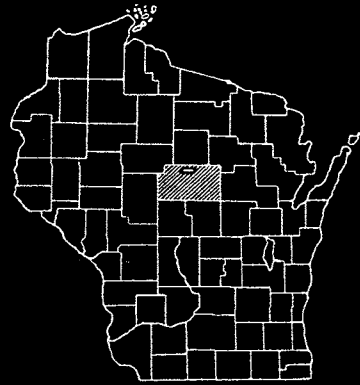


INDEX OF SHEETS

SHEET NO. 1	TITLE
SHEET NO. 1	TYPICAL CROSS SECTIONS
SHEET NO. 2	ESTIMATE OF QUANTITIES
SHEET NO. 3-4	MISCELLANEOUS QUANTITIES
SHEET NO. 5	RIGHT OF WAY PLAT
SHEET NO. 3-4	PLAN AND PROFILE STA. -6+00 TO STA. 39+20
SHEET NO. 5-9	STANDARD DETAILS
SHEET NO. 10-12	DRAINAGE STRUCTURES
SHEET NO. 13-26	CROSS SECTIONS



STATE OF WISCONSIN  
STATE HIGHWAY COMMISSION OF WISCONSIN

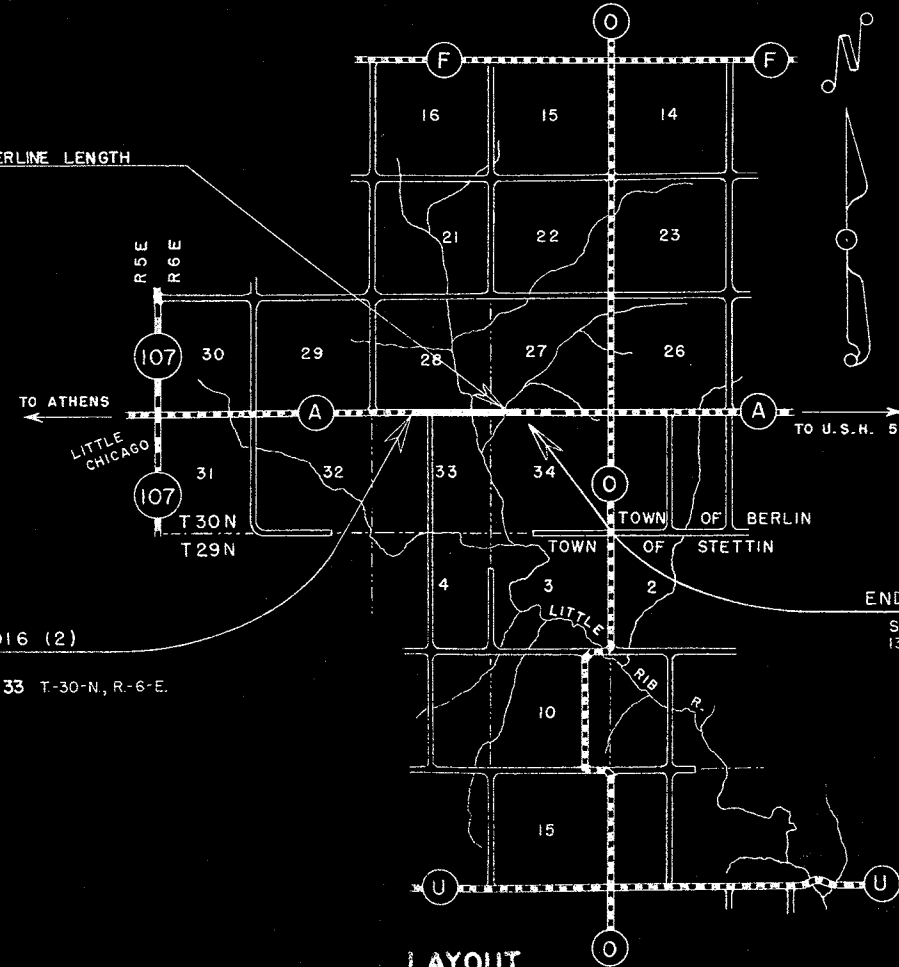
COUNTY AND HIGHWAY	ROUTE AND SECTION	CLASS AND AGREEMENT	FEDERAL	STATE	FEDERAL DIVISION OFFICE	SHEET NUMBER	TOTAL SHEETS
37.6	16.0		11.2		WIS. 4	1	26

PLAN AND PROFILE OF PROPOSED  
**ATHENS - U.S.H. "51"**  
HORSESHOE BEND BRIDGE  
MARATHON COUNTY  
PROJECT S 016 (2)

C.T.H. "A"

SCALES } PLAN 1 IN. = 100 FT.  
          } PROFILE HOR. 1 IN. = 100 FT. VERT. 1 IN. = 10 FT.  
          } CROSS SECTIONS HOR. 1 IN. = 5 FT. VERT. 1 IN. = 5 FT.

EXCEPTION TO NET CENTERLINE LENGTH  
STA. 32+41 TO STA. 32+79



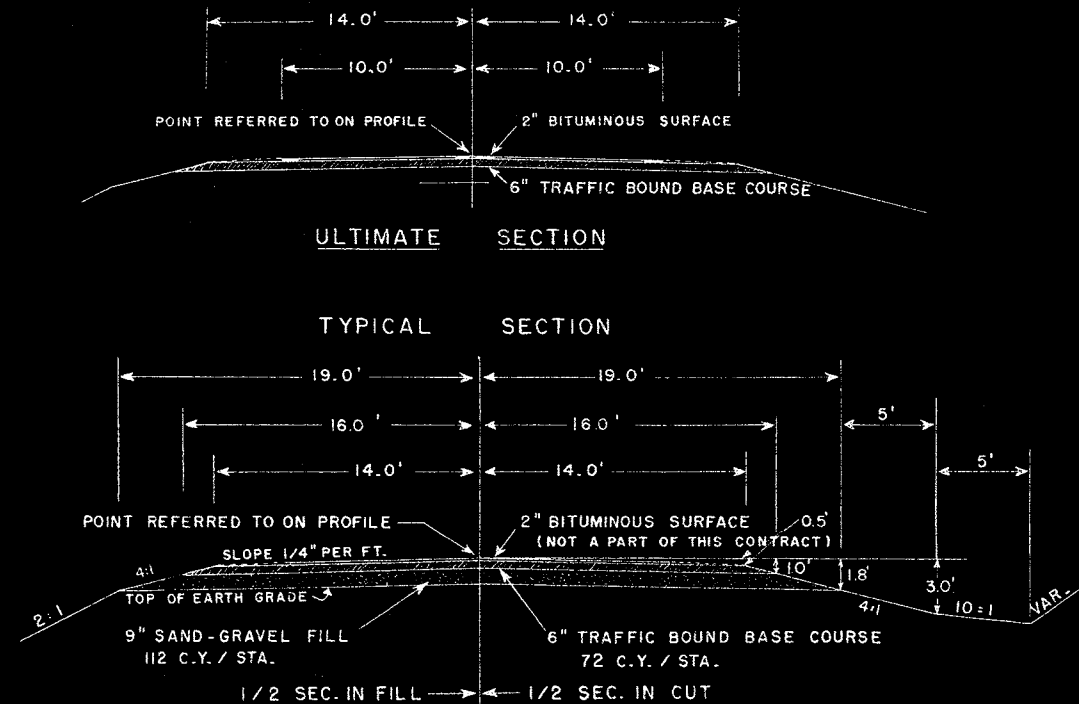
BEGINNING OF PROJECT S 016 (2)  
STATION - 6+00  
600' W. OF N. 1/4 COR. SEC. 33 T-30-N, R-6-E.

END OF PROJECT S 016 (2)  
STATION 39+20.0  
1304' E. OF THE N.W. COR. SEC. 34 T-30-N, R-6-E.

LAYOUT

SCALE 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.849 MI.



1/2 TYPICAL SECTION STA. 21+65 TO STA. 27+50  
SEE CROSS SECTIONS

CONVENTIONAL SIGNS

STATE LINE	CULVERTS IN PLACE
COUNTY LINE	CULVERTS REQUIRED
TOWNSHIP OR RANGE LINE	DROP INLET
SECTION LINE	POWER POLE
NEW RIGHT OF WAY LINE	TELEPHONE OR TELEGRAPH POLE
PRESENT RIGHT OF WAY LINE	RIGHT OF WAY MARKERS
WIRE FENCE - WOVEN	REFERENCE STAKE FOR HUBS ONLY
WIRE FENCE - BARBED	MARSH
WOOD PILE	HEDGE
CORPORATE OR CITY LIMITS	TREES
PROPERTY LINE	GROUND ELEVATION
RAVELED WAY OR P.E.	GRADE ELEVATION
RAILROADS	
BASE OR SURVEY LINE	

STATE HIGHWAY COMMISSION OF WISCONSIN  
MADISON, WISCONSIN

SURVEYOR: C.E.C. (C.E. CALVERT)  
DISTRICT CHECKER: J.C.E. (JAMES CALVERT)  
DISTRICT ENGINEER: J.C.E. (JAMES CALVERT)

DATE: 5/10/56

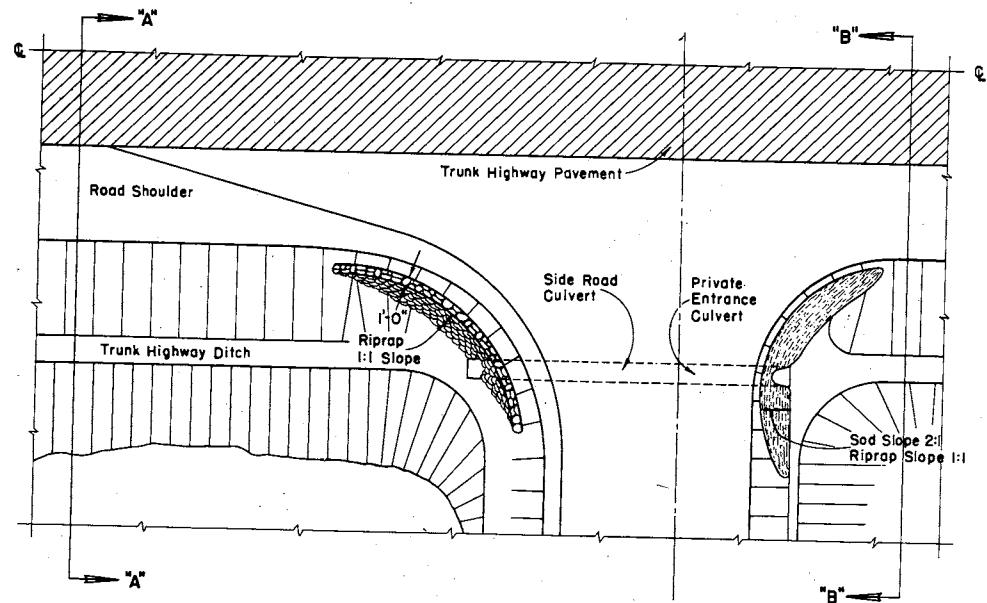
RECOMMENDED FOR APPROVAL:  
DATE: 5/10/56  
E.C. ROESTER, STATE HIGHWAY ENGINEER

APPROVED:  
DATE: 5/10/56  
E.C. ROESTER, STATE HIGHWAY ENGINEER

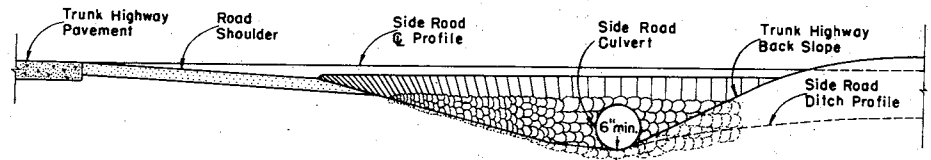
DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
DISTRICT ENGINEER

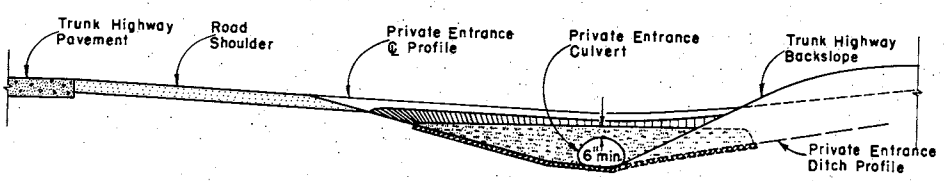
S016 (2)



**PLAN VIEW HALF SECTION SHOWING RIPRAP PLACED AT SIDE ROAD CULVERT**  
**PLAN VIEW HALF SECTION SHOWING SOD OR RIPRAP PLACED AT PRIVATE ENTRANCE CULVERT**



**ELEVATION VIEW SECTION "A-A" SHOWING RIPRAP PLACED AT SIDE ROAD CULVERT**



**ELEVATION VIEW SECTION "B-B" SHOWING SOD OR RIPRAP PLACED AT PRIVATE ENTRANCE CULVERT**

**TABLE OF QUANTITIES**

SIDE ROAD CULVERTS		PRIVATE ENTRANCE CULVERTS		
Size of Culvert Pipe	Cu. Yds. Riprap One End	Size of Culvert Pipe	Cu. Yds. Riprap One End	Sq. Yds. Sod One End
—	—	18"	0.7	4
24"	1.0	24"	1.0	5
30"	1.3	30"	1.3	6
36"	2.0	36"	2.0	7
42"	2.7	42"	2.7	8
48"	3.6	48"	3.6	10

**GENERAL NOTES**  
Details of construction not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications, Section 2512 for Riprap, and Section 2533 for Sodding, and the applicable Special Provisions.

**BID ITEMS**  
No. 2512 - 1 Riprap \_\_\_\_\_ Cu. Yds.  
No. 2533 - 1 Sodding \_\_\_\_\_ Sq. Yds.

**RIPRAP AT SIDE ROAD CULVERTS & RIPRAP OR SOD AT PRIVATE ENTRANCE CULVERTS**

STATE HIGHWAY COMMISSION OF WISCONSIN

RECOMMENDED FOR APPROVAL:

DATE: 1/15/52  
APPROVED: [Signature]  
DATE: 1/15/52  
APPROVED: [Signature]

PLATE NO. 6-2.5.1

PREP ROAD-BED FOR BITUM. SURF.	BITUM. MAT. FOR PRIME COAT	BITUM. ROAD MIX SURFACE	AGGREGATES FOR BITUM. ROAD MIX SURFACE	BITUM. MAT. FOR SURFACE COURSE
2310-1	2311-1	2313-1	2313-2	23
STA.		SQ. YD.	CY.	

**CULVERT PIPE - R.C.C.P.**

STATION	P.E. & S.R.		TOTAL REQ'D (NEW)		SALVAGE		RIP RAP
	L	R	DIAM. - IN.	LTH. - FT.	D. - IN.	L - FT.	
0 + 00		X	18	30			
10 + 67		X	24	24	18	18	6
11 + 91	X				USE 18"X24'		6
21 + 50	X		18	24			
21 + 50		X			USE 18"X24'		
28 + 20		X			USE 18"X24'		
30 + 67	X		24	24	18	18	6
34 + 39		X	24	24	18	18	4
34 + 45	X		24	24			4

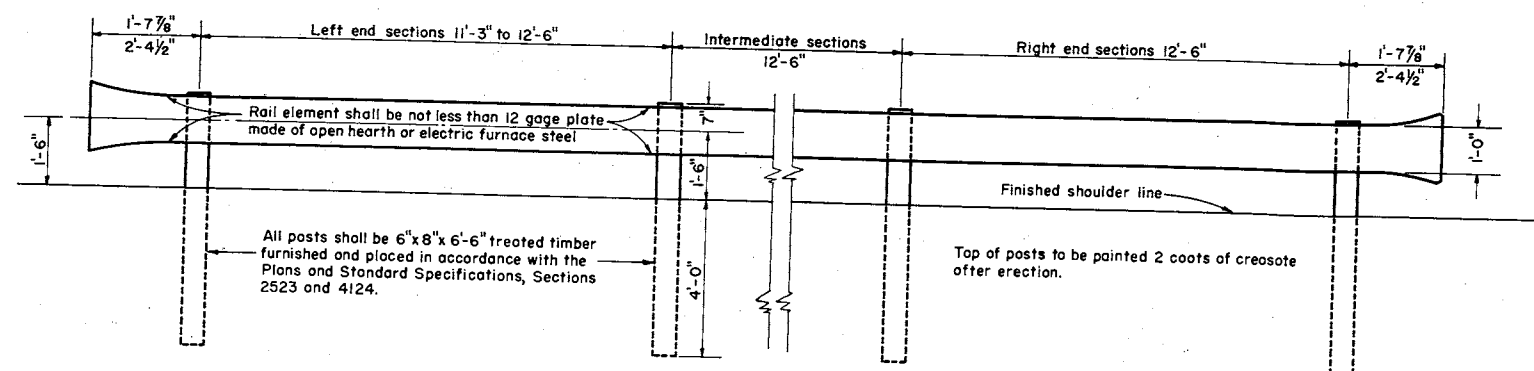
**CLEARING AND GRUBBING**

STA. TO STA.	CLEAR. - STA.	GRUB. - STA.
20 + 30 TO 26 + 30	4	2
29 + 30 TO 37 + 30	3	?

