

7a  
2/17/26

FHWA STRUCTURE #351030

Project Number: L-B(U155)--73-97

**INDEX OF SHEETS**

No.	Description
1	TITLE SHEET
2	LOCATION PLAN
3	ESTIMATE OF QUANTITIES AND ESTIMATE REFERENCE INFORMATION
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8-14	ROADWAY CROSS SECTIONS

**ROAD STANDARD PLANS**

The following Standards shall be considered applicable to construction work on this project

Identification	Date	Identification	Date	Identification	Date
EW-101	10-17-17				
EW-401	10-20-15				
EW-402	04-18-17				
TC-252	10-21-25				

**RCB STANDARD PLANS**

(May be obtained at Woodbury County Engineer Office)

Standard	Date Issued	Date Revised	Standard	Date Issued	Date Revised
TWRCB G1-20	JULY, 2020		TWFH 45-2-21	FEBRUARY, 2021	
TWRCB G2-20	JULY, 2020		TWFH 45-3-21	FEBRUARY, 2021	
TWRCB G3-20	JULY, 2020		TWFH 45-4-21	FEBRUARY, 2021	
TWRCB 12-7-20	JULY, 2020		TWFH 45-5-21	FEBRUARY, 2021	
TWFH G1-21	FEBRUARY, 2021		TWFH 45-6-21	FEBRUARY, 2021	
TWFH 45-1-21	FEBRUARY, 2021		TWFH 45-7-21	FEBRUARY, 2021	

**SECTION 404 PERMIT AND CONDITIONS**

CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF THE U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NO. 14. A COPY OF THIS PERMIT IS AVAILABLE FROM THE IOWA DOT WEBSITE (<http://enrpermits.iowadot.gov/>) THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.

**IOWA**  
**DEPARTMENT OF TRANSPORTATION**  
Highway Division  
PLANS OF PROPOSED IMPROVEMENT ON THE  
**SECONDARY ROAD SYSTEM**  
**WOODBURY COUNTY**  
**RCB CULVERT NEW**  
**PROJECT NO. L-B(U155)--73-97**

REFER TO THE PROPOSAL FOR LIST OF APPLICABLE SPECIFICATIONS

On 325th St., Over Stream, from County Route  
K67 E 0.1 Miles in Section 25 T86N R45W

**UTILITY CONTACTS**

WOODBURY COUNTY RURAL ELECTRIC, 1496  
HUMBOLDT AVE. MOVILLE, IA 51039  
712-870-1031 - NATE BAUER

WESTERN IOWA TELEPHONE, 202 CEDAR STREET  
LAWTON, IA 51030 - 712-944-5711 - ERIN NELSON

**TRAFFIC CONTROL PLAN**

THIS ROAD WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC TO ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN ARTICLE 1107.08 OF THE CURRENT STANDARD SPECIFICATIONS. TRAFFIC CONTROL DEVICES, PROCEDURES, LAYOUTS AND SIGNING INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AS ADOPTED BY THE DEPARTMENT PER 781 OF THE IOWA ADMINISTRATION CODE (IAC) CHAPTER 130.

ALL SAFETY CLOSURES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR.

MAINTENANCE OF SIGNS, BARRICADES AND SAFETY CLOSURES AS STATED IN ARTICLE 1107.09 SHALL APPLY ON THIS PROJECT.

ROAD CLOSURES ON THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH ROAD STANDARD TC-255.

Approved
Board of Supervisors

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.	
	Laura M Sievers	Date 2/18/26
	Iowa Registration Number 19243 Expiration Date 12/31/2026	
	Pages or sheets covered by this seal: Pages 1 - 14	



**WOODBURY COUNTY**

NEW RCB CULVERT

PROJECT NO: L-B(U155)--73-97

MARCH 9, 2026

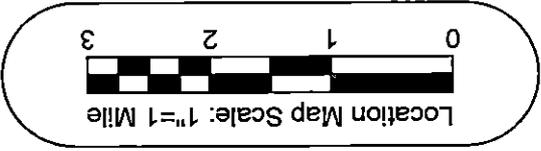
Letting Date

2023 AADT 45 V.P.D.

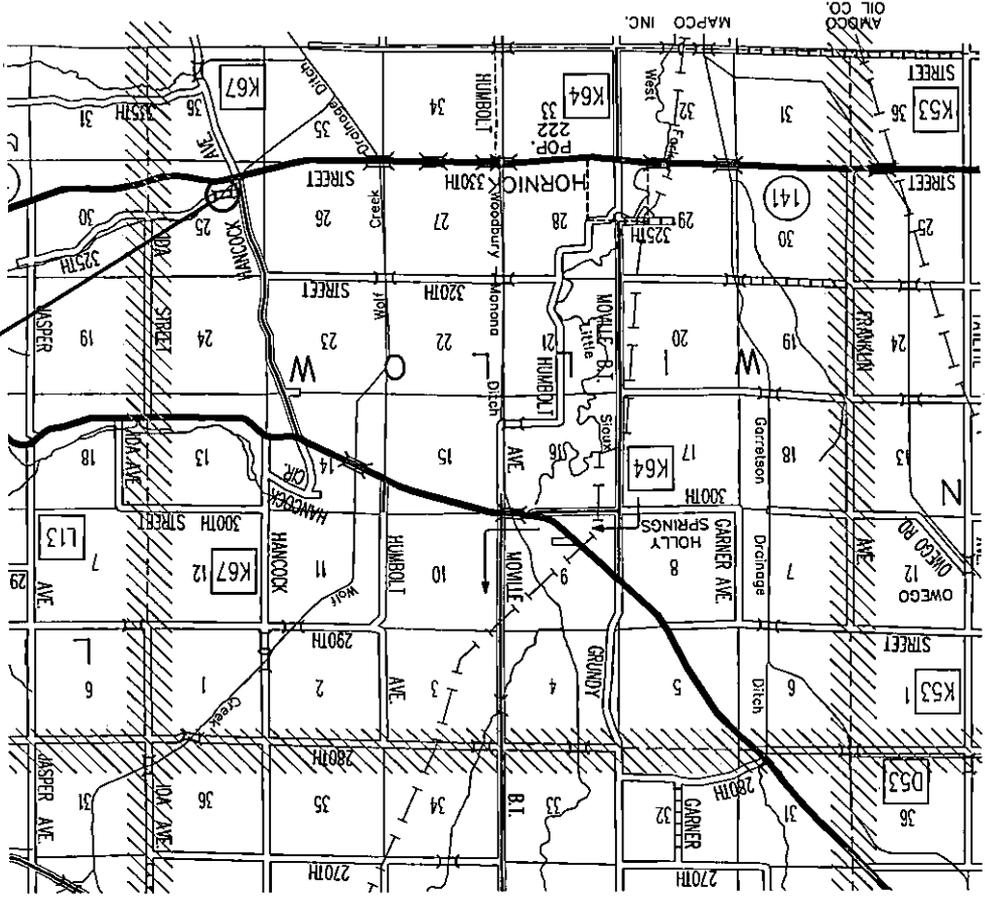
Woodbury County

Project Number: L-B(U155)--73-97

Sheet 1



R-45W



L-B(U155)--73-97  
TWIN 12 X 70 RCB  
45' SKEW LEFT AHEAD

T-86N

PROJECT NO. L-B(U155)-73-97	SHEET 2	PROJECT DESCRIPTION: LOCATION MAP	PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 325TH ST. SEC. 25-86-45 WILLOW TOWNSHIP			
			DESIGNED BY: LMS	APPROVED BY:	DATE:	REVISION:
			WOODBURY COUNTY ENGINEERS OFFICE			

ESTIMATED PROJECT QUANTITIES				
ITEM	ITEM CODE	DESCRIPTION	UNITS	TOTALS
1.	2101-0850001	CLEAR AND GRUB	AC.	0.23
2.	2102-0425071	SPECIAL BACKFILL	C.Y.	180
3.	2102-2625000	EMBANKMENT-IN-PLACE	C.Y.	628
4.	2102-2710070	CLASS 10 ROADWAY AND BORROW	C.Y.	48
5.	2104-2710020	CLASS 10 CHANNEL	C.Y.	128
6.	2401-8745825	REMOVAL OF EXISTING BRIDGE	L.S.	1
7.	2402-2720000	EXCAVATION, CLASS 20	C.Y.	1,637
(1) 8.	2403-0100020	STRUCTURAL CONCRETE (RCB CULVERT)	C.Y.	291.2
(1) 9.	2404-7775000	REINFORCING STEEL	LB.	43,784
10.	2507-8800081	REVEITEMT, CLASS E	TON	50
11.	2418-0000010	TEMPORARY STREAM DIVERSION	EACH	1
12.	2519-3280000	FENCE, FIELD	L.F.	323
13.	2519-3300400	FIELD FENCE BRACE PANELS	EACH	13
14.	2528-2518000	SAFETY CLOSURE	EACH	2
15.	2528-8445110	TRAFFIC CONTROL	L.S.	1
16.	2533-4980005	MOBILIZATION	L.S.	1
17.	2601-2634100	MULCHING	ACRES	0.23
18.	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRES	0.23

