

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BEACH CITY RESERVOIR

F.A.P. No 535-C(1936)

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	
10	OHIO	535-C	1936	40

TUSCARAWAS COUNTY
S.H. 414 SEC. "O-PT."

• WOOSTER - DOVER ROAD •

S.H. 414 SEC. "O-PT."
TUSCARAWAS COUNTY
FRANKLIN TOWNSHIP

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO,
DEPARTMENT OF HIGHWAYS, TOGETHER WITH THE SPECIAL
PROVISIONS FOR FEDERAL AID PROJECTS, AND SUPPLEMENTAL
SPECIFICATIONS NO. 1-216, E-101, IN FORCE ON DATE OF
CONTRACT WILL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE
MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE HIGHWAY
TO BE CLOSED TO TRAFFIC, AND THAT PROVISIONS FOR THE MAIN-
TENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON
THESE PLANS AND ESTIMATES.

THE NECESSARY RIGHT OF WAY HAS BEEN SECURED.

APPROVED Ed. Kling P.E. 158
DATE 2-1-36 RESIDENT DISTRICT DEPUTY DIRECTOR

APPROVED And L. Binsch P.E. 113
DATE 2-3-36 RESIDENT DIVISION DEPUTY DIRECTOR

APPROVED N. L. Thompson
DATE 3-2-36 CHIEF ENGINEER, LOCATION AND DESIGN

APPROVED J. Binsch P.E. 45
DATE 2-4-36 CHIEF ENGINEER, BRIDGES AND R.R. XINGS.

APPROVED _____
DATE _____ FIRST ASST. DIRECTOR AND CHIEF ENGINEER

APPROVED John Foster
DATE 3-9-36 DIRECTOR OF HIGHWAYS

RECOMMENDED FOR APPROVAL _____
DATE _____ DISTRICT ENGINEER, BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL _____
DATE _____ CHIEF ENGINEER, BUREAU OF PUBLIC ROADS

APPROVED _____
DATE _____ CHIEF OF BUREAU

CONVENTIONAL SIGNS

COUNTY LINE	_____
TOWNSHIP LINE	_____
LOT LINE	_____
CENTER LINE	_____
PROPERTY LINE	_____
CITY OR VILLAGE LINE	_____
FENCE LINE	_____
PRESENT STEAM R.R.	_____
RELOCATED STEAM R.R.	_____
POLE LINE	_____
GUARD RAIL	_____
NEW DRAIN PIPE	_____
OLD DRAIN PIPE	_____
HEDGE	_____
EVERGREENS	_____
SHRUB GROUPS	_____
TREES	_____
NEW HEDGE	_____

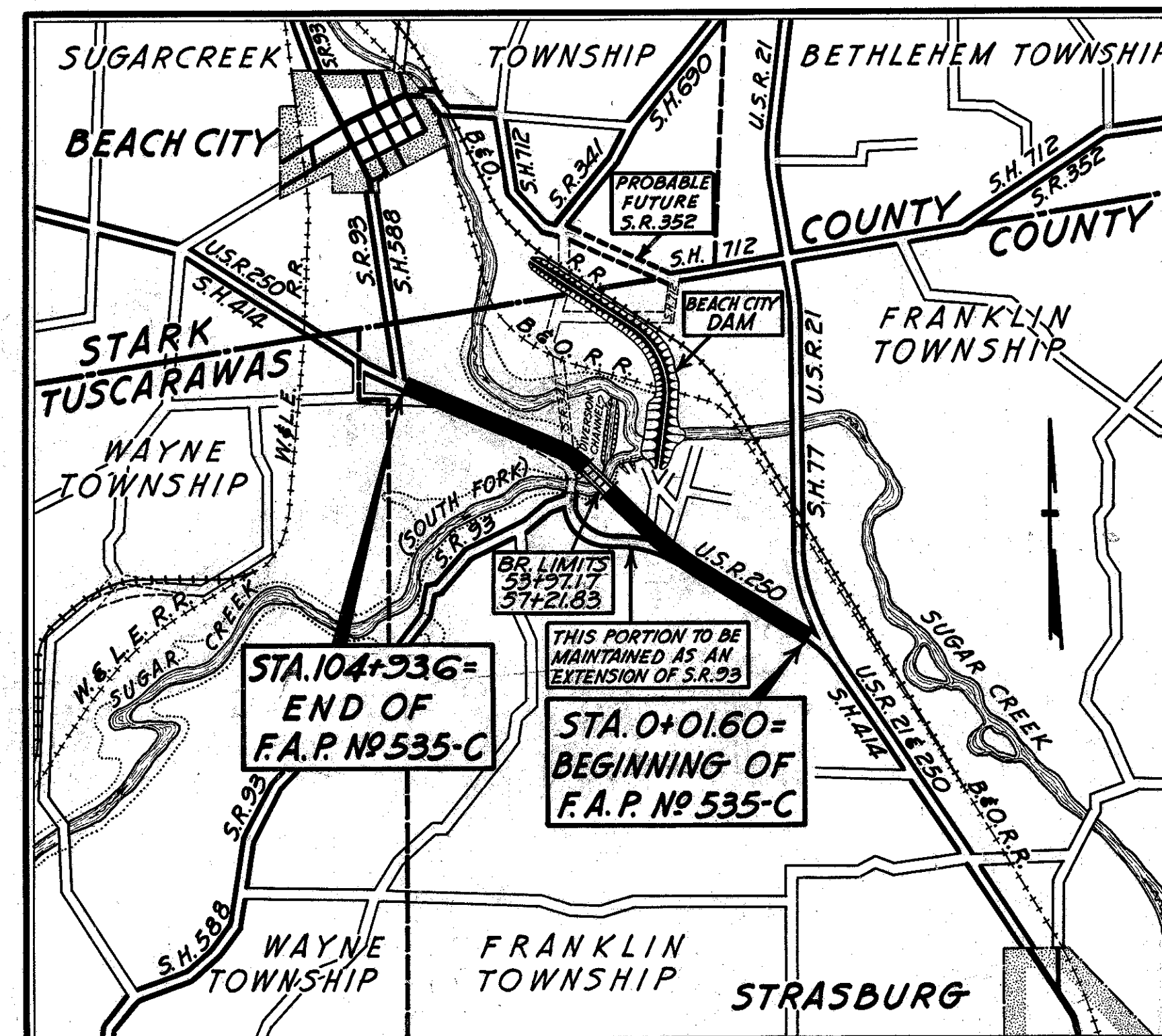
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STANDARD DRAWINGS

