S-170(2)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

HOL-39-(16.69-17.29)

HOLMES COUNTY

HARDY TOWNSHIP & VILLAGE OF MILLERSBURG

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
PROPERTY LINE
FENCE LINE
CENTER LINE
RAIL ROADS
POLE LINE — TELEPHONE & POWER
GUARD RAIL — NEW / OLD

INDEX OF SHEETS

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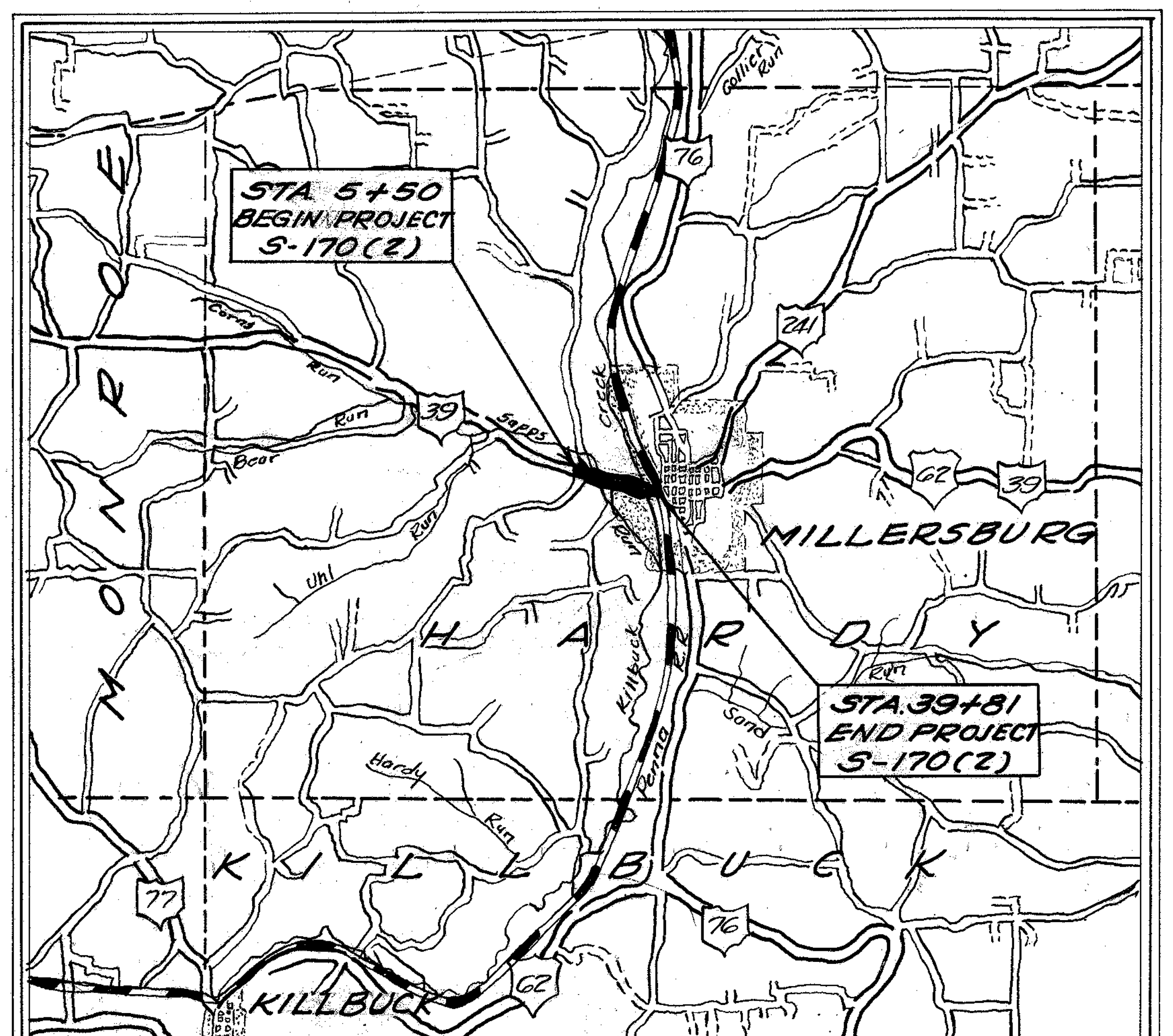
Revised As-Built

LINE DATA

Begin Project	Sta. 5+50
End Project	Sta. 39+81
No additions or deductions	
Net length of Project	3431 Lin. Ft. or 0.649 Mile
Net length of Rural	3142 Lin. Ft. or 0.595 Mile
Net length of Municipal	289 Lin. Ft. or 0.054 Mile



AVERAGE HAUL FROM SIDING = 0.5 MILES
DELIVERY POINT = MILLERSBURG, OHIO

LOCATION PLAN

Scale 1" = 1 Mile

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER ROADS
FEDERAL HIGHWAYS

SCALES

PLAN	1" = 50'
PROFILE HORIZONTAL	1" = 50'
PROFILE VERTICAL	1" = 10'
CROSS SECTIONS	1" = 10'

The Standard Specifications of the State of Ohio Department of Highways including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway, and that provisions for maintenance and safety of traffic will be as set forth in these plans and estimates.

The right of way for this improvement will be provided by the State of Ohio.

Approved ____________
Date 10-3-51 Division Deputy Director/Acting

Approved ____________
Date ____ Chief Engineer, Bureau of Maintenance.

Approved ____________
Date 11-2-51 Chief Engineer, Bureau of Bridges and R.R. Crossings.

Approved ____________
Date 11-15-51 Chief Engineer, Bureau of Location & Design.

Approved ____________
Date 11-15-51 First Assistant Director & Chief Engineer.

Approved ____________
Date 11-15-51 Director of Highways.

CONSTRUCTION BUREAU
NOV 27 1956
GROUND PHOTOLAB

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL:

DISTRICT ENGINEER — DATE

APPROVED:

DIVISION ENGINEER — DATE

* Submitted to B.P.R. for Approval

STANDARD DRAWINGS

I-12	3-15-48	P-1-49	7-27-49	A-1-49	7-27-49
G-8.07 *	5-1-51	S-27 P.C.3	2-20-45	I-15 No. 2	6-17-49
RI-1 *	5-16-51	I-1,2,3,4 & 5	2-20-45	AS-3-47-AS-4-47	7-27-49
L-3	4-1-50	I-8 C.B. 1-2A & B	1-2-51	CS-1-47	1-20-48
L-3-A	4-1-50	I-8 C.B. No. 3-A *	5-15-51	CSB-1-47 Sh. 1 & 2	8-25-49
S-27 P.C.2	3-15-48	I-15 No. 1	3-1-47	L-1	4-1-50

SUPPLEMENTAL SPECIFICATIONS

5	5-28-48		
31	6-13-49		
T-171.19 Rev.	7-31-50		

FILE N.S. HOL-39-(16.69-17.29)
DATE OF LETTING ________
CONTRACT No. ________

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	S-170(2)	Postwar	2/49

HOL-39-(16.69-17.29)

TYPICAL SECTIONS

TYPE T-35 ON B-20

SCALE 1" = 2'-0"

STA. 5+50 TO STA. 22+02.13 = 1652.13 LIN. FT.
STA. 23+31.36 TO STA. 27+15.75 = 384.39 LIN. FT.
STA. 28+38.25 TO STA. 31+32.25 = 294.00 LIN. FT.
STA 33+07.75 TO STA. 36+13.75 = 306.00 LIN. FT.

NOTE: For Transition Details from Sta. 34+88 to Sta. 36+13.75 see Sheet No. 28

STA. 38+04.25 TO STA. 39+81 = 176.75 LIN. FT.

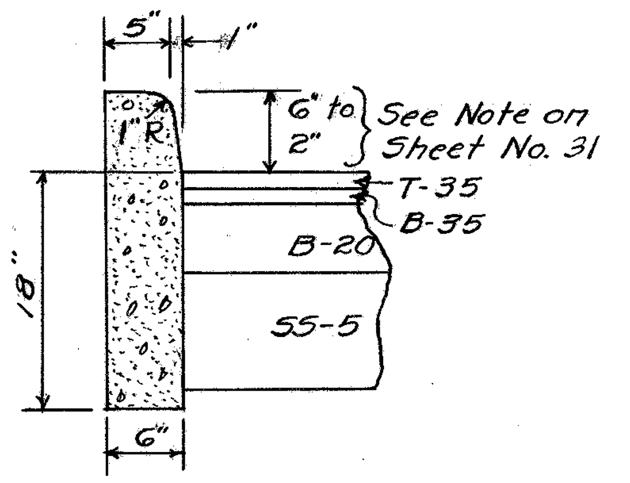
KEY

1. Item SS-5 - 9" SS-5, Grading C or D.
2. Item B-20 - 5" Waterbound Macadam Base Course.
3. Item T-30 - Bituminous Prime Coat using 0.35 Gal. per Sq. Yd.
4. Item B-35 - 1¼" min. Asphaltic Concrete Leveling Course.
5. Item T-35 - 1¼" Asphaltic Concrete Surface Course, Type A.
6. Item I-17 - 6" Berm Material.
7. Item I-15 - Guard Rail.

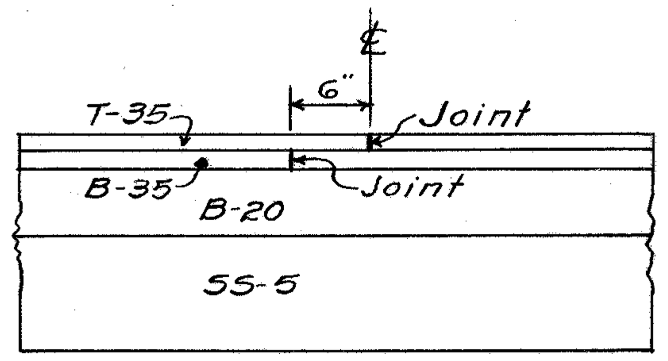
TYPICAL DETAILS AND GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	S-170(2)	Postwar

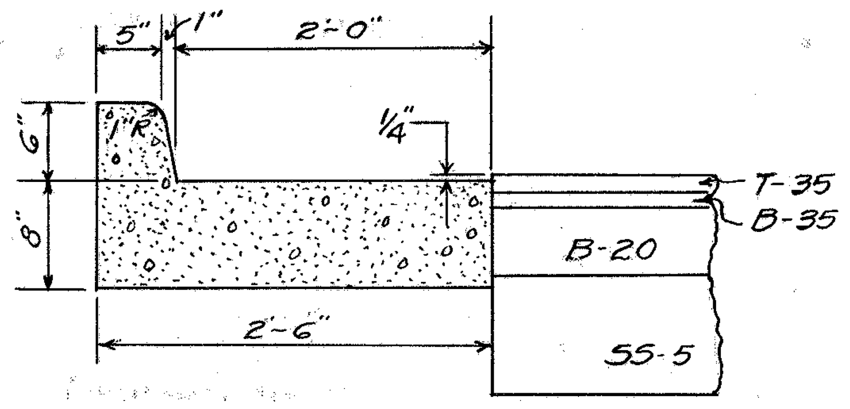
HOL-39-(16.69-17.29)



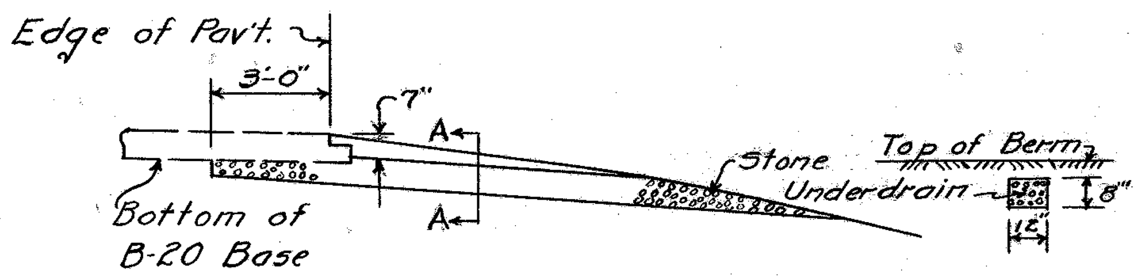
CURB DETAIL
TYPE 6 MODIFIED



METHOD OF LAPPING
LONGITUDINAL JOINTS



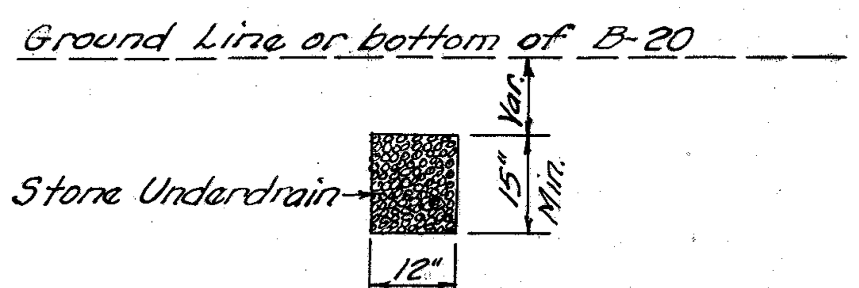
CURB AND GUTTER DETAIL
TYPE 2 MODIFIED



SECTION ON ℄ UNDERDRAIN   SEC. A-A

Stone Underdrain shall be placed as directed by the Engineer at all locations where there is a concentration of water in the subgrade of the pavement, at the low points on vertical curves and at approximately 200' intervals throughout the project. Estimated Quantity: 400 Lin. Ft. Rural and 100 Lin. Ft. Municipal. These quantities are carried direct to the General Summary.

DETAIL OF NO. 2 STONE UNDERDRAIN



NOTE: No. 1 Stone Underdrains shall be placed at the low points in cut sections, at the junction of cuts and fills, and at other locations determined by the Engineer. Estimated Quantity = 200 Lin. Ft. Carried direct to General Summary.

DETAIL OF NO. 1 STONE UNDERDRAIN

CURVES:~ Superelevated curves shall be built without crown. The crown shall be worked out of the pavement in that portion between the beginning of the transition and the point where the superelevation equals twice the crown.

BERMS AND SLOPES:~ Berms and slopes shall be finished in accordance with the typical sections except where otherwise shown on the cross sections. While the cross sections, as drawn, show straight lines and angles, in construction all corners shall be rounded as shown in the typical sections.

TREES:~ Payment for the removal of trees and stumps shall be included in the bid Item E-1. Excavation, in accordance with Sec. E-1.02. Approximately twenty two (22) trees and stumps, 12 inches or more in diameter, are to be removed.

EMBANKMENT:~ In lieu of the requirements for full width construction under Sec. E-1.05 the embankment, where traffic is maintained, may be placed in part width construction.

UTILITY ADJUSTMENT:~ Any and all work required for Public or Private Utilities will be done by the respective owners, and the Contractor shall co-operate with the utility companies by arranging his work in such a manner that needless conflictions will be avoided.

FIELD HOUSE:~ The Contractor shall provide a suitable "Field Office" in accordance with Sec. S-0.01(b) having a minimum of 120 square feet of floor space. The Contractor shall have telephone installed and maintained during contruction of this project.

I-17 GRADING REQUIREMENTS:~ The grading requirements for material passing the No. 200 mesh seive, as specified in Sec. I-17.02 may be modified as follows:~
Passing 200 mesh - 0% to 20% provided compaction is obtained in accordance with Sec. I-17.02.

RIPRAP:~ Riprap on outlet end of all structures and drain pipes shall be roughened by placing stones so that they protrude 3 inches above flow line at one (1) foot centers each direction, random position, to retard discharge velocity.

COMPACTION:~ Compaction will not be required on the top four (4) inches of the areas to be seeded.

SEEDED AREAS:~ The area of Seeding, Item L-9, is estimated to extend ten (10) feet beyond the slope limits or to the right of way line if it is less than ten (10) feet beyond the limits of work. Areas unnecessarily disturbed by the Contractor, in the opinion of the Engineer, beyond the limits estimated, shall be seeded according to the requirements of Item L-9 at the Contractor's expense.

EXISTING GUARD RAIL:~ Existing guard rail shall be removed and become the property of the Contractor and shall be disposed of by him. Cost of this work shall be included in the price bid per cubic yard for Roadway Excavation.

DESIGN SPEED:~ The design speed is fifty (50) miles per hour.

TRAFFIC:~ The Contractor shall maintain traffic at all times in accordance with the requirements of Sec. G-8.07. The item of "Maintaining Traffic" shall include furnishing lights, signs, barricades and watchmen necessary to secure the flow of traffic twenty four (24) hours daily.

TEMPORARY RUN-AROUND:~ Temporary Run-around Bridge and Approaches for Bridge No. HO-39-173 shall be provided within 60 days after the date of the contract since the existing bridge is in poor condition and will then be closed to traffic.

SUMMARY OF QUANTITIES

STRUCTURES UNDER 20' SPAN – S

	Ref. No.	Station	See Sheet	Removals: Dispose of Pipe 15" & Under Lin. Ft.	Removals: Dispose of Pipe Over 15" Lin. Ft.			Excavation: Structure Cu. Yds.		Concrete Cu. Yds. Class "E"		Pipe for Roadway Culverts Lin. Ft.		36"	Riprap Sq. Yds.	
Rural	1-S	10+33	6	47												
	2-S	12+74	30		64			5		3.3				87	52	
Total to Recap.				47											52	
Total to Summary					64			5		3.3				87		

APPROACHES – A

	Total of Sheet No.	Pipe – Lin. Ft. For Driveways	15"	Storm Sewer Outlets 12"		I-17 Aggr. Cu. Yds.	No. 2 (Mod.) Curb & Gutter Lin. Ft.	4" Concrete Sidewalks Sq. Ft.	No. 3-A Catch Basins Each	Channel Excavation Cu. Yds.	Riprap Sq. Yds.	
Rural	6		68			13					5	
	7					93						
	8					74						
	9			50			115	688	1	1		
						*27						
Total to Recap.								688			5	
Total to Summ.			68	50		207	115		1	1		

* 15% for Compaction.

SIDEWALKS – SW

	Total of Sheet No.	4" Concrete Sq. Ft.	Type 6 (Mod.) Curb Lin. Ft.	Remove & Dispose Sq. Ft.
Rural	7	128		208
	9	105	4	
Total to Recap.		233		
Total to Summ.			4	208
Mun.	9	210	8	
Total to Summ.		210	8	

EARTHWORK AND SEEDING – E

	Station From	Station To	Excavation – Cu. Yds. Roadway			Embankment Cu. Yds.	Emb. + 20% Cu. Yds.		Seeding Sq. Yds.	Fertilizer Lbs.	Lime Lbs.	
Rural	5+50	13+73	6192			5160	6192		8793	1583	7914	
	13+73	36+92	4595			44,588	53,506		45,477	8186	40,929	
	21+70	24+00							411	74	370	
	26+60	28+50							462	83	416	
Totals (Rural)			10,787			49,748	59,698		55,143	9,926	49,629	
Mun.	36+92	39+81	338			7,657	9,188		3,227	581	2,904	
Totals (Municipal)			338			7,657	9,188		3,227	581	2,904	

Borrow (Rural) – 59,698 – 10,787 = 48,911 Cu. Yds. – 1067 Cu. Yds. (50% of E-3) = 47844 Cu. Yds.
Borrow (Municipal) – 9,188 – 338 = 8,850 Cu. Yds.

GUARD RAILS – R

	Total of Sheet No.	Remove & Dispose Lin. Ft.	New Lin. Ft.	
Rural	6	172		
	7	486	39.5	
	8	1800	36.5	
	9	148	75	
Total to Summ.		*2606	151	
Mun.	9		250	
Total to Summ.			250	

* See Note on Sheet 3

PAVEMENT REMOVAL

	Total of Sheet No.	Remove & Dispose Sq. Yds.	
Rural	6	1447	
	7	2461	
	8	2150	
	9	303	
Total to Summ.		6361	
Mun.	9	610	
Total to Summ.		610	

APPROACH SLABS

	Total of Sheet No.	Slab Sq. Yds.	T-35 Surface Sq. Yds.	T-30 Tack Coat @ 0.1 Gal. Per Sq. Yd. Gals.
Rural	7	80	80	8
	8	160	160	16
	9	48.3	46.7	5
Total to Summ.		288.3	*286.7	29
Mun.	9	48.3	46.7	5
Total to Summ.		48.3	*46.7	5

* Carried to pavement Calculations. (Sheet No. 5)

RECAP TABLE

	From Table	Remove & Dispose of Pipe 15" & Under Lin. Ft.		Riprap Sq. Yds.		4" Concrete Sidewalks Sq. Ft.					
Rural	S	47		52							
	A			5		688					
	SW					233					
	G			164							
	SS	145									
Total to Summ.		192		221		921					

GUTTERS – G

	Total of Sheet No.	Riprap Sq. Yds.	
Rural	6	131	
	7	33	
Total to Recap.		164	

STORM SEWERS – SS

	Total of Sheet No.	Removal & Disposal of Pipe 15" & Under Lin. Ft.	Pipe Lin. Ft. 12"	1-2-A Catch Basins Each	
Rural	6	62	41	1	
	7	83	82		
Total to Recap.		145			
Total to Summ.			123	1	

RETAINING WALLS – W

	Total of Sheet No.	Dowel Holes Lin. Ft.	Reinf'g. Steel Lbs.	Class "E" Concrete Cu. Yds.	
Municipal	9	6	18	1.7	
Total to Recap.					
Total to Summ.		6	18	1.7	

SUMMARY OF QUANTITIES

—PAVEMENT CALCULATIONS—

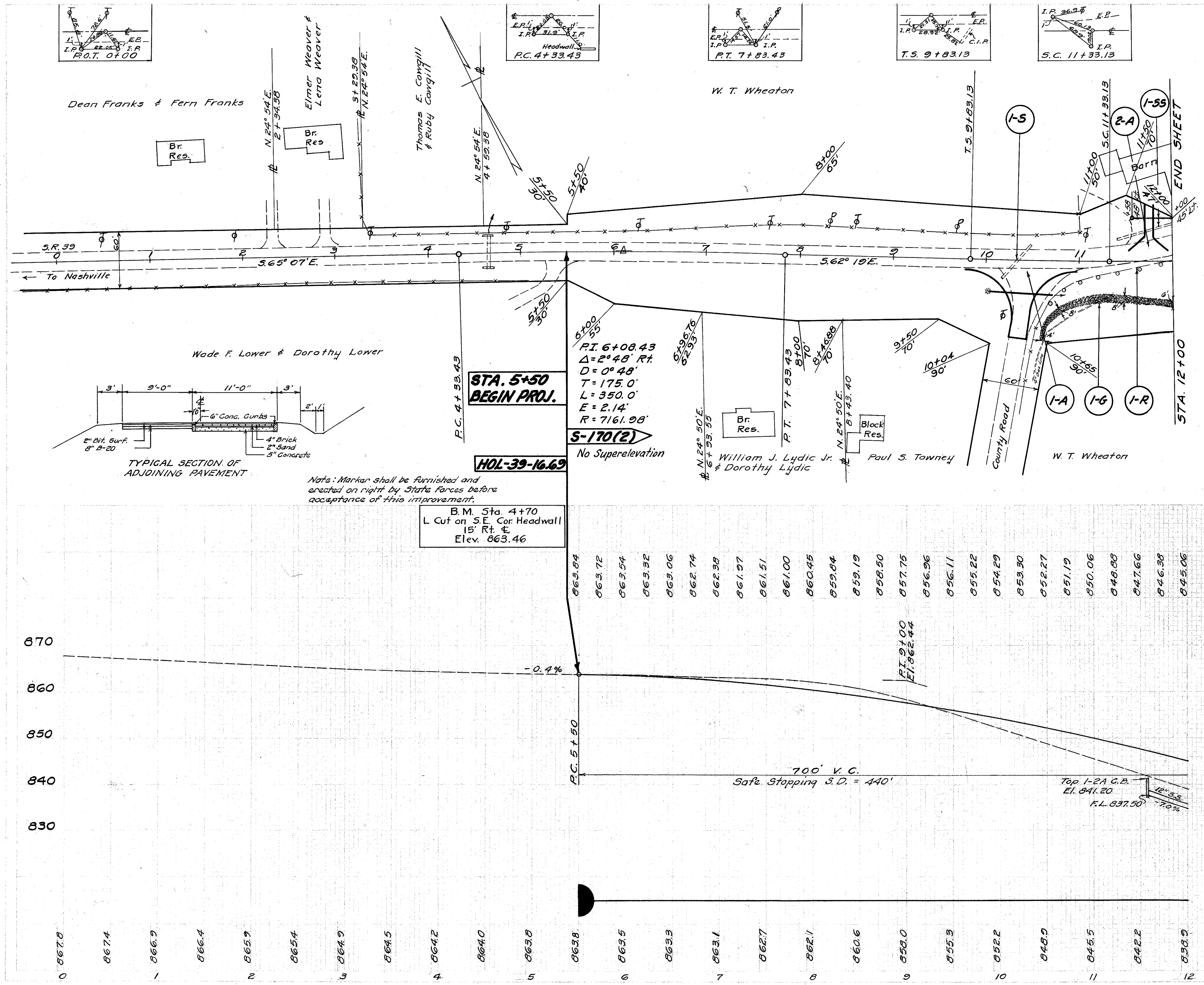
Calculation			
RURAL			
Sta. 5+50 to Sta. 22+02.13	=	1652.13 Lin. Ft.	
Sta. 23+31.36 to Sta. 27+15.75	=	384.39 Lin. Ft.	
Sta. 28+38.25 to Sta. 31+32.25	=	294.00 Lin. Ft.	
Sta. 33+07.75 to Sta. 34+88	=	180.25 Lin. Ft.	
Total length 24' Pavement	=	2510.77 Lin. Ft.	
2510.77 × 24 ÷ 9	=	6695.4 Sq. Yds.	
Sta. 34+88 to Sta. 36+13.75	=	125.75 Lin. Ft.	
125.75 × 25 (Av'ge. width) ÷ 9	=	349.3 Sq. Yds.	
From Approach Sheets. (296 + 379 + 480 + 354)	=	1509.0 Sq. Yds.	
From Approach Slab Table (See sheet 4)	=	286.7 Sq. Yds.	
Total Pavement Area	=	8840.4 Sq. Yds.	
1¼" T-35 Surface Course			
8840.4 × 1.25 ÷ 36	=		307 Cu. Yds.
1¼" B-35 Leveling Course			
8840.4 × 1.25 ÷ 36 = 307 + Extra leveling (.54 × 200)	=		415 Cu. Yds.
T-30 Bituminous Prime			
2510.77 × 25 ÷ 9	=	6974.4 Sq. Yds.	
125.75 × 26 ÷ 9	=	363.3 Sq. Yds.	
From Approach Sheets. (300 + 388 + 494 + 354)	=	1536.0 Sq. Yds.	
Total Prime Area	=	8873.7 Sq. Yds.	
8873.7 × 0.35	=		3106 Gal's.
5" B-20 Base Course			
Same as Prime Area	=		8874 Sq. Yds.
9" SS-5			
2510.77 × 26 ÷ 9	=	7253.3 Sq. Yds.	
125.75 × 27 ÷ 9	=	377.3 Sq. Yds.	
From Approach Sheet No. 28	=	354.0 Sq. Yds.	
Total Area	=	7984.6 Sq. Yds.	
7984.6 × 9 ÷ 36 + (90 × 26 × 0.75 ÷ 27) + (15 × 30 × 0.75 ÷ 27) (for approach slabs)	=		2074 Cu. Yds.
MUNICIPAL			
Sta. 38+04.25 to Sta. 39+81	=	176.75 Lin. Ft.	
176.75 × 26.19 (Av'ge. width) ÷ 9	=	514.3 Sq. Yds.	
From Approach Sheet No. 29	=	411.0 Sq. Yds.	
From Approach Slab Table (See sheet No. 4)	=	46.7 Sq. Yds.	
Total Pavement Area	=	972.0 Sq. Yds.	
1¼" T-35 Surface Course			
972 × 1.25 ÷ 36	=		34 Cu. Yds.
1¼" B-35 Leveling Course			
972 × 1.25 ÷ 36 = 34 + Extra leveling (0.033 × 200)	=		40 Cu. Yds.
T-30 Bituminous Prime			
176.75 × 27.19 (Av'ge. width) ÷ 9	=	534 Sq. Yds.	
From Approach Sheet No. 29	=	432 Sq. Yds.	
Total Prime Area	=	966 Sq. Yds.	
966 × 0.35	=		338 Gal's.
5" B-20 Base Course			
1012.7 - 46.7 (Approach Slab)	=		966 Sq. Yds.
9" SS-5			
176.75 × 28.19 ÷ 9	=	553.7 Sq. Yds.	
From Approach Sheet No. 29	=	451.0 Sq. Yds.	
Total Area	=	1004.7 Sq. Yds.	
1004.7 × 9 ÷ 36 + (15 × 30 × 0.75 ÷ 27) for approach slabs	=		264 Cu. Yds.
6" I-17 Berm Material			
Lt. Side – Sta. 38+04.25 to Sta. 39+75.5	=	171.25 Lin. Ft.	
171.25 × 7.5 (Av'ge. width) × 0.5 ÷ 27	=		23.8 Cu. Yds.
Rt. Side – Sta. 38+04.25 to Sta. 38+29.25	=	25.0 Lin. Ft.	
Sta. 39+01.5 to Sta. 39+87.5	=	86.0 Lin. Ft.	
Total	=	111 Lin. Ft.	
111 × 7.9 (Av'ge. width) × 0.5 ÷ 27	=		16.2 Cu. Yds.
Total I-17	=		40 Cu. Yds.
+15% for Compaction = 6 Cu. Yds. Grand Total I-17	=		46 Cu. Yds.

—WATER—

Rural — 5 × 49,748 = 249 M. Gal's.
Municipal — 5 × 7,657 = 39 M. Gal's.

GENERAL SUMMARY

ITEM No.	CODE TYPE 6201 QUANTITY RURAL	MUN.	TOTAL	UNIT	DESCRIPTION
					ROADWAY
E-1	10,787	338	11,125	Cu. Yds.	Roadway Excavation, as per Plan.
E-4	47,844	8850	56694	Cu. Yds.	Borrow.
E-8	6,361	610	6,971	Sq. Yds.	Removal and Disposal of Existing Pavement.
E-8	208		208	Sq. Ft.	Removal and Disposal of Existing Sidewalk.
E-11	249	39	288	M. Gal's.	Water.
E-12	192		192	Lin. Ft.	Pipe Removed and Disposed of, 15" and Under.
E-12	64		64	Lin. Ft.	Pipe Removed and Disposed of, Over 15".
I-13	921	210	1131	Sq. Ft.	4" Concrete Sidewalks.
I-15	151	250	401	Lin. Ft.	Guard Rail, Steel Beam Type (Deep).
I-17	207	46	253	Cu. Yds.	Side Approaches, Mail Box Turnouts and Berm Material, As Per Plan.
L-9	55,143	3227	58,370	Sq. Yds.	Seeding and Protecting, Type "A".
L-9	4.96	0.29	5.25	Tons.	Commercial Fertilizer. (10-6-4)
L-9	24.81	1.45	26.26	Tons.	Agricultural Ground Limestone.
M-10	14	2	16	Tons.	Calcium Chloride for Maintaining Traffic.
T-10	700	100	800	Cu. Yds.	Traffic Compacted Surface Course for Maintaining Traffic.
					DRAINAGE
E-2	5		5	Cu. Yds.	Excavation for Structures.
E-3	1		1	Cu. Yds.	Channel Excavation.
I-1	68		68	Lin. Ft.	15" Pipe for Driveways.
I-2	123		123	Lin. Ft.	12" Storm Sewers.
I-2	50		50	Lin. Ft.	12" Outlets For Storm Sewers
I-9	200		200	Lin. Ft.	Stone Underdrains, No. 1
I-8	1		1	Each	Standard No. 1-2-A Catch Basin
I-8	1		1	Each	Standard No. 3-A Catch Basin
I-9	400	100	500	Lin. Ft.	Stone Underdrains, No. 2
I-10	221		221	Sq. Yds.	Riprap, Type "A" Grout Filled, as per plan.
S-1		1.7	1.7	Cu. Yds.	Concrete for Structures, Class "E", Retaining Wall as per plan
S-1	3.3		3.3	Cu. Yds.	Concrete for Structures, Class "E"
S-4		18	18	Lbs.	Reinforcing Steel.
S-23		6	6	Lin. Ft.	Dowel Holes.
S-27		87	87	Lin. Ft.	36" Pipe for Roadway Culverts.
					PAVEMENT
SS-5	2074	264	2338	Cu. Yds.	Classified Embankment Material, Grading C or D.
B-20	8874	966	9840	Sq. Yds.	5" Waterbound Macadam Base Course.
B-35	415	40	455	Cu. Yds.	Asphaltic Concrete Leveling Course. (85-100).
T-30	3106	338	3444	Gal's.	Bituminous Prime Coat, Sec. M-5.7, RT-2 or 3.
T-30	29	5	34	Gals.	Bituminous Tack Coat, Sec. M-5.5 MS-2 or SS-1
T-35	307	34	341	Cu. Yds.	Asphaltic Concrete Surface Course, Type "A". (85-100).
I-7	289	48	337	Sq. Yds.	Reinforced Concrete Approach Slabs, as per plan.
I-12	115		115	Lin. Ft.	Std. Type 2 Combination Curb and Gutter, Modified As Per Plan
I-12	4	8	12	Lin. Ft.	Std. Type 6 Curb, Modified As Per Plan.
					STRUCTURES OVER 20' SPAN
					See Sheet No's. 36, 40, 43 & 45 for Quantities.



STRUCTURES-20' SPAN & UNDER

Ref. No.	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
1-S	10+33		C.I.P.& V.S.P.	14"	47'			

APPROACHES

Ref. No.	Station	Side	See Sheet	Pipe Lin. Ft. 15"	I-17 Aggr. Cu. Yds.	Riprap Sq. Yds.
1-A	10+45.54	Rt.	25	68		5
2-A	11+75	Lt.	12		13	
Sheet Totals				68	13	5

STORM SEWERS

Ref. No.	Station From	Station To	Side	Remove Lin. Ft. 15"	Pipe Lin. Ft. 12"	I-2A Basins Each
1-SS	11+40	12+00	Lt.	62	41	1
Sheet Totals				62	41	1

PAVEMENT REMOVAL

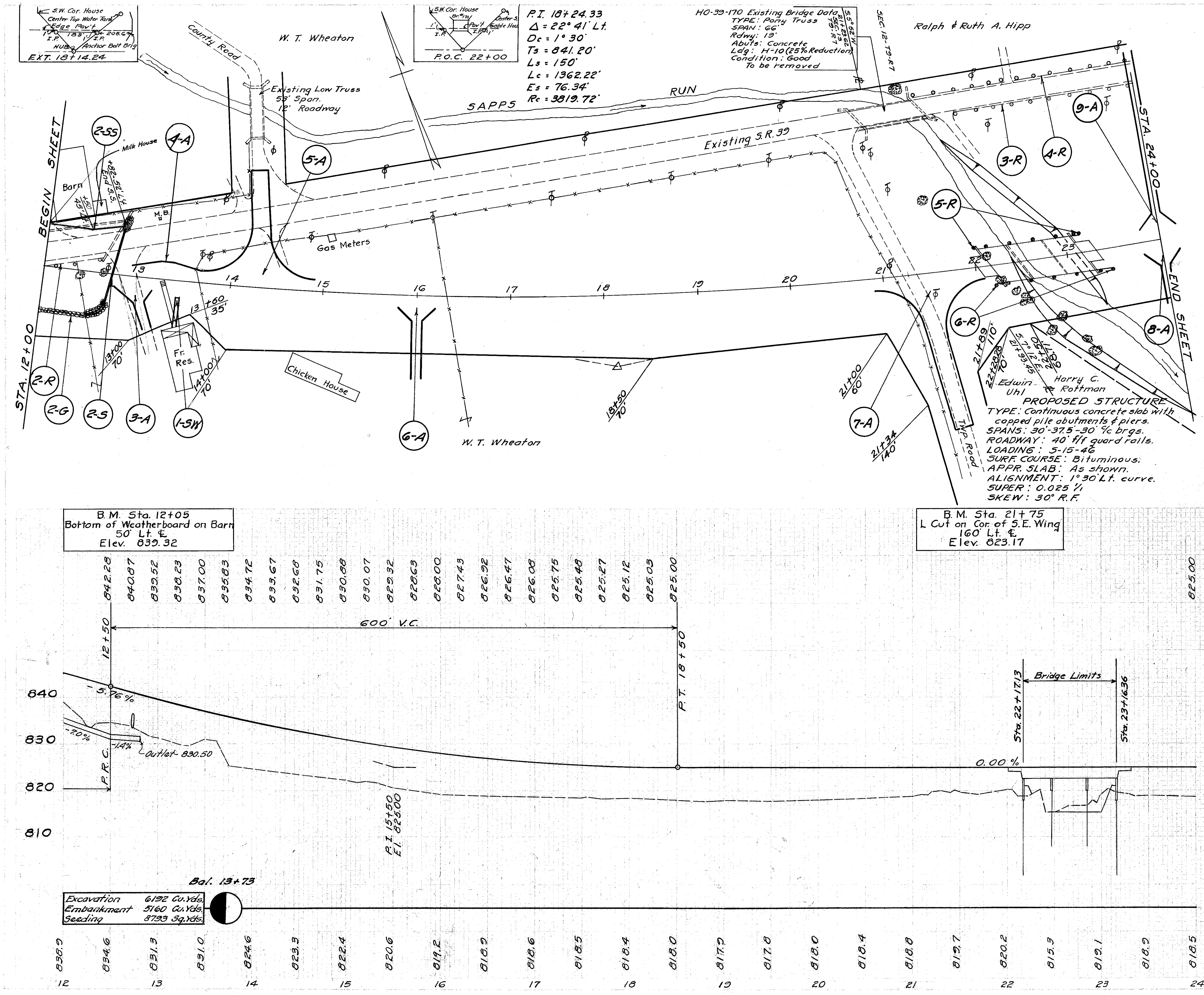
Station From	Station To	Pavem't. Sq. Yds.
5+50	12+00	1447
Sheet Totals		1447

GUARD RAILS

Ref. No.	Station From	Station To	Side	Remove Lin. Ft.
1-R	10+55	12+00	Rt.	172
Sheet Totals				172

GUTTERS

Ref. No.	Station From	Station To	Side	Riprap Sq. Yds.
1-G	10+60	12+00	Rt.	131
Sheet Totals				131



STRUCTURES - 20' SPAN & UNDER

Ref. No.	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
2-S	12+74	30	C.M.P.	24"	64'	Pipe	36"	87'

APPROACHES

Ref. No.	Station	Side	See Sheet	I-17 Aggr. Cu. Yds.
3-A	12+91	Rt.	13	13
4-A	13+30	Lt.		6
5-A	14+36	Lt.	26	
6-A	16+00	Rt.	13	19
7-A	21+40	Rt.	27	
8-A	24+00	Rt.	17	15
9-A	24+00	Lt.	17	40
Sheet Totals				93

STORM SEWERS

Ref. No.	Station From	Station To	Side	Remove Lin. Ft. 15"	Pipe Lin. Ft. 12"
2-SS	12+00	12+82	Lt.	83	82
Sheet Totals				83	82

GUARD RAILS

Ref. No.	Station From	Station To	Side	Remove Lin. Ft.	New Lin. Ft.	Remarks
2-R	12+00	12+60	Lt.	60		
3-R	21+98	24+00	Lt.	192		
4-R	21+54	24+00	Lt.	234		
5-R	22+02.08	23+14.58	Lt.		13.5	99' is Bridge Railing
6-R	22+18.92	23+43.92	Rt.		26	99' is Bridge Railing
Sheet Totals				486	39.5	

PAVEMENT REMOVAL

Station From	Station To	Pavem't. Sq. Yds.
12+00	20+90	1945
21+60	24+00	516
Sheet Totals		2461

APPROACH SLABS

Station From	Station To	See Sheet	Slab Sq. Yds.	T-35 Surface Sq. Yds.	Remarks
22+02.13	22+17.13		40	40	AS-4-47
23+16.36	23+31.36		40	40	
Sheet Totals			80	80	

SIDEWALKS

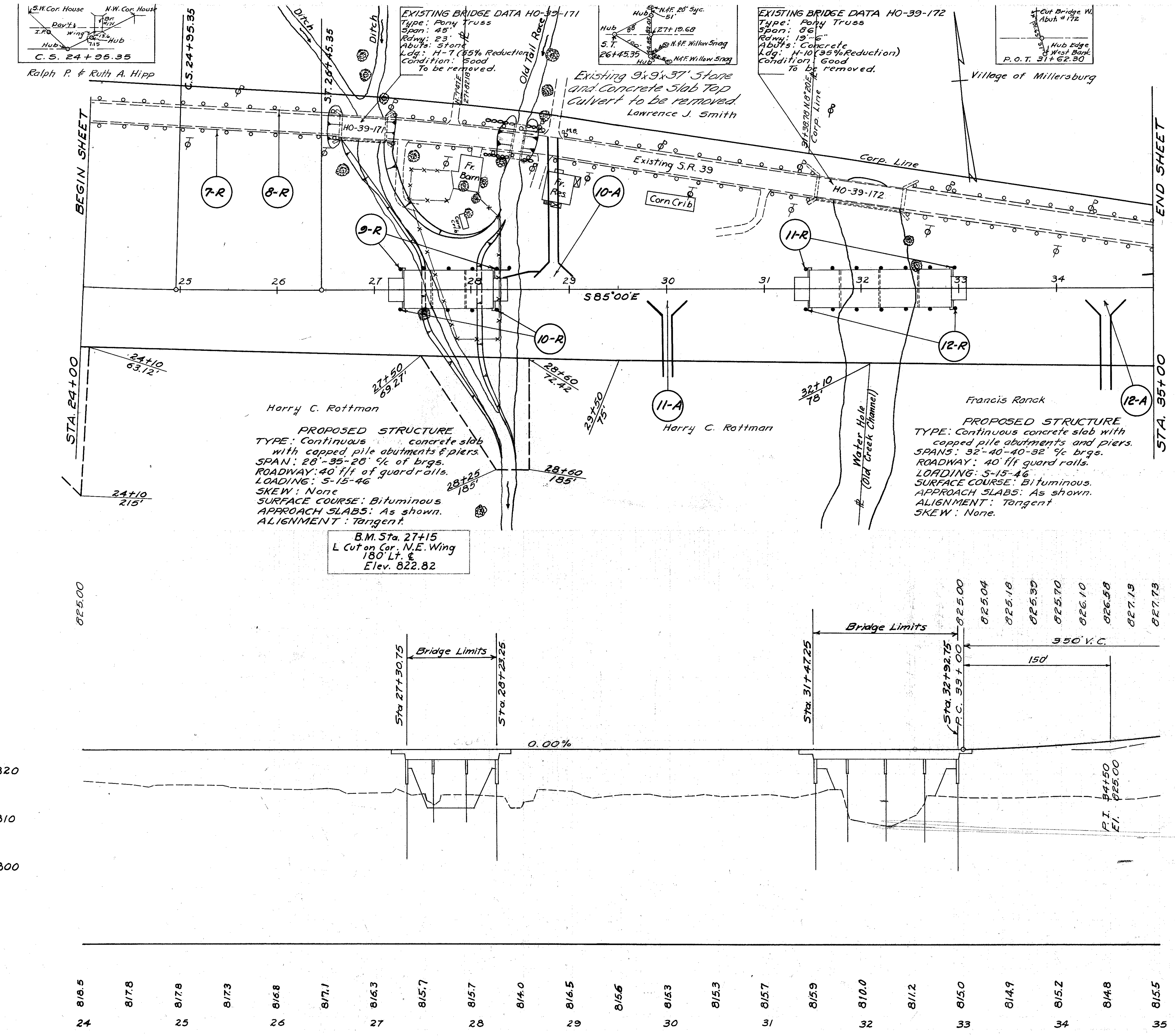
Ref. No.	Station	Side	Remove Sq. Ft.	New 4"×4' Sq. Ft.
1-SW	13+45	Rt.	208	128
Sheet Totals			208	128

GUTTERS

Ref. No.	Station From	Station To	Side	Riprap Sq. Yds.
2-G	12+00	12+50	Rt.	33
Sheet Totals				33

2 S-170(2) Postwar

HOL -39-(16.69-17.29)



STRUCTURES - 20' SPAN & UNDER

Ref. No.	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length

APPROACHES

Ref. No.	Station	Side	See Sheet	I-17 Aggr. Cu. Yds.
10-A	28+85	Lt.	20	34
11-A	30+00	Rt.	20	19
12-A	34+50	Rt.	22	21
Sheet Totals				74

GUARD RAILS

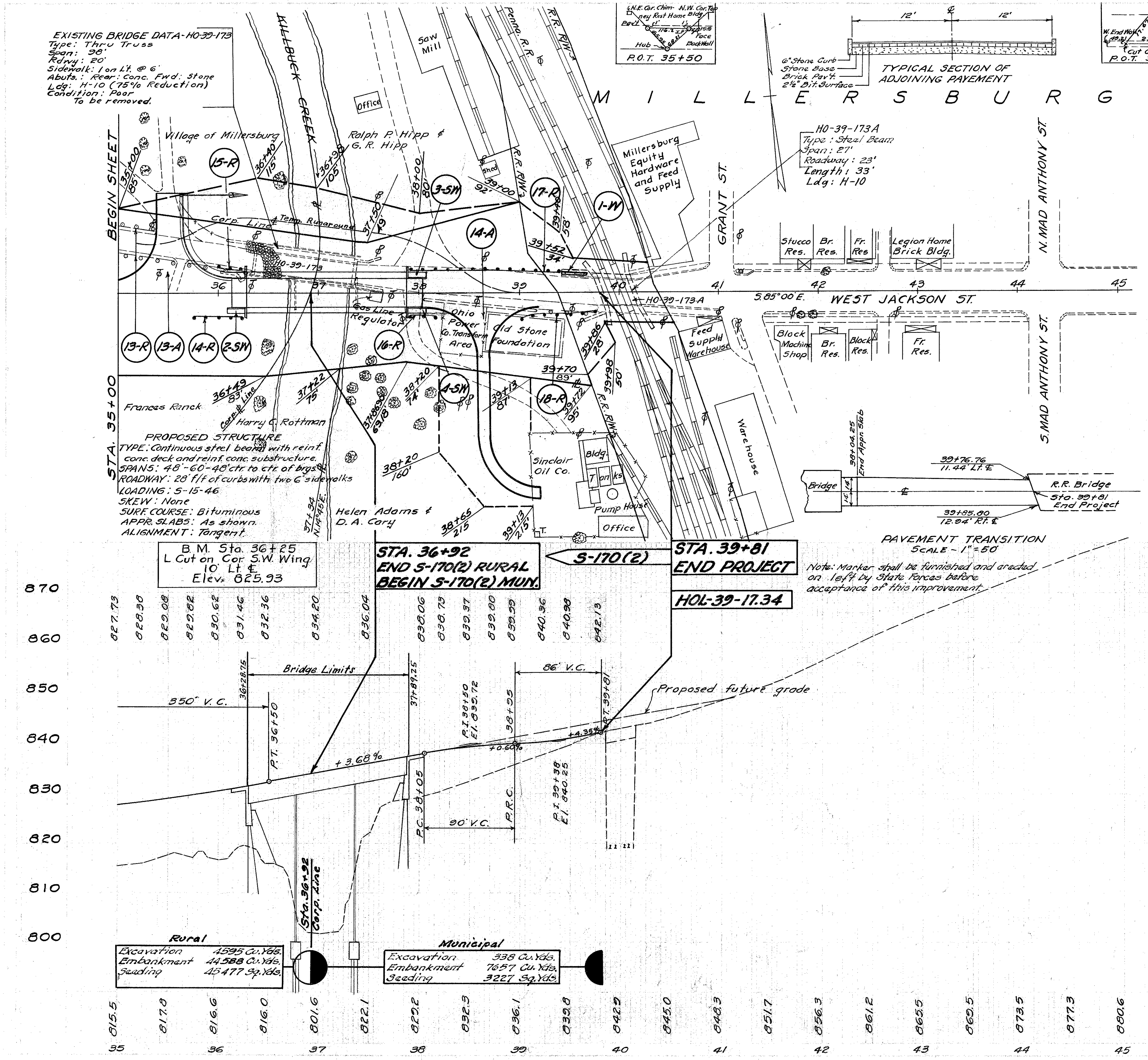
Ref. No.	Station From	Station To	Side	Remove Lin. Ft.	New Lin. Ft.	Remarks
7-R	24+00	35+00	Lt.	895		
8-R	24+00	35+00	Lt.	905		
9-R	27+27.15	28+39.65	Lt.		20	92.5' is Bridge Railing
10-R	27+26.85	28+26.85	Rt.		7.5	92.5' is Bridge Railing
11-R	31+44.85	32+94.85	Lt.		4.5	145.5' is Bridge Railing
12-R	31+45.15	32+95.15	Rt.		4.5	145.5' is Bridge Railing
Sheet Totals				1800	36.5	

PAVEMENT REMOVAL

Station From	Station To	Pavem't. Sq. Yds.	Remarks
24+00	35+00	2150	Deduct for Bridges
Sheet Totals		2150	

APPROACH SLABS

Station From	Station To	See Sheet	Slab Sq. Yds.	T-35 Surface Sq. Yds.	Remarks
27+15.75	27+30.75		40	40	AS-4-47
28+23.25	28+38.25		40	40	AS-4-47
31+32.25	31+47.25		40	40	AS-4-47
32+92.75	33+07.75		40	40	AS-4-47
Sheet Totals			160	160	



APPROACHES

	Ref. No.	Station	Side	See Sheet		No.2 (Mod) Curb & Gutter Lin. Ft.	4" Conc. Sidewalks Sq. Ft.	No. 3-A Catch Basin Each	12" S.S. Outlets Lin. Ft.	Channel Excavat'n. Cu. Yds.
Rural	13-A	35+50	Lt.	28		115	688	1	50	1
	Sheet Totals (Rural)					115	688	1	50	1
Mun.	14-A	38+65	Rt.	29						
	Sheet Totals (Mun.)									