**CONCRETE AND REINFORCING STEEL SUBTOTALS  
FOR A TWIN 12'x7'x70' RCB CULVERT**

LOCATION	CONCRETE QUANTITIES, C.Y.				REINFORCING STEEL, LBS.
	FLOOR	WALLS	SLAB	TOTAL	
HEADWALLS	92.6	24.6	7.4	124.6	15,746
35' BARREL	33.6	19.2	30.3	83.3	14,019
35' BARREL	33.6	19.2	30.3	83.3	14,019
<b>TOTALS</b>	<b>160.2</b>	<b>63.0</b>	<b>68.0</b>	<b>291.2</b>	<b>43,784</b>

**SUMMARY OF EARTHWORK QUANTITIES**

EXCAVATION TYPE	RAW CUT	RAW FILL	WASTE	USABLE	SHRINKAGE FACTOR	FILL + 40% SHRINKAGE	PAYMENT QUANTITY
	CY	CY	CY	CY		CY	CY
EXCAVATION 10 ROADWAY AND BORROW	48	1894	0	48	40%	2,652	48
EXCAVATION 10 CHANNEL	128	27	0	128	40%	38	128
EXCAVATION 20	1,637	0	0	1,637	40%	0	1,637
<b>TOTALS</b>				1,811	40%	2,690	
EMBANKMENT IN PLACE (EIP)	EIP = (2,690-1,811)/1.40 SHRINK = 628						

**(1) ALTERNATE BID INFORMATION**

WOODBURY COUNTY WILL ACCEPT ALTERNATE BIDS FOR A PRE-CAST OPTION. THE PRE-CAST OPTION WILL REQUIRE 70' BARREL ON A 45 DEGREE SKEW WITH FLARED WING WALLS. THE QUANTITIES FOR PRE-CAST ARE LISTED BELOW. PRICE BID FOR THE PRE-CAST OPTION SHALL BE PLACED IN ITEMS 8 AND 9. ITEM 8 FOR THE TOTAL BARREL COST (PRE-CAST SECTION AND REQUIRED HARDWARE). ITEM 9 FOR THE TOTAL WING COST (FLARED WING SECTIONS WITH CURTAIN WALL AND REQUIRED HARDWARE).

PRECAST CONCRETE BOX CULVERT, TWIN 12'x7' 70 LINEAR FEET  
PRECAST CONCRETE BOX CULVERT FLARED END SECTION TWIN 12'x7' 2 EACH

**ESTIMATE REFERENCE INFORMATION**

THE DATA BELOW IS FOR INFORMATIONAL PURPOSE ONLY AND SHALL NOT CONSTITUTE A BASIS FOR ANY EXTRA WORK ORDERS.

- THIS ITEM INCLUDES REMOVAL OF TREES AND WOODY PLANTS WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL HAVE WRITTEN PERMISSION BEFORE BURNING GRUBBED MATERIALS ON PRIVATE PROPERTY. NO BURNING OF GRUBBED MATERIALS INSIDE PROJECT LIMITS ALLOWED.
- THIS MATERIAL SHALL MEET THE GUIDELINES OF THE SPECIAL BACKFILL MATERIAL SPECIFICATION. THE MATERIAL SHALL BE PLACED IN LIFTS NO THICKER THAN 12 INCHES. THE MATERIAL SHALL BE COMPACTED WITH A VIBRATORY COMPACTOR.
- SEE SUMMARY OF EARTHWORK QUANTITIES TABULATION ON SHEET 3 FOR BREAKDOWN OF EXCAVATION QUANTITIES. TYPE "A" COMPACTION IS REQUIRED. AFTER ALL SUITABLE MATERIAL ON SITE HAS BEEN DEPLETED THE CONTRACTOR SHALL FURNISH ALL REMAINING MATERIAL REQUIRED. THE CONTRACTOR SHALL FURNISH HIS OWN BORROW FOR EMBANKMENT-IN-PLACE. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH PROVISIONS OF IOWA LAW AS IT APPLIES TO REMOVAL AND REPLACEMENT OF TOPSOIL ON BORROW AREAS.
- MATERIAL SHALL BE FREE FROM FOREIGN MATERIAL AND HAVE ADEQUATE MOISTURE TO ALLOW COMPACTION AT THE CONTRACTOR'S EXPENSE IF NECESSARY TO COMPLETE COMPACTION. FILL CALCULATIONS INCLUDE A 40% SHRINKAGE FACTOR, NO PAYMENT FOR OVERHAUL WILL BE ALLOWED.
- BID ITEM SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE EXISTING 3 SPAN 129' LONG BY 20 WIDE CONCRETE I-BEAM STRUCTURE WITH TIMBER PILES, STEEL CAPS AND WOOD PLANK BACKING. ALL SUBSTRUCTURE ITEMS SHALL BE REMOVED TO A MINIMUM OF 2'-0" BELOW FINISHED GROUND. STEEL I-BEAMS SHALL BE SALVAGED AND STOCK PILED ON SITE AND SHALL REMAIN THE PROPERTY OF WOODBURY COUNTY. REMAINING BRIDGE ITEMS THAT ARE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE PROJECT SITE ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
- THIS BID ITEM INCLUDES ALL MATERIAL EXCAVATED FOR THE PLACEMENT OF THE PROPOSED ROADWAY CULVERT. EXCAVATED MATERIAL MAY BE USED AS ROADWAY BORROW IF DEEMED SUITABLE BY THE ENGINEER.
- AGGREGATE SHALL BE CLASS 2 DURABILITY. ITEMIZED CONCRETE PLACEMENT QUANTITIES ARE INDICATED BELOW THE ESTIMATED PROJECT QUANTITIES. CONCRETE SHALL BE CLASS "C-4".
- TEMPORARY STREAM DIVERSION AS PER STANDARD PLAN EW-402.
- THIS ITEM SHALL BE FULL COMPENSATION FOR PLACEMENT OF NEW 4 STRAND BARB WIRE FENCE. NEW FENCE SHALL BE INSTALLED ALTERNATING BETWEEN STEEL AND WOOD FENCE POSTS, FENCE TO BE INSTALLED BETWEEN STA. 15+40 AND STA. 18+50.
- BRACE PANELS ARE REQUIRED AT THE BEGINNING AND END OF THE FENCING INSTALLATION.
- THIS BID ITEM SHALL INCLUDE PROVIDING, INSTALLING, MAINTAINING AND REMOVING SAFETY CLOSURES ACCORDING TO IDOT STANDARD SPECIFICATIONS.
- THIS ITEM SHALL BE FULL COMPENSATION FOR CONSTRUCTION SIGNING ADJACENT TO ROADWAY.
- THIS ITEM SHALL INCLUDE ALL TRANSPORTATION COSTS ASSOCIATED WITH THE MOVEMENT BY THE CONTRACTOR AND THEIR EQUIPMENT.
- MULCHING IS INTENDED TO COVER SEEDING ON RECONSTRUCTED SLOPES AND DITCHES.
- THE CONTRACTOR IS TO RESHAPE, FERTILIZE AND MULCH AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION. THIS SHALL BE INCLUDED IN THE PRICES BID FOR ITEMS 17 AND 18. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER ALL AREAS TO BE SEEDED PRIOR TO COMMENCING ANY WORK ON THIS ITEM.