G-707	10-1933	E-5	7-12-35
T-70 J.	11-1-35	I-8 C.B. No 6	11-12-35
B-71 J.	11-1-35	I-8 C.B. No 1-2	11-12-35
B-710-T1E No 1	10-1933	I-1, 2, 3, 4 & 5	1-1-36
B-750-70-T1E No 1	10-1933	S-27 P.C. 1	5-1934
T-70-T1E No 1	10-1933	S-27 P.C. 2	5-1934
T-90 E No 1	8-1933	S-27 P.C. 3	1-1-36
I-15 P.P.	1-1-36	CSS-35	9-6-35
I-155-C	1-1-36	AS-35	9-6-35
I-12	2-15-36	MBD-35	12-11-35
L-1 2-20-36, B-T-71 E No. 1	10-1933, B-T-71 R	G-1-35	

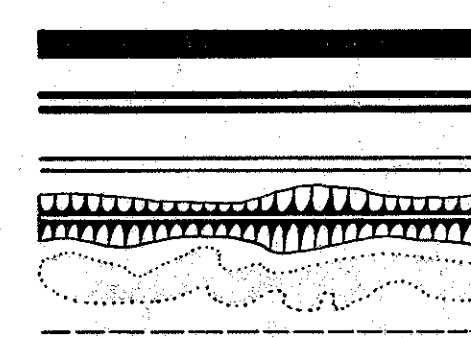
DELIVERY POINT= BEACH CITY AVERAGE HAUL= 2 MILES



LOCATION PLAN

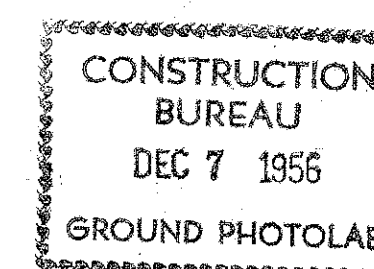
SCALE IN MILES
0 1/4 1/2 1 1 1/2 2

PORTION TO BE IMPROVED
STATE HIGHWAYS
COUNTY OR TWP. ROADS
BEACH CITY DAM
PERMANENT POOL
ABANDONED ROADS



SCALES

PLAN	1"=100'
PROFILE-VERTICAL	1"=10'
PROFILE-HORIZONTAL	1"=100'
CROSS SECTIONS	1"=10'



• LINE DATA •

END OF PROJECT= STA. 104+93.6
BEG. OF PROJECT= STA. 0+01.60
GROSS LENGTH OF PROJECT= 10492.0 LIN. FT.
DEDUCTION OF SHORT STA. EQUATION:
STA. 72+41.20 BACK = STA. 73+00 AHEAD= 58.80 LIN. FT.
NET LENGTH OF PROJECT= 10433.20 LIN. FT.
NET LENGTH OF PROJECT= 1.975 MILES

FILE NO 309	TUSCARAWAS COUNTY S.H. 414 SEC. "O-PT." DATE OF LETTING <u>4-7-36</u> CONTRACT NO. <u>6301</u>	APPROVED <u>W. C. Chambers</u> DATE <u>2-3-36</u> CHIEF ENGINEER, MUSKINGUM WATERSHED CONSERVANCY DISTRICT
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FROM STA. 3+69.75 TO STA. 29+58 ON LT. USE A SPECIAL 15' BERM AND A SPECIAL 4' DITCH SECTION AS SHOWN BELOW.

FROM STA. 29+58 TO STA. 39+38 ON LT. USE A SPECIAL 15' BERM AND A STD. 3:1 FILL SECTION AS SHOWN BELOW OR A SPECIAL 15' BERM AND A STD. 3' DITCH SECTION AS SHOWN AT THE RIGHT.

FROM STA. 39+38 TO STA. 43+50 ON LT. THE BERM IS VARIABLE. SEE SHEET NO. 12 FOR INTERSECTION DETAIL. ALSO SEE CROSS SECTIONS.

FROM STA. 68+00 TO STA. 69+88 ON LT. USE A STD. 10' BERM WITH A STD. FILL SECTION AS REQUIRED. SEE CROSS SECTIONS.

FROM STA. 69+88 TO STA. 100+00 ON LT. USE A SPEC. 15' BERM AND A STD. 3:1 FILL SECTION AS SHOWN BELOW OR A SPEC. 15' BERM WITH A STD. 3' DITCH SECTION AS SHOWN AT THE RIGHT.

