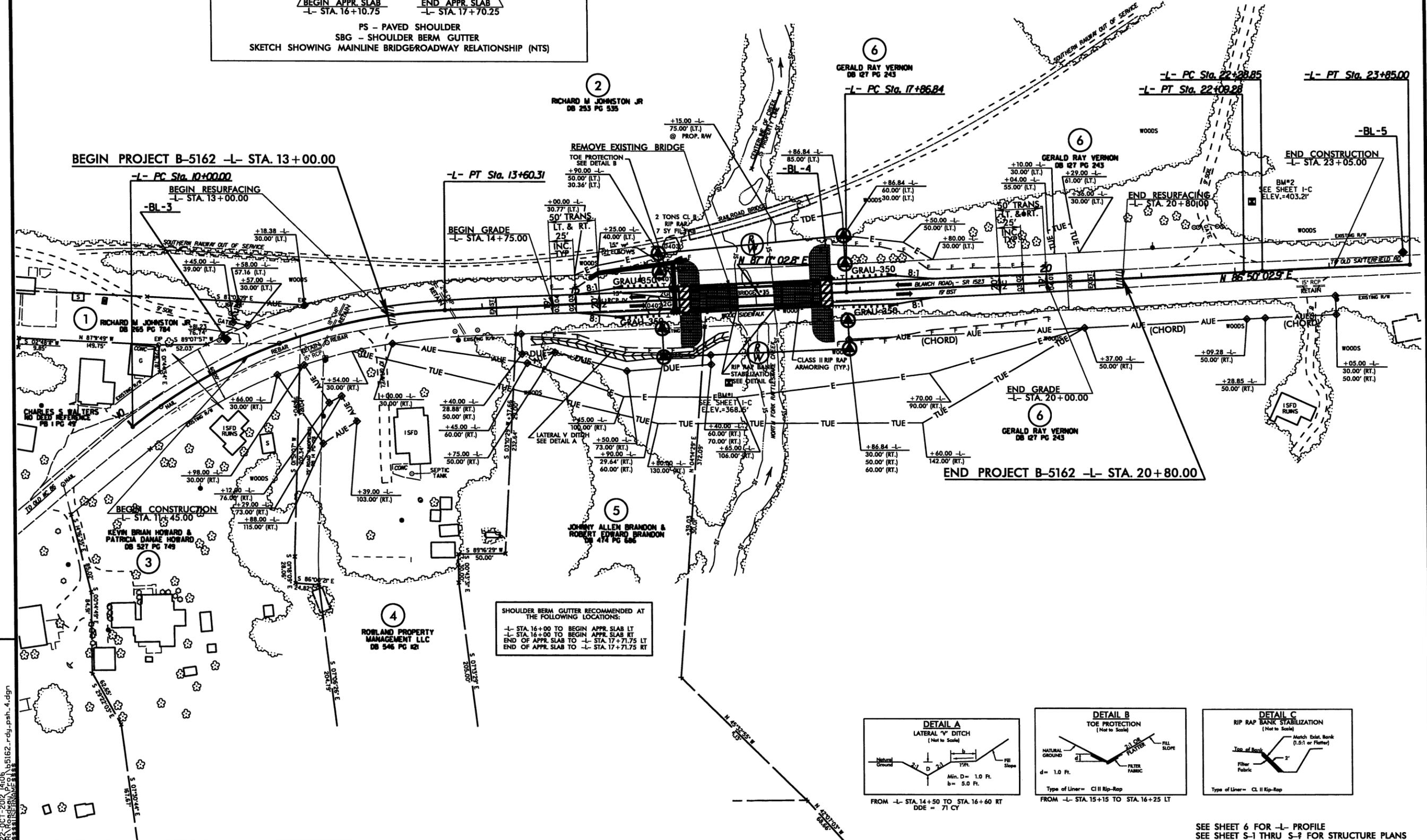
B/17/99

PROJECT REFERENCE NO.		SHEET NO.	
B-5162		4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS			
DO NOT USE FOR CONSTRUCTION			

NAD 83/NSRS 2007

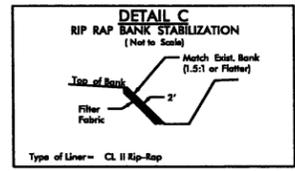
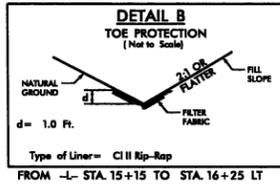
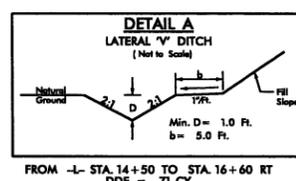


-L-		
PI Sta 11+86.20 Δ = 35° 38' 31.5" (RT) D = 9° 53' 31.6" L = 360.31' T = 186.20' R = 579.21'	PI Sta 19+98.06 Δ = 0° 26' 59.9" (LT) D = 0° 06' 23.5" L = 422.44' T = 211.22' R = 537891.3'	PI Sta 23+06.93 Δ = 1° 22' 35.2" (RT) D = 0° 52' 53.3" L = 156.15' T = 78.08' R = 6500.00'
SE SEE PLANS		



SHOULDER BERM GUTTER RECOMMENDED AT THE FOLLOWING LOCATIONS:

- L- STA. 16+00 TO BEGIN APPR SLAB LT
- L- STA. 16+00 TO BEGIN APPR SLAB RT
- END OF APPR SLAB TO -L- STA. 17+71.75 LT
- END OF APPR SLAB TO -L- STA. 17+71.75 RT

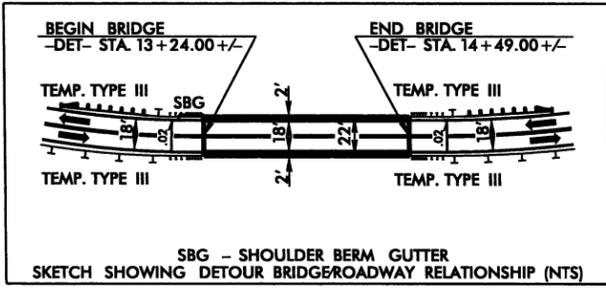


SEE SHEET 6 FOR -L- PROFILE
SEE SHEET S-1 THRU S-4 FOR STRUCTURE PLANS

REVISIONS

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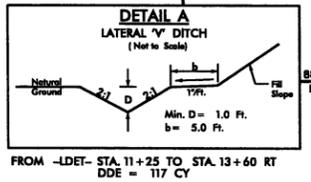
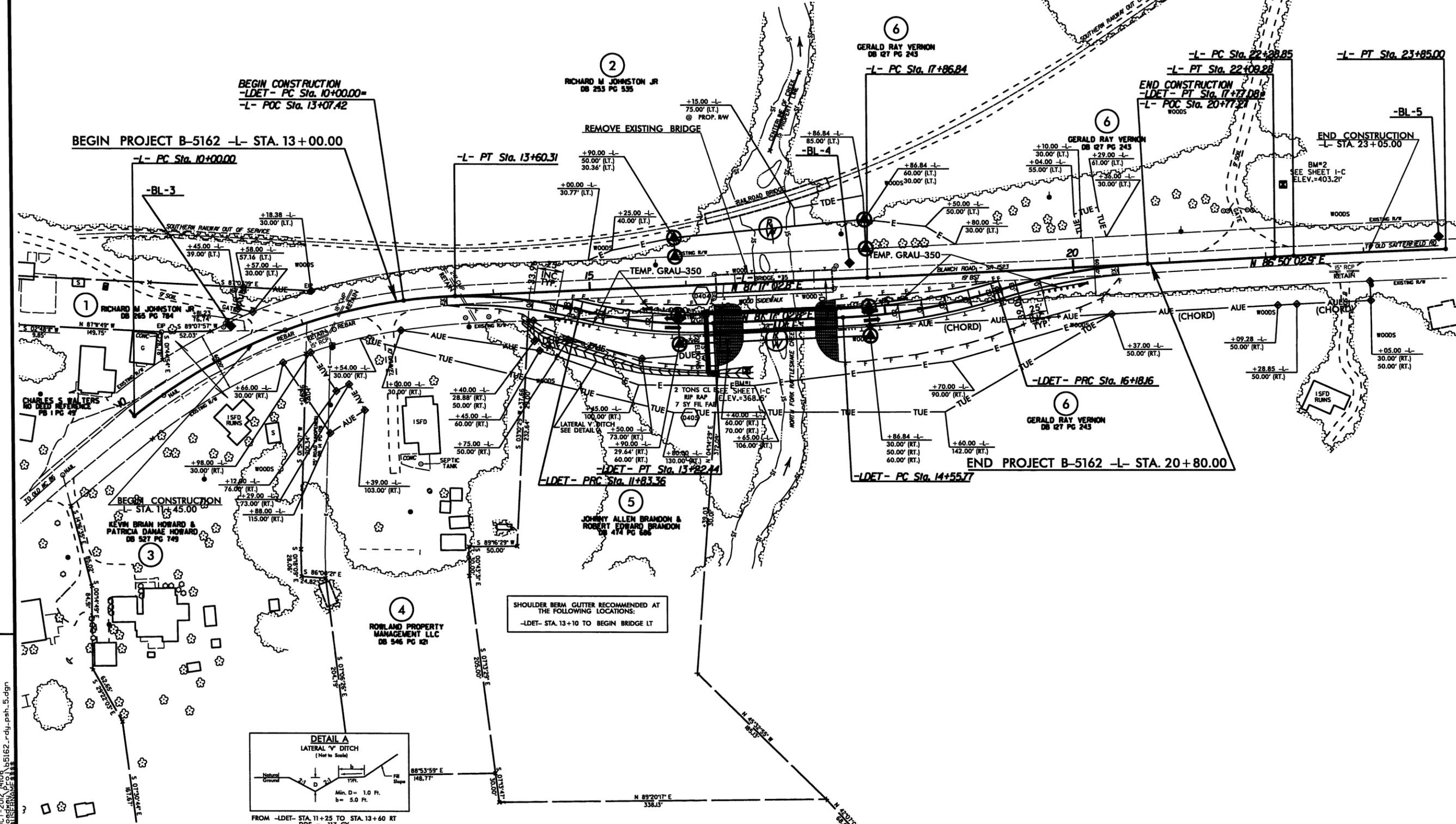
PROJECT REFERENCE NO. B-5162	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-L-			-LDET-			
PI Sta 11+86.20 Δ = 35° 38' 31.5" (RT) D = 9' 53" 31.6" L = 360.31' T = 186.20' R = 579.21'	PI Sta 19+98.06 Δ = 0° 26' 59.9" (LT) D = 0' 06" 23.5" L = 422.44' T = 211.22' R = 53789.13' SE SEE PLANS	PI Sta 23+06.93 Δ = 1° 22' 35.2" (RT) D = 0' 52" 53.3" L = 156.15' T = 78.08' R = 6500.00'	PI Sta 10+92.79 Δ = 2° 39' 42.9" (RT) D = 1' 48" 48.8" L = 183.36' T = 92.79' R = 485.00' SE = SEE PLANS	PI Sta 12+53.38 Δ = 16° 25' 46.9" (LT) D = 1' 48" 48.8" L = 139.07' T = 70.02' R = 485.00' SE = SEE PLANS	PI Sta 15+37.40 Δ = 14° 28' 12.9" (LT) D = 8' 54" 38.5" L = 162.39' T = 81.63' R = 643.00' SE = SEE PLANS	PI Sta 16+98.03 Δ = 14° 09' 39.2" (RT) D = 8' 54" 38.5" L = 158.92' T = 79.87' R = 643.00' SE = SEE PLANS