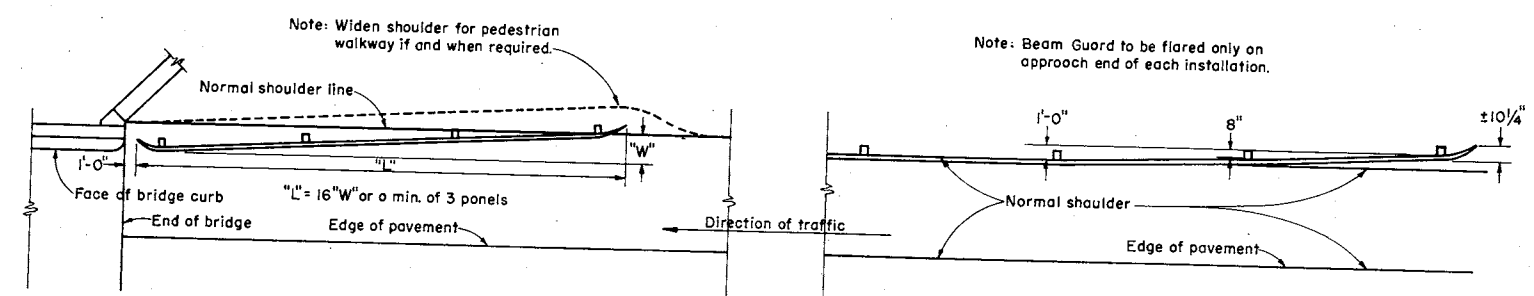
**STEEL PLATE BEAM GUARD CLASS "B"**

STATION TO STATION	LEFT LIN. FT.	RIGHT LIN. FT.					
			528-1	2528-2	2531-1	2532-1	2533-1
					17 + - 21 +	350	350
					29 + 15 - 32 + 40		325
					32 + 15 - 32 + 40	25	
					32 + 80 - 33 + 05	25	25

+ B END SECTIONS

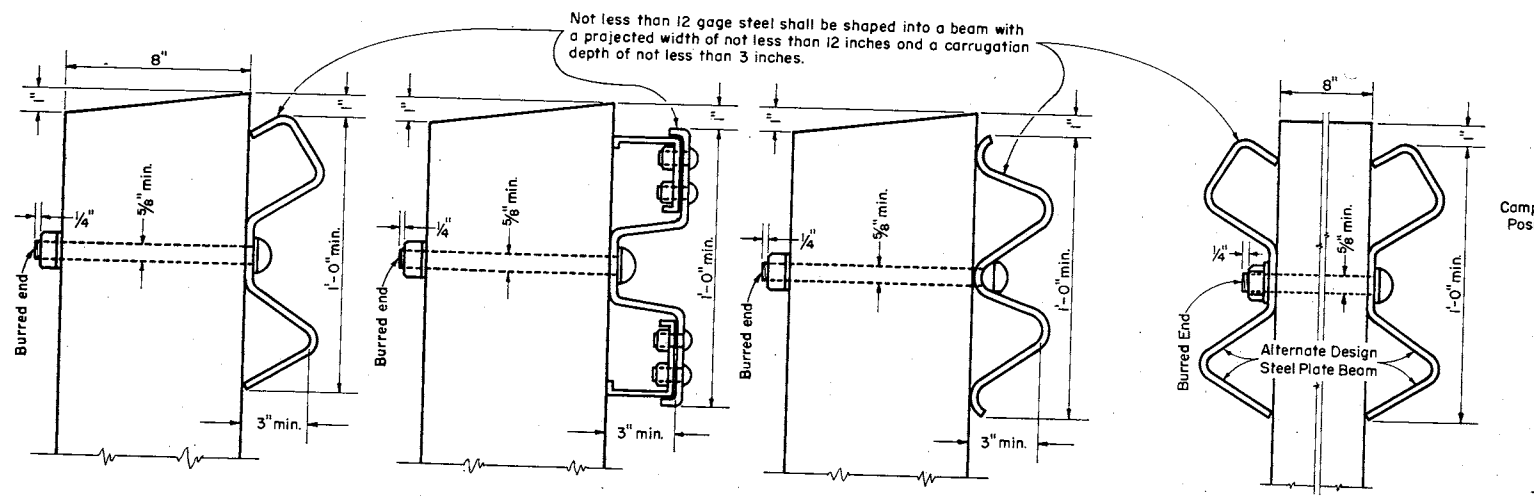


FRONT ELEVATION



LOCATION DIAGRAM FOR BRIDGE APPROACHES

LOCATION DIAGRAM FOR INTERMEDIATE SECTIONS



ALTERNATE DESIGNS-STEEL PLATE BEAM GUARD (CLASS "B")

ALTERNATE DESIGN-STEEL PLATE BEAM (MEDIAN) GUARD (CLASS "B")

**GENERAL NOTES**  
Details of construction not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and applicable Special Provisions. The Steel Plate Beam Guard shall consist of plate made of open hearth or electric furnace steel.

Plates shall be blanked to proper shape, fabricated and ready for assembly when received in the field. The plates shall be true to plan dimensions and of uniform section. Warped or deformed plates will be rejected. The edges of the plates shall be rolled or rounded so that they present no sharp edges. All connections and splices shall be formed with flat round headed bolts, or similar detail, so that no appreciable projection will be presented on the traffic side of the guard. The rail element shall be spliced by lapping in the direction of traffic or by butt joint with splice plate. The holes in the plate near the post shall be slotted to facilitate erection and to make provision for expansion and contraction. Plate ends in lap splices or plate ends and splice plate in butt splices shall make contact throughout the entire area of the splice.

**TESTS**  
The elongation of a 2 inch specimen of the steel plate used in the rail element shall be not less than 12% when tested in tension. The minimum tensile strength of the rail element shall, when tested in conjunction with splices and end connections, be 50,000 pounds. The rail element when loaded as a simple beam, freely supported at each end on 12'-6" centers, shall support a concentrated load of 2,000 pounds, applied at the center point, with a maximum deflection of 3 1/2 inches and shall support a concentrated load of 2,400 pounds, tested in like manner, with a maximum deflection of 5 1/2 inches.

**PAINTING**  
**SHOP COAT**  
Promptly following fabrication, the plates for steel rail element shall be thoroughly cleaned and shall be painted with a Red Lead Primer, or if an alternate of Red Lead Oxide Rust Inhibitive Primer or equivalent is used, the Engineer's prior approval shall be obtained. All parts, hardware and appurtenant fittings for the complete Beam Guard assembly shall likewise be painted when not furnished as galvanized.

**FIELD COAT**  
Following erection, the steel rail elements and all parts, hardware and appurtenant fittings shall be painted in accordance with the Standard Specifications for Aluminum Paint, Section 4125. Any damaged areas occurring to the shop coat during transportation or erection shall be cleaned and painted with an approved Rust Inhibitive Primer prior to any field coat painting. Where the steel plate elements make contact with post mountings etc. all such areas which are impossible to paint after erection, shall be painted prior to erection. All threaded portions of fittings and fasteners and cut ends of bolts shall be painted as specified or as directed by the Engineer.

**ALTERNATE DESIGNS**  
Manufacturers may submit to the Engineer, for approval, designs for "Steel Plate Beam Guard" other than those shown on this drawing, providing that such alternate designs shall conform to the same physical tests and inspection requirements prescribed on this drawing for "Class 'B' Steel Plate Beam Guard."

**MEASUREMENT & PAYMENT**  
The items of "Class 'B' Steel Plate Beam Guard" and "Class 'B' Steel Plate Beam (Median) Guard" shall be measured and paid for at the contract unit price per linear foot, measured in place by length in linear feet from end to end of Steel Plate or Steel Plates, which price shall be full compensation for furnishing all materials and performing all installation work to completion in accordance with the Plans and the Standard Specifications, Sections 2523 and 4124.

**BID ITEMS**  
No. 2523-6 Steel Plate Beam Guard (Class "B")..... Lin. Ft.  
No. 2523-7 Steel Plate Beam (Median) Guard (Class "B")..... Lin. Ft.

**CLASS "B" STEEL PLATE BEAM GUARD & STEEL PLATE BEAM (MEDIAN) GUARD**  
STATE HIGHWAY COMMISSION OF WISCONSIN

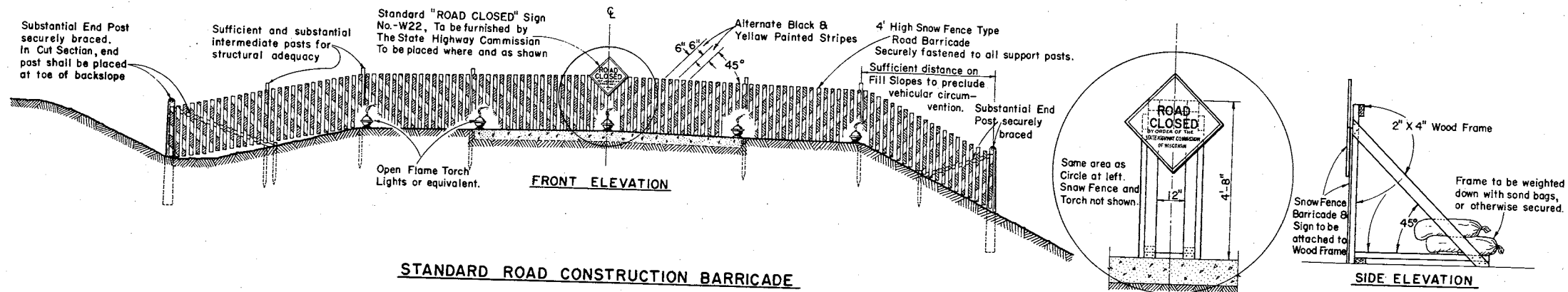
RECOMMENDED FOR APPROVAL:  
12/21/53 DATE *J. J. Pitt* ENGINEER OF DESIGN  
APPROVED:  
12/22/53 DATE *Z. L. Rosenthal* STATE HIGHWAY ENGINEER  
PLATE NO. 7-2.4.1

PREP ROAD-BED FOR BITUM. SURF.	BITUM. MAT. FOR PRIME COAT	BITUM. ROAD MIX SURFACE	AGGREGATES FOR BITUM. ROAD MIX SURFACE	BITUM. MAT. FOR SURFACE COURSE
2310-1	2311-1	2313-1	2313-2	23
STA.		SQ. YD.	CY.	

STATION	P.E. & S.R.		TOTAL REQ'D (NEW)		SALVAGE		RIP
	L	R	DIAM. - IN.	LT. - FT.	D. - IN.	L. FT.	
0 + 00		X	18	30			
10 + 67		X	24	24	18	18	6
11 + 91	X				USE 18"X24"		6
21 + 50	X		18	24			
21 + 50		X			USE 18"X24"		
28 + 20		X			USE 18"X24"		
30 + 67	X		24	24	18	18	6
34 + 39		X	24	24	18	18	4
34 + 45	X		24	24			4

CLEARING AND GRUBBING			
STA. TO STA.	CLEAR. - STA.	GRUB. - STA.	
20 + 30 TO 26 + 30	4	2	
29 + 30 TO 37 + 30	3	2	

TOP SOIL	SALVAGED TOP SOIL	FER-TILIZER	SEEDING	SOD-DING	STEEL PLATE BEAM GUARD CLASS "B"			
					STATION TO STATION	LEFT LIN. FT.	RIGHT LIN. FT.	
2528-1	2528-2	2531-1	2532-1	2533-1	14 + - 16 +	200	200	
					17 + - 21 +	350	350	
					29 + 15 - 32 + 40			325
					32 + 15 - 32 + 40	25		
					32 + 80 - 33 + 05	25	25	
					+ B END SECTIONS			



STANDARD ROAD CONSTRUCTION BARRICADE

SNOW FENCE TYPE-"A"

WOOD FRAME SUPPORT AT C FOR SNOWFENCE TYPE BARRICADE When Barricade is Erected on Rigid Type Surfacing

**GENERAL NOTES**

The Contractor shall construct, place and maintain barricades as shown on this drawing and as required by the Standard Specifications Section 1107 for the duration of the project. Barricades shall be painted and structurally maintained for maximum visibility at all times. Provision shall be made in the construction of barricades to provide for ingress and egress for local access as may be required.

**ALTERNATE DESIGNS**

Contractors may submit to the Engineer for approval, designs for Barricades other than shown on this drawing, and upon the Engineer's approval may be used as alternates.

**MEASUREMENT & PAYMENT**

All Barricades, unless otherwise provided for in the Plans and/or Special Provisions shall be furnished, placed, and maintained as noted above, and no additional compensation will be allowed but shall be construed to be included in the price bid for other items.

**CONSTRUCTION BARRICADE**

STATE HIGHWAY COMMISSION OF WISCONSIN

RECOMMENDED FOR APPROVAL:

6/6/55 DATE *J. S. Pelt* ENGINEER OF DESIGN

APPROVED: 6/2/55 DATE *E. C. Ruetting* STATE HIGHWAY ENGINEER

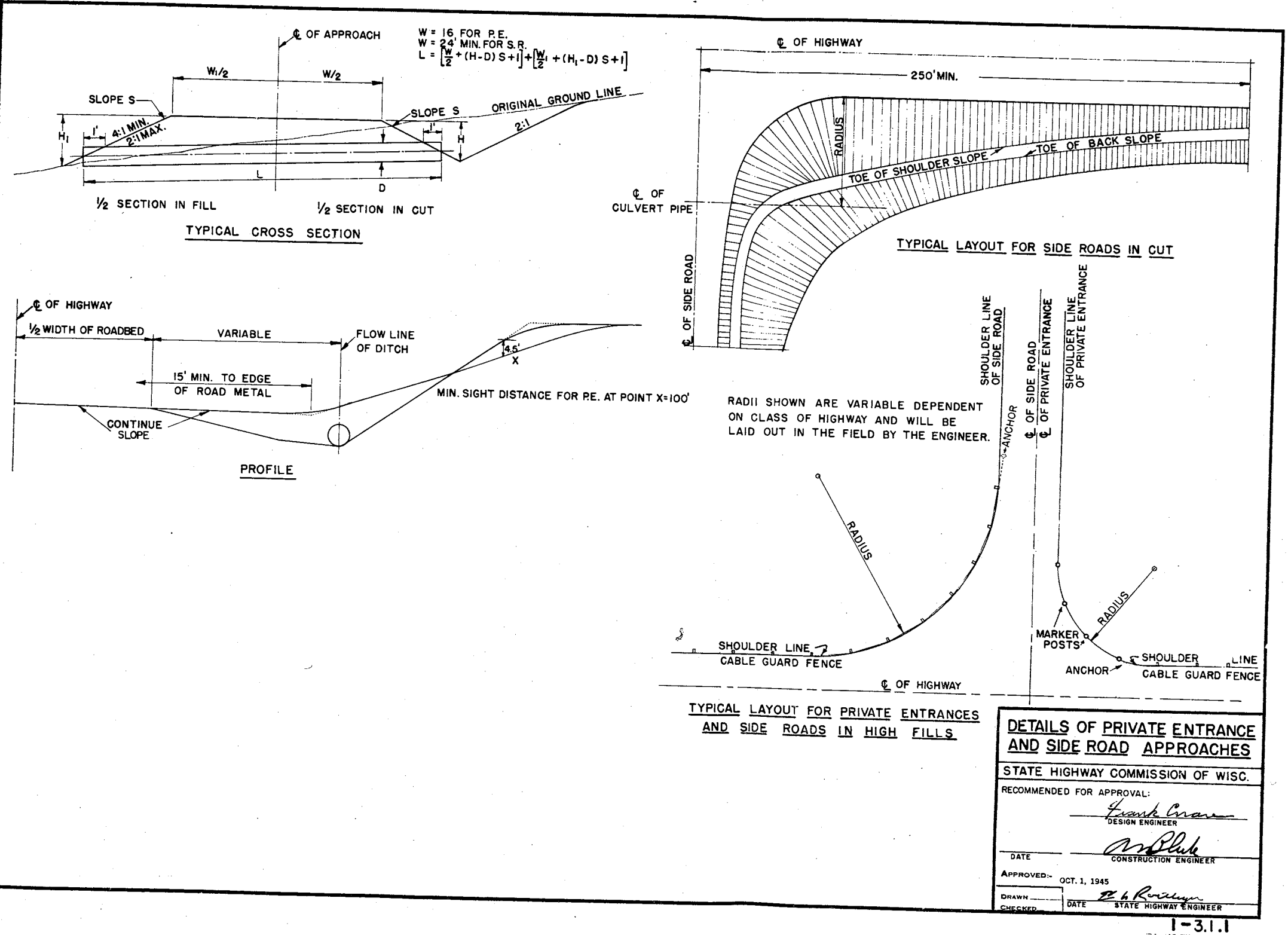
PLATE NO. 7-4.1.2

ITEM	PREP ROAD-BED FOR BITUM. SURF.	BITUM. MAT. FOR PRIME COAT	BITUM. ROAD MIX SURFACE	AGGREGATES FOR BITUM. ROAD MIX SURFACE	BITUM. MAT. FOR SURFACE COURSE
7	2310-1	2311-1	2313-1	2313-2	23
STA.		SQ. YD.		CY.	