GUARD RAILS

	Ref. No.	Station From	Station To	Side	Remove Lin. Ft.	New Lin. Ft.
Rural	13-R	35+00	36+28	Lt. & Rt.	148	
	14-R	35+77	36+27	Rt.		50
	15-R	36+02	36+27	Lt.		25
	Sheet Totals (Rural)				148	75
Mun.	16-R	37+91	38+16	Rt.		25
	17-R	37+91	39+41	Lt.		150
	18-R	39+00	39+75	Rt.		75
	Sheet Totals (Mun.)					250

PAVEMENT REMOVAL

	Station From	Station To	Pavem't. Sq. Yds.
Rural	35+00	36+36	303
	Sheet Totals (Rural)		303
Mun.	37+37	39+81	610
	Sheet Totals (Mun.)		610

APPROACH SLABS

	Station From	Station To	See Sheet	Slab Sq. Yds.	T-35 Surface Sq. Yds.	Remarks
Rural	36+13.75	36+28.75	31	48.3	46.7	AS-4-47 (As per plan)
	Sheet Totals (Rural)			48.3	46.7	
Mun.	37+89.25	38+04.25	31	48.3	46.7	AS-4-47 (As per plan)
	Sheet Totals (Mun.)			48.3	46.7	

SIDEWALKS

	Ref. No.	Station From	Station To	Side	4"×5.5' Sq. Ft.		Type 6 (Mod) Curb Lin. Ft.
Rural	2-SW	36+09.75	36+28.75	Rt.	105		4
	Sheet Totals (Rural)				105		4
Mun.	3-SW	37+89.25	38+08.25	Lt.	105		4
	4-SW	37+89.25	38+08.25	Rt.	105		4
	Sheet Totals (Mun.)				210		8

RETAINING WALL

	Ref. No.	Station From	Station To	See Sheet	Dowel Holes Lin. Ft.	Reinf'g. Steel Lbs.	Class "E" Concrete Cu. Yds.
Mun.	1-W	39+43.5	39+68	31	6	18	1.7
	Sheet Totals (Mun.)				6	18	1.7

CURVE TABLES

T.S. 9+83.13			D = 1°30' LT.		S.T. 26+45.35		
LEFT					RIGHT		
Edge of Pav't.	Deduct Crown	Width	STATION	Profile Grade	Width	Add Super	Edge of Pav't.
857.29	0.19	12.00	9+08.88	857.48	12.00	0.00	857.29
856.77			+25	856.96		0.04	856.81
855.92			+50	856.11		0.10	856.02
855.03			+75	855.22		0.16	855.19
854.73			T.S.+83.13	854.92		0.19	854.92
854.10			10+00	854.29		0.24	854.34
853.11			+25	853.30		0.30	853.41
852.08			+50	852.27		0.37	852.45
851.00			+75	851.19		0.44	851.44
849.87			11+00	850.06		0.51	850.38
848.69			+25	848.88		0.58	849.27
848.30			S.C.+38.13	848.49		0.60	848.90
847.47			+50	847.66			848.07
846.19			+75	846.38			846.79
844.87			12+00	845.06			845.47
843.51			+25	843.70			844.11
842.09			+50	842.28			842.69
840.68			+75	840.87			841.28
839.33			13+00	839.52			839.93
838.04			+25	838.23			838.64
836.81			+50	837.00			837.41
835.64			+75	835.83			836.24
834.53			14+00	834.72			835.13
833.48			+25	833.67			834.08
832.49			+50	832.68			833.09
831.56			+75	831.75			832.16
830.69			15+00	830.88			831.29
829.88			+25	830.07			830.48
829.13			+50	829.32			829.73
828.44			+75	828.63			829.04
827.81			16+00	828.00			828.41
827.24			+25	827.43			827.84
826.73			+50	826.92			827.33
826.28			+75	826.47			826.88
825.89			17+00	826.08			826.49
825.56			+25	825.75			826.16
825.29			+50	825.48			825.89
825.08			+75	825.27			825.68
824.93			18+00	825.12			825.53
824.84			+25	825.03			825.44
824.81			+50	825.00			825.41
			+75				
			19+00				
			+25				
			+50				
			+75				
			20+00				
			+25				
			+50				
			+75				
			21+00				
			+25				
			+50				
			+75				
			22+00				
			+25				
			+50				
			+75				
			23+00				
824.81	0.19	12.00	+25	825.00	12.00	0.60	825.41
CONTINUED IN COLUMN ON RIGHT							

LEFT					RIGHT		
Edge of Pav't.	Deduct Crown	Width	STATION	Profile Grade	Width	Add Super	Edge of Pav't.
824.81	0.19	12.00	23+50	825.00	12.00	0.60	825.41
			+75				
			24+00				
			+25				
			+50				
			+75				
			C.S.+95.35			0.60	825.41
			25+00			0.59	825.40
			+25			0.52	825.33
			+50			0.45	825.26
			+75			0.38	825.19
			26+00			0.31	825.12
			+25			0.24	825.05
			S.T.+45.35			0.19	825.00
			+50			0.18	824.99
			+75			0.11	824.92
			27+00			0.05	824.86
			+19.60			Obt. Graph	824.83
			+25				824.82
824.81	0.19	12.00	+50	825.00	12.00		824.81

NOTE: The design speed is 50 Mph.

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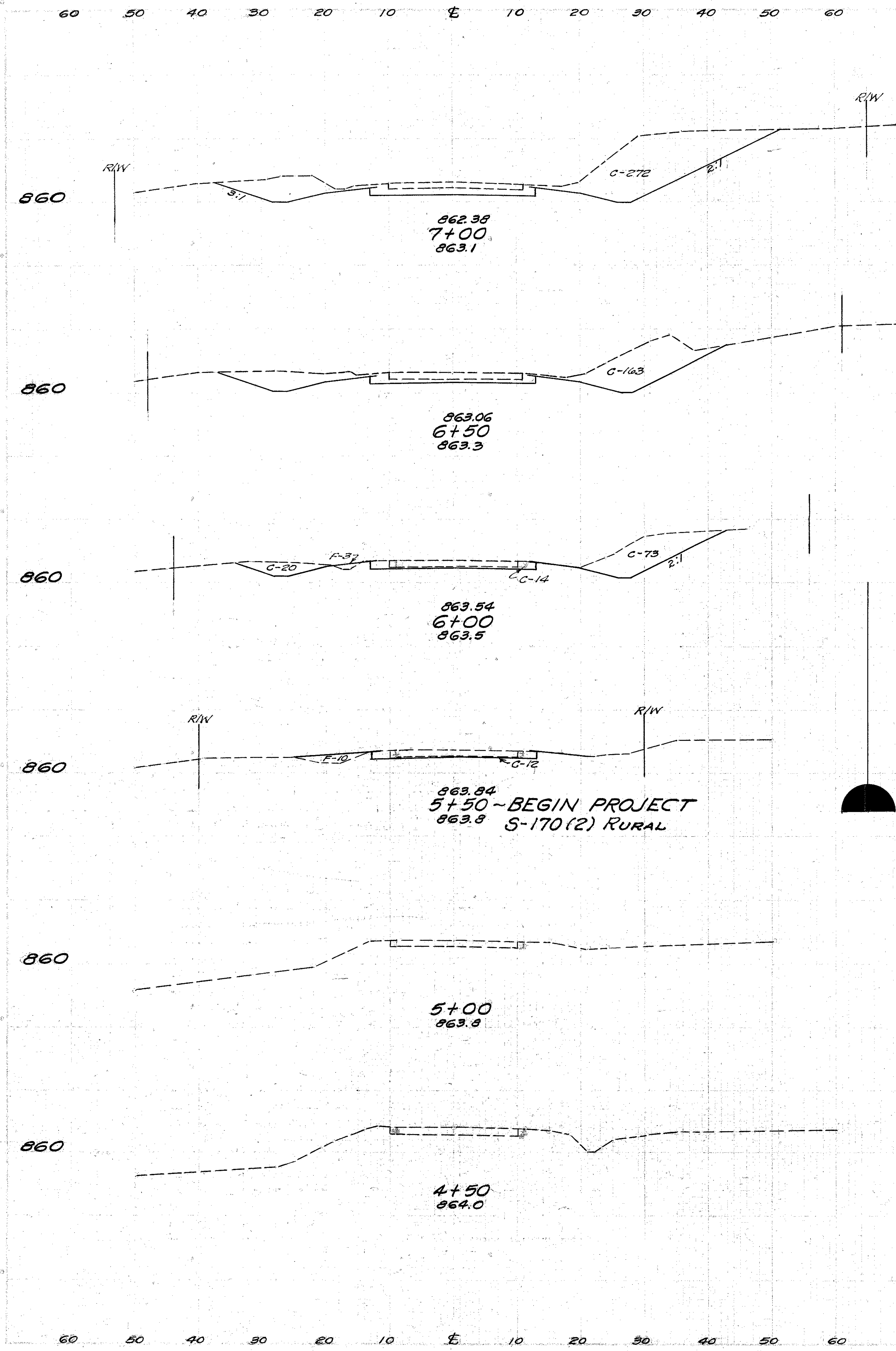
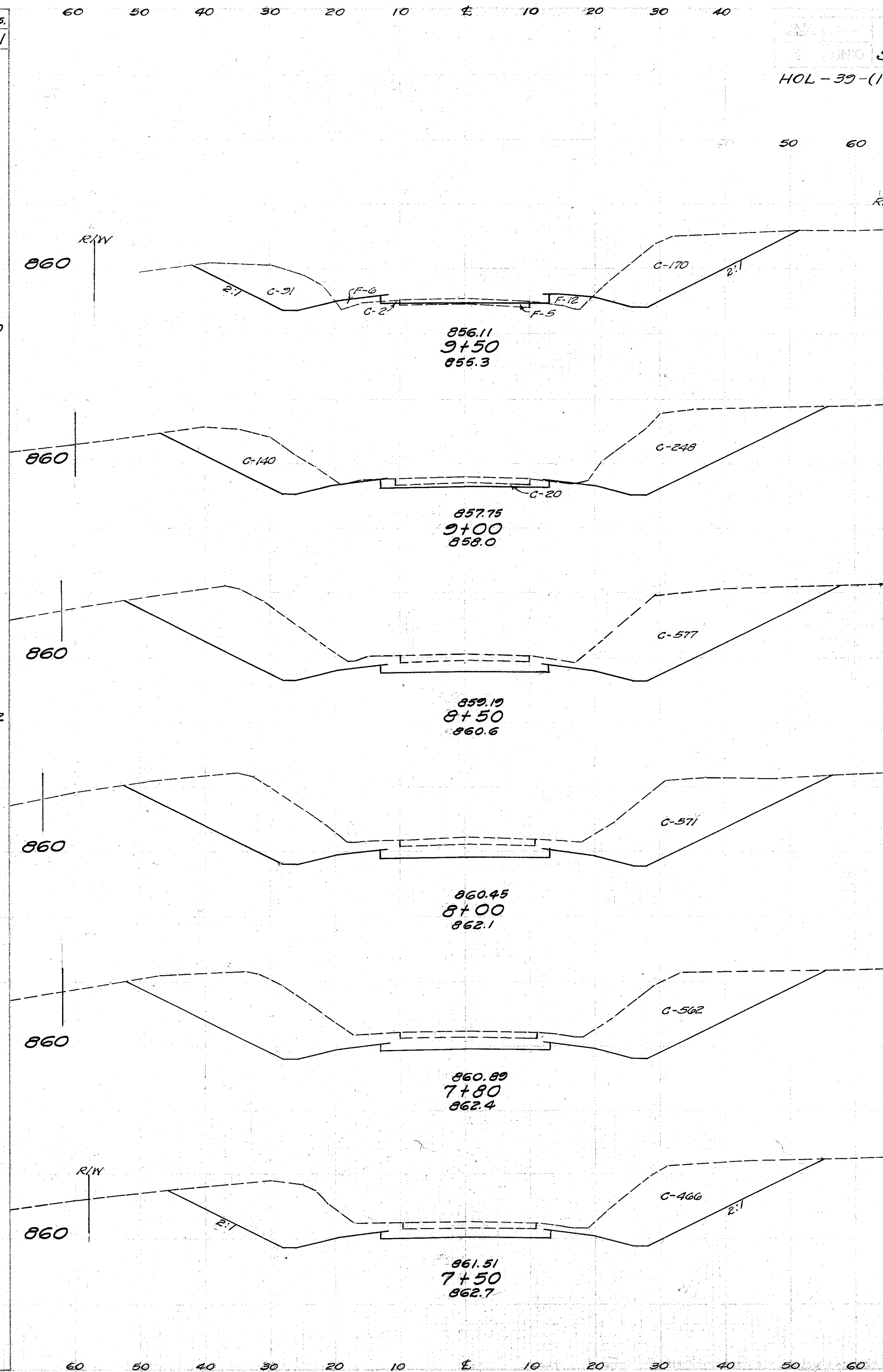
HOL-39-(16.69~17.29)



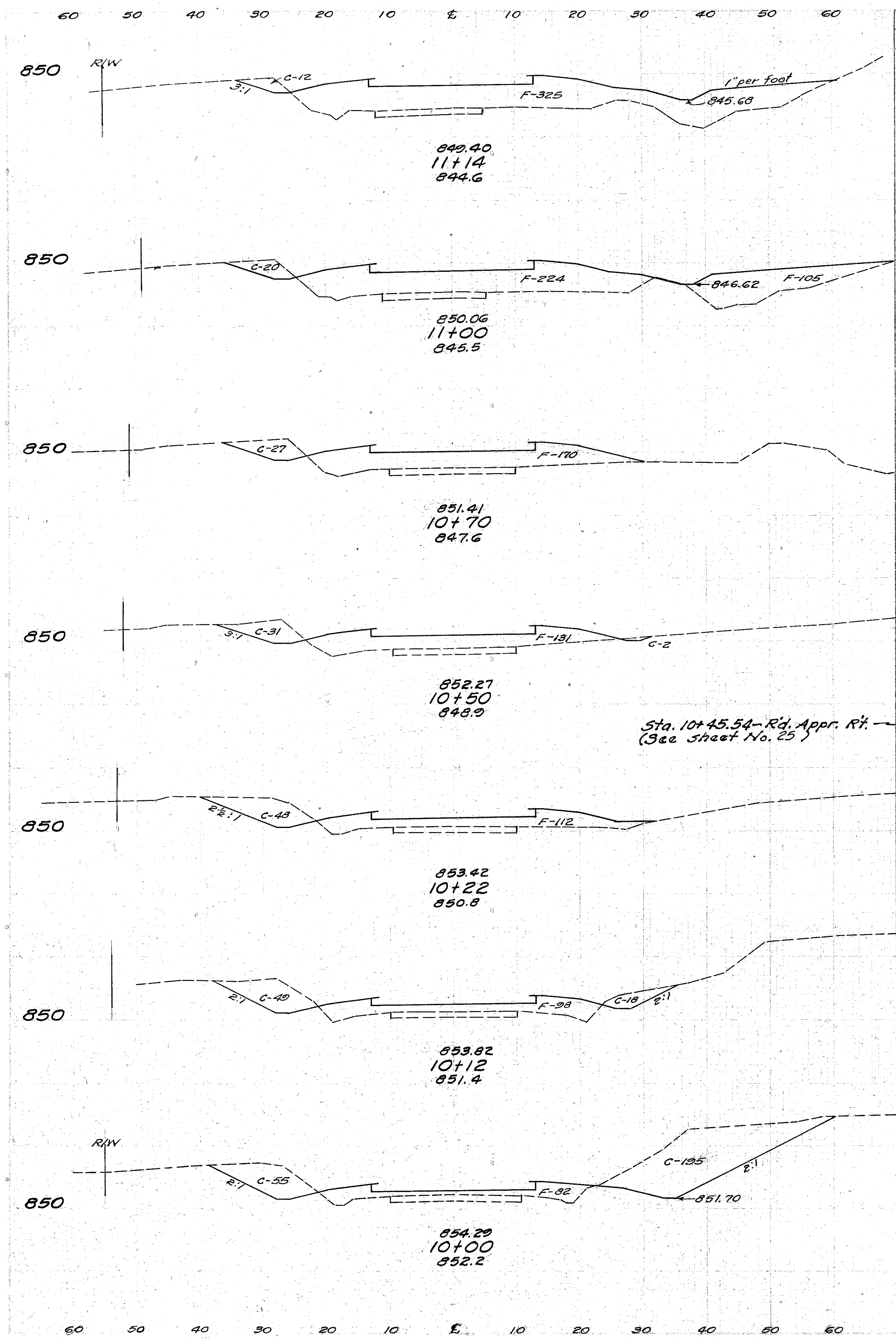
Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
	528			683	0
88		272	0		
	458			403	0
77		163	0		
	422			250	3
75		107	3		
	319			110	12
40		12	10		



Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
	536			475	97
94		263	23		
	550			621	21
104		408	0		
	603			912	0
113		577	0		
	622			1063	0
111		571	0		
	246			420	0
110		562	0		
	353			571	0
102		466	0		

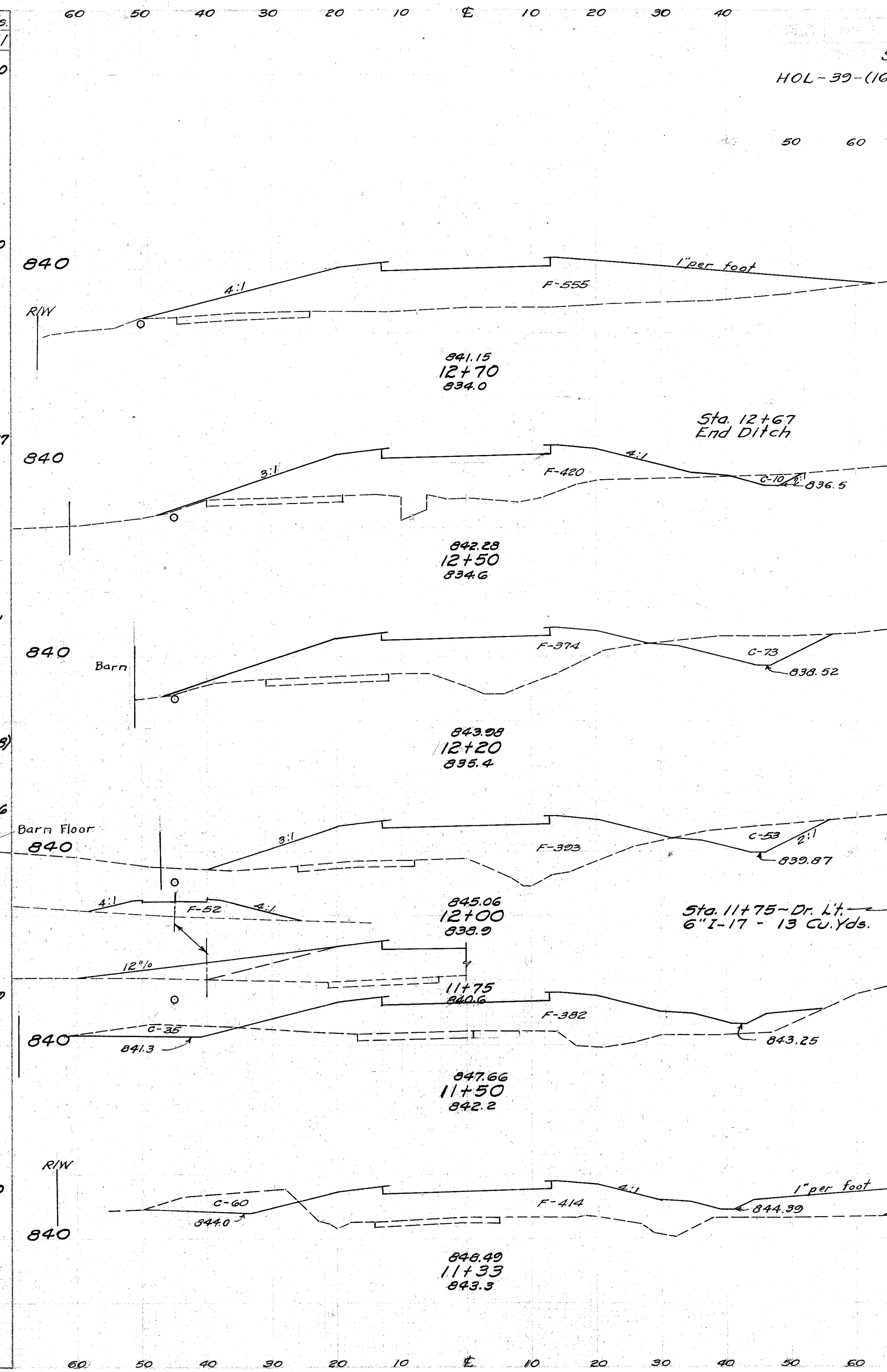
STA. 4+50 TO STA. 9+50

S-170(2) Postwar
HOL-39-(16.69-17.29)



Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	222			25	260
91		12	325		
	151			8	170
103		20	329		
	278			26	277
64		27	170		
	144			22	111
66		33	131		
	(293)			(260)	(128)
	210			42	126
69		48	112		
	78			21	39
71		67	98		
	113			70	40
99		250	82		

Sta. 10+45.54 – Rd. Appr. Rt. (See sheet No. 25)



Sta. 12+67 End Ditch

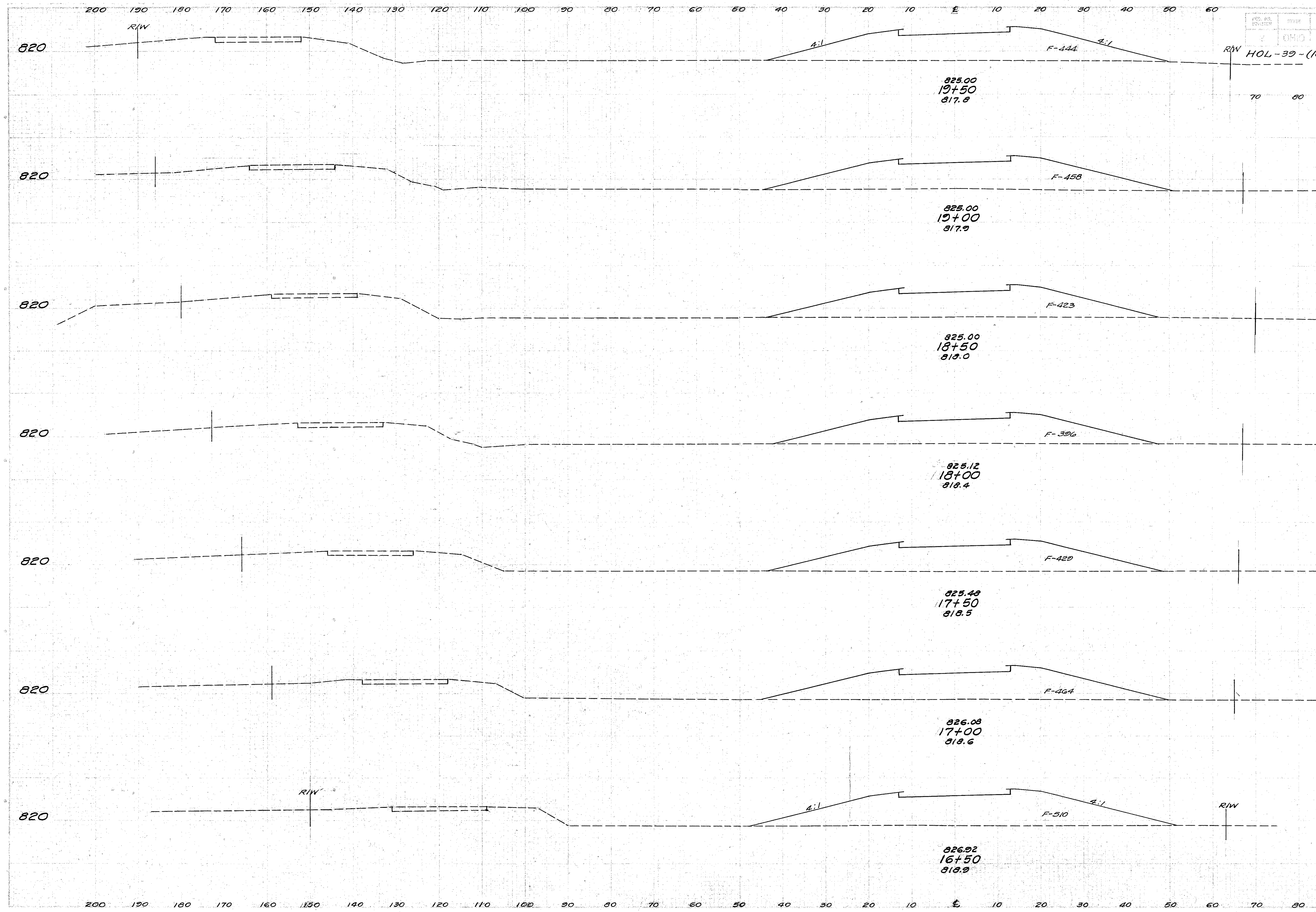
Sta. 11+75 – Dr. Lt. 6" I-17 – 13 Cu. Yds.

Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	353			0	611
108		0	555		
		0/10			
	228			6	361
97		10	420		
	322			46	441
96		73	374		
	209			47	284
92		53	393	(0)	(48)
	567			81	718
112		35	382		
	218			30	251
119		60	414		

STA. 13+00 TO STA. 16+00

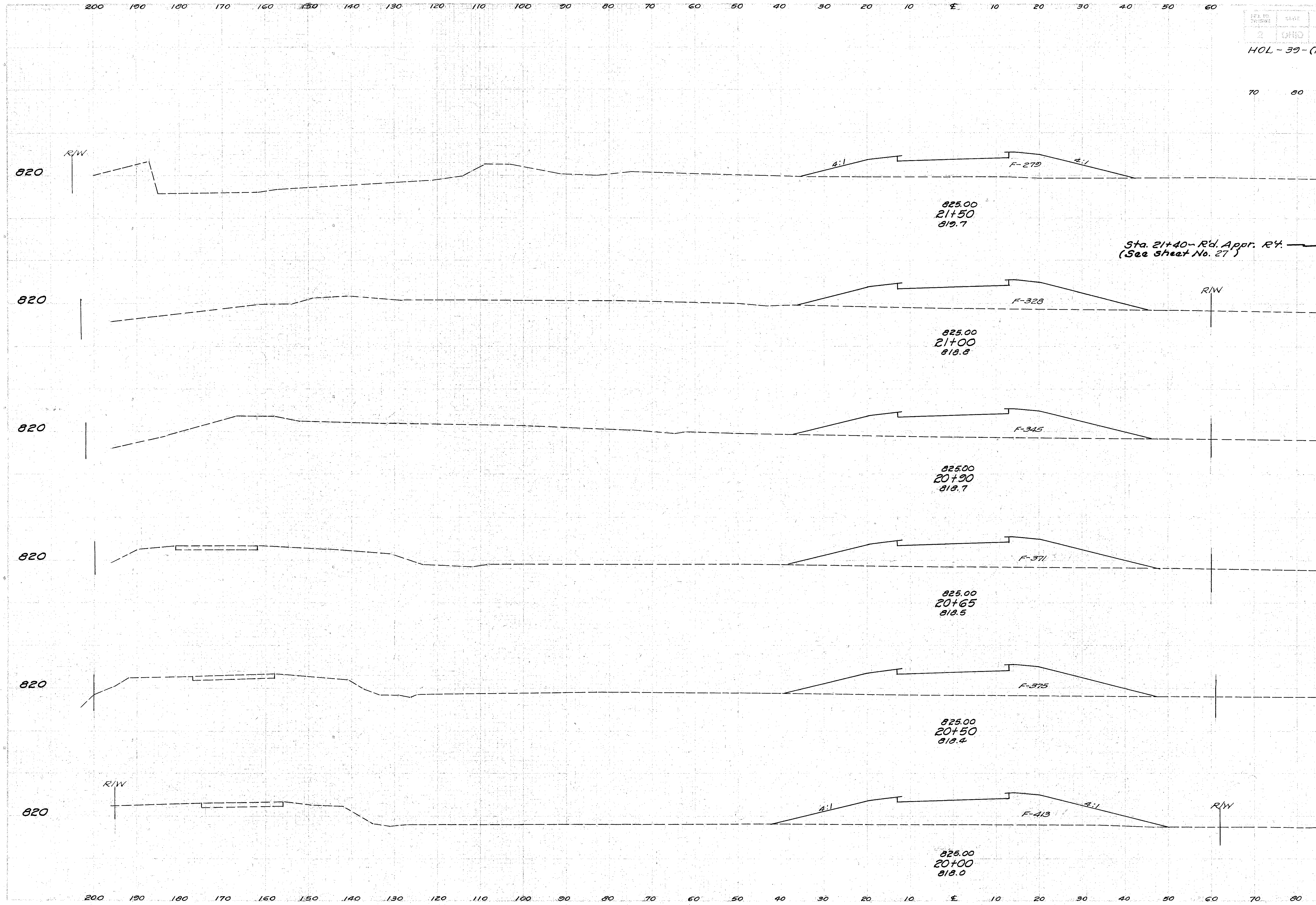
OHIO | S-170(2) | Postwar | 14 / 49

HOL-39-(16.69-17.29)



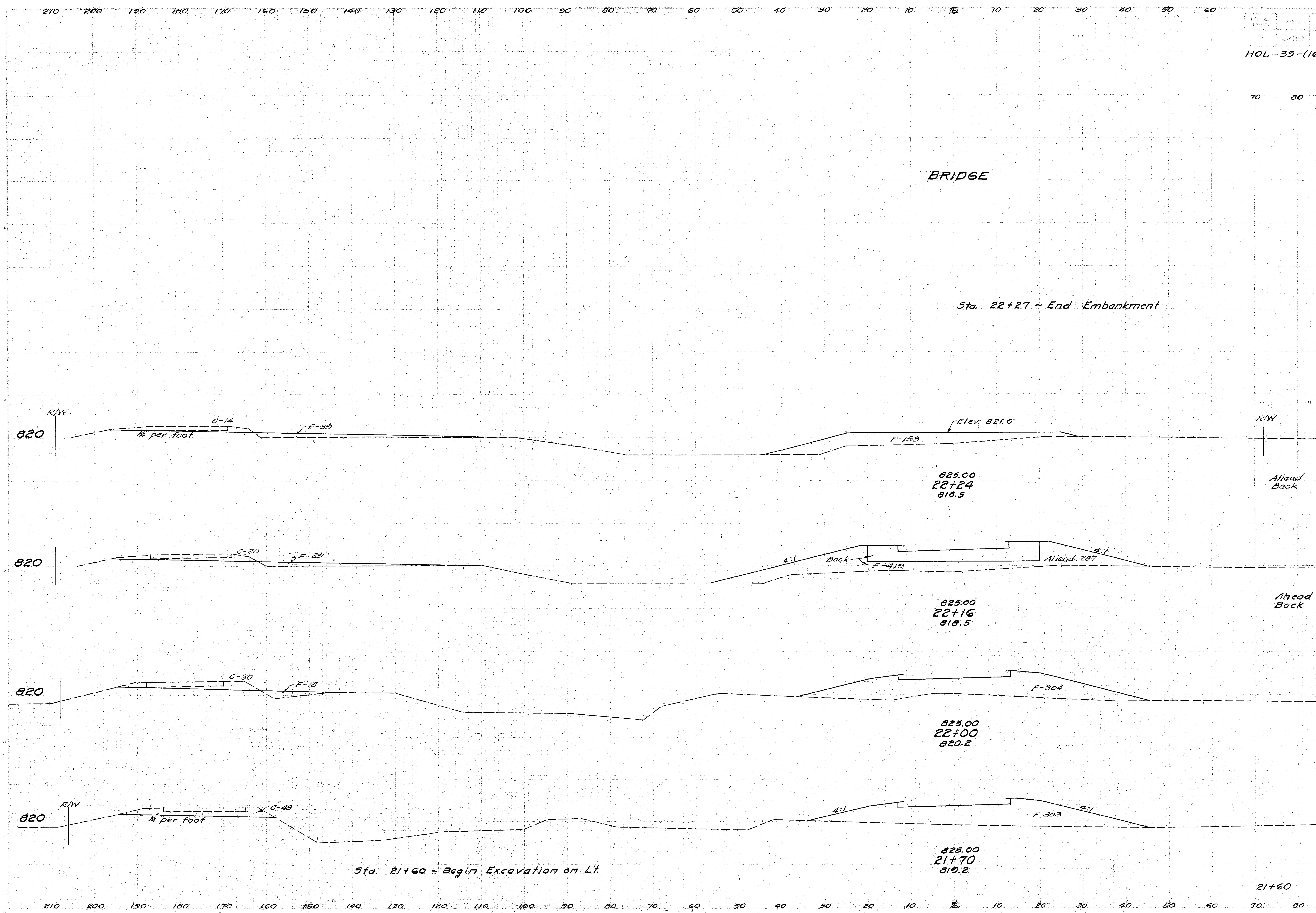
Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
217		0	444		
	1181			0	835
208		0	458		
	1133			0	816
200		0	423		
	1094			0	758
194		0	396		
	1061			0	764
188		0	429		
	1025			0	827
181		0	464		
	997			0	902
178		0	510		

STA. 16+50 TO STA. 19+50



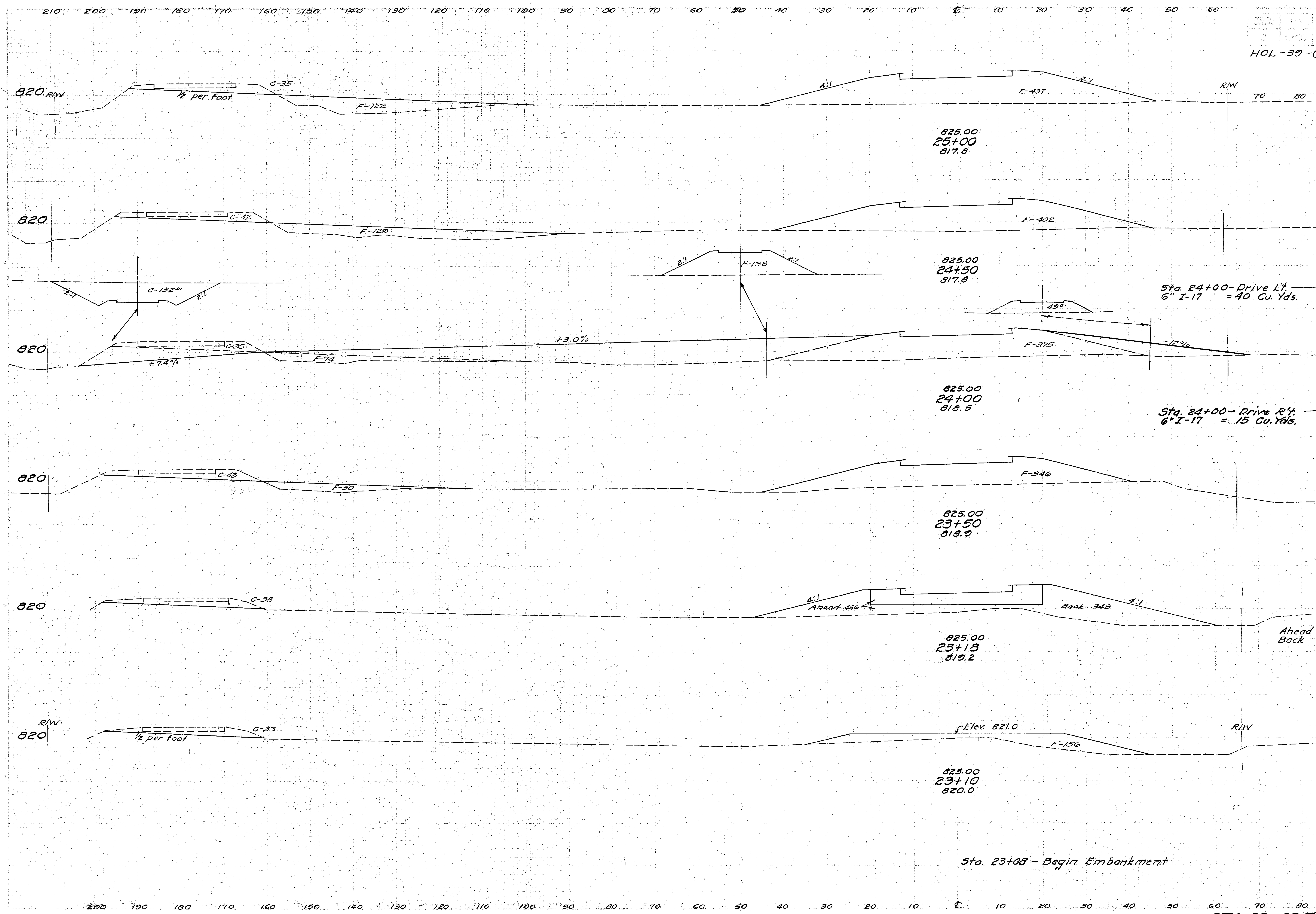
Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	500			9	216
215		0	279		
	(773)			(31)	(947)
	1208			0	562
220		0	328		
	246			0	125
222		0	345		
	618			0	331
223		0	371		
	367			0	207
217		0	375		
	1211			0	730
219		0	413		
	1211			0	794

STA. 20+00 TO STA. 21+50



Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	1696			75	
			0		
					11
35 / 179		14	192		
	187			5	75
241		20	316 / 448		
	420			15	228
232		30	322		
	778			43	347
235		48	303	18	
		48			

STA. 21+70 TO STA. 22+27

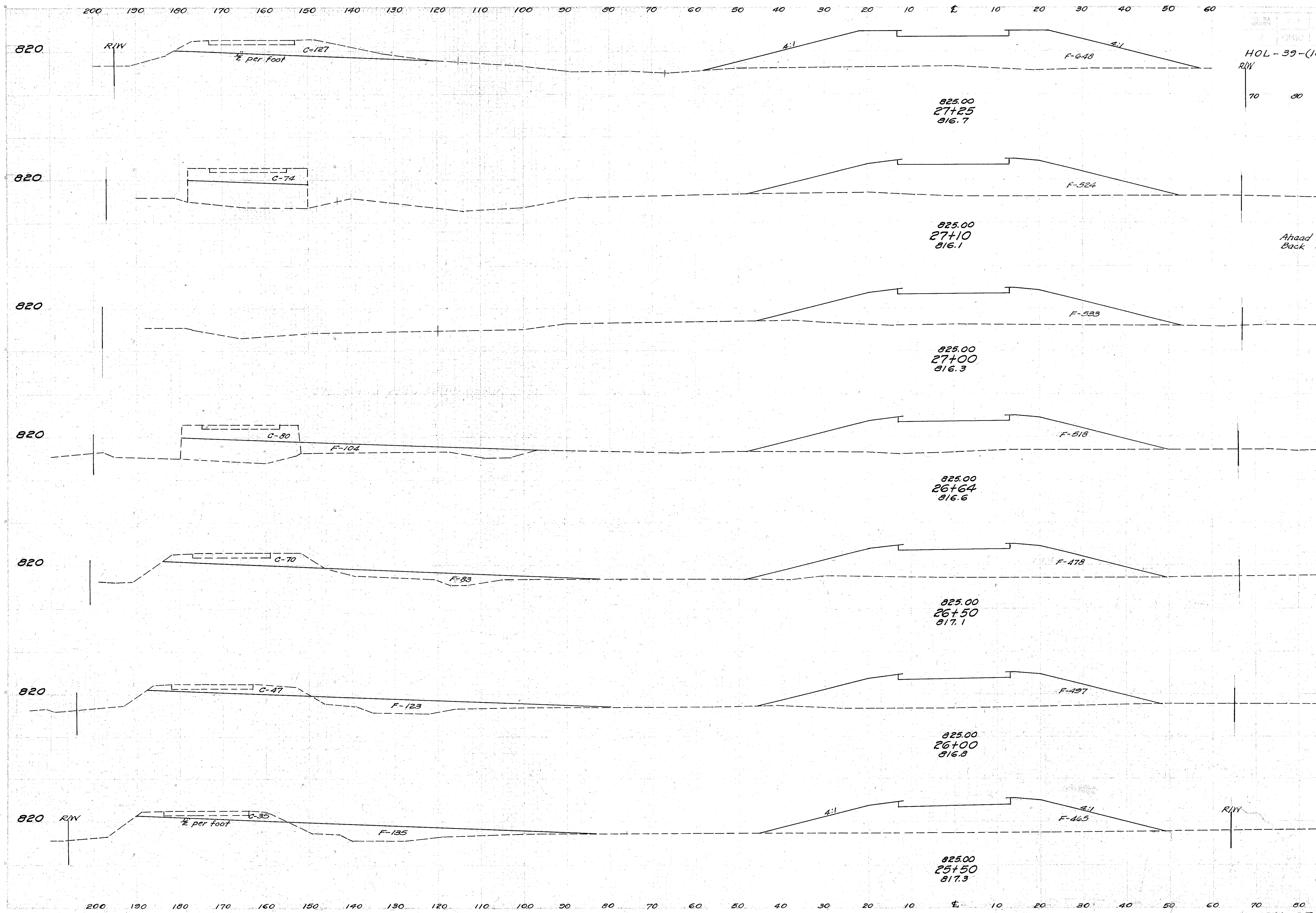


Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	1283			65	1073
234		35	559		
	1300			71	1009
234		42	531		
Sta. 24+00 - Drive Lt. 6" I-17 = 40 Cu. Yds.				(108)	(360)
	1322			71	907
242		35	449		
Sta. 24+00 - Drive Rt. 6" I-17 = 15 Cu. Yds.				(0)	(44)
	1322			72	782
234		43	396		
	857			48	511
Ahead / Back 248		38	466 / 343		
	226			11	74
260		33	156		
					6
			0		