WOODBURY COUNTY  
ENGINEERS OFFICE

DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_  
 ISSUED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_

PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 325TH ST.  
SEC. 25-86-45 WILLOW TOWNSHIP

SHEET DESCRIPTION: ESTIMATE OF QUANTITIES AND  
GENERAL INFORMATION

PROJECT NO.  
L-B(1155)-73-97

SHEET

**GENERAL NOTES:**

CONTRACTOR IS TO USE CARE IN WORKING AROUND AND OVER ALL TILE LINES. BREAKS IN THE TILE LINES DUE TO THE CONTRACTOR'S CARELESSNESS ARE TO BE REPLACED AT HIS EXPENSE WITHOUT COST TO WOODBURY COUNTY. ANY TILE LINES BROKEN OR DISTURBED BY CUT LINES WILL BE REPLACED AS DIRECTED BY THE ENGINEER IN CHARGE OF CONSTRUCTION AT WOODBURY COUNTY'S EXPENSE.

A UTILITY ONE CALL (1-800-292-8989) WILL BE MADE BY THE CONTRACTOR WITHIN 30 DAYS OF RECEIVING A SIGNED CONTRACT AND NO LESS THEN 10 WORKING DAYS BEFORE BEGINNING THE PROJECT. THE CONTRACTOR WILL NOTIFY THE WOODBURY COUNTY ENGINEER'S OFFICE WITH THE ONE CALL UTILITY MEETING TIME.

CONTRACTOR IS RESPONSIBLE FOR CLEANING UP AREAS OF THE PROJECT AS WORK PROGRESSES. ALL RUBBISH, EXCESS MATERIALS, EQUIPMENT, DEBRIS, AND GRUBBED MATERIALS SHALL BE CLEANED UP AND REMOVED FROM THE WORK AREAS PRIOR TO ACCEPTANCE OF THE PROJECT.

**DESIGN STRESSES**

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2015. REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60. CONCRETE IN ACCORDANCE WITH SECTION 8,  $f_c = 3,500$  psi.

**SPECIFICATIONS**

DESIGN: A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2015, AND ALL CURRENT REVISIONS.

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES OF 2015, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

**SCHEDULE OF OPERATION**

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, PRIOR TO THE PRECONSTRUCTION CONFERENCE, A WRITTEN SCHEDULE FOR PERFORMANCE OF THE WORK ITEMS. THE SCHEDULE SHALL BE IN THE FORM OF A BAR GRAPH OR CHART SHOWING STARTING AND COMPLETION DATES FOR THE ITEMS. THE CONTRACTOR SHALL THEN MAKE EVERY EFFORT TO CONFORM TO THE ACCEPTED SCHEDULE

**CULVERT GENERAL NOTES**

DESIGNED FOR A FILL HEIGHT OF 5.14'.

THE REINFORCEMENT SUPPLIED FOR THIS STRUCTURE SHALL BE GRADE 60 REINFORCING STEEL IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

METAL BAR CHAIRS SPACED AT NOT OVER 3'-0" C-C IN EITHER DIRECTION ARE TO BE USED TO SUPPORT ALL SLAB AND FLOOR STEEL AS OUTLINED IN THE STANDARD SPECIFICATIONS (ARTICLE 2404.07).

THE CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR EDGE OR END OF REINFORCING BAR SHALL BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE THE CONCRETE IS POURED (ARTICLE 2404.06).

FLOOR OF BARREL SHALL BE FINISHED SMOOTH. SIDE OF FOOTING SHALL BE FORMED TO INSURE CORRECT LINE AND GRADE.

ALL EXPOSED CORNERS 90 DEGREES OR SHARPER SHALL BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.

THE PERMISSIBLE CONSTRUCTION JOINT AT THE TOP OF THE WALLS MAY BE LOWERED.

**PRECAST BOX OPTION**

THE CONTRACTOR MAY SUBSTITUTE PRECAST CONCRETE BOX SECTIONS AND HEADWALLS INSTEAD OF THE CONCRETE CAST-IN-PLACE SECTIONS AND HEADWALLS SHOWN ON THE PLANS. IF THE CONTRACTOR CHOOSES TO SUBSTITUTE PRECAST SECTIONS, THE FOLLOWING SHALL APPLY:

BEFORE BEGINNING CONSTRUCTION THE PRECAST CONCRETE BOX CULVERT SUPPLIER SHALL SUBMIT DETAILS OF THE PROPOSED PRECAST BOX SECTIONS AND HEADWALLS TO THE WOODBURY COUNTY ENGINEER FOR APPROVAL. WOODBURY COUNTY SHALL REQUIRE A MINIMUM OF 14 DAYS TO PERFORM THIS REVIEW. THE DETAILS SHALL INCLUDE THE FOLLOWING:

- A. A SITUATION PLAN DRAWING SHOWING THE BACK TO BACK OF PARAPET DIMENSION FOR THE LINE OF THE CULVERT SECTIONS.
- B. A DETAIL OF THE PRECAST CULVERT AND HEADWALL SECTIONS SHOWING A CROSS SECTION VIEW OF THE SECTION, STEEL AREAS, LOCATIONS, DIMENSIONS, AND PLACEMENT.
- C. A DETAIL OF THE INLET AND OUTLET HEADWALL SHOWING DIMENSIONS AND SLOPES. THE SLOPE OF THE HEADWALL WALLS SHALL BE 3H:1V.
- D. A DETAIL OF THE PARAPET SHOWING A CROSS SECTION WITH DIMENSIONS AND A DETAIL OF THE PARAPET SHOWING HOW IT IS ATTACHED TO THE HEADWALL.
- E. A DETAIL OF THE CURTAIN WALL SHOWING A CROSS SECTION WITH DIMENSIONS AND HOW THE CURTAIN WALL IS ATTACHED TO THE END SECTION.

232-8 10-18-11
<b>EROSION CONTROL (DISTURBED AREAS)</b>
ENSURE THE TOP 6 INCHES OF THE DISTURBED AREAS ARE FREE OF ROCK AND DEBRIS AND ARE SUITABLE FOR THE ESTABLISHMENT OF VEGETATION, SUBJECT TO THE ENGINEER'S APPROVAL.

<b>EROSION CONTROL (RURAL SEEDING)</b>
FOLLOWING THE COMPLETION OF WORK, PLACE SEED, FERTILIZER, AND MULCH ON THE PORTION OF THE AREA LYING WITHIN THE COUNTY RIGHT OF WAY AS FOLLOWS:
SEEDING: PERMANENT SEEDING FOR RURAL AREA AS PER THE IDOT CURRENT SPECIFICATIONS. FERTILIZER: 17 LBS. OF 13-13-13 (OR EQUIVALENT) COMMERCIAL FERTILIZER PER 1000 SQ. FT.
MULCH: 70 LBS. OF DRY CEREAL STRAW PER 1000 SQ. FT. CONSOLIDATE ALL MULCH INTO THE SOIL USING A MULCH STABILIZER.
PREPARING THE SEEDBED AND FURNISHING AND APPLYING SEED, FERTILIZER, AND MULCH IS INCIDENTAL TO MOBILIZATION. NO EXTRA COMPENSATION WILL BE ALLOWED.

<b>DEMOLITION (BRIDGE REMOVAL)</b>
A SCRAPE SAMPLE WAS TAKEN FROM TWO AREAS OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE OF THE LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. ANALYSIS OF TOTAL LEAD ON THIS SAMPLE WERE IN A RANGE OF 330 TO 400 PARTS PER MILLION (PPM). ANALYSIS OF TOTAL CHROMIUM ON THESE SAMPLES WERE IN A RANGE OF 10,000 TO 21,000 PPM. THESE ANALYSIS SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER CONSTITUENTS WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE DEPARTMENT'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. AN ASBESTOS INSPECTION WAS CONDUCTED AND THE RESULTS ON THE SCRAPE SAMPLES WERE A TOTAL OF 8%.