STATION	P.E. & S.R.		TOTAL REQ'D (NEW)		SALVAGE		RIP RAP
	L	R	DIAM. - IN.	LTH. - FT.	D. - IN.	L. - FT.	
0+00		X	18	30			
10+67		X	24	24	18	18	6
11+91	X				USE 18" X 24'		6
21+50	X		18	24			
21+50		X			USE 18" X 24'		
28+20		X			USE 18" X 24'		
30+67	X		24	24	18	18	6
34+39		X	24	24	18	18	4
34+45	X		24	24			4

CLEARING AND GRUBBING			
STA. TO STA.	CLEAR. - STA.	GRUB. - STA.	
20+30 TO 26+30	4	2	
29+30 TO 37+30	3	2	

TOP-SOIL	SALVAGED TOP-SOIL	FER-TILIZER	SEEDING	SOD-DING	STEEL PLATE BEAM GUARD CLASS "B"			
					STATION TO STATION	LEFT LIN. FT.	RIGHT LIN. FT.	
2525-1	2528-2	2531-1	2532-1	2533-1	14+ - 16+	200	200	
	SQ. YD.	CWT	SQ. YD.	SQ. YD.	17+ - 21+	350	350	
					29+15 - 32+40	25	325	
					32+15 - 32+40	25	25	
					32+80 - 33+05	25	25	
					+ 8 END SECTIONS			



PREP ROAD-BED FOR BITUM SURF	BITUM. MAT. FOR PRIME COAT	BITUM. ROAD MIX SURFACE	AGGREGATES FOR BITUM. ROAD MIX SURFACE	BITUM. MAT. FOR SURFACE COURSE
2310-1	2311-1	2313-1	2313-2	23
STA.	SQ. YD.	SQ. YD.	CY.	

STATION	P.E. & S.R.		TOTAL REQ'D (NEW)		SALVAGE		RIP RAP
	L	R	DIAM. - IN.	LTH. - FT.	D. - IN.	L. - FT.	
0+00	X		18	30			
10+67		X	24	24	18	18	6
11+91	X				USE 18"X24'		6
21+50	X		18	24			
21+50		X			USE 18"X24'		
28+20		X			USE 18"X24'		
30+67	X		24	24	18	18	6
34+39		X	24	24	18	18	4
34+45	X		24	24			4

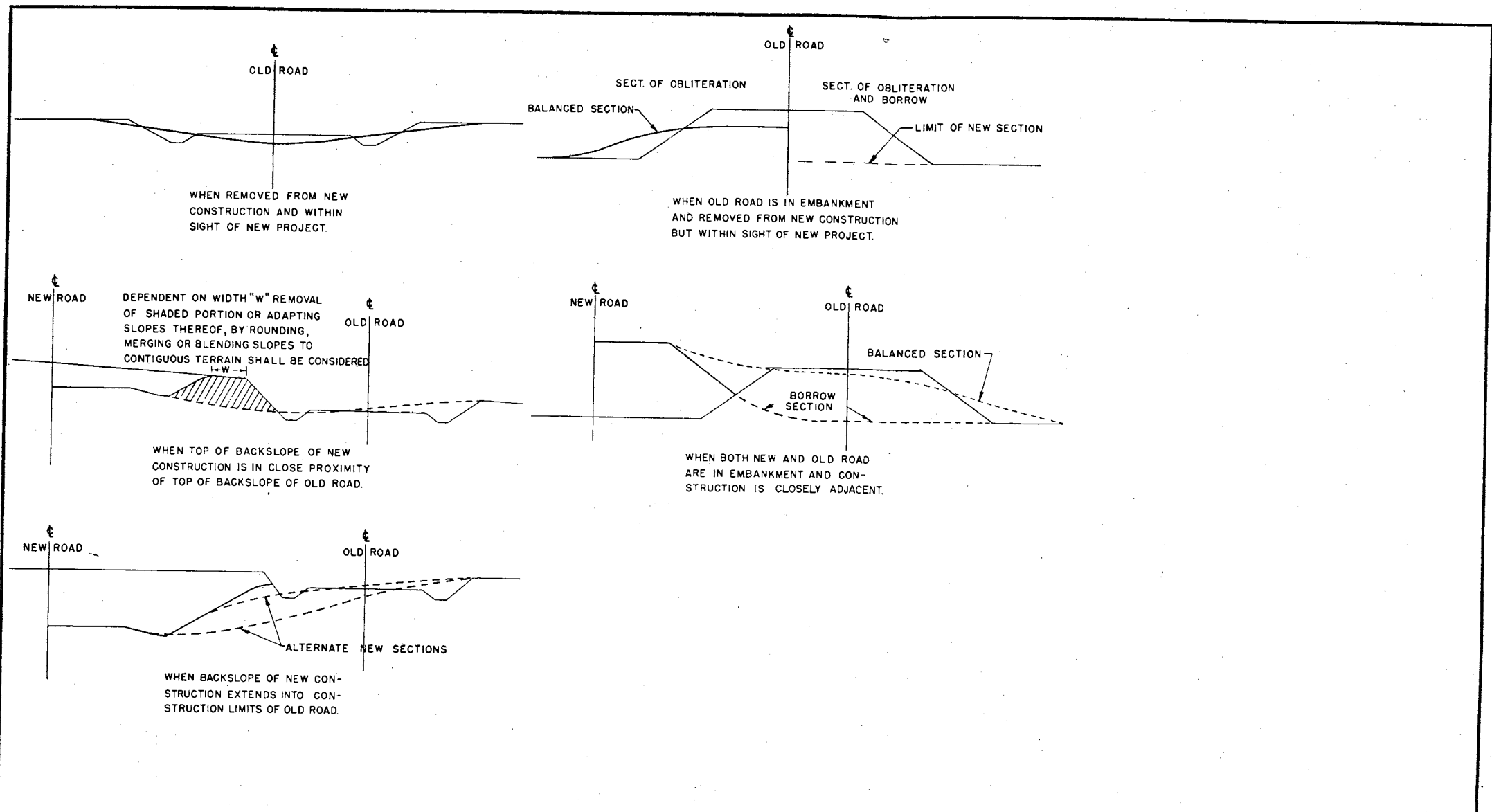
CLEARING AND GRUBBING			
STA. TO STA.	CLEAR. - STA.	GRUB. - STA.	
20+30 TO 26+30	4	2	
29+30 TO 37+30	3	2	

TOP-SOIL	SALVAGED TOP-SOIL	FER-TILIZER	SEEDING	SOD-DING	STEEL PLATE BEAM GUARD CLASS "B"			
					STATION TO	STATION	LEFT LIN. FT.	RIGHT LIN. FT.
2528-1	2528-2	2531-1	2532-1	2533-1	14+	-16+	200	200
	SQ. YD.	CWT.	SQ. YD.	SQ. YD.	17+	-21+	350	350
					29+15	-32+40		325
					32+15	-32+40	25	
					32+80	-33+05	25	25
					+ 8' END SECTIONS			

CONTRACT NO. 1  
JANUARY 23, 1952

B. P. R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
WIS. 5N	S 016 (2)	2	26

ITEM	PREP ROAD-BED FOR BITUM. SURF.	BITUM. MAT. FOR PRIME COAT	BITUM. ROAD MIX SURFACE	AGGREGATES FOR BITUM. ROAD MIX SURFACE	BITUM. MAT. FOR SURFACE COURSE
-7	2310-1	2311-1	2313-1	2313-2	23
YD.	STA.		SQ. YD.	CY	



**CONSTRUCTION NOTES**

DETAILS OF CONSTRUCTION NOT SHOWN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

**OBLITERATING OLD ROAD**

STATE HIGHWAY COMMISSION OF WISC.

RECOMMENDED FOR APPROVAL

*Frank Crow*  
DESIGN ENGINEER

*M. Bluk*  
CONSTRUCTION ENGINEER

DATE

APPROVED-

OCT. 1, 1945 *E. L. Rosty*  
STATE HIGHWAY ENGINEER

DRAWN, C.A.L.  
CHECKED, R.C.

1-4.1.1

STATION	P.E. & S.R.		TOTAL REQ'D (NEW)		SALVAGE		RIP
	L	R	DIAM. - IN.	LT. - FT.	D. - IN.	L. - FT.	
0+00	X		18	30			
10+67	X		24	24	18	18	6
11+91	X				USE 18"X24'		6
21+50	X		18	24			
21+50		X			USE 18"X24'		
28+20		X			USE 18"X24'		
30+67	X		24	24	18	18	6
34+39	X		24	24	18	18	4
34+45	X		24	24			4

CLEARING AND GRUBBING			
STA.	TO STA.	CLEAR. - STA.	GRUB. - STA.
20+30	TO 26+30	4	2
29+30	TO 37+30	3	2

TOP-SOIL	SALVAGED TOP-SOIL	FER-TILIZER	SEEDING	SOD-DING	STEEL PLATE BEAM GUARD CLASS "B"		
					STATION TO STATION	LEFT LIN. FT.	RIGHT LIN. FT.
2529-1	2528-2	2531-1	2532-1	2533-1	14+ - 16+	200	200
					17+ - 21+	350	350
					29+15 - 32+40		325
					32+15 - 32+40	25	
					32+80 - 33+05	25	25
					+ 8' END SECTIONS		

# ESTIMATE OF QUANTITIES

CONTRACT NO. 1

PROJECT IS TO BE EXECUTED UNDER THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE HIGHWAY COMMISSION OF WISCONSIN - EDITION OF 1951. APPROVED JANUARY 23, 1952  
 FEDERAL AID REQUIRED CONTRACT PROVISIONS APPROVED JANUARY 31, 1955 AND SPECIAL PROVISIONS AS ATTACHED TO PROPOSALS

B. P. R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
WIS 5N	S 016 (2)	2	26

STATION TO STATION	NET LENGTH OF CENTER LINE	CLEARING		GRUBBING		REMOVING OLD CULVERT		REMOVING OLD BRIDGE		EXCAVATION				SAND GRAVEL FILL	FINE GRADING	SHOULDER EMBANKMENT	FINISHING ROADWAY	OBLITERATING OLD ROAD	CONCRETE BASE COURSE	TRAFFIC BOUND BASE COURSE	CONCRETE PAVEMENT		CONCRETE HEADERS	CONCRETE SURFACE DRAINS	CONCRETE PAVEMENT REINF.	PREP ROAD-BED FOR BITUM. SURF.	BITUM. MAT. FOR PRIME COAT	BITUM. ROAD MIX SURFACE	AGGREGATES FOR BITUM. ROAD MIX SURFACE	BITUM. MAT. FOR SURFACE COURSE
		STA.	ACRE	STA.	ACRE	STA.	LS.	STA.	LS.	UNCL.	ROCK	MARSH	BORROW								2301-1	2301-								
		2101-1	2101-3	2101-4	2101-6	2104-1		2104-2		2106-5	2106-2	2106-4	2109-1								2110-1	2112-1								
UNIT	LIN. FT.	STA.	ACRE	STA.	ACRE	L.S.	L.S.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	STA.	STA.	STA.	STA.	C.Y.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	STA.	SQ. YD.	SQ. YD.	C.Y.		
900 TO 39+20.0	4482	7		4						43100			5330			45	14			3400										
<b>TOTAL</b>	4482	7		4						43100			5330			45	14			3400										

\* INCLUDES 5906 G.Y. CHANNEL EXCAVATION    \*\* INCLUDES 312 C.Y. FOR P.E.S. & S.R.S.    \*\*\* INCLUDES 245 C.Y. FOR P.E.S. & S.R.S.

### BRIDGES (STRUCTURES OVER 20 FT. SPAN)

EXCAVATION FOR STRUCTURES	SAND GRAVEL FILL	CONCRETE MASONRY	BAR STEEL REINF.	STRUCTURAL CARBON STEEL	STEEL CASTINGS	CARBON STEEL FORGINGS	SHEET LEAD	SHEET ZINC	TR'D LUMBER AND TIMBER	UNTR'D TEST PILING	UNTREATED TIMBER PILING				TREATED TIMBER PILING		FLOOR DRAINS	HEAVY RIP-RAP	CONCRETE MASONRY GRADE "AA" (MODIFIED)	PILE SHOES						
											DELIV. ERED	DRIV. EN	DELIV. ERED	DRIV. EN	2501-2	2501-3					2501-4	2501-5	2507-1	2512-2	2401-1(B)	2501-6
											2107-1	2110-1	2401-1(A)	2406-2	2407-1	2407-3					2407-4	2407-9	2407-11	2408-2	2501-1	2501-2
C.Y.	C.Y.	C.Y.	LB.	LB.	LB.	LB.	LB.	LB.	M.B.M.	L.S.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	C.Y.	C.Y.	EACH								
165		137.0	36,980	13,100				92		1	620	620	960	960		565	148.5	55								

### CULVERTS (STRUCTURES 20 FT. SPAN)

REMOVE OLD CULV'T STA.	COM-MON EXC.	EXCA-VATION FOR STRUCTURES	SAND GRAVEL FILL	CON- CRETE MASON- RY	BAR STEEL REINF.	STRUCT- URAL STEEL	STEEL CAST- INGS	CARBON STEEL FORG- INGS	SHEET LEAD	SHEET ZINC	TR'D LUMBER AND TIMBER	UNTR'D TEST PILING	TREATED TIMBER PILING		FLOOR DRAINS	RIP- RAP		
													DELIV. ERED	DRIV. EN			2501-2	2501-3
													2104-1	2106-1			2107-2	2110-1
L.S.	C.Y.	C.Y.	C.Y.	C.Y.	LB.	LB.	LB.	LB.	LB.	LB.	M.B.M.	L.S.	LIN. FT.	LIN. FT.	EACH	C.Y.		