STA. 23+09 TO STA. 25+00

S-170(2) Postwar

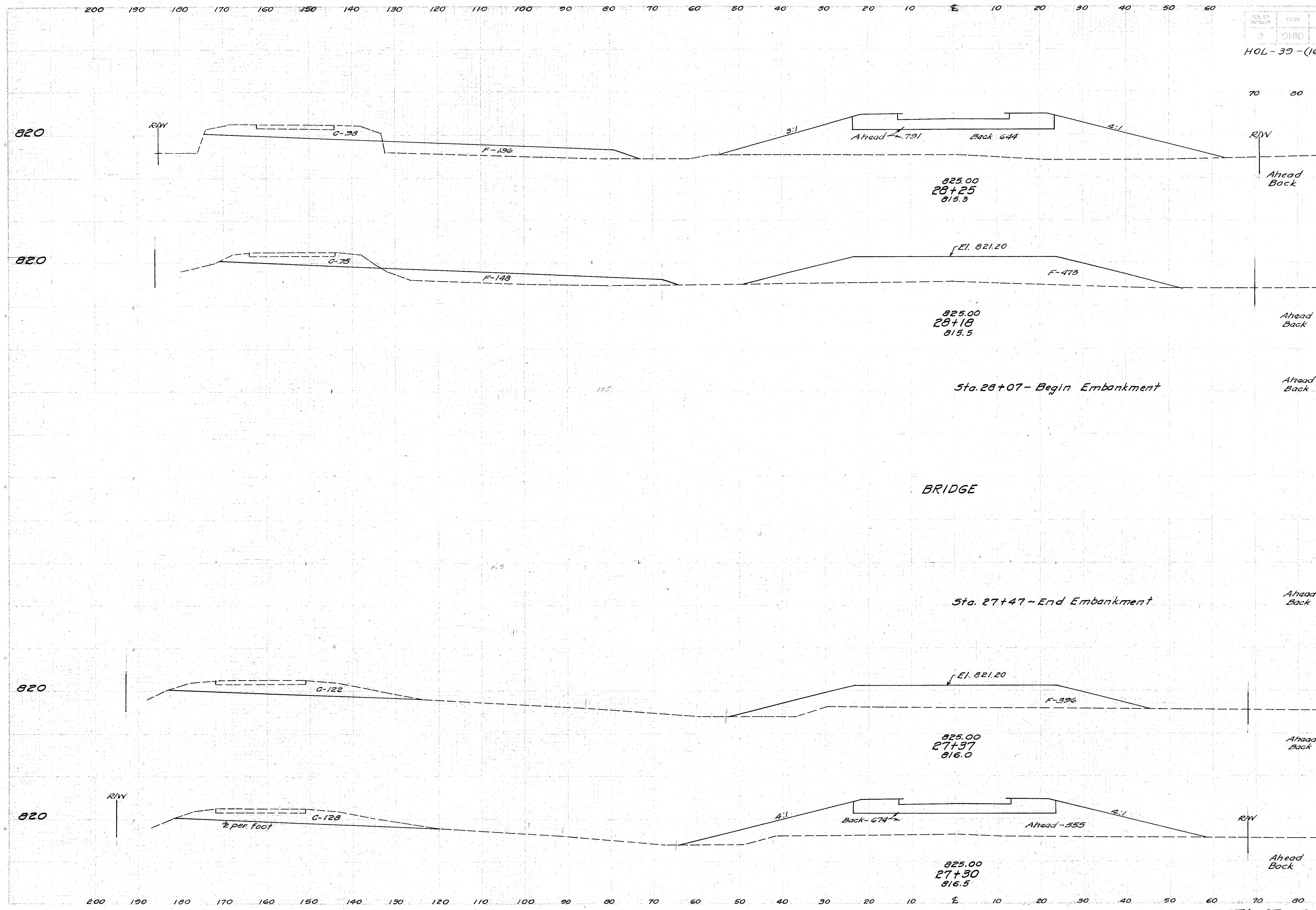
HOL-39-(16.69-17.29)



Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
186		127	648		
	293			56	326
Ahead 166 / Back 126		74 / 0	524		
	161			0	196
163		0	533		
	774			0	701
224		0 / 80	518 / 622		
	352			39	307
228		70	561		
	1272			108	1094
230		47	620		
	1272			76	1130
228		35	600		

STA. 25+50 TO STA. 27+25

HOL-39-(16.69-17.29)

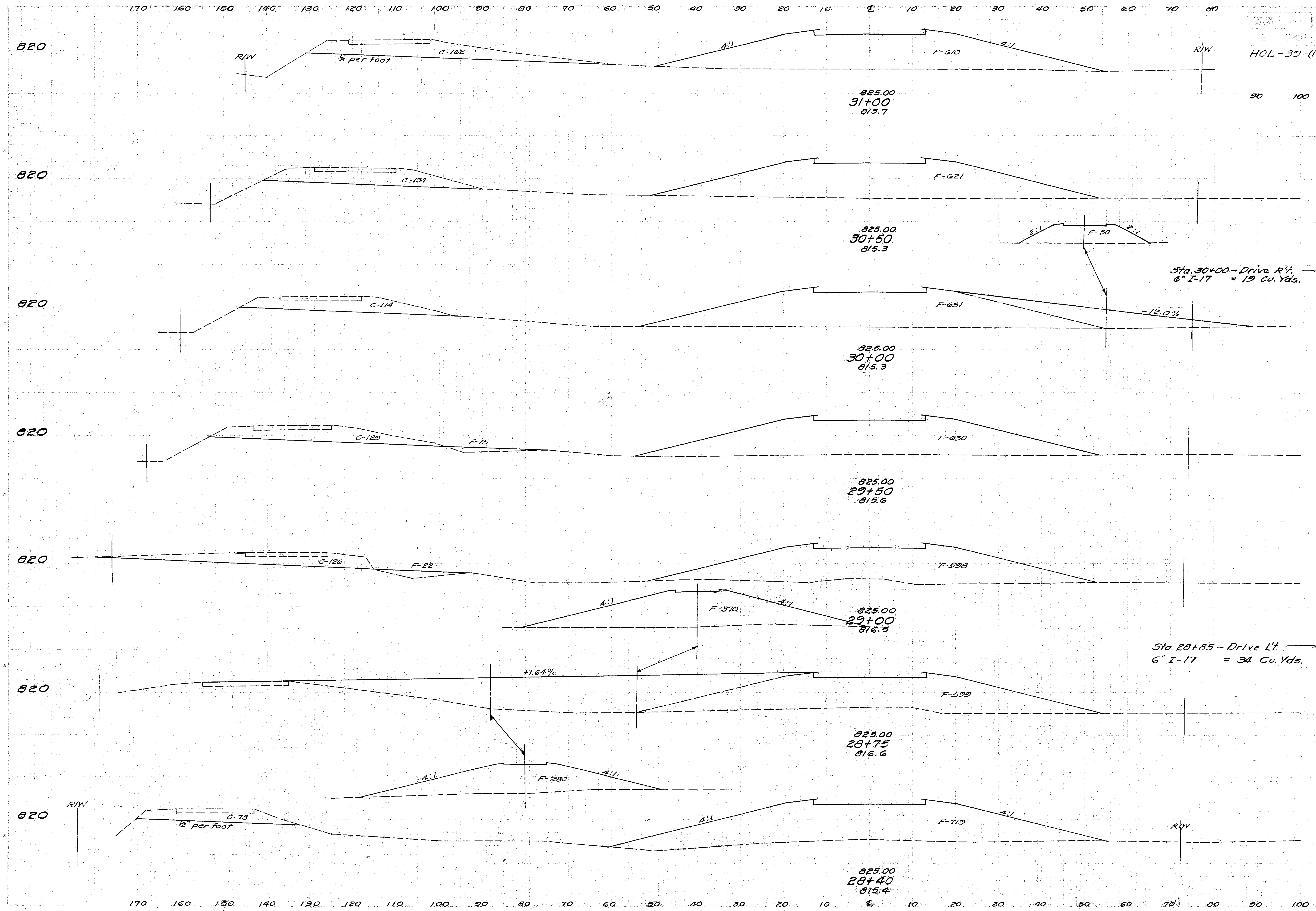


	Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		305			49	457
Ahead / Back	207		98	927 / 780		
		168			22	182
Ahead / Back	224 / 158		75	621		
		190				127
Ahead / Back	153 / 105			0		
		700			296	
Ahead / Back	105 / 153			0		
		169				73
Ahead / Back	151 / 214		122	396		
		166			32	123
Ahead / Back	212		128	555 / 674		
		111			24	122

STA. 27+30 TO STA. 28+25

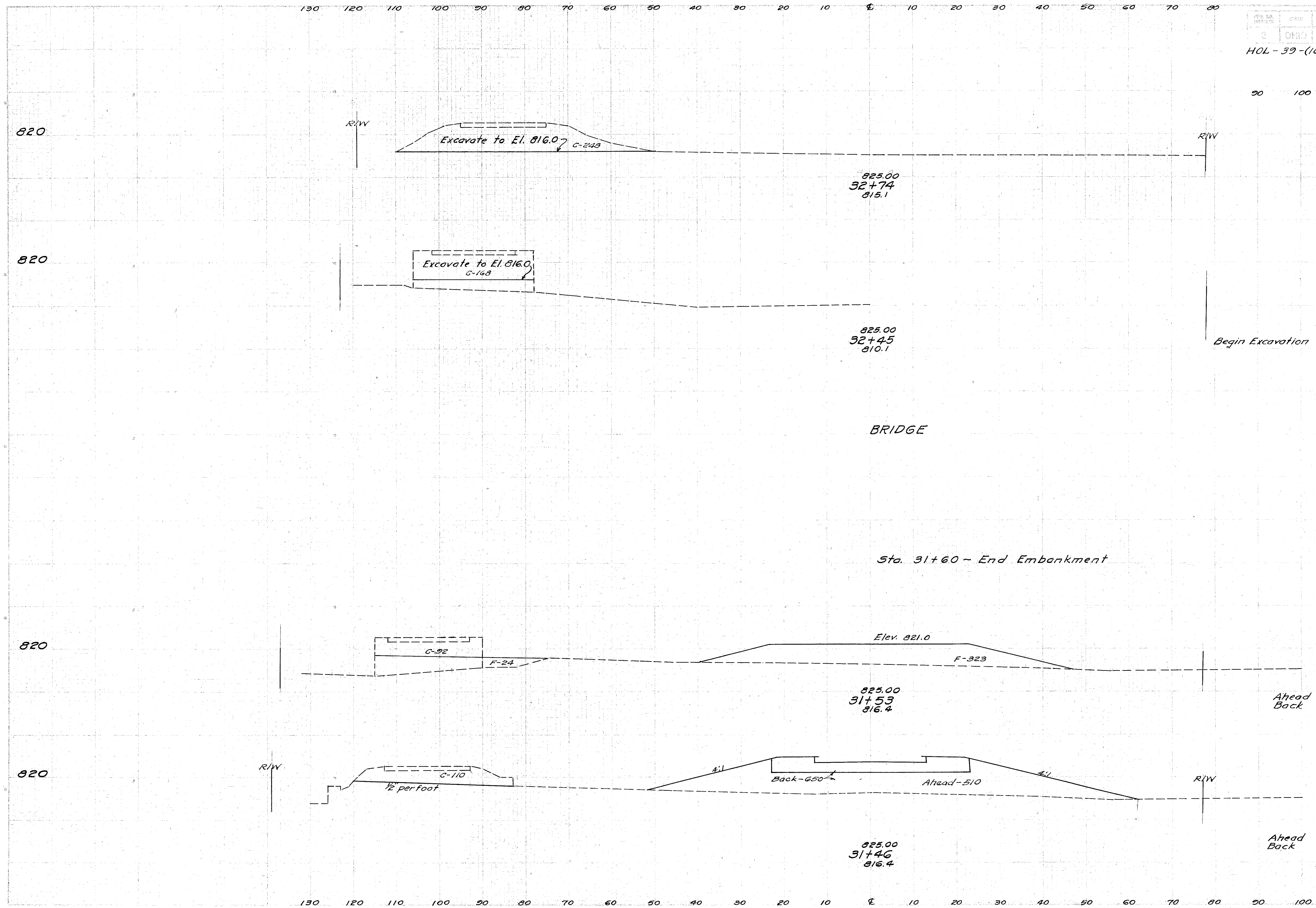
S-170(2) Postwar

HOL-39-(16.69-17.29)



Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
182		162	610		
	1031			274	1140
189		134	621		
				(0)	(117)
	1069			230	1159
196		114	631		
	1106			225	1181
202		129	645		
	1156			236	1171
214		126	620		
				(0)	(886)
	579			58	564
203		0	599		
	704			51	854
159		78	719		

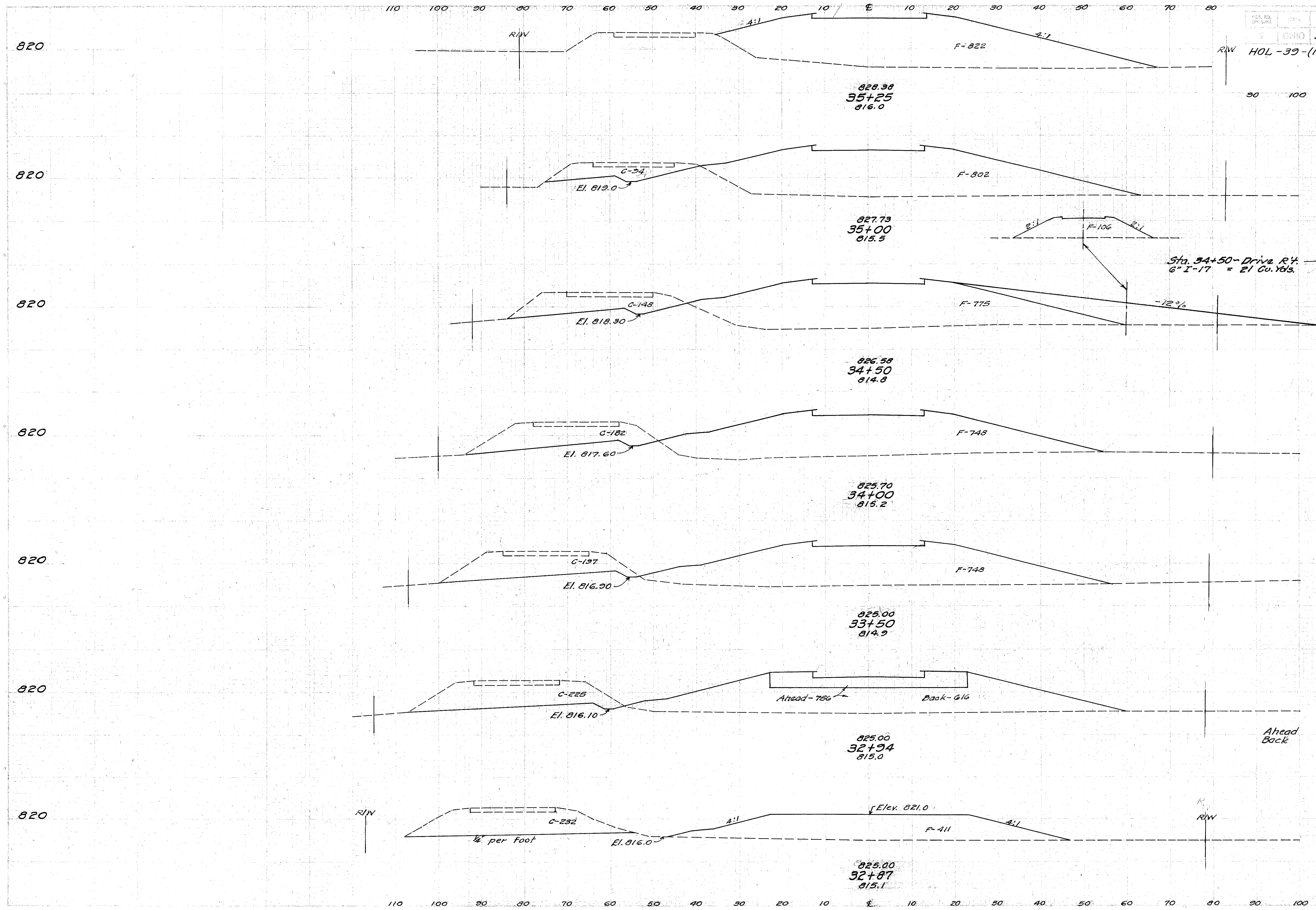
STA. 28+40 TO STA. 31+00



	Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		245			116	99
	171		248	0		
		321			223	0
Begin Excavation	28		168 / 0	0		
					0	0
	48		0	0		
		37			0	45
Ahead / Back	48 / 180		0 / 92	347		
		139			26	111
Ahead / Back	178		110	510 / 650		
		920			232	1073

STA. 31+46 TO STA. 32+74

HOL-39-(16.69-17.29)



Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
124		0	822		
	347			44	752
126		94	802		
				(0)	(166)
	719			224	1460
133		148	775		
	725			306	1410
128		182	748		
	767			351	1385
148		197	748		
	943			438	1560
155		225	756/616		
	126			59	133
168		232	411		

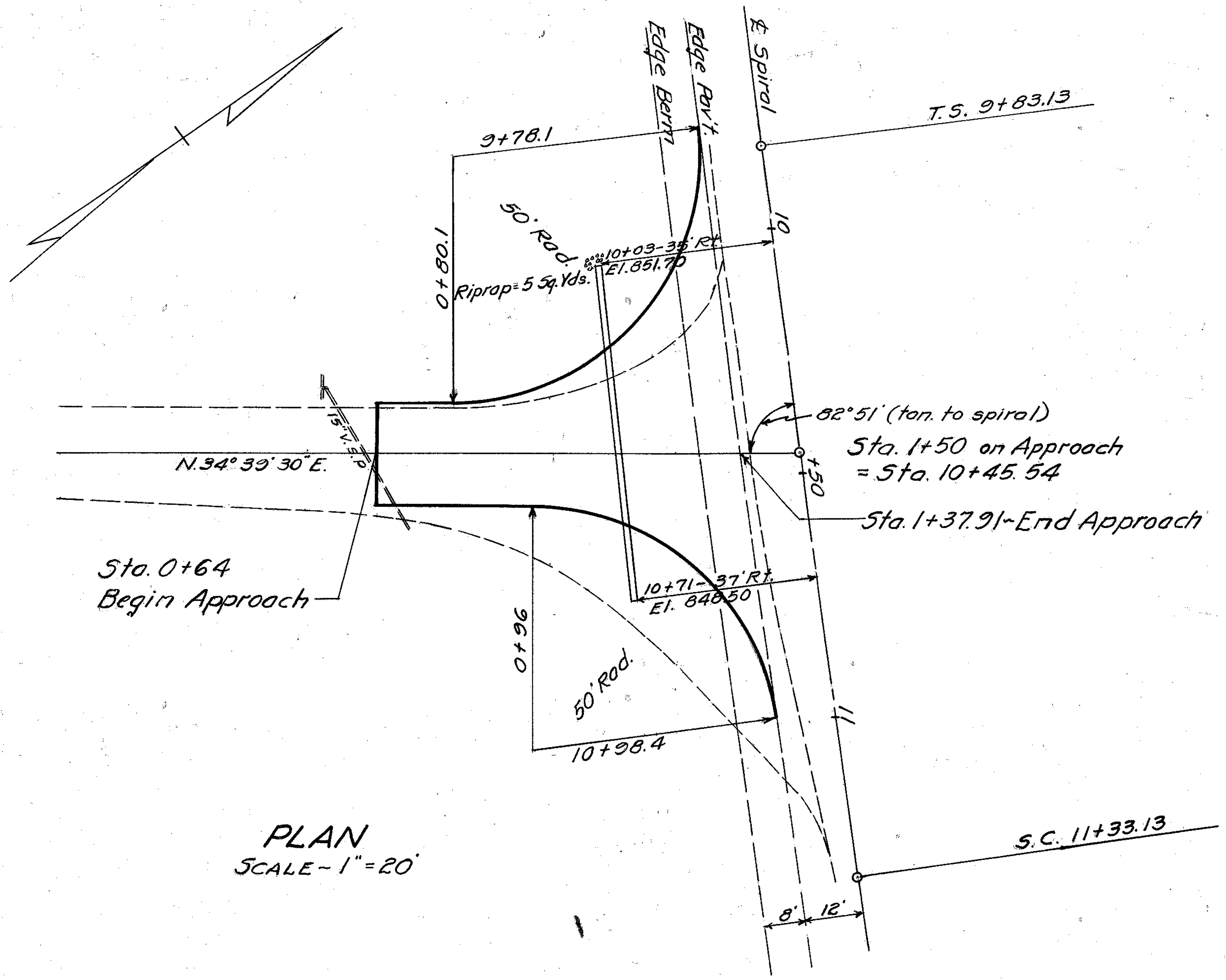
STA. 32+87 TO STA. 35+25

Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	109			0	246
95		0	630/394		
	85			0	102
96/54		0	293		
	48			0	43
54			0		
				0	0
		0	0		
				272	0
		432/0	0		
54		0	0		
	192			0	178
54/116		0/106	436		
	90			23	136
87		49	484/724		
	278			25	813
92		0	843		
	289			0	783

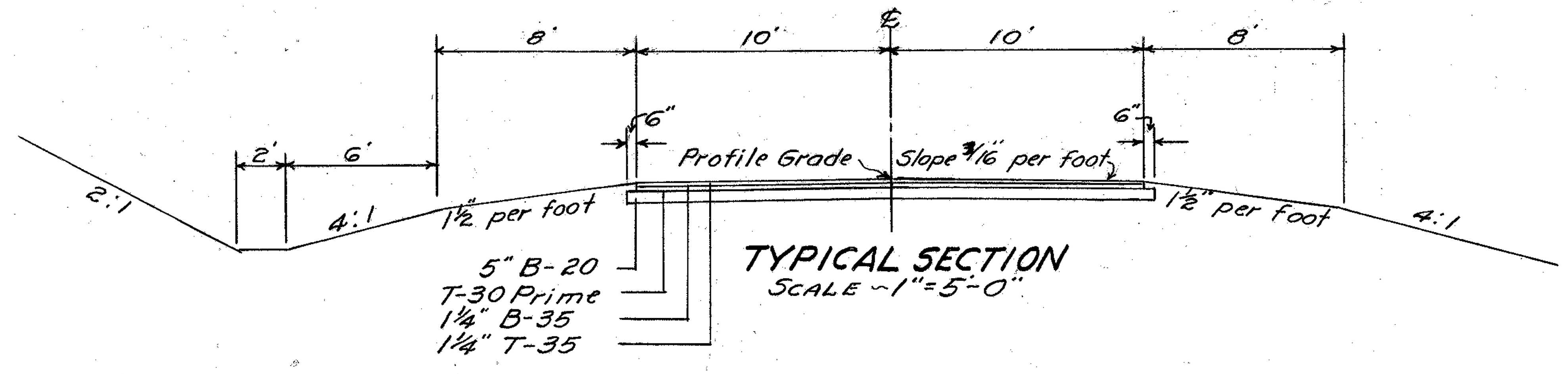
Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
116		0	848		
	326			0	758
119		0	790		
	(283)			(64)	(220)
	338			0	746

STA. 35+50 TO STA. 37+90

OHIO S-170 (2) Postwar
HOL-39-(16.69-17.29)



PLAN
SCALE~1"=20'



TYPICAL SECTION
SCALE~1"=5'-0"

ESTIMATED QUANTITIES

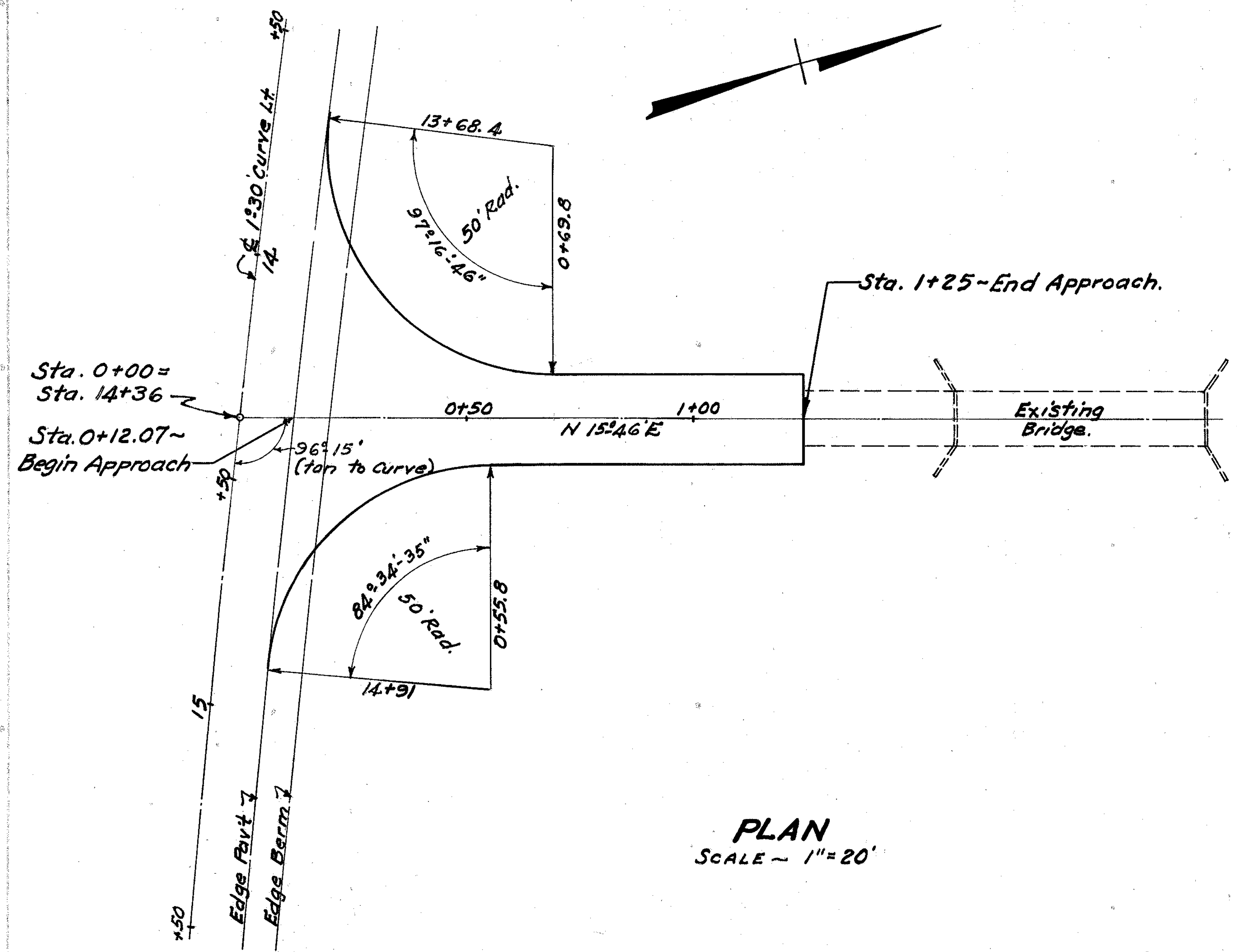
* Pavement Area	296	Sq. Yds.
* 5" Waterbound Macadam Base Area	300	Sq. Yds.
* Bituminous Prime Area	300	Sq. Yds.
15" Pipe for Driveways	68	Lin. Ft.
Riprap	5	Sq. Yds.

* Carried to pavement calculations. (Sheet 5)

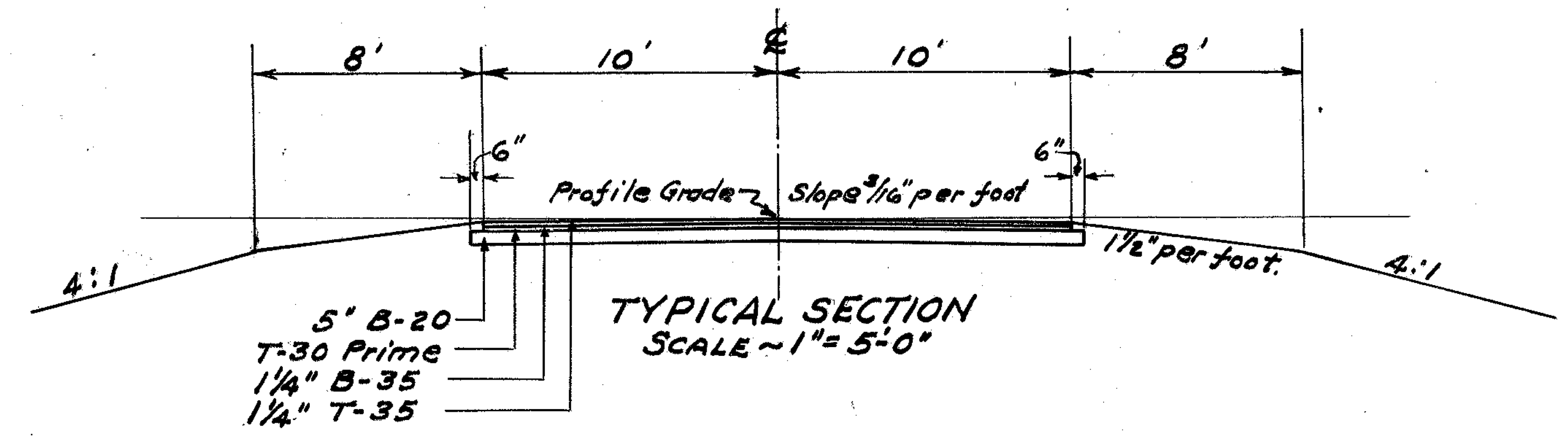
Note~Quantities carried to X-Sec. Sheet No. 12

Excavation	260	Cu. Yds.
Embankment	128	Cu. Yds.
Seeding	293	Sq. Yds.

HOL-39-(16.69-17.29)



PLAN
SCALE ~ 1" = 20'

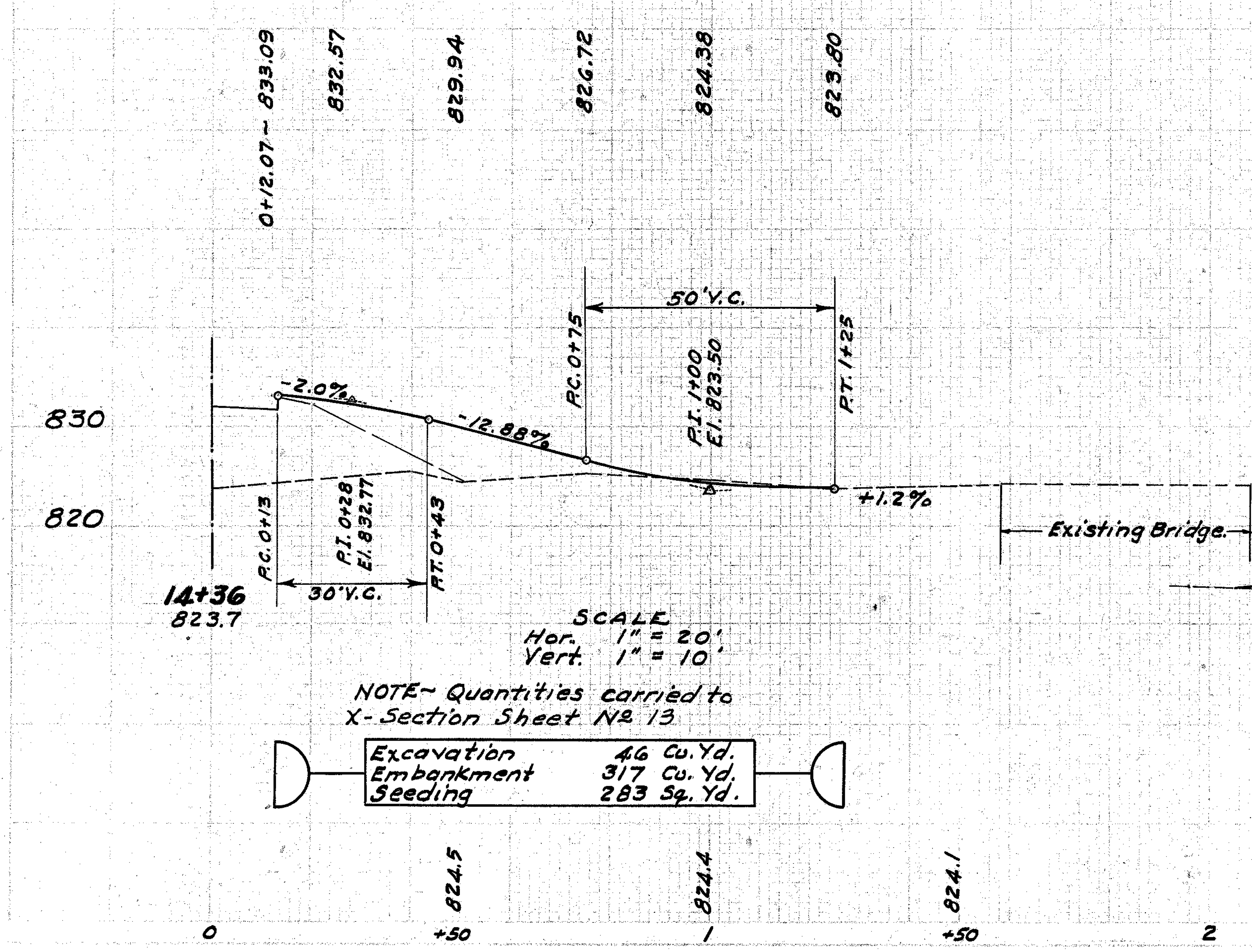


TYPICAL SECTION
SCALE ~ 1" = 5'-0"

ESTIMATED QUANTITIES

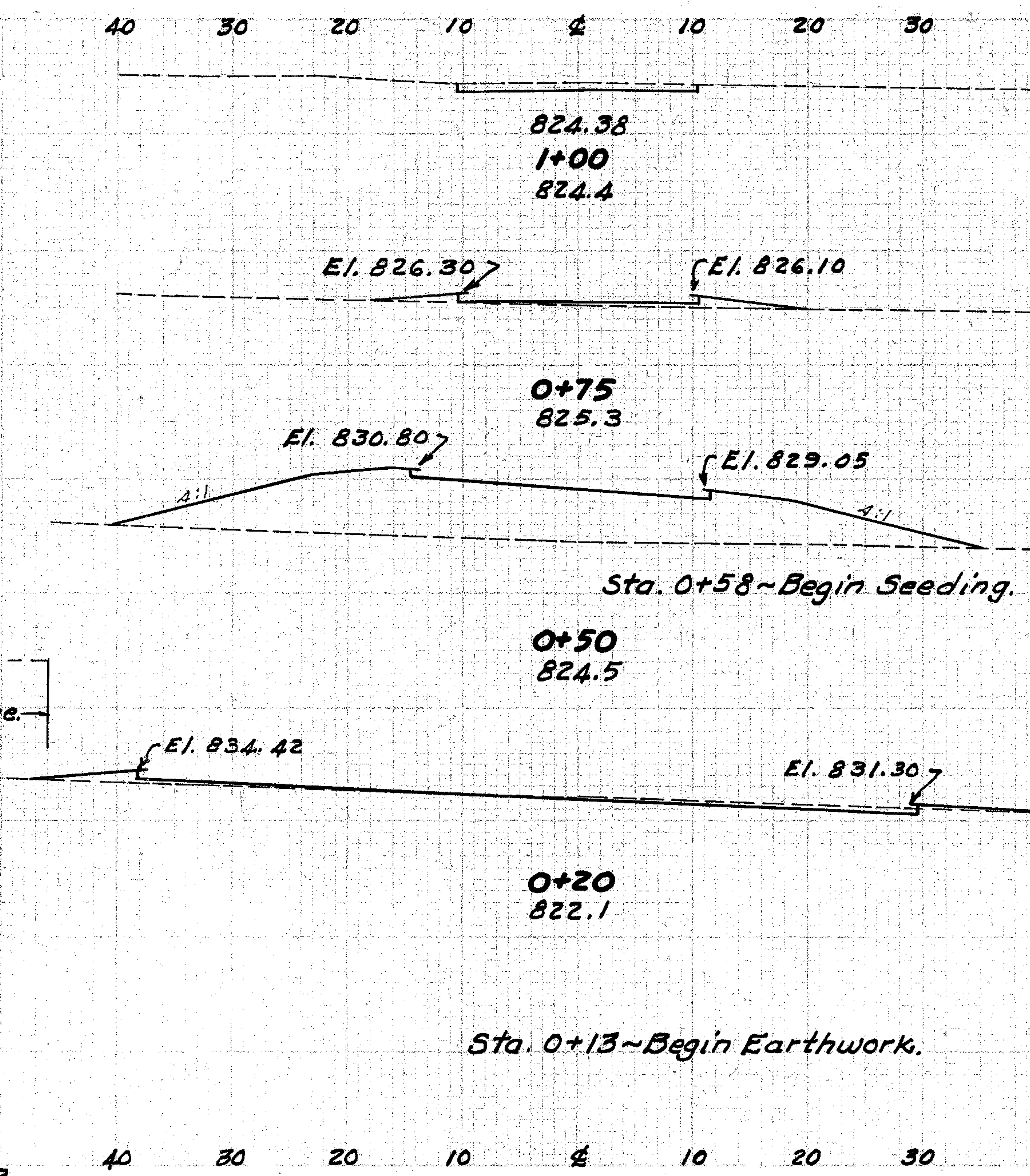
* Pavement Area.	379	Sq. Yd.
* 5" Waterbound Macadam Base Area.	388	Sq. Yd.
* Bituminous Prime Area.	388	Sq. Yd.

* Carried to pavement calculations. (Sheet No. 5)

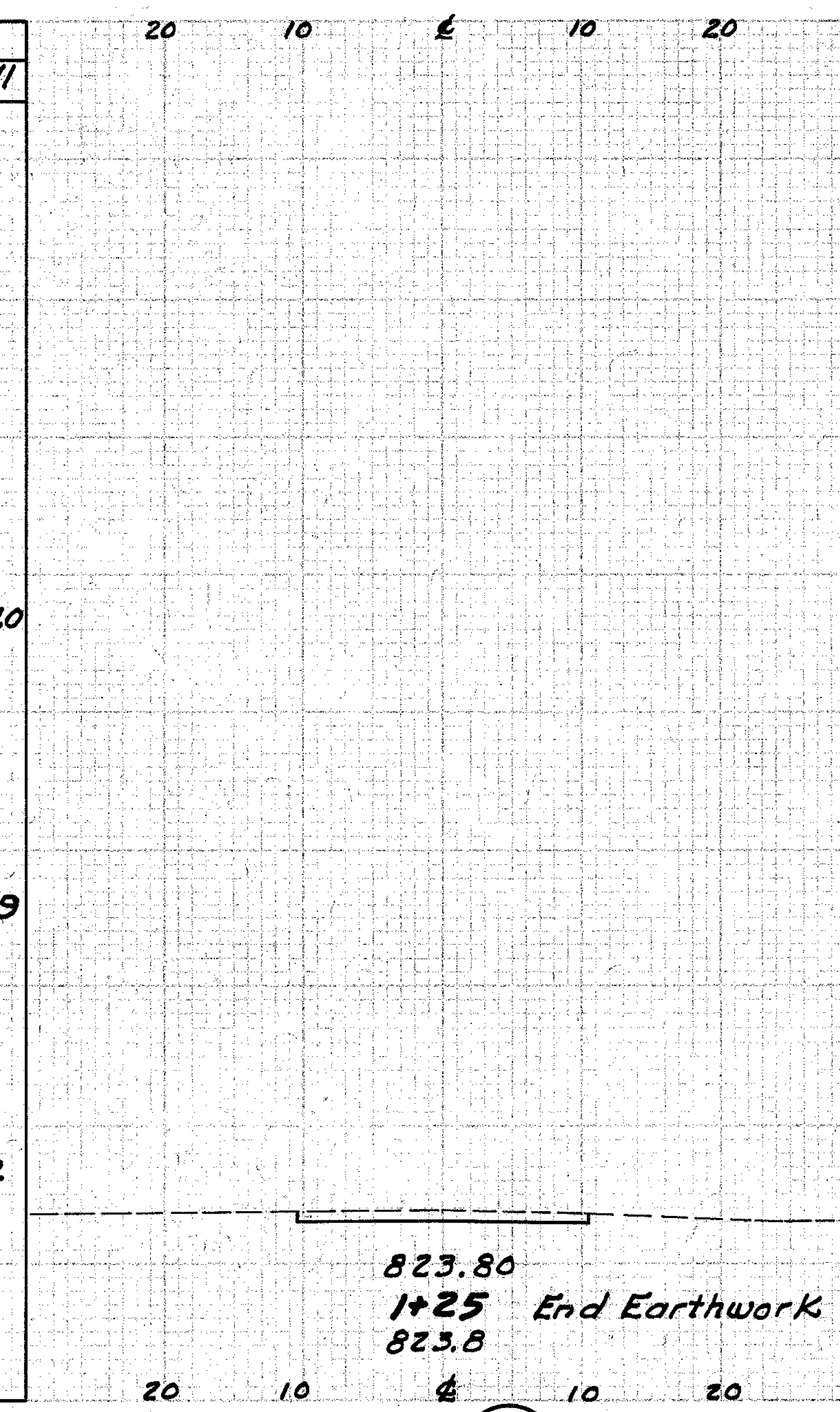


NOTE~ Quantities carried to X-Section Sheet No 13

Excavation	46	Cu. Yd.
Embankment	317	Cu. Yd.
Seeding	283	Sq. Yd.

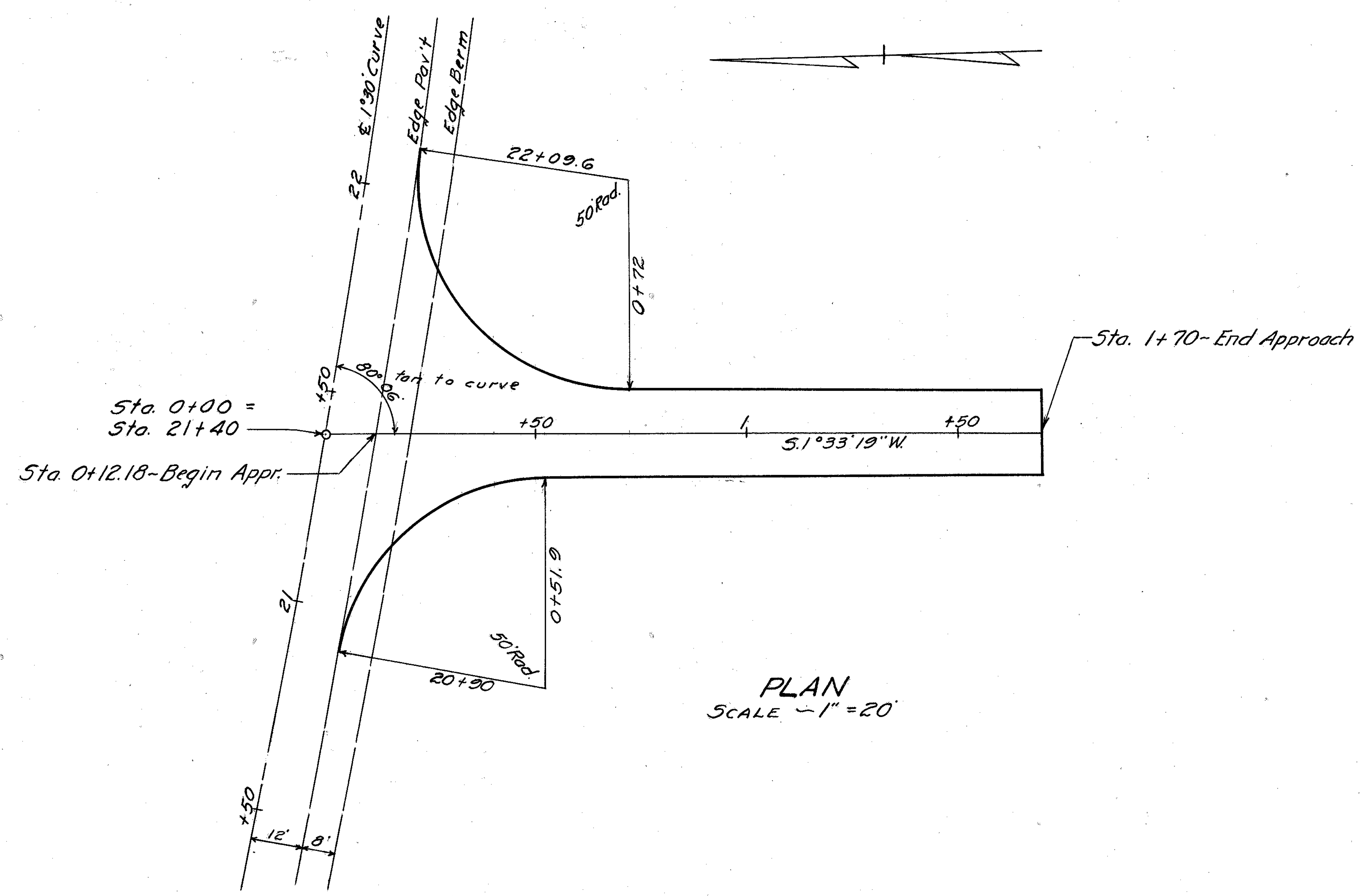


Seeding		End Area		Cu. Yd.	
W.	S.Y.	Cut	Fill	Cut	Fill
36		13	0		
	103			6	6
38		0	13		
	102			0	140
70					
		0	289		
				5	169
		9	15		
				23	2
		165	0		

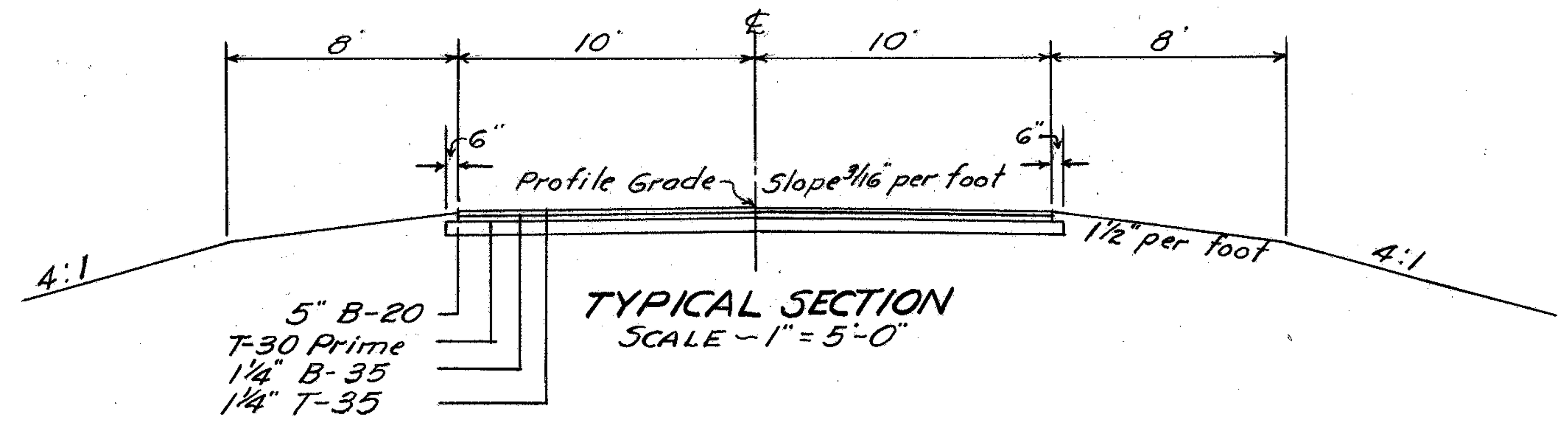


Seeding		End Area		Cu. Yd.	
W.	S.Y.	Cut	Fill	Cut	Fill
20		13	0		
	78			12	0

 STA. 14+36~ROAD APPROACH Lt.



