FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1943

1 / 30

TRUMBULL COUNTY
SH 35 SEC. O2 (PT)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
CHAGRIN FALLS-GREENVILLE ROAD
S. H. 35 — SEC. O2 (PT)
TRUMBULL COUNTY
MECCA TOWNSHIP

MOSQUITO CREEK RESERVOIR

CONVENTIONAL SIGNS

TOWNSHIP LINE
PROPERTY LINE
CENTER LINE
FENCE LINE
TELEPHONE OR TELEGRAPH
STEAM RAILROAD
GUARD RAIL POSTS

INDEX OF SHEETS

TITLE SHEET	SHEET 1
TYPICAL SECTIONS	2
NOTES & DETAILS	3
PLAN & PROFILE	4-12
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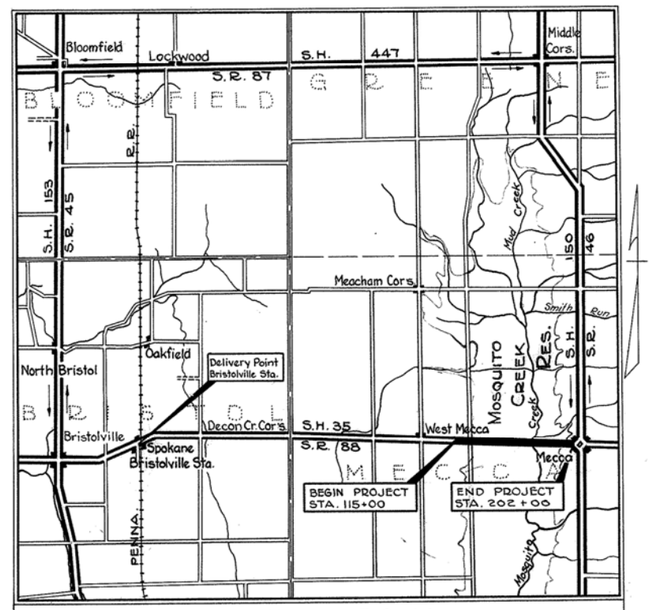
APPROACH SLABS & CHANNEL	24
STRUCTURES 20 FT. SPAN & UNDER	25
SUMMARY OF QUANTITIES	30
STRUCTURES OVER 20 FT. SPAN	26-29

LINE DATA

BEGIN PROJECT	STA. 115+00
END PROJECT	STA. 202+00
GROSS LENGTH	8700 LIN. FT.
NO DEDUCTIONS OR ADDITIONS	
NET LENGTH = 8700 LIN. FT. = 1.647 MILES.	



AVERAGE HAUL = 5.0 MILES

LOCATION PLAN
SCALE 1" = 1 MILE

LEGEND
PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER HIGHWAYS
DETOUR SHOWN THUS

SCALES
PLAN 1" = 50'
PROFILE HORIZON. 1" = 50'
PROFILE VERT. 1" = 5'
CROSS SECTIONS 1" = 5 & 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 impovement will require the closing to traffic of the highway and that povisions for the maintenance and safety of traffic will be as indicated in the plans and estimates.

The Right of Way necessary for this improvement will be provided by the State of Ohio.

Approved W. H. Moore
Date 7-17-43 DIVISION DEPUTY DIRECTOR.

Approved
Date CHIEF ENGINEER, BUREAU OF MAINTENANCE.

Approved W. S. Hindman gpk
Date 7/30/43 CHIEF ENGINEER, BUREAU OF BRIDGES & R.R. CROSSINGS.

Approved Murray D. Shaffer
Date 9/9/43 CHIEF ENGINEER, BUREAU OF LOCATION & RIGHT OF WAY

Approved
Date FIRST ASSISTANT DIRECTOR & CHIEF ENGINEER.

Approved H. J. Kemp
Date 9-11-43 DIRECTOR OF HIGHWAYS.

CONSTRUCTION BUREAU
NOV 3 1955
GROUND PHOTOLAB

STANDARD DRAWINGS		SUPP. SPECIFICATIONS			
Number	Date	Number	Date	Number	Date
E-5, No. 1	7-1-40	M-109.20	5-21-42	T-370.05	1-12-43
E-5, No. 2	7-1-40	M-103.12	7-1-41	T-170.15	8-2-43
I-1, 2, 3, 4 & 5	3-1-39	E-101	1-1-36	M-102.12	8-2-43
I-8 C.B. 2-2-A&B	3-10-42	S-119	10-20-42	E-305	REV. 5-1-41
I-15 No. 8	3-10-42			177	ADOPT. 8-25-42
G-7.07	6-1-42			178	ADOPT. 9-21-42
AS-41-F	3-31-41				
CSB-15-40 Sht 1&2	10-1-40				
MWD-42	4-22-42				

FILE No.	TRUMBULL COUNTY SH 35 SEC. O2 (PT) DATE OF LETTING _____ 194__ CONTRACT No. _____

TITLE SHEET

F.B. Nos. 632, 633, 634

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
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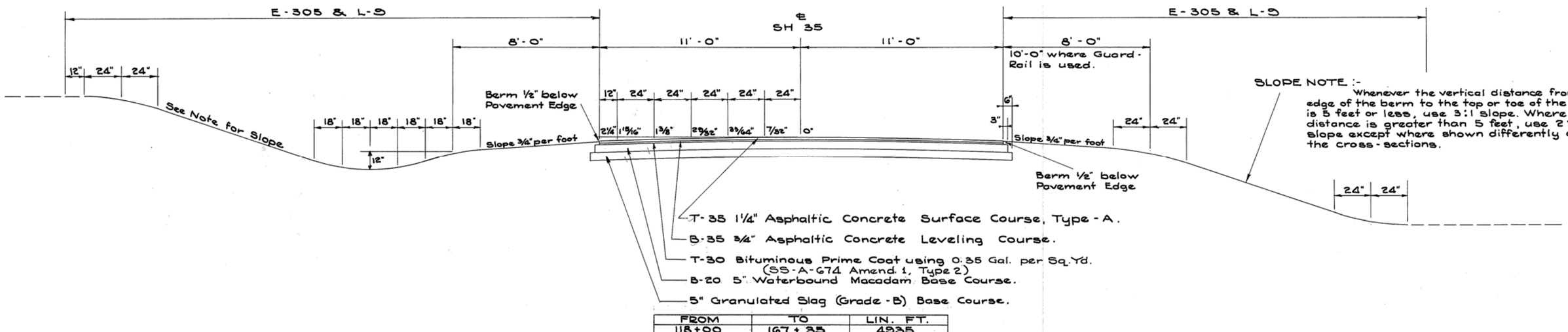
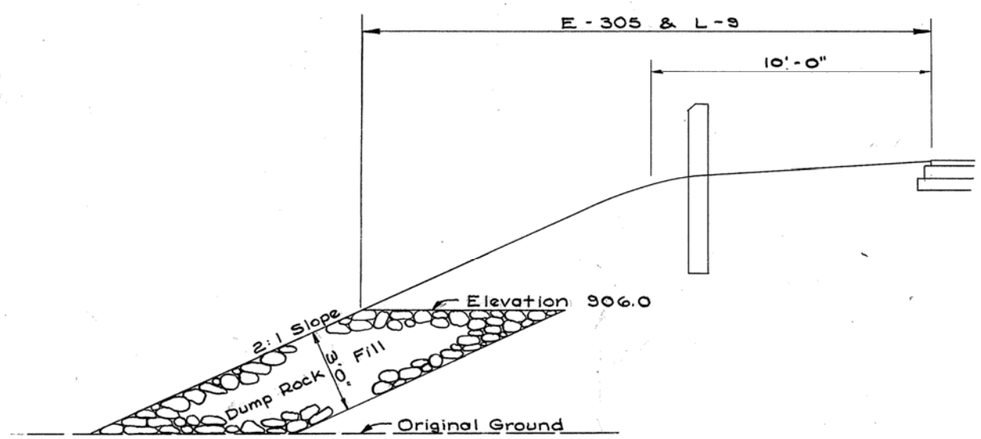
TRUMBULL COUNTY
SH 35 SEC. 02 (PT)

TYPICAL SECTIONS
TYPE T-35

SCALE 3/8" = 1'

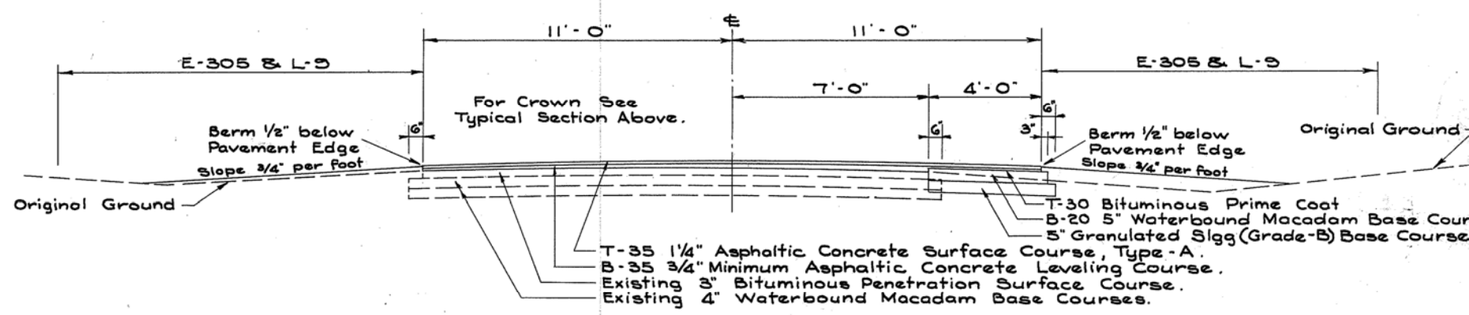


FROM	TO	LIN. FT.
118+00	167+35	4935
169+75	196+50	2675
	TOTAL	7610



END SECTION
SHOWING DUMPED ROCK FILL

Limits and Quantities shown on Cross Section Sheets.



FROM	TO	LIN. FT.
196+50	202+00	550
SEE DETAILS ON SHEET NO. 23		

J.C.F.

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1943

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30

TRUMBULL COUNTY
SH 35 SEC. O2 (PT)

GENERAL NOTES

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

ACCESS
Access to the properties abutting this improvement shall be provided and maintained at all times by the Contractor.

GUARD RAIL
The width of the berm shall be increased from 8'-0" to 10'-0" where Guard Rail is required.

TREE AND STUMP REMOVAL
Payment for removal of all trees and stumps within the limits of the project as marked by the Engineer, is included in the unit price bid per Cu.Yd. for E-1 Roadway Excavation Unclassified.
All trees within the area below Elevation 906.00 will have been removed to one foot above ground by the U.S. Engineers.

BUILDINGS
All buildings shown on the plan in the area below Elevation 906.00 will be removed by the U.S. Engineers.

SCALPING
All soil from scalping operations, if suitable, shall be incorporated in the upper 3" of the berms, ditches and slopes to the top of the rock fill. The cost of the above work shall be included in the bid price for Item E-1, Roadway Excavation Unclassified.

DUMPED ROCK FILL
In lieu of and supplementing paragraph E-101.08 of supplemental specification E-101, the material for dumped rock fill shall be structurally sound and durable blast furnace slag or stone with the following grading as to size:-
No stone or slag having a greater dimension than approximately twenty-four inches will be used in the rock fill.

Larger than 6"x6"x12"	20% Minimum.
Retained on a 6" square opening	50% Minimum.
Passing a 2" square opening	15% Maximum.

It is desirable that the major part of the dumped rock fill be constructed of material larger than 6"x6" in size.

5" GRANULATED SLAG BASE COURSE
The granulated slag base shall be sprinkled sufficiently to lubricate the particles, then rolled to a 5" compacted course with a type 3-E or 3-F roller meeting the requirements of G-6.05 weighing not less than 7 tons or more than 10 tons. Rolling shall conform to the third and fourth paragraphs of sec. B-20.05. Should the subgrade become soft and mixed thru the course, the Contractor shall, without additional compensation, remove the material, reshape and compact the subgrade and replace the material removed with clean aggregate which shall be rolled until compacted satisfactorily and uniformly with the surrounding surface.
The finished surface shall conform to the requirements set forth in the last sentence of Sec. B-20.06.
This yardage to be paid for shall be the number of square yards of granulated slag base as specified, in place, completed and accepted.

B-20 WATERBOUND BASE COURSE.
An inverted choke shall be used as described in the second paragraph of B-20.04.

I-17 TRAFFIC BOUND SIDE APPROACHES
All I-17 after placement shall be compacted, by the Contractor, with a roller weighing not less than 2½ tons. Cost of compaction is included in the price bid for I-17.

FEATHERING
Before placing the asphaltic concrete, a paint coat of the same bituminous material as used in the mix shall be applied to the area of existing pavement under the area to be feather edged. Payment for this paint coat is included in the price bid for asphaltic Concrete.

LEVELING COURSE
Wherever the depth of the leveling course exceeds two inches, the leveling material below the 3/4" minimum thickness shown on the plan shall be spread and compacted in one or more courses. No course shall exceed three inches in depth when compacted.

COMPACTION
Compaction will not be required on the top 3" to be seeded

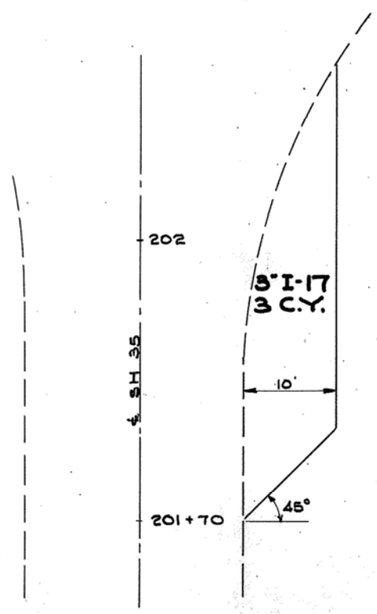
ITEMS E-305 & L-9
Items E-305 & L-9 shall be performed on all earth areas within the limits of the work as shown on the typical sections, altho E-305 shall be omitted from areas to be sodded.
Seed shall be sown at the rate of 4 pounds per 1000 square feet using a mixture of 20% Red Top, 60% Kentucky Blue Grass, 10% Domestic Rye Grass and 10% Alsike Clover. The Alsike Clover shall be inoculated.

ITEM L-9
4-12-4 Commercial Fertilizer shall be applied at the rate of 20 pounds per 1000 square feet. If the specified fertilizer formula is not available, the following should be substituted: commercial fertilizer with a minimum formula of 0-12-7 applied at 10 pounds per 1000 square feet, and soybean oil meal or cottonseed meal or tankage, any one with not less than 6% available nitrogen, applied at 10 pounds per 1000 square feet. This substitution, if made, will be paid for at the contract unit price bid per pound for Item L-9 Commercial Fertilizer.

ITEM L-10
Areas to be sodded shall be loosened to a depth of 2 inches just prior to laying the sod, this work to be included for payment in the price bid per square yard of sodding. Fertilizer shall be applied to the sodded area just prior to loosening operations.
Time limitation on sodding may be waived at descretion of the Director.

ITEM E-4 BORRW: Borrow of granular material meeting the requirements of S.H.T.L. classifications 1, 2, or 3 shall be used for embankment on this project. Such material is available, free of cost to the contractor on property secured by the U.S. Government said property being a part of the original Stanley J. Brown farm located between 0.5 miles and one mile north of State Route 88.

FORMS: Wherever the edge thickness of the new bituminous material is between four and eight inches, side forms set and maintained to line established by the engineer will be required; wherever the edge thickness of the new bituminous material is eight inches or over, eight inches minimum height side forms set and maintained to both line and grade established by the engineer will be required. Forms may be of wood or steel and the base width of wood forms used, shall be equal to or greater than the height. Subgrade for forms shall be compacted to the density required for subgrade under widenings.

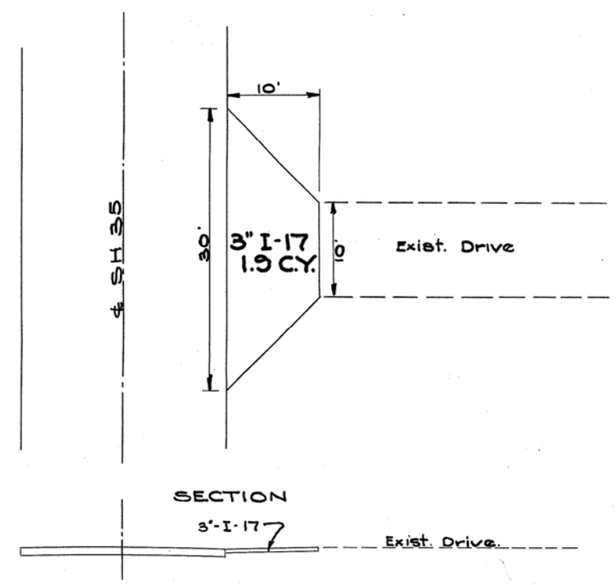


DRIVEWAY DETAIL
AT STA. 202+00

ESTIMATED QUANTITIES
I-17 3.0 C.Y. *

* Quantity carried to Sheet No. 12

TYPICAL
DRIVEWAY DETAIL



GENERAL NOTES & DETAILS

DIST. NO.	STATE	COUNTY	FISCAL YEAR
10	OHIO		1943

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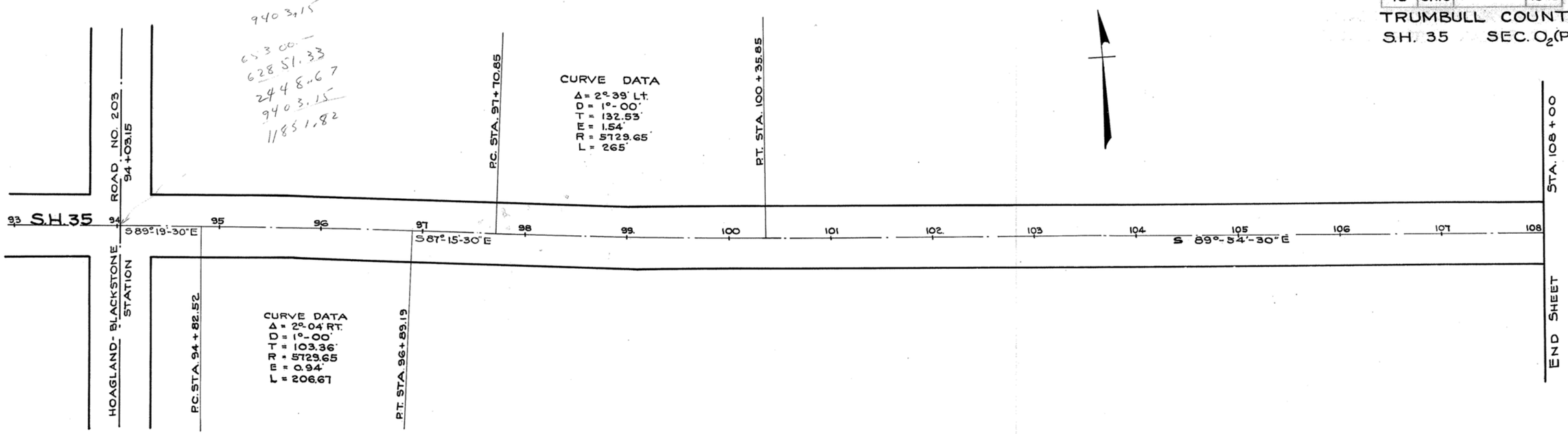
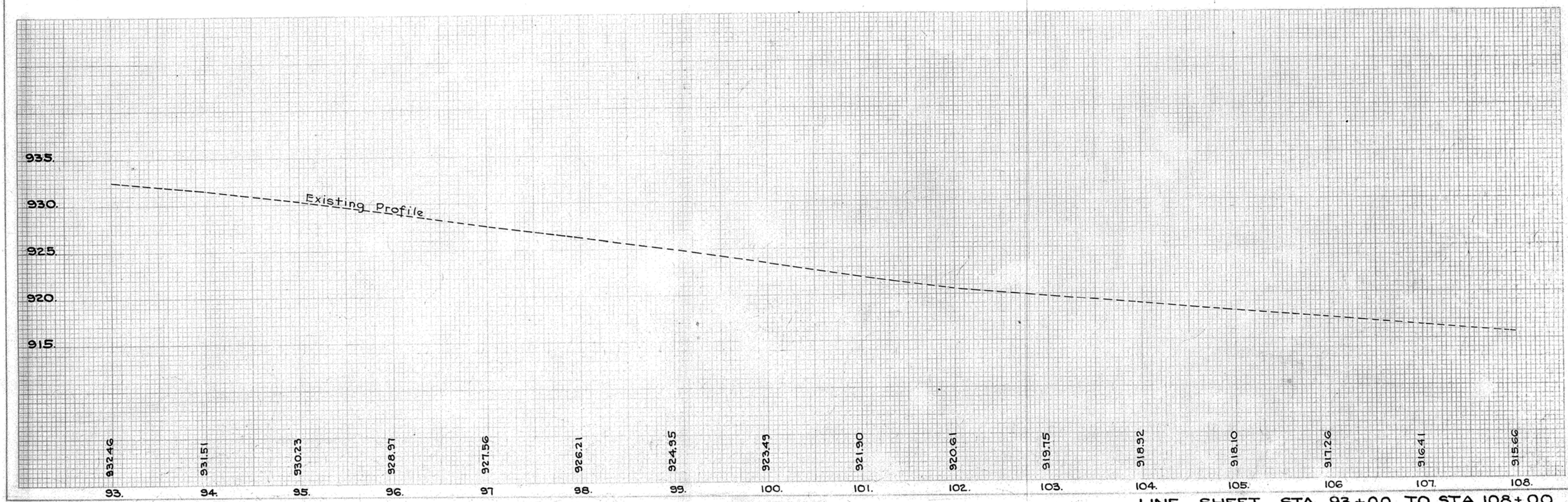
TRUMBULL COUNTY
S.H. 35 SEC. O_2(PT.)





LINE SHEET STA. 93+00 TO STA. 108+00

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1948

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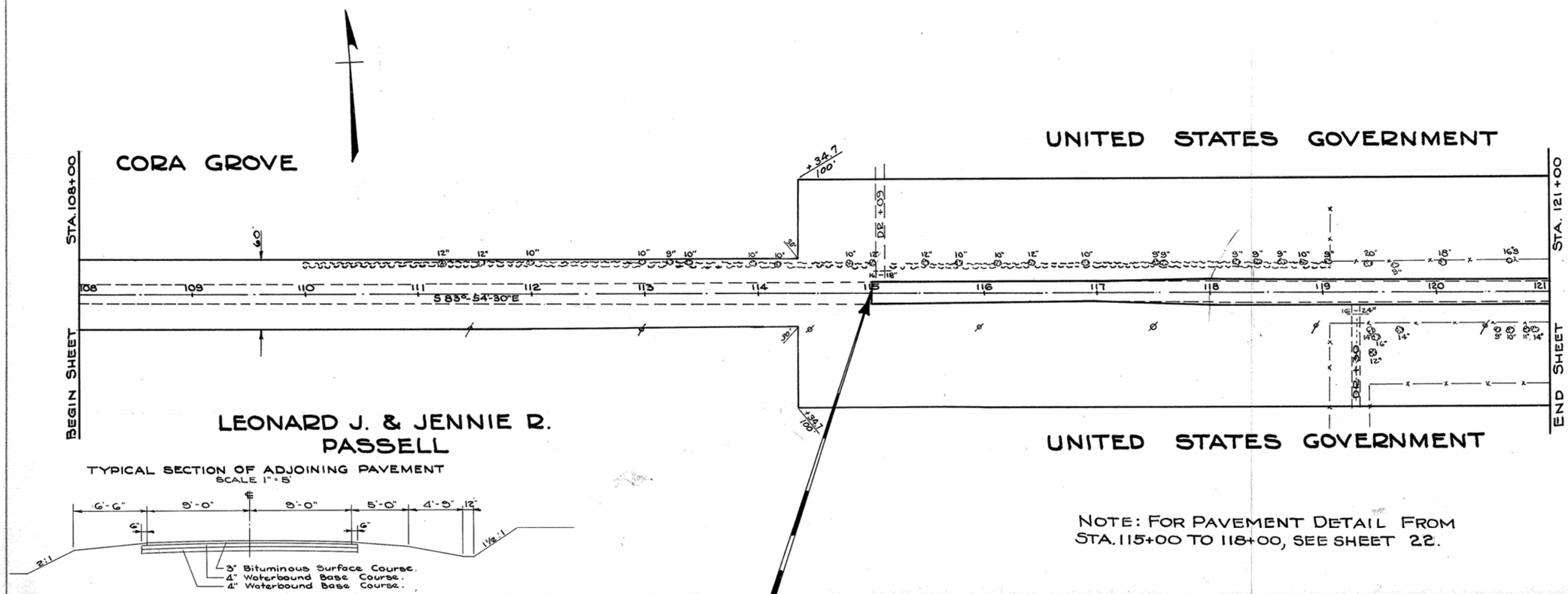
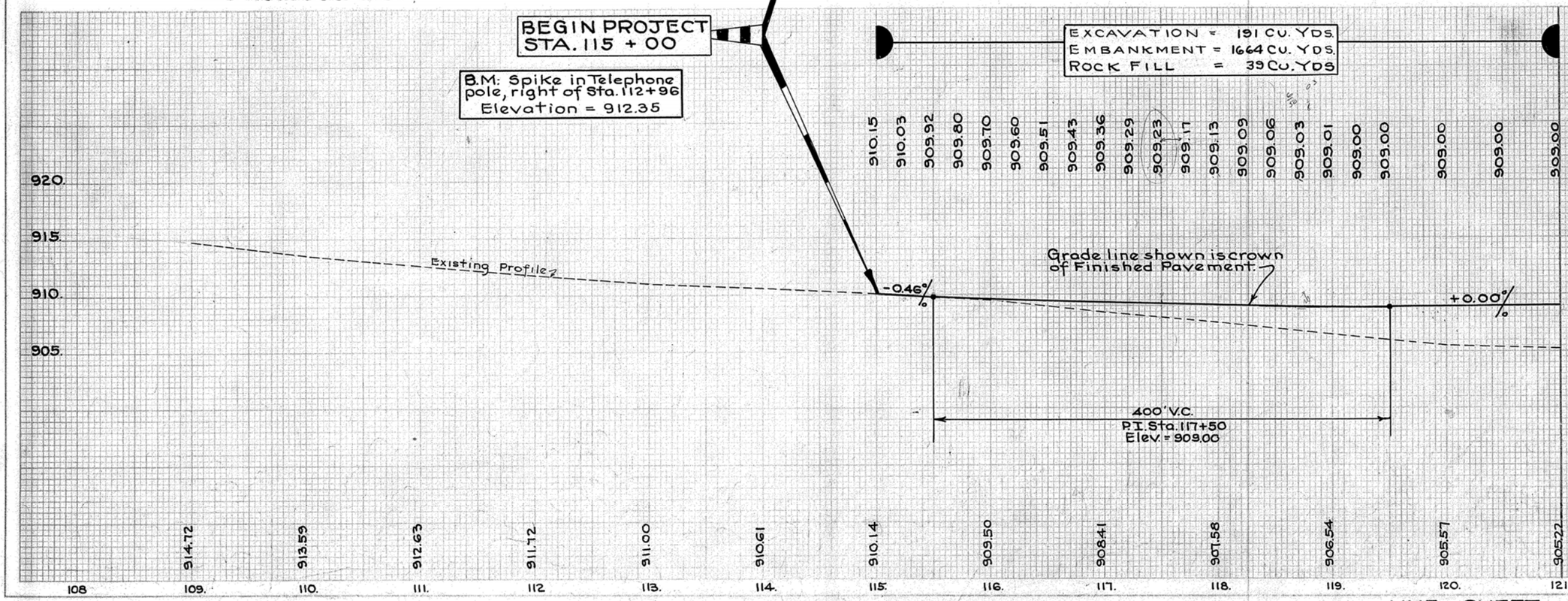
TRUMBULL COUNTY
S.H. 35 SEC. O_2(PT.)