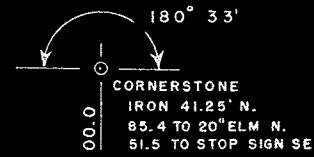
STATION	P.E. & S.R.		TOTAL REQ'D (NEW)		SALVAGE		RIP
	L	R	DIAM. - IN.	LTH. - FT.	D. - IN.	L. FT.	
0+00	X		18	30			
10+67		X	24	24	18	18	6
11+91	X				USE 18"X24"		6
21+50	X		18	24			
21+50		X			USE 18"X24"		
28+20		X			USE 18"X24"		
30+67	X		24	24	18	18	6
34+39		X	24	24	18	18	4
34+45	X		24	24			4

CLEARING AND GRUBBING			
STA. TO STA.	CLEAR. - STA.	GRUB. - STA.	
20+30 TO 26+30	4		2
29+30 TO 37+30	3		2

DRY	CULVERT		PIPE		RIP-RAP	HEAVY RIP-RAP	RUBBLE PAVING		DITCH CHECKS	PIPE UNDER DRAIN	STORM	SEWER	CATCH BASINS	MANHOLES	INLETS	CONCRETE			GUARD FENCE		MARK- ER POSTS FOR R-O-W	MARK- ER POSTS FOR R-O-W	CALCIUM CHLORIDE SURFACE TREATMENT	TOP SOIL	SAL- VAGED TOP-SOIL	FER- TIL- IZER	SEEDING	SOD- DING			
	18"	24"					PLAIN	GR'D								CURB	CURB AND GUTTER	SIDE WALK	STEEL PLATE BEAM GUARD CLASS "B"	TIMBER RAIL									ANCHOR AGES FOR CABLE	MARK- ER POSTS	MARK- ER POSTS FOR R-O-W
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.			LIN. FT.	LIN. FT.								LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.									LIN. FT.	LIN. FT.	LIN. FT.
2409-3	2411-11	2411-12	2411-34	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-			
	136	150			166																										

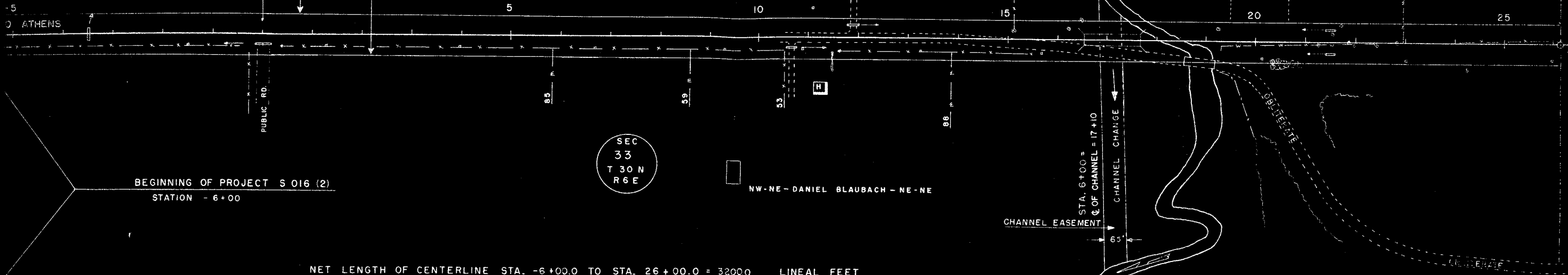
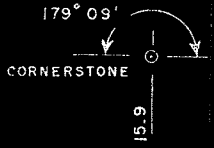
STEEL PLATE BEAM GUARD CLASS "B"			
STATION TO STATION	LEFT LIN. FT.	RIGHT LIN. FT.	
14+ - 16+	200	200	
17+ - 21+	350	350	
29+15 - 32+40		325	
32+15 - 32+40	25		
32+80 - 33+05	25	25	
+ 8 END SECTIONS			

BENCH MARKS				
1	0+00	SPIKE IN 12" ELM	65'L	500.00
2	10+60	" " 18" SPRUCE	110'R	459.75
3	11+10	" " POW. POLE	57'L	481.76
4	16+51	" " 20" ELM	40'L	404.20



SEC  
28  
T 30 N  
R 6 E

SW-SE - LEONARD WOLLER - SE-SE

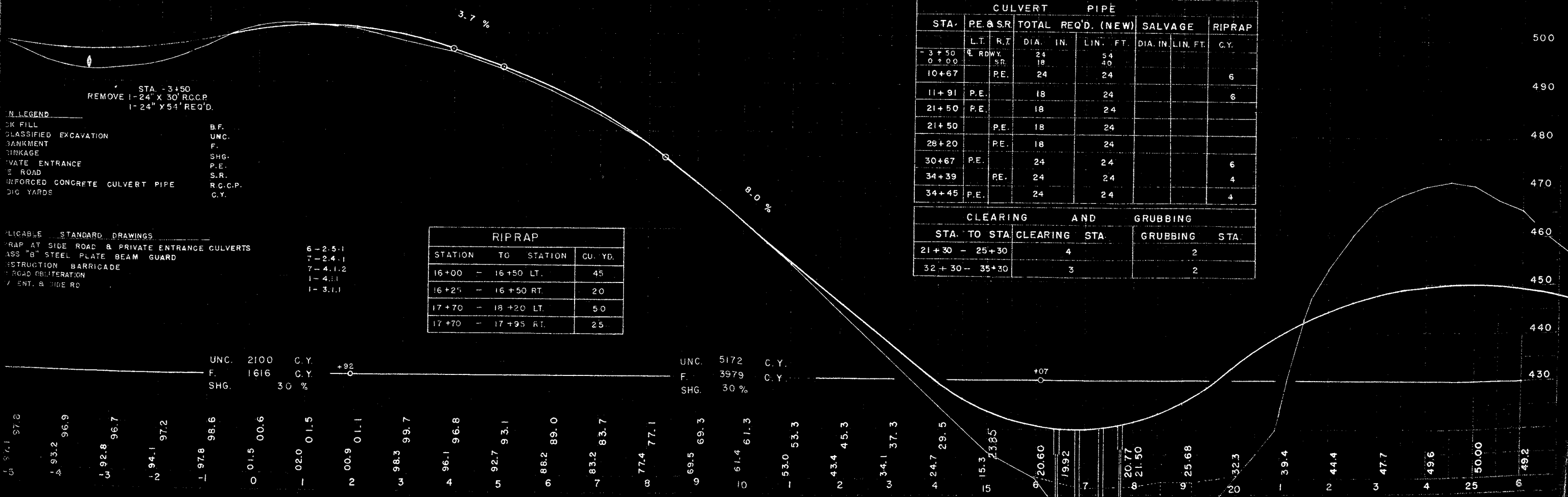


BEGINNING OF PROJECT S 016 (2)  
STATION - 6+00

NW-NE - DANIEL BLAUBACH - NE-NE

SEC  
33  
T 30 N  
R 6 E

NET LENGTH OF CENTERLINE STA. -6+00.0 TO STA. 26+00.0 = 3200.0 LINEAL FEET



CULVERT PIPE						
STA.	PE & SR	TOTAL REQ'D. (NEW)	SALVAGE	RIPRAP		
	L.T. R.T.	DIA. IN.	LIN. FT.	DIA. IN.	LIN. FT.	C.Y.
-3+50	R.D.W.V.	24	54			
0+00	SR	18	40			
10+67	PE	24	24			6
11+91	P.E.	18	24			6
21+50	P.E.	18	24			
21+50	P.E.	18	24			
28+20	PE	18	24			
30+67	P.E.	24	24			6
34+39	PE	24	24			4
34+45	P.E.	24	24			4

CLEARING AND GRUBBING			
STA. TO STA.	CLEARING STA.	GRUBBING STA.	
21+30 - 25+30	4		2
32+30 - 35+30	3		2

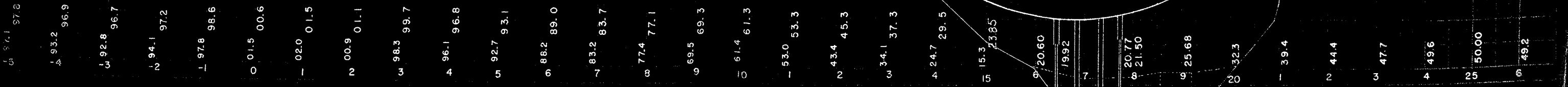
RIPRAP		
STATION	TO STATION	CU. YD.
16+00	- 16+50 LT.	45
16+25	- 16+50 RT.	20
17+70	- 18+20 LT.	50
17+70	- 17+95 RT.	25

- LEGEND**
- OK FILL
  - CLASSIFIED EXCAVATION
  - BANKMENT
  - SINKAGE
  - PRIVATE ENTRANCE
  - ROAD
  - INFORCED CONCRETE CULVERT PIPE
  - DIG YARDS
  - B.F.
  - UNC.
  - F.
  - SHG.
  - P.E.
  - S.R.
  - R.C.C.P.
  - C.Y.

- LEGIBLE STANDARD DRAWINGS**
- RIPRAP AT SIDE ROAD & PRIVATE ENTRANCE CULVERTS
  - CLASS "B" STEEL PLATE BEAM GUARD
  - CONSTRUCTION BARRICADE
  - ROAD OBLITERATION
  - ENT. & SIDE RD.
  - 6-2.5.1
  - 7-2.4.1
  - 7-4.1.2
  - 1-4.1.1
  - 1-3.1.1

UNC. 2100 C.Y.  
F. 1616 C.Y.  
SHG. 30%

UNC. 5172 C.Y.  
F. 3979 C.Y.  
SHG. 30%



SEC. 28  
T 30 N  
R 6 E

SW-SE - LEONARD WOLLER - SE-SE

SEC. 33  
T 30 N  
R 6 E

EL. BLAUBACH - NE-NE

BENCH MARKS

1	0+00	SPIKE IN 12" ELM	65' L	500.00
2	10+60	" 18" SPRUCE	110' R	459.75
3	11+10	" POW. POLE	57' L	451.76
4	16+51	" 20" ELM	40' L	404.20
5	19+20	TOP NE WING BRIDGE	42' R	409.66
6	19+27	SPIKE IN 18" ELM	78' L	401.46
7	22+00	" 15" MAPLE	93' L	456.29
8	24+00	" 4" BIRCH	105' R	463.10

SEC. 27  
T 30 N  
R 6 E

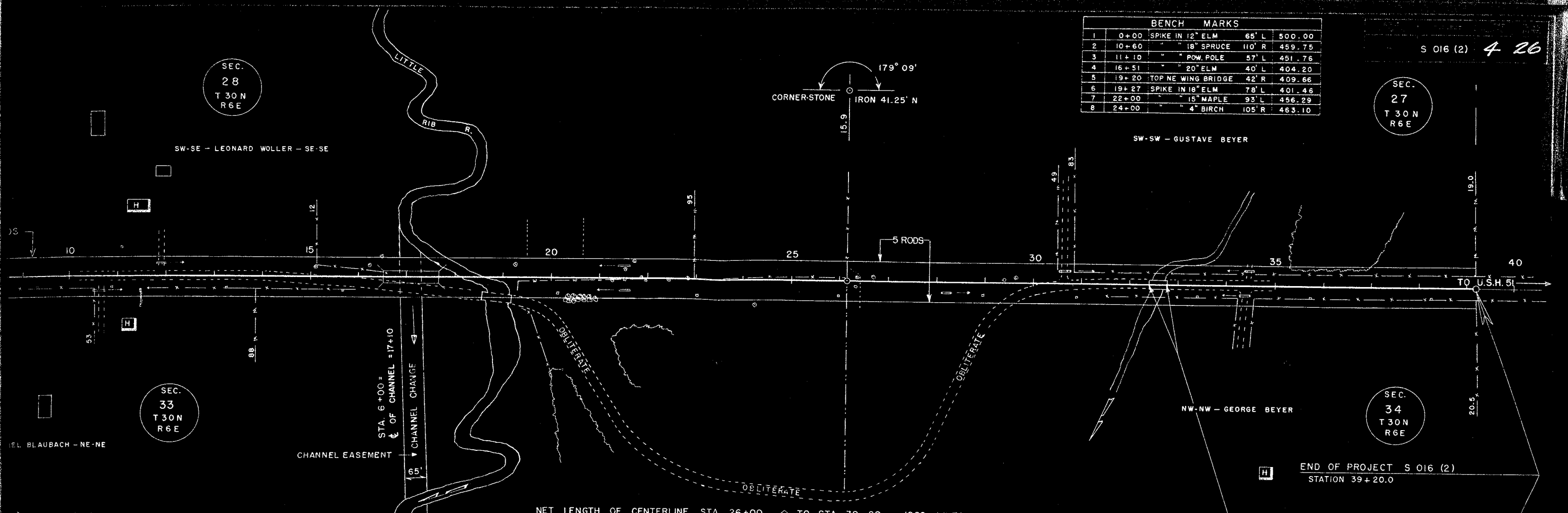
S 016 (2) 4 26

SW-SW - GUSTAVE BEYER

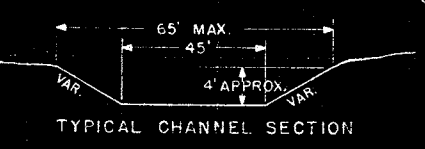
NW-NW - GEORGE BEYER

SEC. 34  
T 30 N  
R 6 E

END OF PROJECT S 016 (2)  
STATION 39+20.0

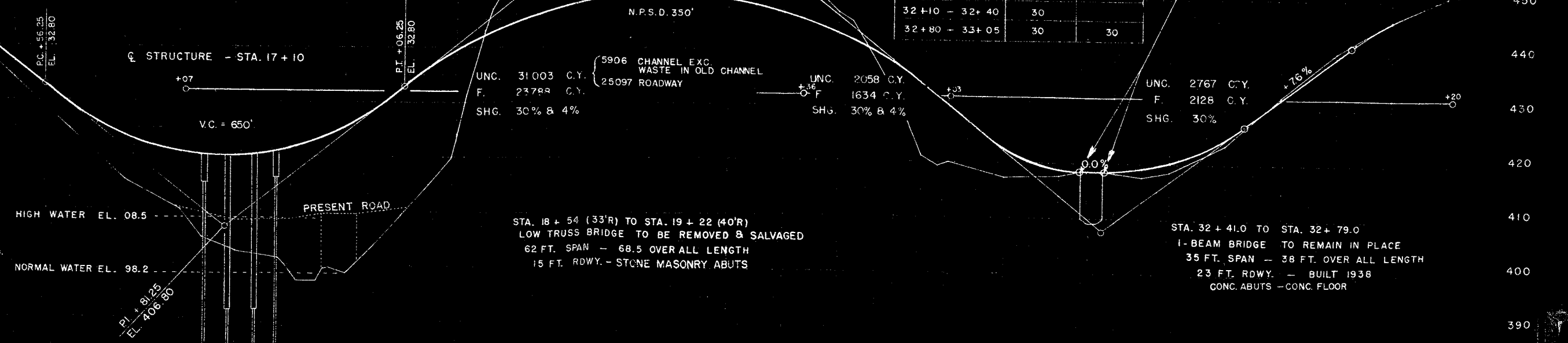


NET LENGTH OF CENTERLINE STA. 26+00 TO STA. 39+20 = 1282 LINEAL FEET



STA. TO STA.	LEFT LIN. FT.	RIGHT LIN. FT.
14+57 - 16+50	193	193
17+70 - 21+25	355	355
29+10 - 32+40		330
32+10 - 32+40	30	
32+80 - 33+05	30	

EXCEPTION TO NET CENTERLINE LENGTH  
STA. 32+41 TO STA. 32+79



A 17410 STRUCTURE NO. B-37-27  
SPAN (34' 44" 34") - 24' RDWY.  
CONCRETE SLAB BRIDGE RECD.  
DRAWINGS X15440, X15441, X15442

STA. 18+54 (33'R) TO STA. 19+22 (40'R)  
LOW TRUSS BRIDGE TO BE REMOVED & SALVAGED  
62 FT. SPAN - 68.5 OVER ALL LENGTH  
15 FT. RDWY. - STONE MASONRY ABUTS

STA. 32+41.0 TO STA. 32+79.0  
I-BEAM BRIDGE TO REMAIN IN PLACE  
35 FT. SPAN - 38 FT. OVER ALL LENGTH  
23 FT. RDWY. - BUILT 1938  
CONC. ABUTS - CONC. FLOOR

- 69.5
- 69.3
- 61.4
- 61.3
- 53.0
- 53.3
- 43.4
- 45.3
- 34.1
- 37.3
- 24.7
- 29.54
- 15.3
- 23.95
- 09.9
- 20.60
- 19.92
- 19.152
- 98.3
- 20.77
- 21.50
- 98.5
- 25.68
- 03.7
- 09.2
- 32.3
- 15.0
- 23.8
- 39.4
- 42.5
- 53.0
- 44.4
- 59.9
- 65.7
- 47.7
- 60.2
- 70.1
- 49.6
- 71.1
- 270.3
- 50.0
- 67.4
- 65.4
- 49.2
- 56.5
- 47.0
- 47.1
- 43.1
- 32.5
- 38.0
- 21.1
- 20.0
- 30.2
- 25.7
- 17.3
- 22.4
- 17.7
- 18.7
- 18.5
- 18.2
- 18.6
- 19.0
- 18.6
- 20.1
- 22.0
- 23.5
- 24.6
- 28.2
- 32.3
- 32.0
- 40.3
- 39.6
- 43.1
- 46.3
- 46.2
- 50.8
- 50.8
- 55.9
- 40

**BILL OF BARS**  
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT

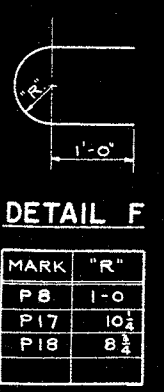
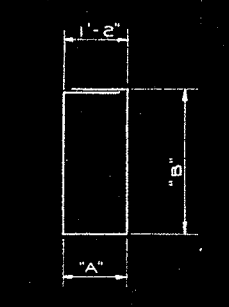
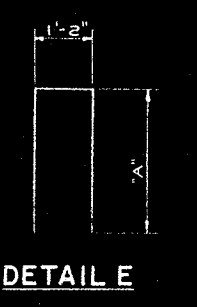
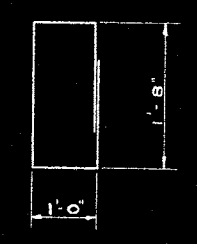
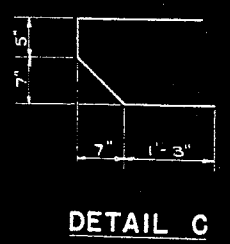
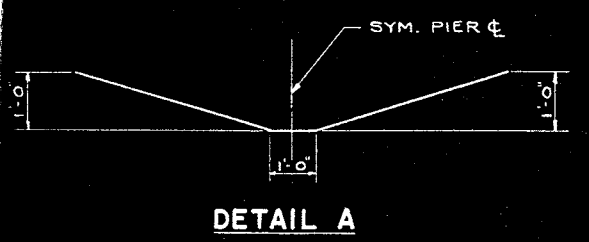
NO	SIZE	LENGTH	SPACING	LOCATION	DET.
44	4	13-9	SHOWN	FLOOR - BOTTOM - TRANS.	
44	4	12-9	"	" " " "	
53	5	13-9	"	" " " "	
53	5	12-9	"	" " " "	
55	4	13-9	"	FLOOR - TOP - TRANS.	
55	4	12-9	"	" " " "	
16	4	13-9	2-0	HAUNCH - BOTTOM - TRANS.	
32	11	23-0	SHOWN	FLOOR - BOTTOM - LONG.	
16	11	26-0	"	FLOOR - BOTTOM - LONG.	
32	11	30-0	"	FLOOR - BOTTOM - LONG.	
16	11	36-0	"	FLOOR - BOTTOM - LONG.	
32	6	12-0	"	HAUNCH - BOTTOM - LONG.	A
34	4	21-0	"	FLOOR - TOP - LONG.	
52	9	30-0	"	" " " "	
17	4	19-0	"	" " " "	
48	9	14-0	"	FLOOR - TOP - LONG.	
16	4	29-3	"	" " " "	
52	6	4-6	"	FLOOR - SYM. ABOUT $\phi$ OF POST	
24	10	29-3	"	EDGE BEAM - LONG.	
182	4	6-6	1-3	EDGE BEAM	B
48	4	4-3	1-0	PAV'T. SEAT @ ABUTMENTS	C
16	4	12-9	2-0	HAUNCH - BOTTOM - TRANS.	