TYPICAL SECTIONS

SCALE IN FEET
0 1 2 3 4 5 6

TYPE T-90 • STD. DWG. B-71/J

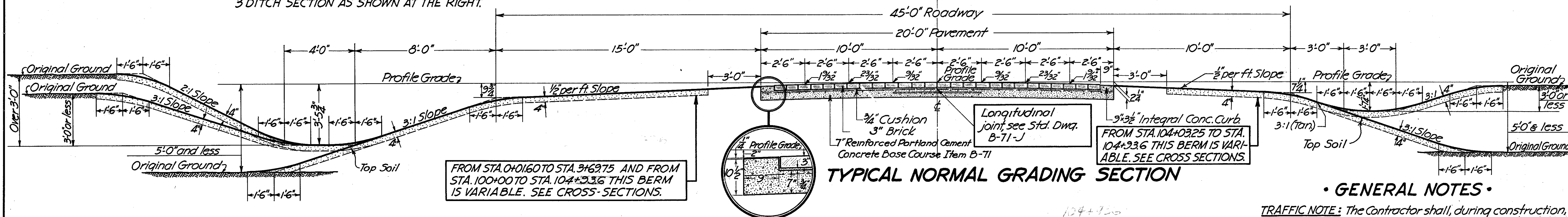
FROM STA. 0+01.60 TO STA. 3+69.75 ON RT. SPEC. BERM REQUIRED. SEE SHEET NO. 9 FOR INTERSECTION DETAIL.

FROM STA. 3+69.75 TO STA. 40+58 ON RT. USE A STD. 10' BERM WITH A STD. 3' DITCH SECTION AS SHOWN BELOW, EXCEPT AS NOTED ON THE CROSS SECTIONS.

FROM STA. 67+50 TO STA. 104+03.25 ON RT. USE A STD. 10' BERM AND A STD. 3:1 FILL SECTION AS SHOWN BELOW, OR A STD. 10' BERM WITH A STD. 3' DITCH SECTION AS SHOWN BELOW.

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TYPICAL NORMAL GRADING SECTION

• GENERAL NOTES •

TRAFFIC NOTE: The Contractor shall, during construction, maintain traffic 24 hrs. per day over the entire limits of this project, including all approach areas. From Sta. 0+01.60 to Sta. 39+38 and from Sta. 69+88 to Sta. 105+27.25 this shall be done on the 15ft. berm which the Contractor shall provide as called for by the typical section above. From Sta. 39+38 to Sta. 69+88 traffic shall use the existing bridge and pavement. The maintenance of traffic shall include all necessary grading, lights, signs, barricades, watchmen and telephone service as determined by the Engineer. The new pavt. from Sta. 0+01.60 to Sta. 42+00 shall be completed & open to traffic before any other existing pavt. is removed. This requirement, however, does not prevent any work from Sta. 39+38 to Sta. 69+88 being performed at the same time.

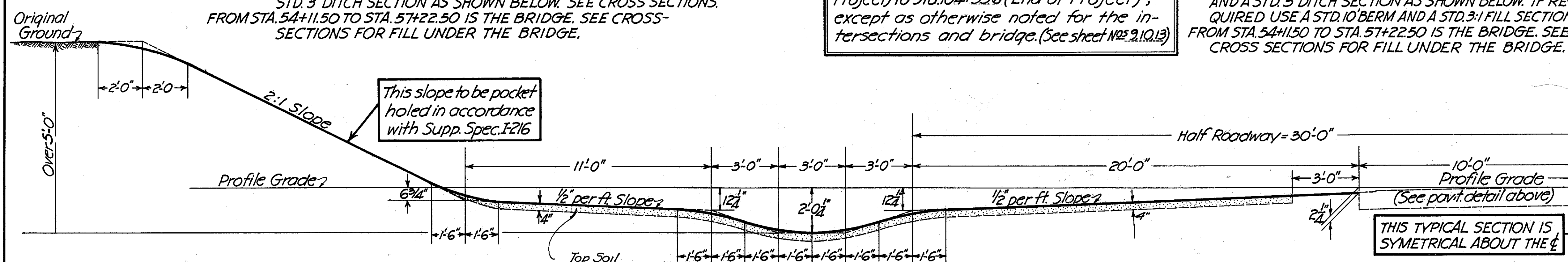
REMOVAL OF EXISTING PAVEMENT: The concrete pavt. removed from the existing road shall be disposed of as specified under Item E-101. Dumped Rock Fill.

DUMPED ROCK FILL: The face of the 2:1 slopes on embankments, as indicated on the plans & described in Supplemental Specifications E-101, shall be surfaced with rock of approved quality, together with the concrete pavement removed from the existing road.

TOP SOIL: Top soil shall be placed according to the typical section and as augmented by Supplemental Specification I-216. Top soil over undisturbed areas (original ground as shown in typical section) shall be placed as top dressing and seeded according to I-16.07.