PLAN
SCALE - 1" = 20'

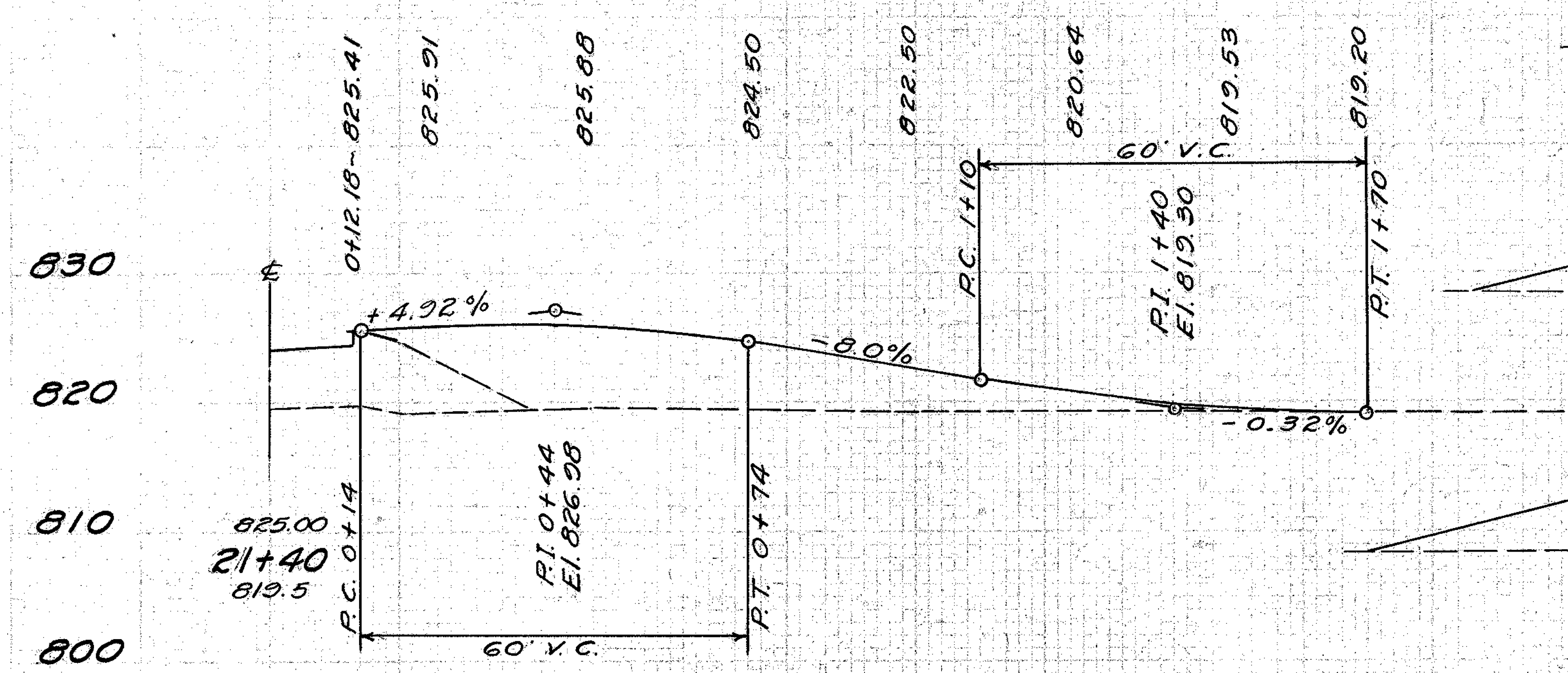


TYPICAL SECTION
SCALE - 1" = 5'-0"

ESTIMATED QUANTITIES

* Pavement Area	480	Sq. Yds.
* 5" Waterbound Macadam Base Area	494	Sq. Yds.
* Bituminous Prime Area	494	Sq. Yds.

* Carried to pavement calculations. (Sheet No. 5)

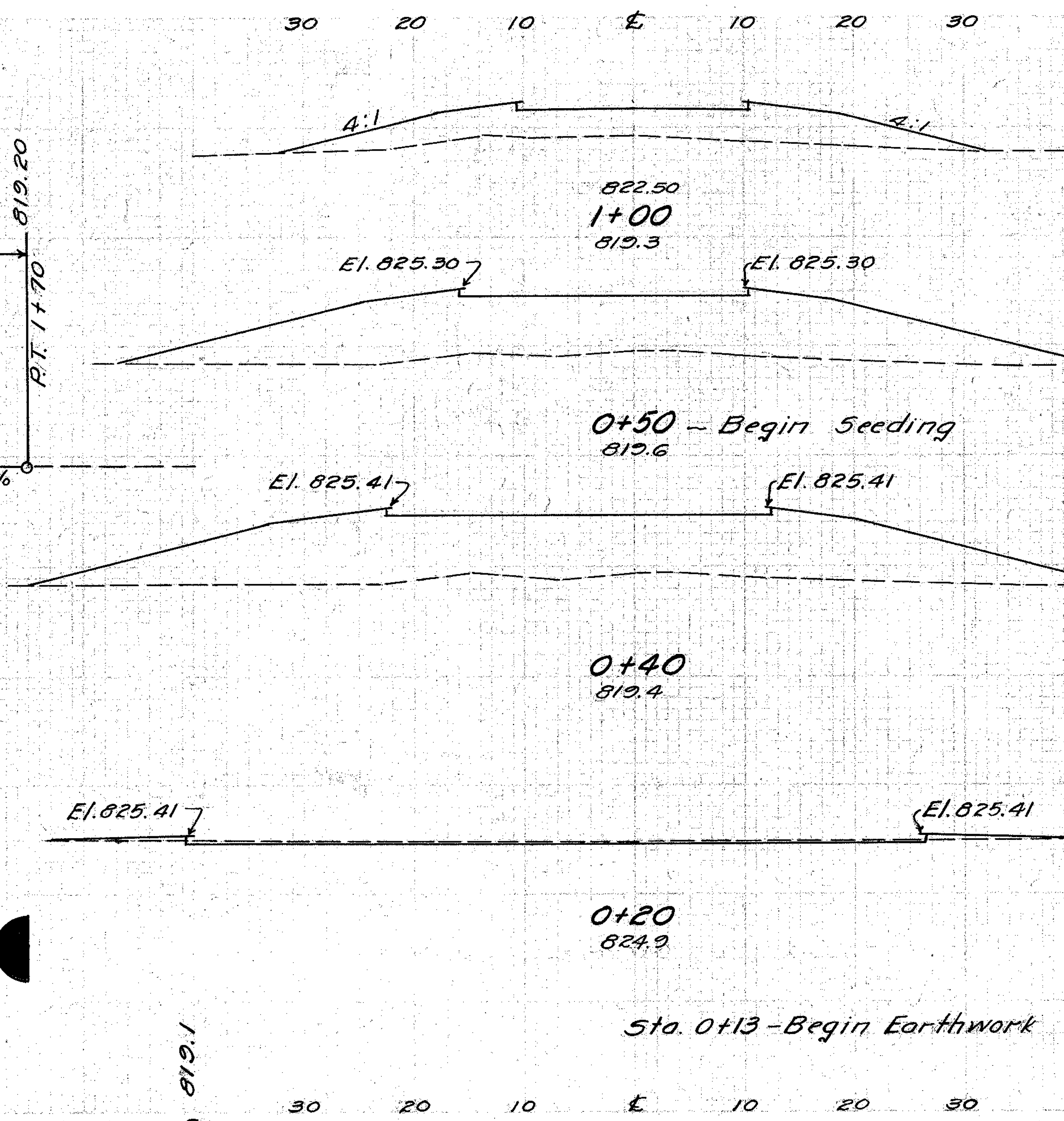


SCALE
HOR. - 1" = 20'
VERT - 1" = 10'

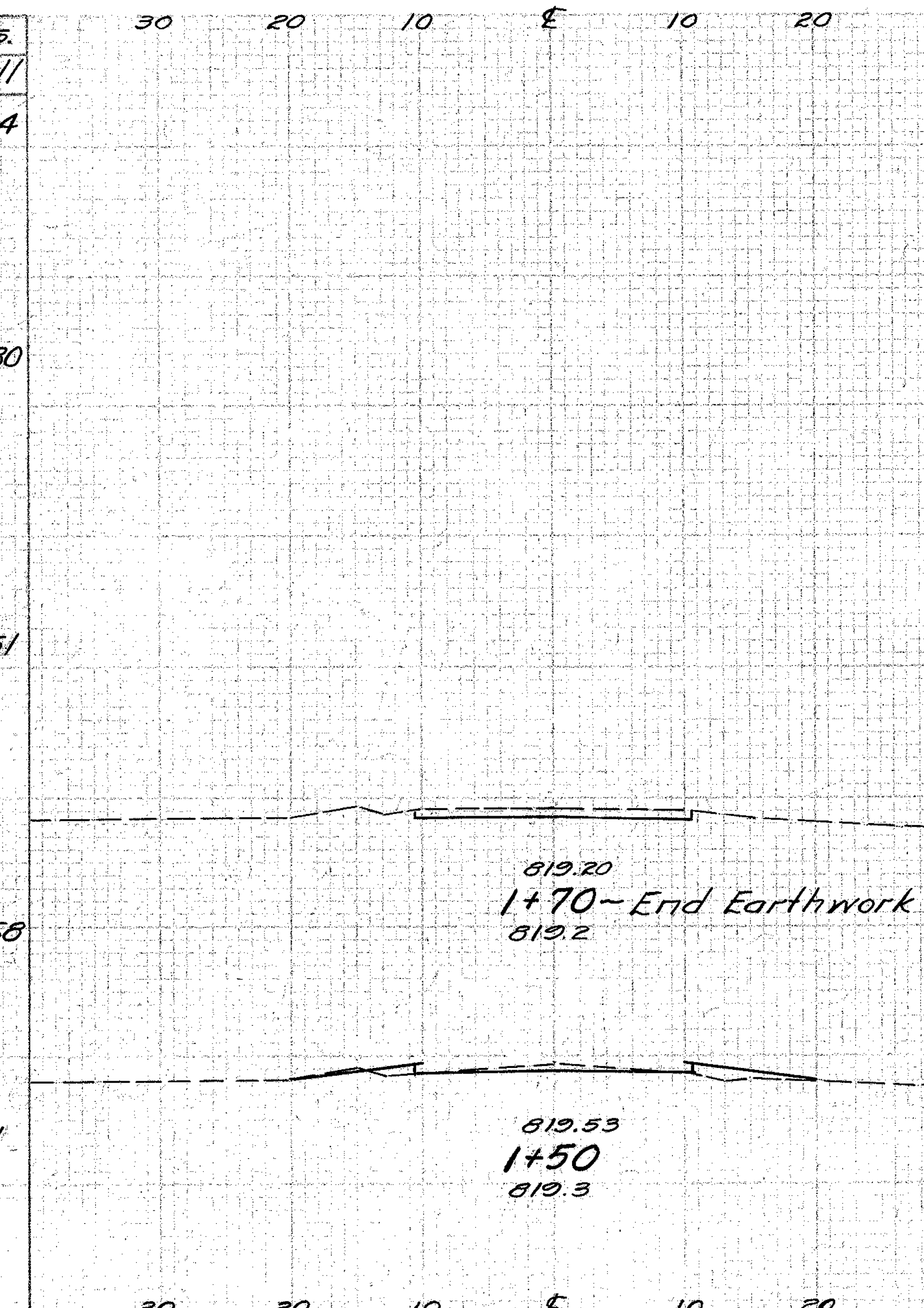
Note: Quantities carried to X-Sec. Sheet No 15

Excavation	31	Cu. Yds.
Embankment	947	Cu. Yds.
Seeding	773	Sq. Yds.

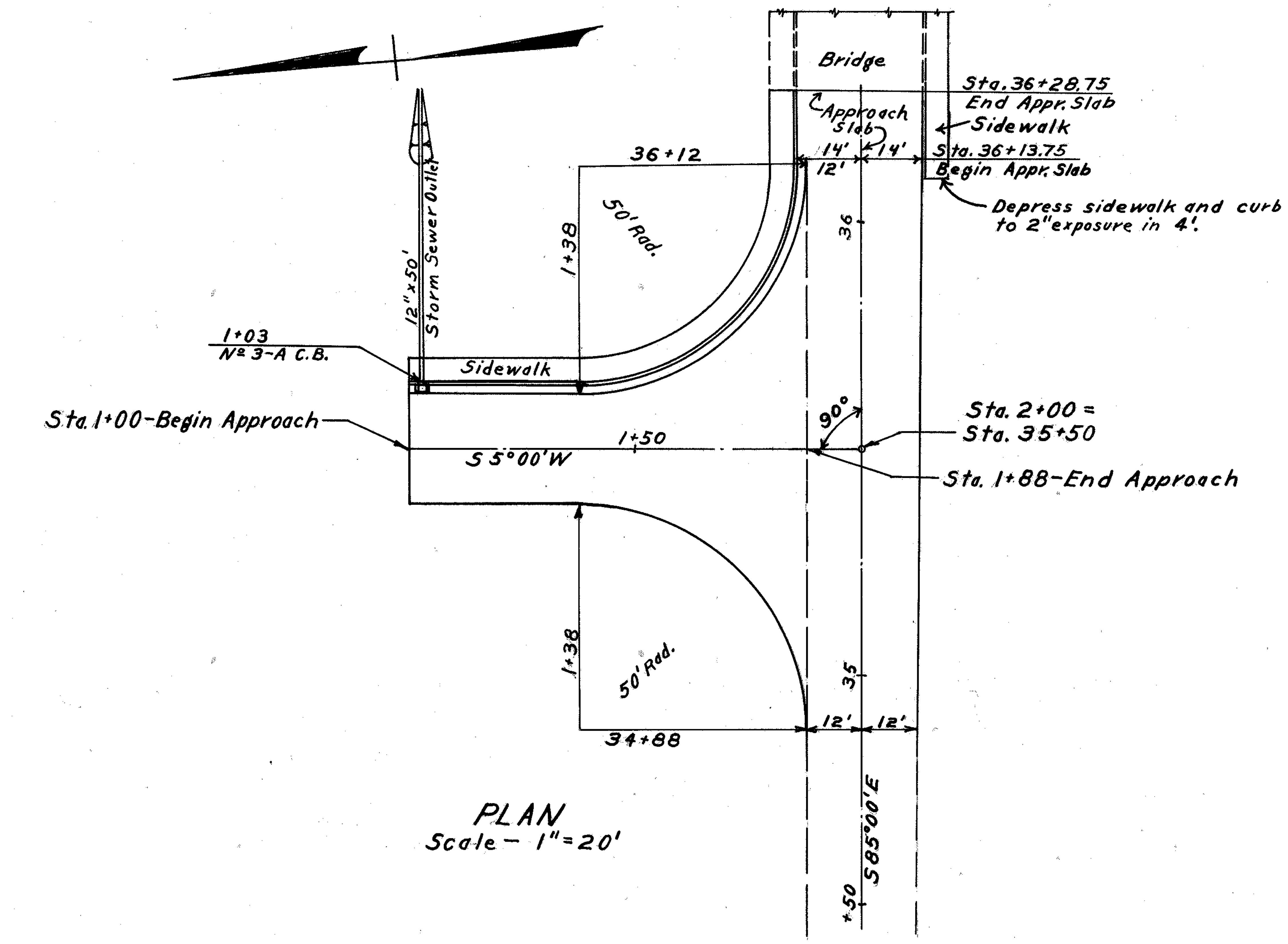
819.6 — 0+50
819.3 — 1
819.3 — +50
819.1 — 2



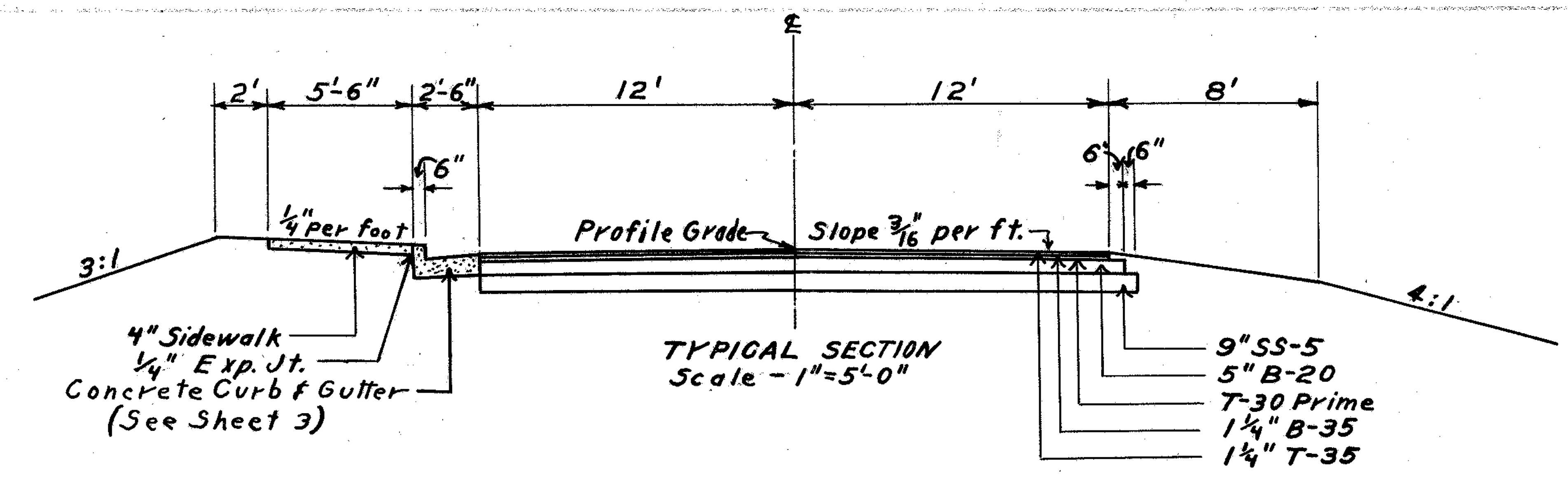
Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	292			4	144
65		0	148		
	414			0	480
84		0	370		
				0	151
		0	445		
				7	168
		20	8		
				14	1
		85	0		



Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
20		13	0		
	67			6	3
40		4	7		



PLAN
Scale - 1"=20'

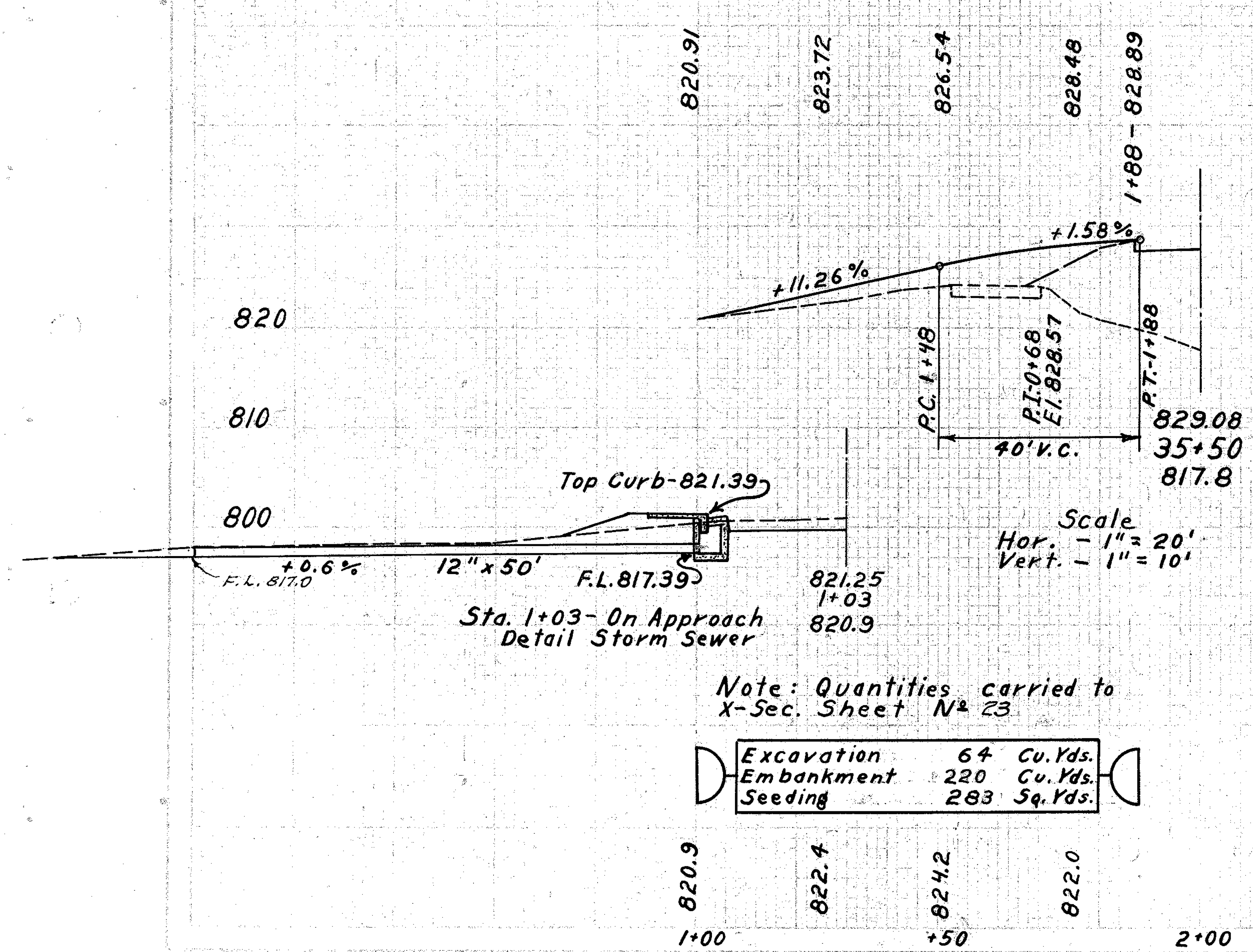


TYPICAL SECTION
Scale - 1"=5'-0"

ESTIMATED QUANTITIES

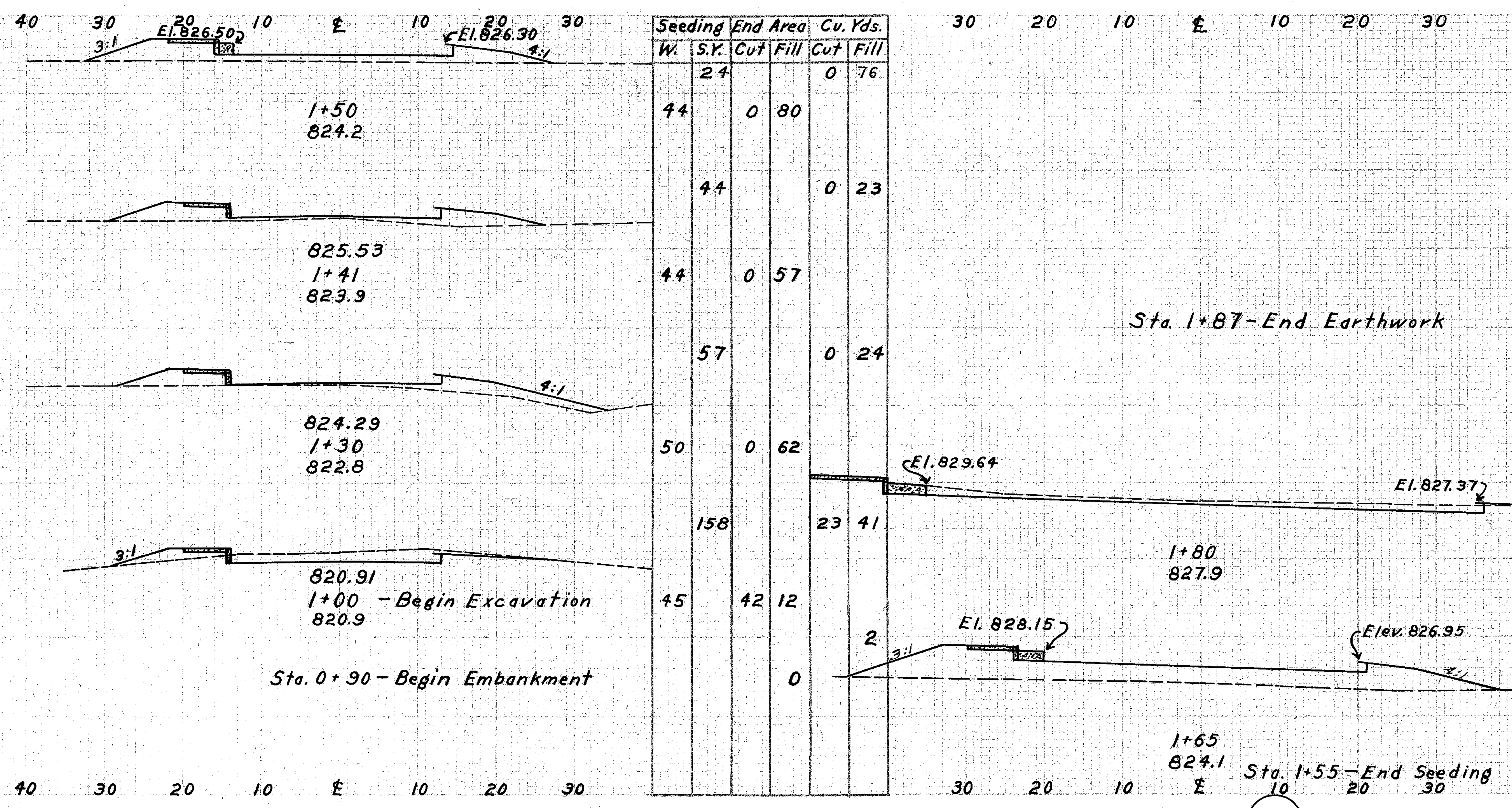
* Pavement Area	354	Sq. Yds.
* 5" Waterbound Macadam Base Area	354	Sq. Yds.
* 9" SS-5 Area	354	Sq. Yds.
* Bituminous Prime Area	354	Sq. Yds.
№2 (Mod.) Curb and Gutter	115	Lin. Ft.
4" Sidewalks	688	Sq. Ft.
№ 3-A Catch Basins	1	Each
12" Storm Sewer Outlet Pipe	50	Lin. Ft.
Channel Excavation	1	Cu. Yds.

* Carried to pavement calculations. (Sheet No. 5)



Note: Quantities carried to X-Sec. Sheet № 23

Excavation	64	Cu. Yds.
Embankment	220	Cu. Yds.
Seeding	283	Sq. Yds.

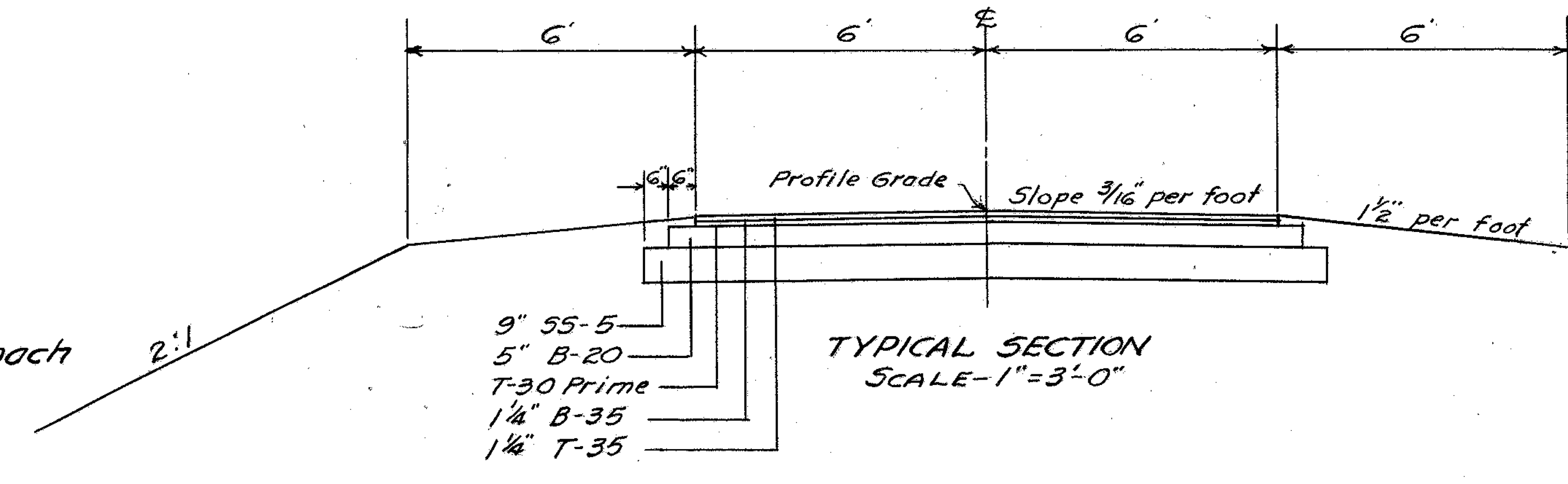


Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	24			0	76
44		0	80		
	44			0	23
44		0	57		
	57			0	24
50		0	62		
	158			23	41
45		42	12		
			0		

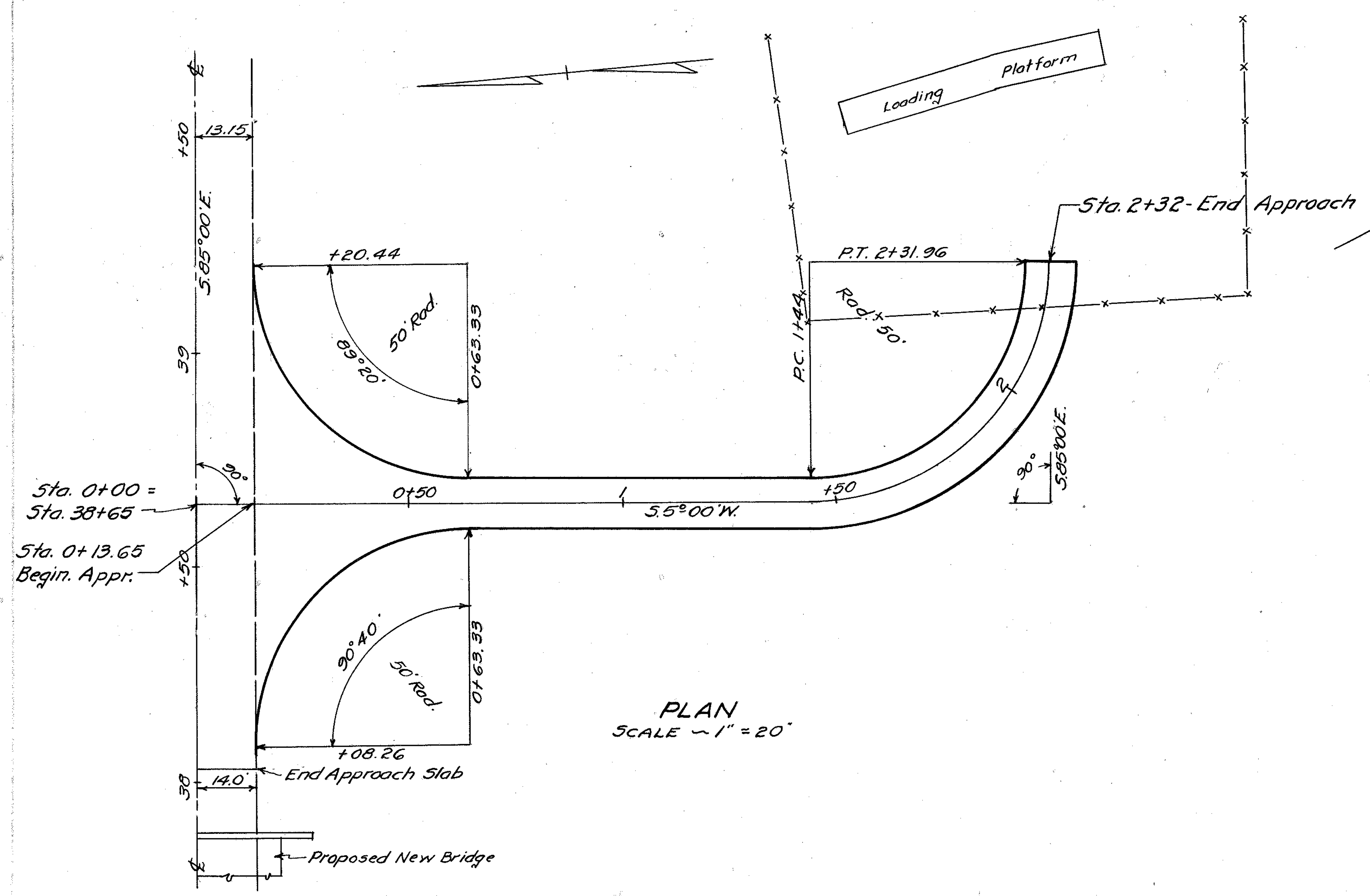
Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		151	0		
				26	0
		53	2		
				15	54
		0	194		
44					

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	S-170(2)	Postwar	29 / 49

HOL-39-(16.69-17.29)



TYPICAL SECTION
SCALE-1"=3'-0"

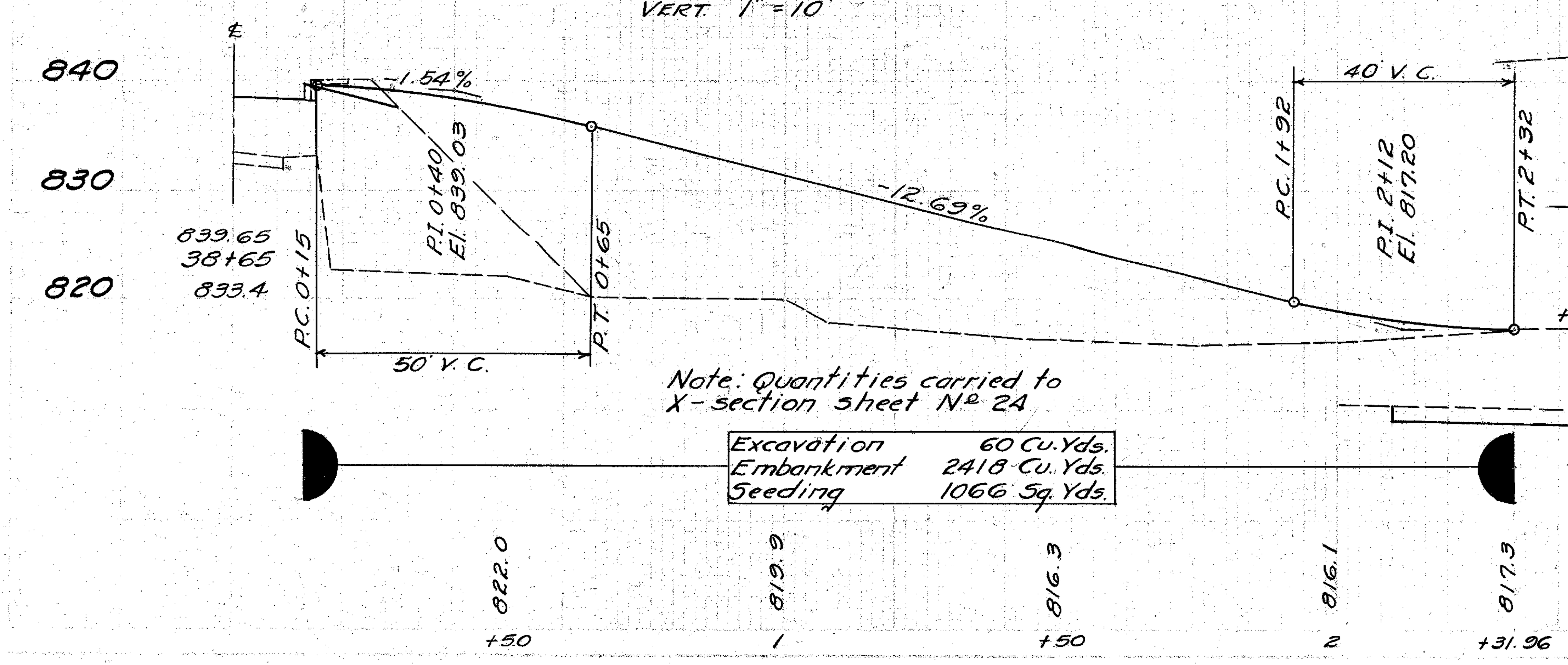


PLAN
SCALE ~ 1" = 20'

ESTIMATED QUANTITIES

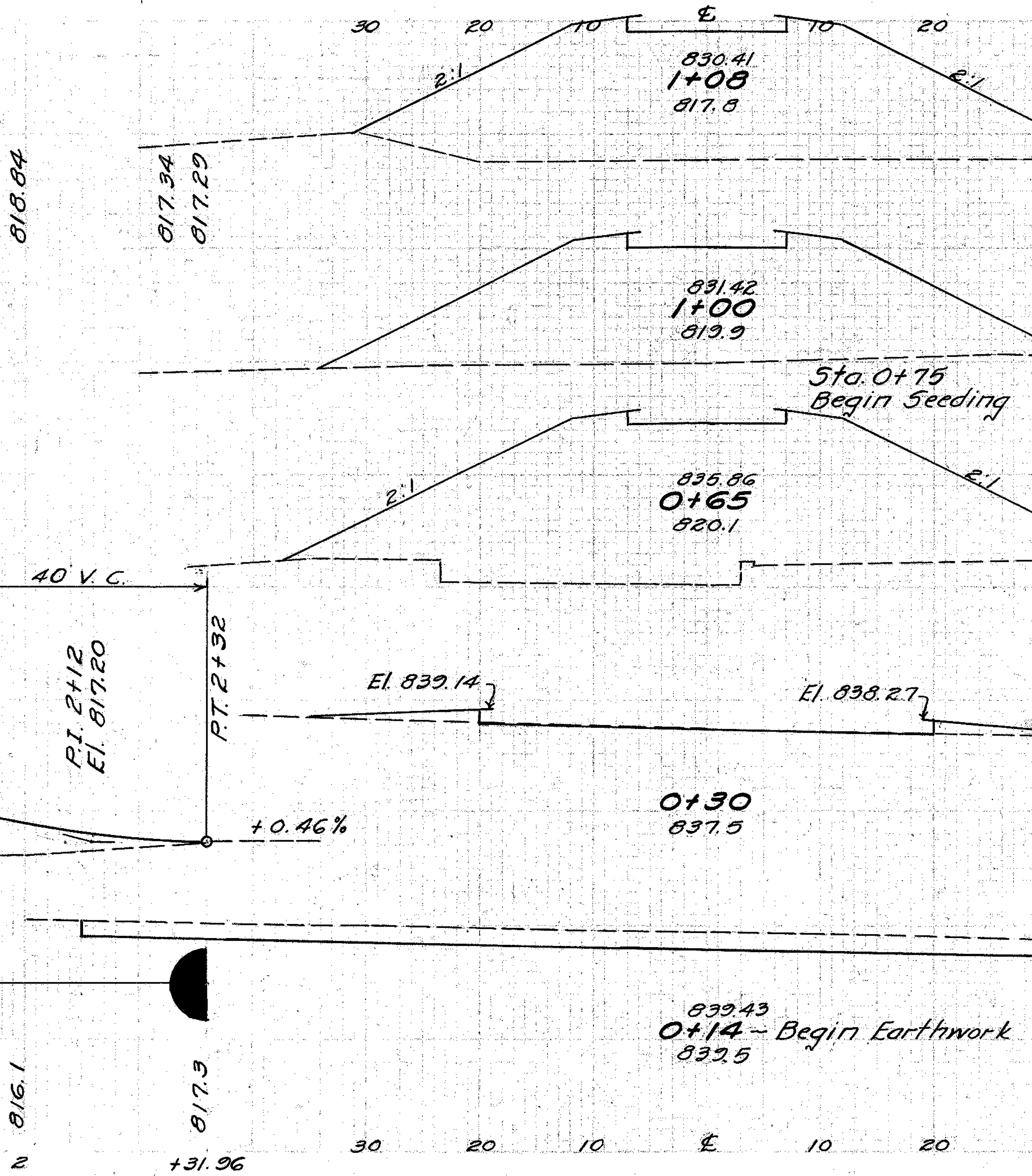
* Pavement Area	=	411	Sq. Yds.
* 5" Waterbound Macadam Base Area	=	432	Sq. Yds.
* 9" 55-5 Area	=	451	Sq. Yds.
* Bituminous Prime Area	=	432	Sq. Yds.

* Carried to pavement calculations. (Sheet No. 5)

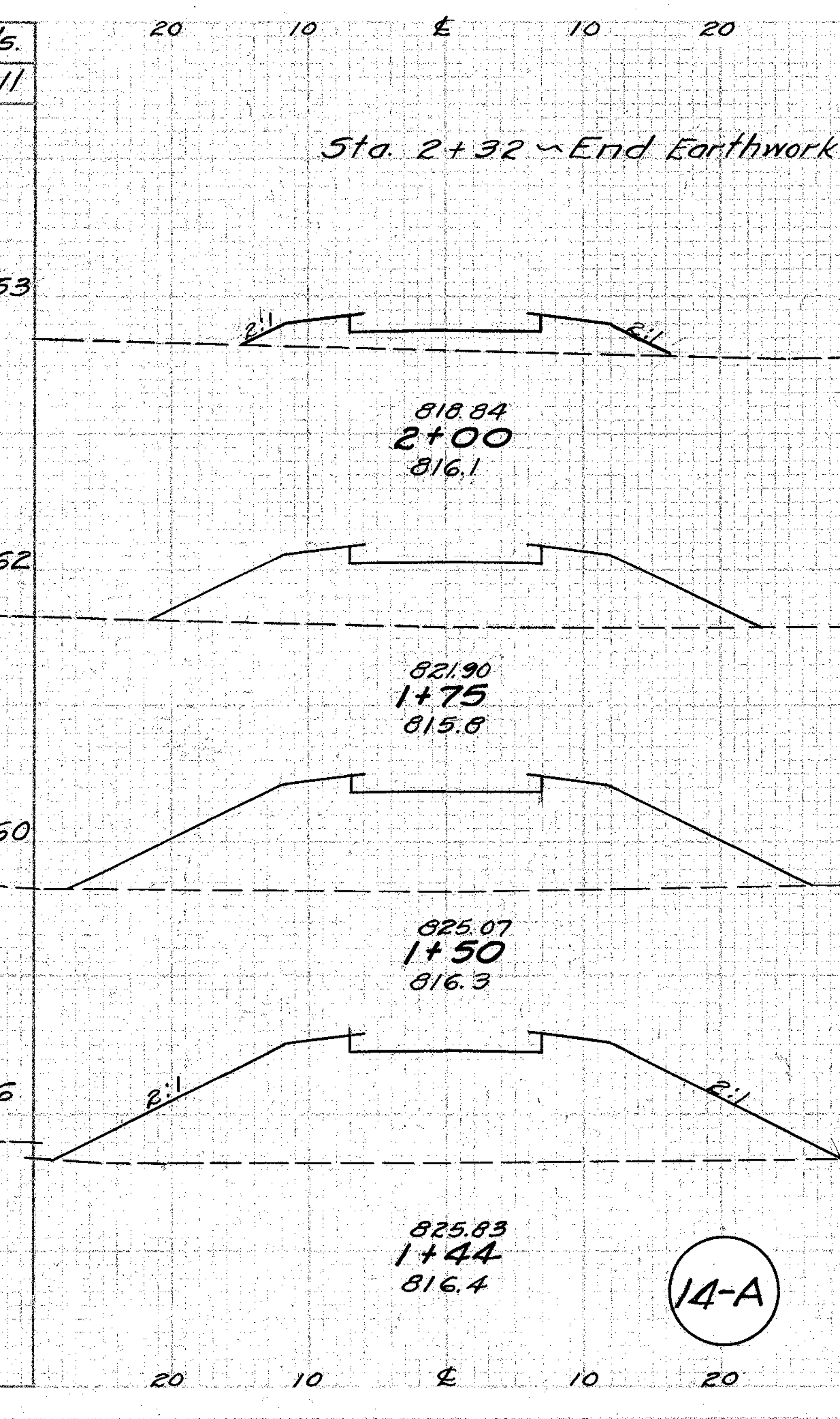


Note: Quantities carried to X-section sheet № 24

Excavation	60 Cu. Yds.
Embankment	2418 Cu. Yds.
Seeding	1066 Sq. Yds.



Sta.	Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
1+08	81		0	550		
		72			0	153
1+00	80	238	0	486		
0+75	92					
					0	762
0+65			0	690		
					2	460
0+30			3	20		
					47	6
0+14			154	0		



Sta.	Seeding W.	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
2+32	20		19	0		
		108			11	31
2+00	41		0	53		
		133			0	106
1+75	55		0	175		
		168			0	225
1+50	66		0	310		
		45			0	74
1+44	70		0	352		
		302			0	601

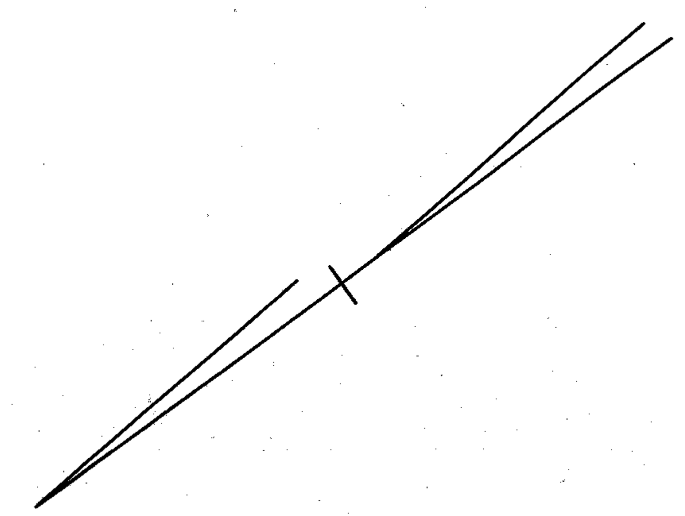
14-A

STA. 38+65 ~ ROAD APPROACH R'T.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	S-170(2)	POSTWAR

HOL~39~(16.69-17.29)

PLAN
Scale – 1" = 5'-0"



STRUCTURE DATA

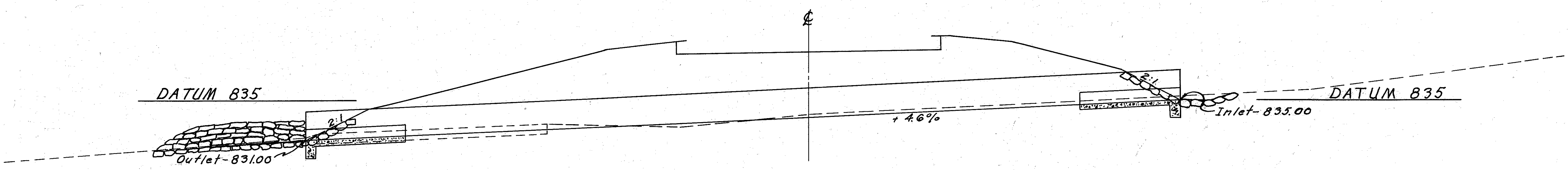
TYPE – Pipe Culvert
SIZE – 36" x 87'-0"
WORK REQ'D. – Remove existing 24" x 64' C.M. Pipe. Build new 36" x 87' pipe culvert with Std. pipe culvert ends. Riprap ends as shown.