**PIERS** 4,190#

POUR MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET.
<b>FOOTING</b>						
P1	28	7	5-0	SHOWN	FOOTING	
P2	14	4	12-0	"	"	
P3	42	5	5-9	1-0	"	
<b>STEM</b>						
P4	68	5	7-9	1-0	STEM	
P5	56	5	19-6	1-0	"	
P6	12	5	13-6	1-0	"	
P7	52	4	14-0	1-6	"	
P8	16	4	4-3	1-6	"	F
<b>CANTILEVER</b>						
P9	8	4	8-0	SHOWN	CANTILEVER	
P10	4	4	20-6	1-6	"	
P11	8	4	26-3	1-6	"	
P12	4	10	26-3	SHOWN	"	
P13	8	4	12-6	1-6	"	D
P14	8	4	9-6	1-6	"	D
P15	28	4	3-3	1-0	TOP	E
P16	52	5	3-0	1-0	"	F
P17	16	4	4-9	1-6	STEM	F
P18	20	4	5-3	1-6	"	F

**ABUTMENTS** 1,540#

POUR MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET.
<b>FOOTING</b>						
A1	72	5	5-3	1-0	FOOTING	
A2	12	4	18-0	SHOWN	"	
<b>STEM</b>						
A3	52	4	11-0	1-0	STEM	E
A4	12	4	15-0	1-0	"	E
A5	8	4	13-0	1-0	"	E
A6	32	4	18-0	SHOWN	"	
A7	8	4	3-3	"	"	
A8	8	4	4-0	"	"	

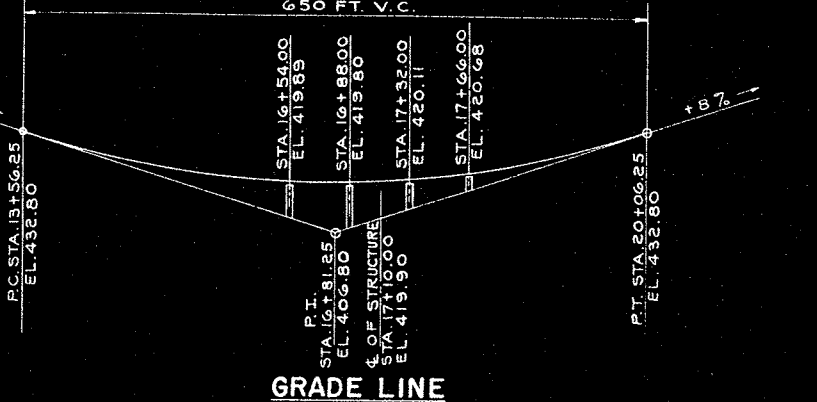
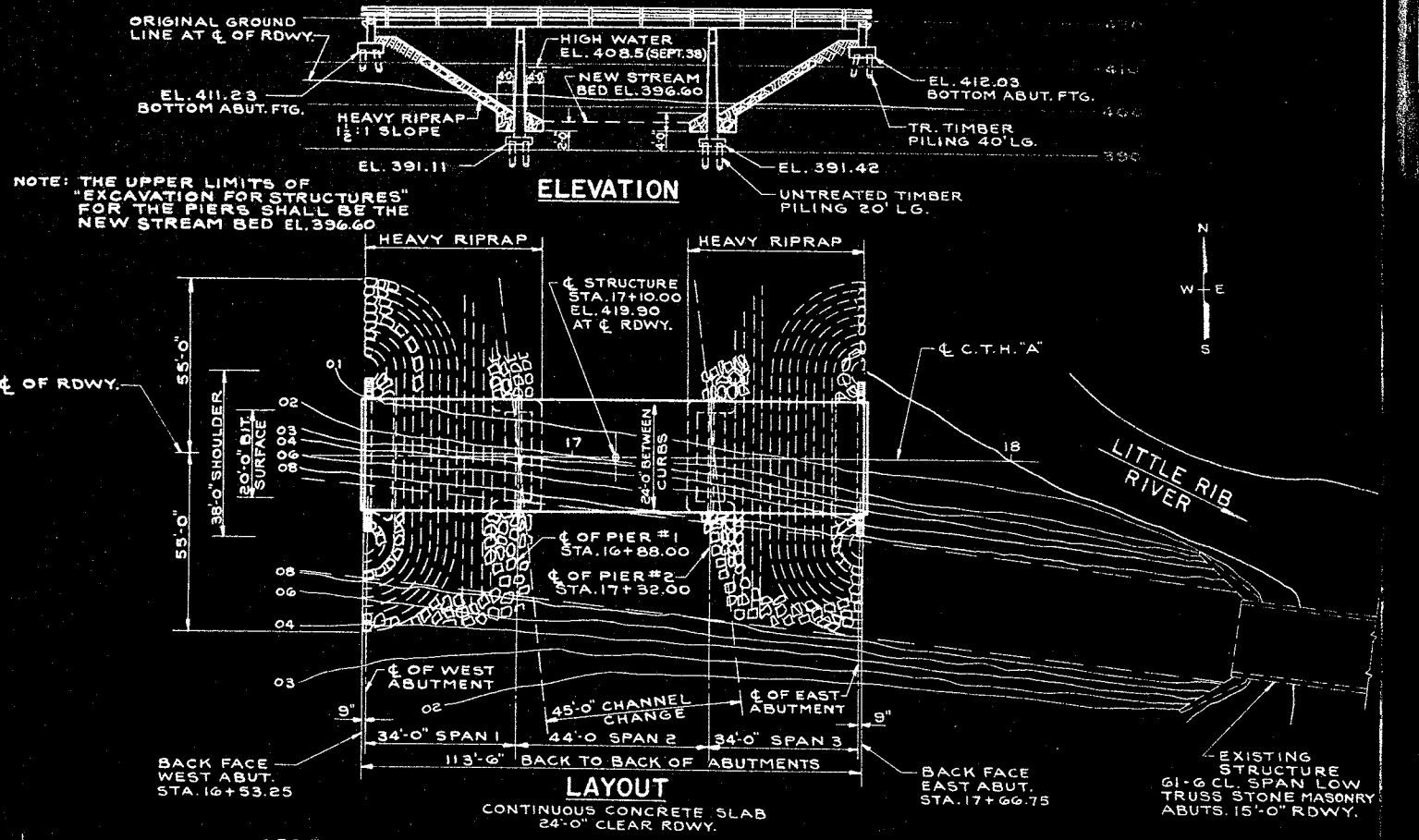


\*NOTE: THE DESIGN OF THIS STRUCTURE IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES A.A.S.H.O. EDITION OF 1953.

**BENCH MARK**

NO	STATION	DESCRIPTION	ELEVATION
4	16+51.00	SPIKE IN 20" ELM 40" LT.	404.20

COUNTY: MARATHON ROUTE: 28-33 DIVISION: 30N RANGE: 6E SHEET: 10 TOTAL SHEETS: 26



**TOTAL ESTIMATED QUANTITIES**

BID ITEMS	UNIT	SUPER-STRUCTURE	ABUTS	PIERS	TOTAL
REMOVING OLD STRUCTURE	LUMP SUM				1
EXCAVATION FOR STRUCTURES	C.Y.		85	80	165
CONCRETE MASONRY - GRADE "A-A"	C.Y.		52.8	84.2	137.0
BAR STEEL REINFORCEMENT	LB.	31,250	1,540	4,190	36,980
STRUCTURAL CARBON STEEL	LB.	13,100			13,100
SHEET ZINC	LB.	92			92
UNTREATED TIMBER TEST PILING (1 @ 30'-0" / 1 @ 30'-0")	LUMP SUM				1
UNTREATED TIMBER PILING DELIVERED	L.F.			620	620
UNTREATED TIMBER PILING DRIVEN	L.F.			620	620
TREATED TIMBER PILING DELIVERED	L.F.		960		960
TREATED TIMBER PILING DRIVEN	L.F.		960		960
PILE SHOES	EACH		24	31	55
HEAVY RIPRAP	C.Y.		565		565
CONCRETE MASONRY - GRADE "A-A" MODIFIED	C.Y.	148.5			148.5
<b>NON BID ITEMS</b>					
EXPANSION JOINT FILLER	SIZE		1		1
PAPAFFIN IMPREGNATED TRANSITE	S.F.			53	53

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.  
BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.  
THE USE OF STRUCTURAL GRADE BAR STEEL REINFORCEMENT IS PROHIBITED.  
BEVEL EXPOSED EDGES OF CONCRETE 1" UNLESS OTHERWISE SHOWN.  
THE FRONT FACE OF ABUTMENTS SHALL BE RIPRAPPED AS SHOWN IN SECTION A1 ON DRAWING X15442. AFTER FILL IS IN PLACE THE SLOPE OF THE FILL AROUND THE ENDS OF THE WINGS SHALL BE RIPRAPPED TO A MINIMUM THICKNESS OF 2'-0" AS DIRECTED BY THE ENGINEER.  
PILING AT THE ABUTMENTS SHALL BE TREATED TIMBER PILING 40' LONG AND SHALL BE DRIVEN TO A MINIMUM BEARING VALUE OF 20 TONS PER PILE.  
PILING AT THE PIERS SHALL BE UNTREATED TIMBER PILING 20' LONG AND SHALL BE DRIVEN TO A MINIMUM BEARING VALUE OF 20 TONS PER PILE.  
THE PIERS SHALL BE RIPRAPPED AS SHOWN IN "LAYOUT" AND "ELEVATION" ABOVE ON THIS DRAWING.  
CONCRETE MASONRY IN ABUTMENTS AND PIERS SHALL BE GRADE "A-A". SEE SPECIAL PROVISIONS FOR CONCRETE MASONRY GRADE "A-A" MODIFIED TO BE USED IN THE SUPERSTRUCTURE.  
TO COMPENSATE FOR DEAD LOAD DEFLECTION, FUTURE PLASTIC FLOW AND NEGATIVE CAMBER OF THE GRADE LINE, THE END SPANS SHALL BE CONSTRUCTED WITH 0" CAMBER AND THE CENTER SPAN SHALL HAVE A CAMBER OF 1" AT  $\phi$  OF SPAN.

**LIST OF DRAWINGS**

1. LAYOUT AND BILL OF BARS X15440  
2. SUPERSTRUCTURE X15441  
3. ABUTMENTS AND PIERS X15442

STATE HIGHWAY COMMISSION OF WISCONSIN

**LAYOUT & BILL OF BARS**

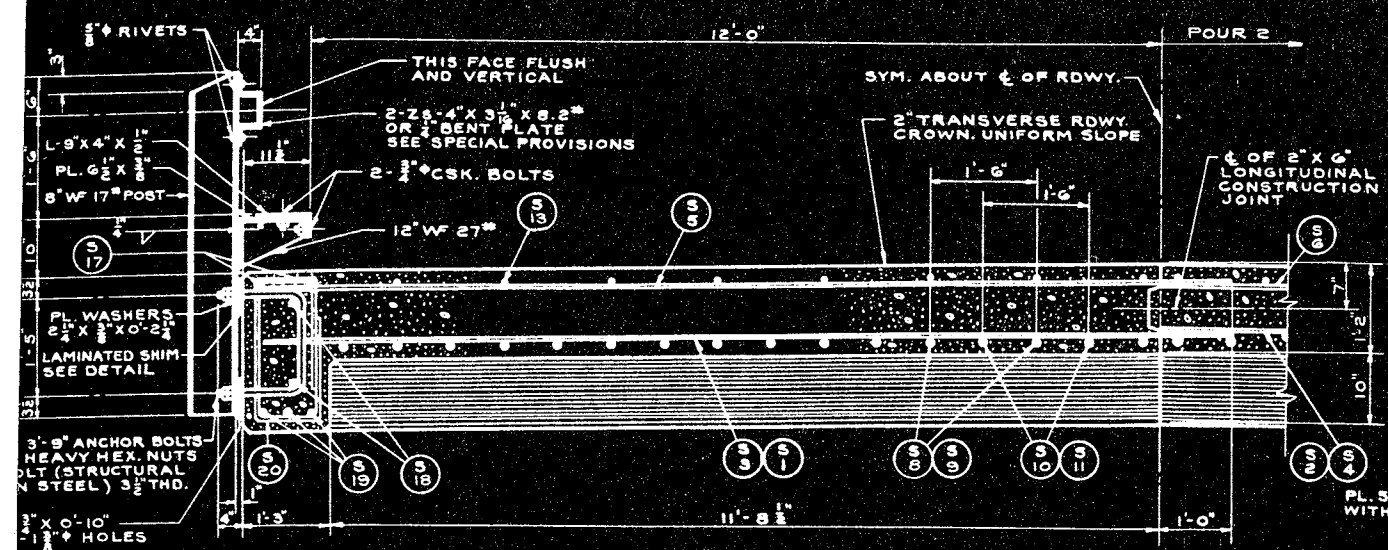
NO. MARATHON COUNTY BERLIN STA. 17+10.00  
SECTION 28-33 TOWN 30N. RANGE 6E.  
DATE 3/16/56 DRAWN W.J.K. CHECKED H.B. Schultz  
SPEC. 1061+ LOAD H15

APPROVED: E.L. Pottgen ENGINEER

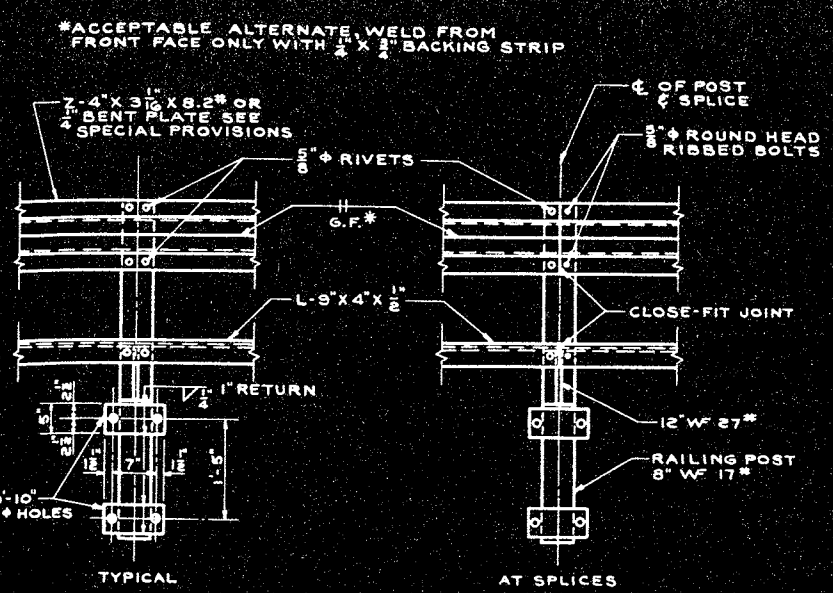
STRUCTURE B-37-27 SHEET 1 OF 3

\* DRIVE ONE AT LOCATION OF WEST ABUTMENT AND ONE AT LOCATION OF PIER #2.  
# DESIGNED STRESS 1400#/S INCH.