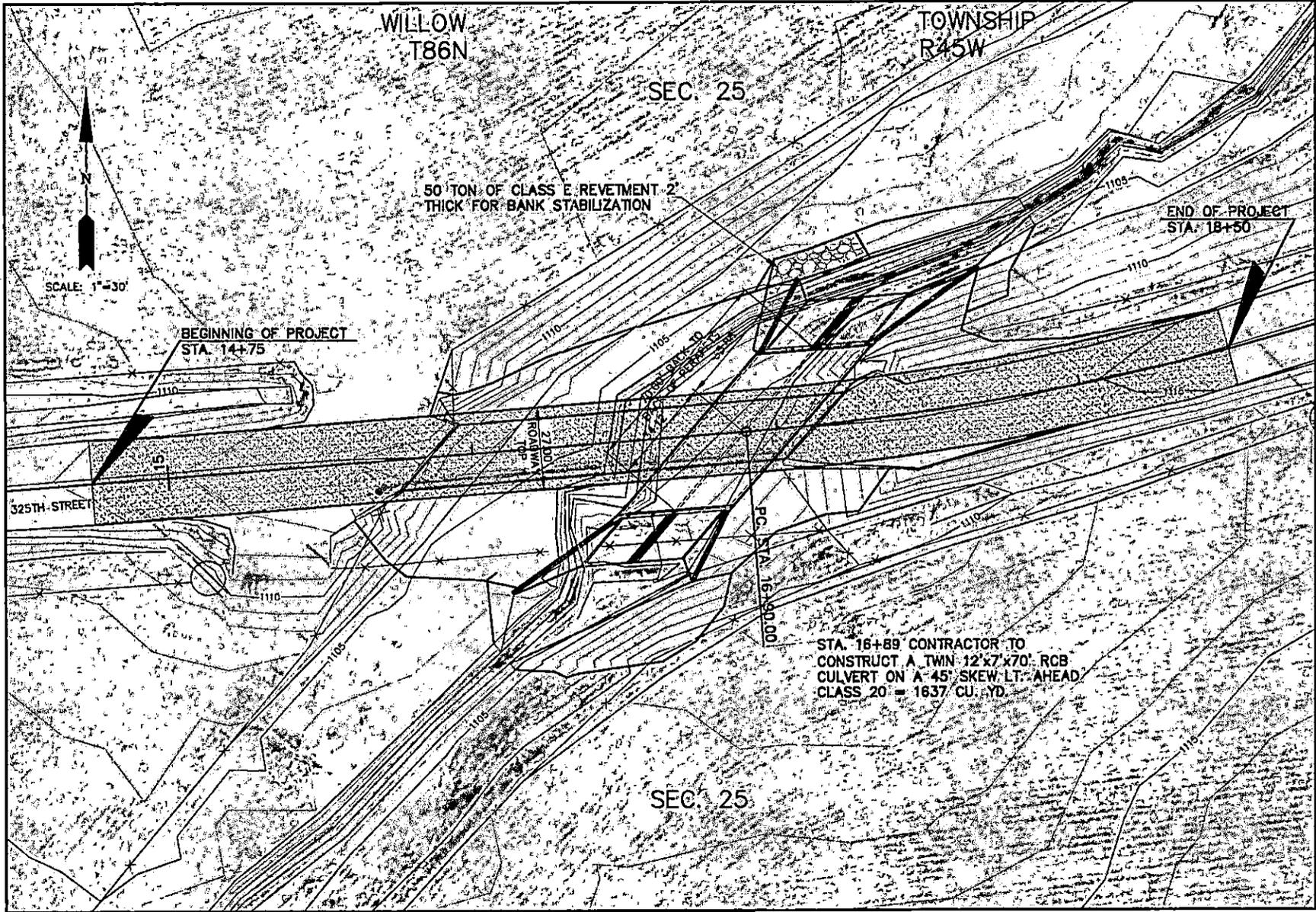
WOODBURY COUNTY  
ENGINEERS OFFICE

DATE:	REVISION:	APPROVED BY:	DESIGNED BY:	DRAWN BY:
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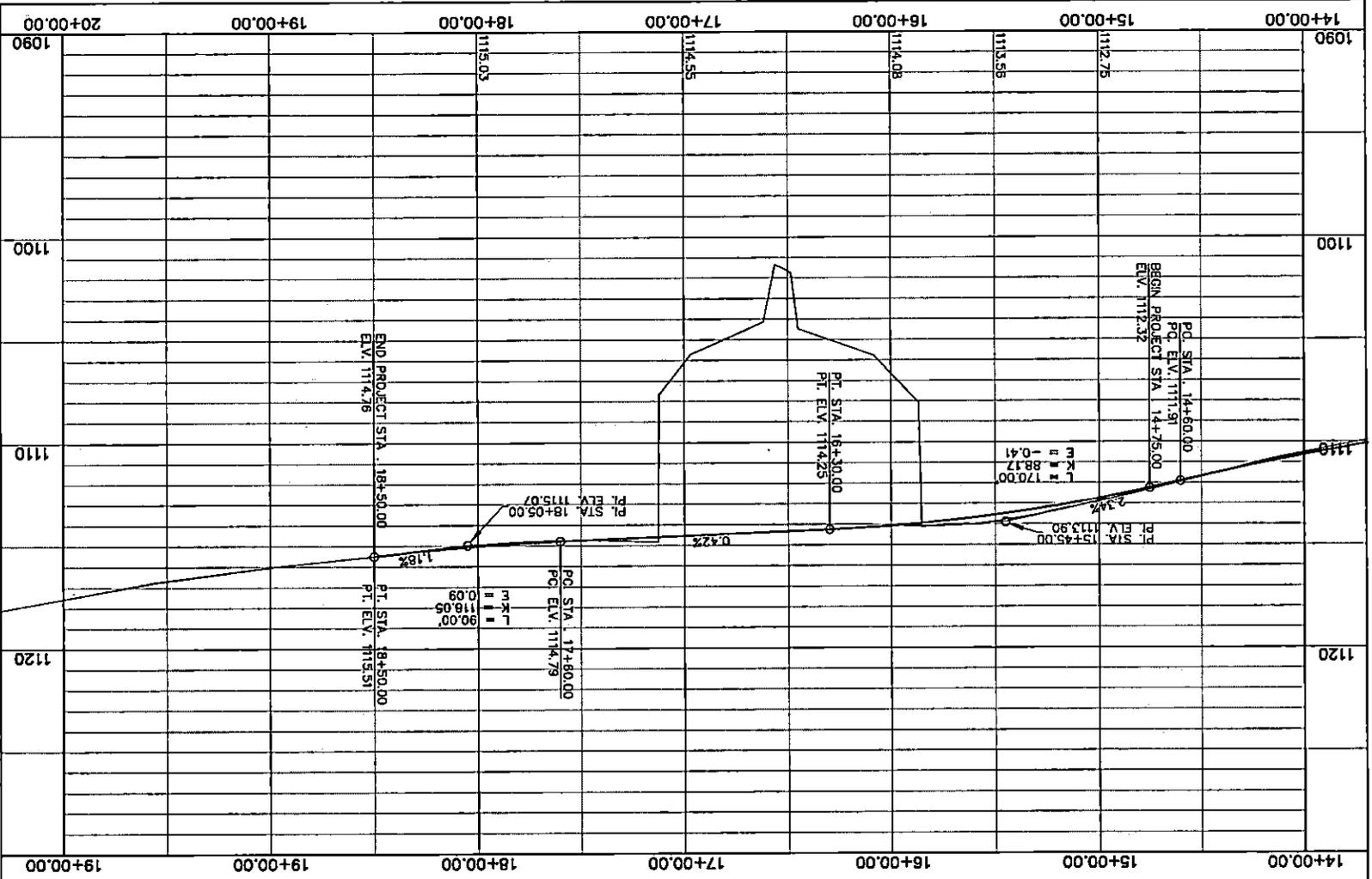
PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 325TH ST.  
SEC. 25-86-45 WILLOW TOWNSHIP

SHEET DESCRIPTION: GENERAL NOTES

PROJECT NO.  
L-BU(155)-73-97  
SHEET.