PIPE REMOVAL & DISPOSAL				
STATION		SIDE	LIN. FT.	
From	To		15" and Under	Over 15"
119+21	119+37	RT.		16'
TOTAL				16'

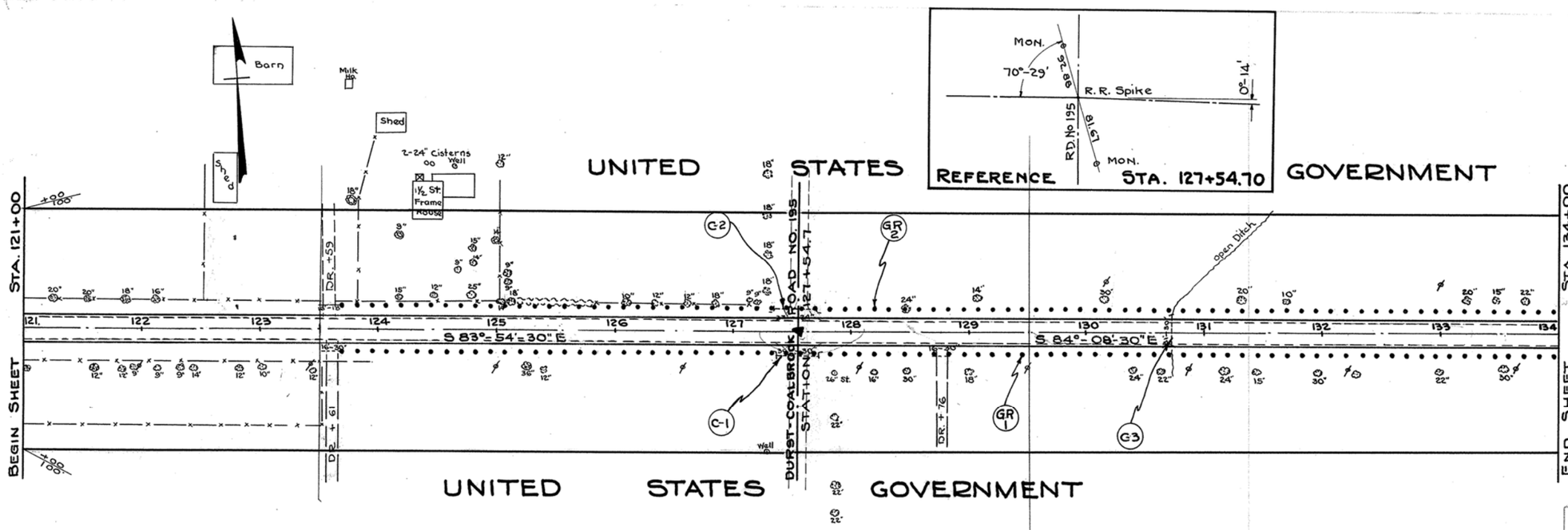




LINE SHEET STA. 108+00 TO STA. 121+00

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR	SHEET NO. / TOTAL NO.
10	OHIO		1943	6. / 30

TRUMBULL COUNTY
S.H. 35 SEC. O (PT.)

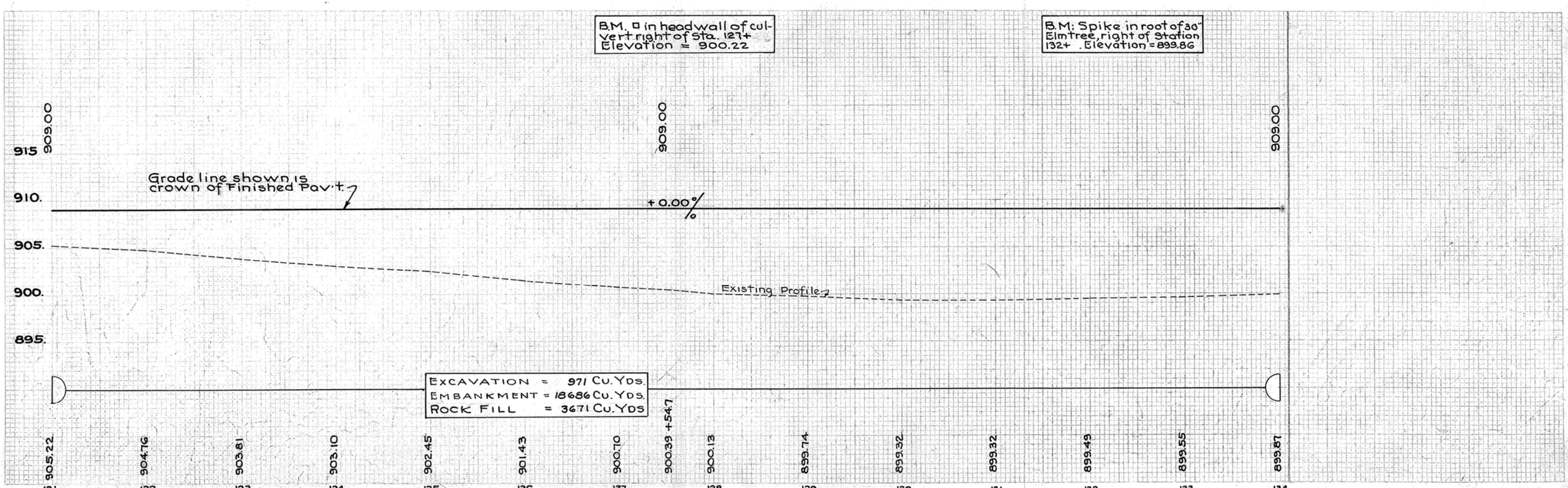


HUB-STA 127+54.7
DEF. = 0°-14' LEFT

PIPE REMOVAL & DISPOSAL				
STATION		SIDE	LIN. FT.	
From	To		15" and Under	Over 15"
123+51	123+67	LT.		16'
123+53	123+69	RT.		16'
128+68	128+84	RT.		16'
TOTAL				48

GUARD RAIL				
MARK	STATION		SIDE	POSTS ONLY EACH
	From	To		
GR - 1	123+70	133+95	RT.	83
GR - 2	123+70	133+95	LT.	83
TOTAL				166

STRUCTURES 20' SPAN & UNDER				
MARK	STATION	TYPE	SIZE	DETAIL SHEET No
C-1	127+54.7 R.	Pipe Culvert	30" x 36'	25
C-2	127+54.7 L.	Pipe Culvert	24" x 37'	25
C-3	130+73	Pipe Culvert	30" x 31'	25



LINE SHEET STA. 121+00 TO STA. 134+00

STATE FED. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1943

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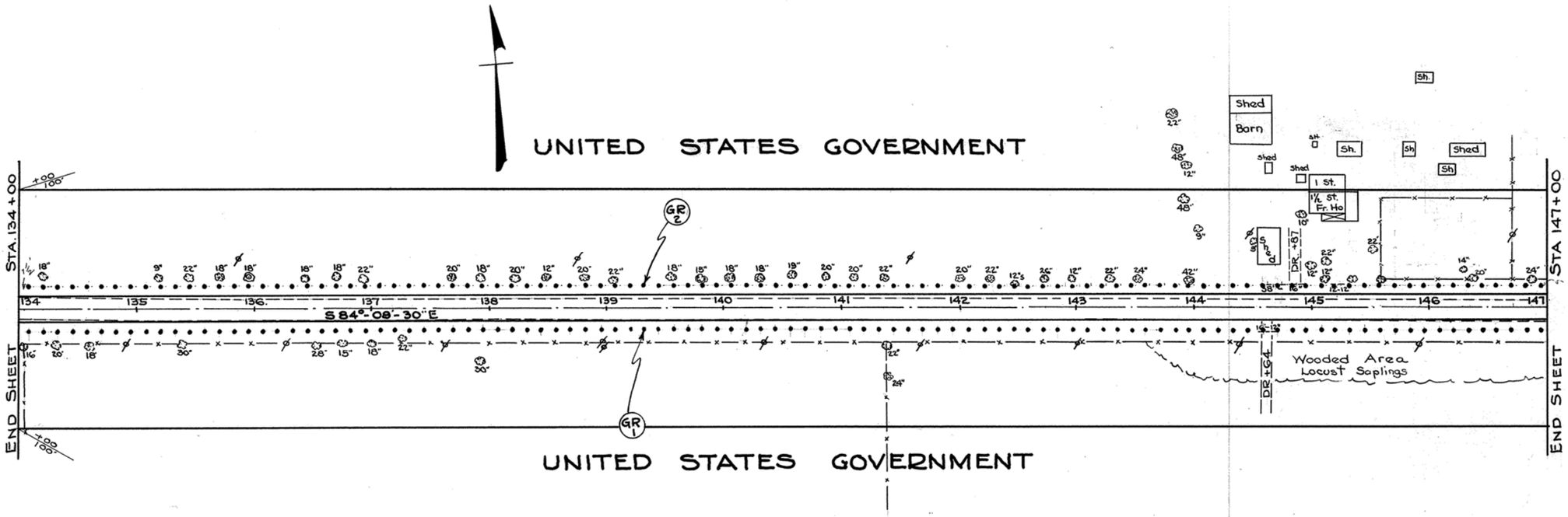
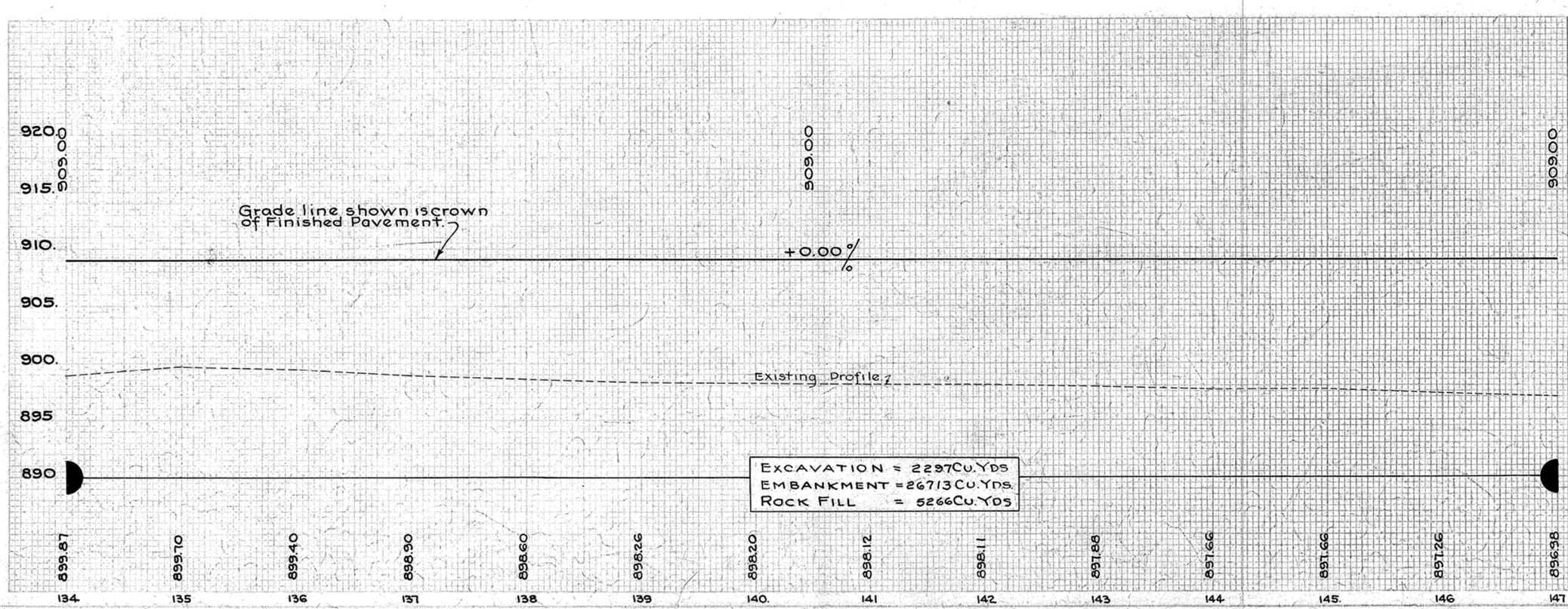
TRUMBULL COUNTY
S.H. 35 SEC. O2 (PT)



PIPE REMOVAL & DISPOSAL				
STATION		SIDE	LIN. FT.	
From	To		15" and Under	Over 15"
144+56	144+72	RT.	16	
144+57	144+95	LT.		38
145+15	145+27	LT.	12	
TOTAL			28	38

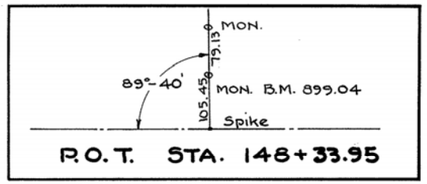
GUARD RAIL				
MARK	STATION		SIDE	POSTS ONLY EACH
	From	To		
G.R.-1	134+07.5	146+95	RT.	104
G.R.-2	134+07.5	146+95	LT.	104
TOTAL				208

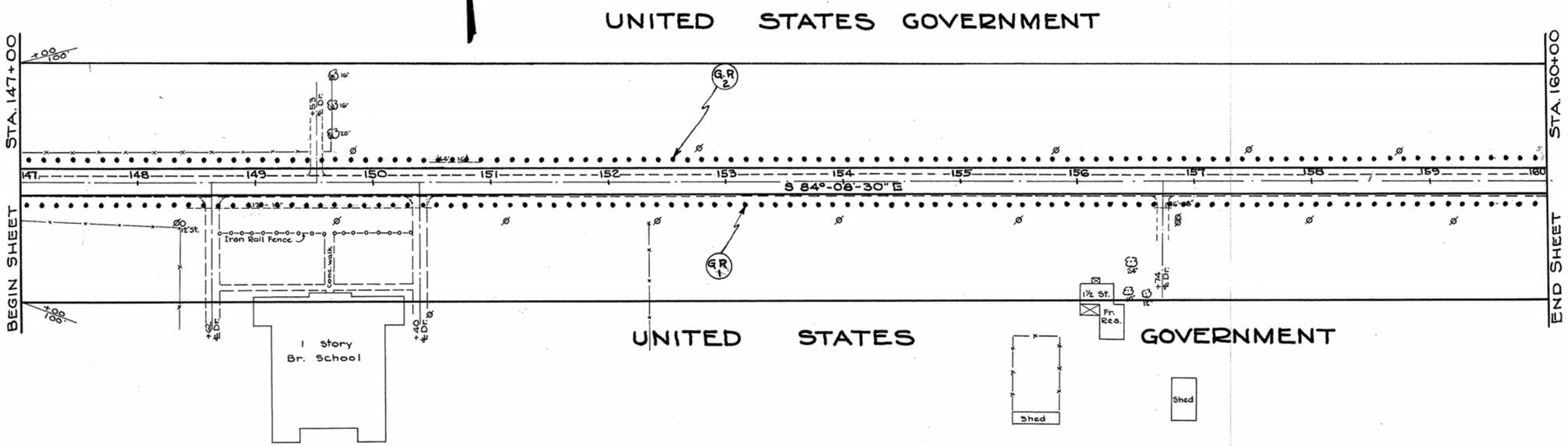


LINE SHEET STA. 134+00 TO STA. 147+0

FEDERAL AID PROJECT NO.	STATE	PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
10	OHIO		1943	8	30

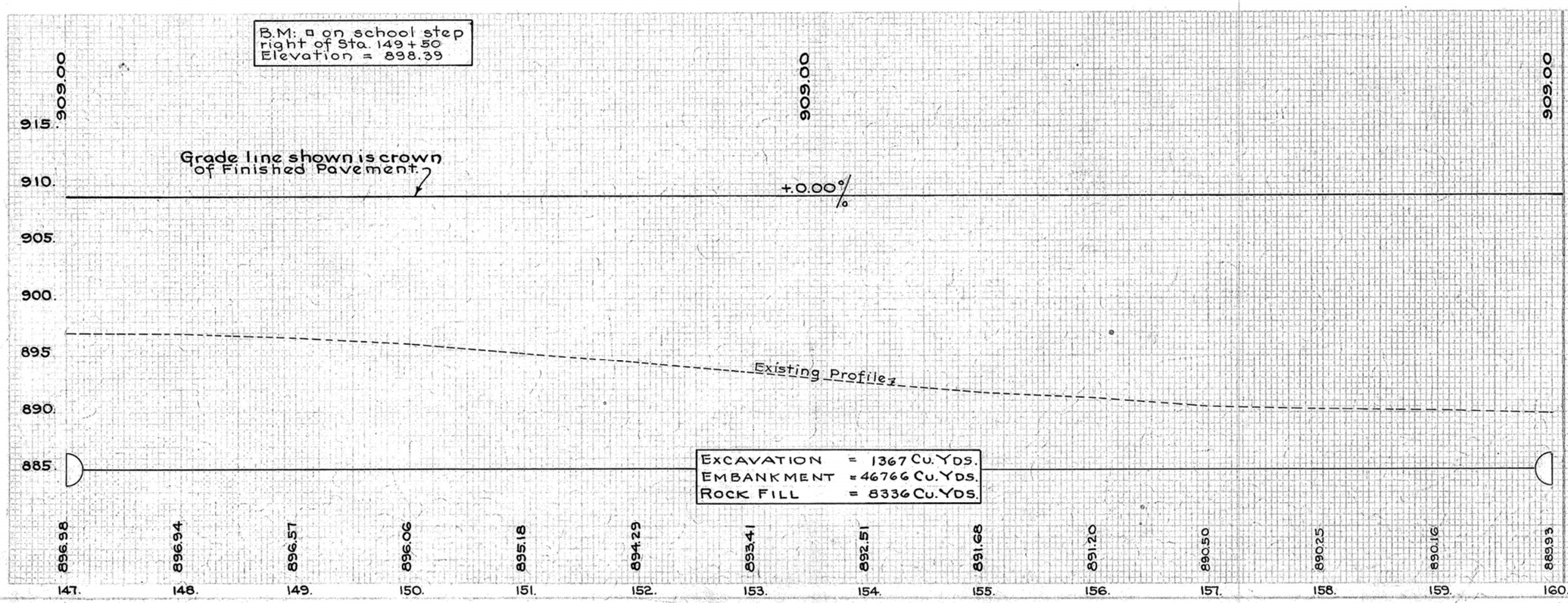
TRUMBULL COUNTY
S.H. 35 SEC. O2 (PT.)





PIPE REMOVAL & DISPOSAL				
STATION		SIDE	LIN. FT.	
From	To		15" and Under	Over 15"
148+41	150+53	RT.		212
150+50	150+94	LT		44
156+66	156+82	RT.		16
TOTAL				272

GUARD RAIL				
MARK	STATION		SIDE	POSTS ONLY EACH
	From	To		
GR-1	147+07.5	159+95	RT.	104
GR-2	147+07.5	159+95	LT.	104
TOTAL				208



EXCAVATION = 1367 CU. YDS.
EMBANKMENT = 46766 CU. YDS.
ROCK FILL = 8336 CU. YDS.

LINE SHEET STA. 147+00 TO STA 160 + 00

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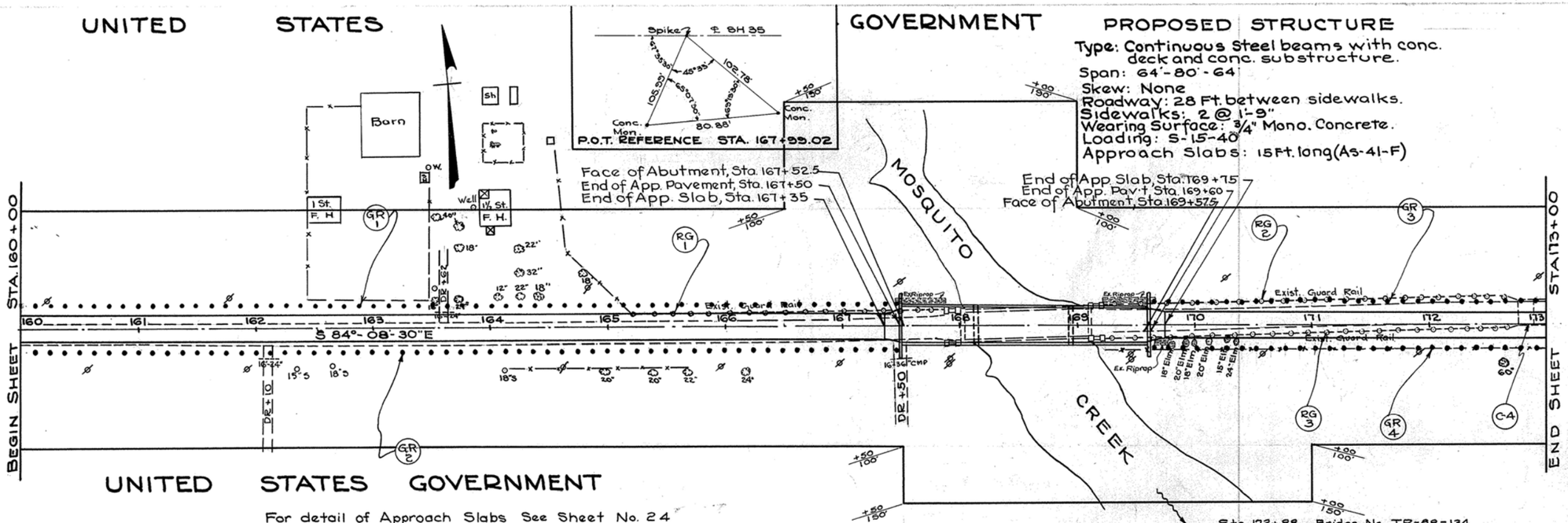
TRUMBULL COUNTY
S.H. 35 SEC. O_2 (PT.)

UNITED STATES GOVERNMENT



UNITED STATES GOVERNMENT

For detail of Approach Slabs See Sheet No. 24
For detail of Channel Excav. See Sheet No. 24

Sta. 167+65 Lt., 169+40 Lt., and 169+70 Rt.
Existing stone riprap to be removed and incorporated in the fill as directed by the Engineer. Cost to be included in the unit price bid for E-1 Roadway Excavation, unclassified.

EXISTING STRUCTURE
Type: Standard Steel Truss Bridge
Span: 105' Roadway 24'
To be dismantled. See sheet 26

B.M: Top of curb at N.W. corner of wing, S.W. corner of Bridge 12' Rt of Sta. 167+88. Elevation = 890.59

Sta. 172+88 Bridge No. TR-88-134
Superstructure to be removed & disposed of. See Sheet No. 25. In areas around existing abutments inaccessible to a roller, Contractor shall place embankment in accordance with Sec. E 105 of the specifications.