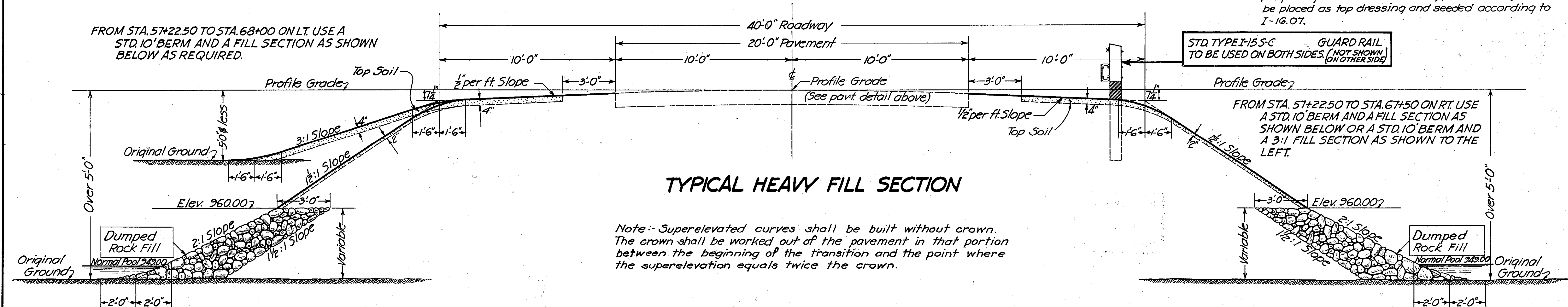
FROM STA. 43+50 TO STA. 54+11.50 ON LT. USE A SPEC. 20' BERM AND A STD. 3' DITCH SECTION AS SHOWN BELOW. SEE CROSS SECTIONS.

FROM STA. 54+11.50 TO STA. 57+22.50 IS THE BRIDGE. SEE CROSS SECTIONS FOR FILL UNDER THE BRIDGE.



TYPICAL HEAVY CUT SECTION

FROM STA. 57+22.50 TO STA. 68+00 ON LT. USE A STD. 10' BERM AND A FILL SECTION AS SHOWN BELOW AS REQUIRED.



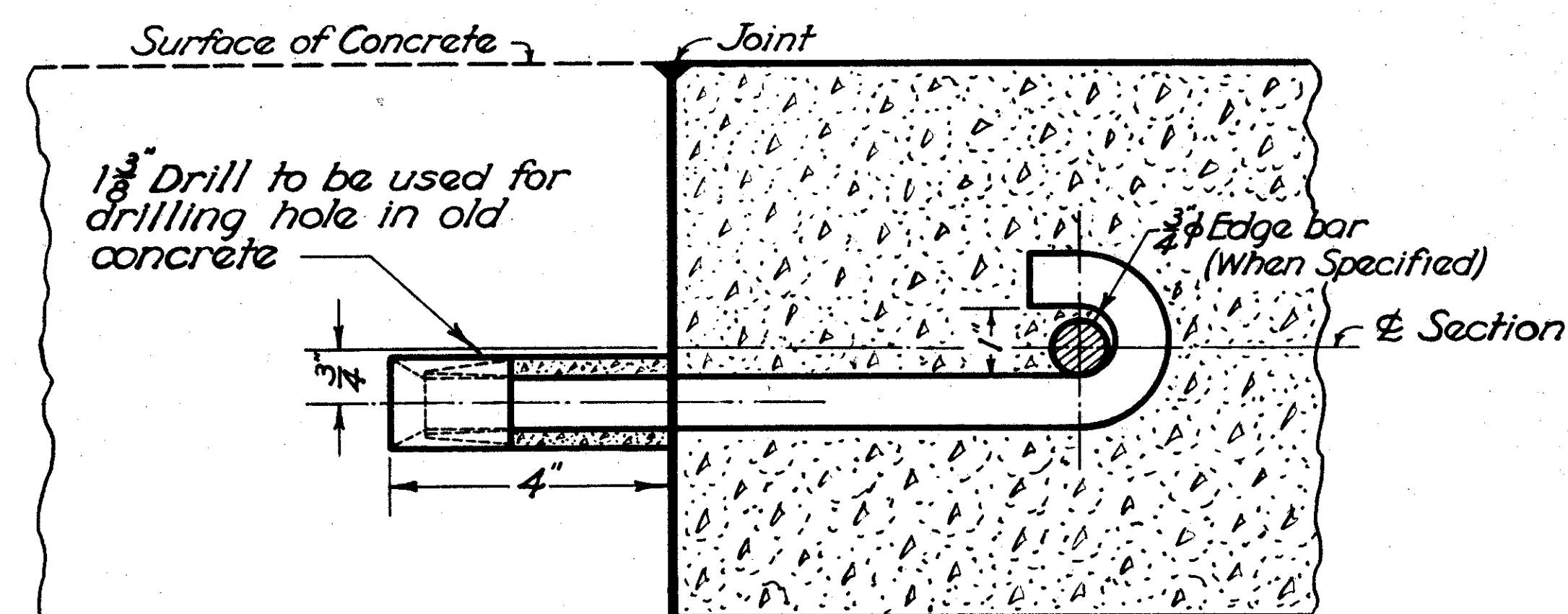
TYPICAL HEAVY FILL SECTION

Note: 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.