<p><b>WOODBURY COUNTY</b> ENGINEERS OFFICE</p>	
<p>DESIGNED BY: _____</p> <p>DRAWN BY: _____</p> <p>DATE: _____</p>	<p>APPROVED BY: _____</p> <p>DATE: _____</p>
<p>PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 325TH ST. SEC. 25-86-45 WILLOW TOWNSHIP</p> <p>SHEET DESCRIPTION: PLAN VIEW</p>	
<p>PROJECT NO. L-BU(155)-73-07</p> <p>SHEET <b>5</b></p>	

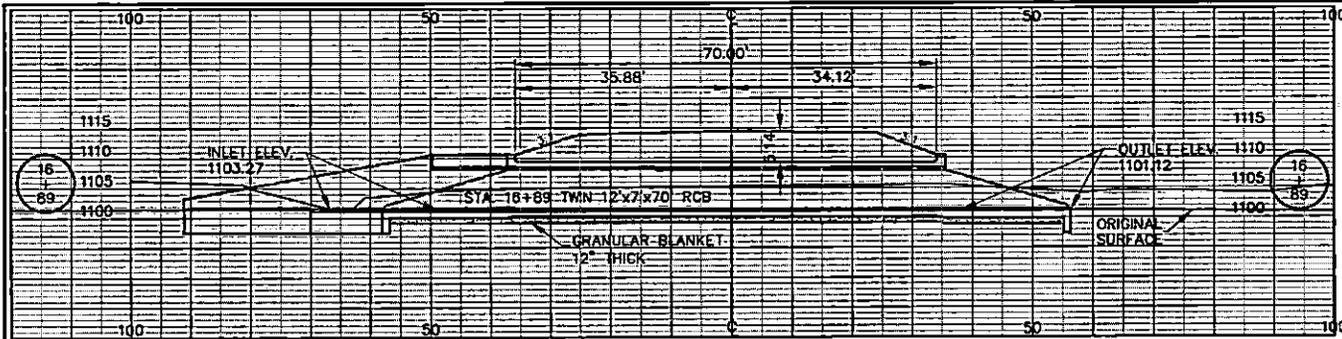


PROJECT NO. L-8(165)-73-97  
SHEET 6

PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 325TH SEC. 25-88-45 WILLOW TOWNSHIP  
SHEET DESCRIPTION: PROFILE VIEW

DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

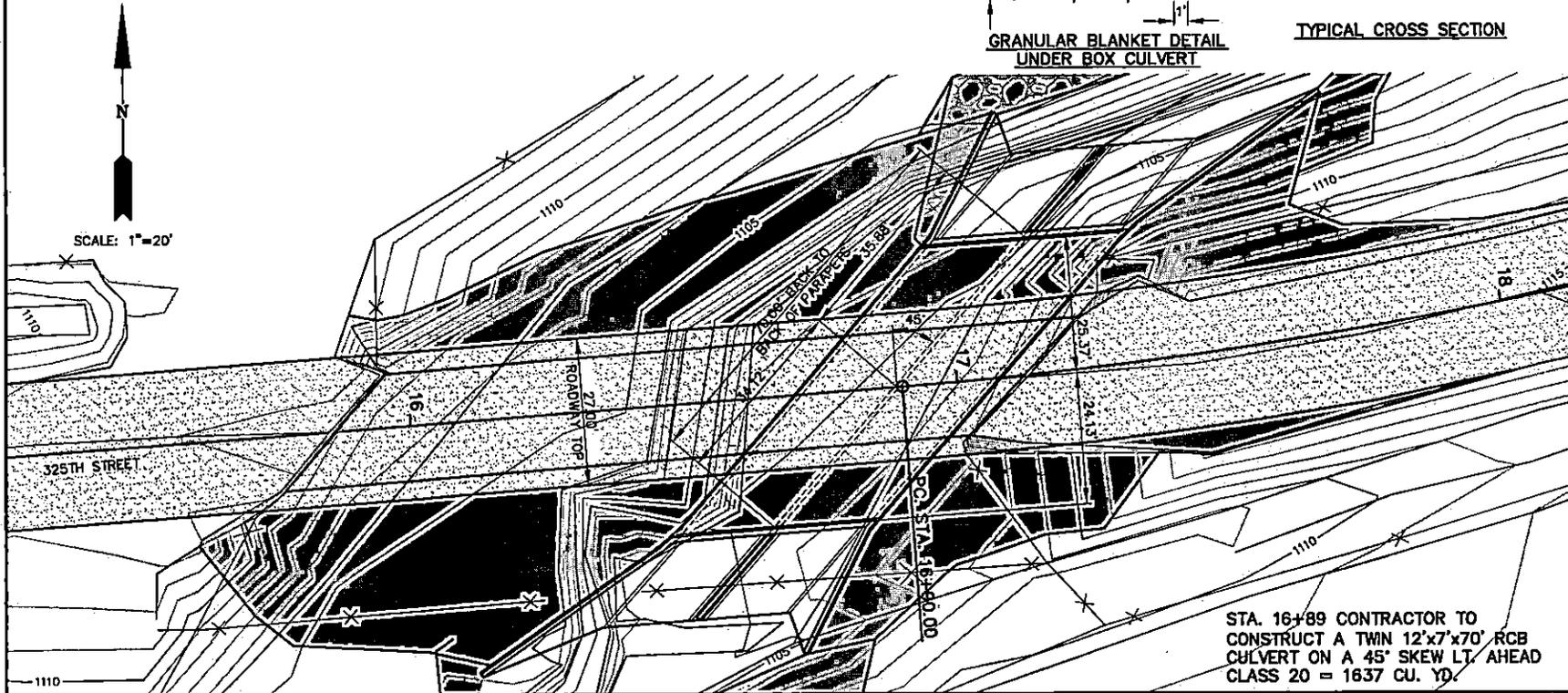
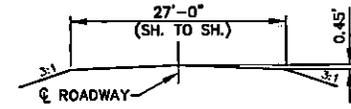
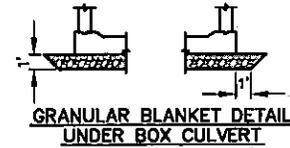
WOODBURY COUNTY  
ENGINEERS OFFICE



LOCATION  
 WOODBURY COUNTY  
 T86N, R44W, SECTION 25  
 MORGAN TOWNSHIP OVER UNNAMED STREAM  
 HYDRAULIC DATA  
 DRAINAGE AREA = 3.24 SQ. MI.  
 STREAM SLOPE = 59.3 FT./MI.

Q10 = 1200 CFS      Q25 = 1790 FS  
 Q50 = 2240 CFS      Q100 = 2730 CFS  
 STAGE = 1111.59

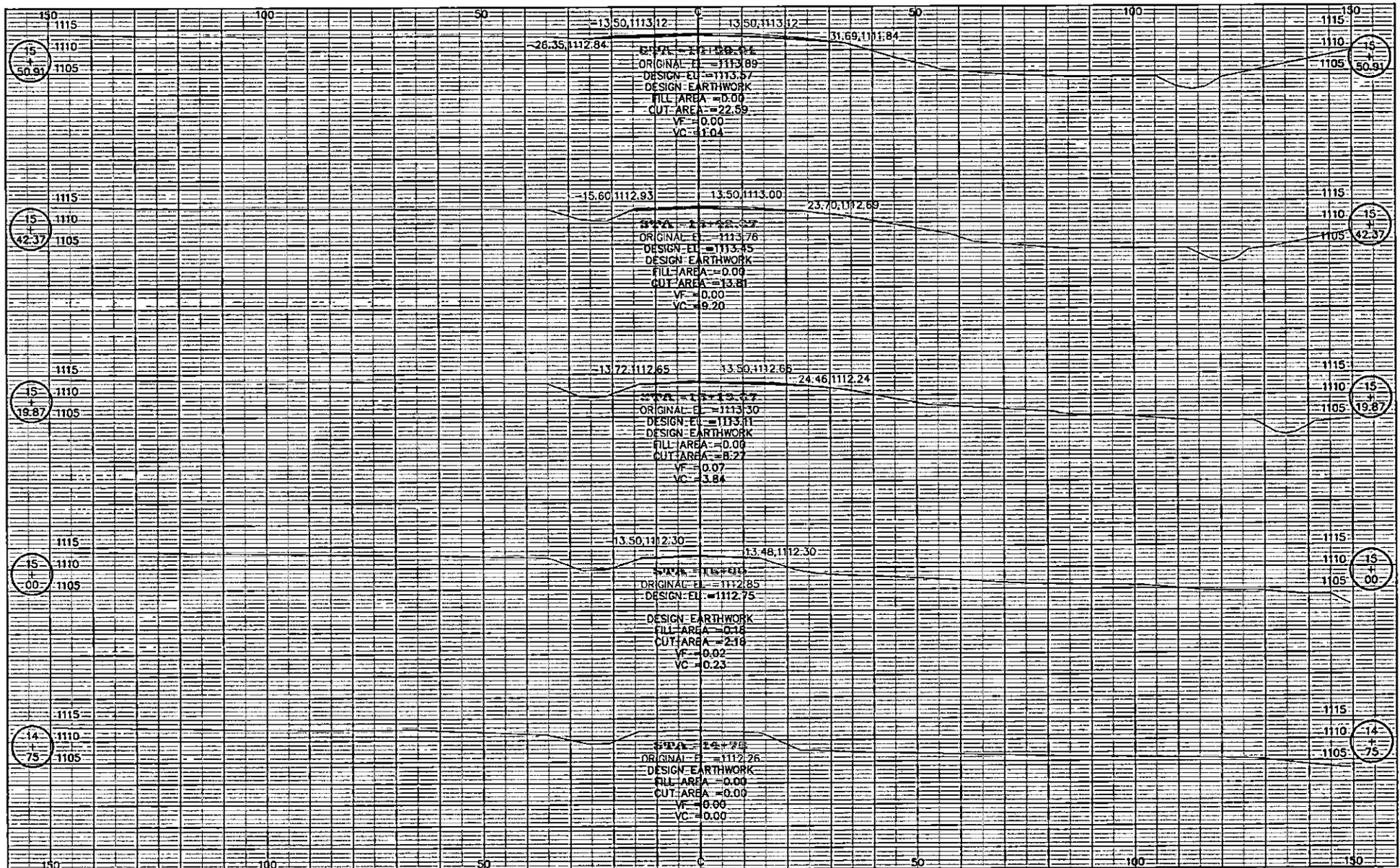
**LONGITUDINAL SECTION OF TWIN 12'x7' RCB  
 ON A 45° SKEW LT. AHEAD**  
 ALL DIMENSIONS ARE ALONG THE SKEW  
 SCALE: 1"=20'