PROPOSED STRUCTURE
Type: Continuous Steel beams with conc. deck and conc. substructure.
Span: 64'-80'-64'
Skew: None
Roadway: 28 Ft. between sidewalks.
Sidewalks: 2 @ 1'-9"
Wearing Surface: ¾" Mono. Concrete.
Loading: S-15-40
Approach Slabs: 15 Ft. long (As-41-F)

PIPE REMOVAL & DISPOSAL

STATION From	STATION To	SIDE	LIN. FT. 15" and Under	LIN. FT. Over 15"
162+00	162+16	RT.		16
163+54	163+70	LT.		16
167+42	167+58	RT.		16
TOTAL				48

GUARD RAIL

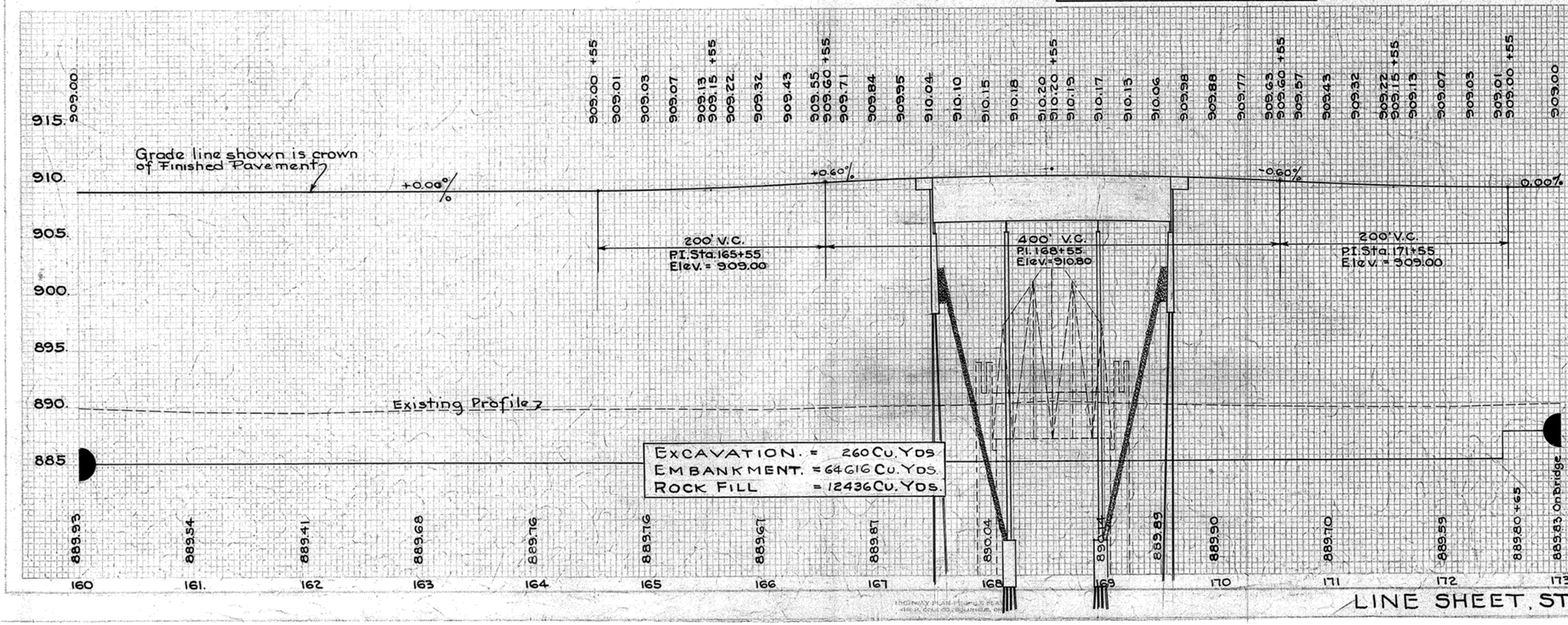
MARK	STATION From	STATION To	SIDE	POSTS ONLY EACH
GR-1	160+07.5	167+45	Lt	60
GR-2	160+07.5	167+45	Rt	60
GR-3	169+65	172+90	Lt	27
GR-4	169+65	172+90	Rt	27
TOTAL				174

GUARD RAIL REMOVE & STORE

MARK	STATION From	STATION To	SIDE	LINEAL FEET
RG-1	165+21	167+87	LT.	266
RG-2	169+23	172+67	LT.	344
RG-3	169+24	172+68	RT.	344
TOTAL				954

STRUCTURES OVER 20' SPAN

MARK	STATION	TYPE	SIZE	DETAIL SHEET No
C-4	172+88	Steel Beam Br.	Twin 13'-6" Span	25



LINE SHEET, STA. 160+00 TO STA 173+00

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
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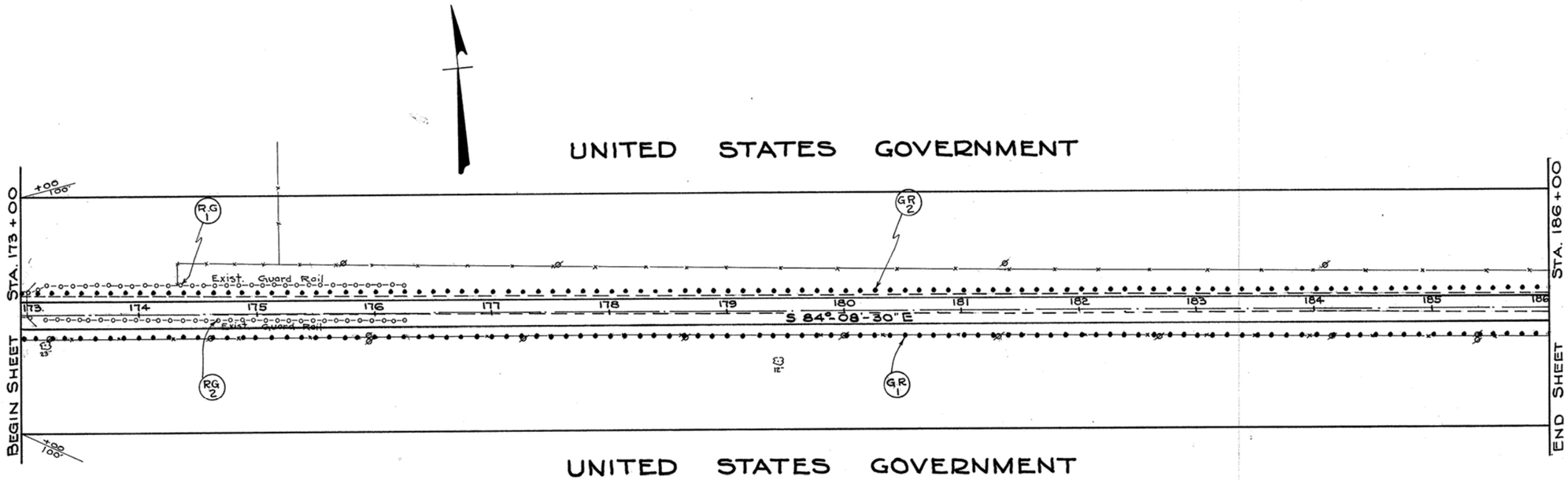
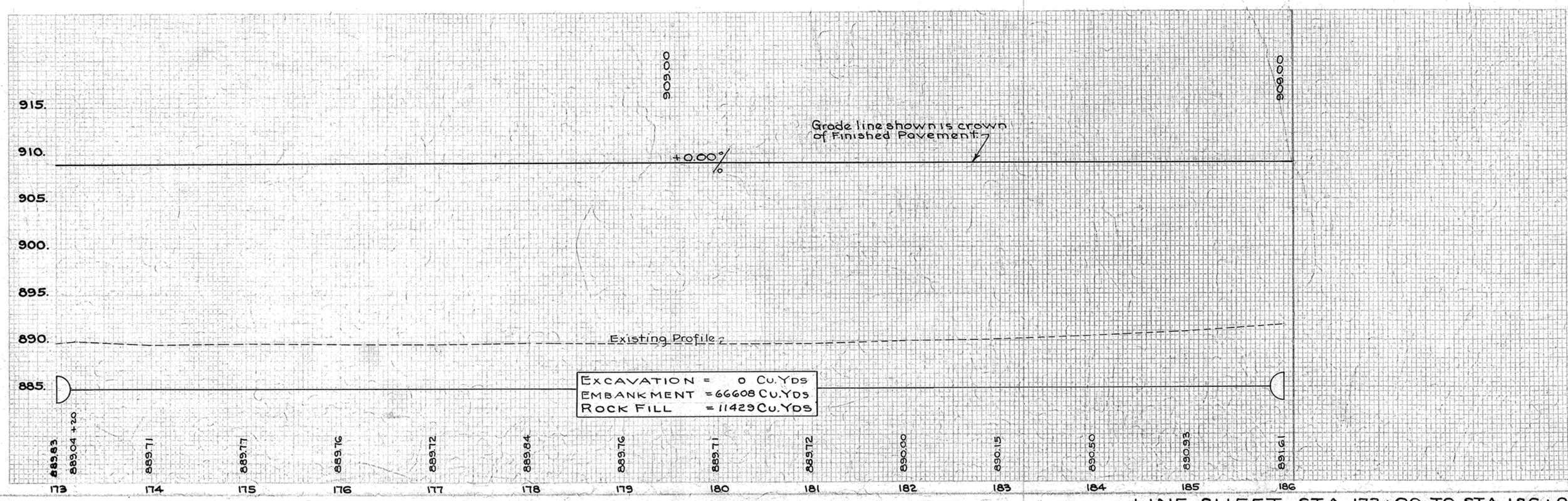
TRUMBULL COUNTY
S.H. 35 SEC. O_2 (PT.)



GUARD RAIL				
MARK	STATION From	STATION To	SIDE	POSTS ONLY EACH
GR - 1	173+02.5	185+90	RT.	104
GR - 2	173+02.5	185+90	LT.	104
TOTAL				208

GUARD RAIL REMOVE & STORE				
MARK	STATION From	STATION To	SIDE	LINEAL FEET
RG - 1	173+06	176+26	LT.	320
RG - 2	173+06	176+26	RT.	320
TOTAL				640



LINE SHEET, STA 173+00 TO STA 186+0

HIGHWAY PLAN-PROFILE PLATE 5
THE H. GOLE CO., DELAWARE, OHIO

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR	11. 30
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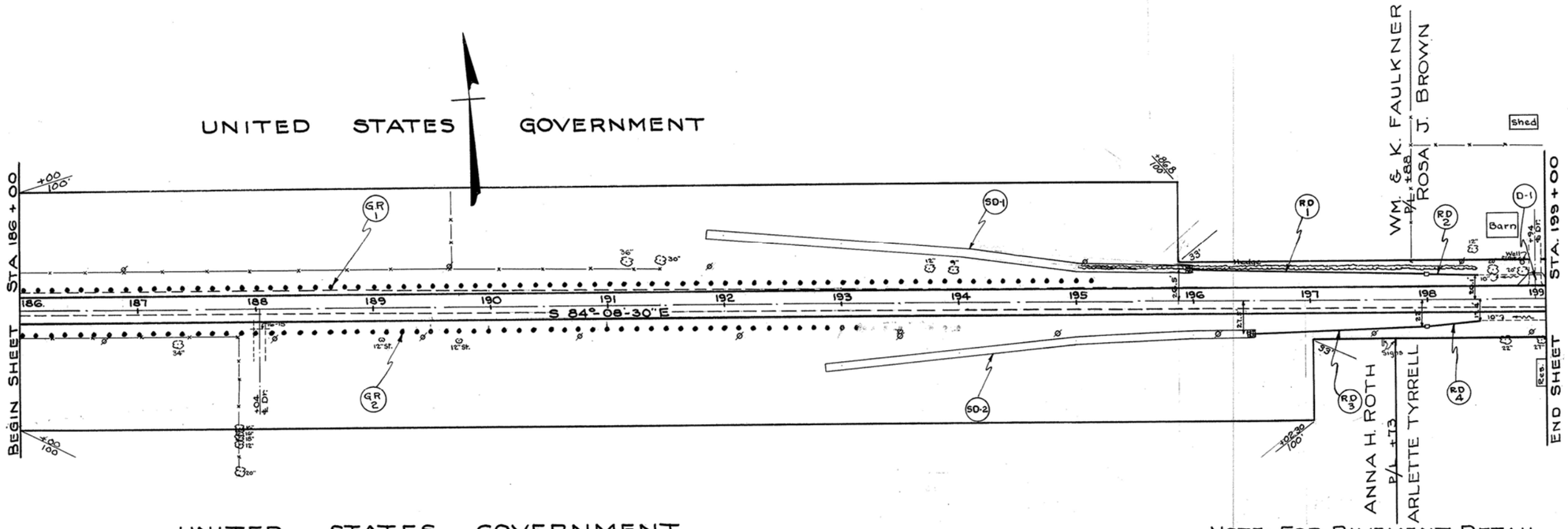
TRUMBULL COUNTY
S.H. 35 SEC. O2 (PT.)



NOTE: FOR PAVEMENT DETAIL FROM STA. 196+50 TO STA. 202 +00, SEE SHEET No. 23.

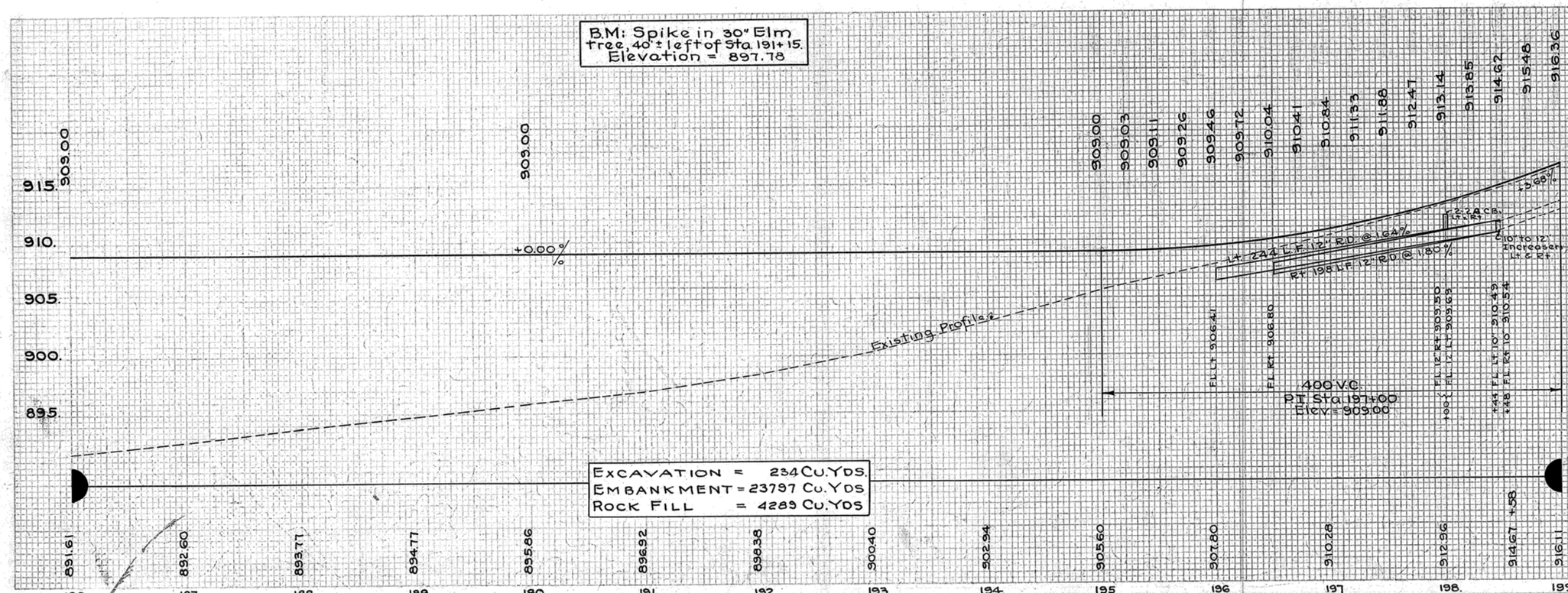
PIPE REMOVAL & DISPOSAL				
STATION		SIDE	LIN. FT.	
From	To		15" and Under	Over 15"
187+96	188+12	RT.	16	
TOTAL			16	

GUARD RAIL				
MARK	STATION		SIDE	POSTS ONLY EACH
	From	To		
GR-1	186+02.5	195+15	Lt	74
GR-2	186+02.5	193+15	Rt.	58
TOTAL				132

SODDED DITCH					
MARK	STATION		SIDE	7'-WIDE	
	From	To		Lin. Ft.	Sq. Yd.
SD-1	191+85	195+96	LT.	411	320
SD-2	192+86	196+46	RT.	360	280
TOTAL					600

DRAINAGE							
MARK	STATION		SIDE	I-3	I-8	I-5	I-10
	From	To		12" R.D.	2-2A C.B.	10" to 12" Inc. R.D.	Rip Rap Type A
				Lin. Ft.	Each	Each	Sq. Yd.
RD-1	196+00	198+00	LT.	199	1		5
RD-2	198+00	198+44	LT.	41		1	
RD-3	196+50	198+00	RT.	149	1		5
RD-4	198+00	198+48	RT.	45		1	
TOTAL				434	2	2	10

DRIVES & APPROACHES				
MARK	STATION	SIDE	I-17 Cu. Yds	Detail Sh't.
D-1	198+94	LT.	1.9	3
TOTAL			1.9	



EXCAVATION = 234 CU. YDS.
EMBANKMENT = 23797 CU. YDS
ROCK FILL = 4289 CU. YDS

HIGHWAY PLAN-PROFILE PLATE 5
THE H. COLE CO. COLUMBUS, OHIO

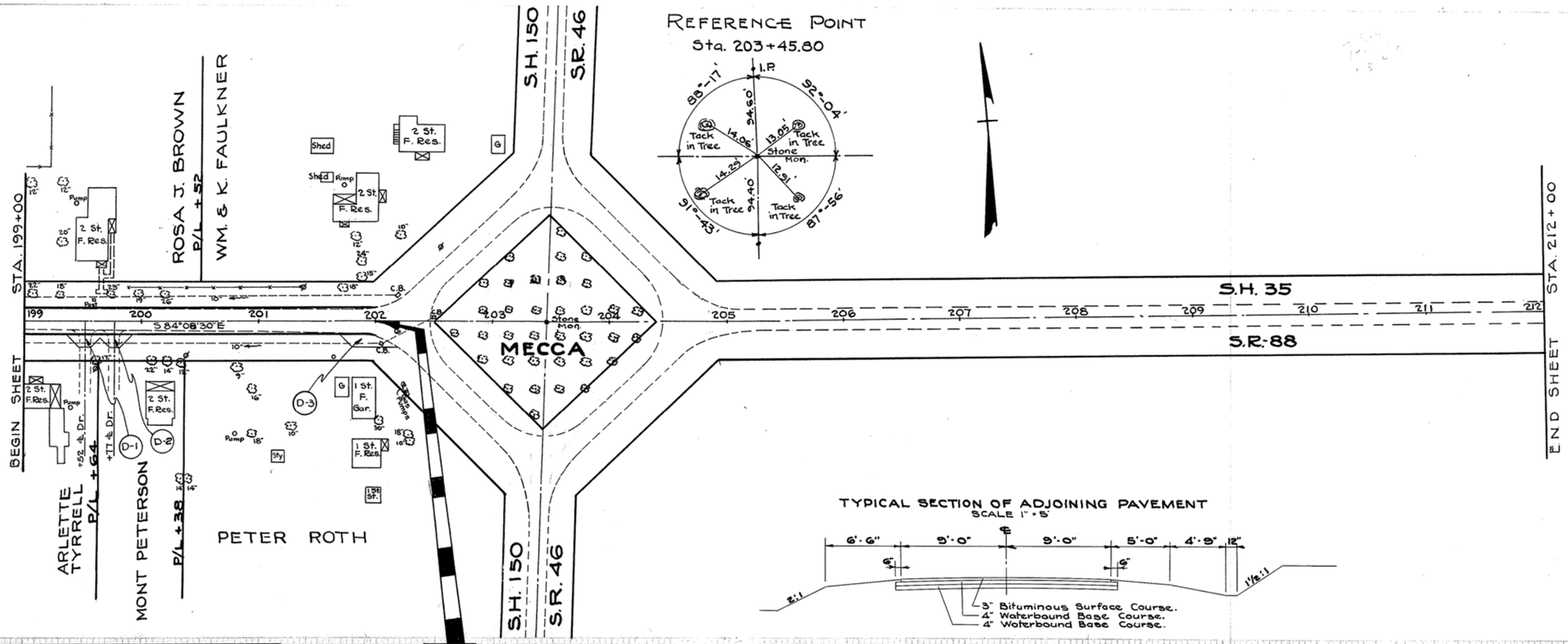
LINE SHEET, STA. 186+00 TO STA. 199+00

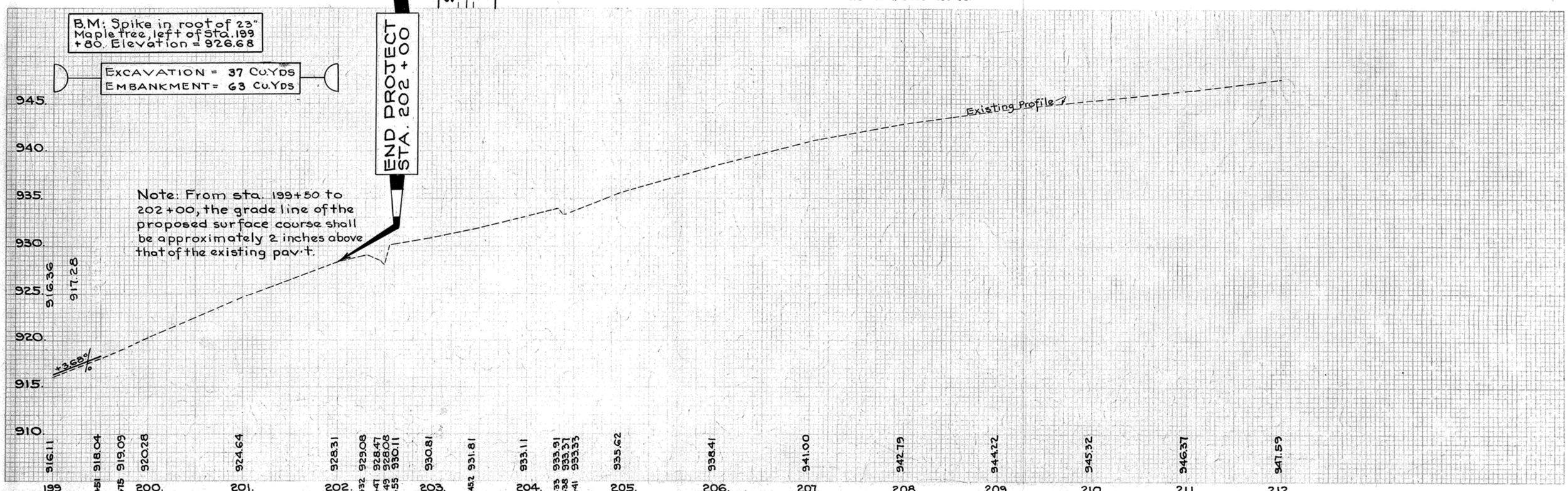
FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1943

12.
30

TRUMBULL COUNTY
S.H. 35 SEC. O2 (PT.)