V DESIGN = 35 MPH

NAD 83/NSRS 2007



REVISIONS

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AS:\RESERVED\AS\11\5162\5162.dwg

SEE SHEET 6 FOR -LDET- PROFILE

5/28/95

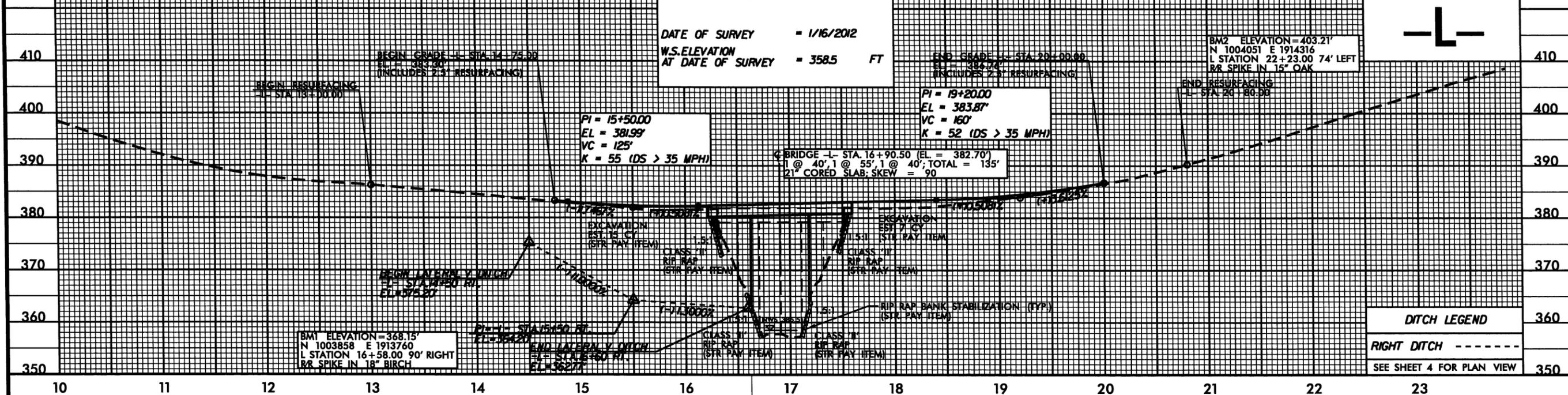
BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 3700	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 370J	FT
BASE DISCHARGE	= 5.517	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 371.97	FT
OVERTOPPING DISCHARGE	= 19,000	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 382.3	FT

DATE OF SURVEY	= 1/16/2012
W.S.ELEVATION AT DATE OF SURVEY	= 358.5 FT

PROJECT REFERENCE NO.	B-5162
SHEET NO.	6
ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

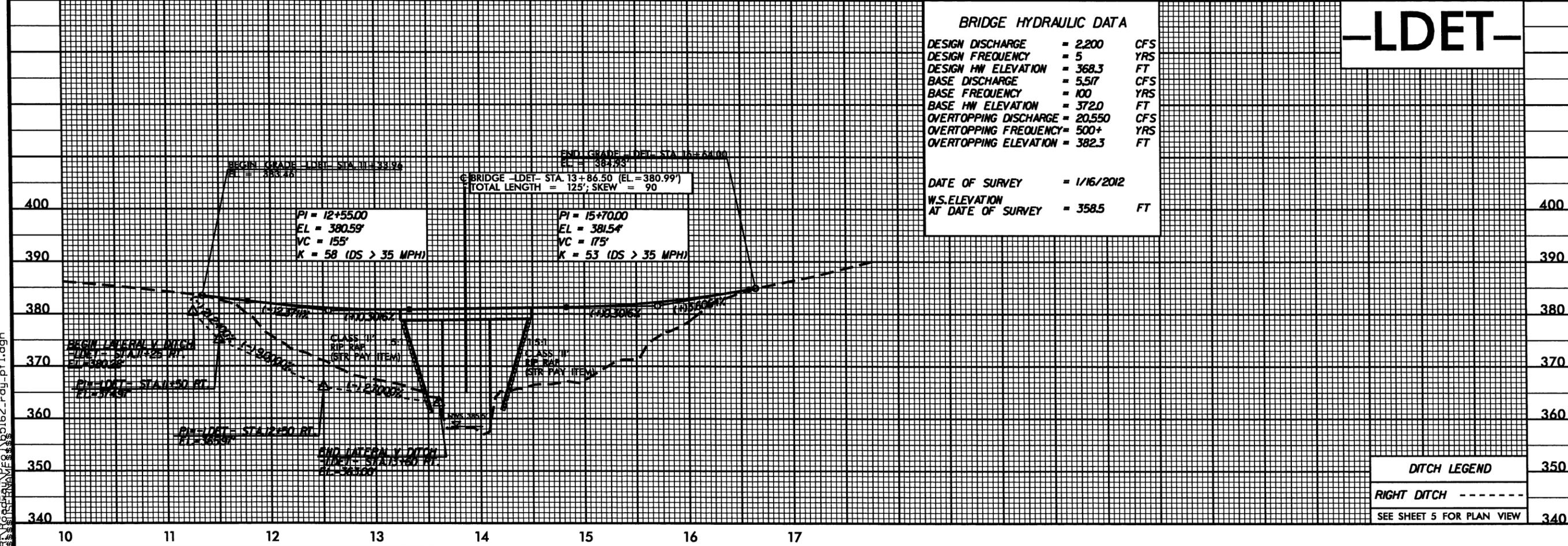


DITCH LEGEND

RIGHT DITCH - - - - -

SEE SHEET 4 FOR PLAN VIEW

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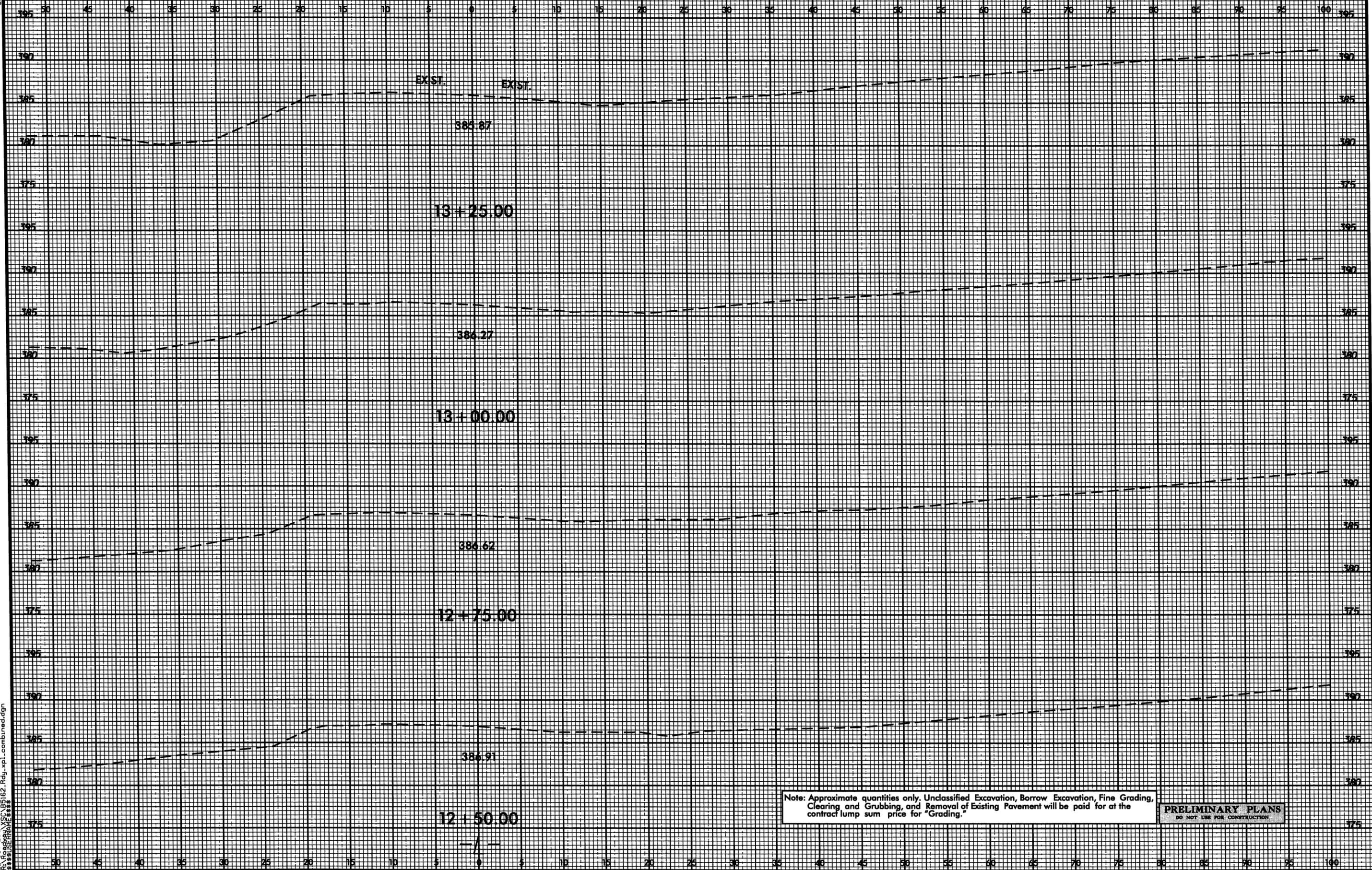
-LDET-