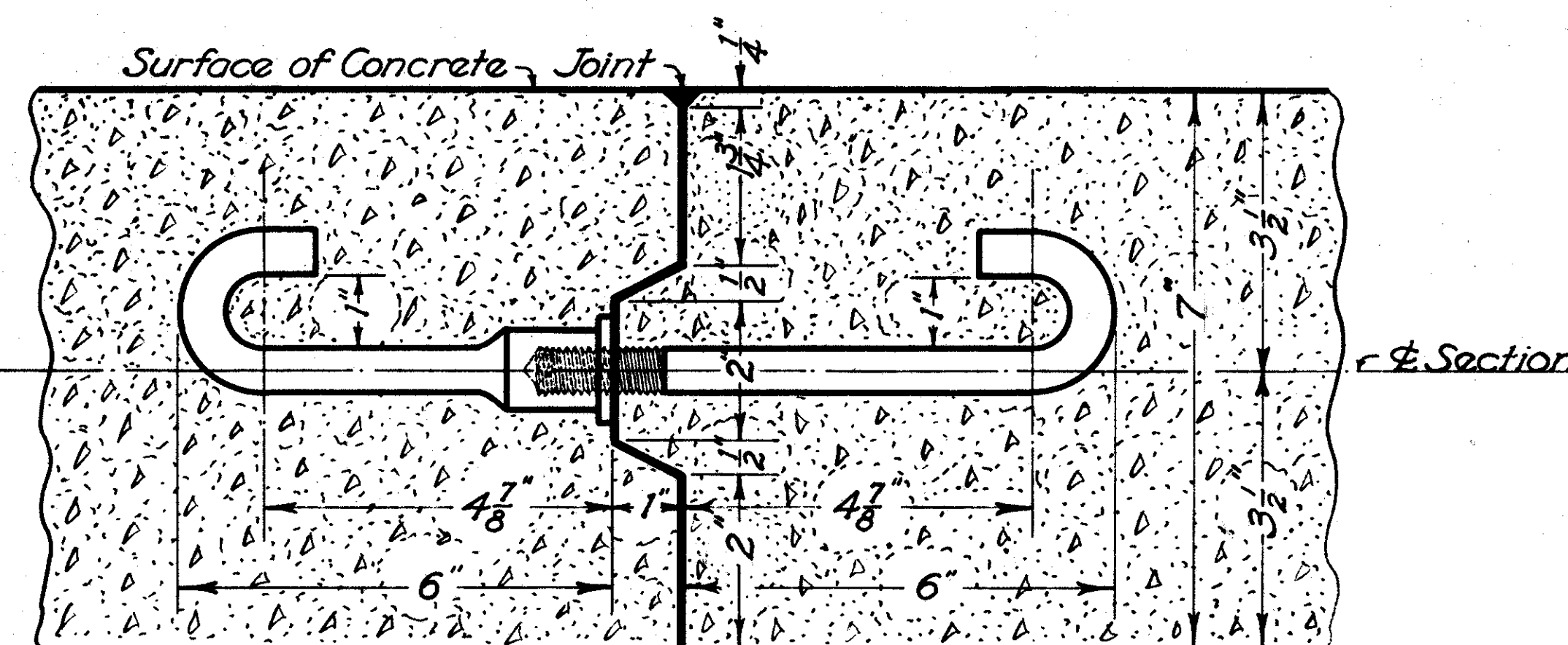
HOOB BOLTS AND EXPANSION BOLTS

FED. RD. DIST. N ^o	STATE	FEDERAL AID PROJECT N ^o	FISCAL YEAR	2-A
10	OHIO	535-C	1936	40

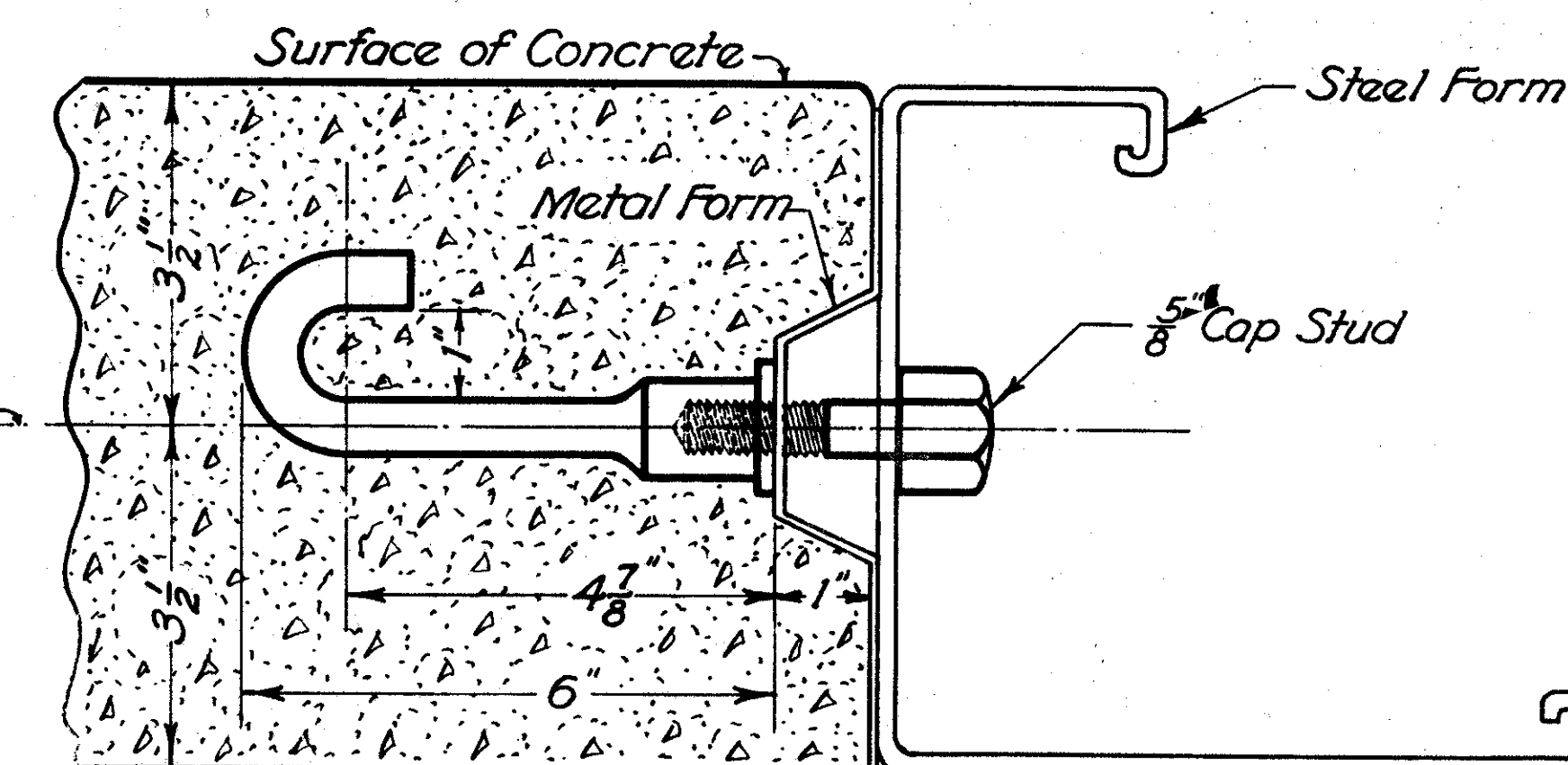
TUSCARAWAS COUNTY
S. H. 414 Section "O" (Part)