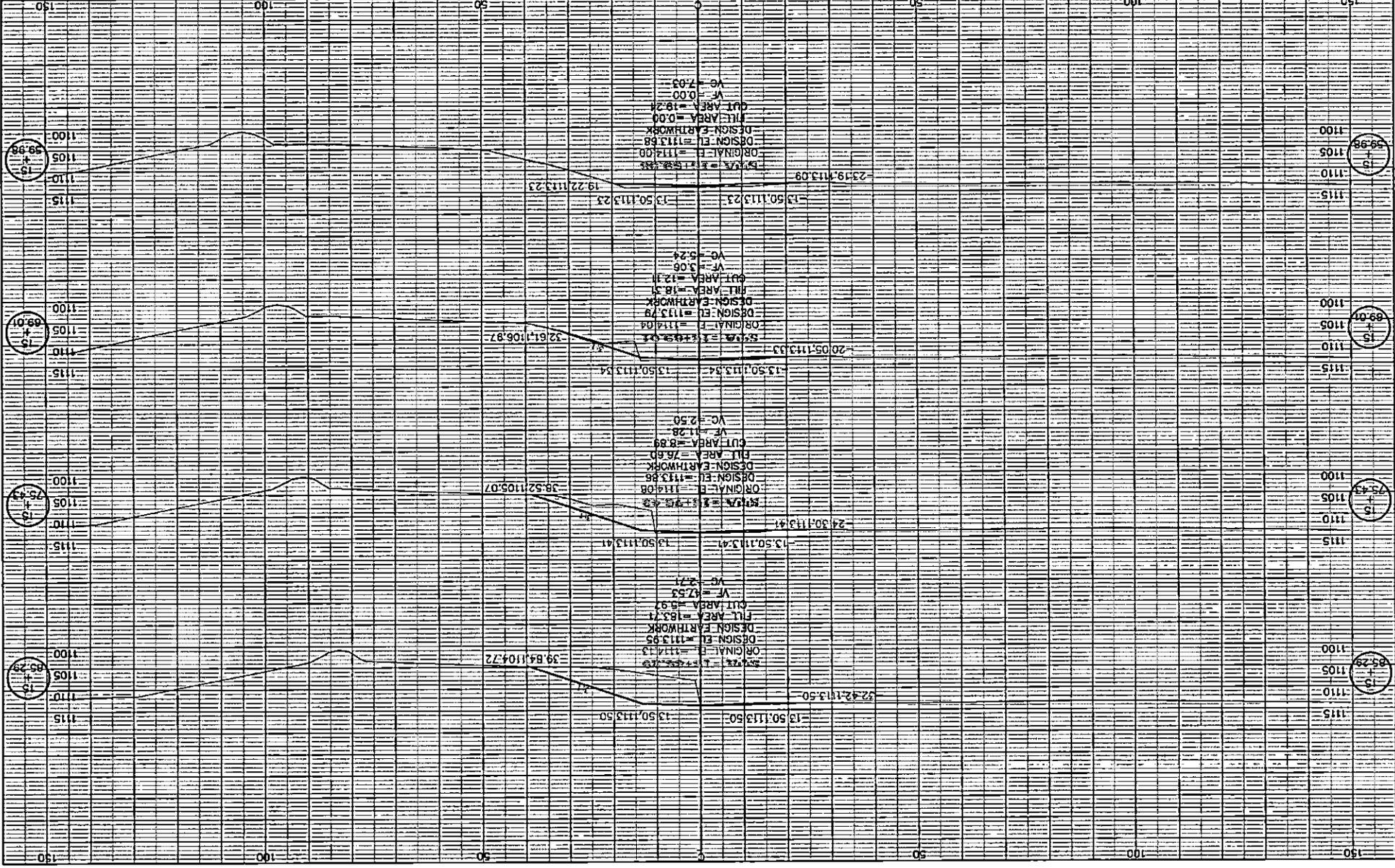


STA. 16+89 CONTRACTOR TO  
 CONSTRUCT A TWIN 12'x7'x70' RCB  
 CULVERT ON A 45° SKEW LT. AHEAD  
 CLASS 20 = 1637 CU. YD.

**WOODBURY COUNTY  
 ENGINEERS OFFICE**

DESIGNED BY:	DATE:
APPROVED BY:	REVISION:
PROJECT DESCRIPTION:	BRIDGE REPLACEMENT ON 325TH ST. SEC. 25-66-45 WILLOW TOWNSHIP
SHEET DESCRIPTION:	SITUATION PLAN
PROJECT NO.	L-8(U155)-73-97
SHEET	7