DITCH LEGEND

RIGHT DITCH - - - - -

SEE SHEET 5 FOR PLAN VIEW

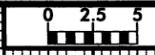
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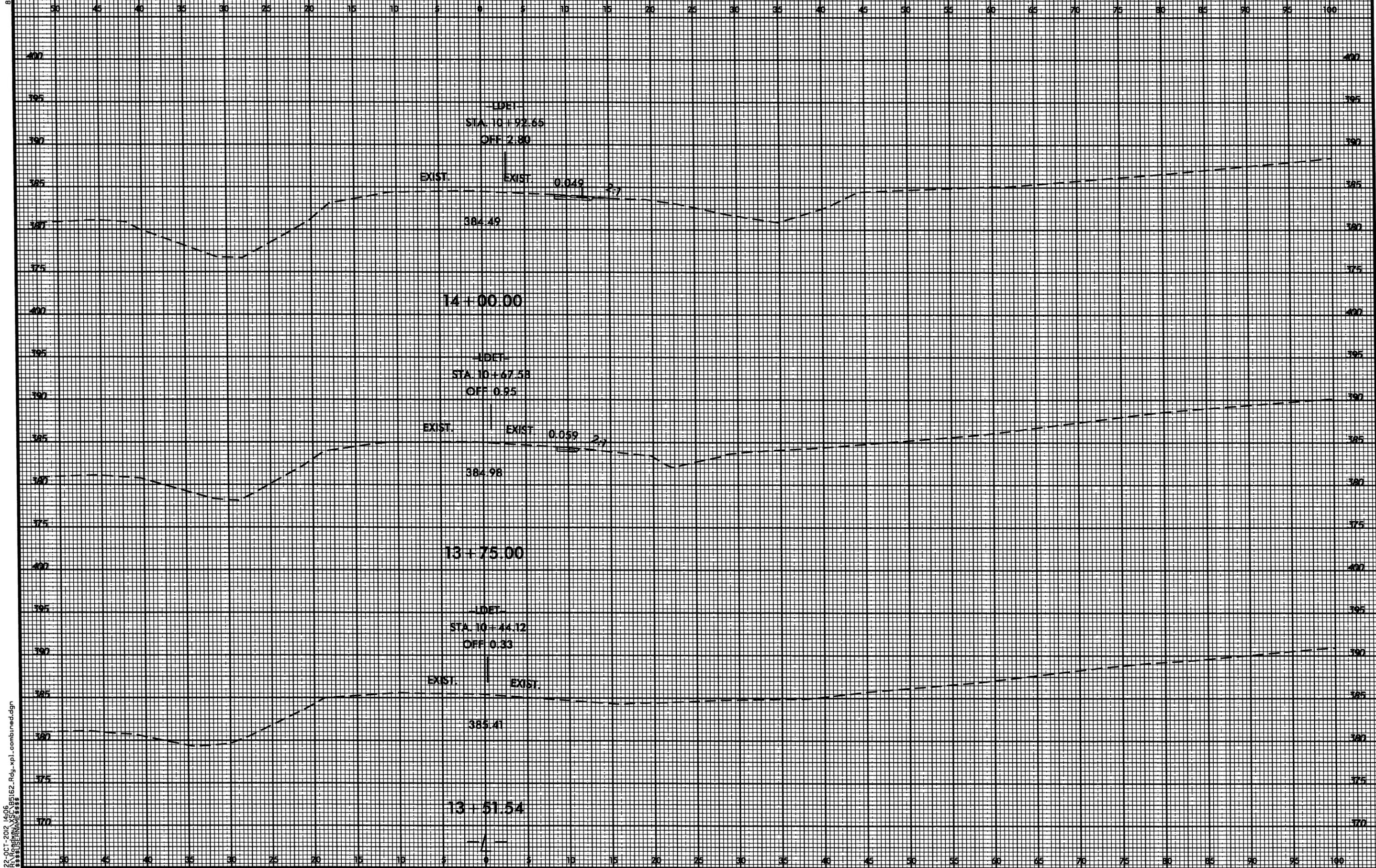
Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

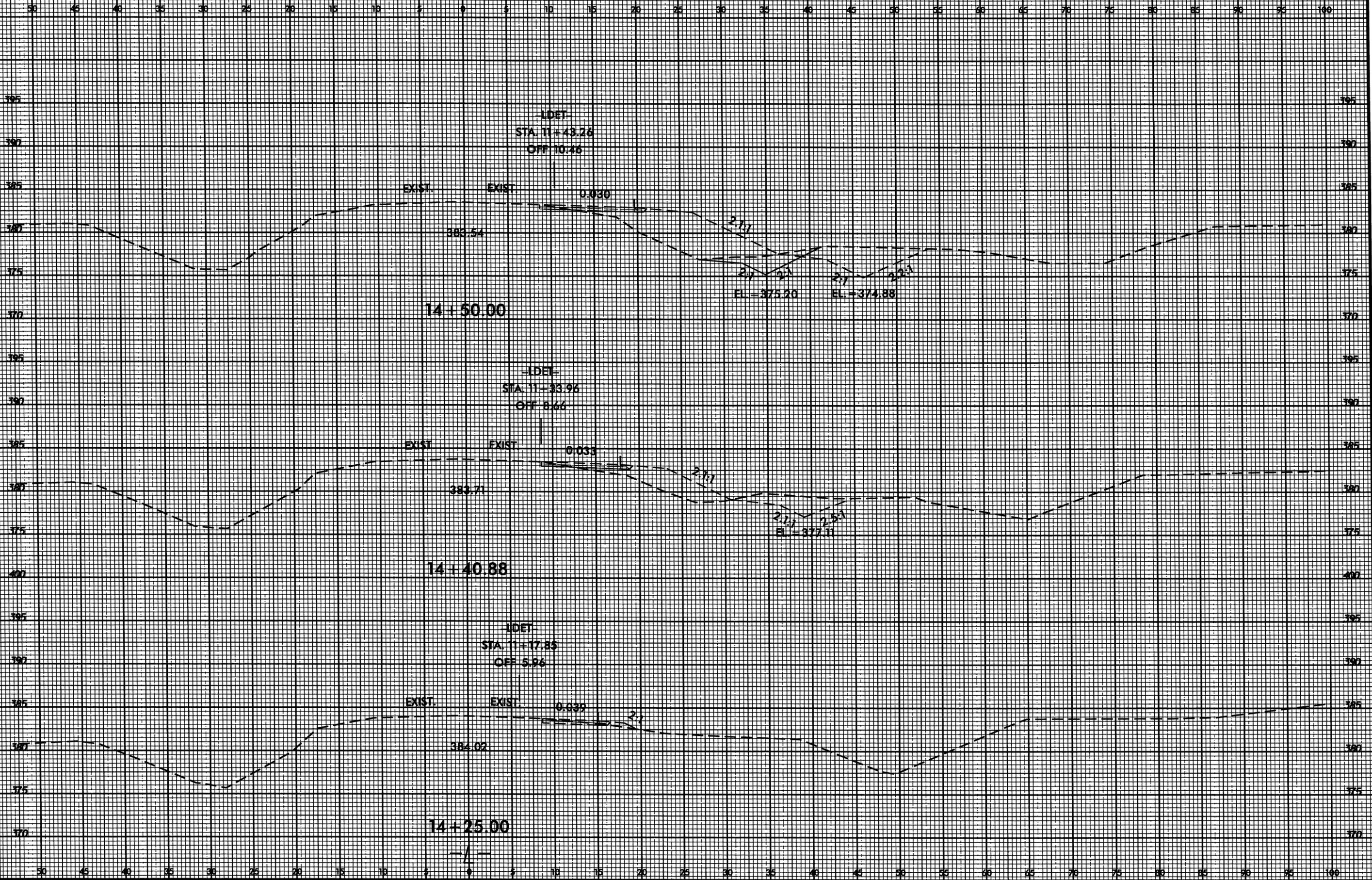
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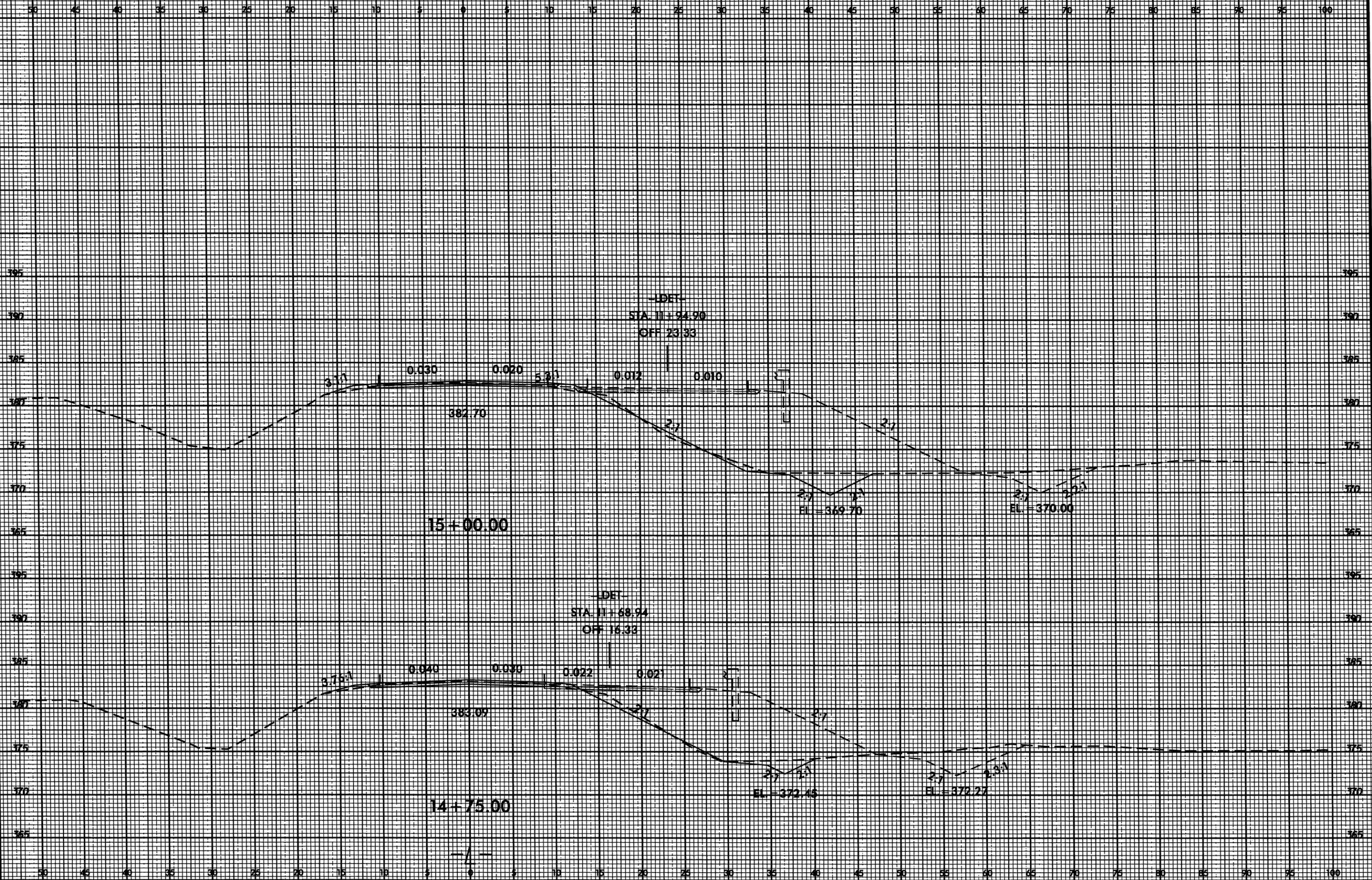
PROJ. REFERENCE NO.	SHEET NO.
B-5162	X-3