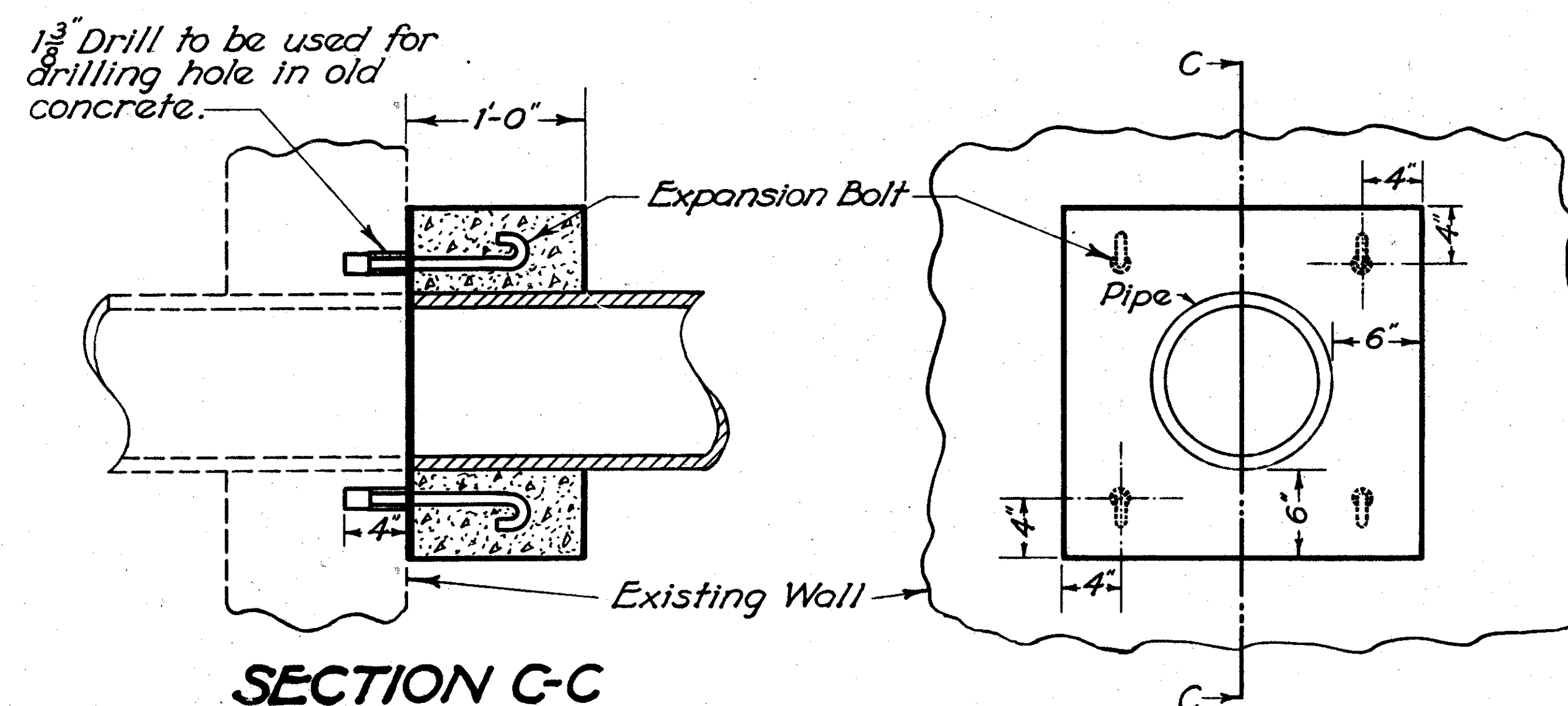
DETAIL "A"
EXPANSION BOLT JOINT



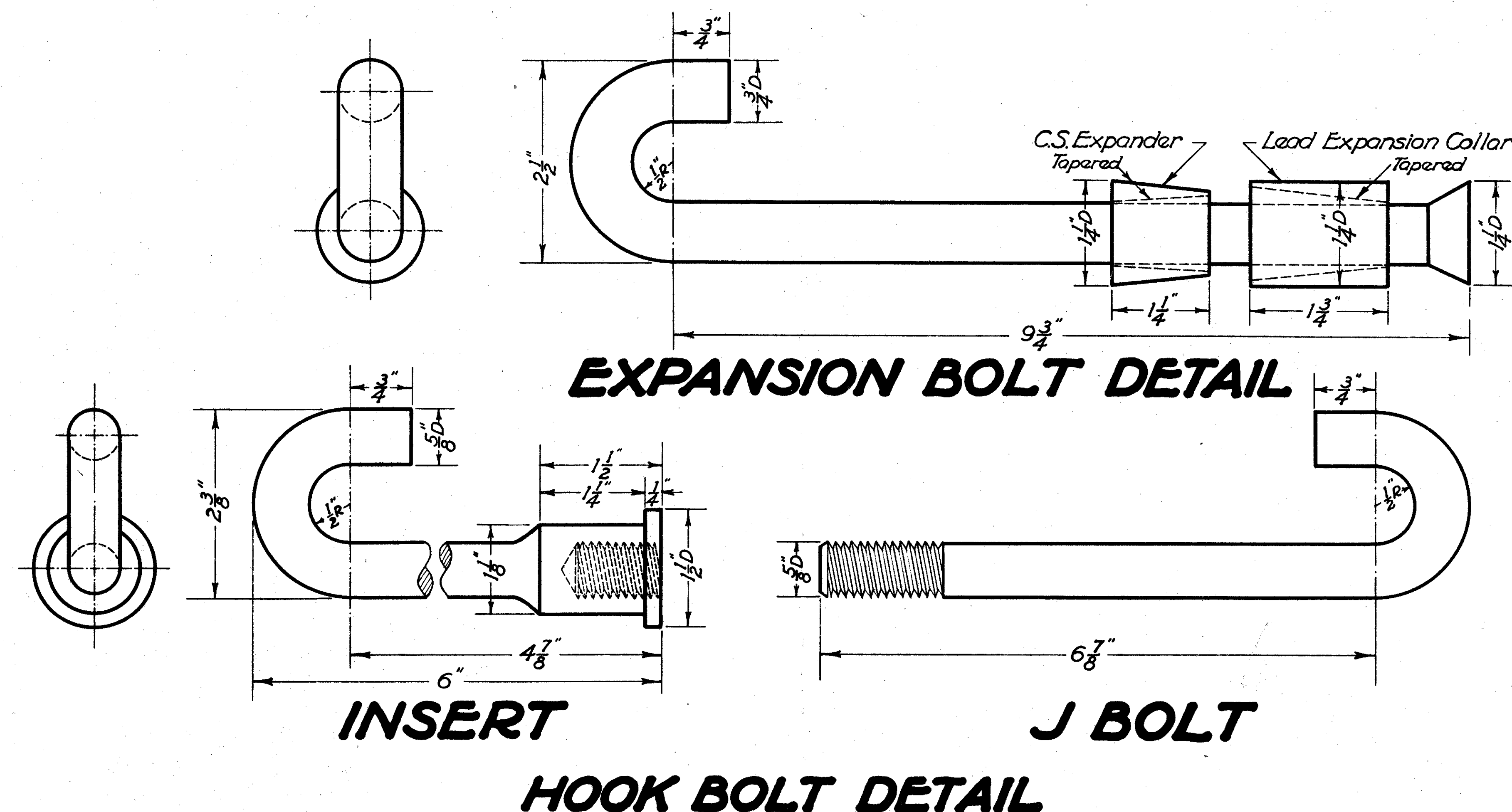
DETAIL "B"