REFERENCE DRAWINGS

Pipe Culverts	S-27 P.C. 2 & 3

ESTIMATED QUANTITIES

Excavation for Structures	5	Cu. Yds.
36" Pipe for Roadway Culverts	87	Lin. Ft.
Concrete for Structures - Class E	3.3	Cu. Yds.
Riprap	52	Sq. Yds.
24" Pipe Removed & disposed of	64	Lin. Ft.



CROSS SECTION
Scale – 1" = 5'-0"

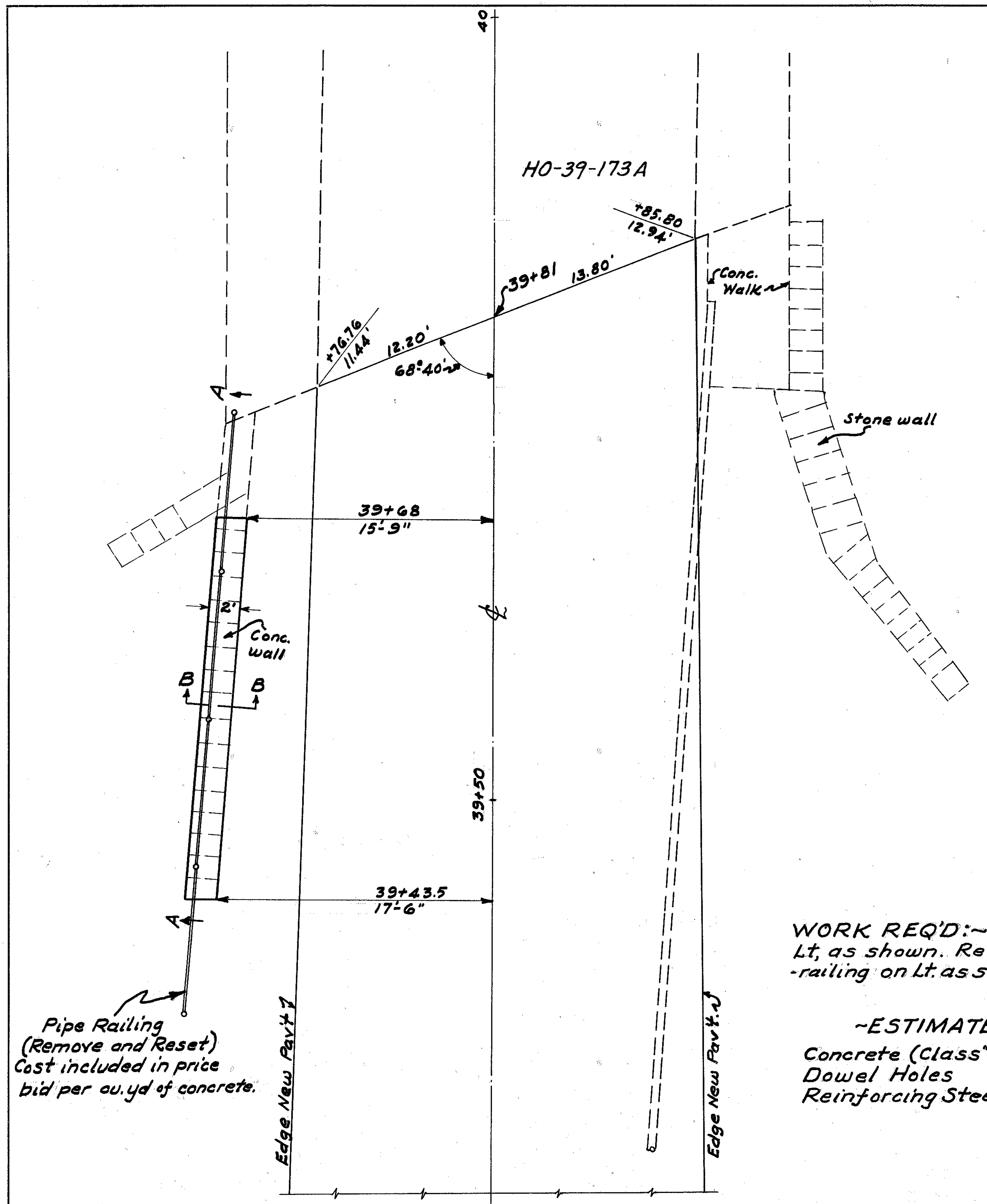
840.93
12+74
833.6

(2-5)

STA. 12+74
36" x 87'-0" PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	S-170(2)	POSTWAR	31 / 49

HOL~39-(16.69-17.29)



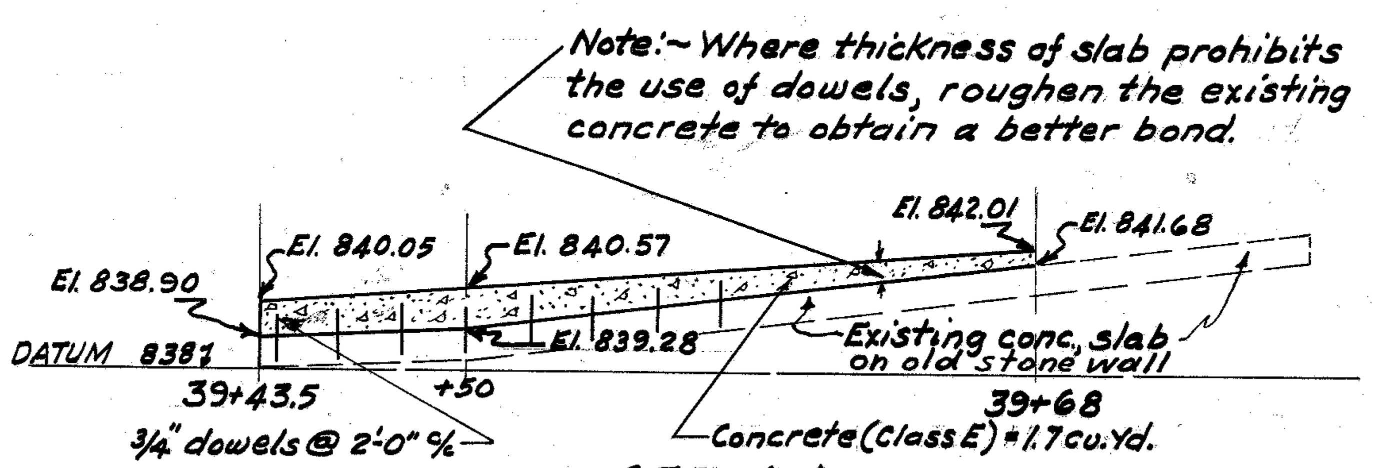
Resetting of existing Railing shall be in accordance with Item S-14 of the Construction and Material Specifications.

SCALE 1"=5'-0"

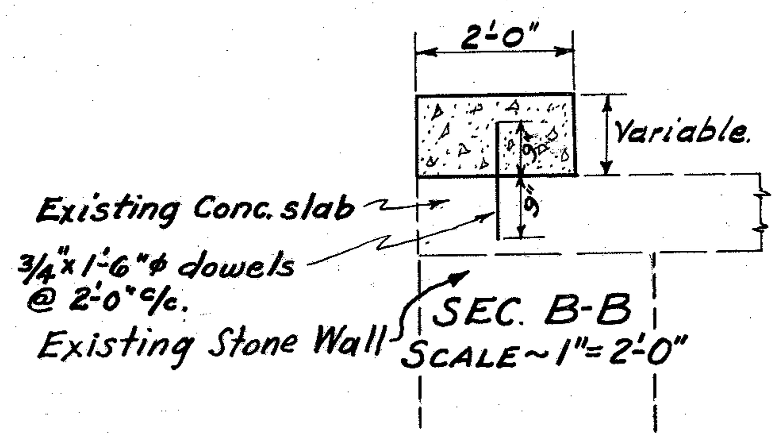
WORK REQ'D:~ Build concrete wall on Lt, as shown. Remove and Reset pipe-railing on Lt. as shown.

~ESTIMATED QUANTITIES~

Concrete (Class "E")	1.7 Cu.Yd.
Dowel Holes	6 Lin.Ft.
Reinforcing Steel.	18 Lbs.

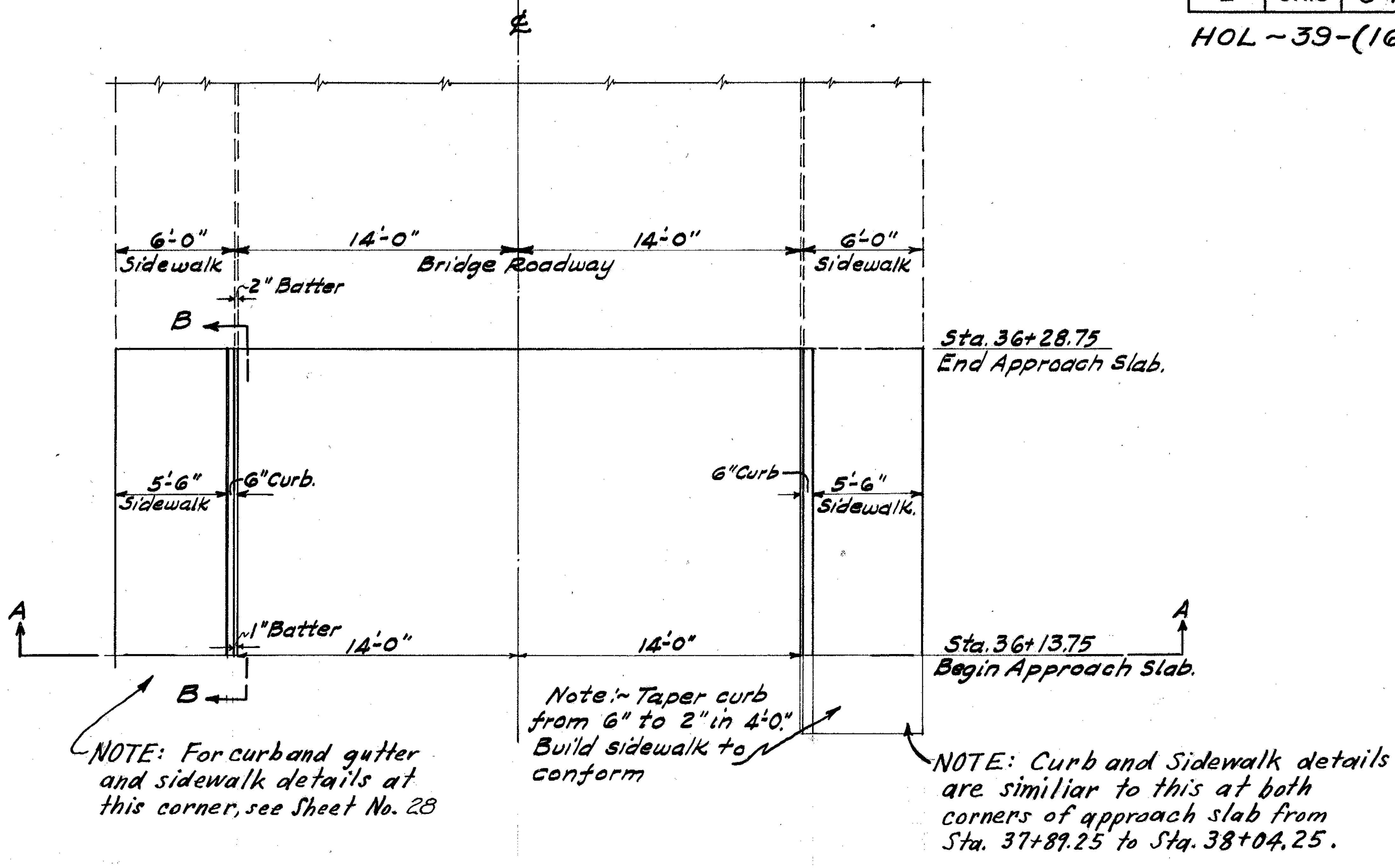


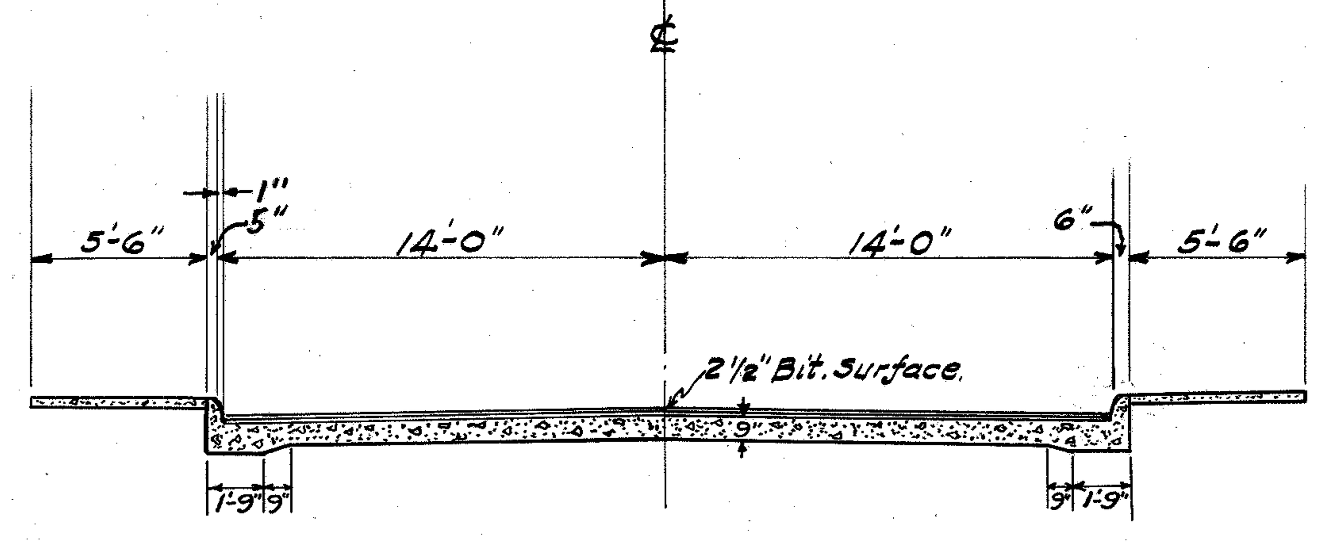
SEC. A-A
SCALE~ 1"=5'-0"



SEC. B-B
SCALE~1"=2'-0"

STA. 39+43.5 TO STA. 39+68
RETAINING WALL.



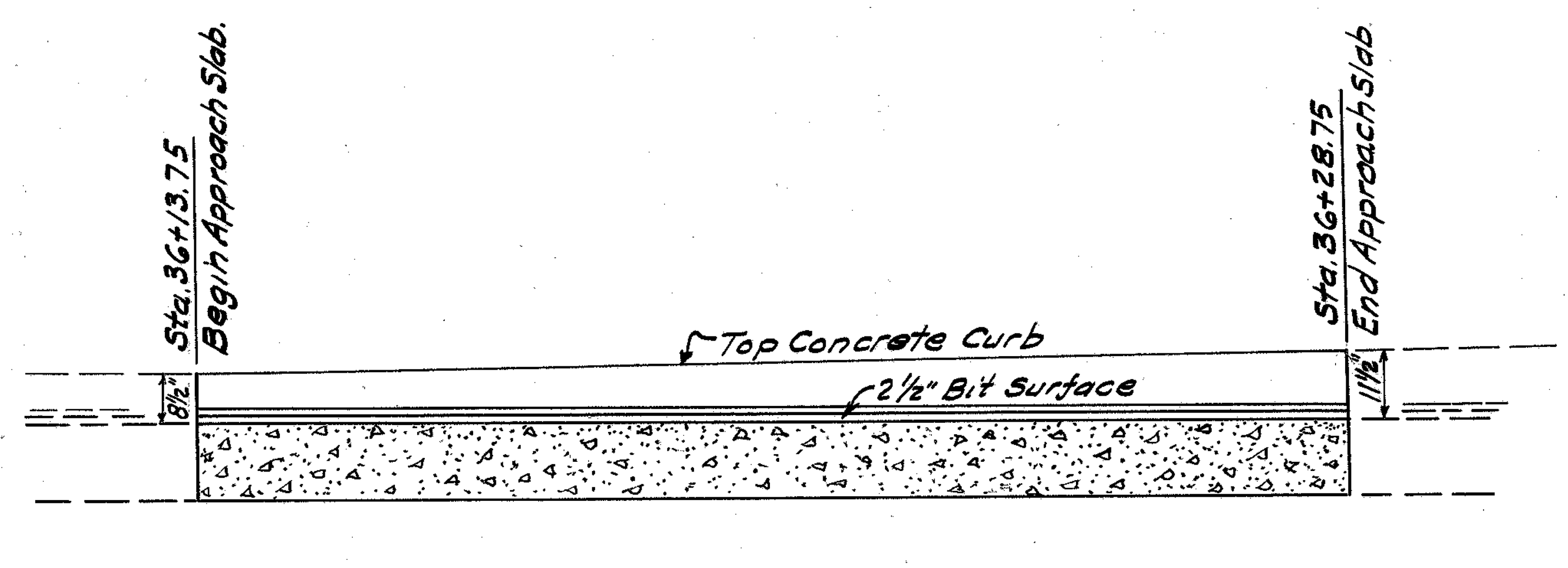


SEC. A-A
SCALE~ 1"=5'-0"

ESTIMATED QUANTITIES

Approach Slab	48.3 Sq. Yd.

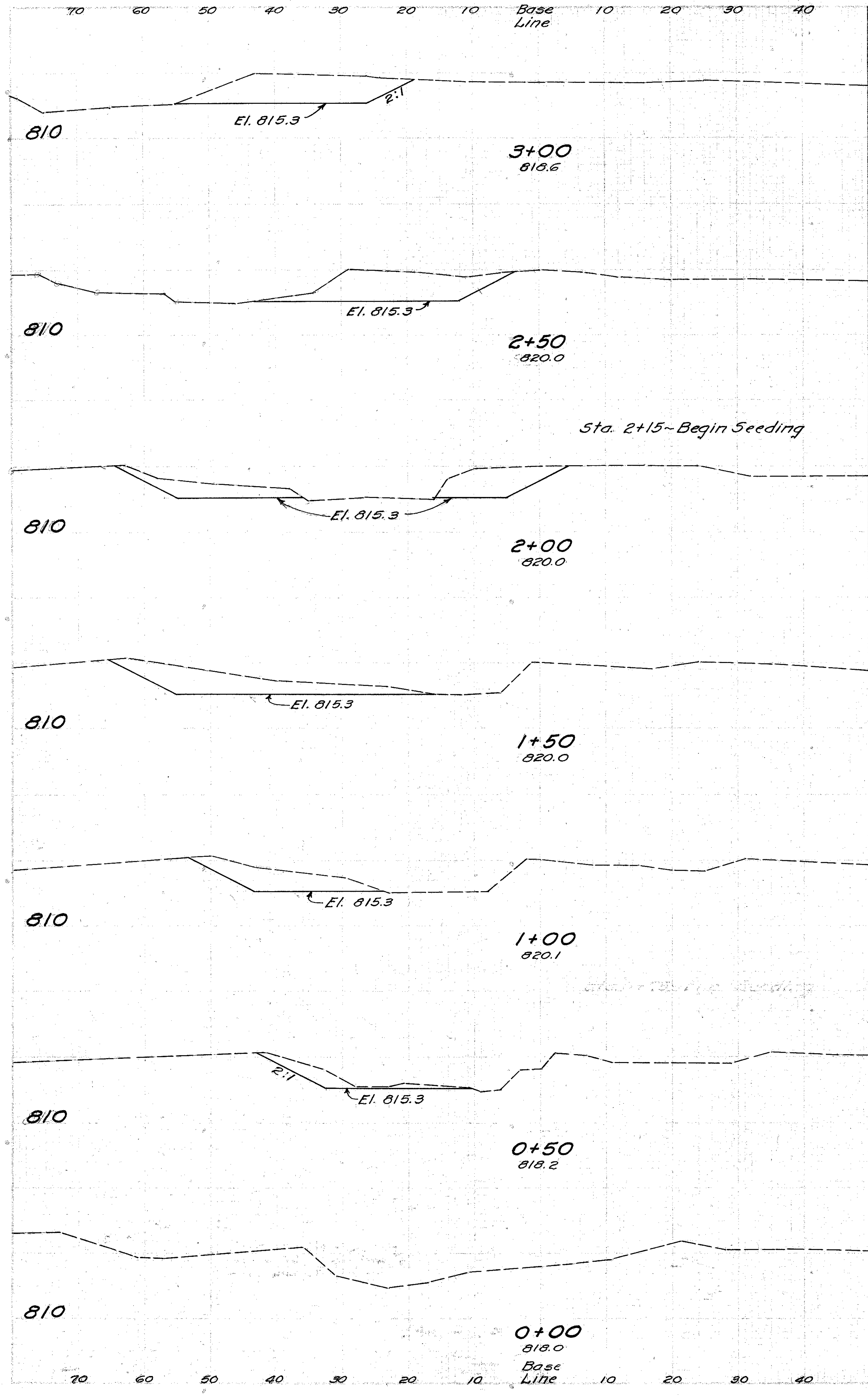
NOTE: Approach Slab from Sta. 37+89.25 to Sta. 38+04.25 is similiar to slab detailed on this sheet.



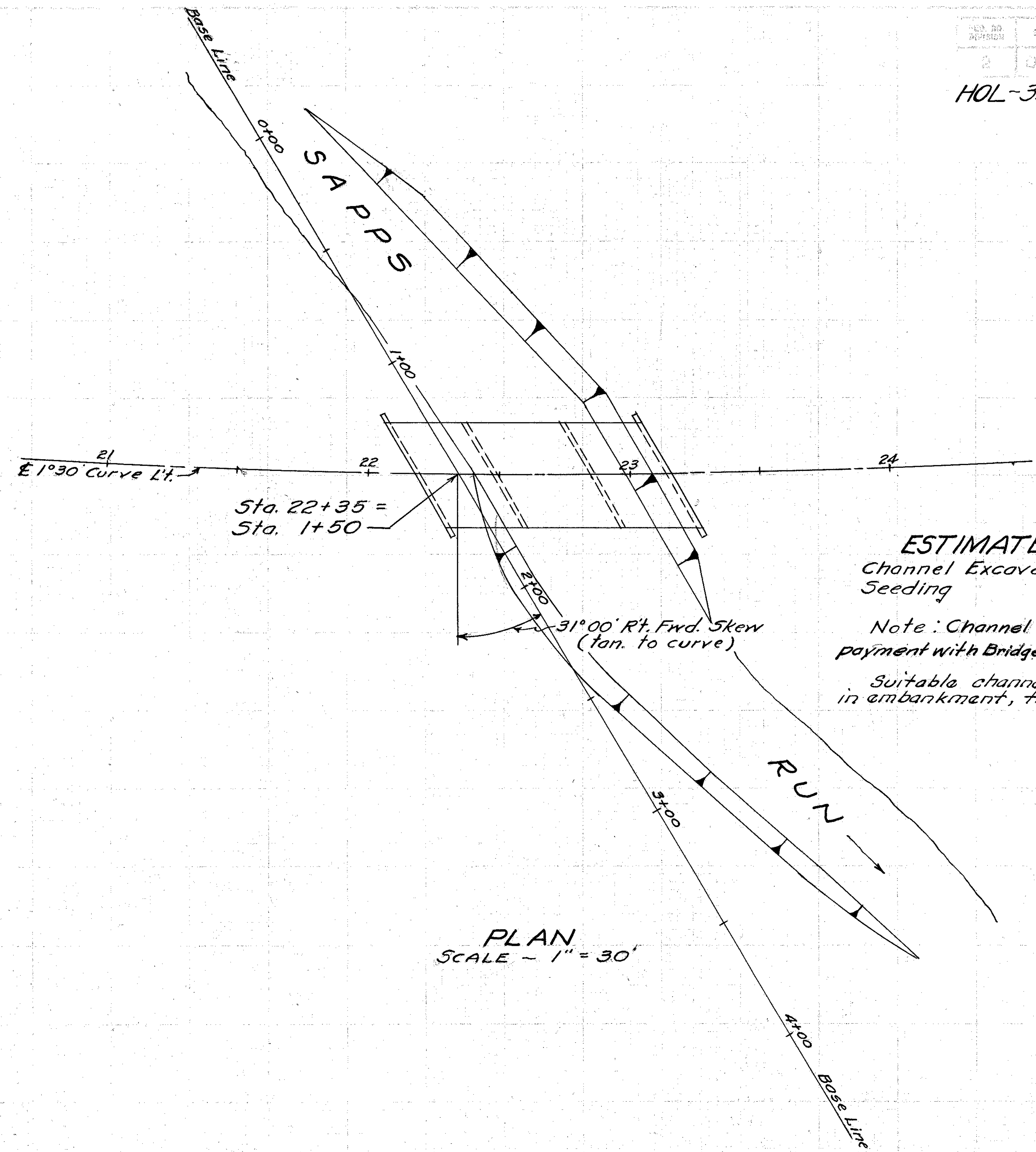
SEC. B-B
SCALE 1"=2'-0"

NOTE: For approach slab details not shown hereon refer to Std. Dwg. AS-4-47.

STA. 36+13.75 TO STA. 36+28.75
APPROACH SLAB.



Station	Seeding W.	Seeding S.Y.	Channel Excav. E.A.	Channel Excav. C.Y.
		111		163
3+00	20		120	
		111		213
2+50	20		110	
		78		
2+15	20			204
2+00			110	
				207
1+50			114	
				170
1+00			70	
				90
0+50			27	
				25
0+00			0	



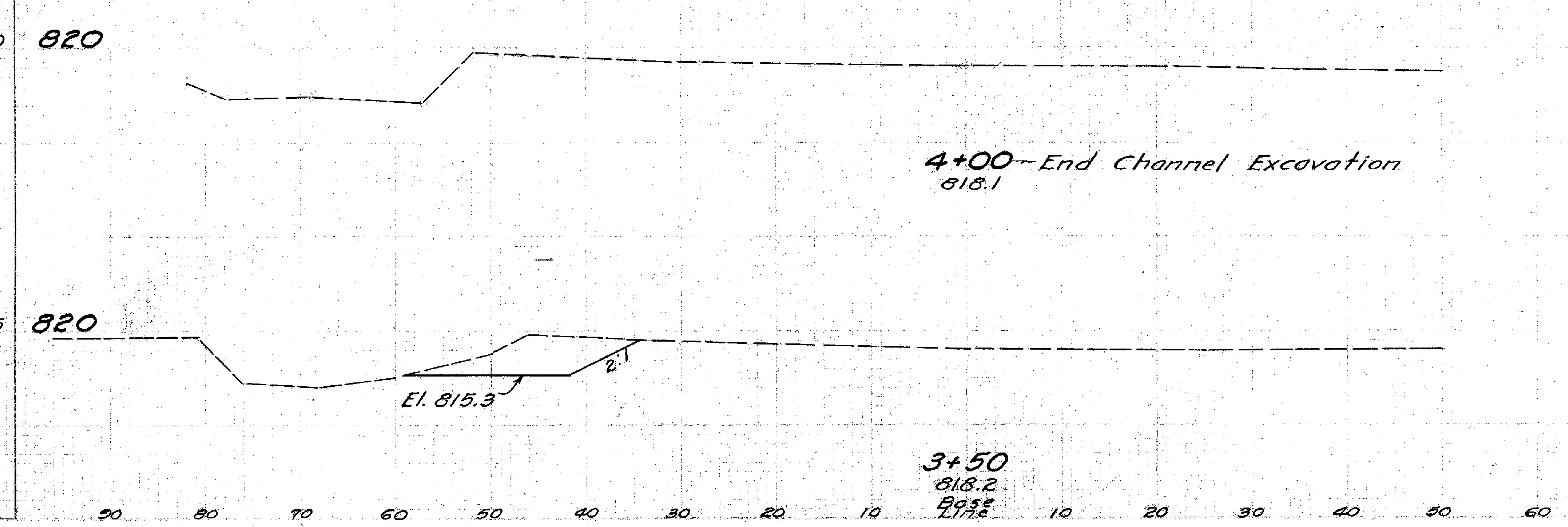
PLAN
SCALE ~ 1" = 30'

ESTIMATED QUANTITIES

Channel Excavation 1124 Cu. Yds.
Seeding 411 Sq. Yds.

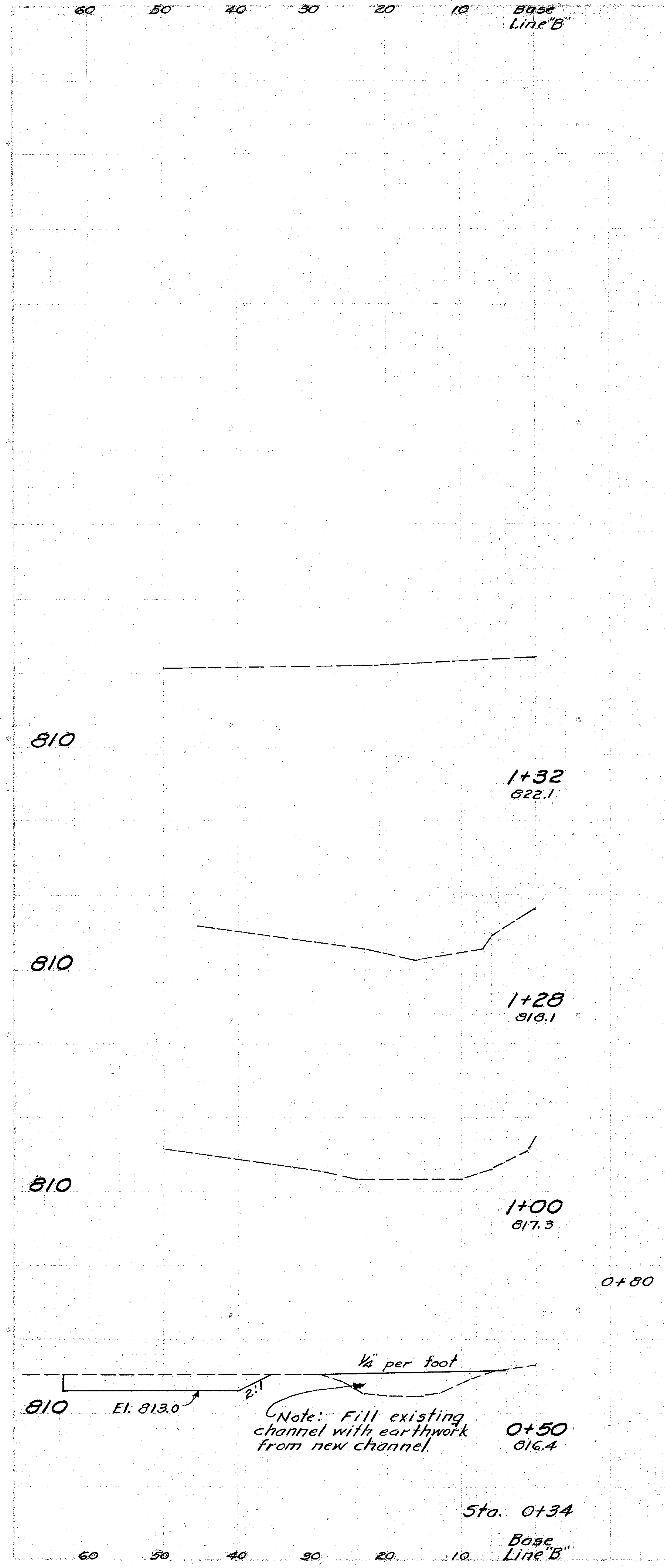
Note: Channel Excavation is included for payment with Bridge Quantities. See Bridge Summary.

Suitable channel excavation shall be used in embankment, thereby reducing borrow.

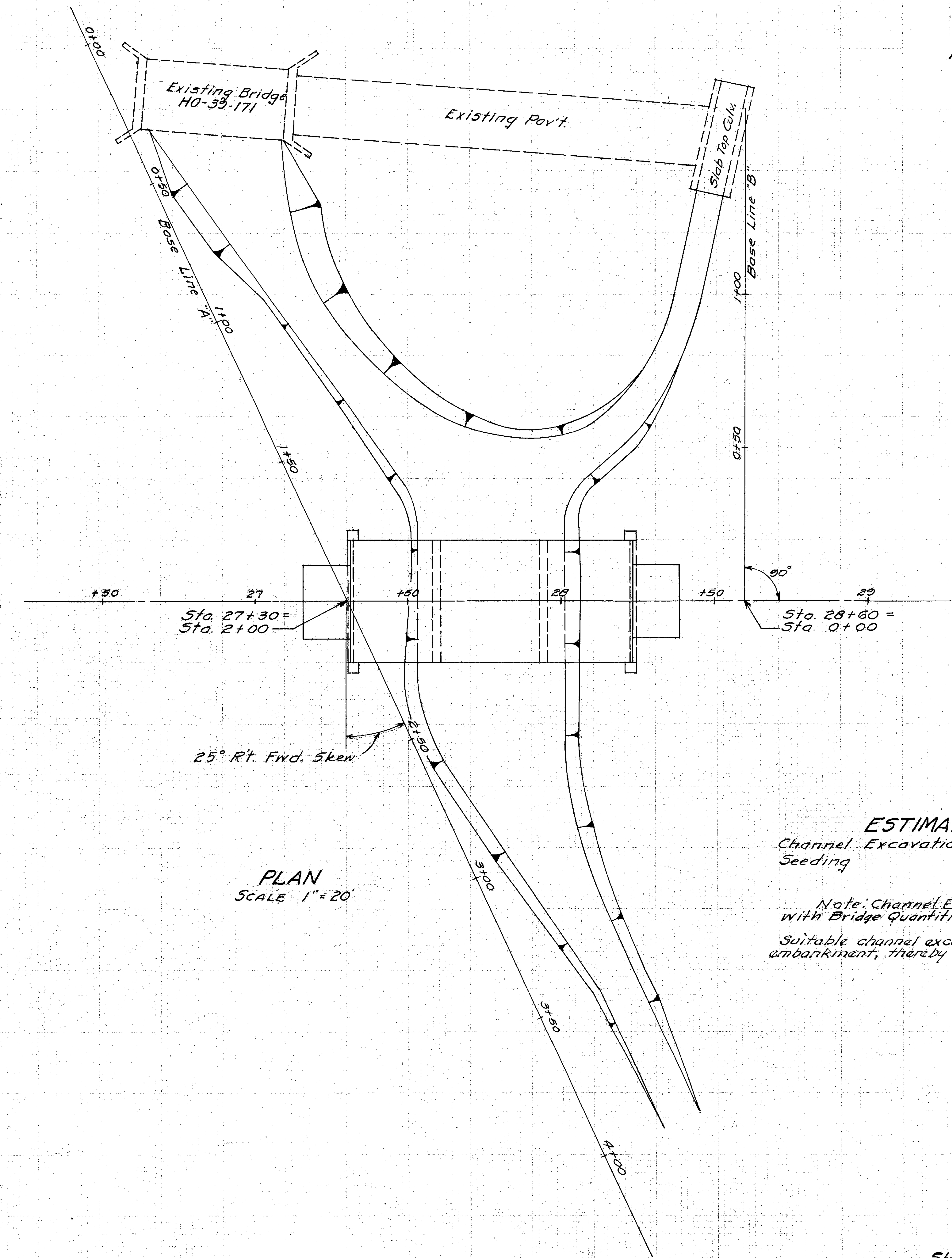


Station	Seeding W.	Seeding S.Y.	Channel Excav. E.A.	Channel Excav. C.Y.
4+00	20		0	
		111		52
3+50	20		56	

STA. 22+35~CHANNEL CHANGE



Channel Excav. E.A.	Channel Excav. C.Y.
0	
	32
57	
	37
69	



PLAN
SCALE 1" = 20'

ESTIMATED QUANTITIES

Channel Excavation	1009 Cu. Yds.
Seeding	462 Sq. Yds.

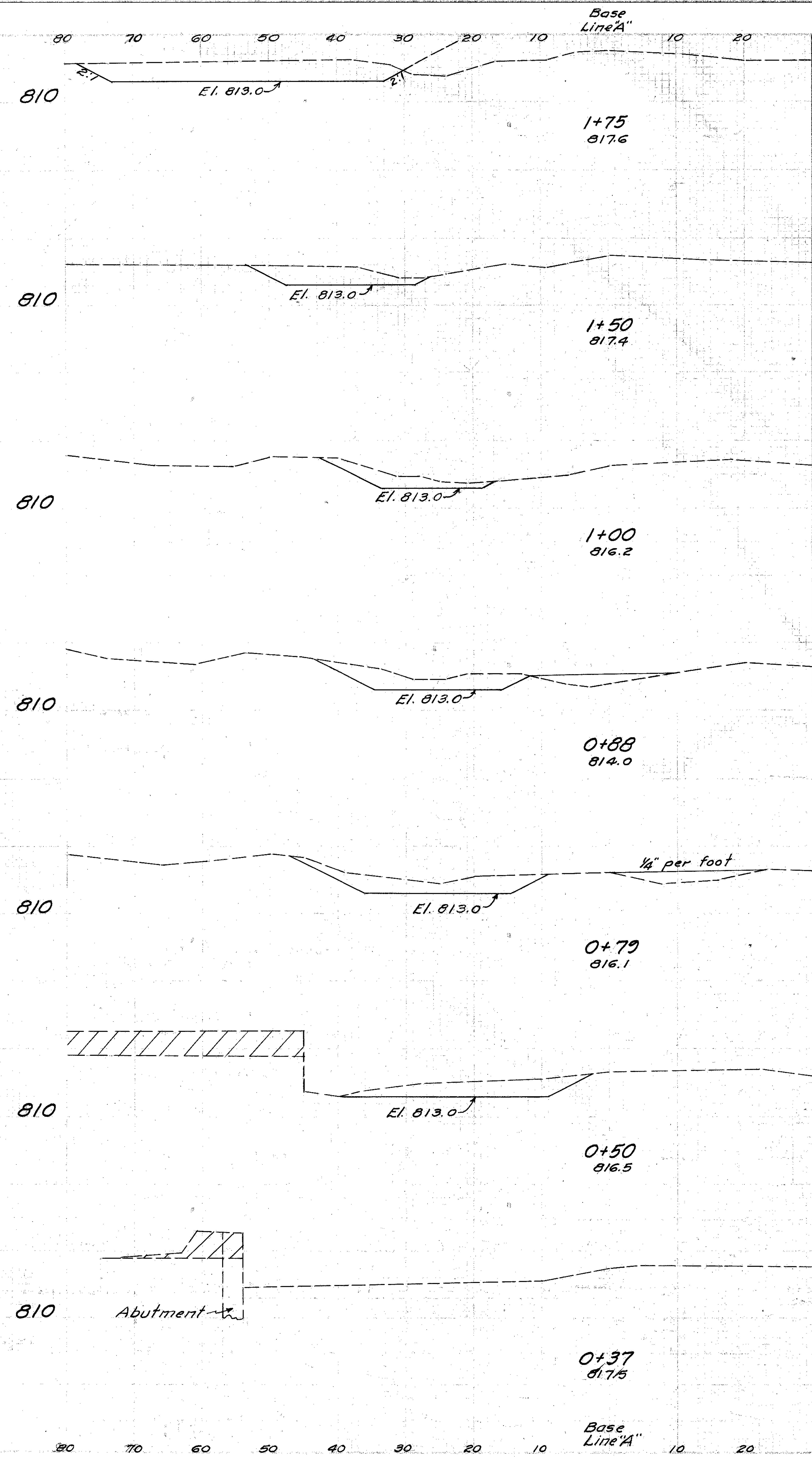
Note: Channel Excavation is included for payment with Bridge Quantities. See Bridge Summary.

Suitable channel excavation shall be used in embankment, thereby reducing borrow.

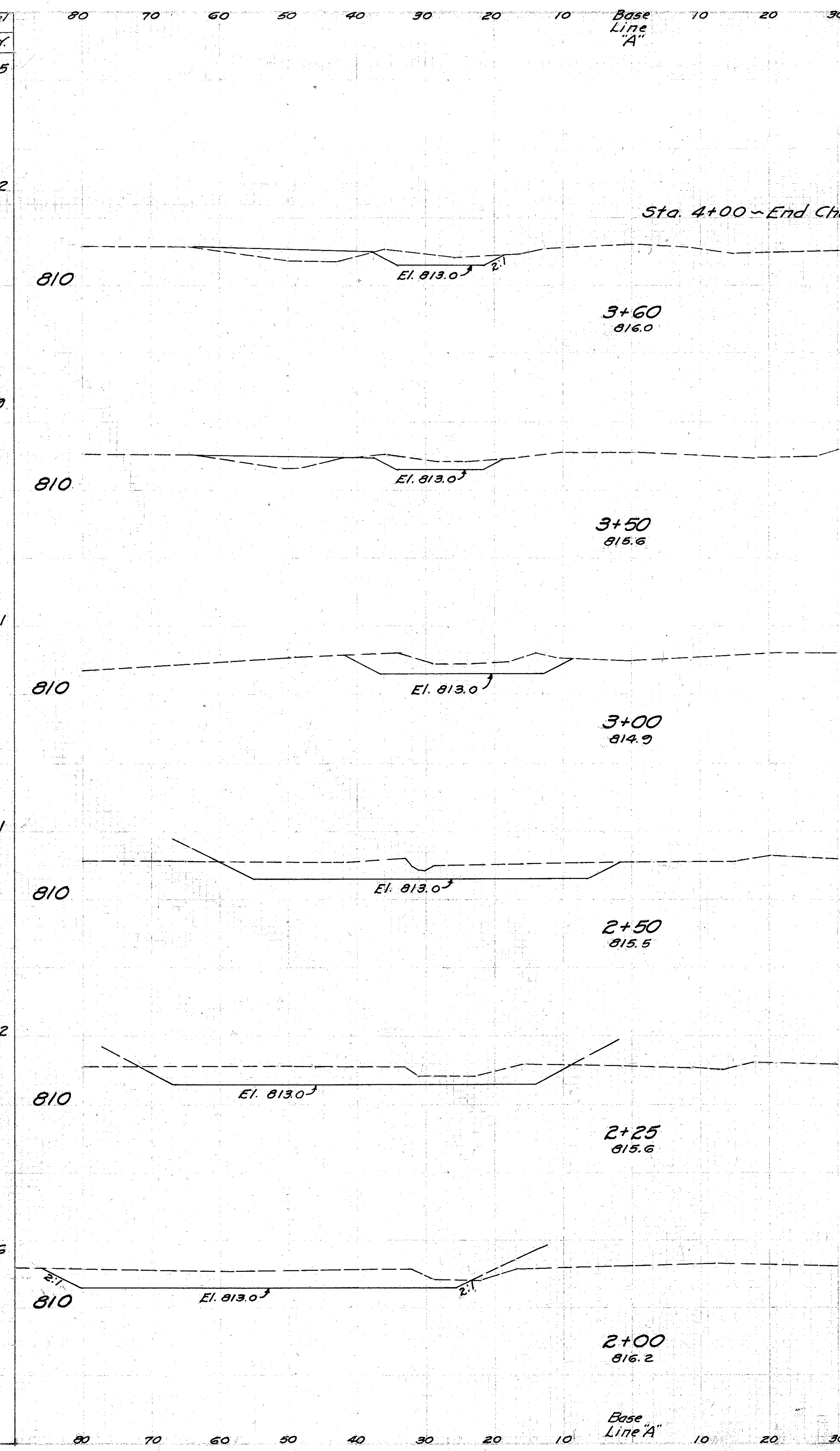
SHEET 1 OF 2 SHEETS

STA. 27+30 ~ CHANNEL CHANGE

HOL-39-(16.69-17.29)



Seeding W.	Seeding S.Y.	Channel Excav. E.A.	Channel Excav. C.Y.
			125
		127	
			82
		50	
			79
		35	
			21
		60	
			21
		69	
			72
		66	
			16
		0	



Sta. 2+60 ~ Begin Seeding

Seeding W.	Seeding S.Y.	Channel Excav. E.A.	Channel Excav. C.Y.
20		0	
	156		19
50		25	
	50		9
40		23	
	167		76
20		59	
	89		
20			
			170
		125	
			121
		136	
			129
		142	

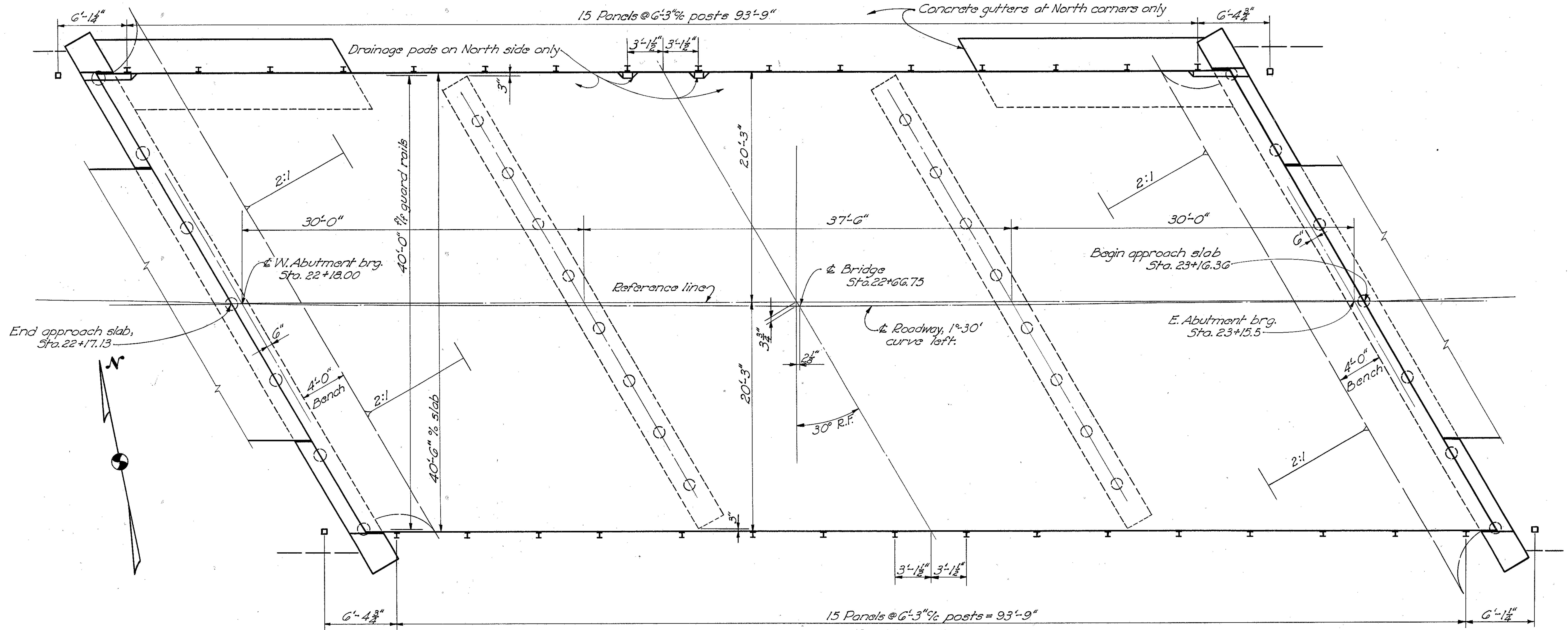
SHEET 2 OF 2 SHEETS

STA. 27+30—CHANNEL CHANGE

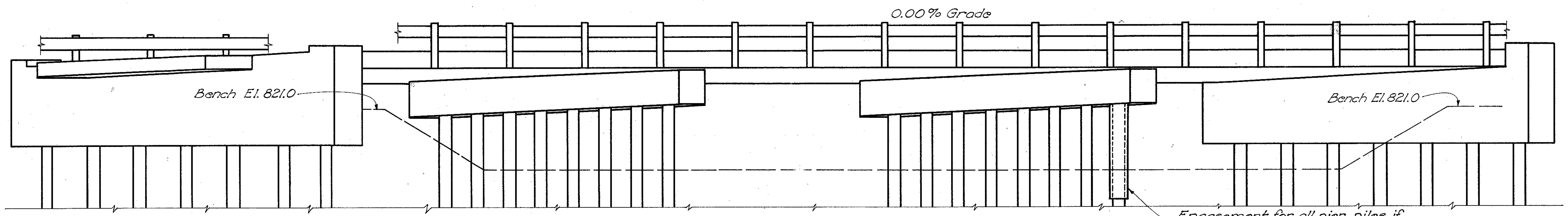
FED. RD. DIVISION 2
STATE OHIO
PROJECT S-170(2)
TYPE FUNDS Post War
35
49
HOL-39-(16.69-17.29)
0.3 Mi. West of Millersburg W.C.L.
SAPPS RUN
Existing HO-39-170
Floor El. 823.7
4" Gas Line (To be re-located)
Existing S.R. 39
+823.4
+822.7
Drive
Road
P.I. 18+24.33
Δ = 22°41' Lt.
Dc = 1° 30'
Ts = 841.20'
Ls = 150'
Lc = 1362.22'
Es = 76.34'
Rc = 3819.72'
℄ Bridge Sta. 22+66.75
120'± limit of channel excav.
170'± limit of channel excav.
C.S. 24+95.35
PROPOSED STRUCTURE
TYPE: Continuous concrete slab with capped pile abutments & piers.
SPANS: 30'-37.5'-30' c/c brgs.
RDWY: 40' f/f guard rails.
LOADING: S-15-46.
SURF. COURSE: Bituminous.
APPR. SLAB: As shown.
ALIGNMENT: 1°30' left curve
SUPERELEV.: 0.025 %.
SKEW: 30°-0' R.F.
Transition 4:1 to 2:1 slope
Transition 2:1 to 4:1 slope
64.67'
41.58'
40'-0" f/f Slab
20.25
Proposed New ℄
To Loudonville
To Millersburg
20
21
22
23
24
25
26
End Appr. Slab Sta. 22+17.13
Begin Appr. Slab Sta. 23+16.36
Transition between 2:1 and existing channel slope.
Excavate channel to flow line
EXISTING BRIDGE DATA
Type: Pony Truss
Span: 66'
Rdwy: 19'
Abuts: Concrete
Ldg: H-10 (25% Reduction)
Condition: Good
To be removed
Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site.
This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division Office, but the State assumes no responsibility for the accuracy thereof.
Bridge Limits
Clears 1935 H.W. 2.0'±
DRAINAGE AREA = 9.5 SQ.MI.
Sta. 22+17.13
℄ Br. Sta. 22+66.75 Prof. Gr. El. 825.00 (Nom.)
Sta. 23+16.36
1935 H.W. El. 821.0 (assumed 15 to 20 yr. freq.)
Grade level
Normal Water El. 816.0
Bench El. 821.0
2:1 (Norm.)
Fl.L. El. 815.3
Excavate channel to flow line
Reinforced Concrete Piling: Estimated lengths: for piers 48', for abutments 42'.
840
820
800
825.00
822.500
SITE PLAN
BRIDGE NO. HO-39-170
OVER SAPPS RUN
HOLMES CO. - S.R. 39
SEC. HOL-39-(16.69-17.29)
Scale: 1" = 20' - Sta. 22+66.75
EXISTING TOPO.: SURVEY Div. Office; DRAWN Div. Office
PROPOSED WORK: DESIGN W.C.K.; DRAWN W.C.K.; CHECK J.H.B.; REVIEW
8-24-51
BFG

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	S-170(2)	Post War	36 / 49

HOL-39-(16.69-17.29)



GENERAL PLAN



GENERAL ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CS-1-47 revised 1-20-48; and P-1-49, dated 7-27-49.