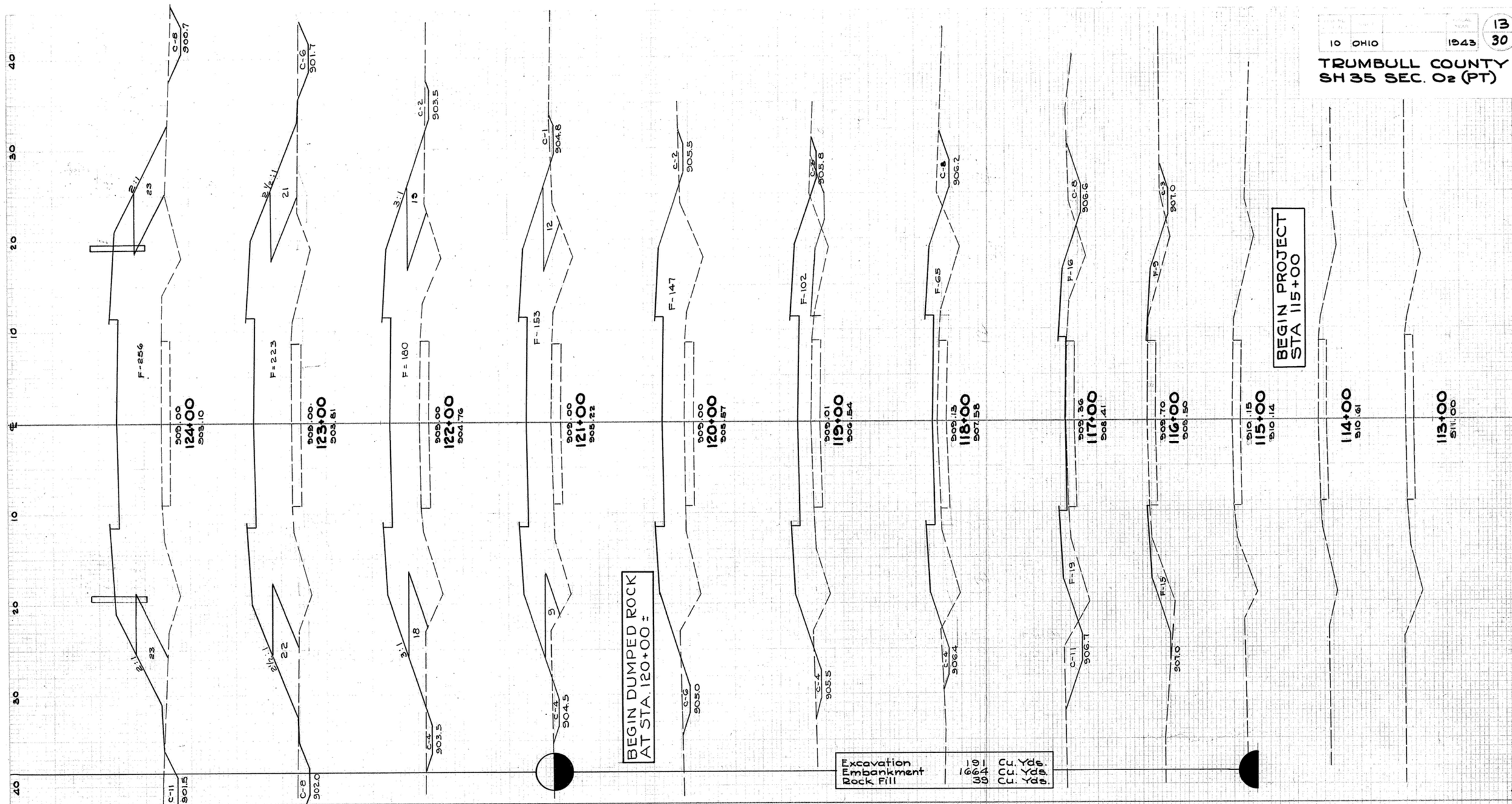
DRIVES & APPROACHES				
MARK	STATION	SIDE	I-17 Cu. Yds.	Detail Sht.
D-1	199+52	RT.	1.9	3
D-2	199+77	RT.	1.9	3
D-3	202+00	RT.	3.0	3
TOTAL			6.8	





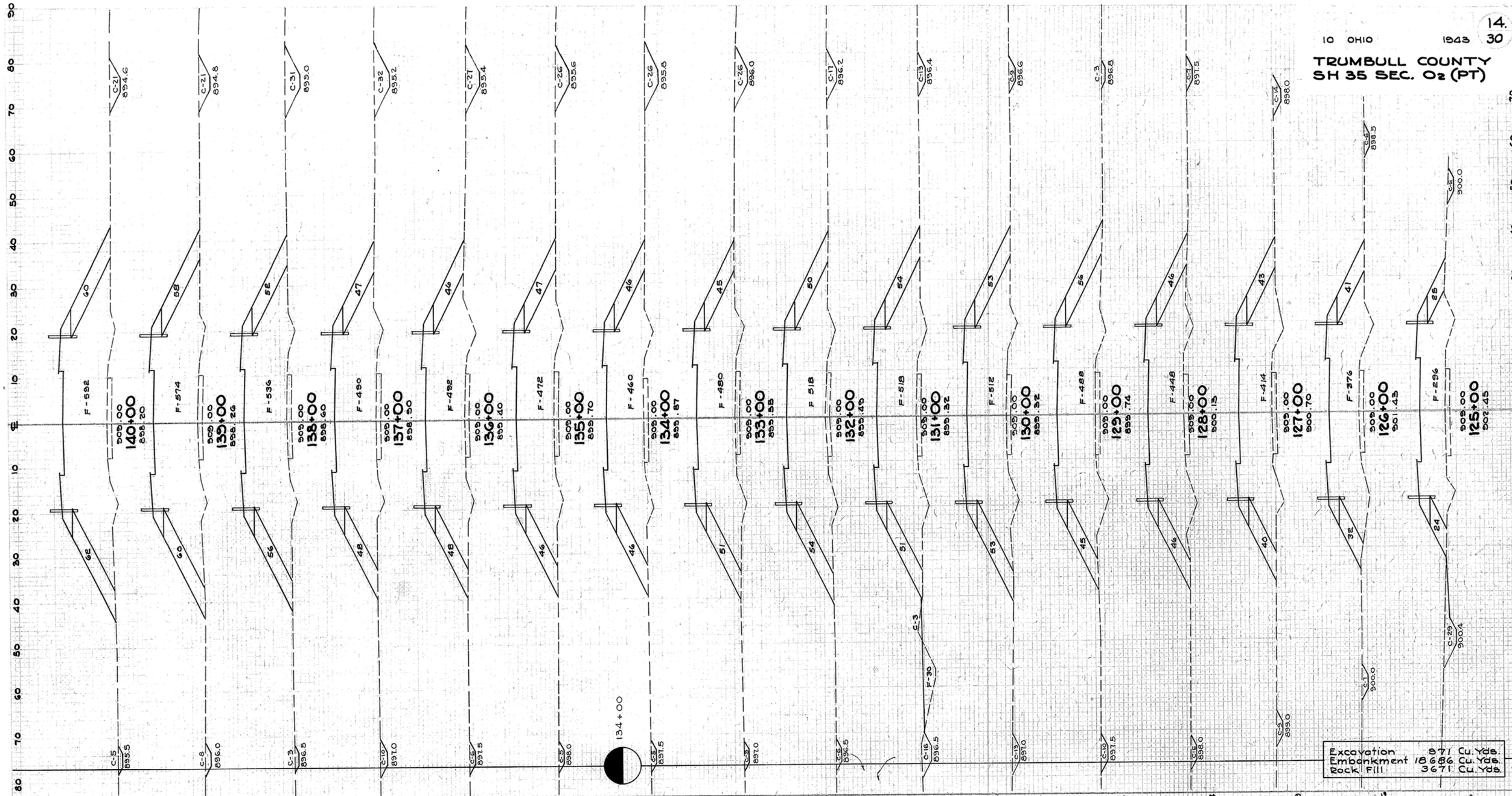
LINE SHEET STA. 199+00 TO STA 212+00

TRUMBULL COUNTY
SH 35 SEC. O2 (PT)



| EARTHWORK | | |

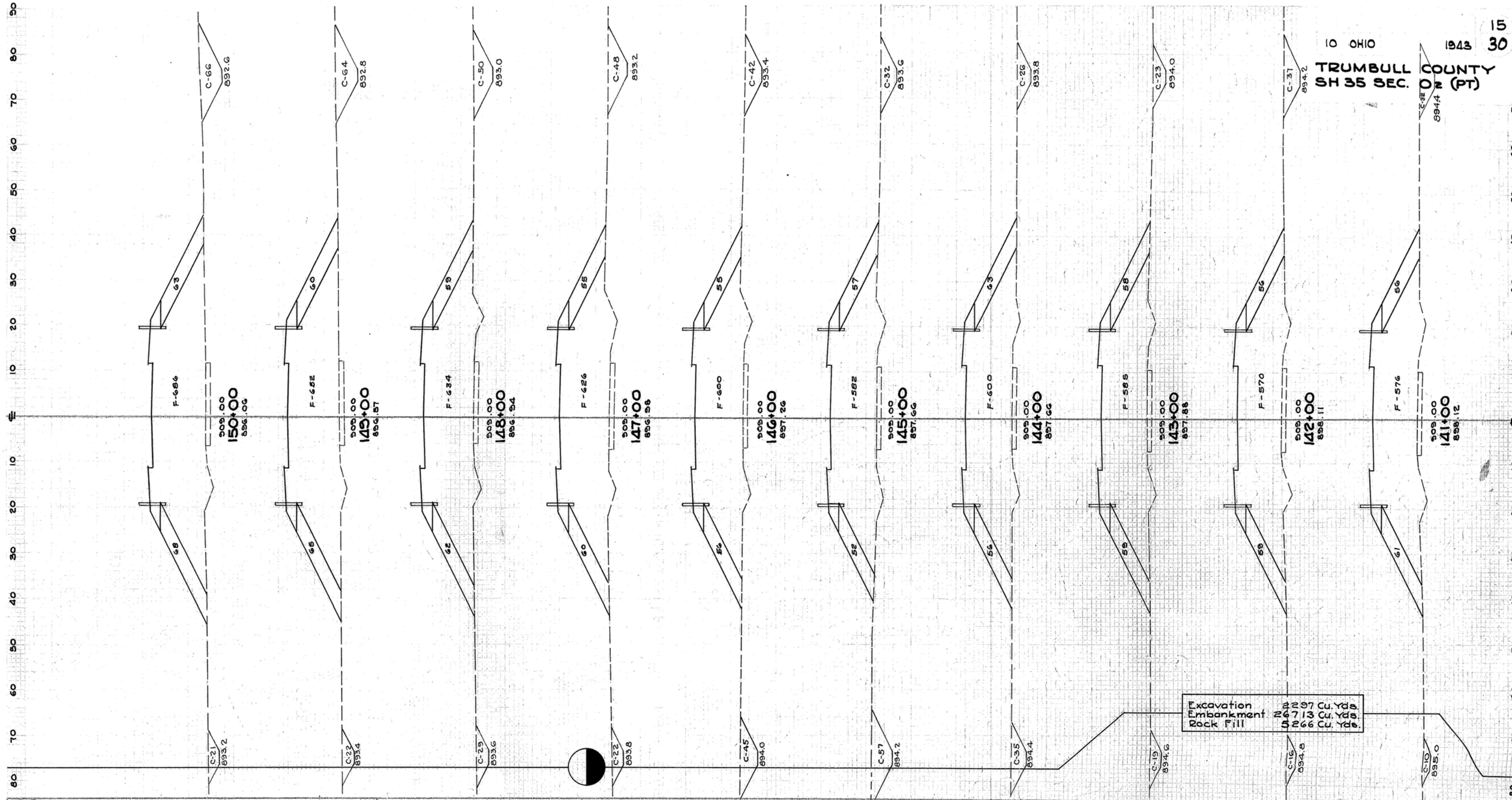
TRUMBULL COUNTY
SH 35 SEC. O2 (PT)



	EARTHWORK				ROCK FILL
	END AREA	CU. YDS.			E.A. C.Y.
	CUT	FILL	EXC.	EMB.	
140+00	26	592			122
			102	2159	444
139+00	29	674			118
			117	2056	413
138+00	34	536			108
	19	10	141	1900	376
137+00	42	490			95
			139	1819	350
136+00	33	432			94
			119	1785	346
135+00	31	472			93
			115	1726	343
134+00	31	460			92
			115	1741	348
133+00	31	480			96
	14	10	100	1848	370
132+00	23	518			104
			102	1974	387
131+00	32	548			105
			100	1963	391
130+00	22	512			106
			65	1852	383
129+00	13	488			101
			48	1733	357
128+00	13	448			92
	15	15	67	1596	324
127+00	23	414			83
			67	1463	289
126+00	13	376			73
			89	1244	226
125+00	35	296			49
			100	1022	176
	12	256			46

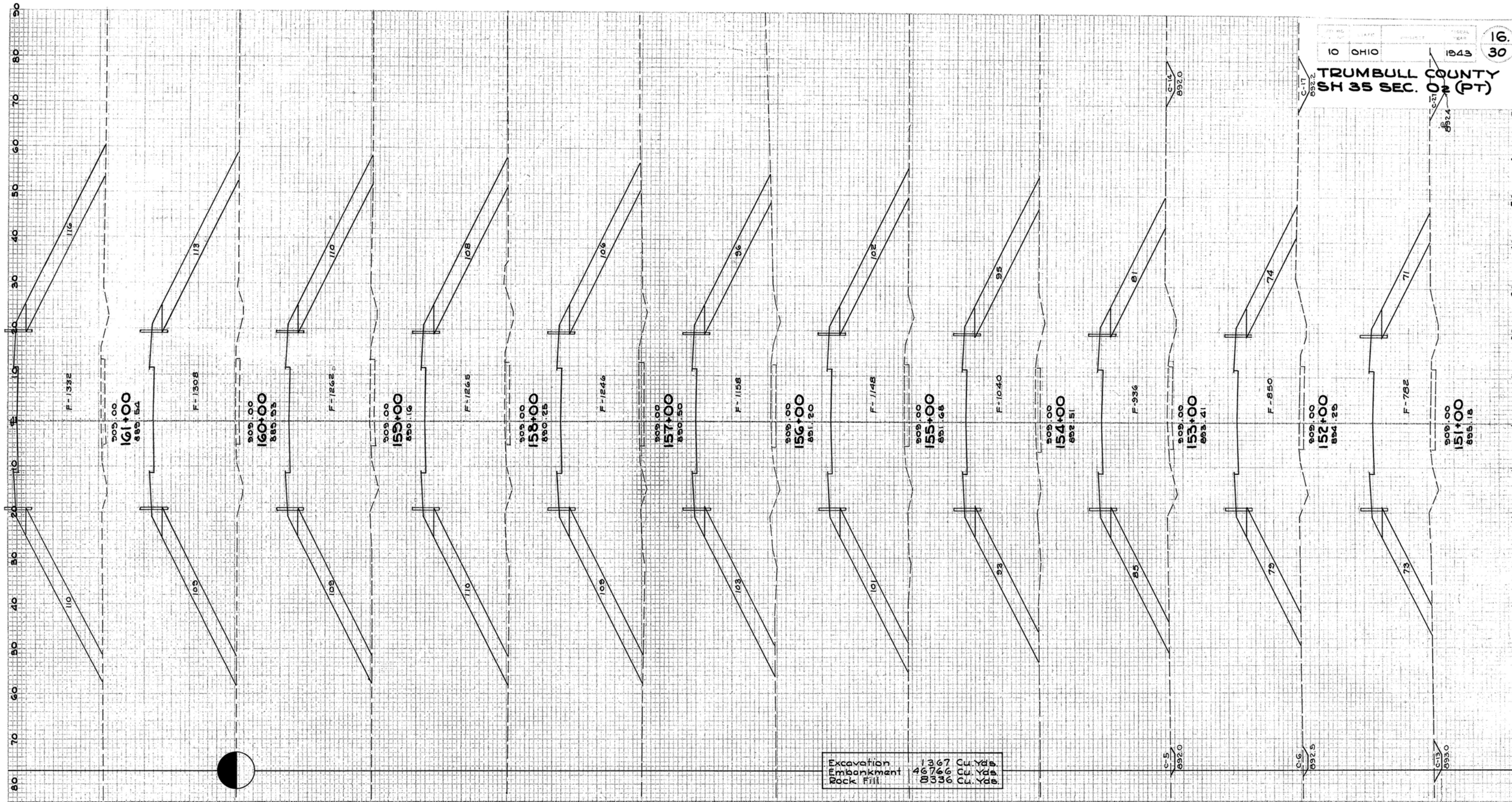
CROSS-SECTIONS STA. 125+00 TO STA. 140+00

TRUMBULL COUNTY
SH 35 SEC. O2 (PT)



	EARTHWORK				ROCK FILL	
	END AREA	CU. YDS			E.A.	C.Y.
	CUT	FILL	EXC.	EMB.		
150+00	27	686			131	
			320	2478		474
149+00	86	652			125	
			306	2382		456
148+00	79	634			121	
			274	2333		437
147+00	70	626			115	
			291	2271		419
146+00	87	600			111	
			326	2189		407
145+00	85	582			105	
			278	2189		422
144+00	61	600			119	
			191	2195		437
143+00	42	585			117	
			176	2139		430
142+00	53	570			115	
			176	2182		430
141+00	42	576			117	
			126	2163		443
	26	592			122	

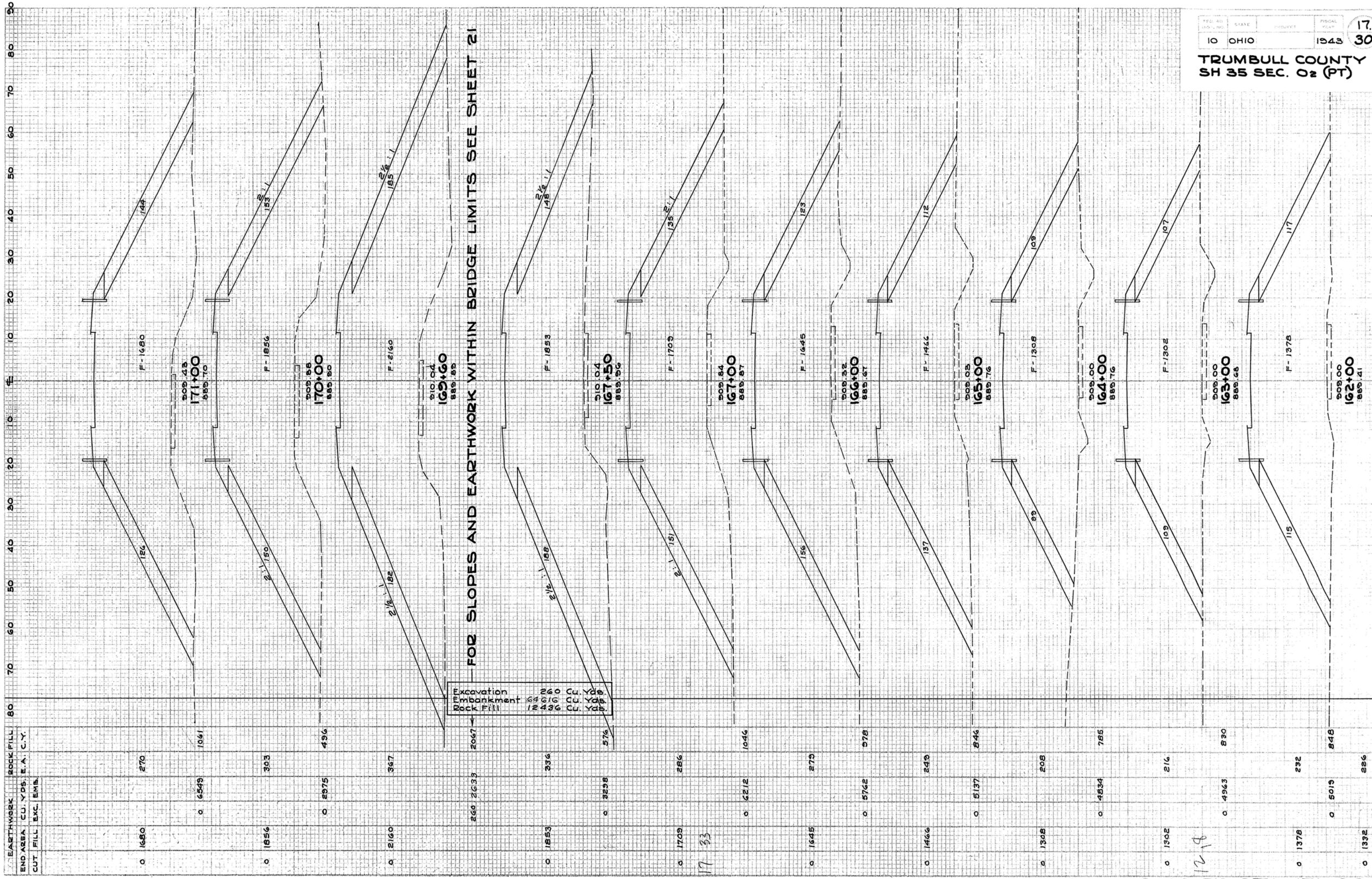
CROSS-SECTIONS STA. 141+00 TO STA. 150+00


10 OHIO 1943
16.
30
TRUMBULL COUNTY
SH 35 SEC. O2 (PT)
Excavation 1367 Cu. Yds.
Embankment 46766 Cu. Yds.
Rock Fill 8336 Cu. Yds.
161+00
160+00
159+00
158+00
157+00
156+00
155+00
154+00
153+00
152+00
151+00
F-1332
F-1308
F-1262
F-1265
F-1246
F-1158
F-1148
F-1040
F-936
F-850
F-782
C-5 892.0
C-6 892.5
C-13 893.0
C-14 892.0
C-17 892.2
C-21 892.4

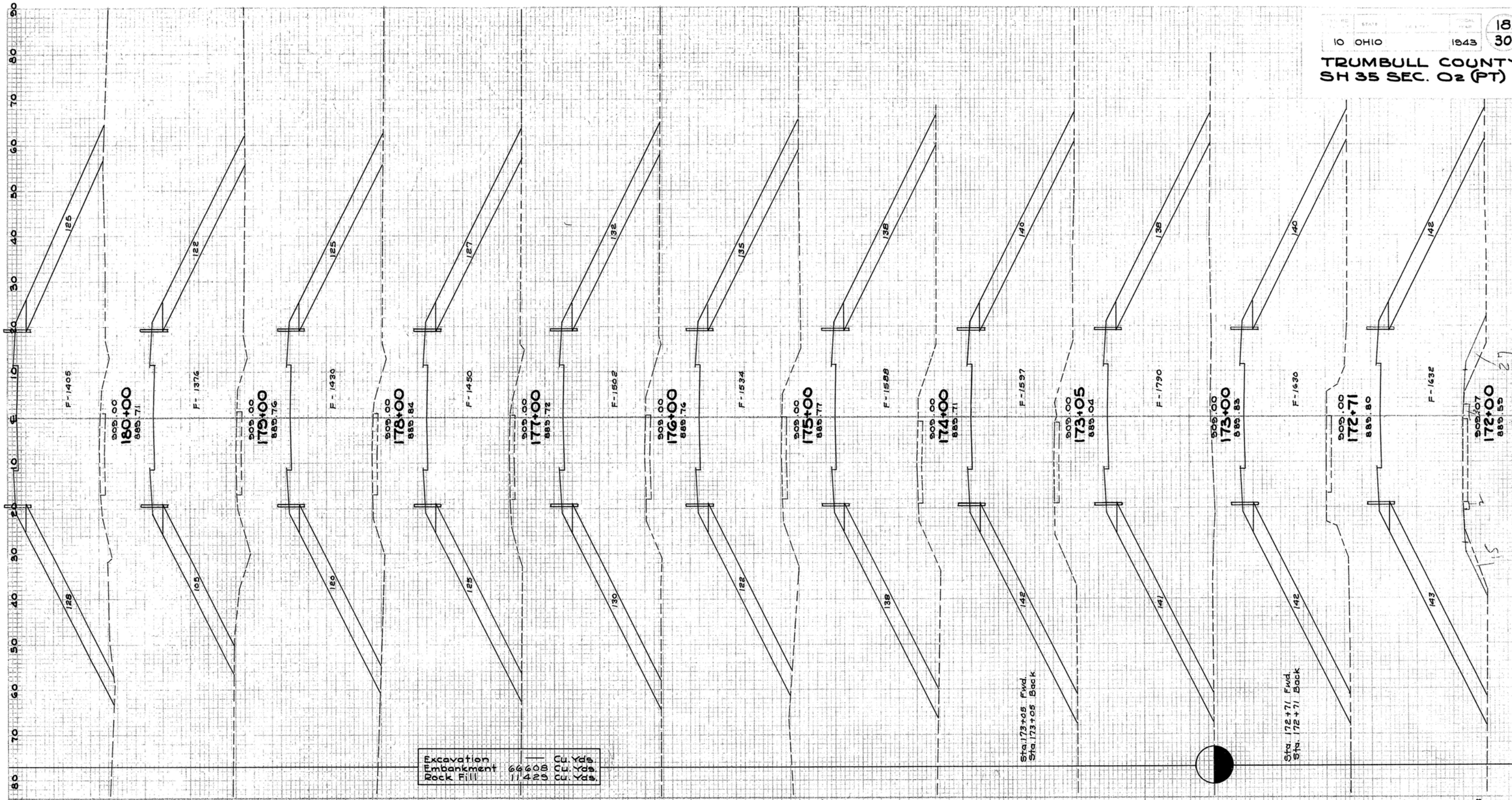
| | | |

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR	
10	OHIO		1943	17. 30

TRUMBULL COUNTY
SH 35 SEC. 02 (PT)