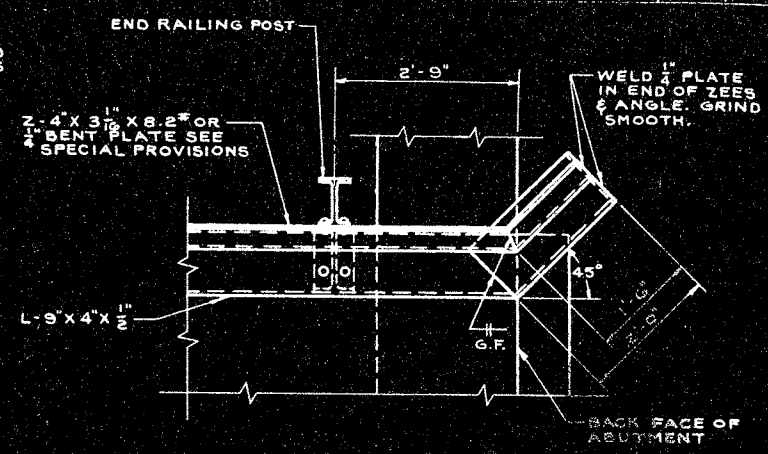
PROJECT NO.	4	9016(2)	11	26
SHEET NO.				
TOTAL SHEETS				



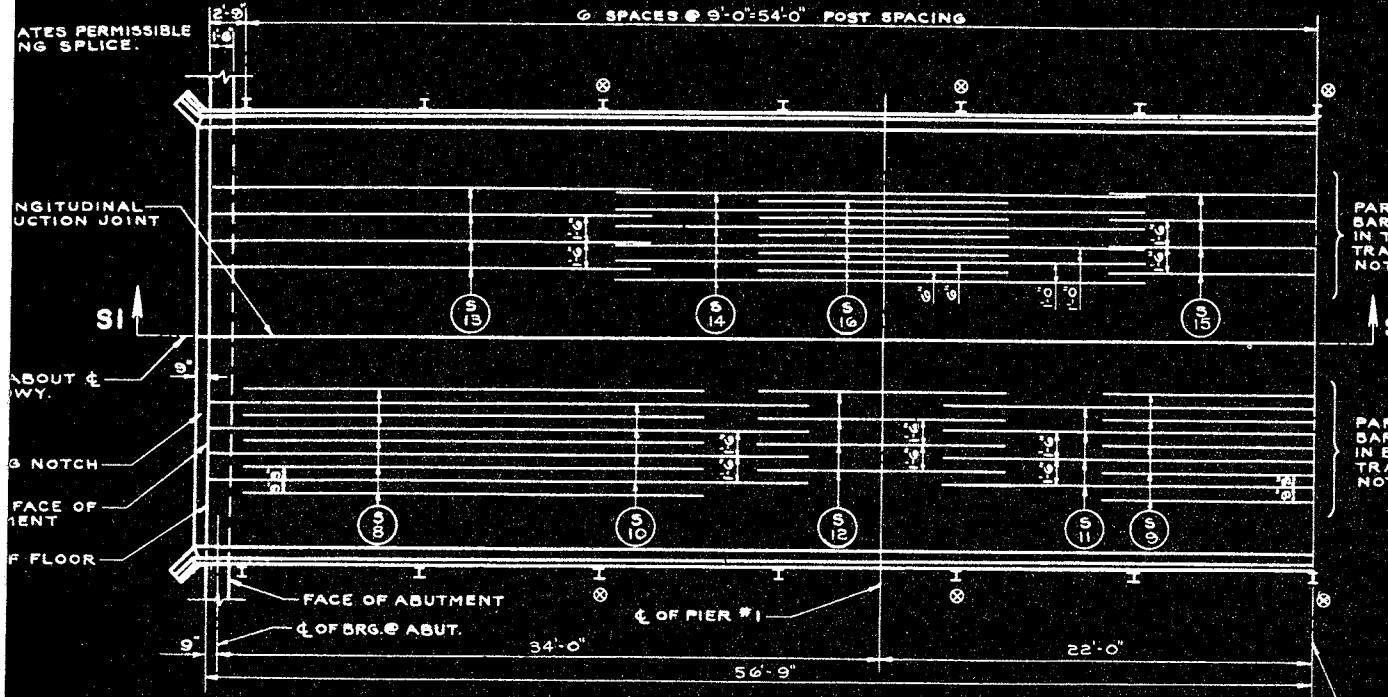
**HALF CROSS SECTION THRU ROADWAY (POUR 1)**  
POUR 2 IS THE SAME EXCEPT FOR "S2", "S4", "S6" AND "S22" BARS



**RAILING DETAILS**



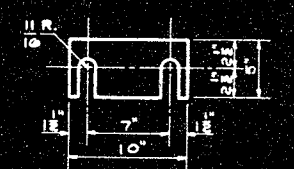
**RAILING PLAN AT ABUTMENTS**



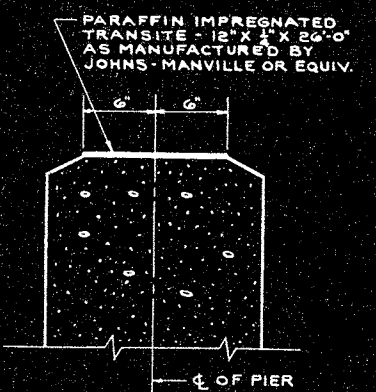
**HALF PLAN**

PART PLAN OF BAR STEEL REINF. IN TOP OF SLAB. TRANSVERSE BARS NOT SHOWN.

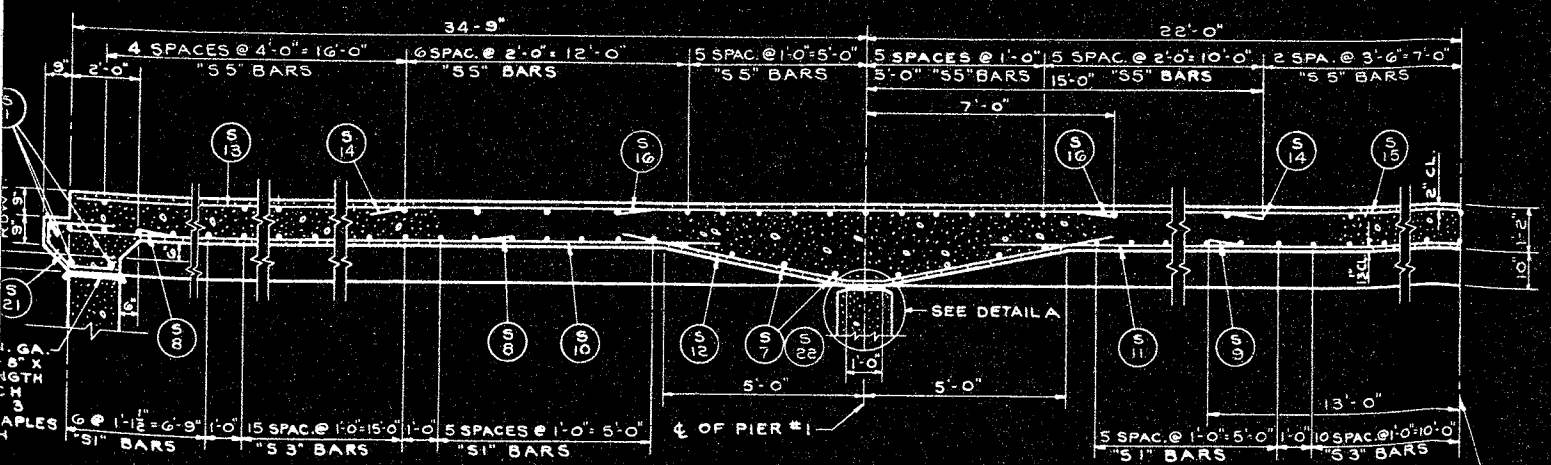
PART PLAN OF BAR STEEL REINF. IN BOTTOM OF SLAB. TRANSVERSE BARS NOT SHOWN.



**LAMINATED SHIM**



**DETAIL A**



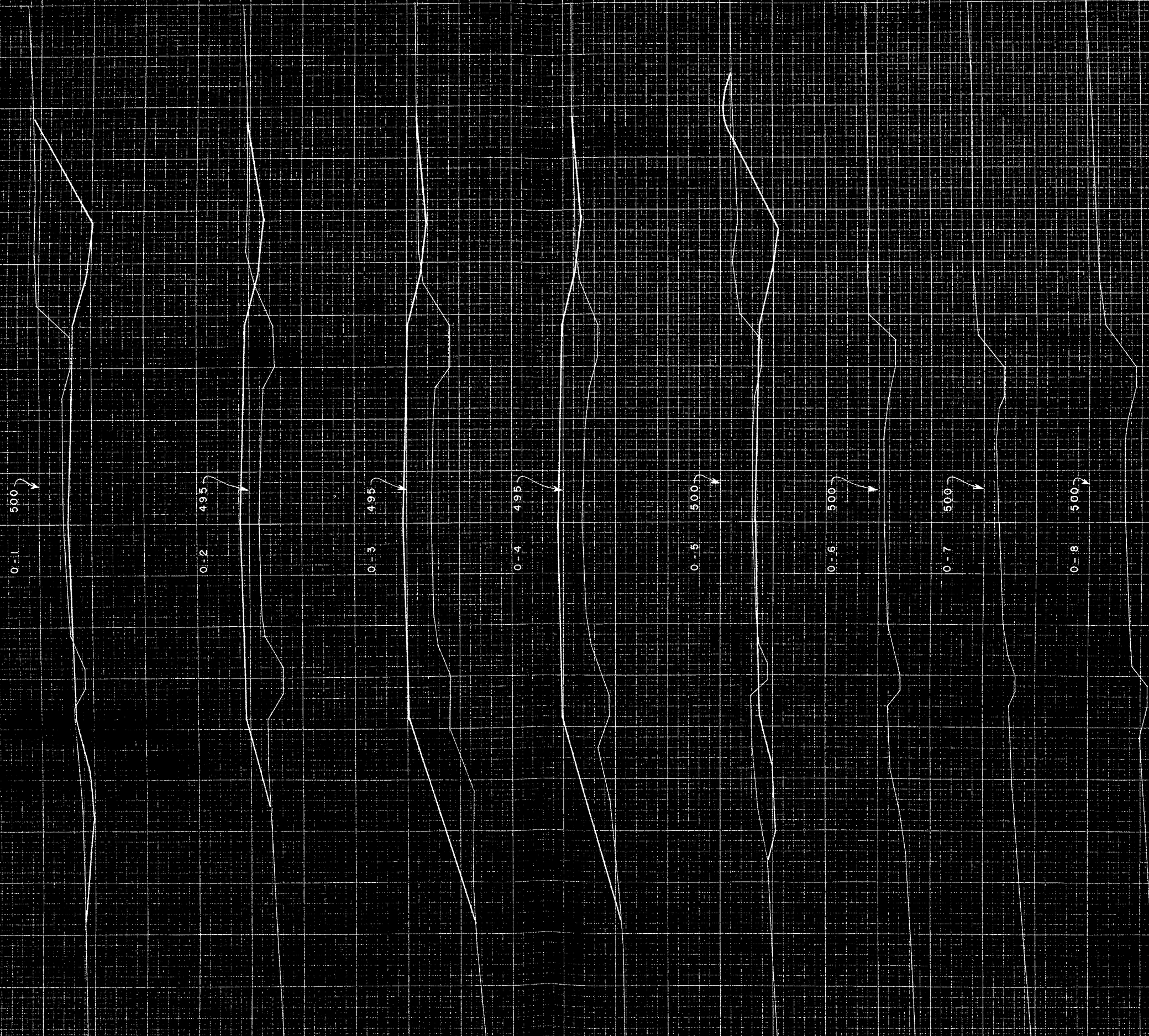
**SECTION S1**

SYM. ABOUT  $\phi$  OF SPAN #2

STATE HIGHWAY COMMISSION OF WISCONSIN			
<b>SUPERSTRUCTURE</b>			
DATE	3-16-56	DESIGNED BY	W.J.K.
PROJECT NO.	B-37-27	DATE	1951
SHEET		2 OF 3	

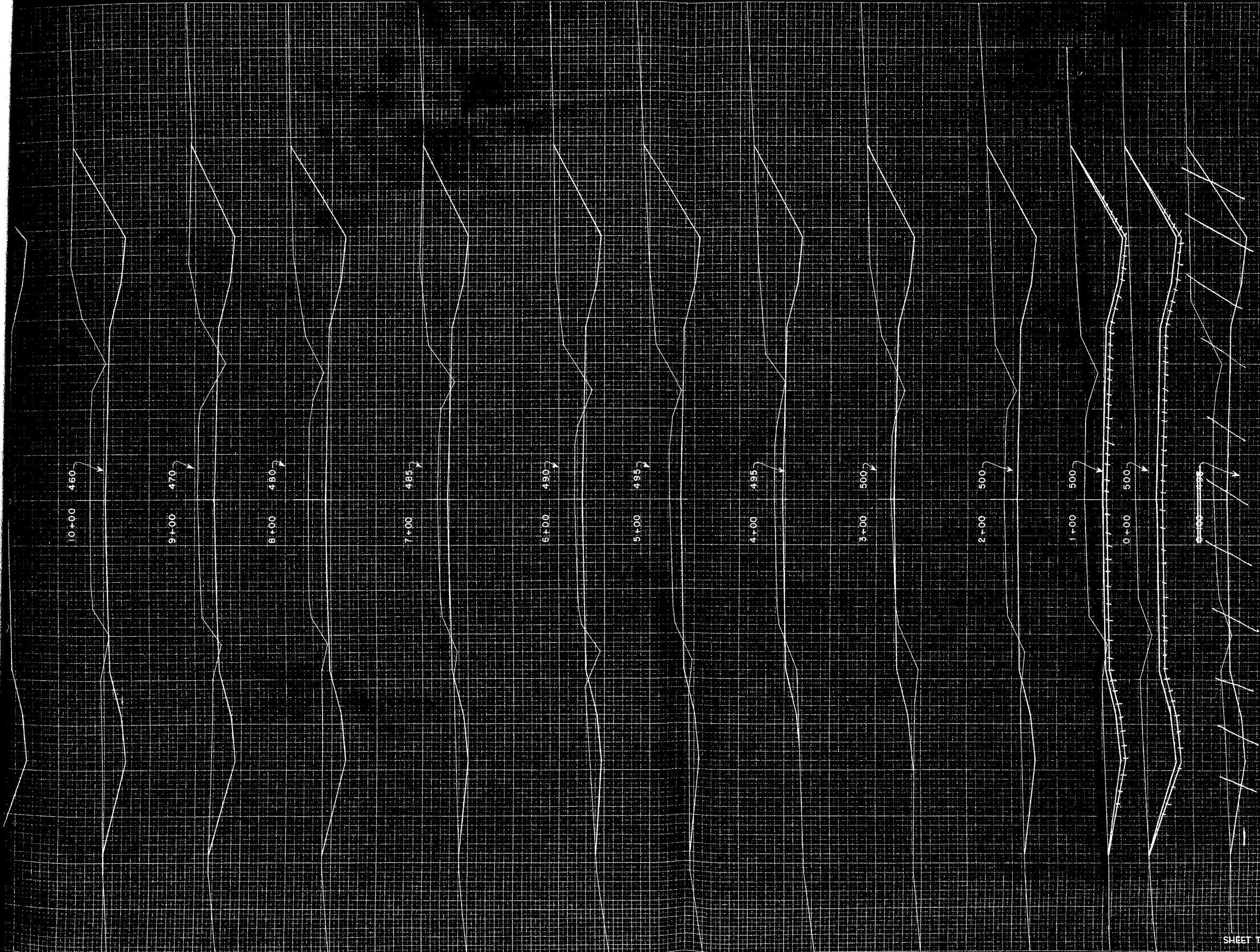
X 15441





STATION	DISTANCE		YARDAGE	
	UNCL	EXCAVATION	UNCL	EXCAVATION
0+00	100	100	167	35
-1+00	100	100	15	5
-2+00	100	100	15	5
-3+00	100	100	15	5
-4+00	100	100	15	5
-5+00	100	100	15	5
<b>SUB TOTAL</b>	<b>507</b>	<b>507</b>	<b>6</b>	<b>191</b>
<b>TOTAL</b>	<b>979</b>	<b>1612</b>	<b>6</b>	<b>191</b>