PILING shall be driven to a minimum bearing capacity of 25 tons at the abutments and 35 tons at the piers.

CONCRETE GUTTERS shall be 6 ft. wide and 6 in. thick, and shall be depressed 6 in. at the center. They shall extend from face of abutment down to El. 814.0 and shall be centered under edge of deck. Reinforcing bars ½"ϕ @ 1'-6" centers, both directions, included in price per lin. ft.

SURFACE FINISH OF CONCRETE: Fascia of deck slab shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item S-1.

BITUMINOUS SURFACE COURSE: 2½" Asphaltic concrete surface course, Item T-35, laid in two 1¼" courses.

EXCAVATION quantity includes the removal of fill material between top of earth bench and bottom of abutment crossbeam.

REMOVAL OF EXISTING BRIDGE: When no longer needed to maintain traffic the existing structure shall be removed. Floor beams, stringers and trusses shall be piled along the right-of-way at the disposal of Holmes County. Trusses shall be left assembled. The remainder of the removed materials shall become the property of the Contractor. The existing abutments shall be left in place.
The 4" gas line carried on the existing structure will be removed and re-located by the owner of the line before the superstructure is removed.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS.	PIERS	GENERAL	Revised As-Built	
E-2	60	Cu. Yd.	Unclassified excavation		60				
E-3	1124	Cu. Yd.	Channel excavation				1124	C.O. 7 +6	1130
S-1	226	Cu. Yd.	Class "C" concrete, superstructure (including pier caps)	201		25			
S-1	60	Cu. Yd.	Class "C" concrete, abutments		60				
S-3	447	Sq. Yd.	Type "C" waterproofing	447					
S-4	61,768	Lbs.	Reinforcing steel	51,617	6212	3,789	150		
S-9	17	Sq. Ft.	¼" Premolded expansion joint filler				17		
S-14	198	Lin. Ft.	Railing (Type I-15.13 guard rail with steel posts)	198					
S-16	Lump	Sum	First test pile				Lump		
S-18	1356	Lin. Ft.	Reinforced concrete piling, 12" cast-in-place or 14" precast		588	768		C.O. 7 +162.25	1,193.75
S-24	Lump	Sum	Removal of existing structure				Lump		
I-14	45	Lin. Ft.	Concrete gutter				45		
T-35	31	Cu. Yd.	Asphaltic concrete surface course, Type "A" or "C" (85-100)	31					

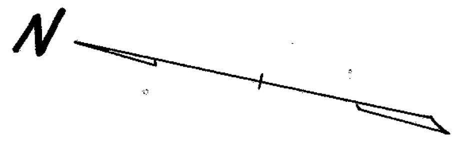
W.R.G. 3-30-56

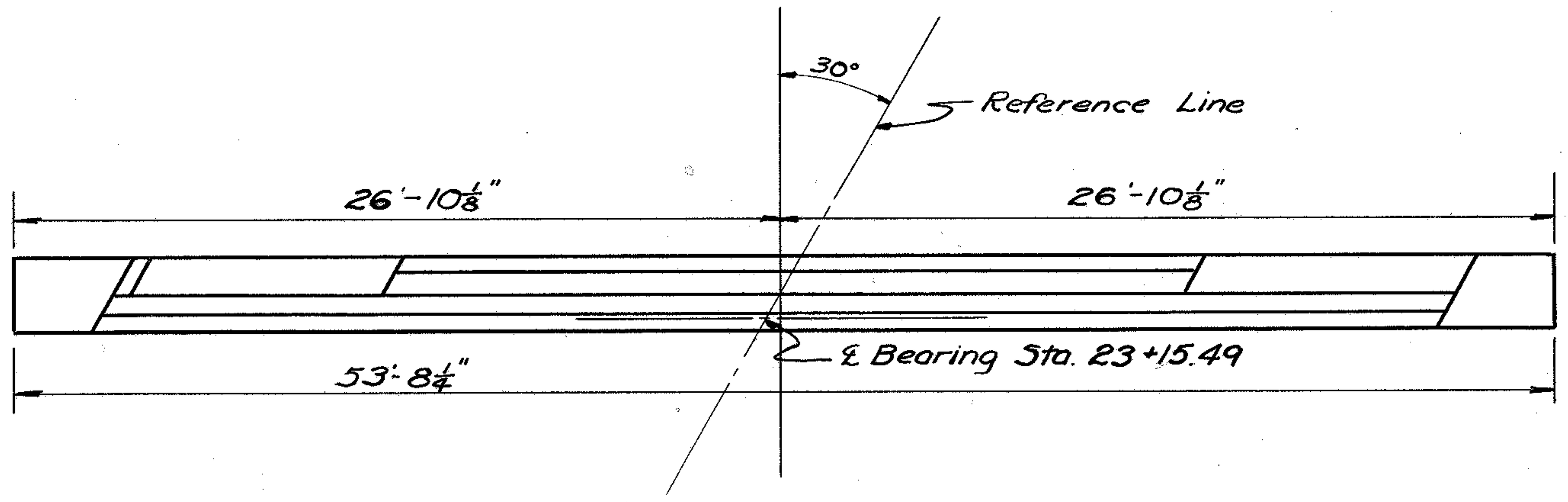
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

GENERAL PLAN AND ELEVATION, NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. HO-39-170 OVER SAPPS RUN

HOLMES COUNTY
SEC. HOL-39-(16.69-17.29) STA. 22+66.75

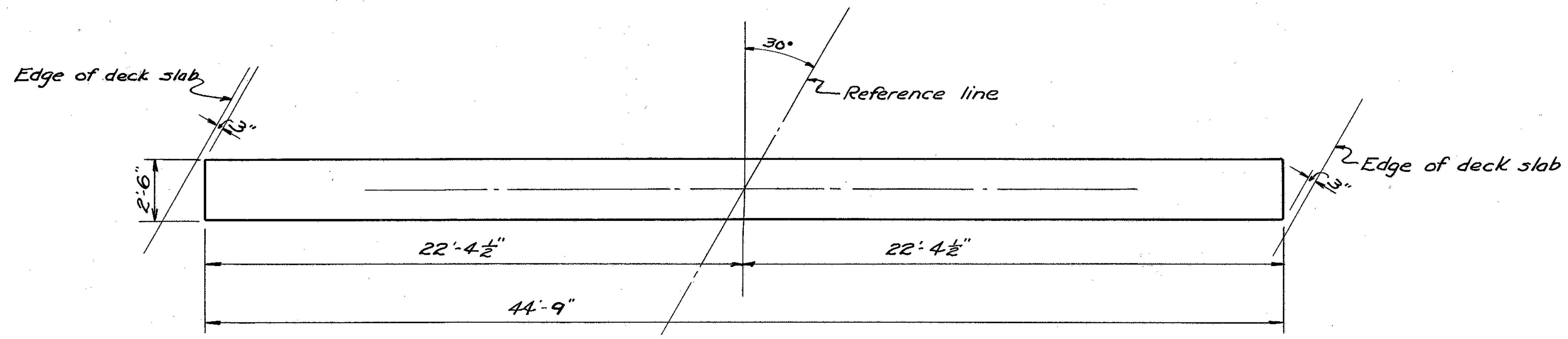
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWS	JWS	GPH	V.A.E.	BFG WHR	8-24-51	





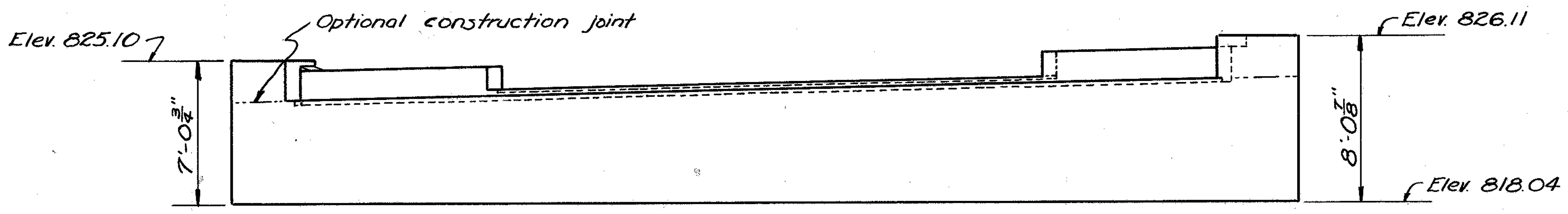
PART PLAN
EAST ABUTMENT

NOTE: For details not shown see West Abutment Detail Sheet.

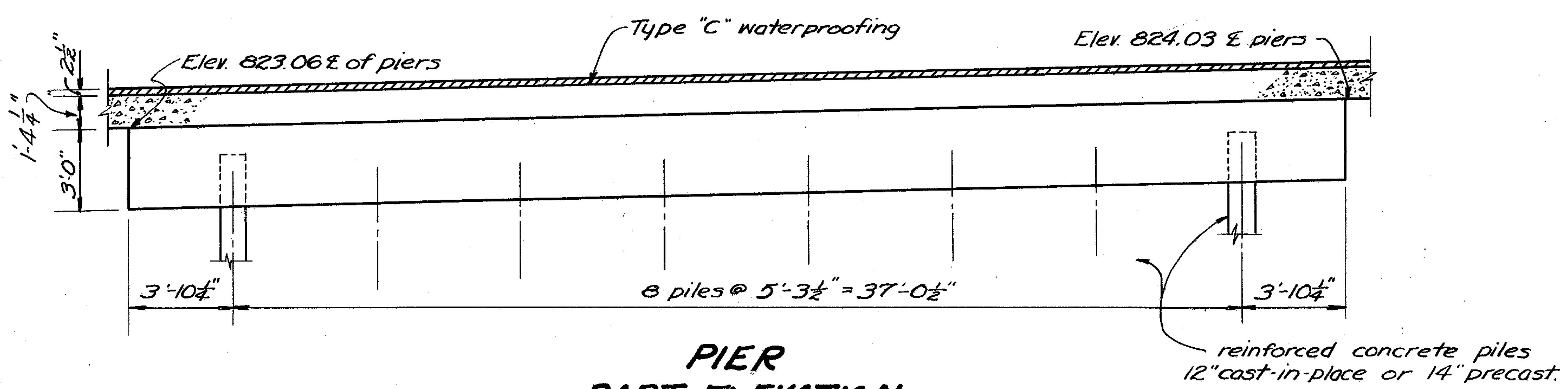


PIER
PART PLAN

NOTE: For pier details not shown, see Std. Drg. P-1-49.



PART ELEVATION
EAST ABUTMENT

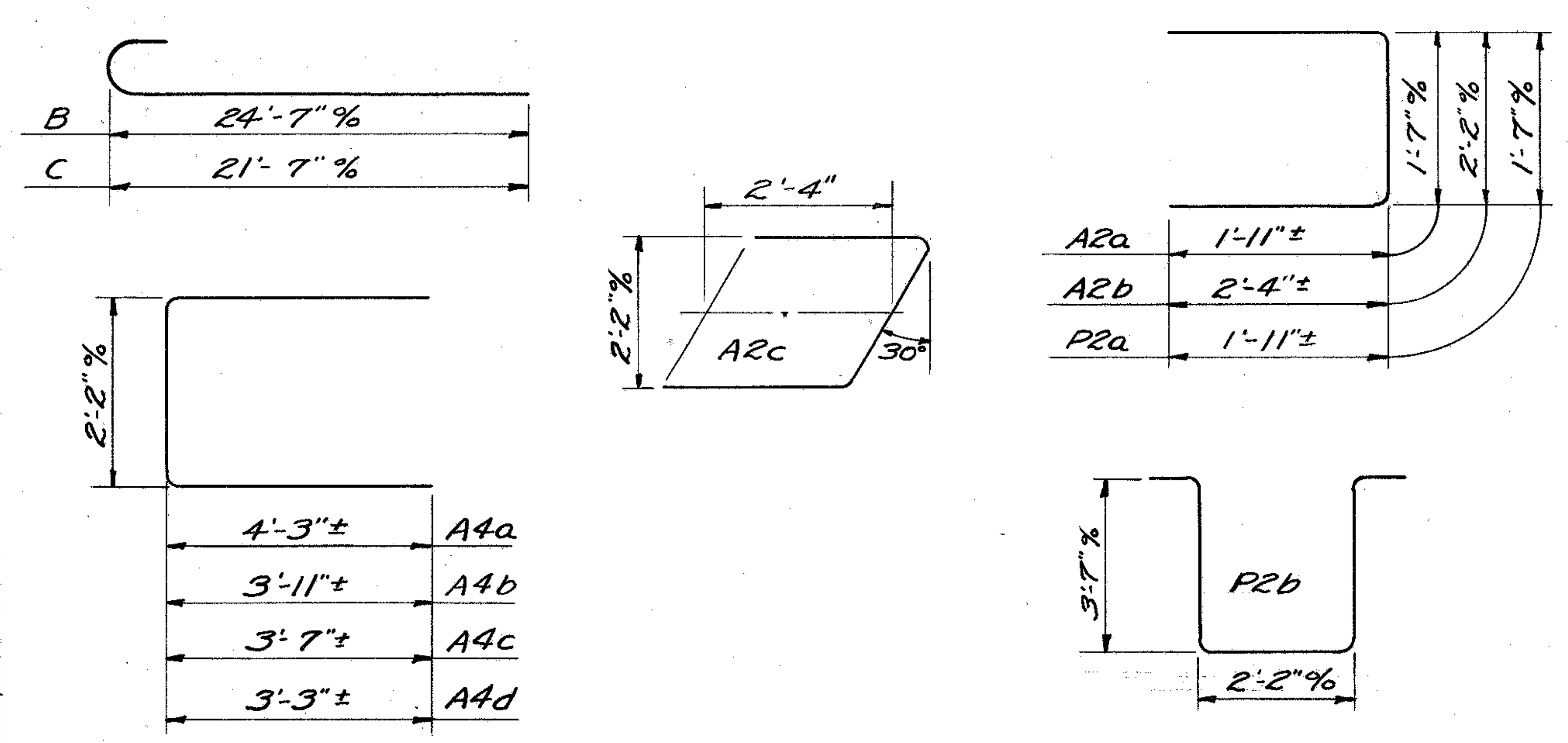


PIER
PART ELEVATION

REINFORCING STEEL LIST

MARK	SIZE	NO.	LENGTH	WEIGHT	SHAPE
SUPERSTRUCTURE					
A	1⅛"□	90	35'-3"	13,650	S
B	1⅛"□	30	25'-10"	3,335	B
C	1⅛"□	30	22'-10"	2,948	B
D	1⅛"□	15	22'-9"	1,468	S
E	1⅛"□	15	18'-9"	1,210	S
F	1⅛"□	74	28'-7"	9,101	S
G	1⅛"□	38	17'-4"	2834	S
H	1⅛"□	36	13'-7"	2,104	S
J	¾"φ	38	21'-6"	1,227	S
K	¾"φ	19	20'-3"	578	S
L	¾"φ	232	24'-4"	8,482	S
M	¾"φ	128	24'-4"	4,680	S
PIERS					
P0a	1¼"□	8	25'-0"	1,063	S
P7a	1"φ	32	24'-7"	2,100	S
P2a	½"φ	64	5'-3"	225	B
P2b	½"φ	58	10'-4"	401	B

BENDING DIAGRAMS



MARK	SIZE	NO.	LENGTH	WEIGTH	SHAPE
ABUTMENTS					
A7a	1"φ	48	28'-4"	3,631	S
A4a	⅝"φ	44	10'-3"	470	B
A4b	⅝"φ	56	9'-7"	560	B
A4c	⅝"φ	56	8'-11"	521	B
A4d	⅝"φ	44	8'-3"	379	B
A4e	⅝"φ	38	3'-0"	119	S
A2a	½"φ	56	5'-3"	197	B
A2b	½"φ	8	6'-8"	36	B
A2c	½"φ	8	7'-0"	37	B
A2d	½"φ	88	3'-6"	206	S
A2e	½"φ	8	10'-5"	56	S
REPLACEMENT BARS					
RE0	1¼"□	1	8'-2"	43	S
RE9	1⅛"□	2	7'-9"	67	S
RE7	1"φ	1	7'-6"	20	S
RE5	¾"φ	1	6'-6"	10	S
RE4	⅝"φ	1	6'-1"	6	S
RE2	½"φ	1	5'-8"	4	S

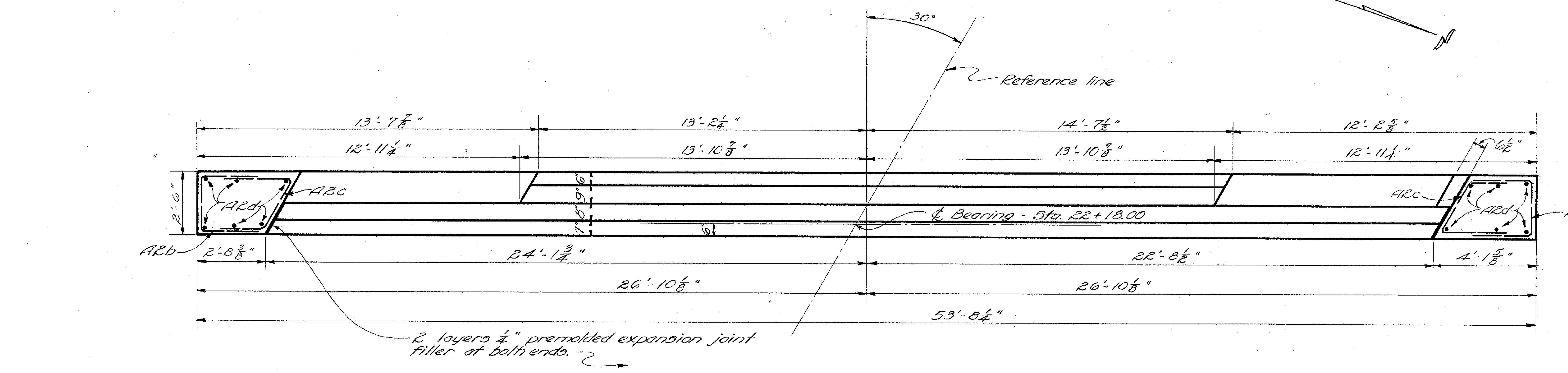
NOTE: The bar size designations shown in the Steel List do not correspond with the size designations given in the January 1, 1951 edition of the Construction and Material Specifications.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

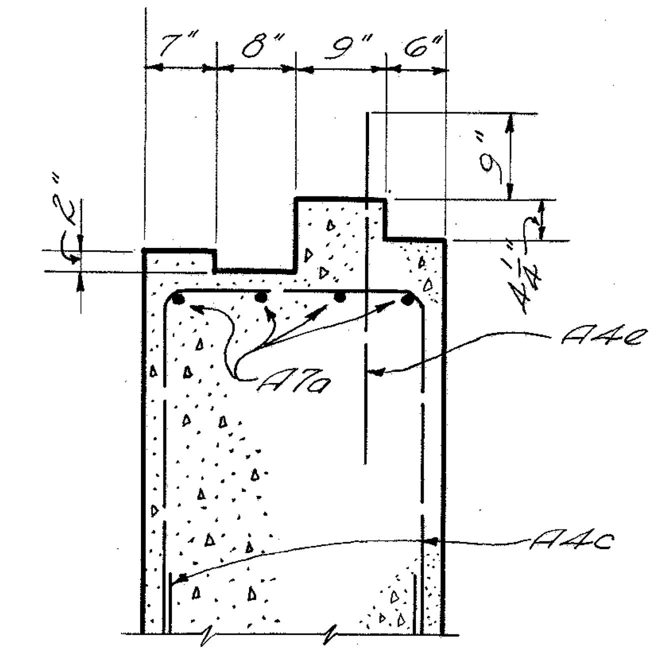
PART PLAN & ELEVATION OF PIER & EAST ABUTMENT, & STEEL LIST
BRIDGE NO. HO-39-170
OVER SAPPS RUN

HOLMES COUNTY
SEC. HOL-39-(16.69-17.29) STA. 22+66.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWS	JWS	E.W.P.	V.A.E.	BFG WHR	8-24-51	



PLAN

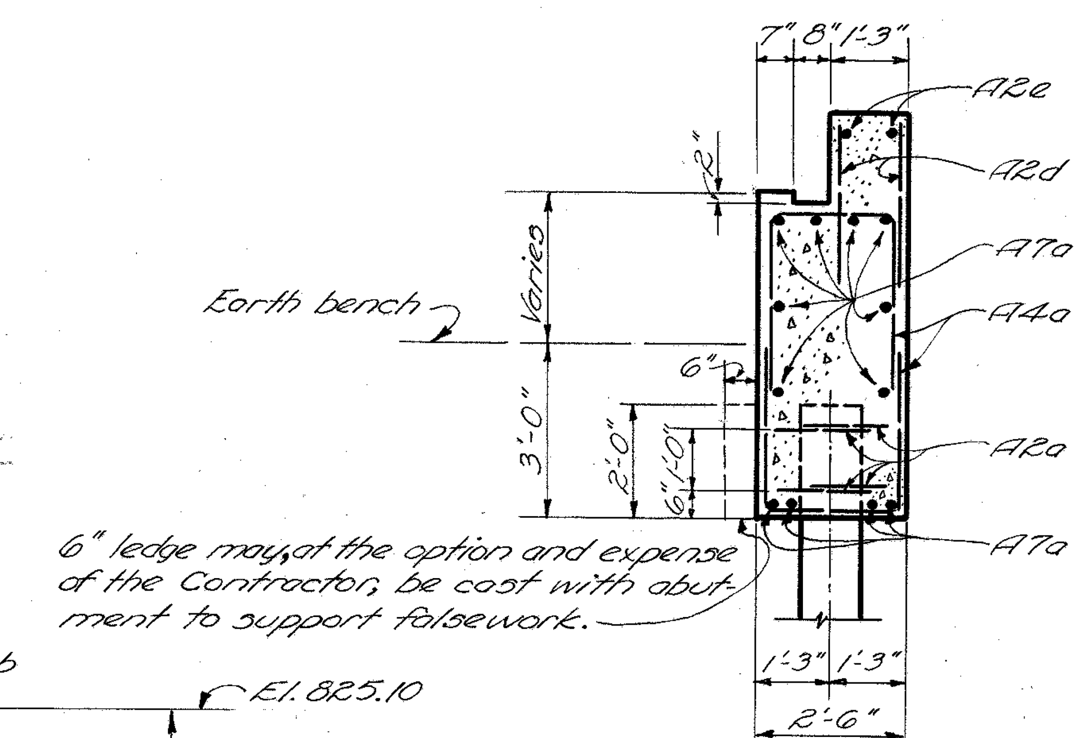


SECTION B-B

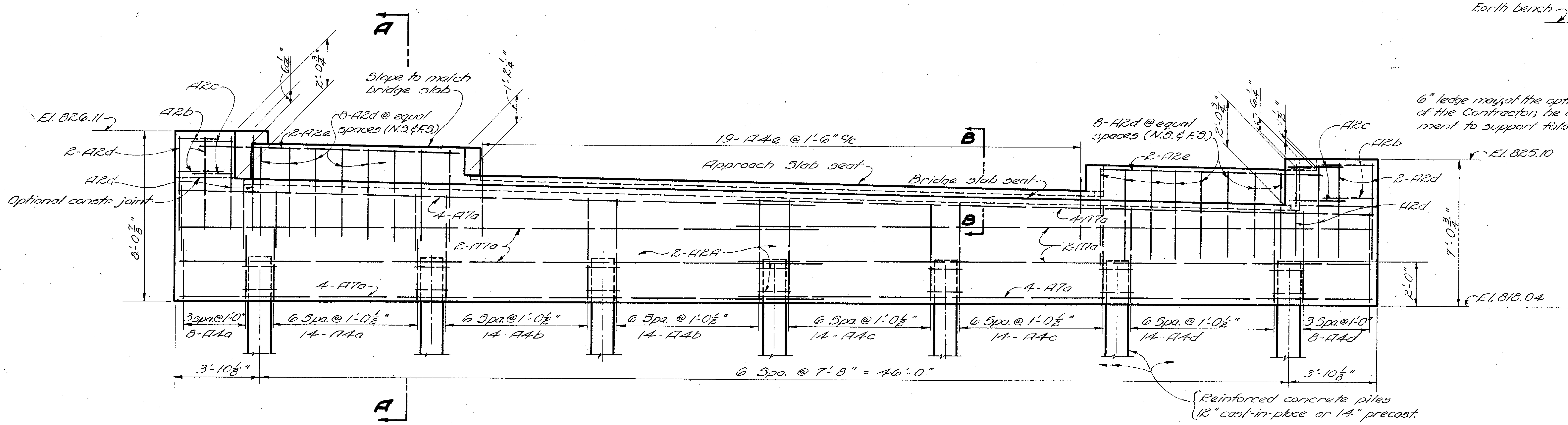
ABUTMENT NOTE

PROCEDURE: All earth fill around abutments shall be made full height of earth bench. Excavation shall then be made for abutment cap, after which piling shall be driven. If bottom forms for abutment cap are used, they shall be left in place.

STEEL CLEARANCE from face of concrete shall be 2 inches.



SECTION A-A



ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

WEST ABUTMENT DETAILS

BRIDGE NO. HO-39-170

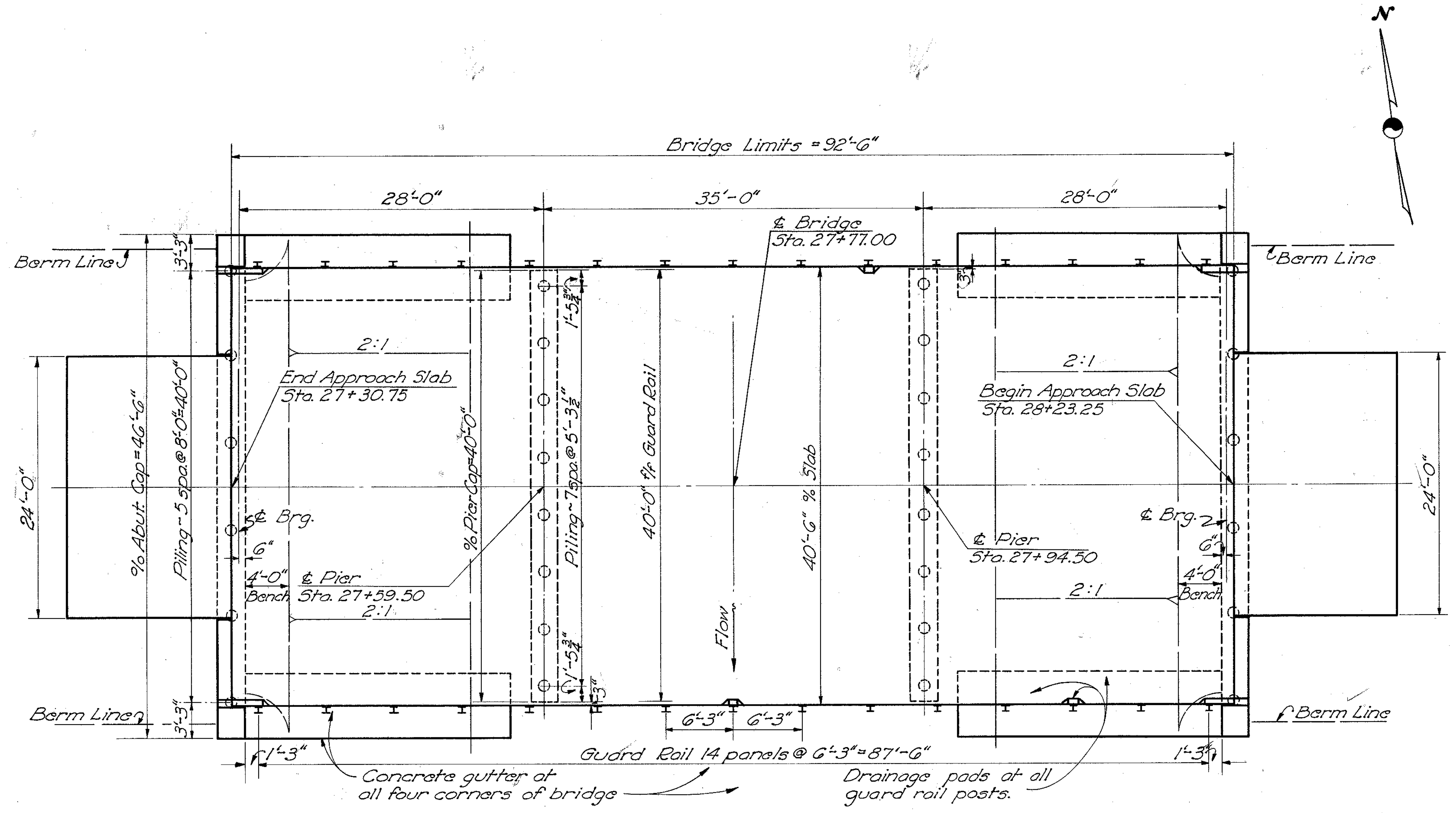
OVER SAPPS RUN

HOLMES COUNTY

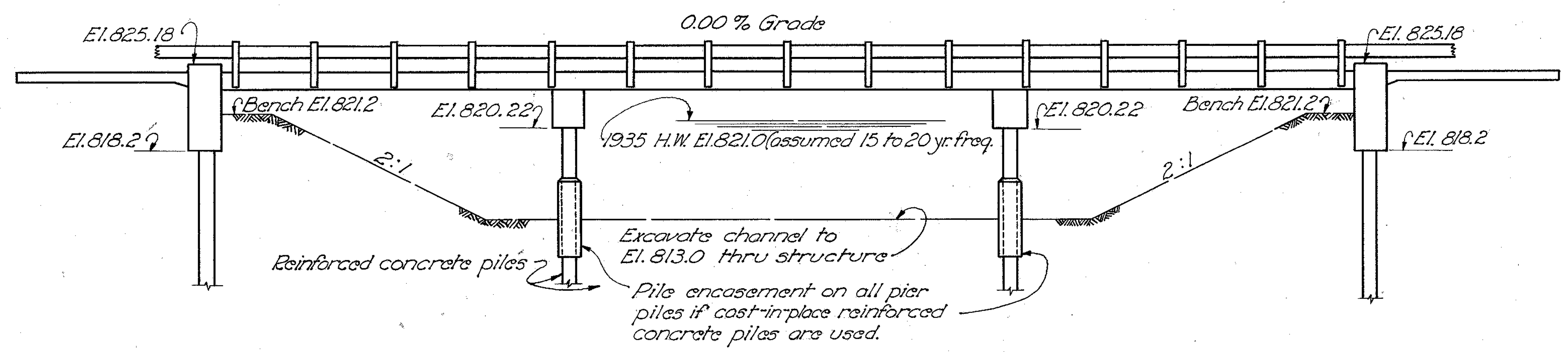
SEC. HOL-39-(16.69-17.29) STA. 22+66.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWS	JWS	S.J.S.	V.A.E.	BFG WHC	8-24-51	

FED. RD. DIVISION 2
STATE OHIO
PROJECT S-170(2)
TYPE FUNDS Post War
39
49
HOL-39-(16.69-17.29)
0.2 Mi. West of Millersburg W.C.L.
Existing HO-39-171
Floor El. 822.8
4" Gas Line (To be re-located)
F.L. 811.6
Existing 9'x9'x37' Stone and Conc. Slab Top Culv.
F.L. 811.1
+822.7
+822.5
+822.4
Existing S.R. 39
Fr. Barn
Fr. Res.
Corn Crib
Corn Crib
Old Tail Race
Ditch
EXISTING BRIDGE DATA
Type: Pony Truss
Span: 45'
Rdwy: 23'
Abuts: Stone
Ldg: H-7 (55% Reduction)
Condition: Good
To be removed
S.T. 26+45.35
Excavate channel to Elev. 813±
Transition 4:1 to 2:1 slope
Transition 2:1 to 4:1 slope
℄ Bridge Sta. 27+77.00
Proposed New ℄
To Loudonville
To Millersburg
End approach slab sta. 27+30.75
Begin approach slab sta. 28+23.25
49.85'
50.15'
S85°00'E
PROPOSED STRUCTURE
TYPE: Continuous Concrete Slab with capped pile abutments and piers
SPAN: 28'-35'-28' ctr. to ctr. of brgs.
ROADWAY: 40'0" face to face of guard rails.
LOADING: S-15-46
SKEW: None
SURF. COURSE: Bituminous
APPR. SLABS: As shown
ALIGNMENT: Tangent.
Sounding Note
Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site.
This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division Office, but the state assumes no responsibility for the accuracy thereof.
Bridge Limits
Excavate channel to Elev. 813.0±
Clears assumed 10 to 15 yr. H.W. 2.2'±
123'±
Sta. 27+30.75
℄ Bridge Sta. 27+77.00 Prof. Gr. Elev. 825.00
Sta. 28+23.25
825.00
Proposed Grade 0.00%
Bench El. 821.2
Bench El. 821.2
Excavate channel to Elev. 813.0 thru str.
1935 H.W. El. 821.0 (assumed 15 to 20 yr. freq.)
Reinforced Concrete Piling
Est. Ave. Length - Abuts. 49'
Piers 57'
840
820
800
816.8
816.3
815.7
816.5
815.3
25
26
27
28
29
30
31
SITE PLAN
BRIDGE NO. HO-39-171
Overflow structure
HOLMES CO. — S. R. 39
SEC. HOL-39-(16.69-17.29)
Scale: 1" = 20' — Sta. 27+77.00
EXISTING TOPO.
PROPOSED WORK
SURVEY Div. Office
DRAWN Div. Office
DESIGN J.H.B.
DRAWN J.H.B.
CHECK
REVIEW C.H.A.
8-24-51
BFG



GENERAL PLAN



GENERAL ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CS-1-47 revised 1-20-48, A-1-49 dated 7-27-49, and P-1-49 dated 7-27-49.

REMOVAL OF EXISTING STRUCTURES: When no longer needed to maintain traffic, existing structure No. HO-39-171 and existing 9'×9' box culvert shall be removed. Floor beams, stringers and trusses shall be piled along the right-of-way at the disposal of Holmes County. Trusses shall be left assembled. The remainder of removed materials shall become the property of the Contractor.
The abutments for bridge No. HO-39-171 shall be removed to El. 816.0 and banks dressed back at 2:1 slope. The walls of the 9'×9' box culvert shall be removed to the existing flow line. and the banks dressed back at 2:1 slope. Dressing of banks at both structures shall be included with Removal of Existing Structures for payment.
Suitable waste masonry may be disposed of as bank protection as directed by the Engineer.
The 4" gas line carried on the existing structures, will be removed and re-located by the owner of the line before the structures are removed.

PILING shall be driven to a minimum bearing capacity of 35 tons at the piers and 24 tons at the abutments.

CONCRETE GUTTERS shall be 6' wide and 6" thick and shall be depressed 6" at the center; they shall extend from face of abutment down to Elev. 811.0, and shall be centered under edges of deck. Reinforcing bars ½" ϕ @ 1'-6" centers, both directions, included in price per lin. ft. of gutter.

EXCAVATION quantity includes the removal of fill material between top of earth bench and bottom of abutment crossbeam.

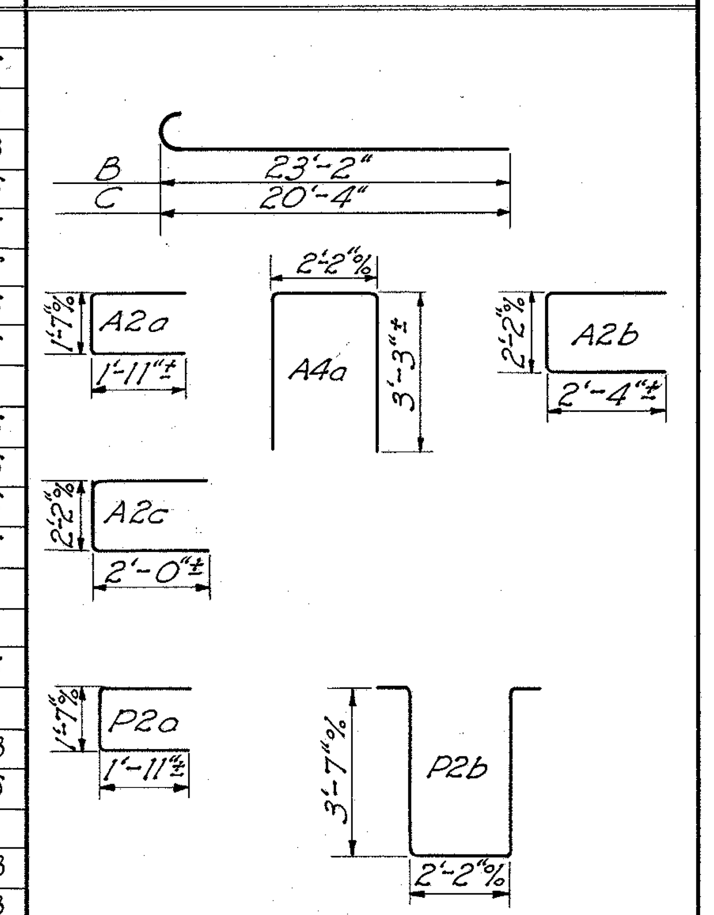
SURFACE FINISH OF CONCRETE: Fascia of deck slab shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item S-1.

ASPHALTIC CONCRETE SURFACE COURSE Item T-35, 2½" thick, shall be laid in two 1¼" courses.

REINFORCING STEEL LIST

MARK	SIZE	NO.	LENGTH	WEIGHT	SHP.
SUPERSTRUCTURE					
A	1" □	99	33'-0"	11,108	S
B	1" □	34	24'-3"	2803	B
C	1" □	34	21'-5"	2476	B
D	1" □	17	21'-6"	1243	S
E	1" □	17	18'-3"	1055	S
F	1" □	86	21'-0"	6140	S
G	1" □	44	10'-6"	1571	S
H	1" □	44	7'-3"	1085	S
J	¾" ϕ	44	20'-3"	1338	S
K	¾" ϕ	22	19'-6"	644	S
L	¾" ϕ	94	40'-0"	5648	S
M	¾" ϕ	60	40'-0"	3605	S
ABUTMENTS					
A7a	1" ϕ	48	24'-9"	3172	S
A4a	⅝" ϕ	128	8'-5"	1124	B
A4b	⅝" ϕ	30	3'-0"	94	S
A2a	½" ϕ	48	5'-3"	168	B
A2b	½" ϕ	8	6'-8"	36	B
A2c	½" ϕ	8	6'-0"	32	B
A2d	½" ϕ	88	3'-6"	206	S
A2e	½" ϕ	8	9'-0"	48	S
PIERS					
P0a	1¼" □	8	21'-11"	932	S
P7a	1" ϕ	32	21-6"	1837	S
P2a	½" ϕ	64	5'-3"	225	B
P2b	½" ϕ	58	10'-4"	400	B
REPLACEMENT BARS					
RE0	1¼" □	1	8'-2"	43	S
RE8	1" □	1	7'-4"	25	S
RE7	1" ϕ	1	7'-4"	20	S
RE5	¾" ϕ	1	6'-6"	10	S
RE4	⅝" ϕ	1	6'-1"	6	S
RE2	½" ϕ	1	5'-8"	4	S

BENDING DIAGRAM



NOTE: The bar size designations shown here do not correspond with the size designations given in the January 1, 1951 edition of the Construction and Material Specifications.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPERSTR.	GENERAL	Revised As Built	
E-2	49	Cu. Yd.	Unclassified excavation	49					
E-3	1009	Cu. Yd.	Channel excavation				1009	C.O.7 -298	711
S-1	197	Cu. Yd.	Class "C" concrete, superstructure and pier caps		23	174			
S-1	47	Cu. Yd.	Class "C" concrete, abutments	47					
S-3	417	Sq. Yd.	Type "C" waterproofing			417			
S-4	47,098	Lbs.	Reinforcing steel	4880	3394	38,716	108		
S-9	14	Sq. Ft.	¼" premolded expansion joint filler			14			
S-14	185	Lin. Ft.	Railing (Type I-15.13 guard rail with steel posts)			185			
S-16	Lump	Sum	First test pile				Lump		
S-18	1500	Lin. Ft.	Reinforced concrete piling, 12" cast-in-place or 14" precast	588	912			C.O.7 +104.77	1604.77
S-24	Lump	Sum	Removal of existing structures				Lump		
I-14	107	Lin. Ft.	Concrete gutter				107		
T-35	29	Cu. Yd.	Asphaltic concrete surface course, Type "A" or "C" (85-100)			29			

w.h.g. 3-30-56

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

GENERAL PLAN & ELEVATION, NOTES ESTIMATED QUANTITIES & STEEL LIST

BRIDGE NO. HO-39-171 OVERFLOW STRUCTURE

HOLMES COUNTY
SEC. HOL-39-(16.69-17.29) STA. 27+77.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RH	RH	GPH	V.A.E.	BFG WHR	8-24-51	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	S-170(2)	POST WAR

HOL-39-(16.69-17.29).
0.1 Mi. West of Millersburg W.C.L.