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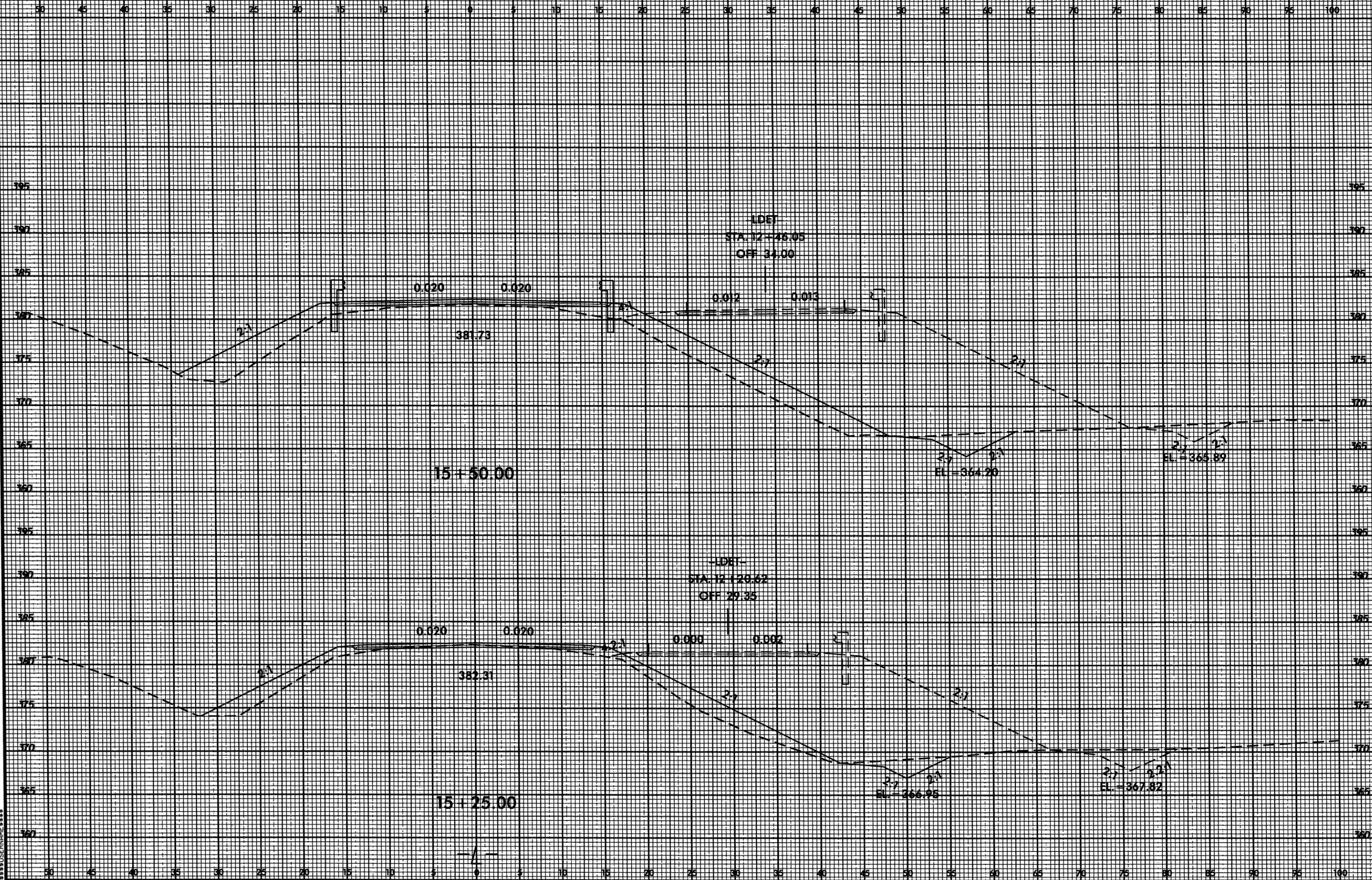


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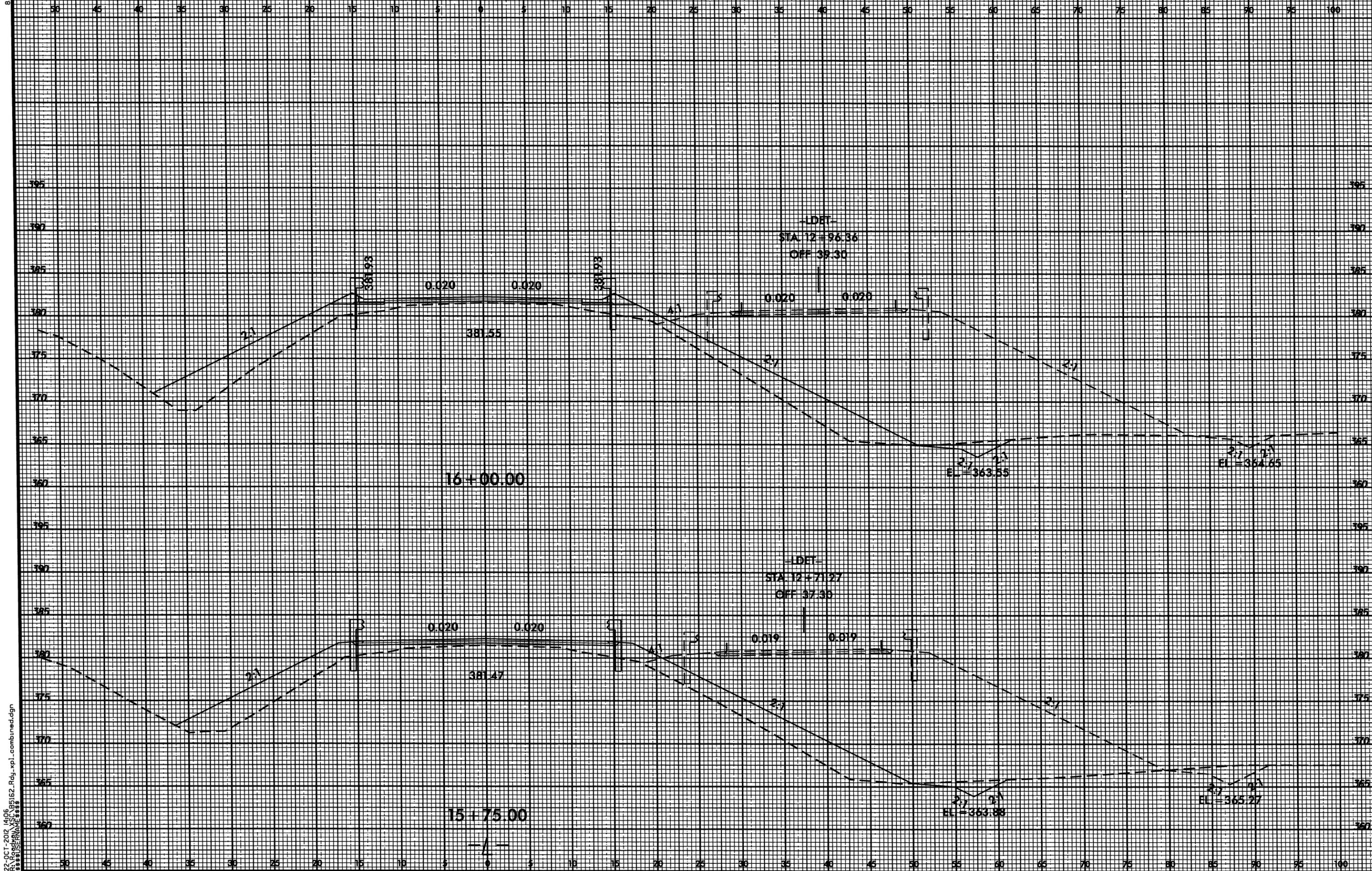
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8/23/99