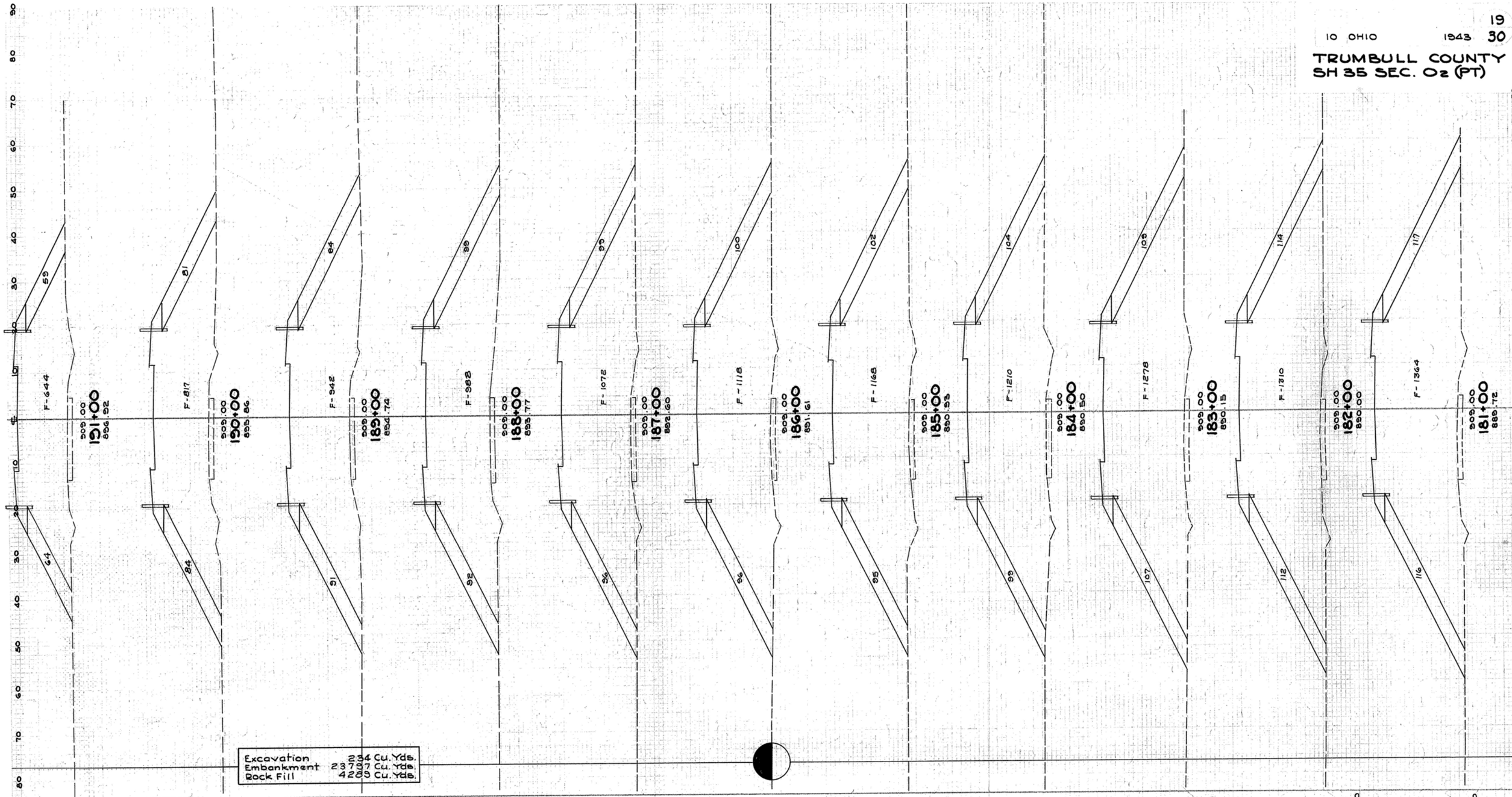
| | | |



EARTHWORK END AREA	CUT	FILL	EXC.	EMB.	ROCK FILL E.A. C.Y.
					253
	0	1405	0	5150	889
					227
	0	1376	0	5197	874
					245
	0	1430	0	5334	920
					252
	0	1450	0	5467	932
					262
	0	1502	0	5623	961
					257
	0	1534	0	5782	987
					276
	0	1588	0	5904	981
					282
	0	1597			275
	0	1790			
					51
	0	1790	0	322	
					279
	0	1790	0	1922	300
					279
	0	1790			282
	0	1630			
					745
	0	1630	0	4289	
					285
	0	1632	0	6134	1028

CROSS-SECTIONS STA. 172+00 TO STA. 180+00

TRUMBULL COUNTY
SH 35 SEC. 02 (PT)



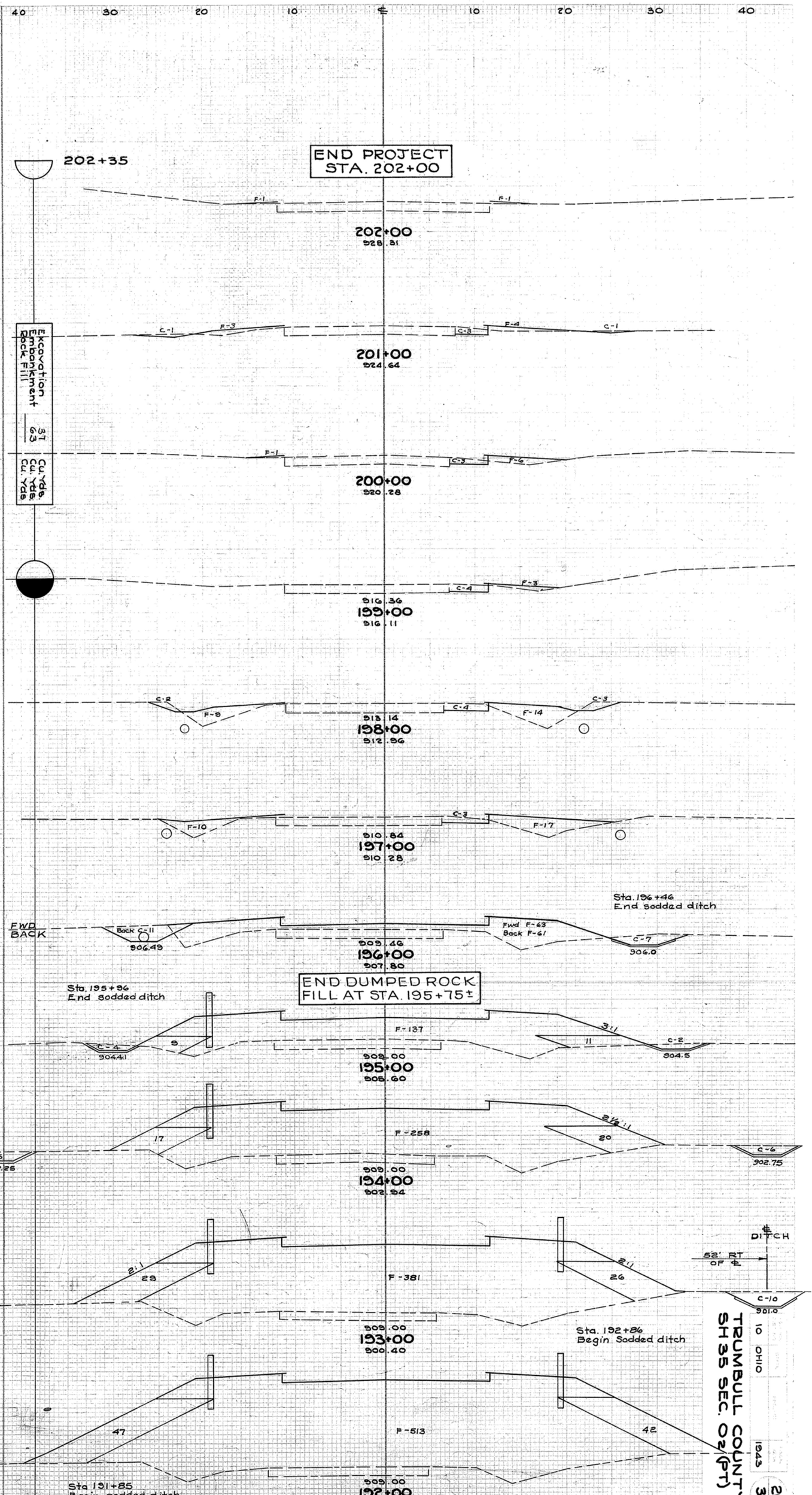
EARTHWORK			ROCK FILL	
END AREA	CU. YDS.		E.A.	C.Y.
CUT	FILL	EXC.	EMB.	
0	644			
		0	2706	533
0	817			
		0	3258	648
0	942			
		0	3574	696
0	988			
		0	3815	715
0	1072			
		0	4056	724
0	1118			
		0	4234	728
0	1168			
		0	4404	741
0	1210			
		0	4608	776
0	1278			
		0	4793	815
0	1310			
		0	4952	850
0	1364			
		0	5128	900

123	
165	
185	
191	
195	
196	
197	
203	
216	
224	
233	

CROSS-SECTIONS STA. 181+00 TO STA. 191+00

EARTHWORK				ROCK FILL	
END AREA		CU. YDS.		E.A.	C.Y.
CUT	FILL	EXC.	EMB		
0	0				
		0	1		
0	2				
		9	17		
5	7				
		15	26		
3	7				
		13	15		
4	3				
		24	48		
9	23				
		22	93		
3	27				
		19	167		
7	63				
18	61			0	
		44	367		37
6	137			20	
		31	731		106
11	258			37	
		50	1183		170
16	381			55	
		37	1656		267
4	513			89	
		7	2143		393

Excavation
Embankment
Rock Fill
37
63
Cu. Yds.
Cu. Yds.
Cu. Yds.



CROSS-SECTIONS STA. 192+00 TO STA. 202+00

TRUMBULL COUNTY
SH 35 SEC. 02(PT)

10 OHIO 1943

20
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32-8

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1943

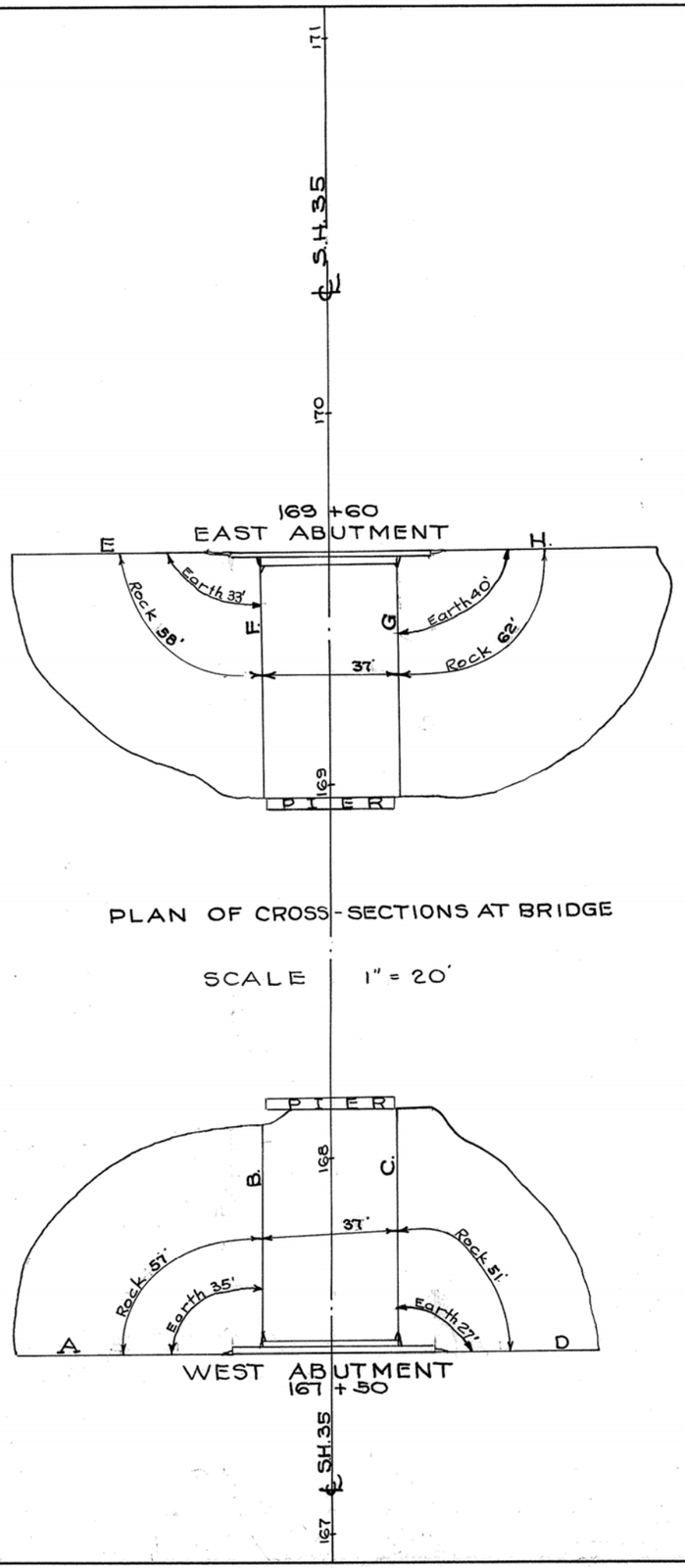
21
30

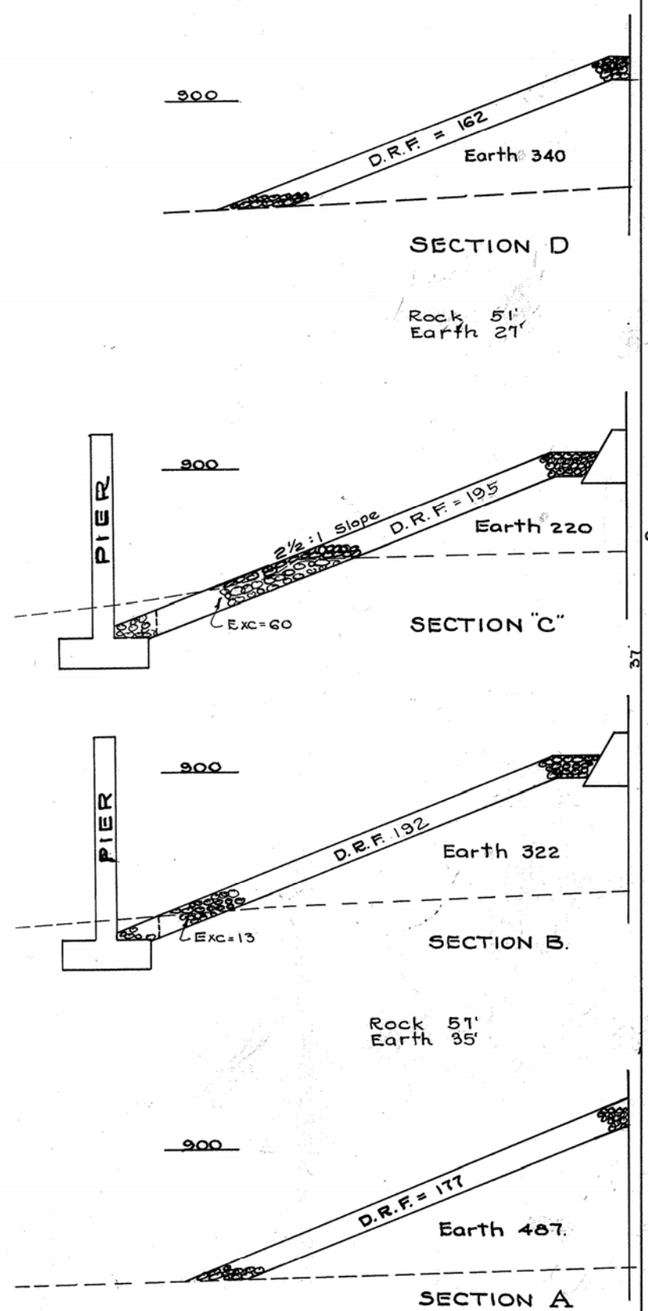
TRUMBULL COUNTY
S.H. 35 SEC. O_2(PT)

TOTAL QUANTITIES

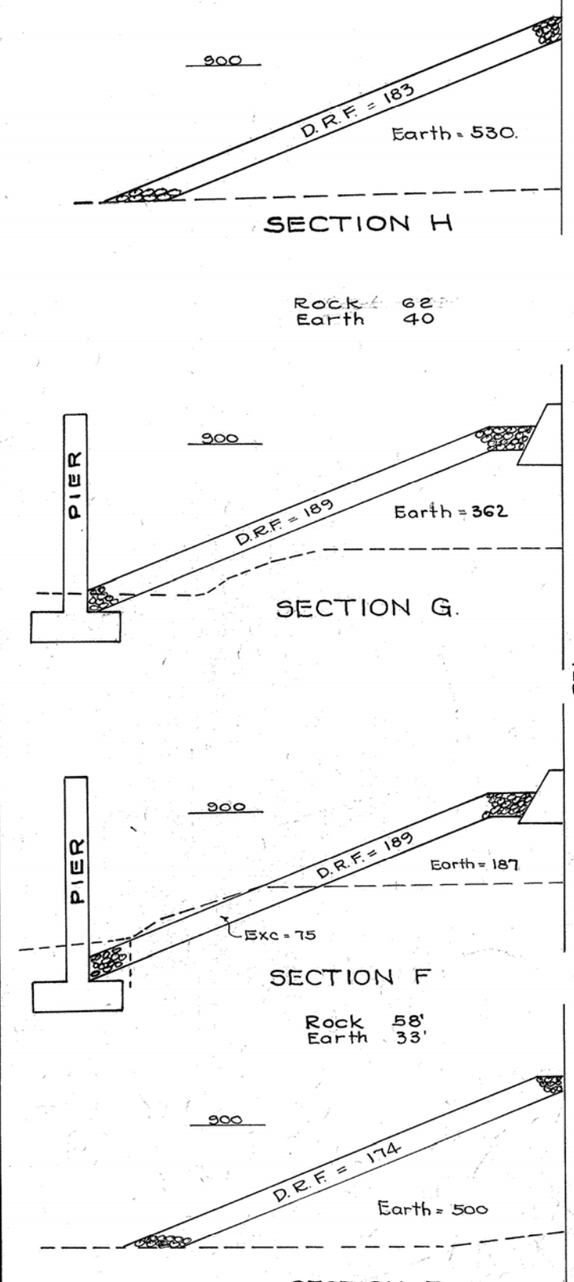
EXCAVATION	260. C.Y.
DUMPED ROCK FILL	2067. C.Y.
EARTH EMBANKMENT	2633 C.Y.

Note: These quantities carried forward to Sheet No. 17.





	END AREA			CU. YARDS		
	Exc.	Rock Emb	Earth Emb	Exc.	Rock Emb	Earth Emb
D	0	162	340			
				57	337	281
C	60	195	220			
				57	265	371
B	13	192	322			
				14	389	524
A	0	177	487			

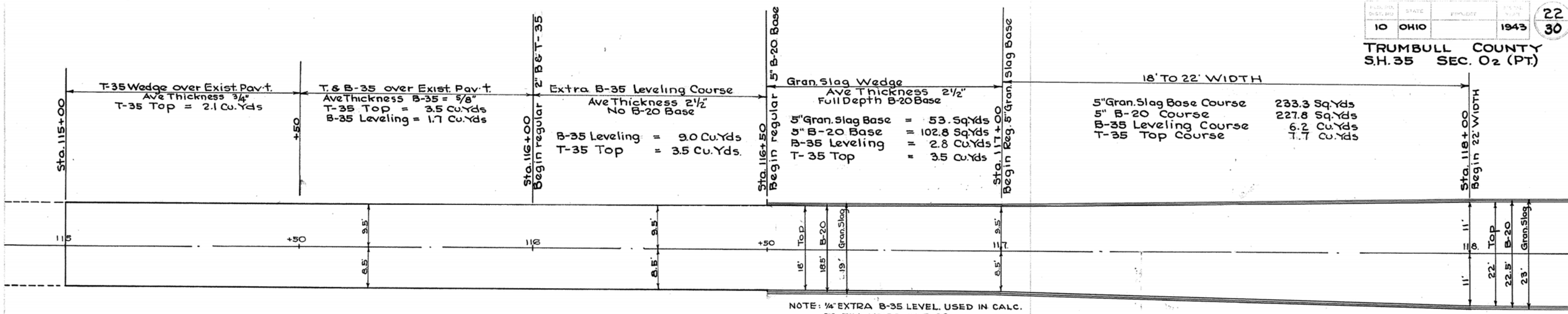


	END AREA			CU. YARDS		
	Exc.	Rock Emb	Earth Emb	Exc.	Rock Emb	Earth Emb
H	0	183	530			
				0	427	6
G	0	189	362			
				51	259	3
F	75	189	187			
				81	390	4
E	0	174	500			

ABUTMENT FILL SECTIONS 167+50 & 169 + 60

DIST. NO.	STATE	PROJECT	YEAR	SHEET NO.	TOTAL SHEETS
10	OHIO		1943	22	30

TRUMBULL COUNTY
S.H. 35 SEC. 02 (PT.)

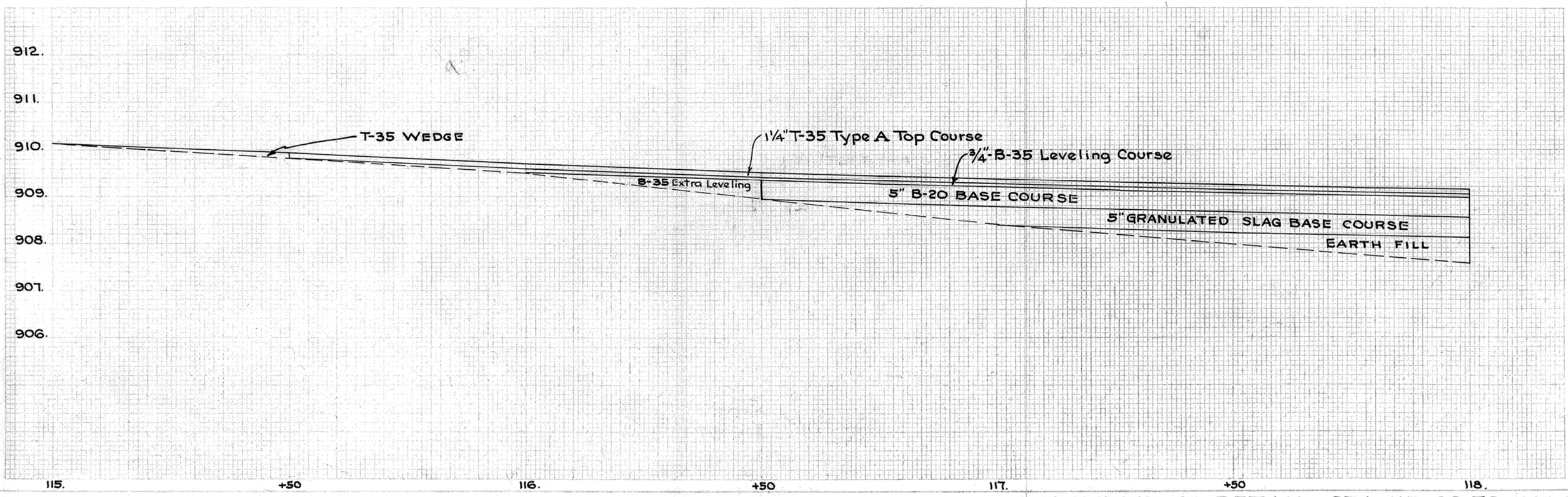


NOTE: 1/4" EXTRA B-35 LEVEL. USED IN CALC. TO FILL VOIDS IN B-20

ESTIMATED PAV'T. QUANTITIES
STA. 115+00 TO 118+00

5" Granulated Slag Base Course = 286.3 S.Y.
5" B-20 Base = 330.6 S.Y.
B-35 Leveling Course = 19.7 C.Y.
T-35 Top Course (1 1/4") = 20.3 C.Y.