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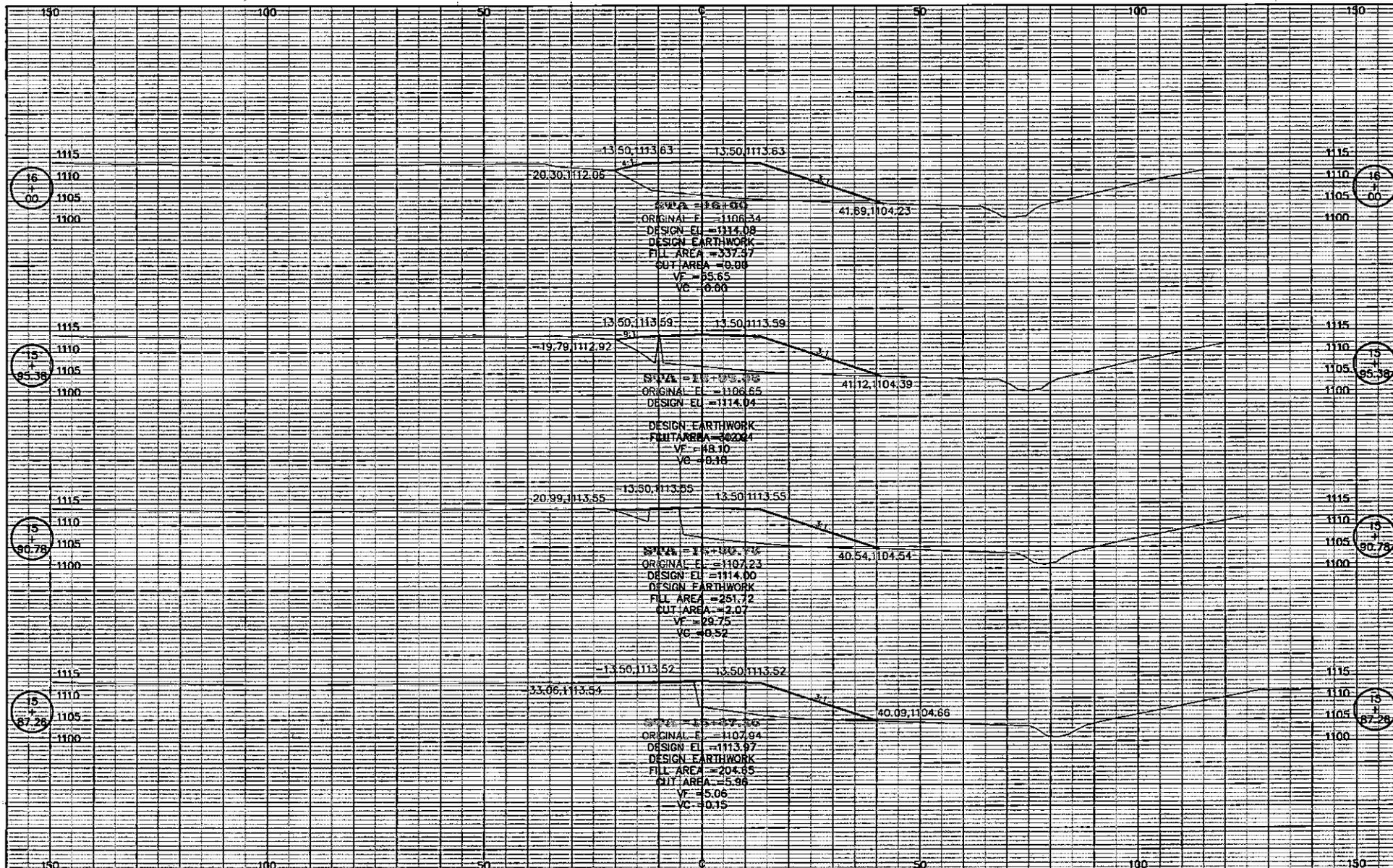
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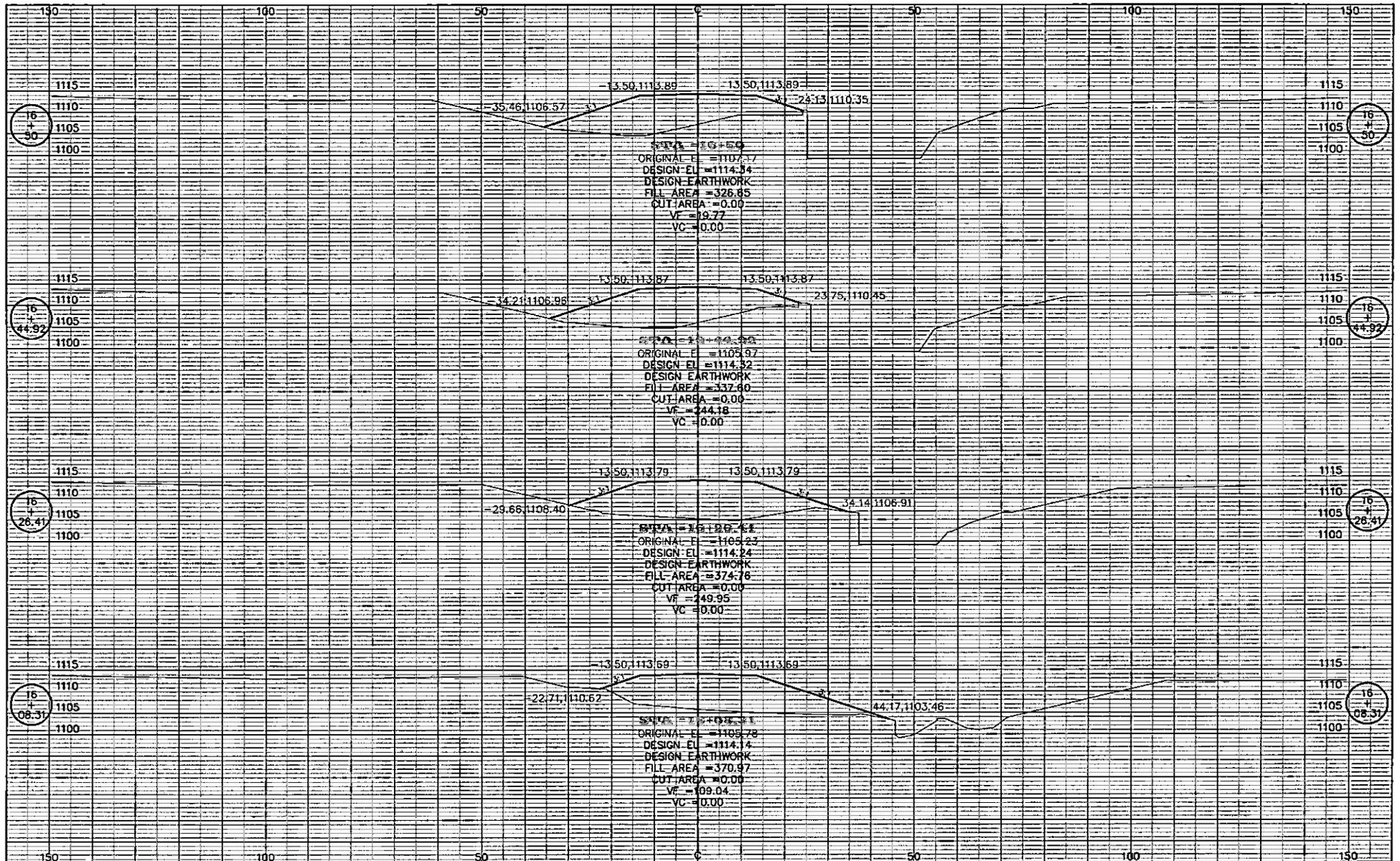
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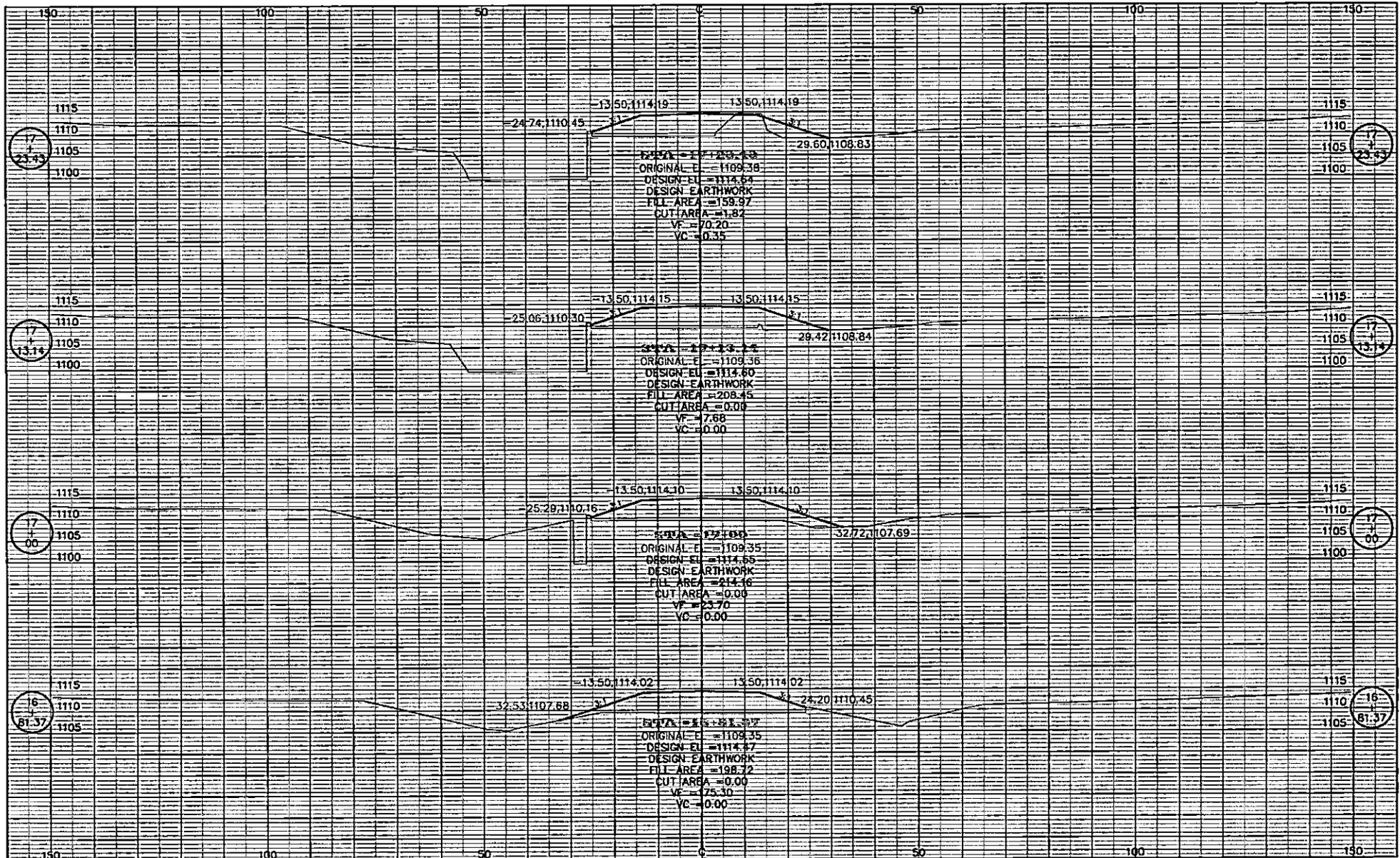