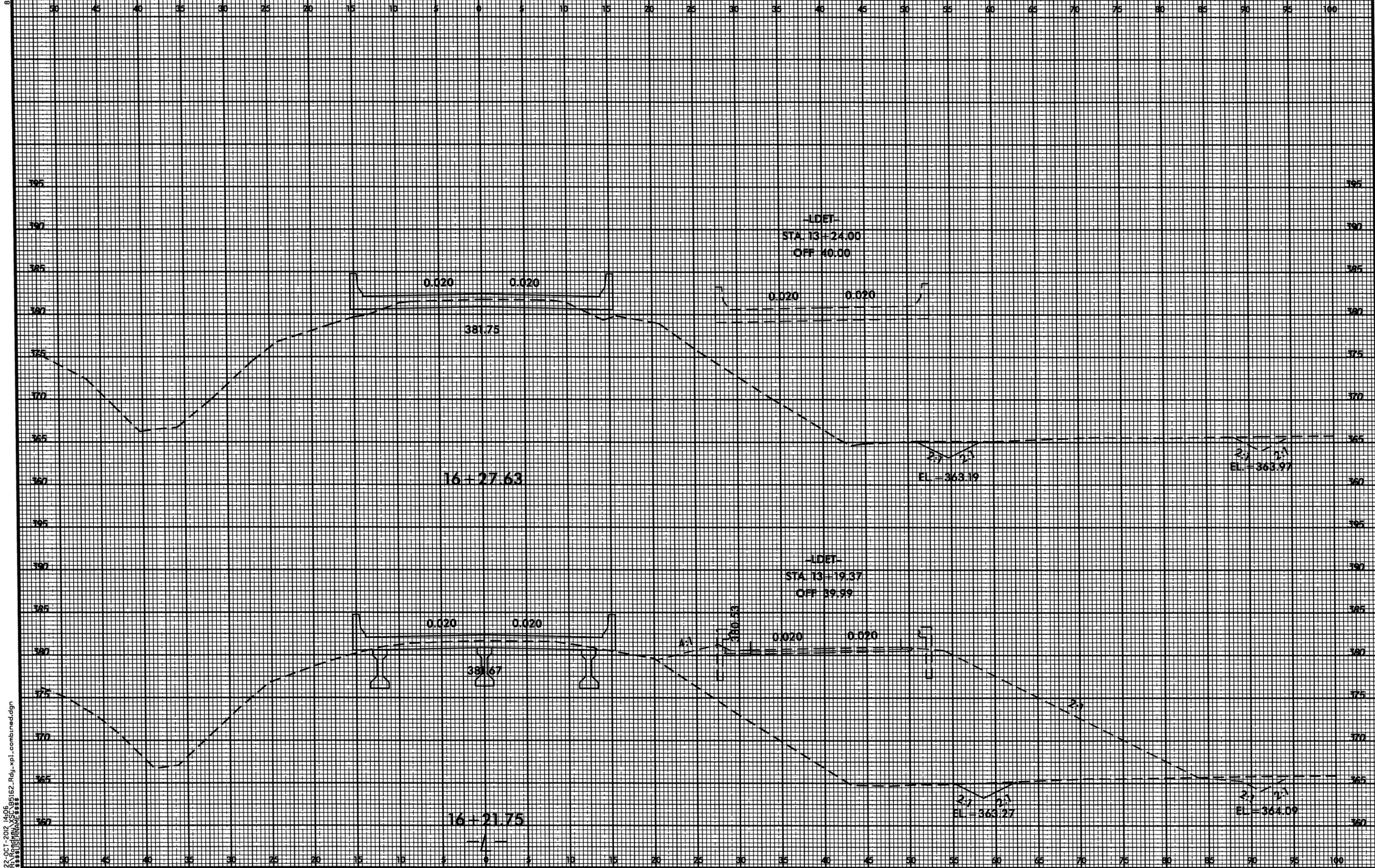
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8/23/99