EXISTING BRIDGE DATA

Type : Pony Truss
Span: 86'
Rdwy: 19'6"
Abuts: Concrete
Ldg: H-10 (35% Reduction)
Condition: Good
To be removed

SOUNDING NOTE

Piling requirements are based on a study of soundings and borings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division Office, but the State assumes no responsibility for the accuracy thereof.

PROPOSED STRUCTURE

TYPE: Cont. concrete slab with capped pile piers and abutments
SPANS: 32'-40'-40'-32' c/c brgs.
RDWY: 40'-0" b/t guard rails
LOADING: S-15-46
SURF. COURSE: Bituminous
APPR. SLABS: As shown
ALIGNMENT: Tangent
SKEW: None

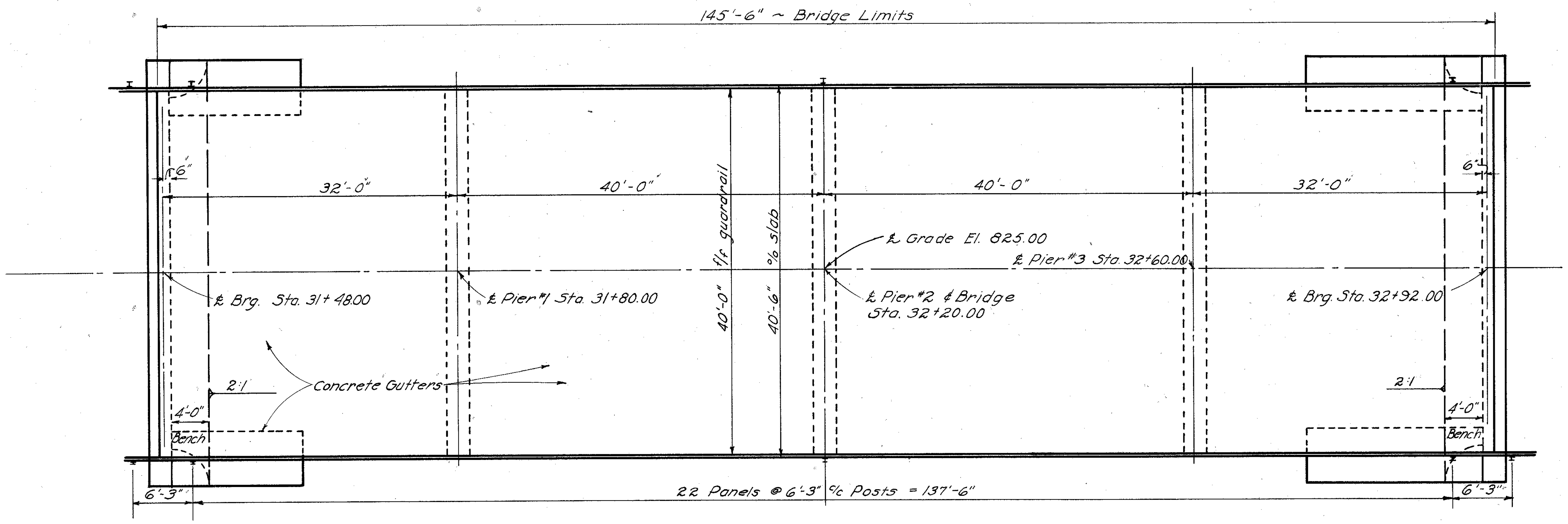
SITE PLAN

BRIDGE NO. HO-39-172
OVER KILLBUCK CR. OVERFLOW
HOLMES CO. — S. R. 39
SEC. HOL-39-(16.69-17.29)
Scale: 1" = 20' — Sta. 32+20.0

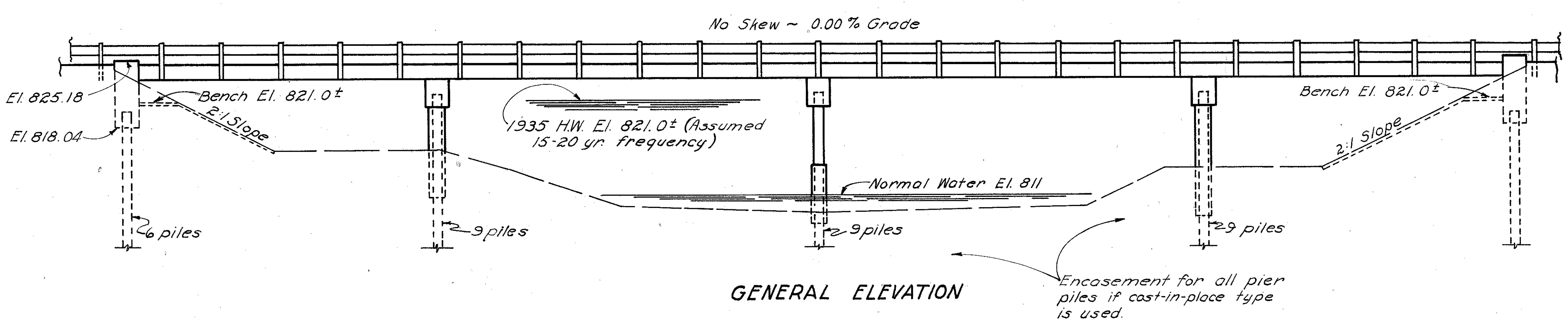
EXISTING TOPO.		PROPOSED WORK			
SURVEY	DRAWN	DESIGN	DRAWN	CHECK	REVIEW
Div. Office	Div. Office	mfw	mfw	J.H.G.	C.H.A.
		BFG		WHC	8-24-51

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	S-170 (2)	POST WAR

HOL-39-(16.69-17.29)



GENERAL PLAN



GENERAL ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CS-1-47 revised 1-20-48, A-1-49 dated 7-27-49 and PI-49 dated 7-27-49.

CONSTRUCTION JOINTS. One transverse construction joint in bridge slab shall be placed at center of both interior spans.

EXCAVATION quantity includes the removal of fill material between top of earth bench and bottom of abutment crossbeam.

PILING shall be driven to a minimum bearing capacity of 27 tons at abutments and 35 tons at piers.

CONCRETE GUTTERS shall be 6ft. wide and 6 in. thick, and shall be depressed 6 in. at the center. They shall extend from face of abutment down to El. 816.0 at West abutment and El. 814.0 at East abutment. They shall be centered under edge of the deck. Reinforcing bars ½"⌀ @ 1'-6" centers, both directions, included in price per lin. ft. of gutter.

BITUMINOUS SURFACE COURSE - 2½" Asphaltic concrete surface course, Item T-35; laid in two 1¼" courses.

REMOVAL OF EXISTING BRIDGE. When no longer needed to maintain traffic the existing structure shall be removed. Floor beams, stringers and trusses shall be piled along the right-of-way at the disposal of Holmes County. Trusses shall be left assembled. The remainder of the removed materials shall become the property of the Contractor. The existing west abutment shall be removed to ground line in front of abutment. The east abutment shall be removed to Elevation 812. Embankment back of east abutment shall be removed to El. 815 and dressed back as shown on Site Plan. Removal of earth back of abutment included with "Removal of Existing Structure" for payment.
Suitable waste masonry may be disposed of as bank protection as directed by the Engineer.
The 4 inch gas line carried on the existing structure will be removed and relocated by the owner of the line before the structure is removed.

ENCASEMENT for piles in piers #1 and #3 shall extend from bottom of pier cap to 5 ft. below finished ground line; in pier #2 from 3 ft. above to 3 ft. below normal water.

SURFACE FINISH OF CONCRETE. Fascia of deck slab shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item S-1.

SAWDUST DUMP. The sawdust dump shall be carefully investigated by the Engineer before starting embankment. In the event the sawdust pile extends back under or near the proposed fill, the unsuitable material shall be removed and disposed of prior to construction of the new fill.
The number of cubic yards of such sawdust dump removed will be paid for at the contract unit price per cu. yd. bid for "Special - Removal of sawdust dump." A quantity of 150 cu. yds. has been estimated for this item in anticipation of a need for some such removal. Payment will be made for the actual quantity removed.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

GENERAL PLAN & ELEVATION
GENERAL NOTES

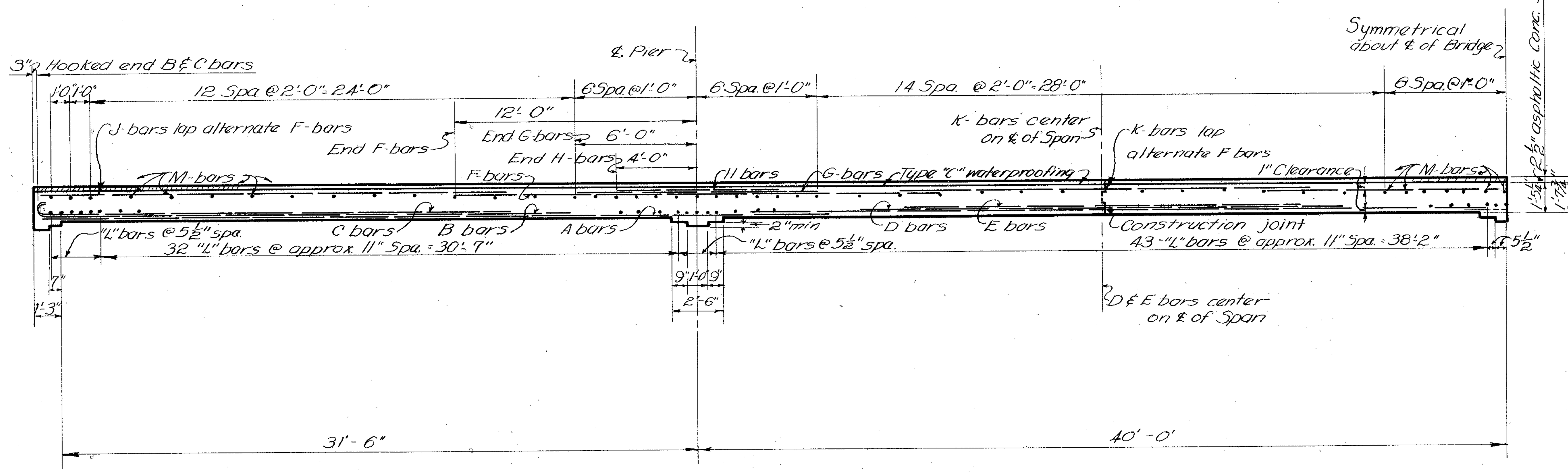
BRIDGE № HO-39-172
over KILLBUCK CREEK OVERFLOW

HOLMES Cº Sta. 32+20.00
HOL-39-(16.69-17.29)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
REJ	REJ RN	W.H.T.	V.A.E.	BFG WHK	8-24-51	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	9-170(2)	POST WAR

HOL-39-(16.69-17.29)



TYPICAL SECTION

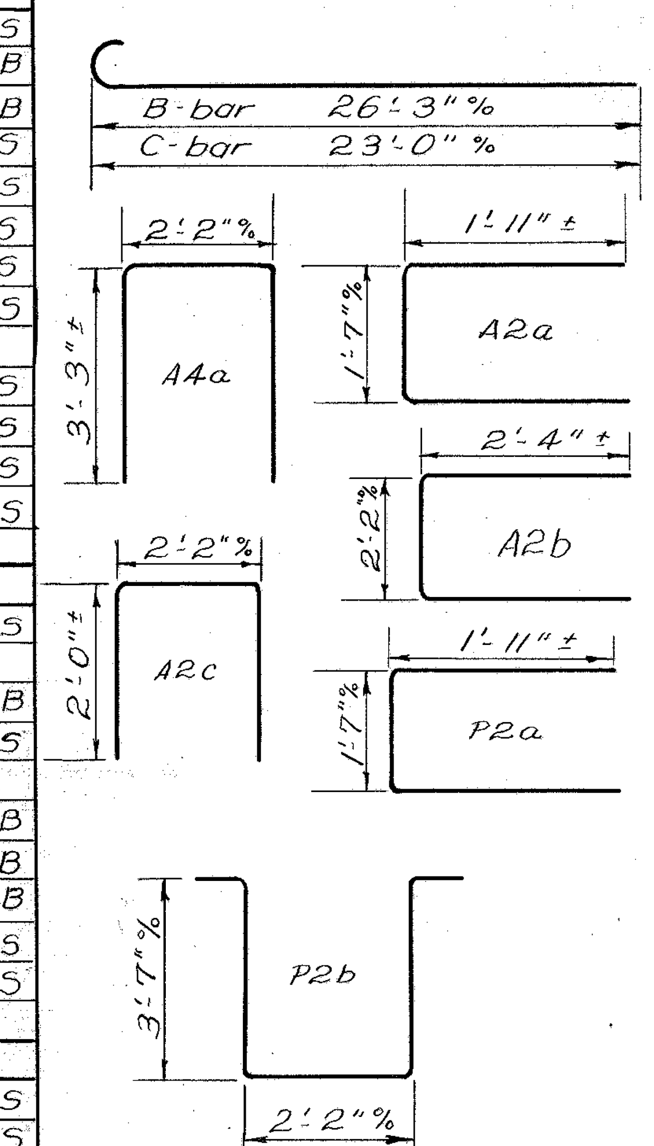
ESTIMATED QUANTITIES									
Item	Total	Unit	Description	Abuts.	Piers	Superst.	General	Revised As-Built	
E-2	50	cu. yds.	Unclassified excavation	50					
S-1	354	Cu. Yds.	Class "C" concrete superstructure, including pier caps		36	318			
S-1	48	Cu. Yds.	Class "C" concrete abutments	48					
S-3	660	Sq. Yds.	Type "C" waterproofing			660			
S-4	81,934	Lb.	Reinforcing steel	4879	5133	71,734	188		
S-9	18	Sq. Ft.	¼" premoulded expansion joint filler			18			
S-14	291	Lin. Ft.	Railing (Type I-15.13 guard rail with steel posts)			291			
S-16	Lump	sum	First test pile				Lump		
S-18	2050	Lin. Ft.	Reinforced concrete piling 12" cast-in-place or 14" precast	590	1,460			C.O.7 -188.5	1861.5
S-24	Lump	Sum	Removal of existing structure				Lump		
I-14	64	Lin. Ft.	Concrete gutter				64		
T-35	46	Cu. Yds.	Asphaltic concrete surface course, type "A" or "C" (85-100)			46			
Special	150	Cu. Yds.	Removal of sawdust dust dump				150	C.O.7 +30	180

WKJ. 3-30-56

REINFORCING STEEL LIST

Mark	Size	No.	Length	Weight	Shp.
Superstructure					
A	1⅛"□	132	39'-1"	22,197	S
B	1⅛"□	32	27'-6"	3,786	B
C	1⅛"□	32	24'-3"	3,339	B
D	1⅛"□	32	24'-0"	3,305	S
E	1⅛"□	32	19'-3"	2,650	S
F	1⅛"□	128	24'-3"	12,835	S
G	1⅛"□	63	12'-0"	3,253	S
H	1⅛"□	57	7'-9"	1,901	S
J	¾"φ	42	23'-0"	1,451	S
K	¾"φ	42	20'-3"	1,277	S
L	¾"φ	169	40'-0"	10,153	S
M	¾"φ	93	40'-0"	5,587	S
Abutments					
A7a	1"φ	48	24'-9"	3,172	S
A4a	⅝"φ	128	8'-5"	1,124	B
A4b	⅝"φ	30	3'-0"	94	S
A2a	½"φ	48	5'-3"	168	B
A2b	½"φ	8	6'-8"	36	B
A2c	½"φ	8	6'-0"	32	B
A2d	½"φ	88	3'-6"	205	S
A2e	½"φ	8	9'-0"	48	S
Piers (3)					
P0a	1¼"□	12	21'-11"	1,397	S
P7a	1"φ	48	21'-6"	2,756	S
P2a	½"φ	108	5'-3"	379	B
P2b	½"φ	87	10'-4"	601	B
Replacement Bars					
RE0	1¼"□	1	8'-2"	43	
RE9	1⅛"φ	3	7'-9"	100	
RE7	1"φ	1	7'-4"	25	
RE5	¾"φ	1	6'-6"	10	
RE4	⅝"φ	1	6'-1"	6	
RE2	½"φ	1	5'-8"	4	

Bending Diagram



Note: The bar size designations shown above do not correspond with the size designations given in the January 1, 1951 edition of the Construction and Material Specifications.

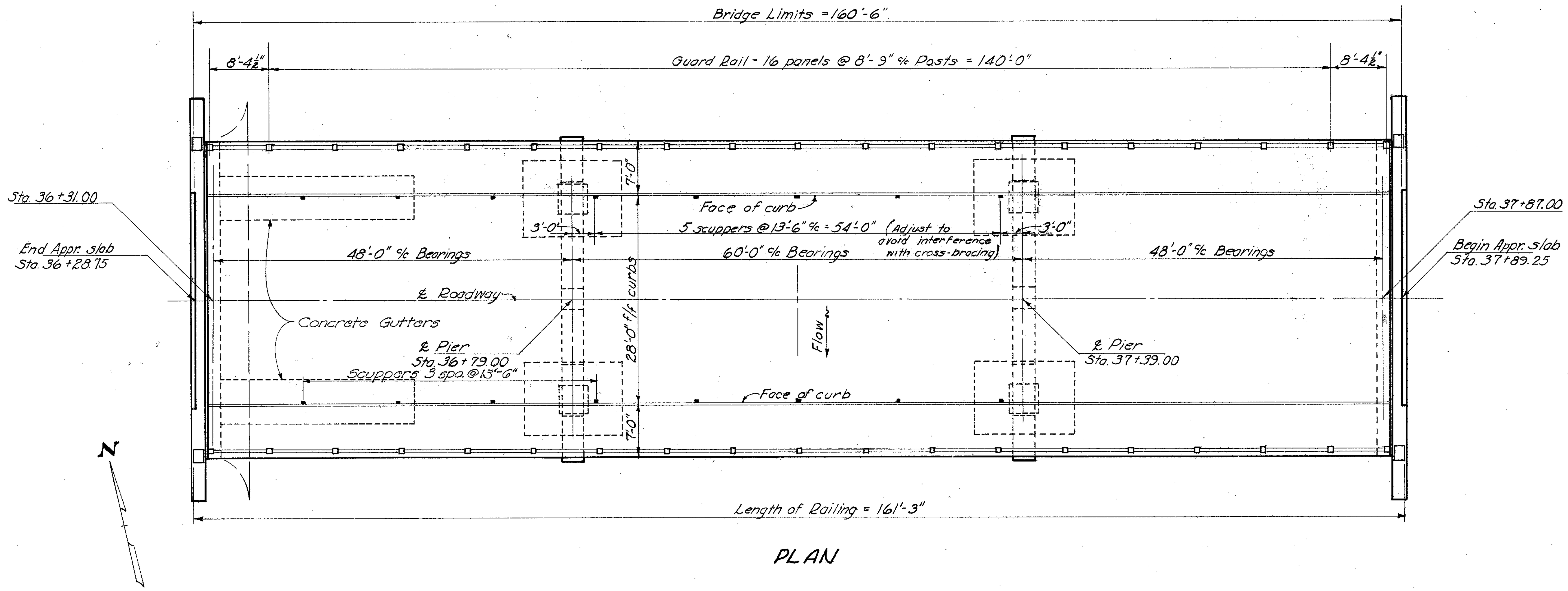
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

TYPICAL SECTION, STEEL LIST, & ESTIMATED QUANTITIES
BRIDGE No. HO-39-172
over KILLBUCK CREEK OVERFLOW

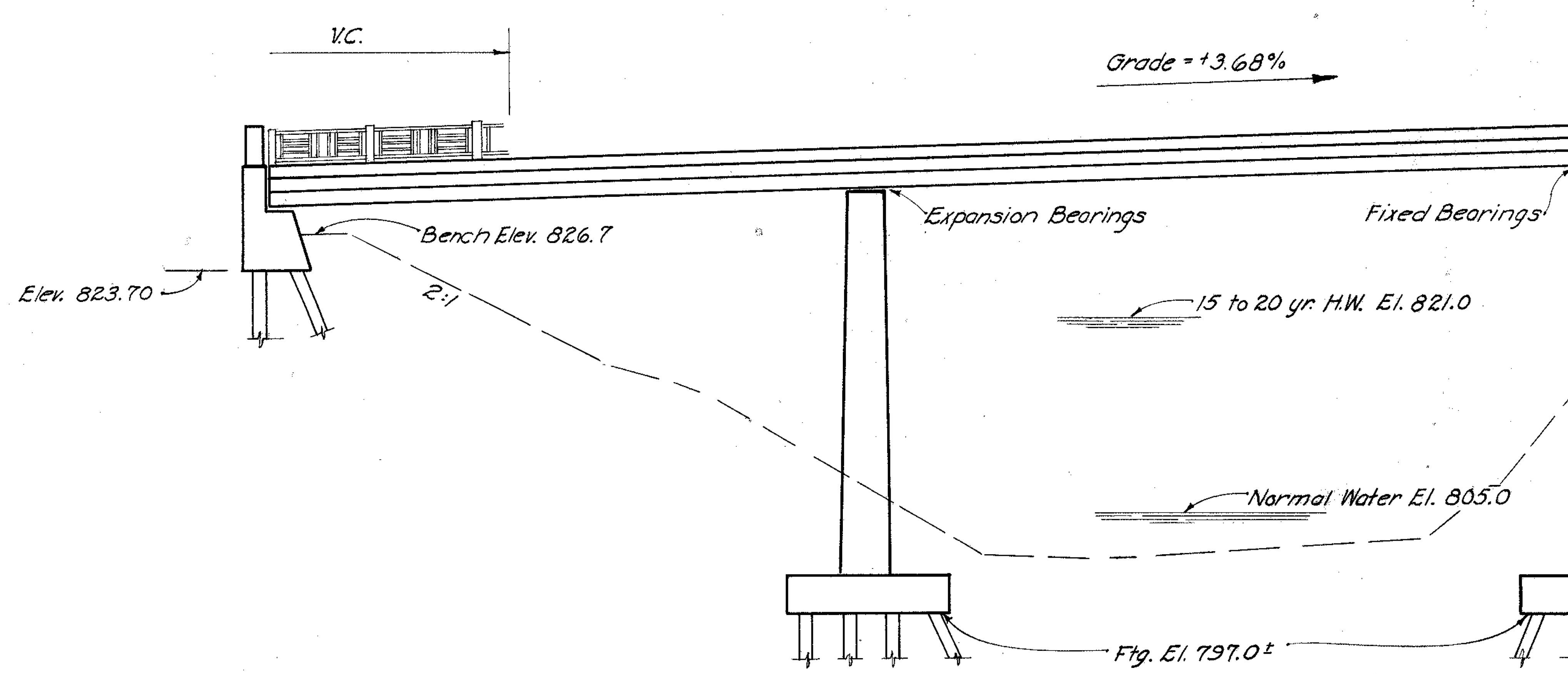
HOLMES COUNTY
HOL-39-(16.69-17.29) Sta. 32+20.0

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
REJ	REJ RN	RN	U.A.E.	BFG WHC	8-24-51	

FED. RD. DIVISION 2 | STATE OHIO | PROJECT S-170 (2) | TYPE FUNDS POST WAR | 44 49
HOL - 39 - (16.69 - 17.29)
At Millersburg W. C. L.
Saw Mill
Shed
Penna. R.R.
Drive to Water Works
Drive to Fair Grounds
Swing
Approx. location of sanitary sewer
C.I.P. Riser
Transition 4:1 to 2:1 Slope
Rip rap to El. 822.0
CREEK
KILLBUCK
823.4±
Existing S.R. 39
Old Timber Piling
12" Gas Line (to be relocated)
Existing HO-39-173 Floor El. 827.2
4" Gas Line (to be relocated)
Gas Line Regulator
Temporary run-around (Could be on 5% grade or same as existing pv't.)
Proposed New ℄
S85°00'E
← To Loudonville
End approach slab Sta 36+28.75
Begin approach slab Sta 37+89.25
HO-39-173A
W. JACKSON ST.
Ret. Wall
6' walk
Ohio Power Co. Sub-Station
Old Stone Foundation
Corp. ℄ Line
℄ Bridge Sta 37+09.00
Transition 4:1 to 2:1 slope
Bridge Limits
Sinclair Oil Co.
Clears 15-20 yr. H.W. 7.3'±
EXISTING BRIDGE DATA
Type: Thru Truss
Span: 98'
Rdwy: 20'
Sidewalk: 1 on Lt. @ 6'
Abuts: Rear: Conc. Fwd: Stone
Ldg: H-10 (75% Reduction)
Condition: Poor
To be removed
PROPOSED STRUCTURE
TYPE: Continuous steel beams with reinforced concrete deck and reinforced concrete substructure.
SPANS: 48'-60'-48' ctr. to ctr. of brgs.
ROADWAY: 28'-0" f/f of curbs with two 6' sidewalks.
LOADING: S-15-46
SKEW: None
SURFACE COURSE: Bituminous
APPROACH SLAB: As shown
ALIGNMENT: Tangent
Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site.
This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division Office, but the State assumes no responsibility for the accuracy thereof.
350' V.C.
℄ Bridge Sta 37+09.00
Prof. Gr. El. 834.53
+3.68%
Proposed Grade
0.00%
+3.68%
P.V.C. Sta 36+50
P.I.V.C. Sta 34+50 El. 825.0
15 to 20 yr. H.W. El. 821.0
1913 H.W. El. 822.7
1945 H.W. El. 819
Bench El 826.7
Bench El 832.2
Normal Water 805
Ftg. El. 797.0±
12" Reinforced concrete piling.
Estimated average length 43 ft
Estimated average length 41 ft.
Estimated average length 45 ft.
90' V.C.
86' V.C.
PC - Sta. 38+03.0
PI Sta. 38+50 El. 839.72
PRC - Sta. 38+95.0
DRAINAGE AREA = 385 SQ. MI.
SITE PLAN
BRIDGE NO. HO - 39 - 173
OVER KILLBUCK CREEK
HOLMES CO. - S. R. 39
SEC. HOL - 39 - (16.69 - 17.29)
Scale: 1" = 20' - Sta. 37+09.00
EXISTING TOPO. | PROPOSED WORK
SURVEY | DRAWN | DESIGN | DRAWN | CHECK | REVIEW
Div. Office | Div. Office | J.H.B. | J.H.B. | J.F.P. | C.H.A.
BFG



PLAN



ELEVATION

CONCRETE GUTTERS shall be 6 ft. wide and 6" thick and shall be depressed 6" at the center. They shall extend from the face of the west abutment down to toe of 2:1 slope, at Elev. 814, approximately, and shall be centered under the scuppers. Reinforcing bars ⅝ø @ 1'-6" centers, both directions, included in price per lin. ft.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Superst.	Abut's.	Piers	General	Revised	As-Built
E-2	Lump	Sum	Cofferdams, cribs & sheeting				Lump		
E-2	540	cu. yd.	Unclassified excavation		92	448			
S-1	177	cu. yd.	Class "C" concrete, superstructure	177					
S-1	95	cu. yd.	Class "C" concrete, abutments		95				
S-1	119	cu. yd.	Class "C" concrete, pier columns, caps & struts			119			
S-1	59	cu. yd.	Class "C" concrete, pier footings			59			
S-3	484	sq. yd.	Type "C" waterproofing	484					
S-4	72,626	lb.	Reinforcing steel	37,076	9504	25,934	112		
S-7	156,900	lb.	Structural steel	156,900				C.O.7 -449	156,451
S-8	156,900	lb.	Field painting of structural steel	156,900				C.O.7 -449	156451
S-14	322.5	lin. ft.	Railing (Steel with concrete end posts)	322.5					
S-15	Lump	Sum	Temporary run-around bridge & approaches				Lump		
S-16	Lump	Sum	First test pile				Lump		
S-18	3200	lin. ft.	12" Reinforced concrete piling, cast-in-place or precast		1230	1970		C.O.7 -125.11	3074.89
S-24	Lump	Sum	Removal of existing structure				Lump		
S-29	316	lin. ft.	Subdrainage for wearing surface course	316					
I-10	70	sq. yd.	Type "A" riprap				70	C.O.7 +4	74
I-14	66	Lin. Ft.	Concrete gutter				66		
T-35	33	cu. yd.	Asphaltic concrete surface course, Type A or C, (85-100)	33					

W.H.J. 3-30-56

GENERAL NOTES

REFERENCE shall be made to Standard Drawing CSB-1-47, sheets 1 & 2, revised 8-25-49.

REMOVAL OF EXISTING UTILITIES. Contractor shall make arrangements with utilities concerned, for removal of their equipment from the existing structure before the structure is removed.

REMOVAL OF EXISTING BRIDGE. Existing superstructure shall be dismantled, match-marked and piled along the right-of-way at the disposal of Holmes county. Remainder of removed materials shall become the property of the Contractor.
Existing west abutment to be removed to 1 ft. below finished ground line and where necessary for new construction. East abutment to be removed to 1 ft. below existing ground line at face of abutment, and where necessary for new construction, and slopes dressed 2:1; dressing slopes included with removal of existing structure for payment. Suitable waste masonry may be used as riprap where shown on plans.
Old timber piling to be removed where necessary for new construction.

TEMPORARY RUN-AROUND BRIDGE AND APPROACHES * shall be paid for as lump sum under Item S-15, except furnishing and placing approach surface course. Surface course aggregate shall be paid for per cu. yd. and be governed by Item T-10, except that rolling will be required. Calcium chloride (M-10) applied to surface course, shall be paid for per ton. Amount of surface material applied and paid for, to be directed by the Engineer. Embankment to be substantially in accordance with E-1.05 with side slopes not steeper than 1½:1. Items T-10 and M-10 are included in roadway quantities for payment.
WELDING shall be Class 'A' except as shown.

*See note on sheet no. 3

EXCAVATION QUANTITY includes the removal of fill material between top of earth bench and bottom of abutment cross beam.

PILING shall be driven to a minimum bearing capacity of 25 tons at the abutments and 35 tons at the piers. (See note below.)

SURFACE FINISH OF CONCRETE. Railing end posts, curb faces and fascias of deck shall receive a rubbed surface finish. Bottom of deck slab and sidewalk surface shall be governed by the provisions of Item S-1. All other exposed surfaces shall be grout cleaned as per Section S-1.22. Form liner shall be used for all surfaces to be grout cleaned.

COPPER-BEARING STEEL requirement for certain items detailed on the Standard Drawing CSB-1-47, is waived.

NOTE: PIER PILING shall not be driven until after all piles in adjacent abutment have been driven.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

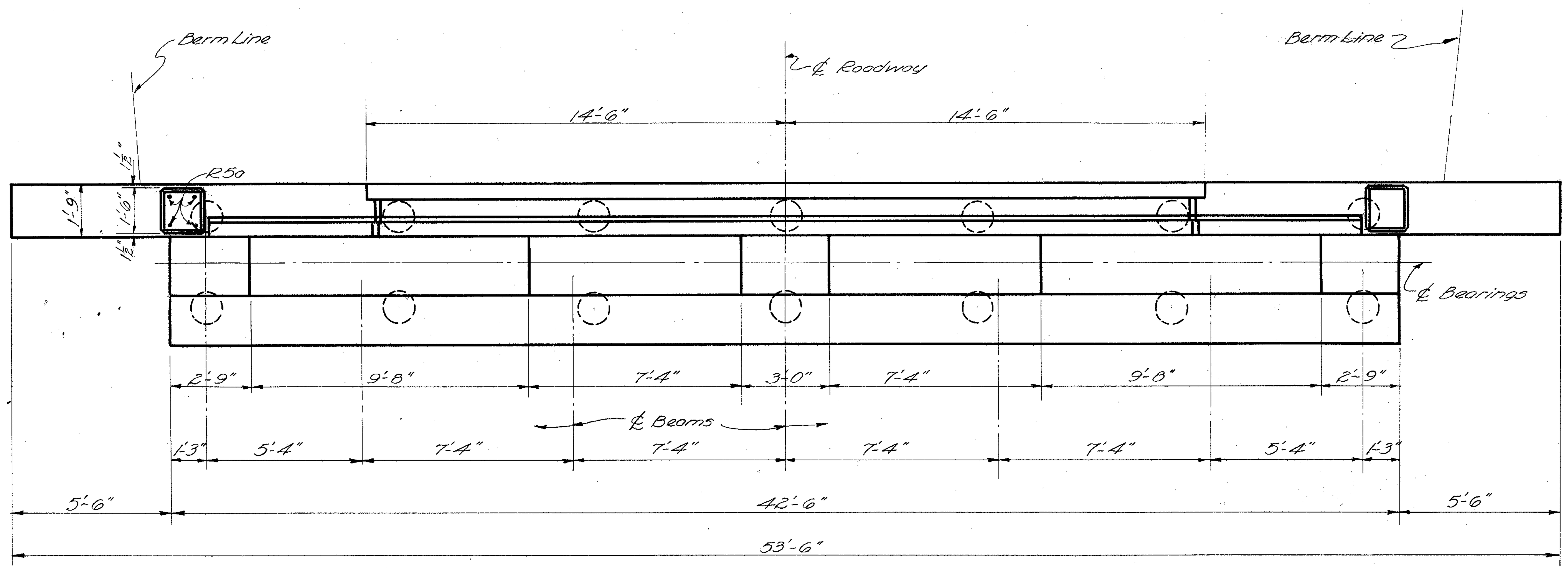
GENERAL PLAN AND ELEVATION
NOTES AND ESTIMATED QUANTITIES
BRIDGE Nº HO-39-173
OVER KILLBUCK CREEK

HOLMES COUNTY
SEC. HOL-39-(16.69-17.29) STA. 37+09.0

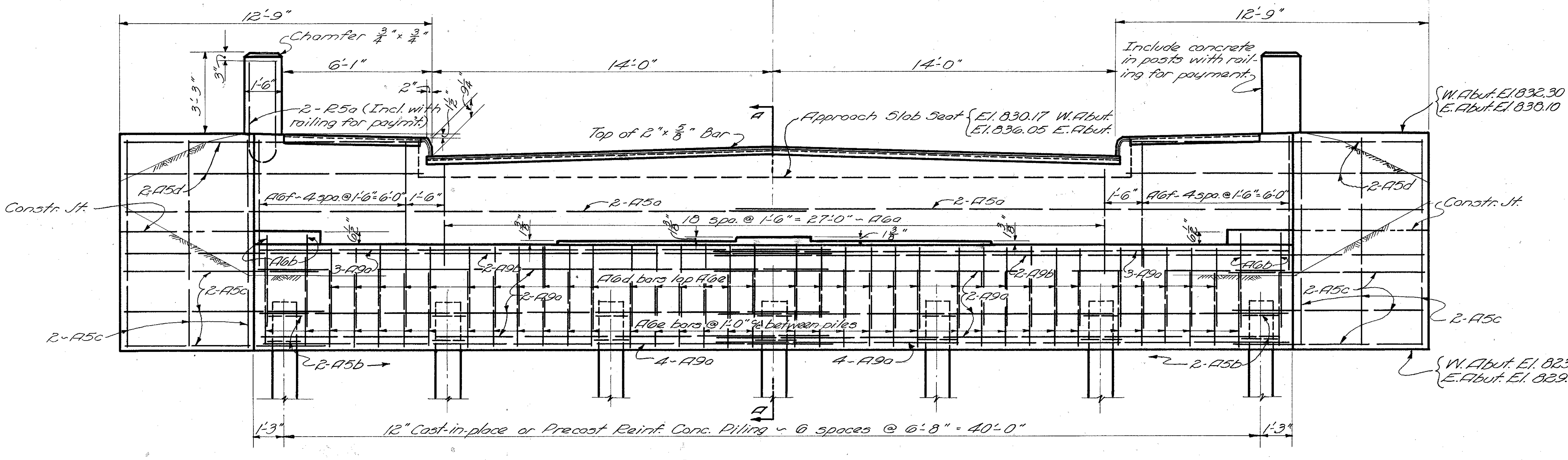
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REV.
D.J.M.	D.J.M.	W.H.T.	RJC	BFG a.g.n.	9/27/51	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	S-170(2)	Post War

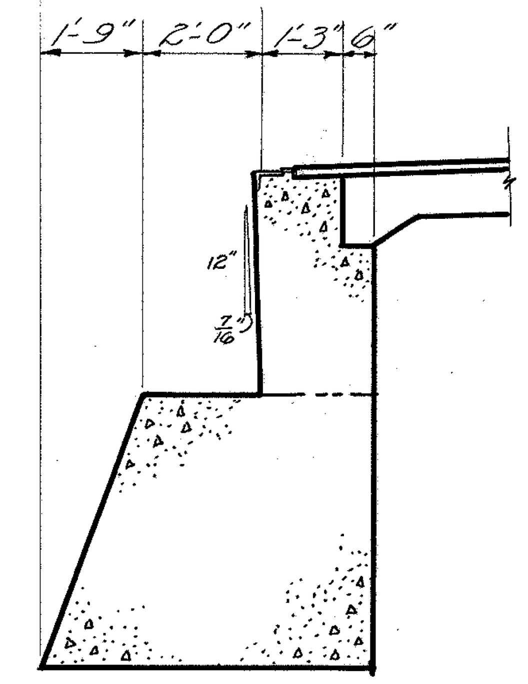
HOL-39-(16.69-17.29)



PLAN



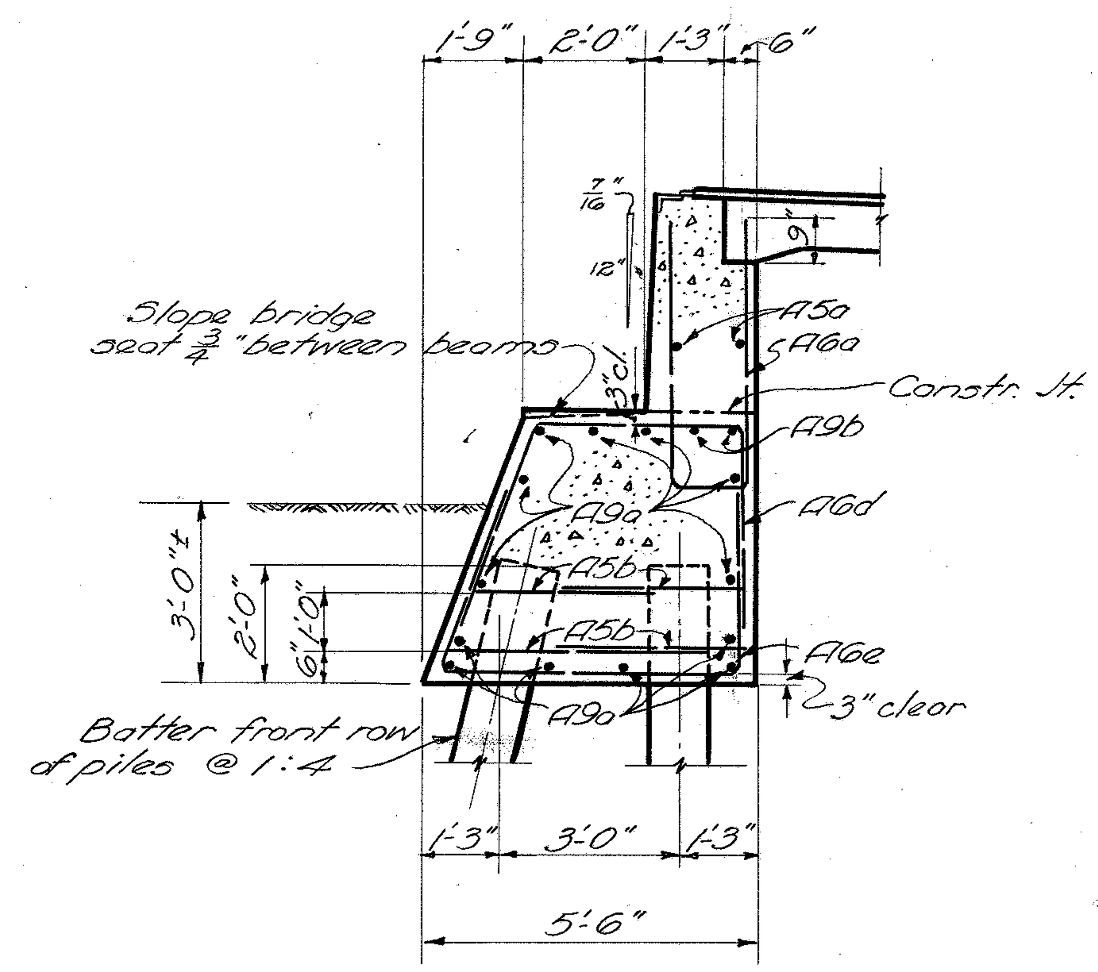
ELEVATION



SECTION A-A

EAST ABUTMENT

Details not shown same as Sec. A-A, W. Abut.



SECTION A-A

WEST ABUTMENT

Note: All earth fill around abutments shall be made full height of earth bench. Excavation shall then be made for abutment cap, after which piling shall be driven. If bottom forms for abutment cap are used, they shall be left in place.

Concrete above bridge seat construction joint shall not be placed until after steel work is erected. Steel end finish shall be used as a template for top of backwall.

All reinforcing steel 2" clear unless otherwise indicated.