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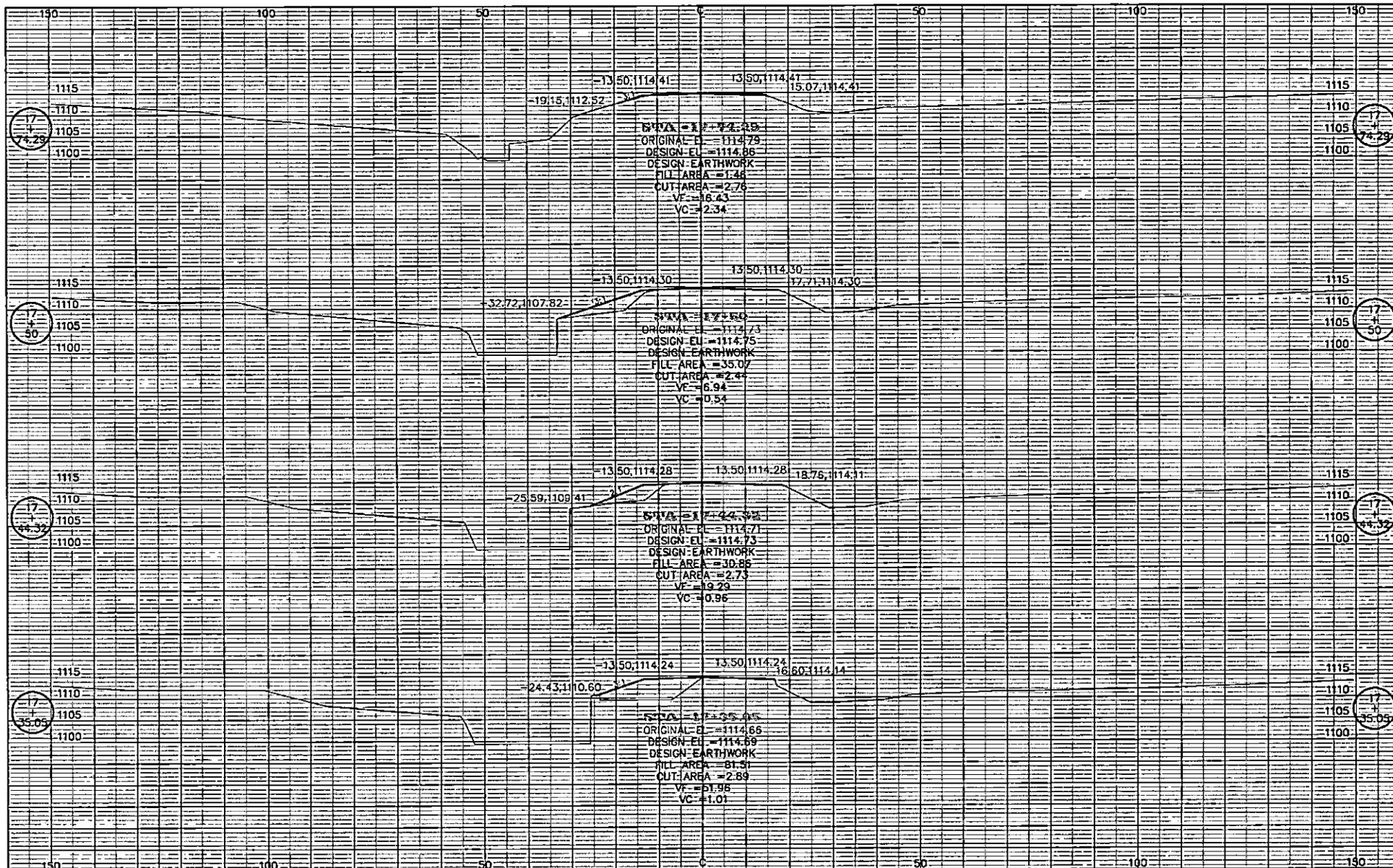
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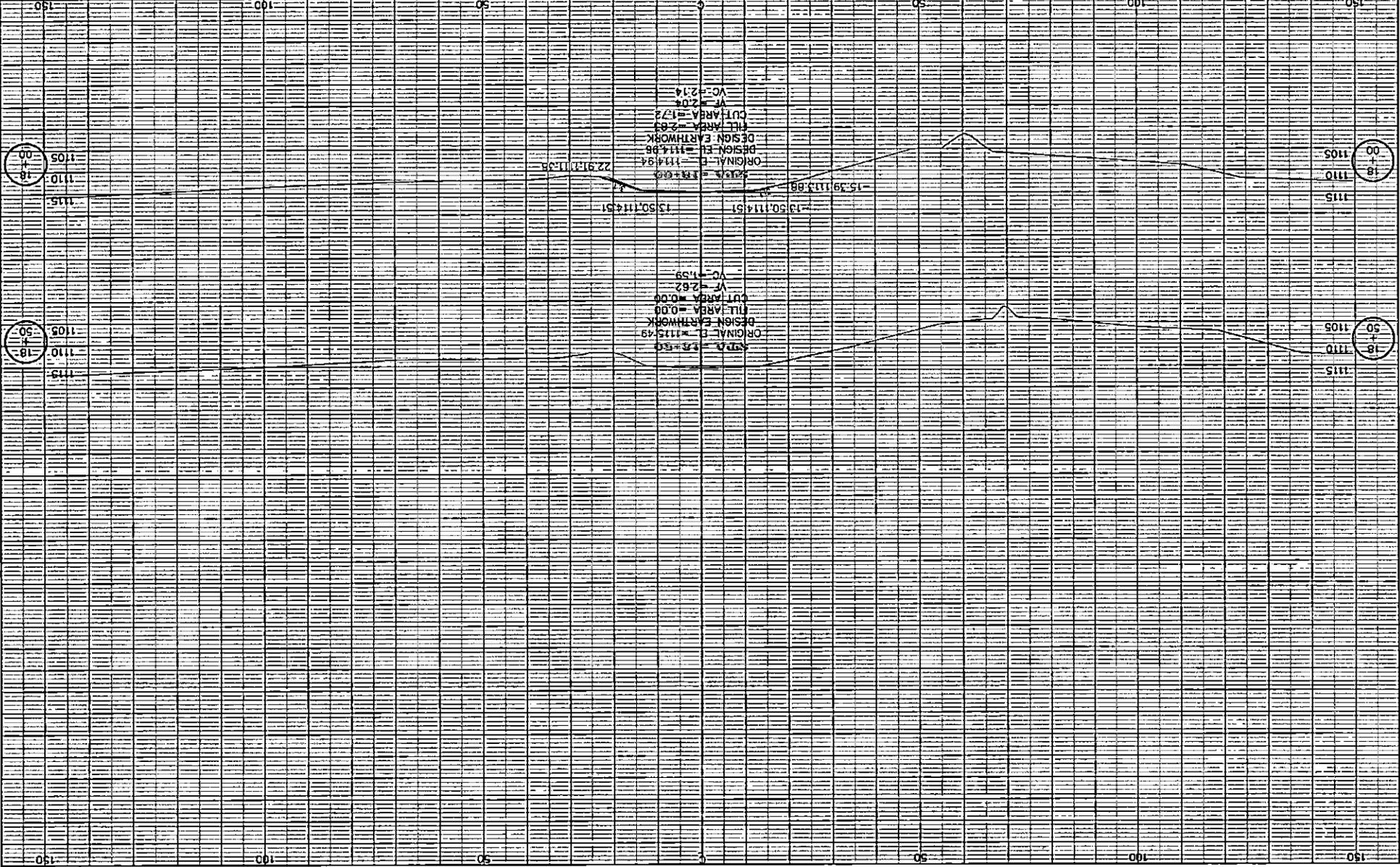
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