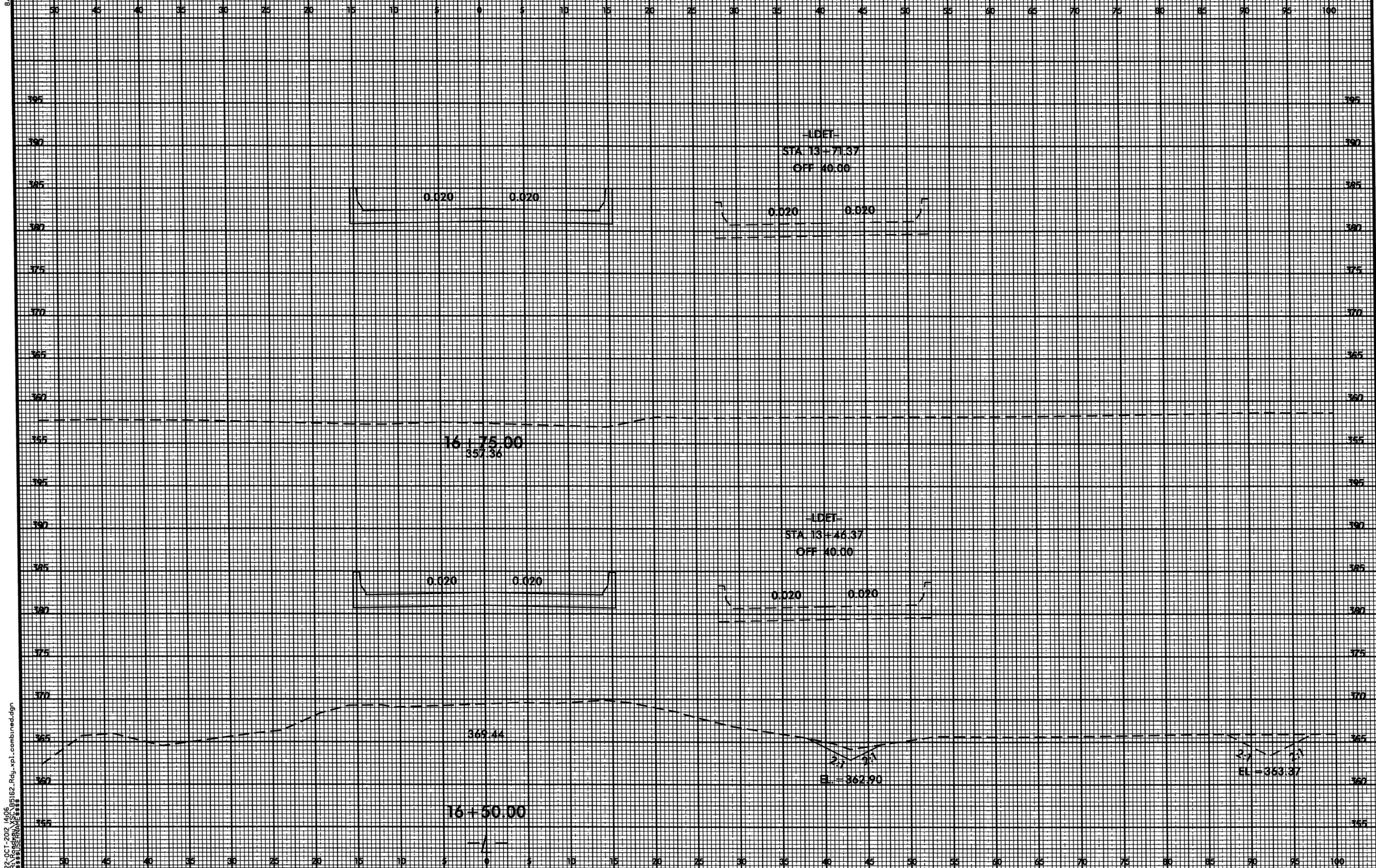
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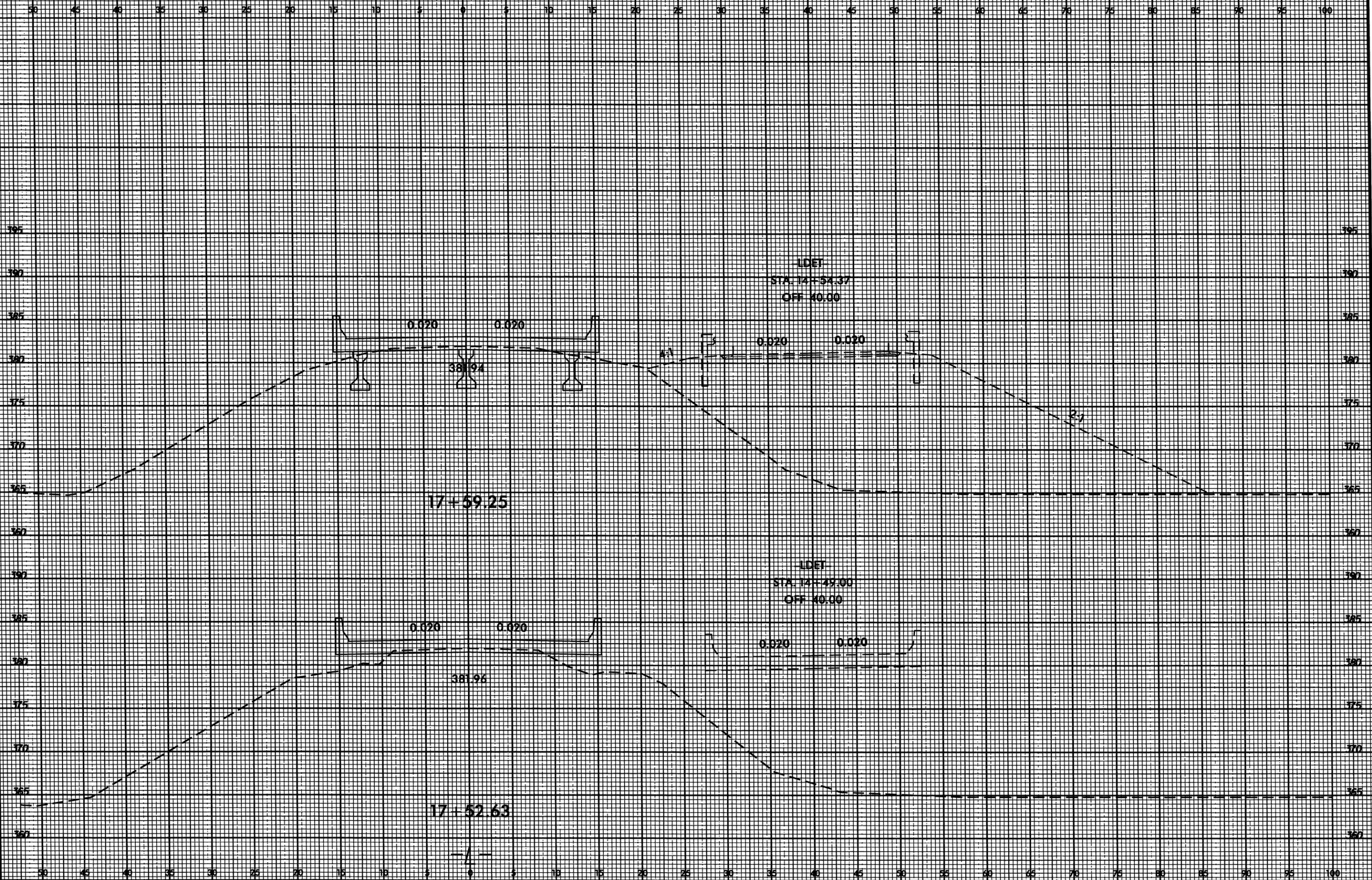
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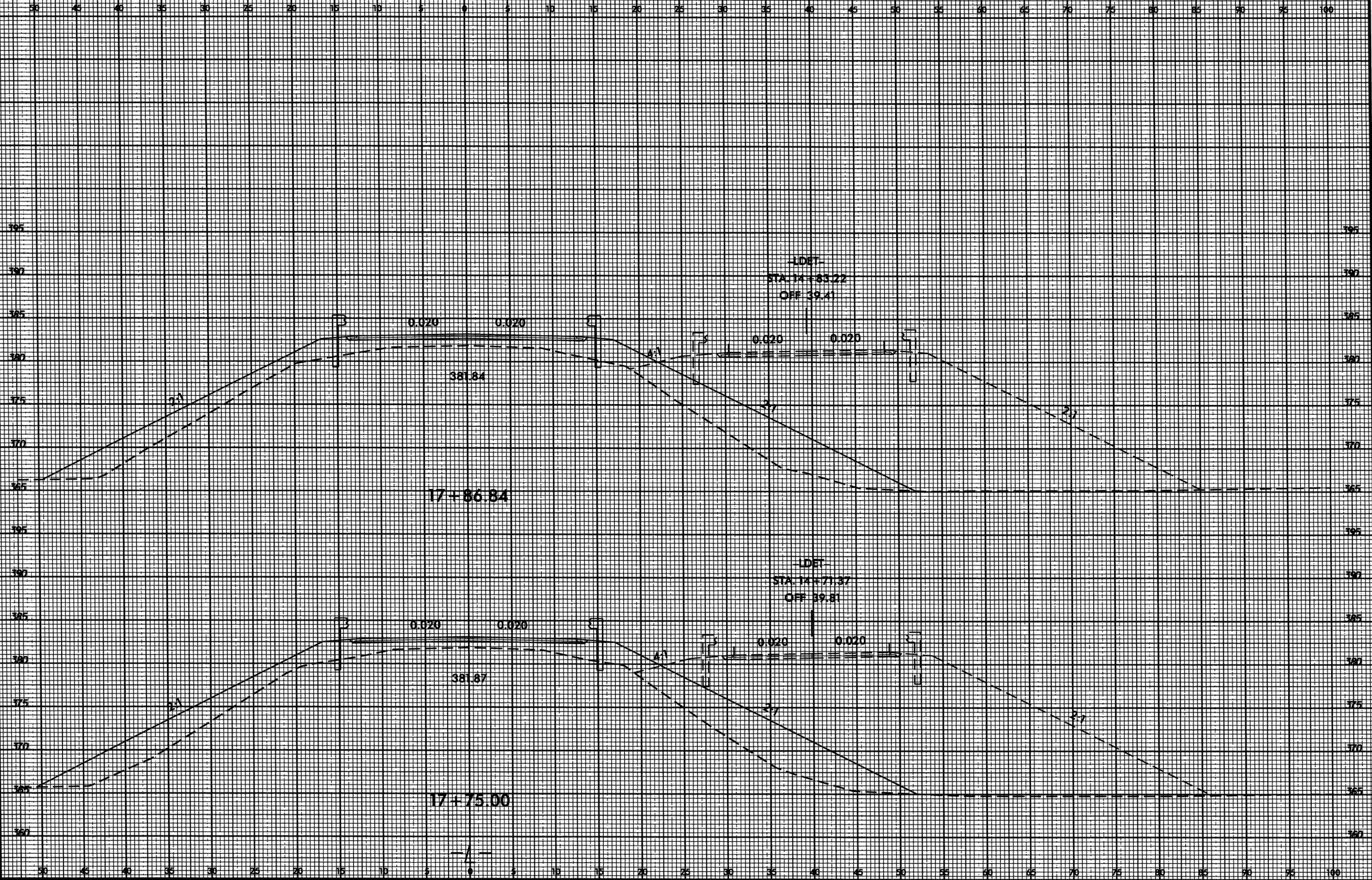
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8/23/99



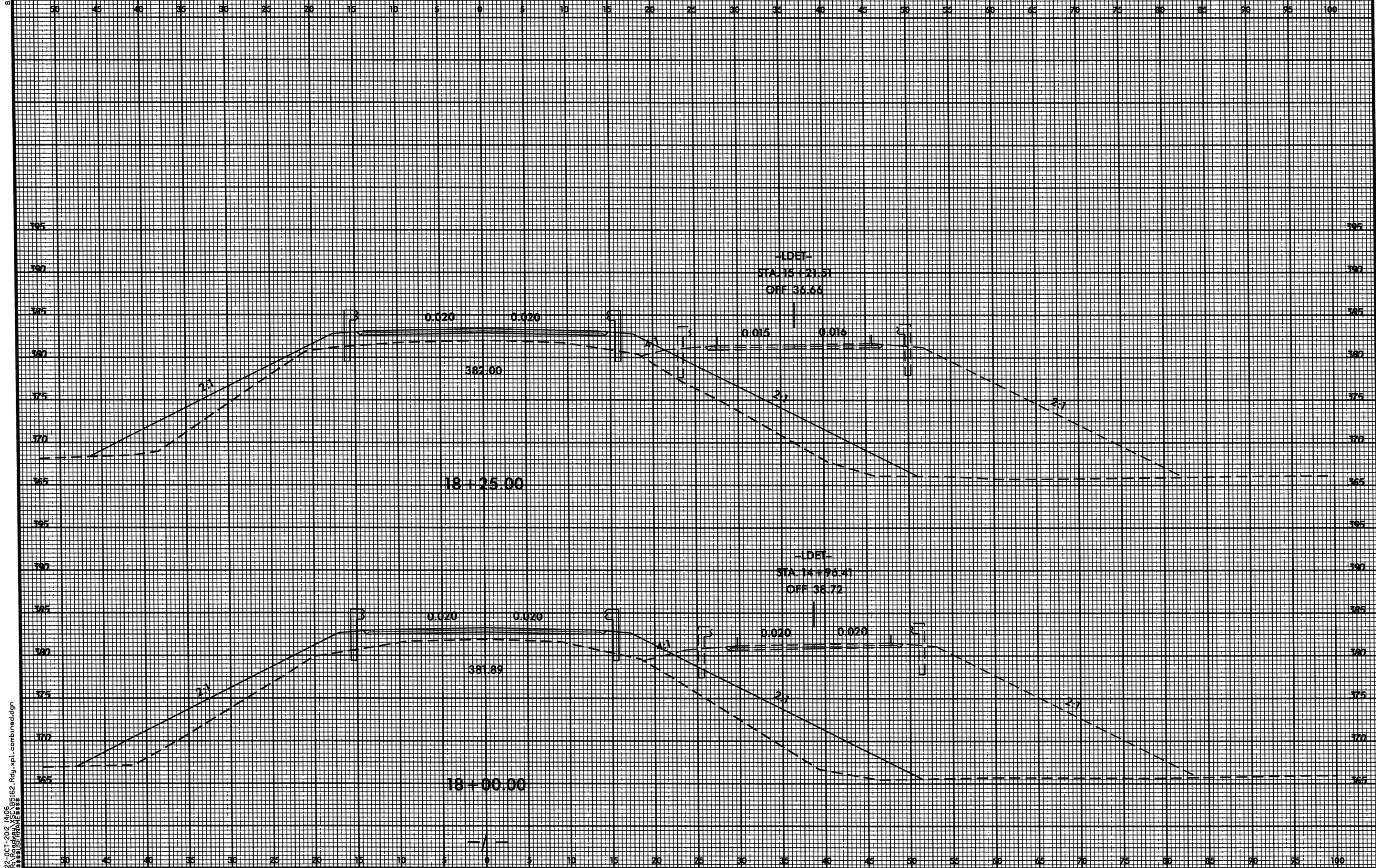
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8/23/99