SHEET TOTAL 979 1612



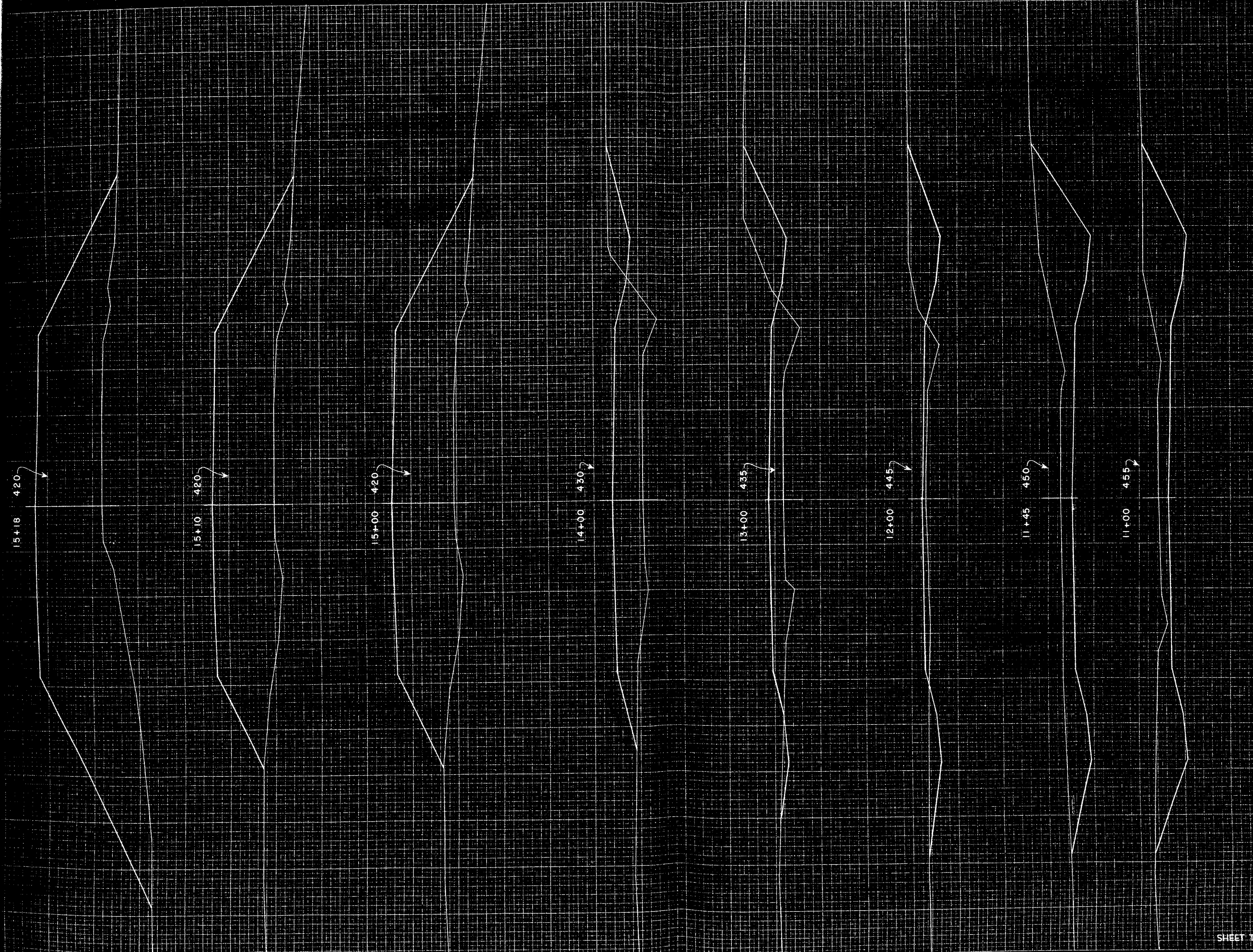
STATION	DISTANCE	YARDAGE		
		EXCAVATION		
		UNCL.		FILL
10+50	50			
10+00	100	539		0
9+00	100	570		6
8+00	100	578		6
7+00	100	535		6
6+00	100	422		19
5+00	100	435		19
4+00	100	404		19
3+00	100	304		46
2+00	100	374		37
1+00	100	517		4
0+00	100	643		0
<b>TOTAL</b>				<b>62</b>

SHEET TOTAL

5171

62

B.P.R. DISTRICT OFFICE	PROJECT	SHEET NUMBER	TOTAL SHEETS
WIS. 4	S 016 2	15	26

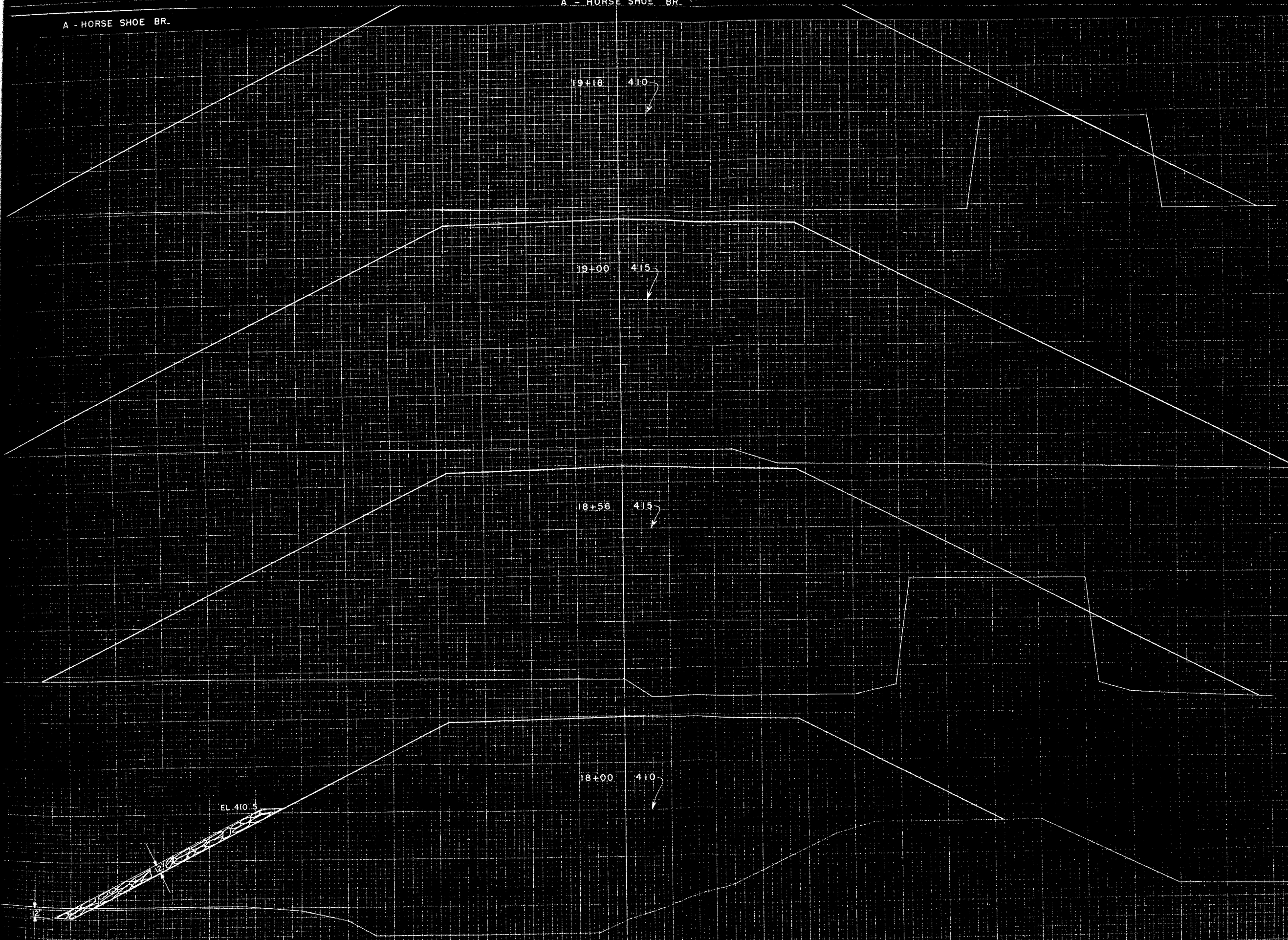


STATION	DISTANCE	YARDAGE	
		EXCAVATION	
		UNCL.	FILL
15+18	6	0	0
15+10	10	0	0
15+00	100	35	0
14+00	100	11	178
13+00	100	100	222
12+00	55	257	319
11+45	45	24	183
11+00	126	928	415
	131	928	183
		126	0

SHEET TOTAL 122 1837



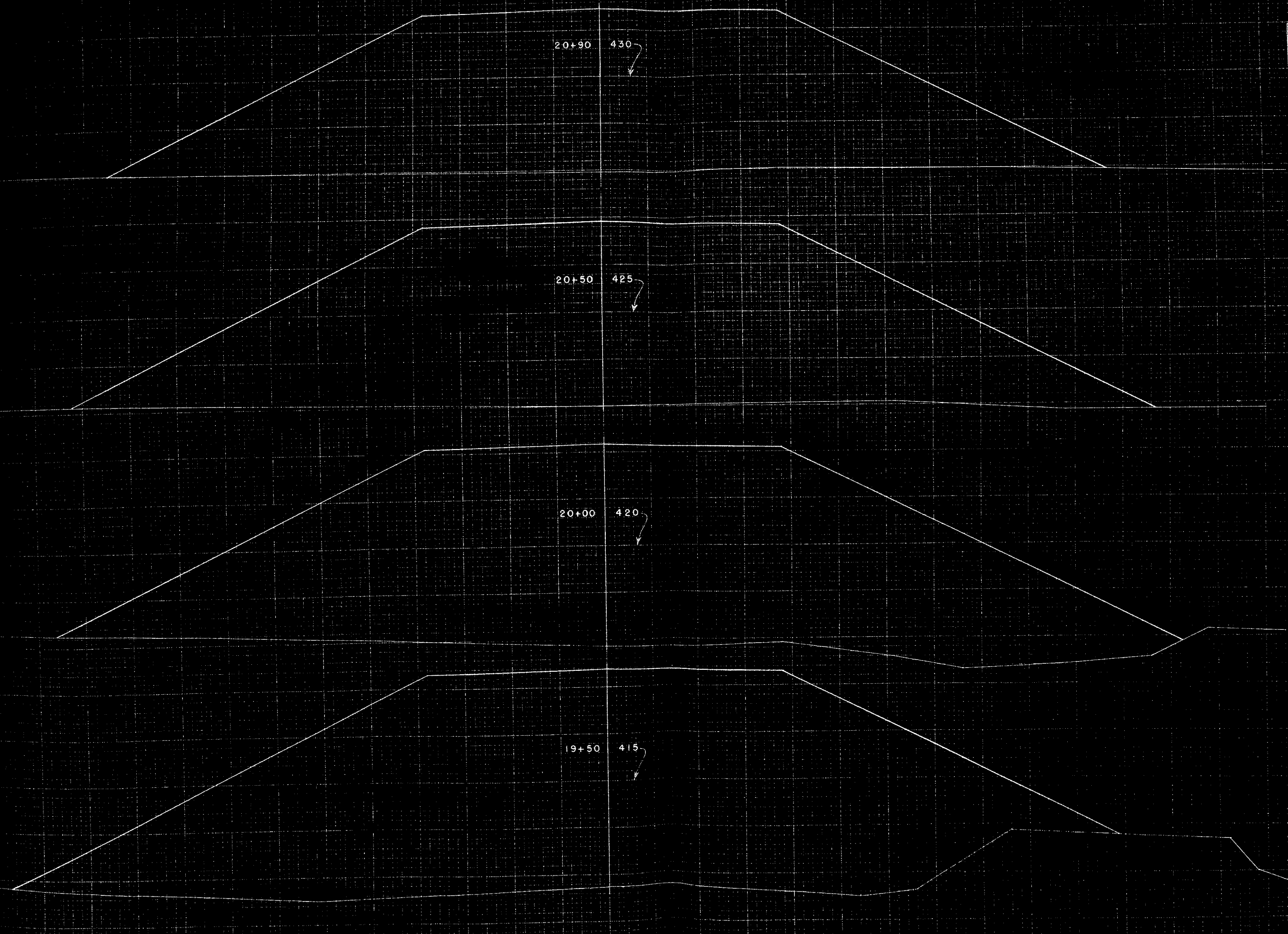
R.P.R. DISTRICT OFFICE	PROJECT	SHEET NUMBER	TOTAL SHEETS
WIS. 4	S 016 2	11	20



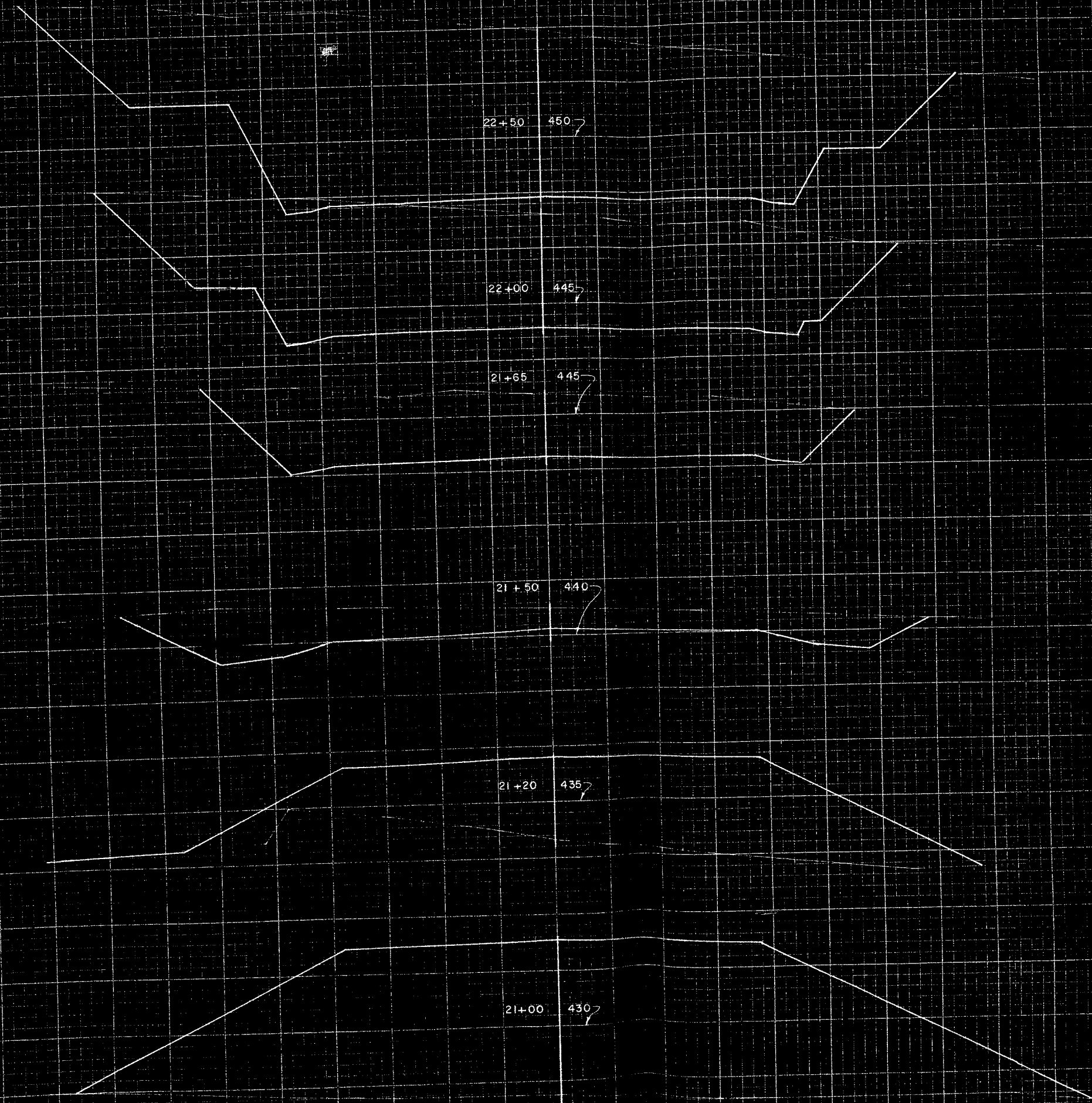
STATION	DISTANCE	YARDAGE		
		UNCL.	EXCAVATION	FILL
19+18	18	6		1426
19+00	44	11		3311
18+56	56	13		3167
17+66		0		1535

SHEET TOTAL 30 9239

B.P.R. DISTRICT OFFICE	PROJECT	SHEET NUMBER	TOTAL SHEETS
WIS. 4	S 016 2	18	26



STATION	DISTANCE	YARDAGE				
		EXCAVATION			FILL	
		UNCL.				
19+18	32					
19+50	50				22.98	
20+00	50				33.11	
20+50	40	0	0	0	29.85	
20+90	40	0	0	0	20.11	
<b>SHEET TOTAL</b>						<b>1061.5</b>



STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
22+50	50	1550	0
22+00	35	635	0
21+65	15	141	0
21+30	30	102	0
21+20	20	0	472
21+00	10	0	391
20+90			

STATION	DISTANCE	VARDAGE		FILL
		EXCAVATION		
24+50	50	2982	2961	0
24+00	50		2369	0
23+50	50		2161	0
23+00	50			0
22+50	50			0
SHEET TOTAL				
		10593		0