West Abutment	828.30	827.76	827.88	827.99	827.88	827.76	828.30
East Abutment	834.02	833.48	833.60	833.71	833.60	833.48	834.02

ABUTMENT ELEVATIONS

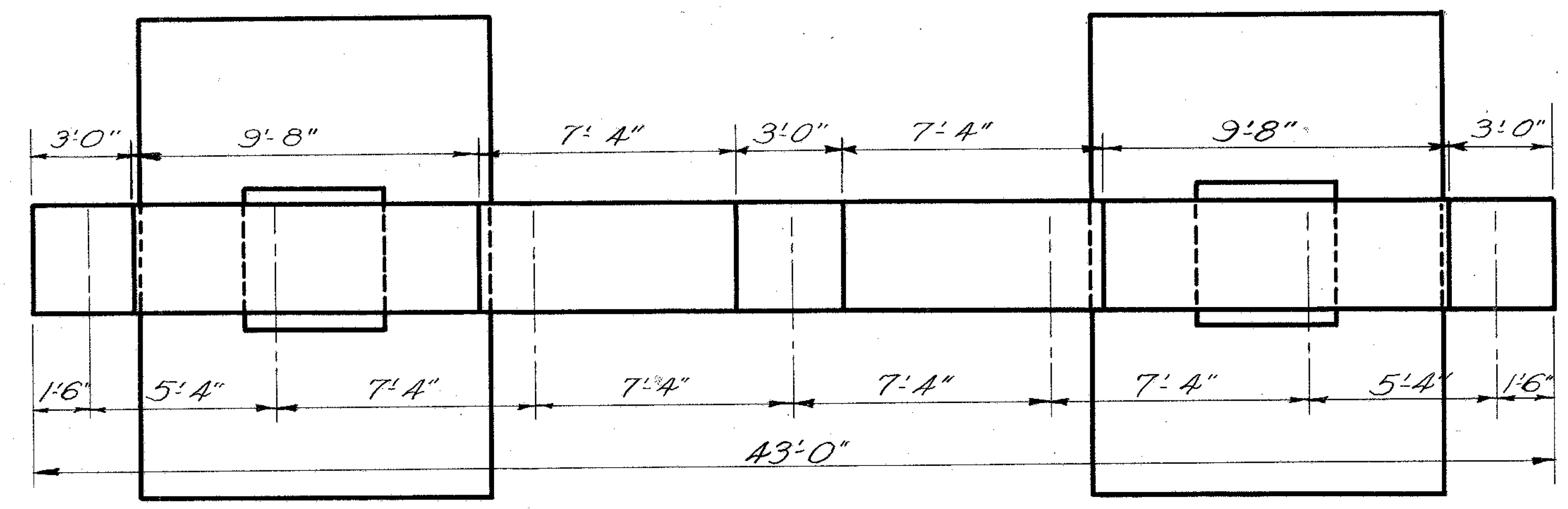
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

ABUTMENT DETAILS

BRIDGE NO. **HO-39-173**
over KILLBUCK CREEK

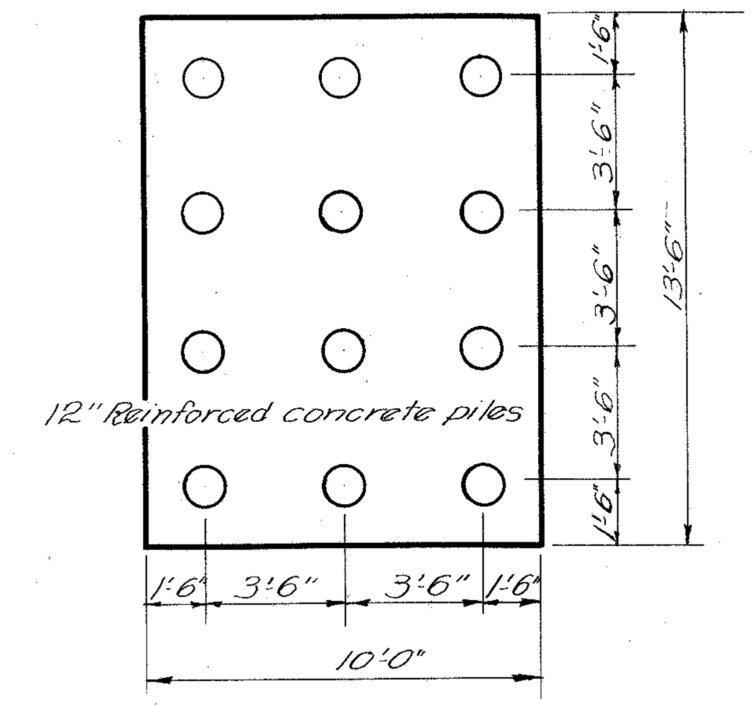
HOLMES COUNTY
SEC. HOL-39-(16.69-17.29) STA. 37+09.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.J.M.	D.J.M.	[illegible]	RJC	BFG [illegible]	9/27/51	

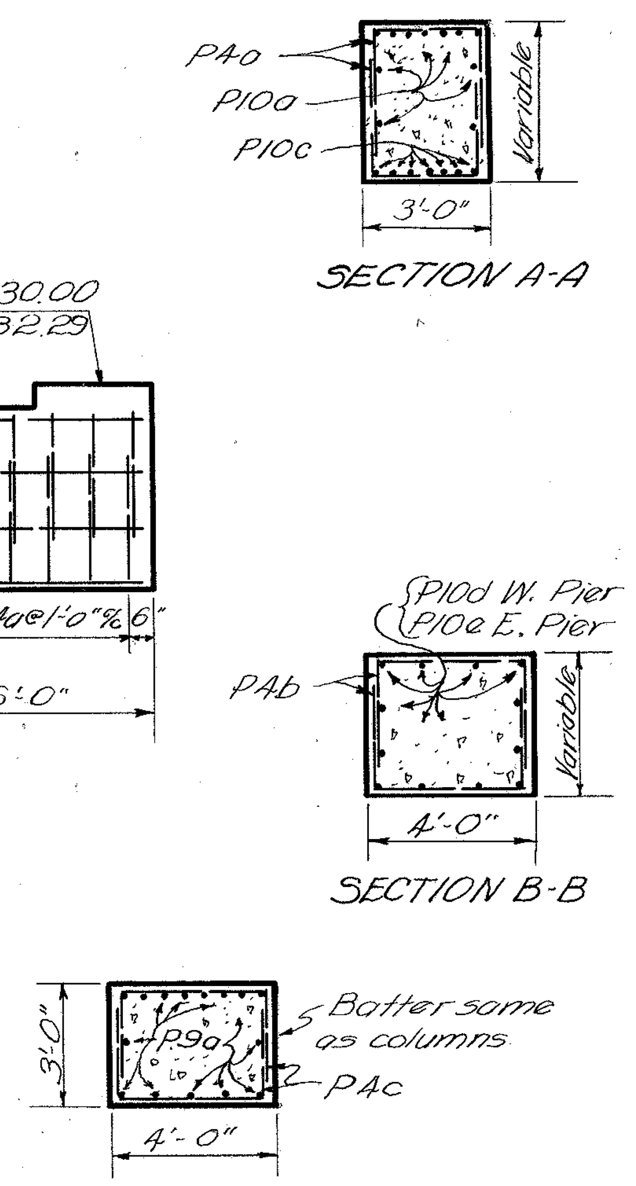


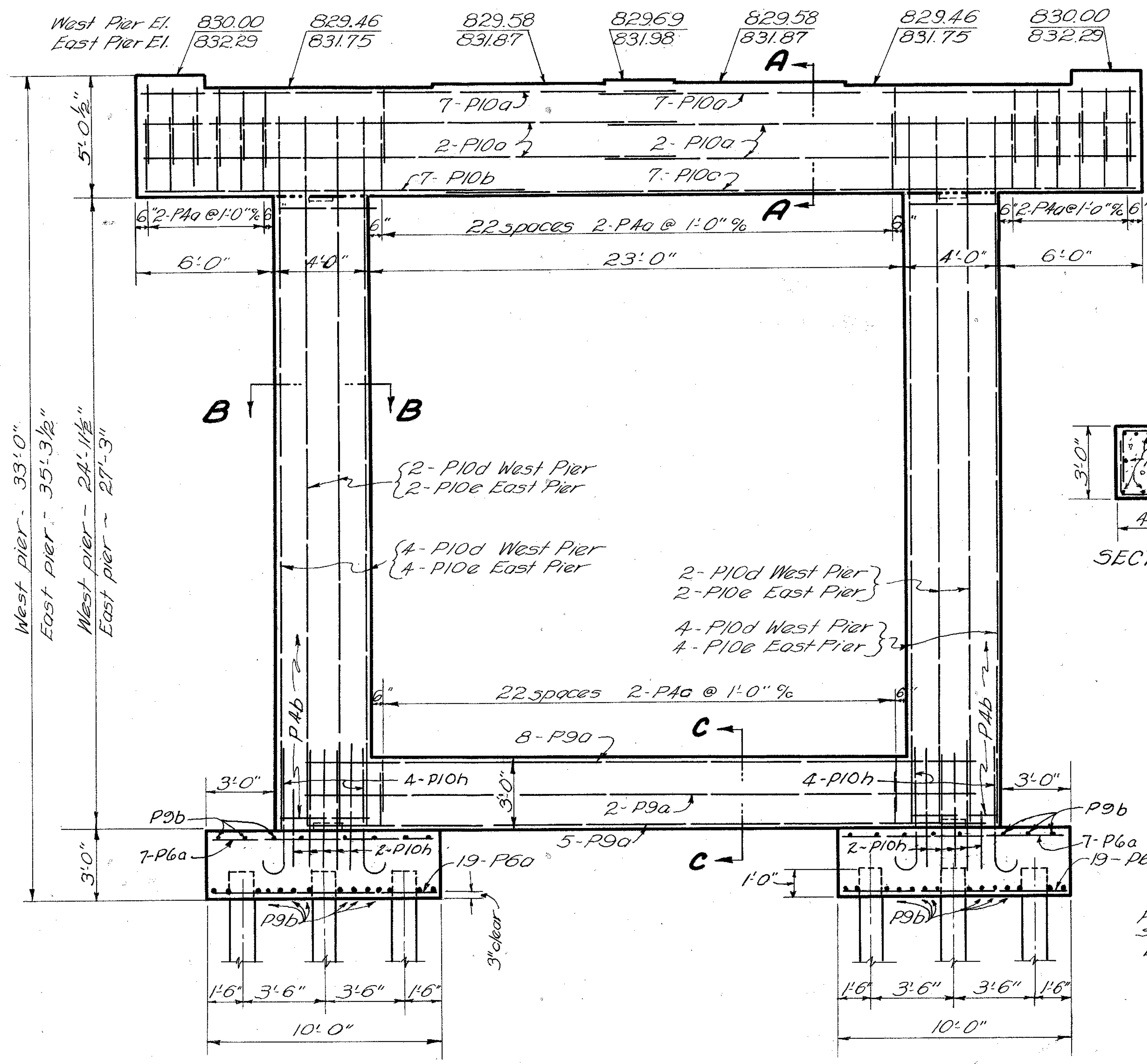
PLAN

All reinforcing 2" clear unless otherwise noted.
Place P4a bars to clear anchor bars.

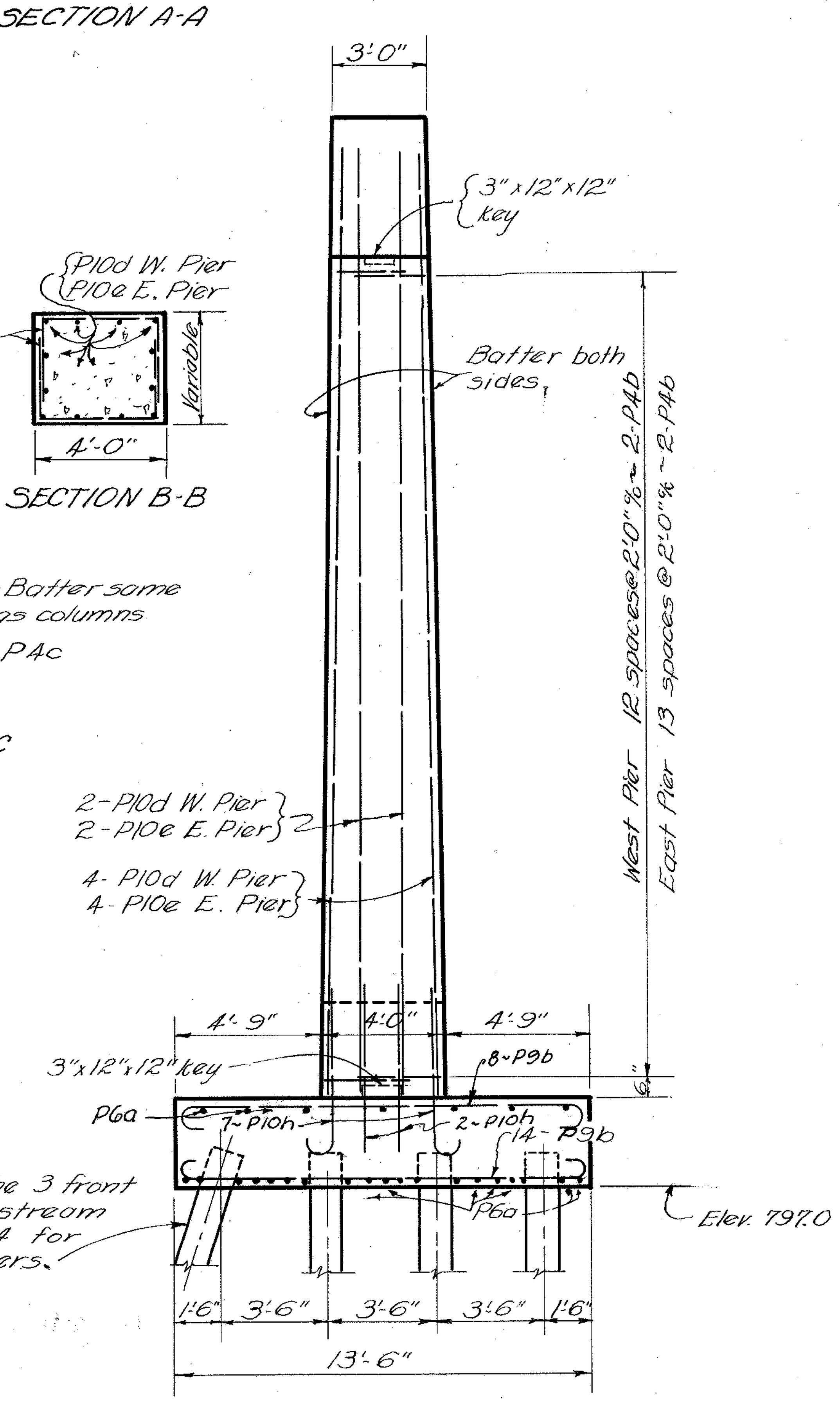


PILING PLAN





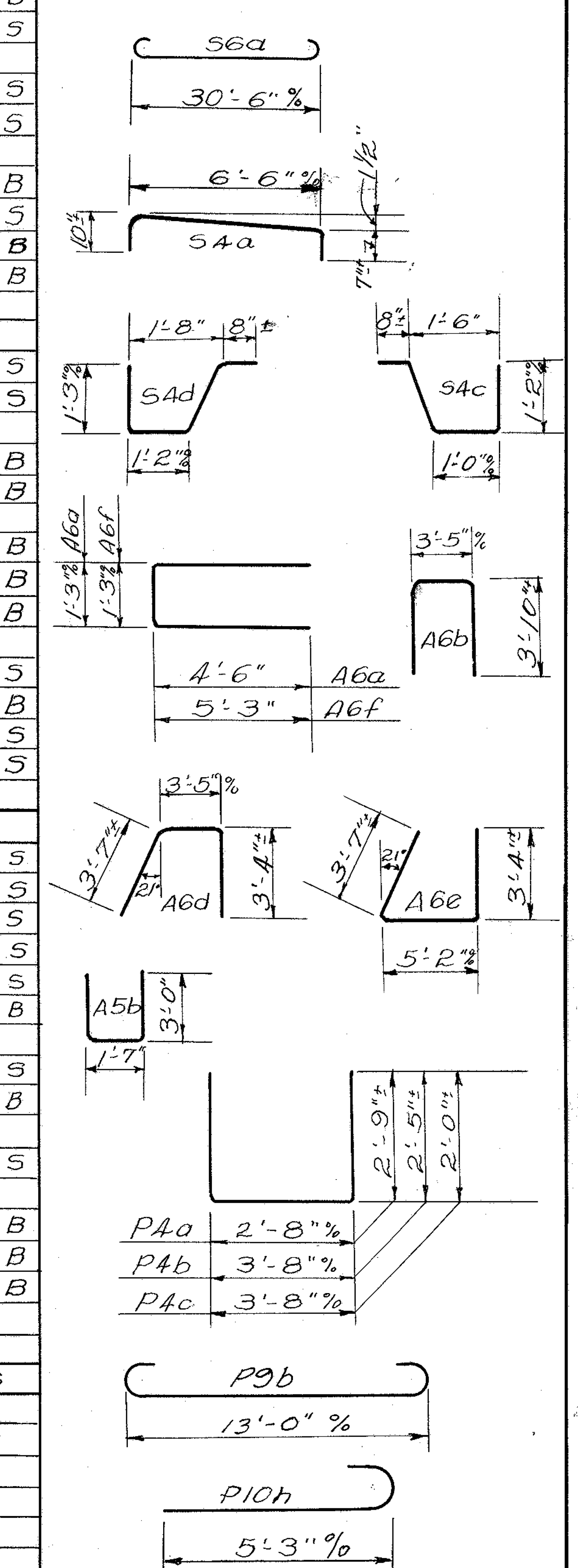
ELEVATION



END VIEW

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
SUPERSTRUCTURE				
S6a	164	31'-10"	7841	B
S6b	221	30'-6"	10,124	S
S5a	450	28'-0"	13,142	S
S5b	52	24'-0"	1,302	S
S4a	314	7'-8"	1,609	B
S4b	314	6'-8"	1,399	S
S4c	314	3'-10"	803	B
S4d	314	4'-1"	856	B
ABUTMENTS				
A9a	52	23'-0"	4066	S
A9b	8	28'-6"	775	S
A6a	38	10'-0"	571	B
A6b	8	10'-9"	129	B
A6d	68	10'-0"	1021	B
A6e	76	11'-9"	1341	B
A6f	20	11'-6"	345	B
A5a	8	27'-9"	232	S
A5b	56	7'-3"	423	B
A5c	48	8'-0"	401	S
A5d	16	12'-0"	200	S
PIERS				
P10a	44	23'-0"	4355	S
P10b	14	17'-3"	1044	S
P10c	14	28'-6"	1717	S
P10d	24	28'-3"	2917	S
P10e	24	30'-6"	3150	S
P10h	72	6'-6"	2014	B
P9a	30	28'-8"	2924	S
P9b	88	15'-2"	4538	B
P6a	104	9'-6"	1484	S
P4a	140	7'-11"	740	B
P4b	108	8'-3"	595	B
P4c	92	7'-5"	456	B
REPLACEMENT BARS				
RE10	1	8'-3"	36	
RE9	1	7'-9"	26	
RE7	1	6'-11"	14	
RE6	2	6'-6"	20	
RE5	2	6'-1"	12	
RE4	1	5'-8"	4	



NOTE: In the reinforcing steel bar marks, the numeral following the first letter is the Bar Number which indicates the size of the bar.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

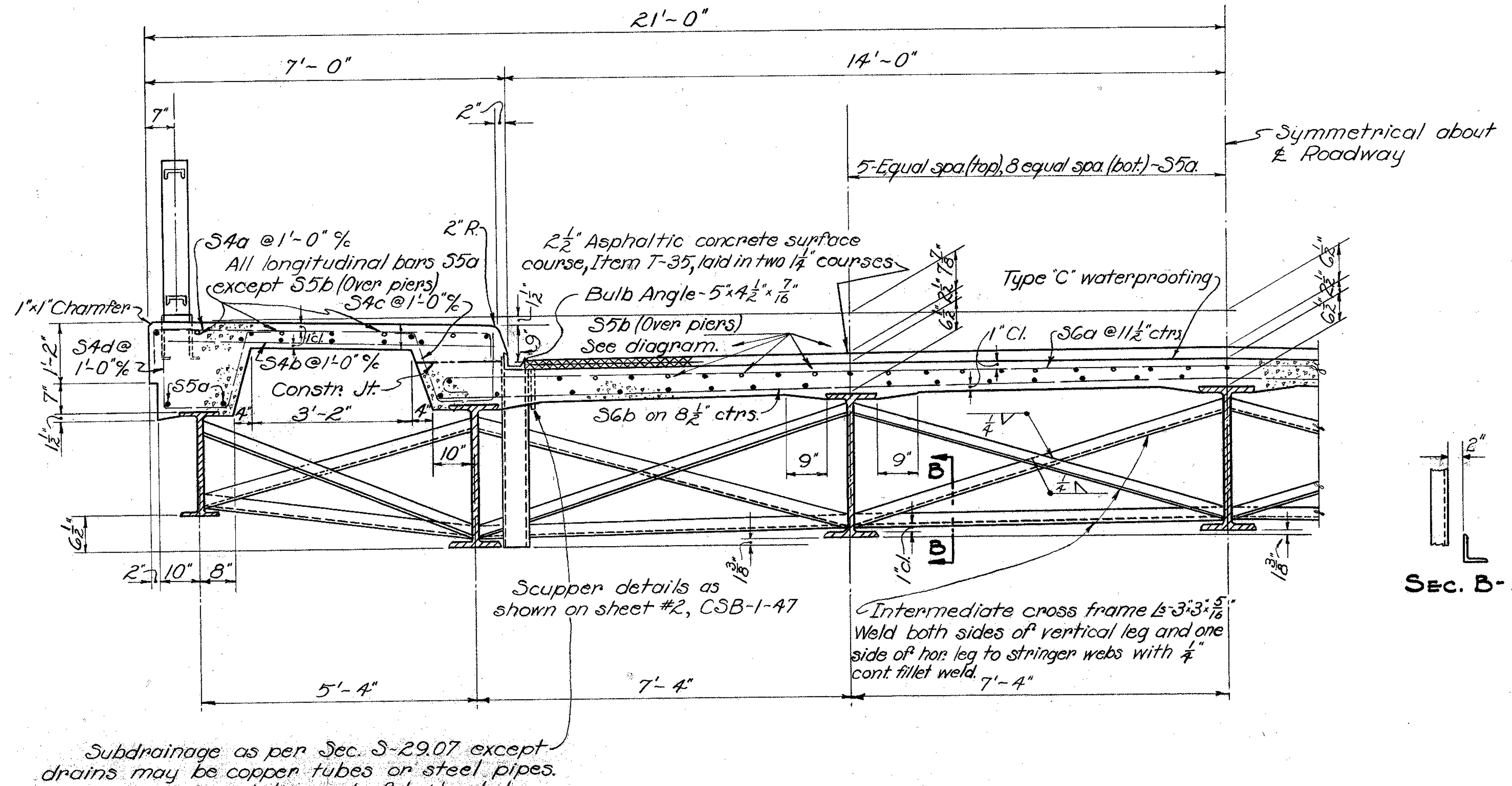
PIER DETAILS & REINFORCING STEEL LIST BRIDGE NO. HO-39-173 over KILLBUCK CREEK

HOLMES CO.
SEC. HOL-39-(16.69-17.29) STA. 37+09.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.G.	R.G.	R.N.	RJC	BFG	9/27/51	

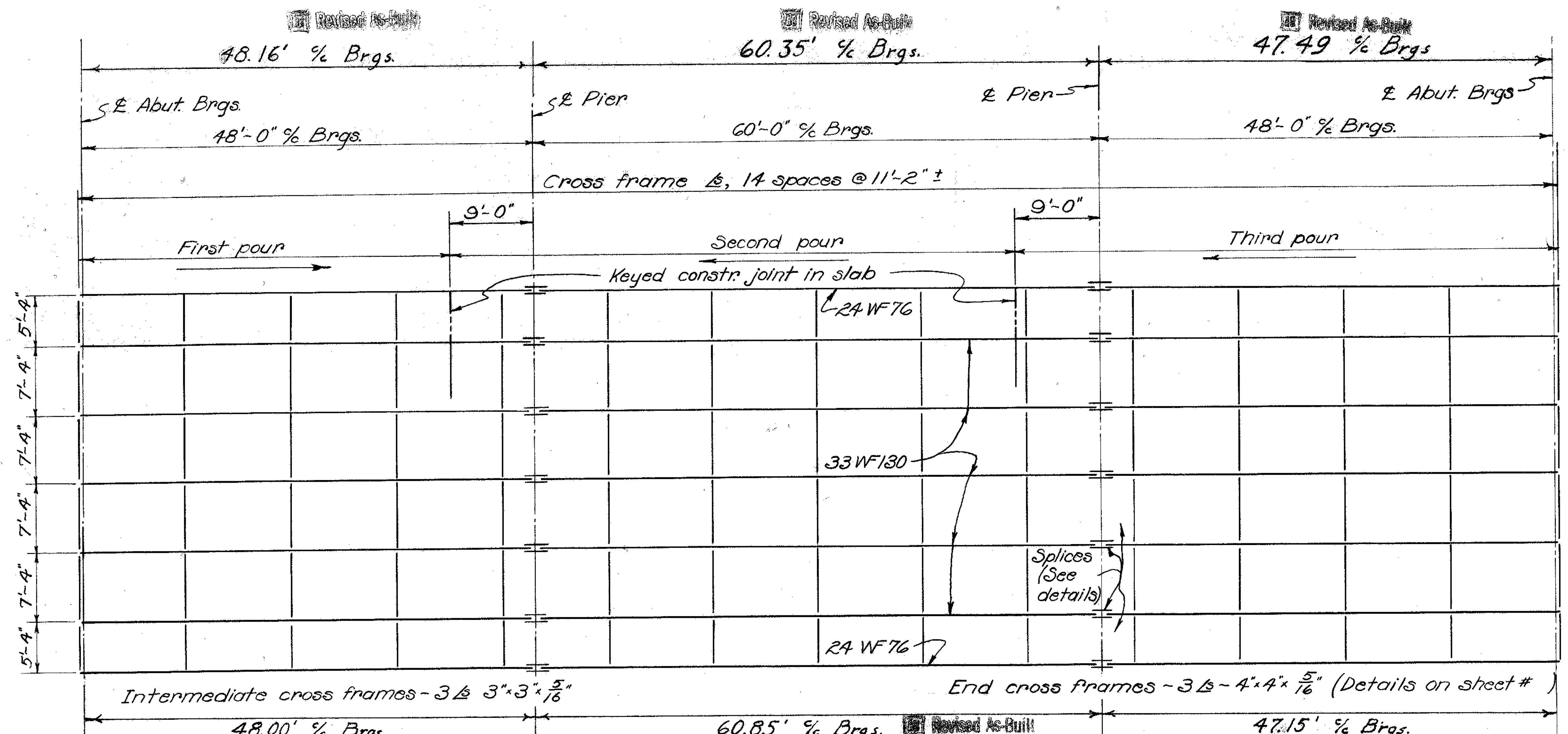
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	S-170(2)	POST WAR

HOLMES COUNTY
SEC. HOL-39-(16.69-17.29)



TRANSVERSE HALF SECTION

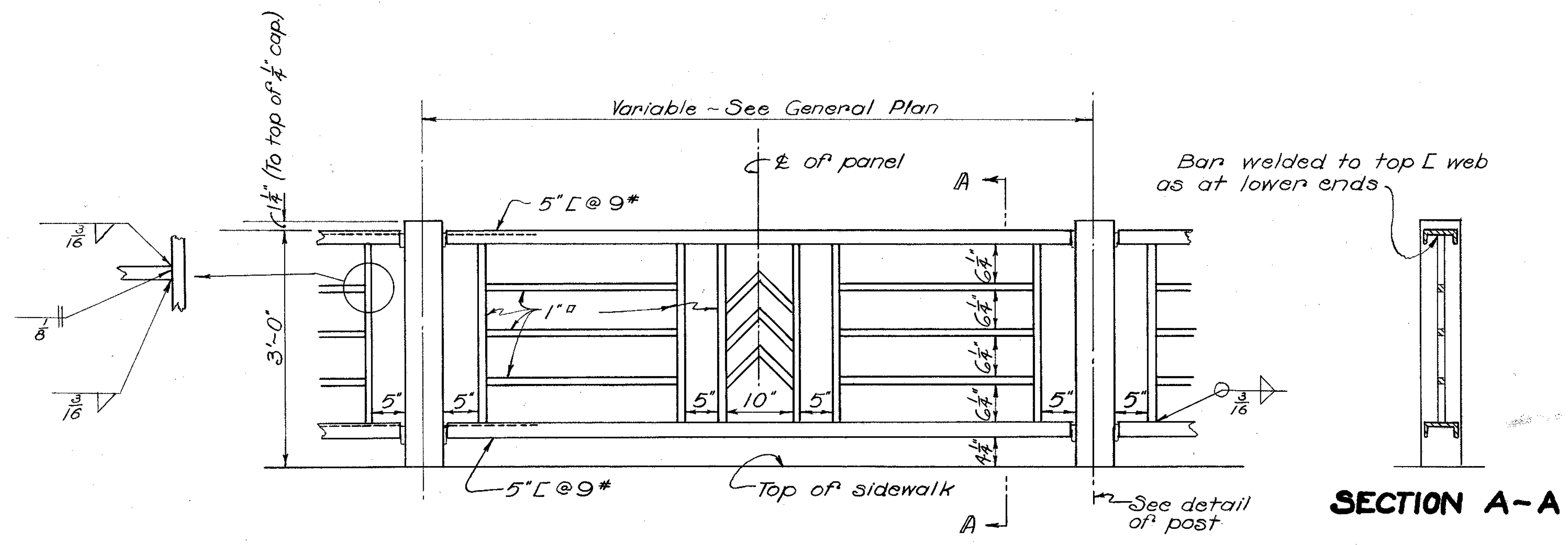
Sec. B-B



STEEL FRAMING PLAN

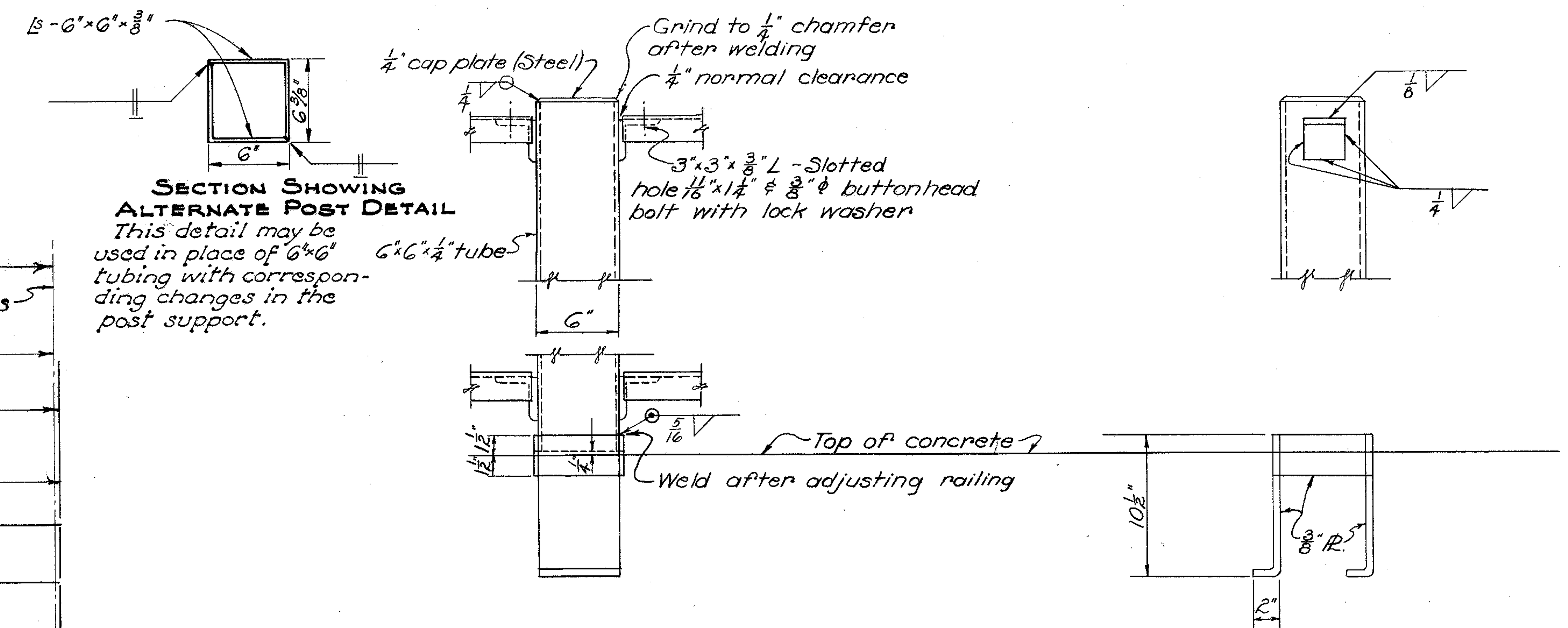
(Slab pouring sequence shown)

Revised As-Built
Per C.O. #4
W.E.J. 3-30-56

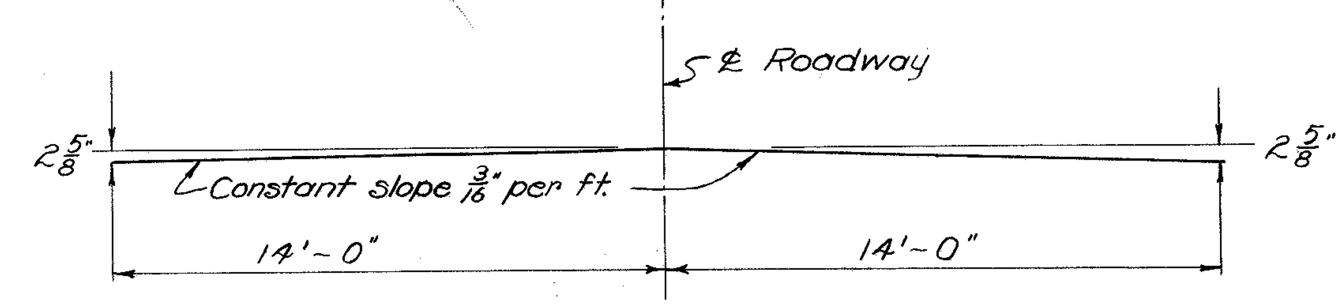


RAILING ELEVATION

SECTION A-A



RAILING POST DETAILS



BRIDGE ROADWAY CROWN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

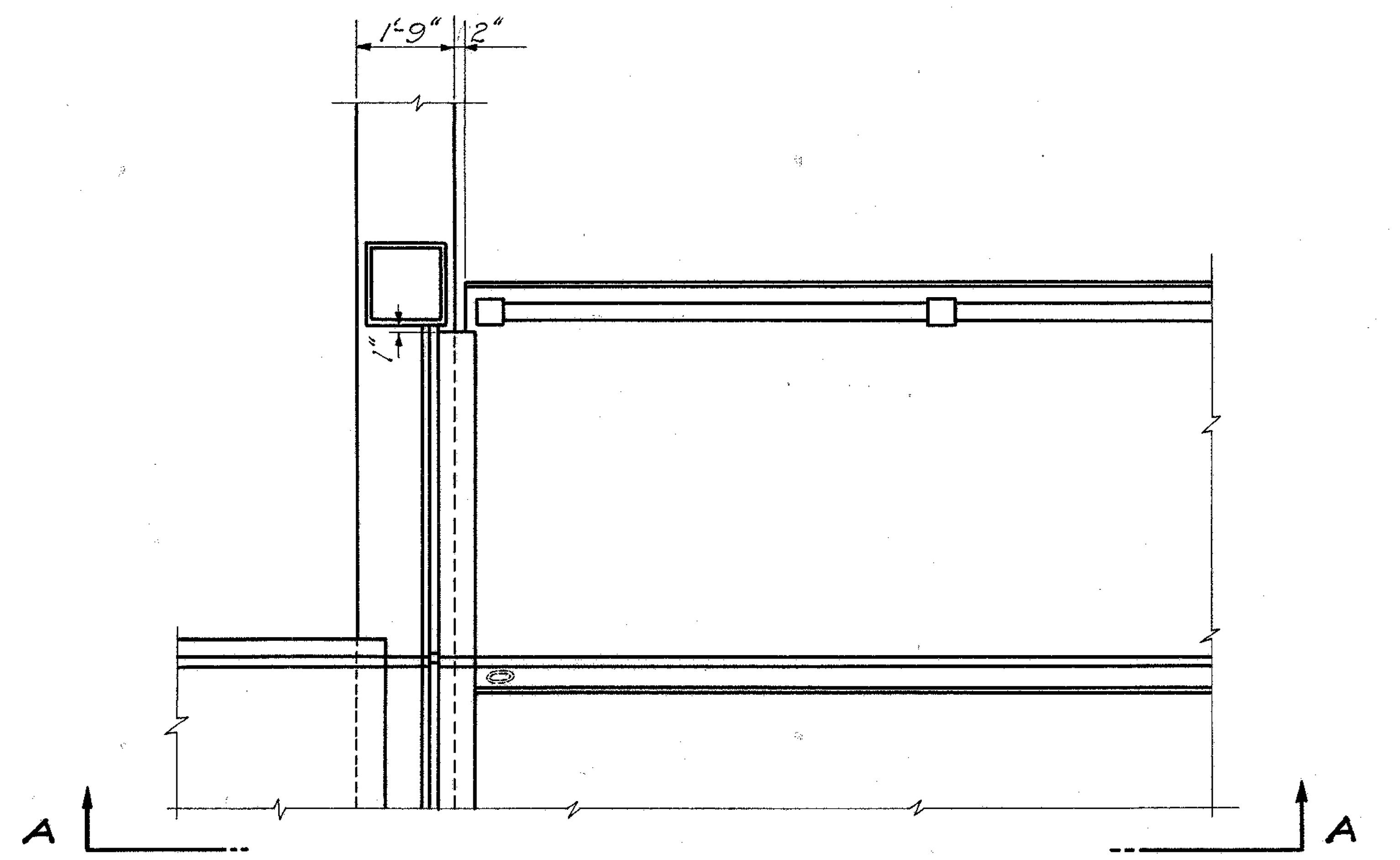
SUPERSTRUCTURE DETAILS
BRIDGE No. - HO-39-173
OVER KILLBUCK CREEK

HOLMES COUNTY
SEC. HOL-39-(16.69-17.29) Sta. 37+09.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DJM	DJM	E.J.B.	RJC	BFG	9/27/51	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	S-170(2)	Post War	49 / 49

HOL-39-(16.69-17.29)



PLAN AT ABUTMENT

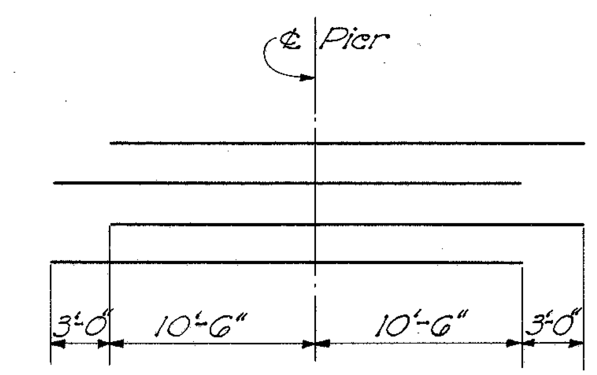
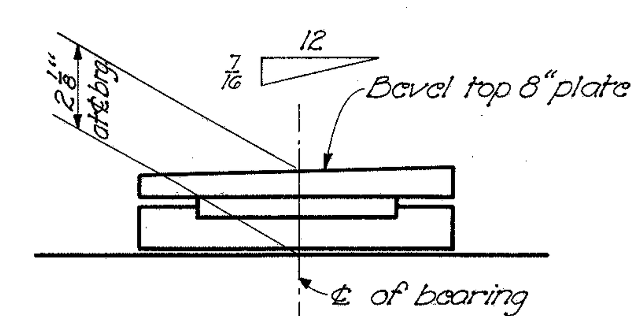
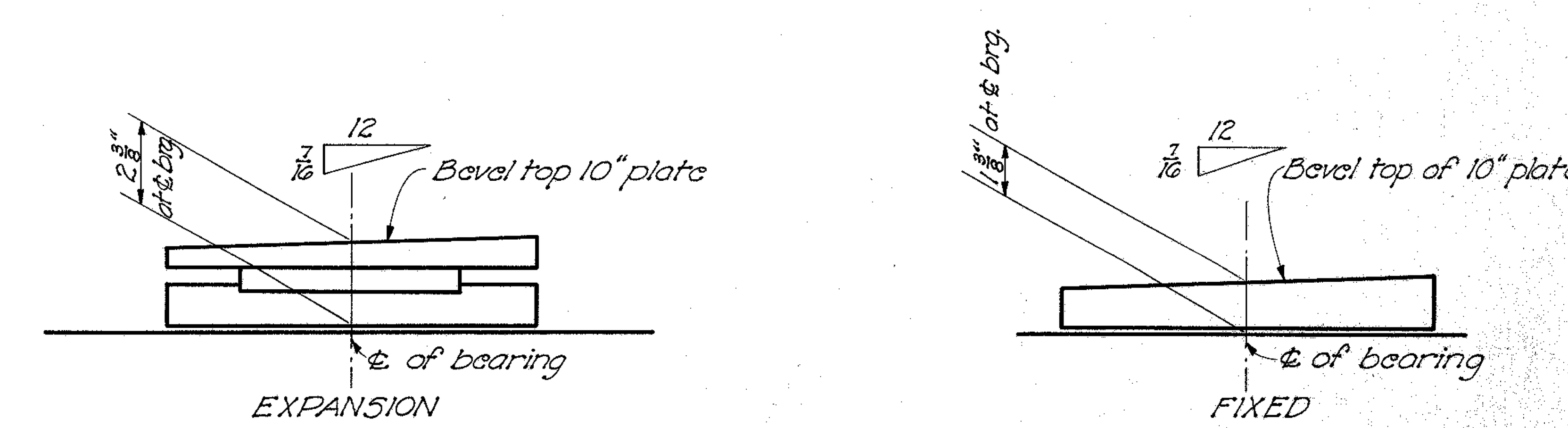


DIAGRAM SHOWING STAGGER OF S5b BARS OVER PIERS



ABUTMENT BEARING PLATES

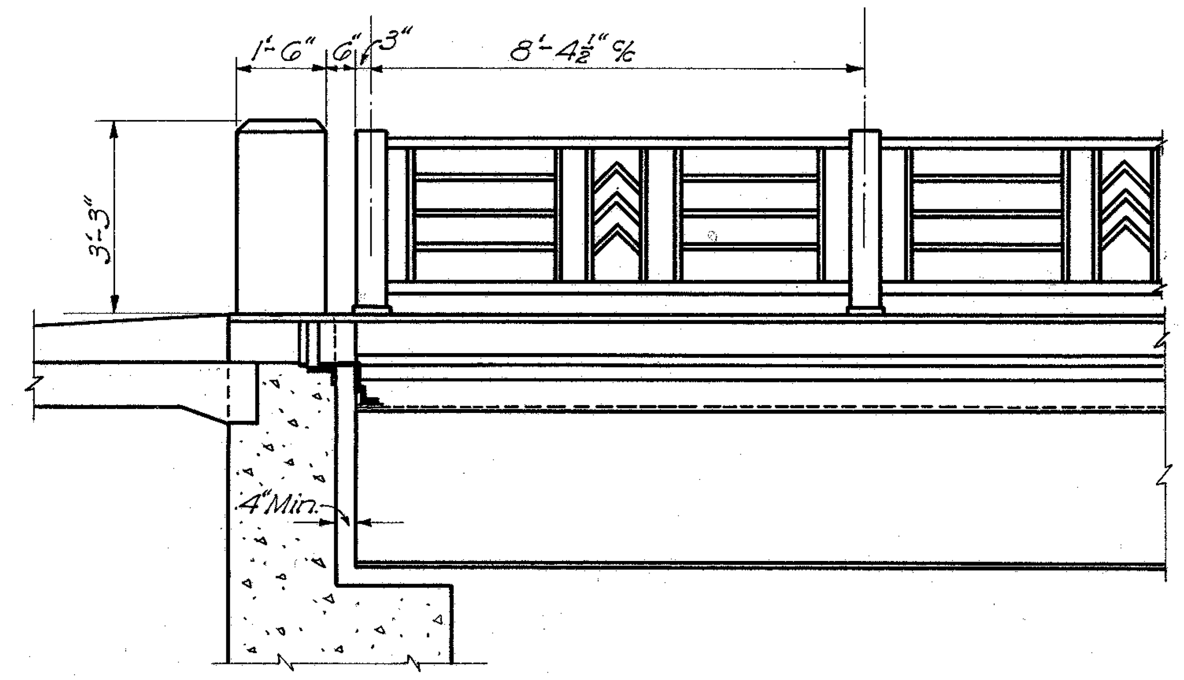
Detail showing bevel of top plate. For additional details see Dwg. CSB-1-47 sh. 2. Bumper angles are not required.



PIER BEARING PLATES

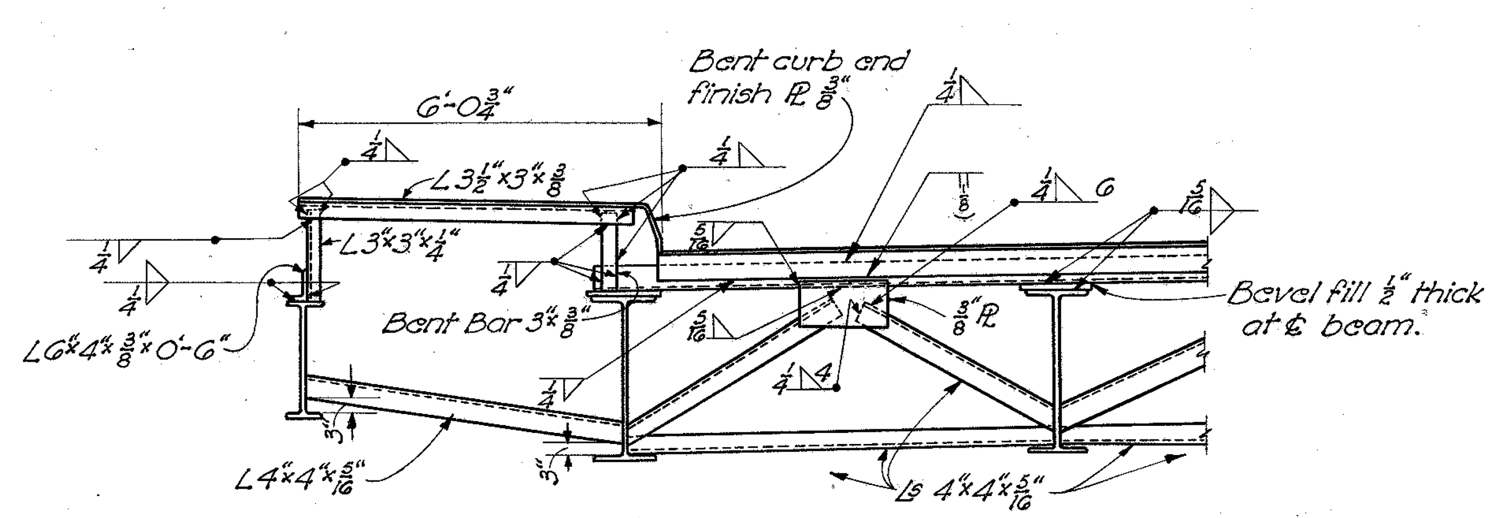
Details showing bevel of plates. For additional details see Dwg. CSB-1-47, sh. 2.

NOTE: Cast leaded bronze bearing plates and sheet lead are included with Structural Steel for payment.



For details of curb plate, roadway and finish, gutters and scuppers see sheet 2, CSB-1-47.

SECTION A-A

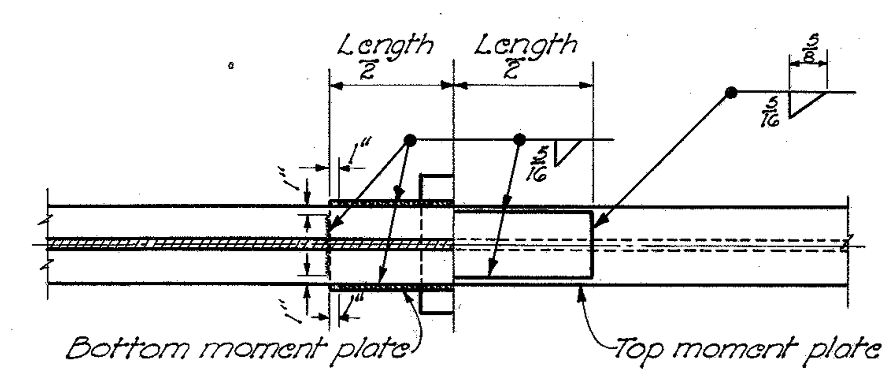


END CROSS FRAME

BEAM SPLICE DETAILS			
BEAM	TOP PLATE	BOTTOM PLATE	"R"
24"WF 76#	7"x 3/4"x 13'-6"	10"x 1/2"x 11'-4"	1½"
33"WF 130#	10½"x 7/16"x 3'-6"	12½"x 3/8"x 3'-7"	3/4"

WELDING PROCEDURE

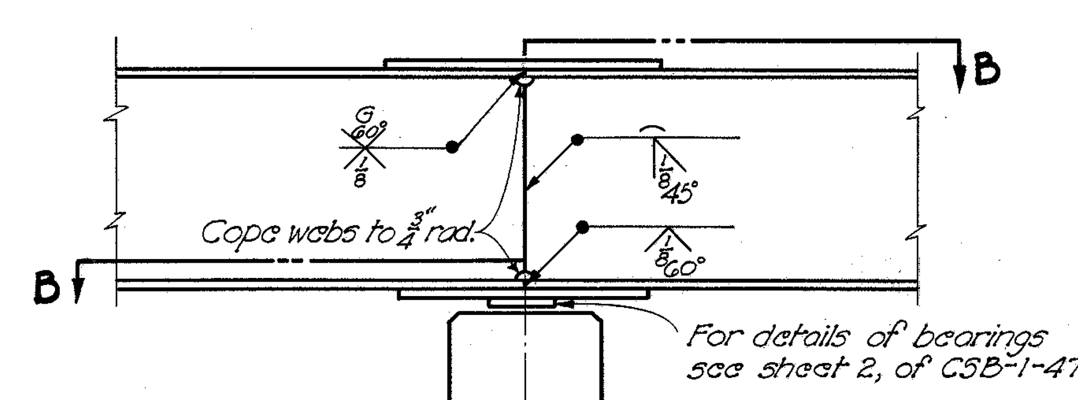
1. At first pier, weld bottom flange splice plate to beam on middle span side of joint only.
2. Raise end of beam at first abutment "R" inches.
3. Weld beam flanges and web at first pier.
4. Weld top flange splice plate at first pier (both sides of joint) and complete welding of bottom flange splice plate at first pier.
5. Repeat steps 1 to 4 inclusive at second pier and second abutment.
6. Lower ends of beams at both abutments.



SECTION B-B

CAMBER AND DEFLECTION				
	24WF76		33WF130	
	END SPAN	CENTER SPAN	END SPAN	CENTER SPAN
Deflec. due to wt. of steel	0.06"	0.07"	0.03"	0.04"
Deflec. due to remaining D.L.	0.54"	0.63"	0.20"	0.24"
Required Shop Camber	3/4"	3/4"	None	

NOTE: Erect beams with convex side up.



SPLICE ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

SUPERSTRUCTURE DETAILS

BRIDGE NO. HO-39-173 OVER KILLBUCK CREEK

HOLMES CO.
SEC. HOL-39-(16.69-17.29) STA. 37+09.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DJM	DJM	GPH	EJC	BFG	9/27/51	