HOOK BOLT AND KEY JOINT



ACCEPTABLE METHOD
OF FORMING JOINT

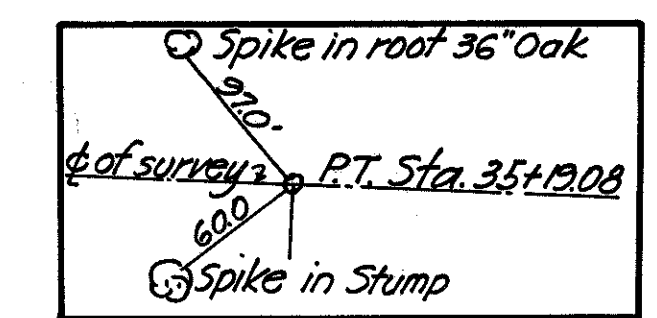
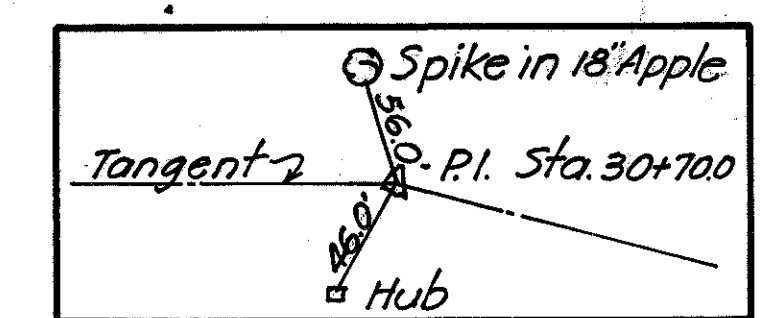