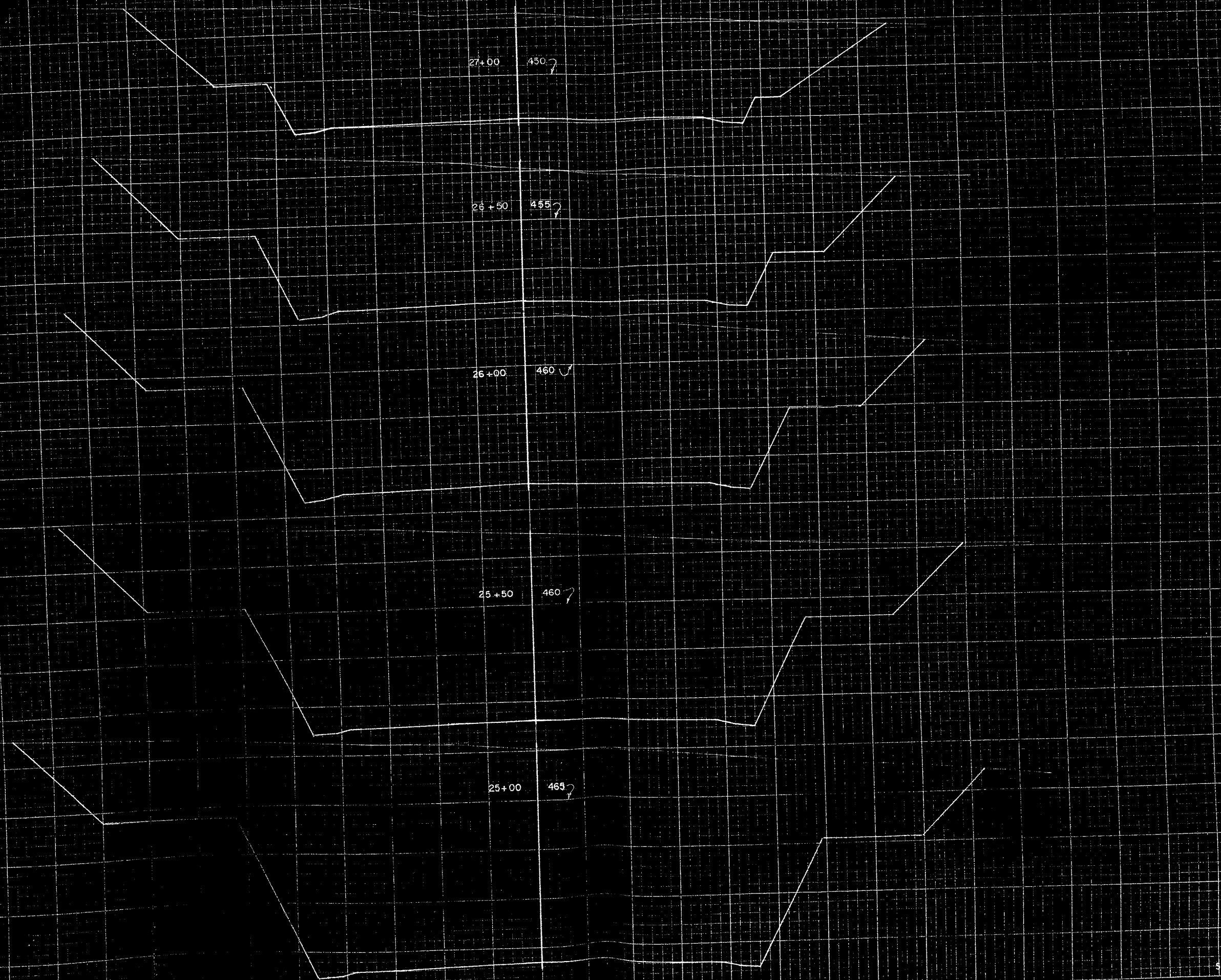
24+50 460

24+00 430

23+50 460

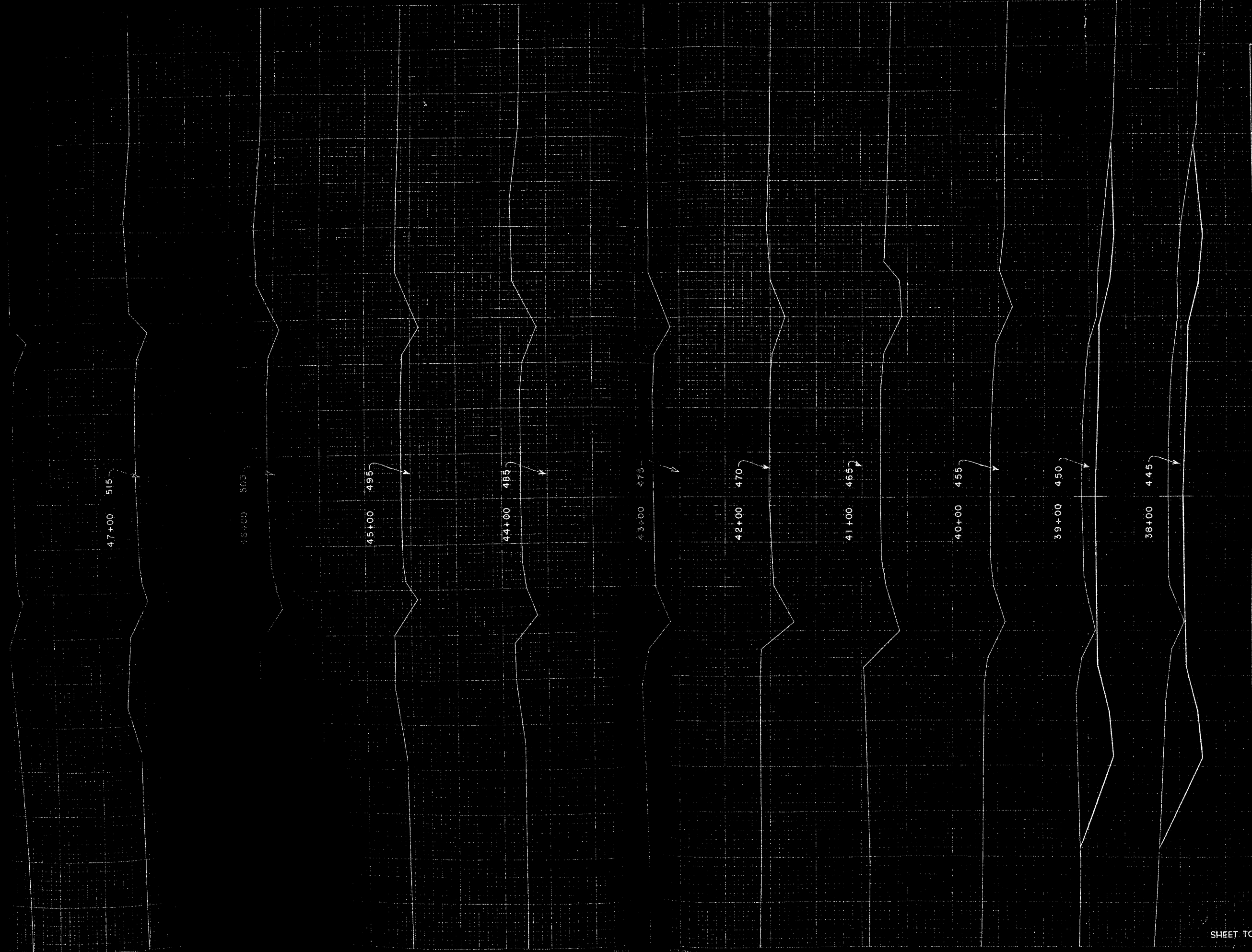
23+00 455

SECTION C-B-B  
 1/2" = 100'  
 1/4" = 50'

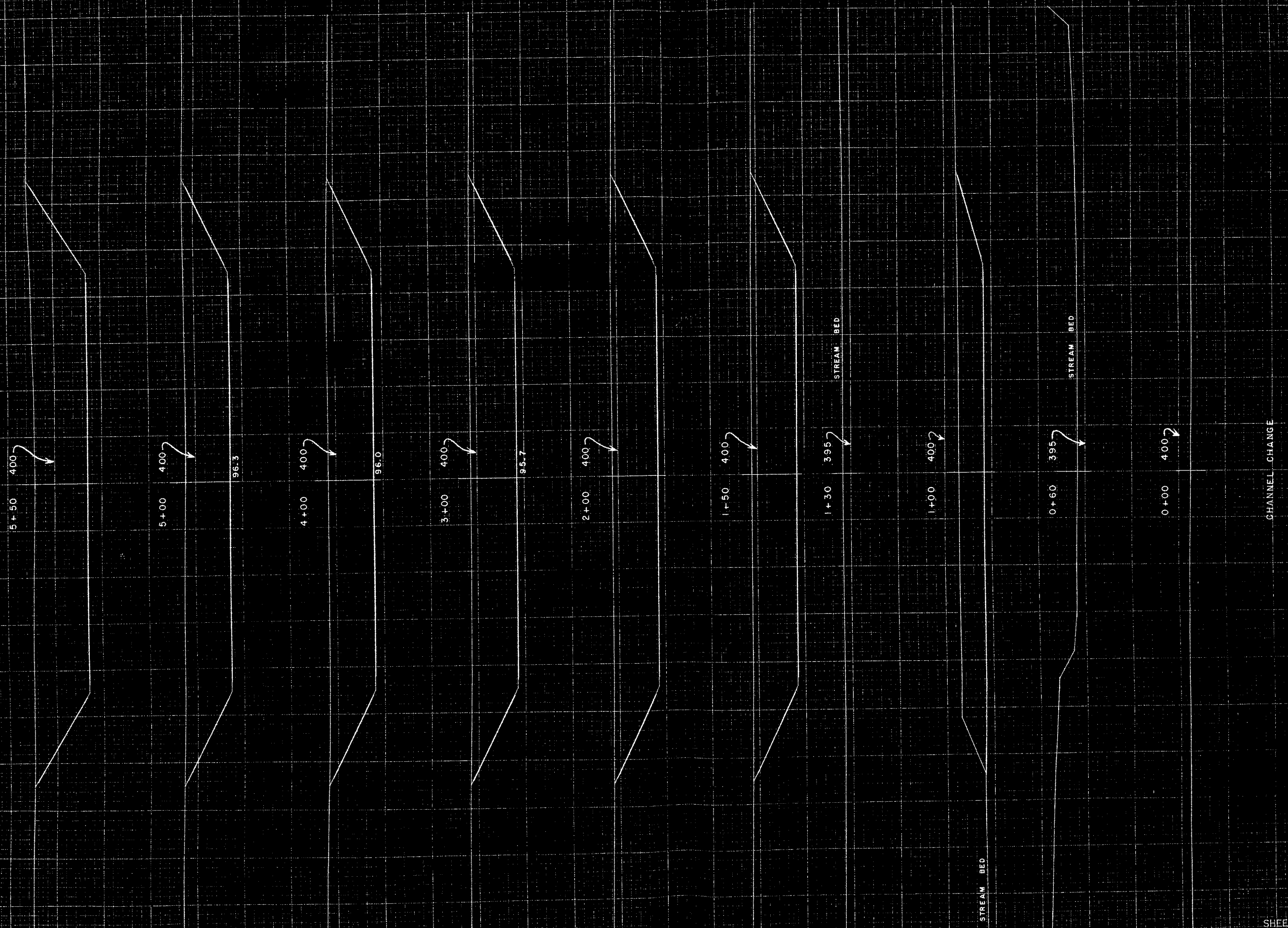


STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
27+00	50	1933	0
26+50	50	2283	0
26+00	50	2615	0
25+50	50	2896	0
25+00	50		
<b>SHEET TOTAL</b>		<b>11257</b>	<b>0</b>



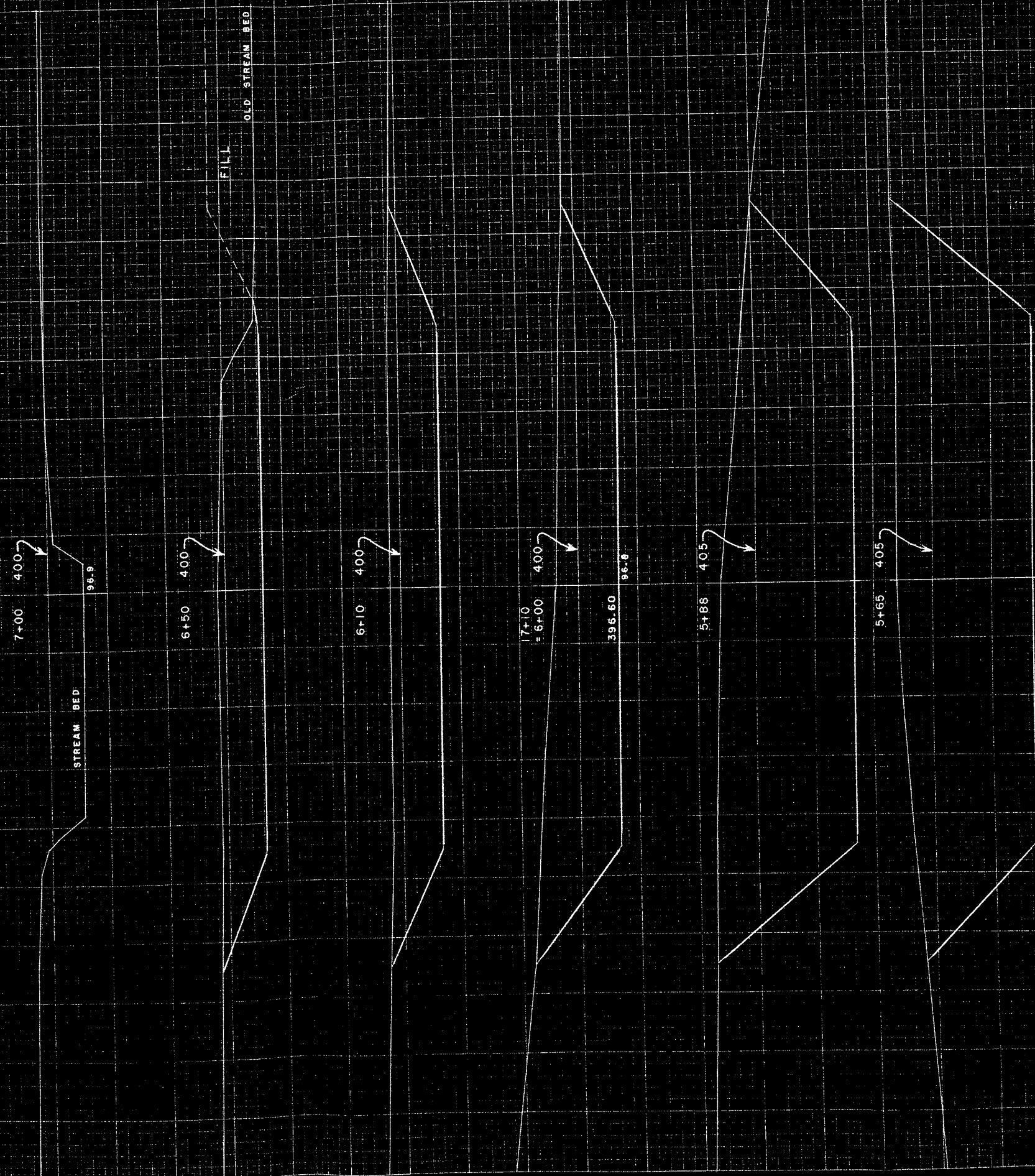


STATION	YARDAGE			
	EXCAVATION			
	DISTANCE	UNCL.		FILL
40+00	100	228		0
39+00	100	491		0
38+00	100	594		0
37+00				



STATION	DISTANCE		EXCAVATION		FULL					
	UNCL.									
5+50	50	544	998	1004	1006	498	98	98	0	
5+00	100	998	1004	1006	1006	498	98	98	0	
4+00	100	998	1004	1006	1006	498	98	98	0	
3+00	100	998	1004	1006	1006	498	98	98	0	
2+00	100	998	1004	1006	1006	498	98	98	0	
1+50	100	998	1004	1006	1006	498	98	98	0	
1+30	100	998	1004	1006	1006	498	98	98	0	
1+00	100	998	1004	1006	1006	498	98	98	0	
0+60	100	998	1004	1006	1006	498	98	98	0	
0+00	100	998	1004	1006	1006	498	98	98	0	

SHEET TOTAL 4348



STATION	DISTANCE					UNCL.	YARDAGE	
	50	40	10	12	23		15	259
7+00	169	307	100	204	519	259		
6+50								
6+10								
6+00								
5+88								
5+65								

SHEET TOTAL 1558