PAVEMENT DETAIL STA. 115+00 TO STA. 118+00



PAVEMENT DETAIL STA. 115+00 TO 118+0

HIGHWAY PLAN-PROFILE PLATE 5
THE H. CRAIG CO. COLUMBUS, OHIO

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR	23 / 30
10	OHIO		194	

TRUMBULL COUNTY
S.H. 35 SEC. O_2 (PT)

Sta. 196+50 End Full Depth Pav't. Begin Gran Slag Wedge

Gran. Slag Wedge Ave Thickness 2½"

5" Gran. Slag Base = 64. SQ.YDS.
B-20 Base = 125. SQ.YDS.
T-35 Top = 4.2 CU.YDS
✧B-35 Leveling = 3.4 CU.YDS

✧1" thick used in calc. to fill voids in B-20

Sta. 197+00 End Full Width B-20 Begin B-20 Widening Begin Extra Leveling

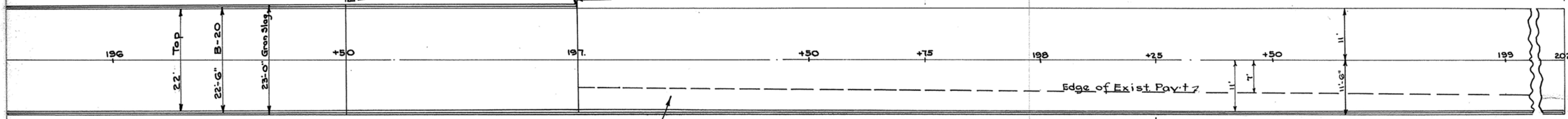
Extra B-35 Leveling = 10.5 CU.YDS
Ave Thickness 2½"

⊕ B-35 Leveling
197+00 To Sta. 202+00

¾" Over old pav't.	20.8 CU.YDS
1" Over B-20 Widening.	6.2 CU.YDS
Extra 197+00 to 197+75	10.5 CU.YDS
Extra 198+25 to 199+50	3.5 CU.YDS
Extra 199+50 to 202+00 @ 250 CU.YDS per mile	12.0 CU.YDS
Total	= 53.0 CU.YDS

(197+00 to 202+00) T-35 Top = 46.7⊕ CU.YDS ~ B-35 = 53.⊕ CU.YDS

⊕ This includes 4.3 C.Y. for feathering from 202+00 to 202+35

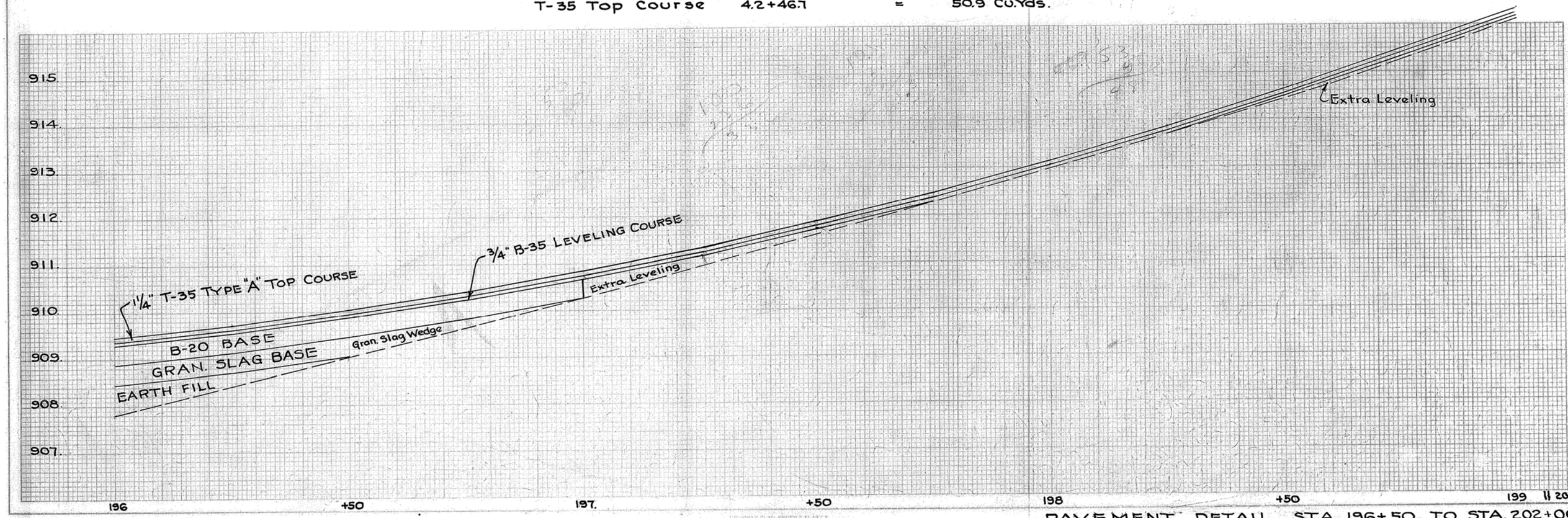


RIGHT SIDE ONLY
B-20 Widening from Sta. 197+00 To 202+00 Ave Width (B-20: 4'-3") (Gran.- 4'-6")
5" B-20 BASE = 236. SQ.YDS
5" GRAN. SLAG BASE = 250. SQ.YDS

Extra Leveling 198+25 to 199+50
Ave Thickness = ½" = 3.5 C.Y.⊕

PAV'T. DETAIL & QUANTITIES - STA. 196+50 TO 202+00

5" Granulated Slag Base.	64.0 + 250	=	314. Sq.Yds.
5" B-20 Base	125 + 236	=	361. Sq.Yds.
B-35 Leveling Course	3.4 + 53.0	=	56.4 Cu.Yds.
T-35 Top Course	4.2 + 46.7	=	50.9 Cu.Yds.



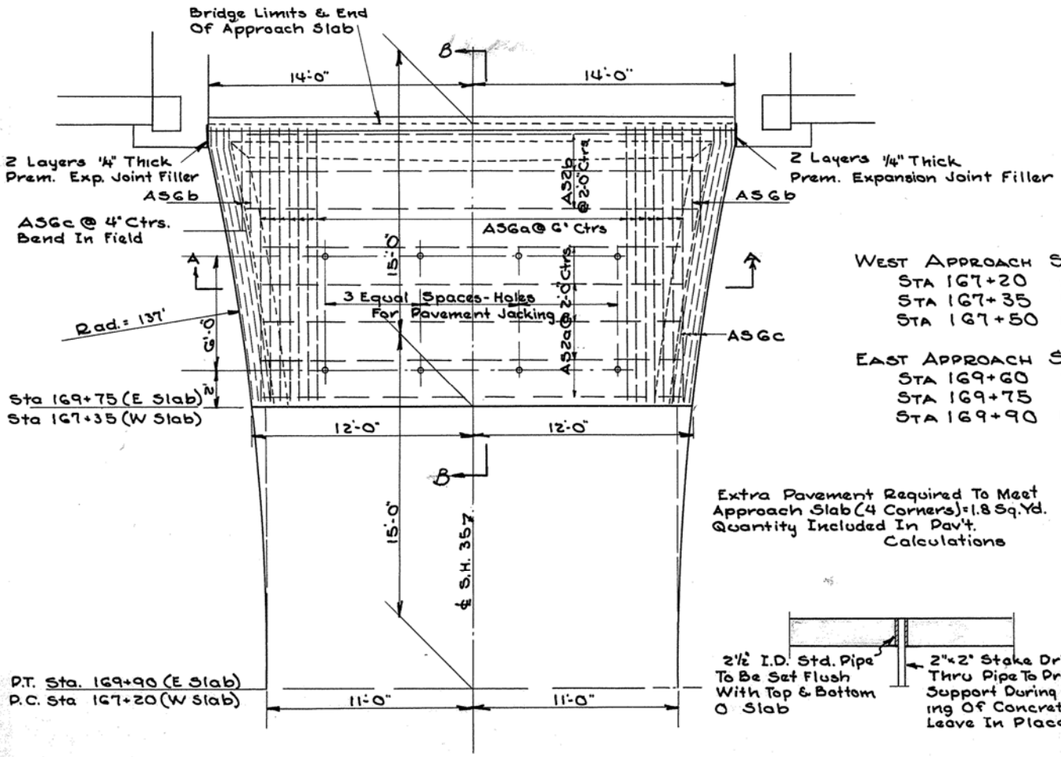
PAVEMENT DETAIL, STA. 196+50 TO STA. 202+00

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1943

24
30

TRUMBULL COUNTY
S.H. 35 SEC. O_2(PT)

DETAILS OF APPROACH SLABS AND CHANNEL EXCAVATION FOR BRIDGE NO. TR-88-133

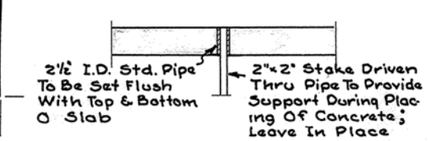


PLAN
SCALE 1/4" = 1'-0"

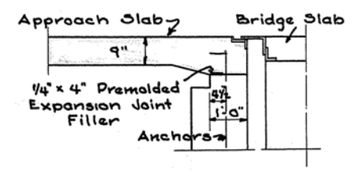
WEST APPROACH SLAB
- STA 167+20 BEGIN FLARED APPROACH PAV'T.
- STA 167+35 BEGIN APPROACH SLAB
- STA 167+50 END APPROACH SLAB & BRIDGE LIMIT

EAST APPROACH SLAB
- STA 169+60 BEGIN APPROACH SLAB & BRIDGE LIMIT
- STA 169+75 END APPROACH SLAB
- STA 169+90 END FLARED APPROACH PAV'T.

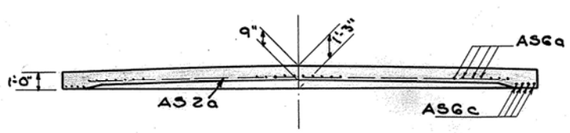
Extra Pavement Required To Meet Approach Slab (4 Corners) = 1.8 Sq. Yd. Quantity Included In Pav't. Calculations



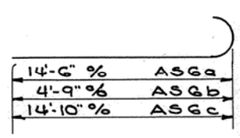
DETAIL OF HOLES FOR PAVEMENT JACKING



JUNCTION OF APPROACH SLAB WITH BRIDGE



SECTION A-A

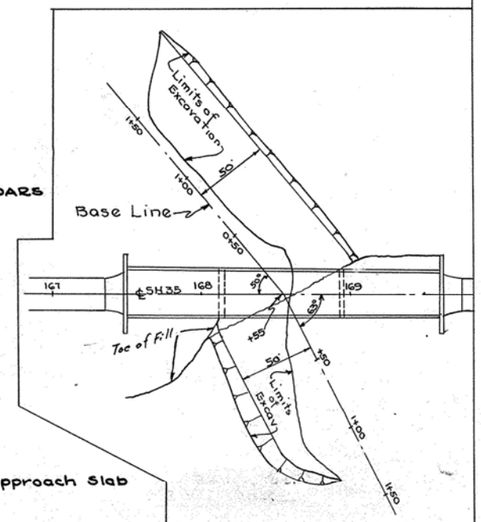


DETAIL OF REINFORCING BARS

SECTION B-B

REINFORCING STEEL						
BAR	SIZE	NO.	LENGTH	SHAPE	SPAC.	WT.
AS2a	1/2" ϕ	10	22'-3"	Str.	2'-0"	147
AS2b	1/2" ϕ	6	24'-3"	Str.	2'-0"	97
AS6a	7/8" ϕ	86	15'-3"	Bent	6"	2681
AS6b	7/8" ϕ	8	5'-6"	Bent	6"	90
AS6c	7/8" ϕ	16	15'-2"	Bent	4"	515
TOTAL						3632

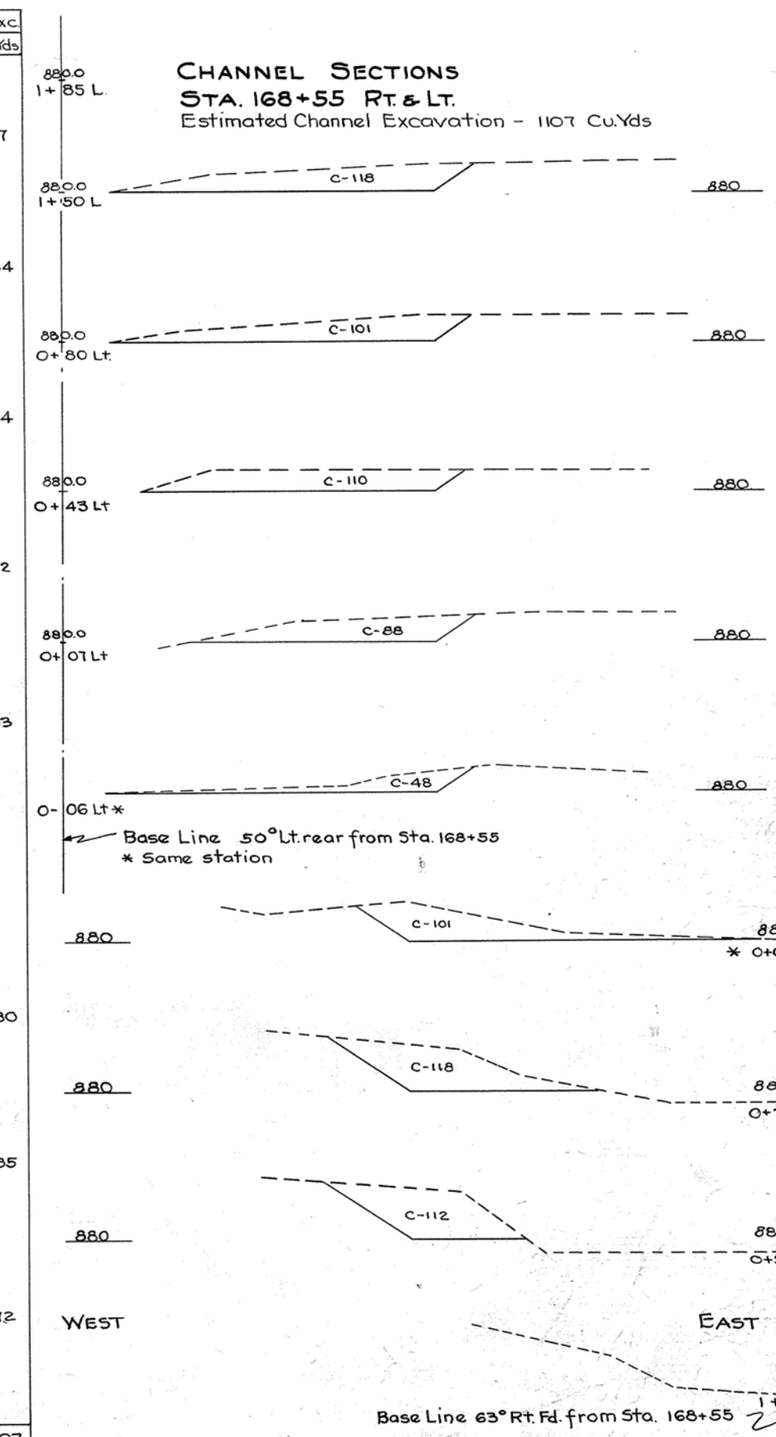
ESTIMATED QUANTITIES —
Item S-5 Reinforced Concrete Approach Slab
86.0 SQ. YDS



PLAN FOR CHANNEL CROSS-SECTIONS

Channel Exc.	
End Area	Cu. Yds
0	
	77
118	
	284
101	
	144
110	
	132
88	
	33
48	
	101
	280
118	
	85
112	
	72
0	
Total	1107

CHANNEL SECTIONS
STA. 168+55 RT. & LT.
Estimated Channel Excavation - 1107 Cu. Yds

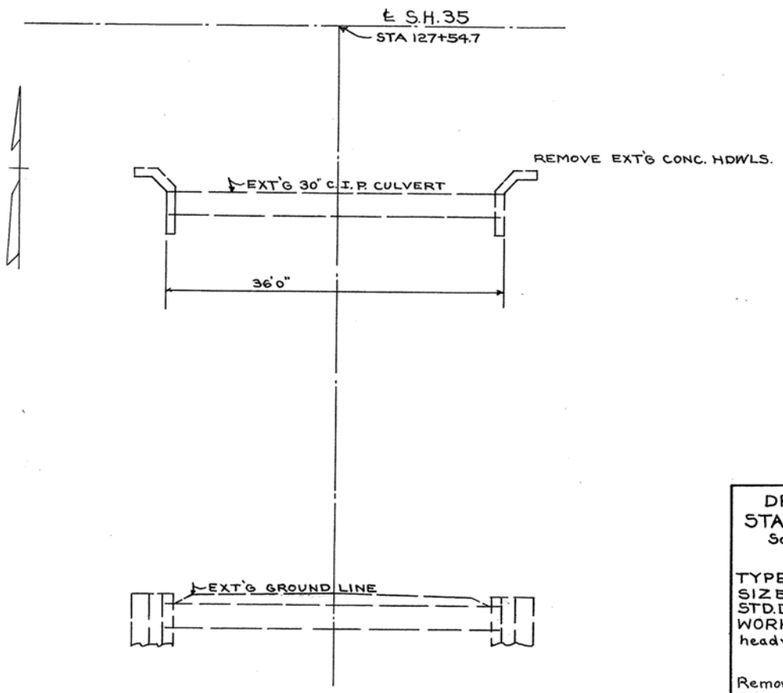


APPROACH SLABS & CHANNEL EXCAVATION.

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1943

25
30

TRUMBULL COUNTY
S.H. 35 SEC. O_2 (PT)

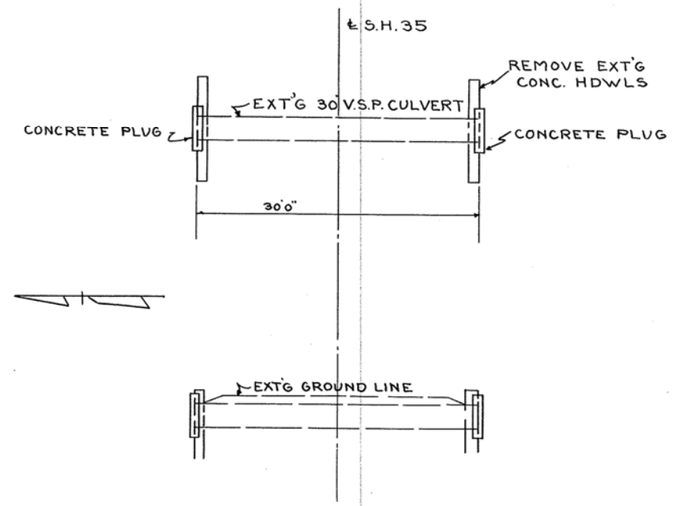


DRAINAGE STRUCTURE C-1
STA 127+54.7 RT CULVERT No. TR-88-126
SCALE 1/8" = 1 Ft.

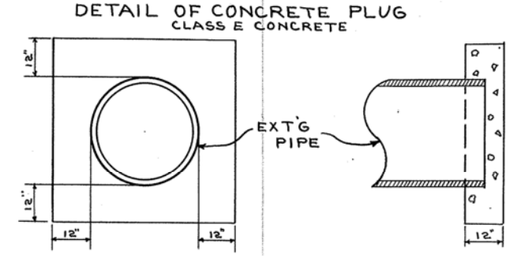
CULVERT DATA
TYPE: C.I.P. Culvert
SIZE: 30" x 36'
STD. DRWGS:
WORK REQD: Remove & dispose of existing headwalls. Remove & store existing 30" C.I.P.

ESTIMATED QUANTITIES
Removal of portion of existing structure 5.0 Cu. Yds.
Remove and store 30" C.I.P. 36 Lin. Ft.

Drawn By: M.B.R. Checked By: Traced By: D.L.D.



DETAIL OF CONCRETE PLUG
CLASS E CONCRETE

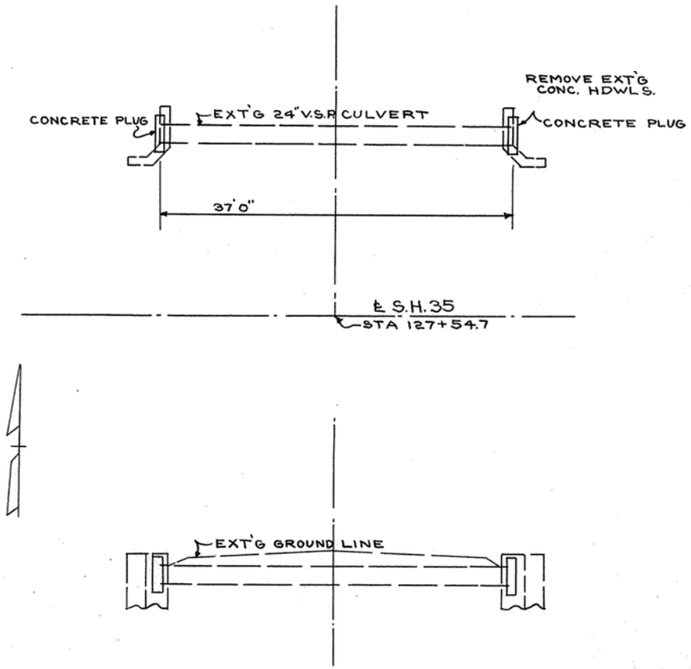


DRAINAGE STRUCTURE C-3
STA. 130+73 CULVERT No. TR-88-126 C
SCALE 1/8" = 1 Ft

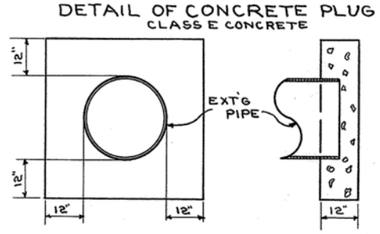
CULVERT DATA
TYPE: Encased V.S.P. Culvert
SIZE: 30" x 30'
STD. DRWGS:
WORK REQD: Remove & dispose of existing conc. headwalls. Plug Rt & Lt ends of existing pipe with concrete plugs as shown.

ESTIMATED QUANTITIES
Removal of portion of existing structure 4.0 Cu. Yd.
Concrete for structures 1.5 Cu. Yd.

Drawn By: M.B.R. Checked By: Traced By: D.L.D.



DETAIL OF CONCRETE PLUG
CLASS E CONCRETE

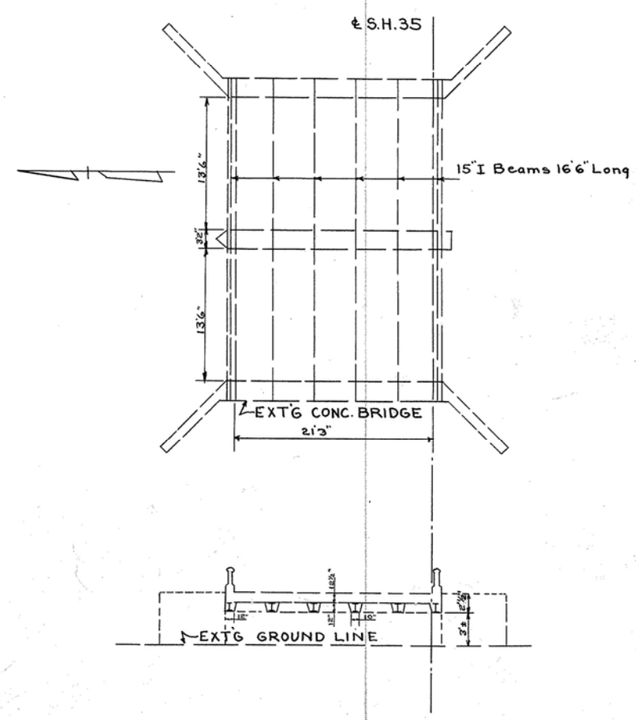


DRAINAGE STRUCTURE C-2
STA 127+54.7 Lt. CULVERT No. TR-88-126A
SCALE 1/8" = 1 Ft.

CULVERT DATA
TYPE: ENC. V.S.P. Culvert
SIZE: 24" x 37'
STD. DRWGS:
WORK REQD: Remove & dispose of existing headwalls. Plug E. & W. ends of existing pipe with concrete plugs as shown.

ESTIMATED QUANTITIES
Removal of portion of existing structure 4.0 Cu. Yds.
Concrete for structures 1.1 Cu. Yds.

Drawn By: M.B.R. Checked By: Traced By: D.L.D.



NOTE: Superstructure shall be removed and disposed of (except Steel I beams). Abutments may remain as directed by the engineer.
Care shall be exercised in blasting or demolition to prevent injury to the Steel I beams.
Steel I beams are to be hauled to Cortland Highway Garage.
See Sheet 27 for Payment.

DRAINAGE STRUCTURE C-4
STA. 172+88 CULVERT No. TR-88-134
SCALE 1/8" = 1 Ft.

CULVERT DATA
TYPE: Concrete Slab Bridge
SIZE: Twin 13'6" spans.
STD. DRWGS:
WORK REQD.: See note above

Pay item included under "Structures over 20 Ft. Span". See sheet No. 27.

Drawn By: M.B.R. Checked By: Traced By: D.L.D.

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1943

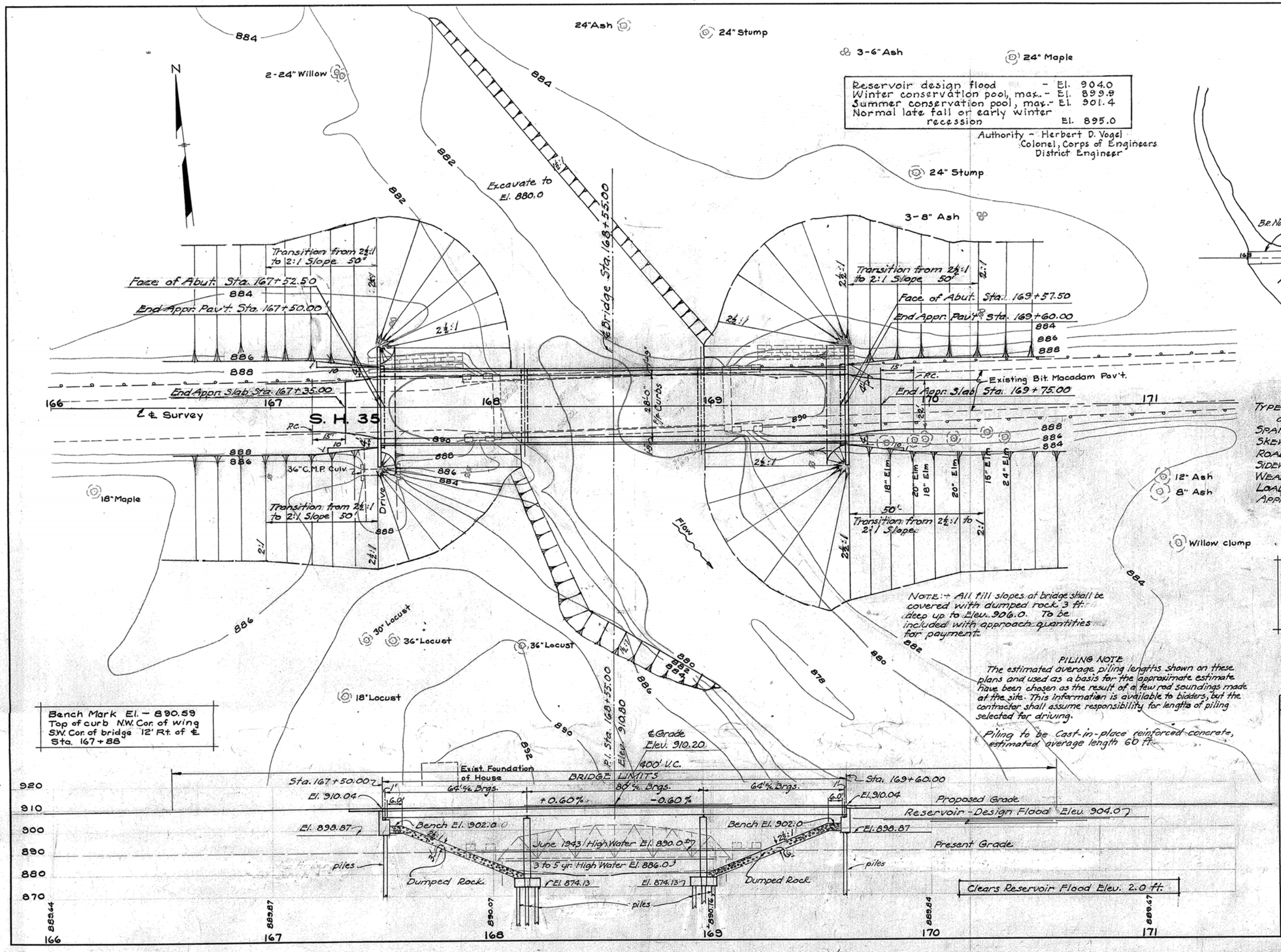
26
30

TRUMBULL COUNTY
S. H. 35 SEC. O2 (PT)

5.3 Miles East of Bristolville Station

Reservoir design flood	- El. 904.0
Winter conservation pool, max.	- El. 899.9
Summer conservation pool, max.	- El. 901.4
Normal late fall or early winter recession	El. 895.0

Authority - Herbert D. Vogel
Colonel, Corps of Engineers
District Engineer



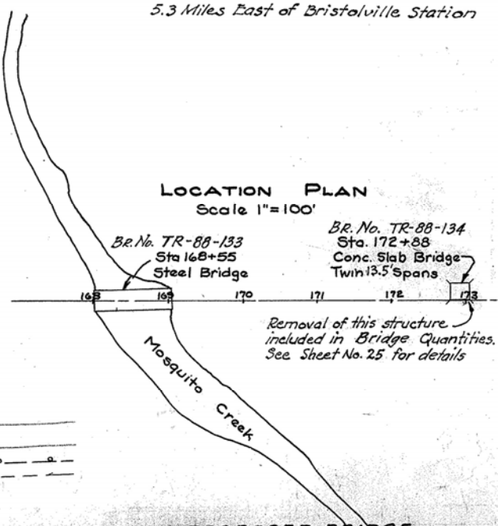
Bench Mark El. - 890.59
Top of curb N.W. Cor. of wing S.W. Cor. of bridge 12' Rt. of ℄ Sta. 167+88

NOTE:- All fill slopes at bridge shall be covered with dumped rock 3 ft. deep up to Elev. 906.0. To be included with approach quantities for payment.