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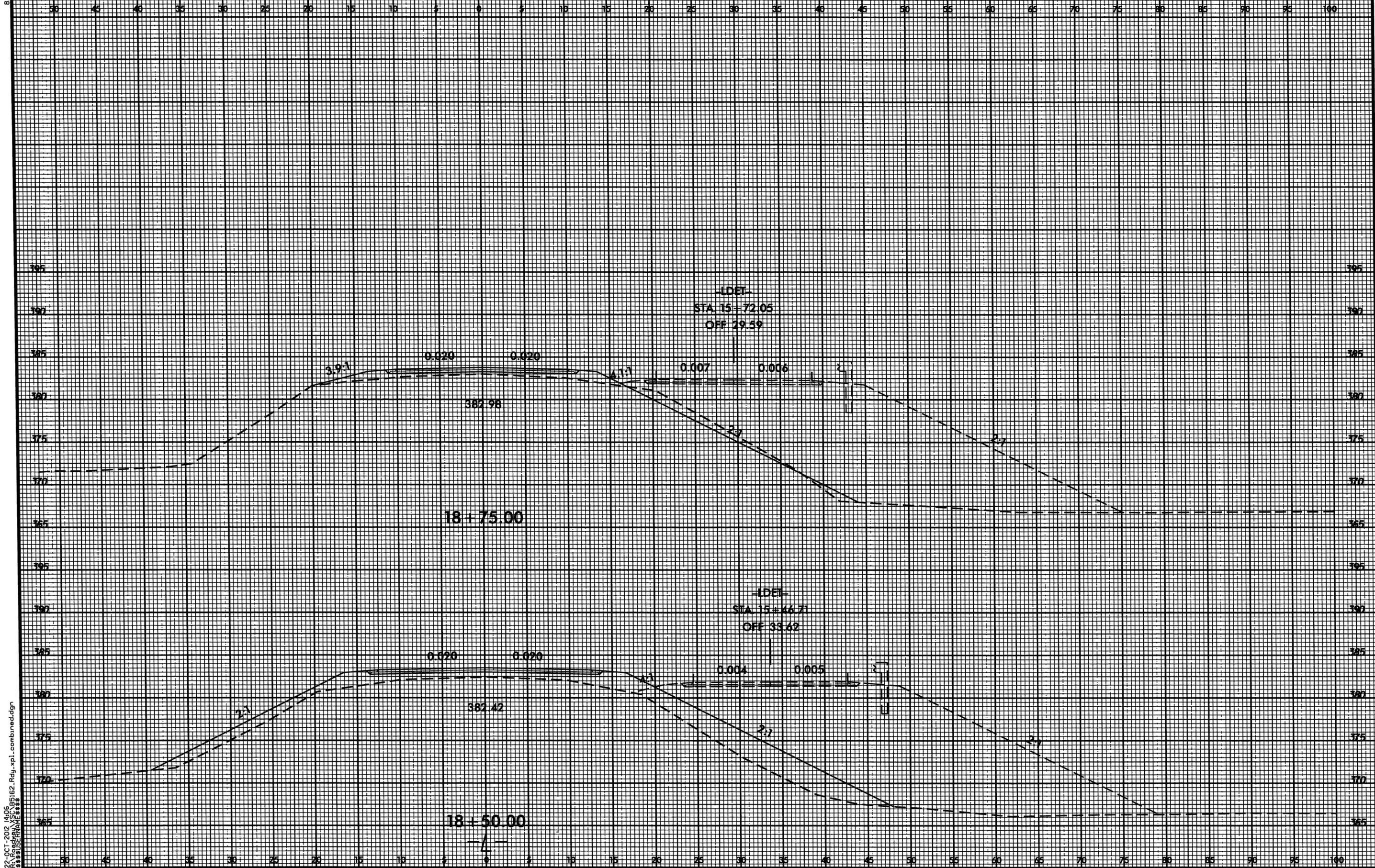


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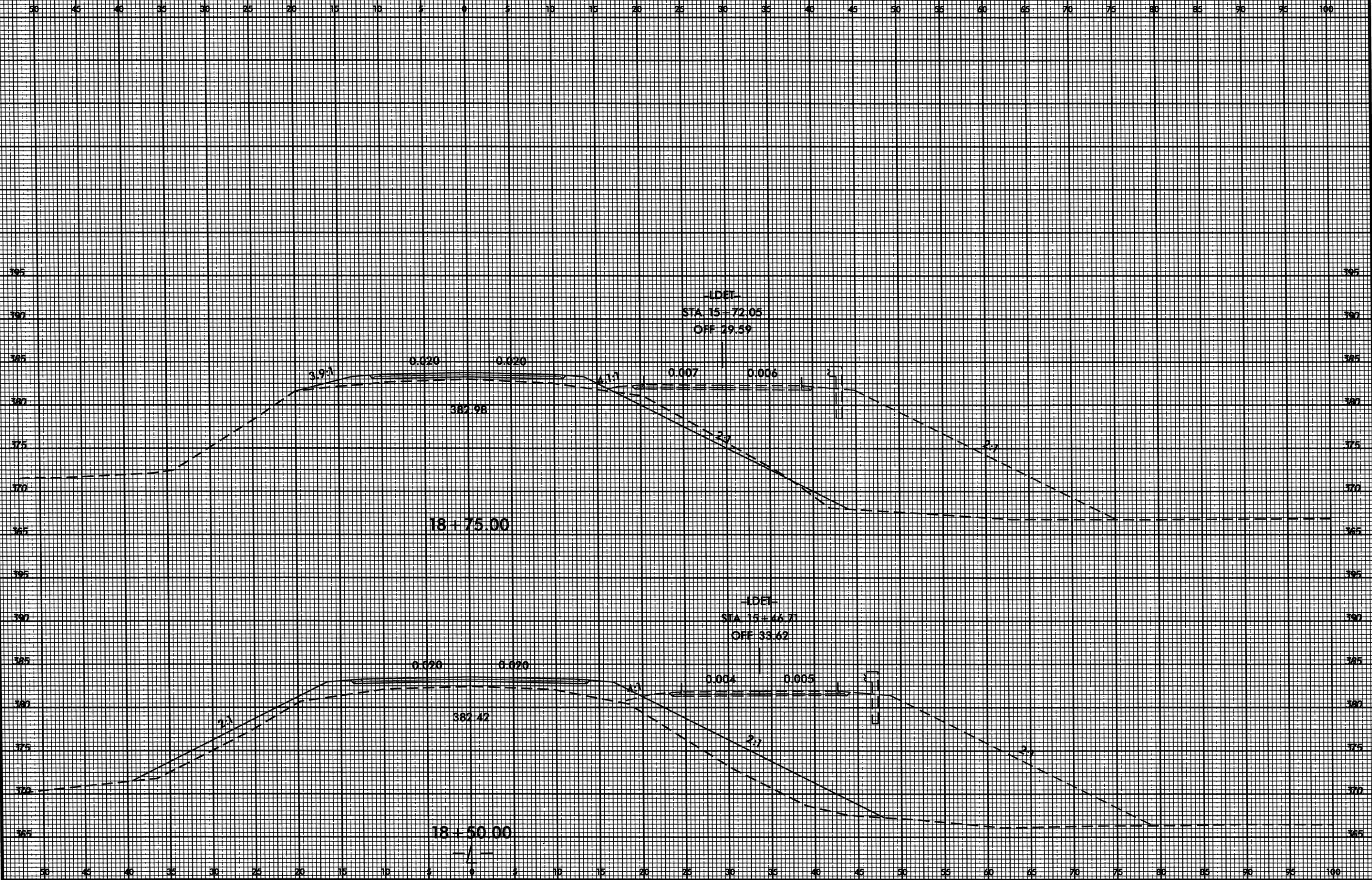
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PROJ. REFERENCE NO. B-5162 SHEET NO. X-14