PILING NOTE
The estimated average piling lengths shown on these plans and used as a basis for the approximate estimate have been chosen as the result of a few rod soundings made at the site. This information is available to bidders, but the contractor shall assume responsibility for lengths of piling selected for driving.

Piling to be Cast-in-place reinforced concrete, estimated average length 60 ft.

LOCATION PLAN
Scale 1" = 100'



Removal of this structure included in Bridge Quantities. See Sheet No. 25 for details

PROPOSED BRIDGE
TYPE:- Continuous steel beams with concrete deck and concr. substructure.
SPAN:- 64'-80'-64'
SKEW:- None
ROADWAY:- 28 Ft. between sidewalks.
SIDEWALKS:- 2 @ 1'-9"
WEARING SURFACE:- ¾" Mono. concrete.
LOADING:- S-15-40
APPROACH SLABS:- 15 Ft. long (AS-41-F).

EXISTING STRUCTURE (to be removed)
TYPE: Low Steel Truss (Warren)
SPAN: 105'0" c/c bearings
ROADWAY: 24'
WEARING SURF: Concrete
ABUTMENTS: Concrete
SKEW: 0°

DRAINAGE AREA - 65 Sq. Mi.

SITE PLAN
S.H. 35 SEC. O2 (PT)
S.R. 88
BRIDGE OVER MOSQUITO CREEK

STA. 168+55.00
BRIDGE No. TR-88-133
TRUMBULL COUNTY
STATE OF OHIO
SCALE 1" = 20'

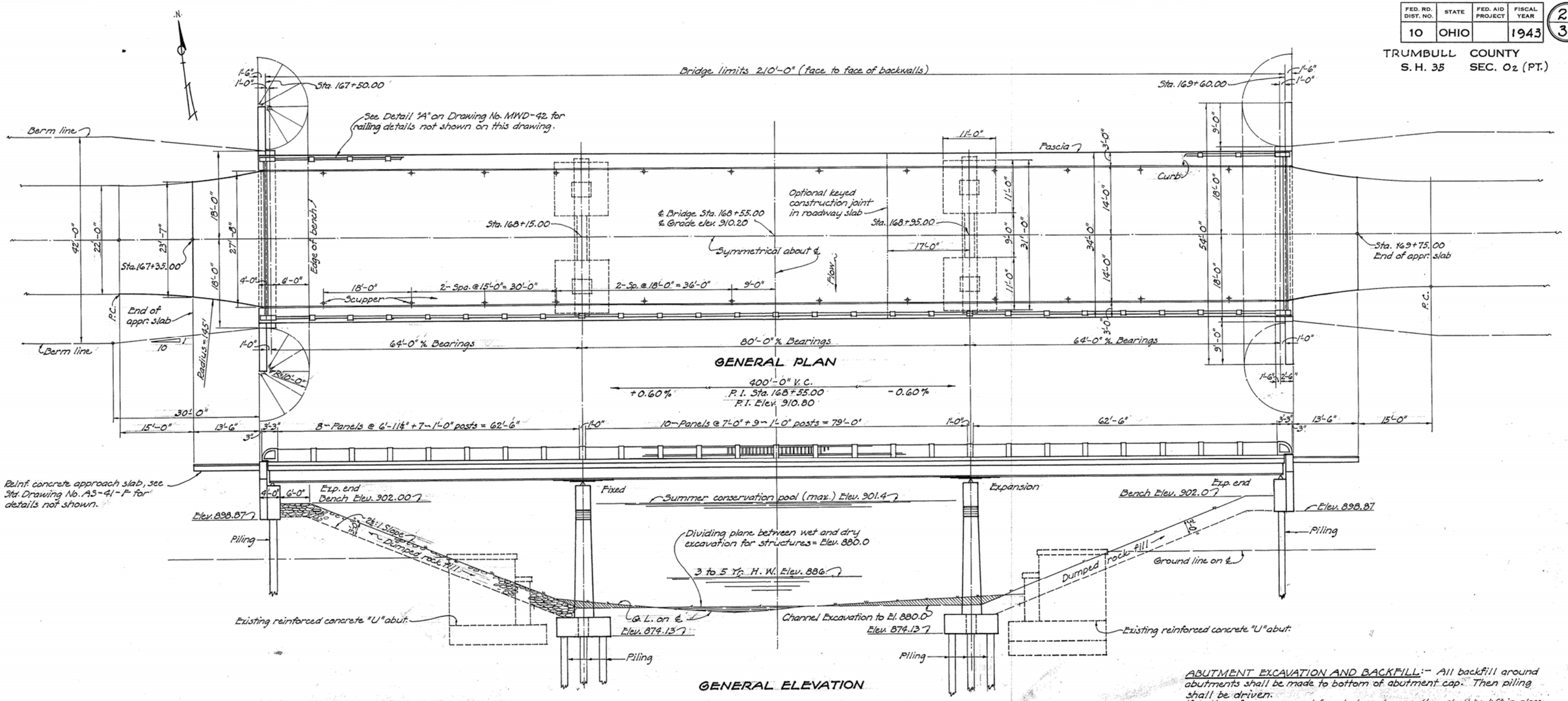
PRESENT TOPO		PROPOSED WORK			
Survey	Drawn	Design	Drawn	Checked	Review
MBR	MBR	E.E.S.	E.E.S.	K.E.D.	J.J.H. W.H.C.

Piling revised 8-2-43
7-28-43

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		1943

27
30

TRUMBULL COUNTY
S. H. 35 SEC. 02 (PT.)



GENERAL ELEVATION

ESTIMATED QUANTITIES

Item	Description	E. Abut.	W. Abut.	E. Pier	W. Pier	Superstr.	General	Total	Chg. Ord. No.	Rev. As-built
E-2	Cofferdams and pumping						Lump	Lump Sum		
E-2	Excavation for structures, wet			94	94			188 Cu. Yd.		
E-2	Excavation for structures, dry			5	5			10 Cu. Yd.		
S-1	Class "C" concrete, superstructure					203		203 Cu. Yd.		
S-1	Class "B" concrete, walls	11	11	36.5	36.5			95 Cu. Yd.		
S-1	Class "E" concrete, footings	42	42	38.5	38.5			161 Cu. Yd.		
S-3	Type "B" waterproofing	18	18				1	37 Sq. Yd.		
S-4	Reinforcing steel	3210	3210	6338	6338	33500	94	52690 Lb.		
S-7	Structural steel					183000		183000 Lb.		
S-8	Field painting of structural steel					183000		183000 Lb.		
S-14	Bridge railing (timber panels with concr. posts)					425		425 Lin. Ft.		
S-16	First test pile						Lump	Lump Sum		
S-119	First test load						Lump	Lump Sum		
S-119	Subsequent test load						Each	Each		
S-119	14" Cast-in-place reinf. concrete piling	420	420	960	960			2760 Lin. Ft.	C.O. 2+77	2837 L.F.
S-24	Removal of existing structures { Br. No. TR-88-133 / Br. No. TR-88-134						Lump	Lump Sum		
S-29	Scuppers, oval cement-asbestos (equiv. to 4" ins. dia.)					24		24 Pieces		
S-24	Hauling existing structural steel to Cortland garage						Lump	Lump Sum		

GENERAL NOTES

STANDARD DRAWINGS:— For details not shown on these drawings, reference shall be made to Standard Drawings No. CSB-15-40 (Sheets 1 and 2) revised 10-1-40; AS-41-F, dated 3-31-41; and MWD-42, dated 4-22-42. Supplemental Specs. E-101 dated 1-1-36 and S-119 rev. 10-20-42.

REMOVAL OF EXISTING BRIDGES:— Existing superstr. Br. No. TR-88-133 carefully dismantled, match-marked, and hauled to Cortland highway garage. Existing reinforced concrete U-type abutments to be removed to slope lines. Concrete deck between abutment wings to be wrecked. Suitable waste masonry may be placed as dumped rock fill at the proposed bridge in accordance with SS-E-101. See Sheet 25 for details regarding removal of Bridge No. TR-88-134.

WELDING:— All welding shall be Class "A".

PAINTING:— Shop paint for structural steel shall be either red lead or or lead chromate primer as per SS M-109.20. Field paint shall be two coats of either white paint as per Sec. M-9.6, tinted to match the color of the concrete, or aluminum paint as per Sec. M-9.12.

PILING:— Abutment piling shall be driven to a minimum bearing capacity of 35 tons, and pier piling to a minimum bearing capacity of 32 tons. Piling shall be governed by Supplemental Specification S-119.

VIBRATION:— All concrete shall be mechanically vibrated.

UNIT STRESSES:— Maximum unit design stresses for this structure are as follows:— Class "C" concrete $f_s = 20{,}000$, $f_c = 1200$, $n = 8$; Class "E" concrete $f_s = 20{,}000$, $f_c = 900$, $n = 10$; structural steel $f_s = 20{,}000$.

ABUTMENT EXCAVATION AND BACKFILL:— All backfill around abutments shall be made to bottom of abutment cap. Then piling shall be driven.
If bottom forms are used for abutment caps, they shall be left in place.

DUMPED ROCK FILL, channel excavation, and approach slabs included in roadway quantities for payment.

CHAMFER all exposed edges ¾" unless otherwise detailed.

~~STEEL SHELLS for these cast-in-place concrete piles are now available in a manufacturer's yard and may be obtained by the contractor without a preference rating, at a guaranteed price that is on file in the Department of Highways.~~

AB 11-12-49 See Project No. 226, 1949 for "steel railing"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GENERAL PLAN AND ELEVATION
NOTES AND ESTIMATED QUANTIT
BRIDGE NO. TR-88-133
OVER MOSQUITO CREEK

TRUMBULL COUNTY S. H.
SECTION 02 (PT.) STA. 168+55.

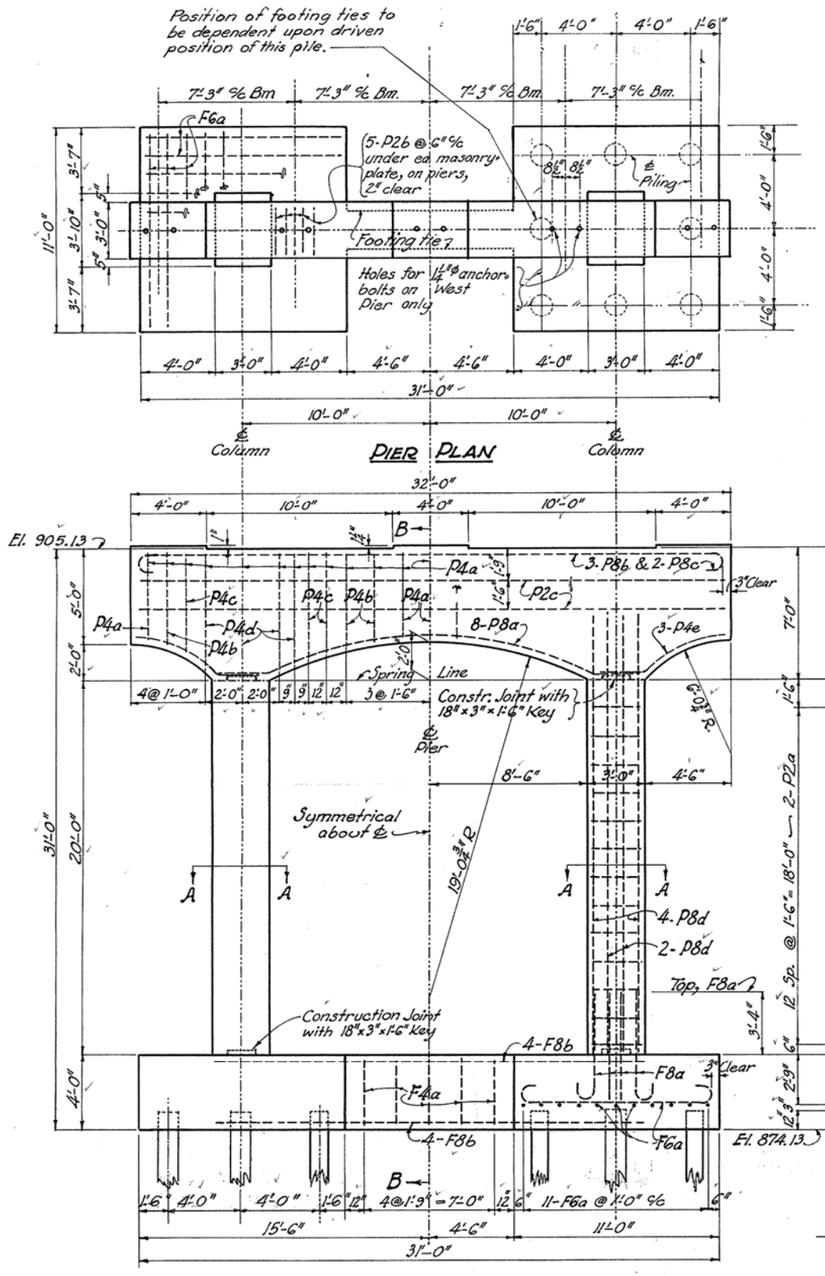
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REV
K.E.D.	K.E.D.	J.S.P.	CJW HMR	W.H.R.	7-28-43	8-2

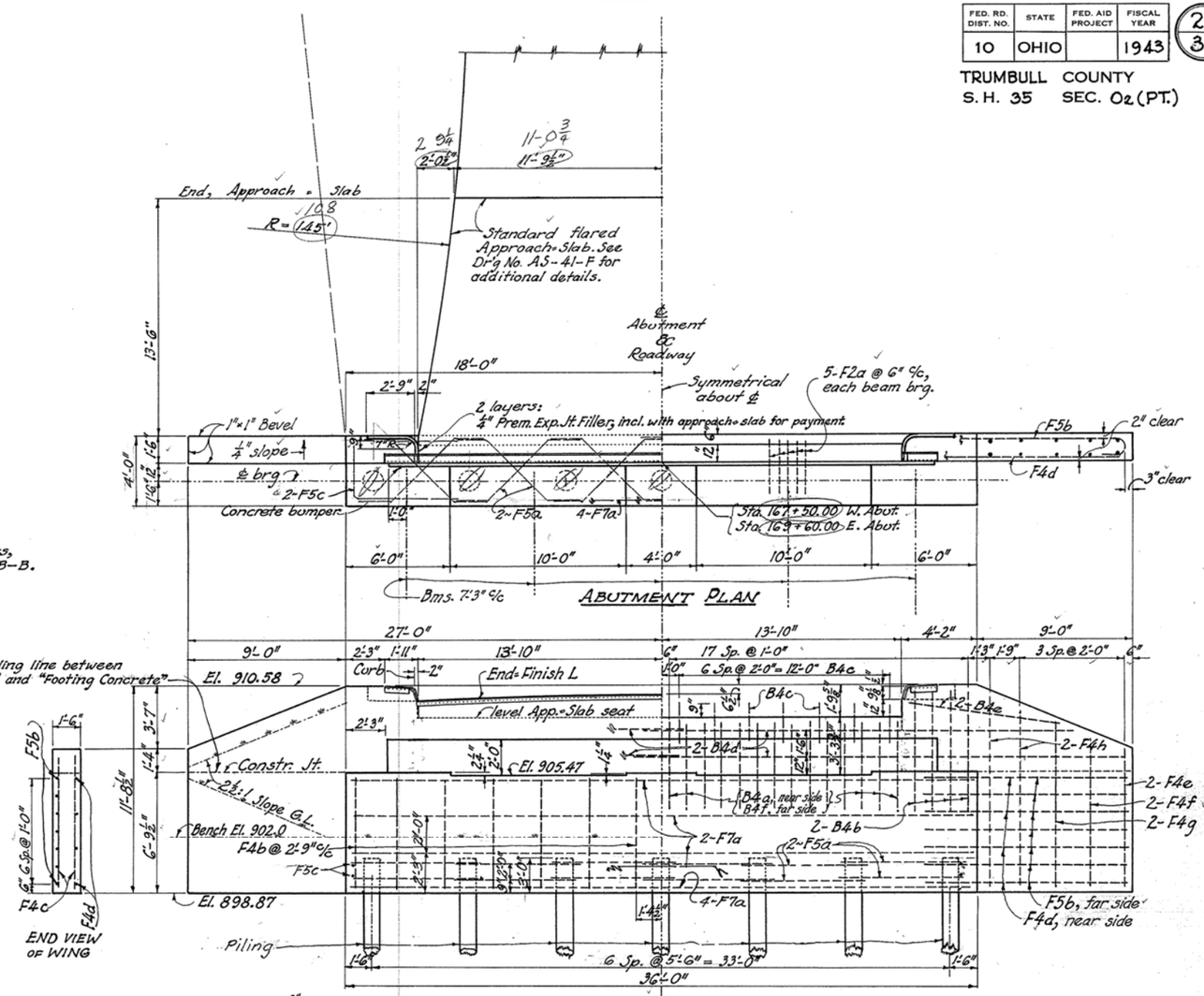
AB Revised As-Built 2-645 F.C.N.

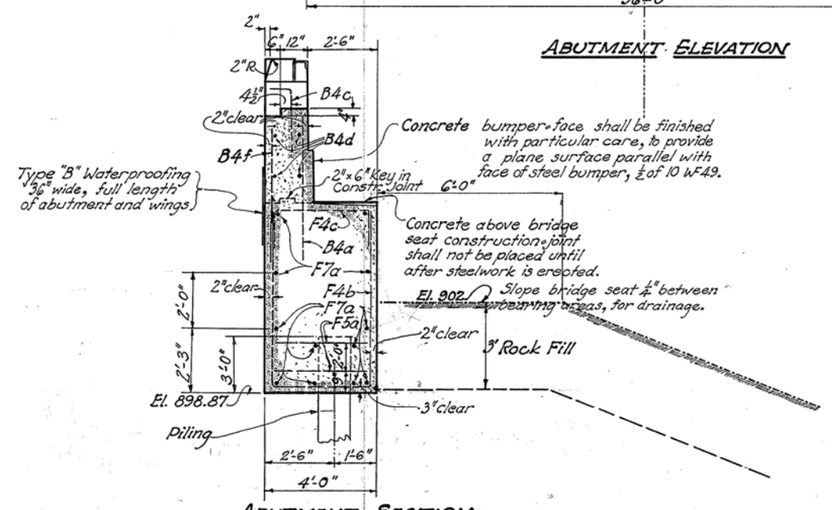
FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		1943

28
30

TRUMBULL COUNTY
S.H. 35 SEC. O2 (PT.)







STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SUBSTRUCTURE

BRIDGE NO. TR-88-133
OVER MOSQUITO CREEK

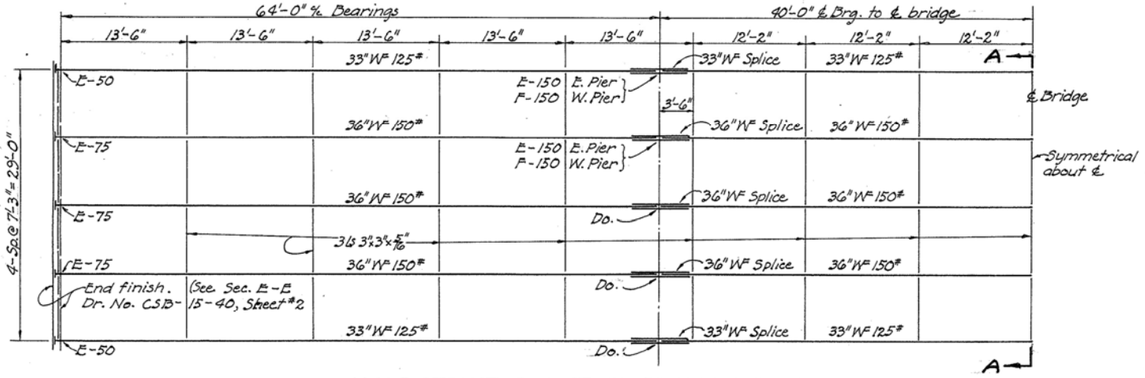
TRUMBULL COUNTY S.H. 35
SEC O2 (PT.) STA. 168+55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REV
K.E.D.	K.E.D.	B.R.E.	E.W.	W.H.R.	7-28-45	8-21

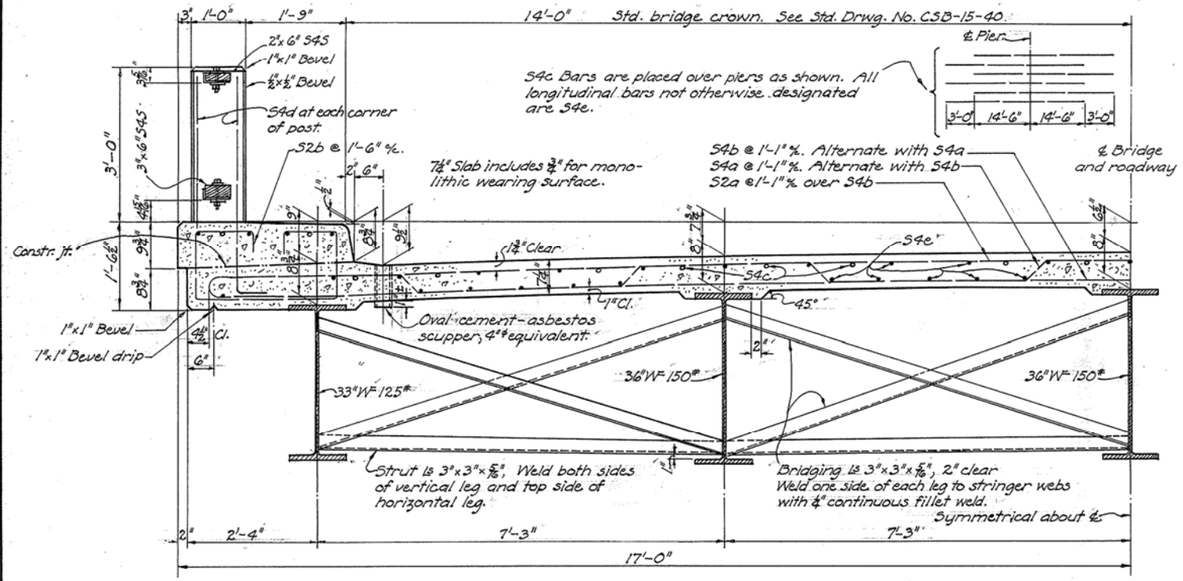
FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO		1943

29/30

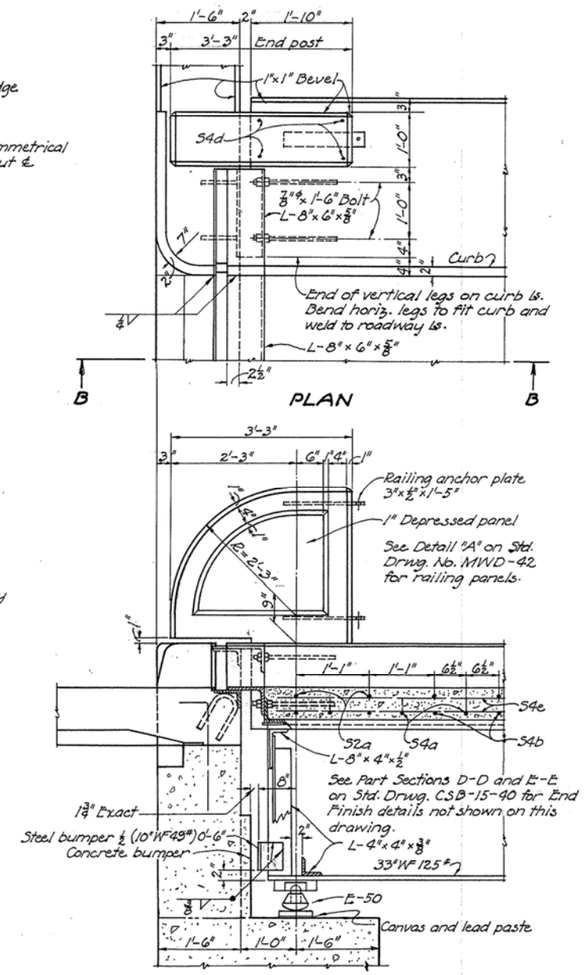
TRUMBULL COUNTY
S. H. 35 SEC. O2 (PT.)



HALF STRUCTURAL STEEL FRAMING PLAN



HALF SECTION A-A

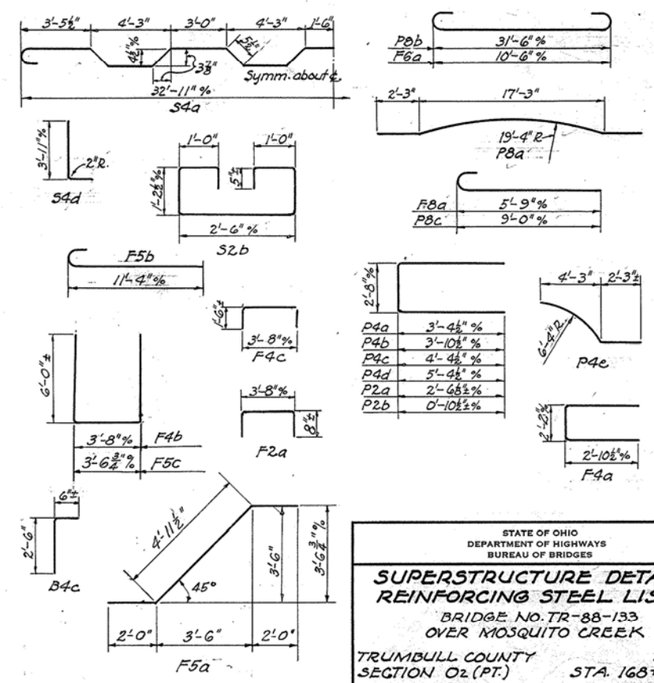


SECTION B-B
END FINISH AND END POST DETAILS
10- Steel bumpers (1/2 10"WF 49#) required.

REINFORCING STEEL					
Mark	Size	No.	Length	Weight	Shape
SUPERSTRUCTURE					
S4a	5/8"ϕ	191	35'-0"	6973	Bt.
S4b	5/8"ϕ	193	33'-0"	6643	Str.
S4c	5/8"ϕ	40	32'-0"	1335	Str.
S4d	5/8"ϕ	216	4'-6"	1014	Bt.
S4e	5/8"ϕ	357	32'-0"	11925	Str.
S2a	1/2"ϕ	193	33'-0"	4254	Str.
S2b	1/2"ϕ	280	7'-3"	1356	Bt.
TWO ABUTMENTS					
F7a	1"ϕ	24	35'-6"	2277	Str.
F5a	3/4"ϕ	48	9'-0"	650	Bt.
F5b	3/4"ϕ	28	12'-0"	505	Bt.
F5c	3/4"ϕ	8	15'-6"	186	Bt.
F4b	5/8"ϕ	28	15'-6"	453	Bt.
F4c	5/8"ϕ	28	6'-6"	190	Bt.
F4d	5/8"ϕ	16	11'-0"	184	Str.
F4e	5/8"ϕ	8	8'-0"	67	Str.
F4f	5/8"ϕ	8	8'-6"	71	Str.
F4g	5/8"ϕ	8	9'-0"	75	Str.
F4h	5/8"ϕ	16	10'-6"	175	Str.
F2a	1/2"ϕ	50	5'-0"	167	Bt.
B4a	5/8"ϕ	56	5'-0"	292	Str.
B4b	5/8"ϕ	32	6'-9"	225	Str.
B4c	5/8"ϕ	28	3'-0"	87	Bt.
B4d	5/8"ϕ	16	28'-0"	468	Str.
B4e	5/8"ϕ	8	8'-6"	71	Str.
B4f	5/8"ϕ	56	4'-9"	277	Str.

REINFORCING STEEL					
Mark	Size	No.	Length	Weight	Shape
TWO PIERS					
P8a	1"ϕ	16	22'-6"	1224	Bt.
P8b	1"ϕ	6	33'-6"	684	Bt.
P8c	1"ϕ	8	10'-0"	272	Bt.
P8d	1"ϕ	48	23'-6"	3835	Str.
F8a	1"ϕ	48	6'-9"	1102	Bt.
F8b	1"ϕ	16	23'-0"	1250	Str.
F6a	7/8"ϕ	88	12'-0"	2162	Bt.
F4a	5/8"ϕ	20	7'-9"	161	Bt.
P4a	5/8"ϕ	60	9'-3"	579	Bt.
P4b	5/8"ϕ	12	10'-3"	129	Bt.
P4c	5/8"ϕ	12	11'-3"	141	Bt.
P4d	5/8"ϕ	16	13'-3"	221	Bt.
P4e	5/8"ϕ	12	7'-0"	88	Bt.
P2a	1/2"ϕ	104	7'-6"	520	Bt.
P2b	1/2"ϕ	50	4'-3"	142	Bt.
P2c	1/2"ϕ	8	31'-0"	166	Str.
REPLACEMENT STEEL					
RE8	1"ϕ	1	8'-0"	27	Str.
RE7	1"ϕ	1	8'-0"	22	Str.
RE5	3/4"ϕ	1	7'-0"	11	Str.
RE4	5/8"ϕ	2	6'-6"	14	Str.
RE2	1/2"ϕ	1	6'-0"	4	Str.
REG	7/8"ϕ	1	8'-0"	16	Str.

BENDING DIAGRAMS



Pre-cambering of beams is required in accordance with the following table:

DEFLECTION AND CAMBER				
Location	33"WF 125# Brms.		36"WF 150# Brms.	
	End span	Ctr. span	End span	Ctr. span
Deflection due to weight of steel	1 1/8"	1 3/16"	1 1/8"	1 3/16"
Deflection due to remainig D.L.	7/8"	1 1/8"	3/8"	9/16"
Camber to fit vertical curve	1/16"	3/16"	3/16"	5/16"
Total required camber	1 13/16"	1 5/8"	1 1/16"	1 1/16"

ERECTION NOTE:- Erection procedure same as shown on Std. Drwg. No. CSB-15-40, Sheet No. 1.
Raise ends of WF beams 2 1/8" at abuts. (part (2) and (5) of erection note).

RIVETS shall be 7/8" ϕ

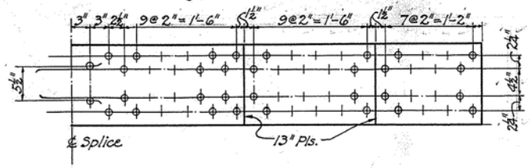
STRUCTURAL STEEL need not be copper-bearing or galvanized as called for on Std. Drwg. No. CSB-15-40.

CANVAS AND LEAD PASTE under all bearing plates included with structural steel for payment.

Beam splices same as shown on Std. Drwg. No. CSB-15-40 except as follows:

For 33"WF 125#
- Splice pl. "A" to be 13"x7/16"x4'-8"
- Splice pl. "B" to be 13"x1/2"x8'-2"
- Splice pl. "C" to be 13"x1/2"x11'-0"

For 36"WF 150#
- Splice pl. "A" to be 13"x7/16"x4'-8"
- Splice pl. "B" to be 13"x7/16"x8'-2"
- Splice pl. "C" to be 13"x7/16"x11'-0"



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS
REINFORCING STEEL LIST

BRIDGE NO. TR-88-133
OVER MOSQUITO CREEK

TRUMBULL COUNTY S. H. 35
SECTION O2 (PT.) STA. 168+55.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	J.E.P.	H.S.R. C.J.W.	W.H.R.	7-28-43	8-2-4

SUMMARY OF QUANTITIES

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
			30 30

TRUMBULL COUNTY
S.H. 35 SEC. O_2 (PT.)

ROADWAY SUMMARY

SHEET NO.	E-12 L.F.-PIPE REMOVED & DISPOSED OF 15" & UNDER	E-12 L.F.-PIPE REMOVED & DISPOSED OF OVER 15"	E-12 L.F.-PIPE REMOVED & STORED 30" C.I.P.	I-3 12" ROADWAY DRAINAGE Lin. Ft.	I-5 10" to 12" INCREASER PIPE-SPECIAL Each	I-8 No 2-2-A CACH BASIN Each	I-10 TYPE A RIP RAP GROUTED Sq. Yds.	I-15 GUARD RAIL REMOVE & STORE Lin. Ft.	I-15 GUARD RAIL POSTS ONLY Each	I-17 TRAFFIC BOUND SIDE APR. Cu. Yds.	L-10 SODDING SODDED DITCHES Sq. Yds.
5		16									
6		48							166		
7	28	38							208		
8		272							208		
9		48						954	174		
10								640	208		
11	16			434	2	2	10		132	1.9	600
12										6.8	
From Culvert Summary			36								
TOTAL	44	422	36	434	2	2	10	1594	1096	8.7	600

STRUCTURES 20' SPAN & UNDER

MARK	DETAIL ON SHEET No	STATION	TYPE	SIZE	E-12 30" C.I.P. REMOVED & STORED Lin. Ft.	S-1 CLASS E CONC. FOR STRUCT. Cu. Yds.	S-22 REMOVAL PORT. OF EX. STRUCT. Cu. Yds.	S-24 REMOVAL OF EXIST. STRUCT Lump
C-1	25	127 + 54.7 R	Exist. C.I.P. Culvert	30" x 36'	36		5	
C-2	25	127 + 54.7 L	Exist. Encased V.S.P.	24" x 37'		1.1	4	
C-3	25	130 + 73	Exist. Encased V.S.P.	30" x 30'		1.5	4	
SUB-TOTAL					36	2.6	13	
TO ROADWAY SUMMARY					36			
TOTAL						2.6	13	

EARTH WORK

STATION From	STATION To	EXCAVATION	EMBANKMENT	EMBANKMENT + 13 %	DUMPED ROCK FILL
115 + 00	121 + 00	191	1664	1880	39
121 + 00	134 + 00	971	18686	21115	3671
134 + 00	147 + 00	2297	26713	30186	5266
147 + 00	160 + 00	1367	46766	52845	8336
160 + 00	173 + 00	260	64616	73016	12436
173 + 00	186 + 00	0	66608	75267	11429
186 + 00	199 + 00	234	23797	26891	4289
199 + 00	202 + 35	37	63	71	0
TOTALS		5357	248913	281,272	45,466
BORROW		275915 C. Y.			

CALCULATIONS

T-35 1¼" Asphaltic Concrete Surface Co. Type "A"
Sta. 118 + 00 To Sta. 167 + 35 = 4935. L.F.
Sta. 169 + 75 To Sta. 196 + 50 = 2675 L.F.
(4935 + 2675) x 22 ÷ 9 = 18,602. S.Y's
18602 x 1.25 ÷ 36 = 645.9 C.Y.
From Sheet No. 22 20.3 C.Y.
From Sheet No. 23 50.9 C.Y.
Widening at App. Slabs 0.1 C.Y.
Total = 717.2 C.Y's.

B-35 Asphaltic Conc. Leveling Course. ¾" Minimum (¼")
Extra to fill voids in B-20
18602 x 1.00 ÷ 36 = 516.7 C.Y's
From Sheet No. 22. = 19.7 C.Y's
From Sheet No. 23. = 56.4 C.Y's
Widening at App. Slabs. = 0.1 C.Y's
Total = 592.9 C.Y's

B-20 5" Waterbound Macadam Base Course
(4935 + 2675) x 22.5 ÷ 9 = 19,025.0 S.Y's
From Sheet 22 330.6 S.Y's
From Sheet 23 361.0 S.Y's
Widening at Approach Slabs 1.8 S.Y's
Total = 19,718.4 S.Y's

T-30 Bituminous Prime Coat (SS-A-674 Amend. 1, Type 2)
Same as B-20 - 19,718.4 S.Y's
19,718.4 x 0.35 = 6902. Gal.
15 85 x 0.35

Special 5" Granulated Slag (Grade B) Base Course
(4935 + 2675) x 23 ÷ 9 = 19,447.8 S.Y's
From Sheet No. 22 = 286.3 S.Y's
From Sheet No. 23 = 314.0 S.Y's
Widening at App. Slabs = 1.8 S.Y's
Total = 20,049.9 S.Y's

S-5 Reinforced Concrete Approach Slabs.
See Sheet No. 24 Estimated 86.0 S.Y's

E-3 Channel Excavation
See Sheet No. 24 1107. C.Y's

E-11 Water
248,913 x 5 = 1245 M Gal

GENERAL SUMMARY

ITEM	DESCRIPTION	TOTAL	UNIT
	ROADWAY		
E-1	Roadway Excavation Unclassified	5357	Cu. Yds.
E-4	Borrow	275,915	Cu. Yds.
E-101	Dumped Rock Fill	45466	Cu. Yds.
E-11	Water	1245	M. Gals.
E-12	Pipe Removed and Disposed of 15" and Under	44	Lin. Ft.
E-12	Pipe Removed and Disposed of Over 15"	422	Lin. Ft.
E-12	30" Cast Iron Pipe Removed and Stored	36	Lin. Ft.
I-3	12" Pipe for Roadway Drainage	434	Lin. Ft.
I-5	10" to 12" Increaser - Pipe Special for Roadway Drainage	2	Each
I-8	Std. No 2-2 A Catch Basin	2	Each
I-10	Type A Riprap - Grouted, 12" thick	10	Sq. Yds.
I-15	Guard Rail Removed and Stored	1594	Lin. Ft.
I-15	Guard Rail Posts Only complete in place	1096	Each.
I-17	Traffic Bound Side Approaches	9	Cu. Yds.
E-3	Channel Excavation	1107	Cu. Yds.
	PAVEMENT		
T-35	Asphaltic Concrete Surface Course Type A	717	Cu. Yds.
B-35	Asphaltic Concrete Leveling Course	593	Cu. Yds.
T-30	Bituminous Prime Coat (SS-A-674 with Amend 1 Type II	6902	Gallons
B-20	5" Waterbound Macadam Base Course	19718	Sq. Yds.
Special	5" Granulated Slag (Grade-B) Base Course	20050	Sq. Yds.
S-5	Reinforced Concrete Approach Slabs (9" Thick)	86	Sq. Yds.
	STRUCTURES 20' SPAN & UNDER		
S-1	Class E Concrete for Structures	2.6	Cu. Yds.
S-22	Removal of Portions of Existing Structure	13	Cu. Yds.
	STRUCTURES OVER 20' SPAN		
	Estimated Quantities on Sheet No 27 (Br. No TR-88-133) (Br. No TR-88-134)		
	ROADSIDE IMPROVEMENT		
E-305	Seeding and Protecting Roadway Areas	42500	Sq. Yds.
L-9	4-12-4 Commercial Fertilizer (incl. L-10 Sodding)	7758	Pounds
L-10	Sodding	600	Sq. Yds.

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1946

1/2

TRUMBULL COUNTY
SH 35 SEC. O2 (PT)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
CHAGRIN FALLS-GREENVILLE ROAD
S.H. 35-SEC. O2 (PT)
TRUMBULL COUNTY
MECCA TOWNSHIP

MOSQUITO CREEK RESERVOIR

CONVENTIONAL SIGNS

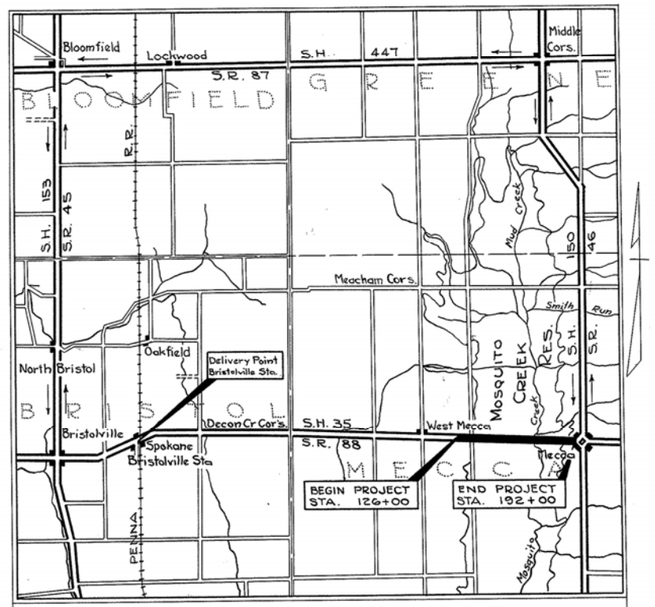
TOWNSHIP LINE
PROPERTY LINE
CENTER LINE
FENCE LINE
TELEPHONE OR TELEGRAPH
STEAM RAILROAD
GUARD RAIL POSTS

INDEX OF SHEETS

TITLE SHEET	SHEET No. 1
TYPICAL SECTIONS	2
NOTES	2
SUMMARY	2

LINE DATA

BEGIN PROJECT STA. 126+00	
END PROJECT STA. 192+00	
GROSS LENGTH	6600 LIN. FT.
ADDITIONS OR DEDUCTIONS	NONE
NET LENGTH	6600 LIN. FT. OR 1.250 MILES.



AVERAGE HAUL = 5.0 MILES

LOCATION PLAN
SCALE 1" = 1 MILE

LEGEND
PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER HIGHWAYS
DETOUR SHOWN THUS

SCALES
PLAN 1" = 50'
PROFILE HORIZON. 1" = 50'
VERT. 1" = 5'
CROSS SECTIONS 1" = 5' & 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.
See Traffic Note Sheet No. 2

The Right of Way necessary for this improvement will be provided by the State of Ohio.

Approved J. L. McCurrich
Date 8-9-46 DIVISON DEPUTY DIRECTOR.

Approved _____
Date _____ CHIEF ENGINEER, BUREAU OF MAINTENANCE.

Approved _____
Date _____ CHIEF ENGINEER, BUREAU OF BRIDGES & R.R. CROSSINGS.

Approved Paul E. Lee
Date 8-28-46 CHIEF ENGINEER, BUREAU OF LOCATION & DESIGN.

Approved Edson W. Ellis
Date 8-28-46 FIRST ASSISTANT DIRECTOR & CHIEF ENGINEER.

Approved Perry T. Ford
Date 8-28-46 DIRECTOR OF HIGHWAYS.

CONSTRUCTION BUREAU
NOV 3 1955
GROUND PHOTO

STANDARD DRAWINGS	
DRAWING No.	DATE
G-7.07	6-1-42

SUPPLEMENTAL SPECIFICATIONS	
SPECIFICATION No.	DATE
None	

FILE No.	TRUMBULL COUNTY SH 35 SEC. O2 (PT) DATE OF LETTING _____ 194_ CONTRACT No.

TITLE SHEET

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		1946

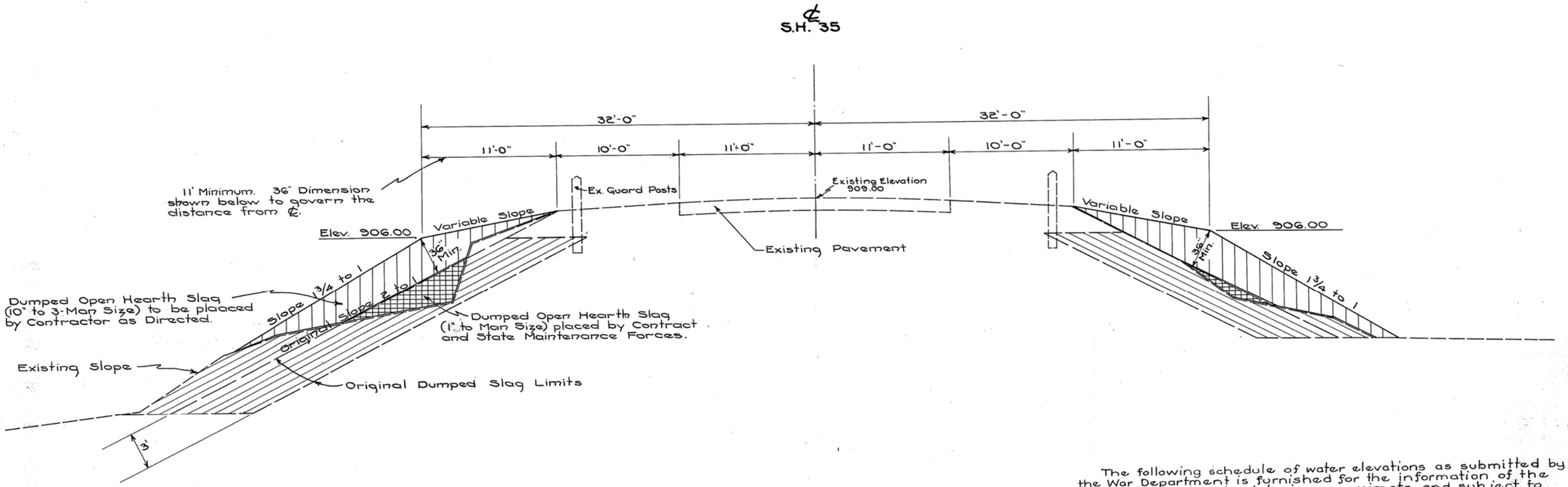
2/2

TRUMBULL COUNTY
S.H. 35 SEC. 02 (PT.)

TYPICAL SECTION

TYPE = SLOPE PROTECTION

Scale = 1/4" = 1'-0"



The following schedule of water elevations as submitted by the War Department is furnished for the information of the Contractor. This schedule is approximate and subject to variation by the War Department caused by abnormal rainfall in the drainage area.

1 January	896 to 900	1 July	900 to 901
1 February	897 to 900	1 August	897 to 900
1 March	898 to 900	1 September	895 to 900
1 April	899 to 900	1 October	894 to 900
1 May	901 to 902	1 November	895 to 900
1 June	901 to 902	1 December	895 to 900

GENERAL NOTES

TRAFFIC:~
Traffic shall be maintained at all times. The length of one way traffic zones shall be kept to a minimum.

In addition to the requirements of Sec. G-8.07, Barricades, Danger and Warning Signs, the Contractor shall display one "PLEASE-MEN WORKING ON ROAD" sign furnished by the State at each end of each one way zone and in such a position as to be visible to traffic approaching the one way zone.
The Contractor shall be responsible for the preservation of these signs, shall advance the signs as work progresses and return the signs to the State at the completion of the work.
The item of Maintaining Traffic" shall include furnishing lights, signs, (other than those mentioned above) barricades and watchmen, plus the displaying and advancing of the "PLEASE-MEN WORKING ON ROAD" signs to secure the flow of traffic twenty-four (24) hours daily.

GUARD POSTS:~
Guard Posts if damaged during construction are to be repainted, replaced or reset to line and grade at the Contractors expense.

10" TO 3-MAN SIZE DUMPED OPEN HEARTH SLAG FILLS:~
DESCRIPTION - This item shall consist of screened Open Hearth Slag placed in accordance with these specifications and in conformity with the lines, grades and typical section shown on the plan, and in the special provisions and proposal.
MATERIALS - The material for Dumped Open Hearth Slag Fills shall be structuraly sound and durable Open Hearth Slag with the following grading as to size: Top size shall be 3-Man Size
Maximum passing 10" = 3 %
CONSTRUCTION METHODS - The dumping of the slag shall be so controlled as to avoid its rolling out of the 1 3/4 to 1 slope indicated on the plans.
The slopes shall have a reasonably smooth and continous surface acceptable to the Engineer when completed.
The uppermost point of the 1 3/4 to 1 slope shall be set by the Engineer and, in all cases, shall be at elevation 906 and not less than 36" from the existing slope, measured at 90° to the existing slope, as shown on the typical sections.
METHOD OF MEASUREMENT - The tonnage to be paid for shall be the number of tons of Open Hearth Slag in place, completed and accepted.
The quantities measured as provided above shall be paid for at the contract unit price bid per ton, Item, Special 10" to 3-Man Size Dumped Open Hearth Slag Fills which prices and payments shall constitute full compensation for all material, hauling, placing, and finishing, and, for all labor, equipment, tools, and incidentals necessary to complete this Item.

DUMPED STONE FILL:~
Stone for this item shall be sound and durable and shall have good weathering characteristics.

CALCULATIONS

22,000 Cu. Yds. (Estimated) x 1.6 (3200# per Cu. Yds.) = 35,200 Tons

GENERAL SUMMARY

ITEM	QUANTITY	UNIT	DESCRIPTION
Special	35,200	Tons	10" to 3-Man Size Dumped Open Hearth Slag or Stone Fill
	Lump	Lump Sum	Maintaining Traffic, including Lights, Signs, Barricades and watchmen
			Twenty-four Hour Service.