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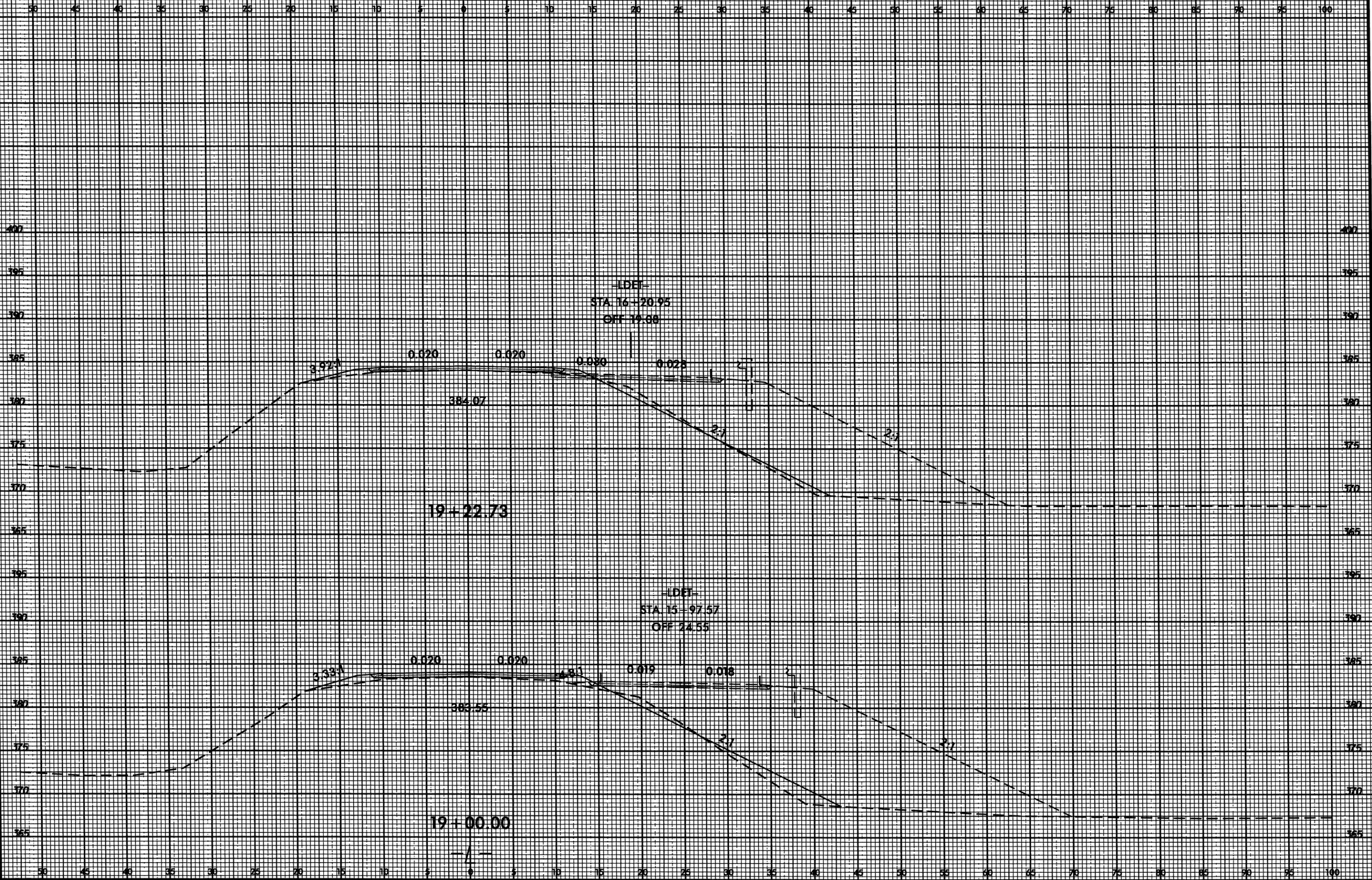


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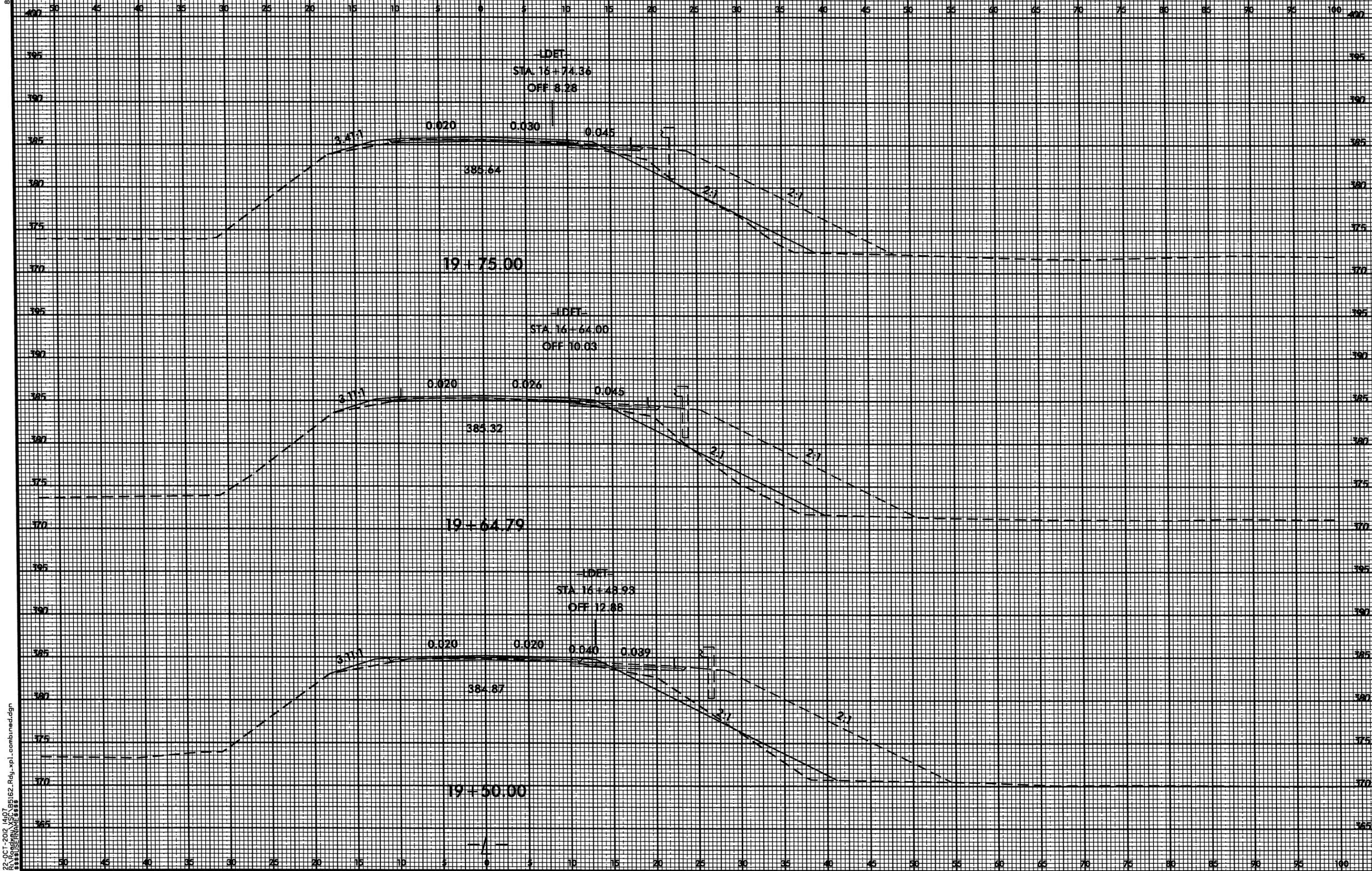
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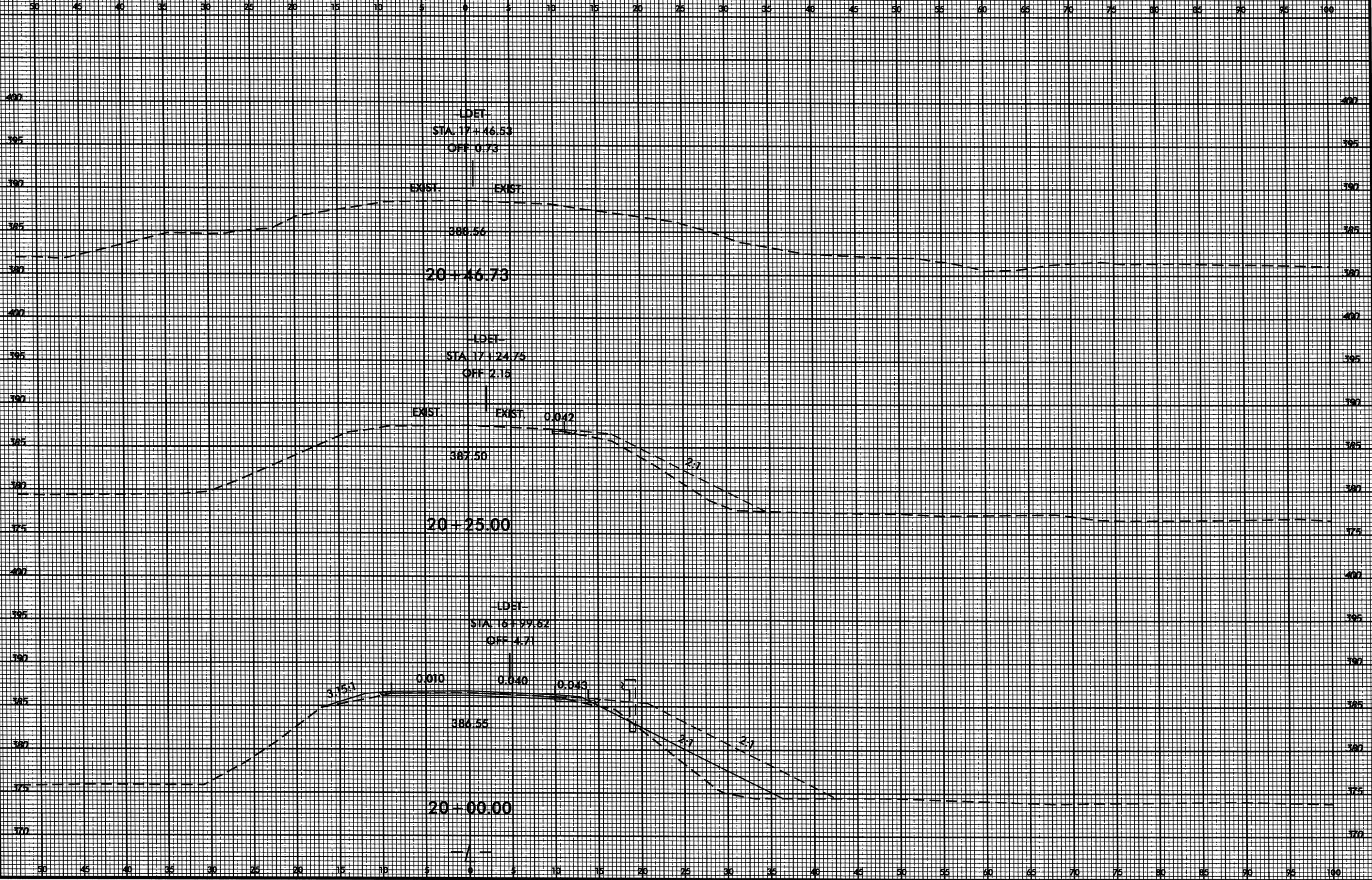
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