DETAIL "C" **STRUCTURE EXTENSION**



MAIL BOX APPROACHES				
REF. No.	STATION	RT. OR LT.	TRAFFIC BOUND MATERIAL CU. YDS.	SIZE OF APPR.
1-M	10+45	LT.	3	8' 6" 46'
2-M	34+50	LT.	3	8' 6" 46'
3-M	37+00	LT.	3	8' 6" 46'
TOTAL			9	

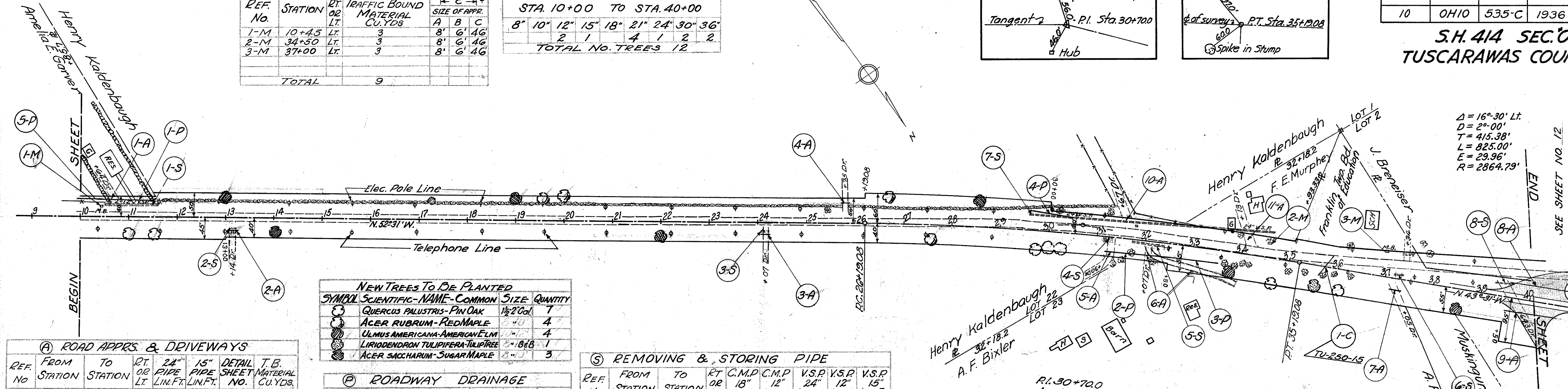
TREES TO BE REMOVED									
STA. 10+00	TO	STA. 40+00	8"	10"	12"	15"	18"	21"	24"
2	1	4	1	2	2				
TOTAL NO. TREES 12									



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40



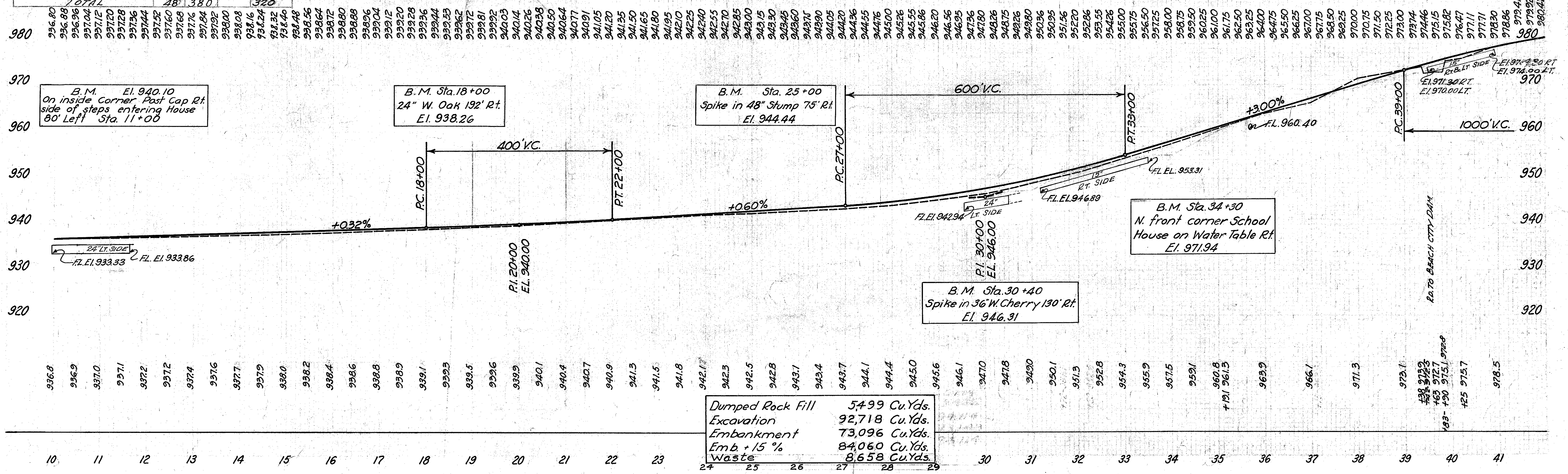
ROAD APPRS. & DRIVEWAYS						
REF. No.	FROM STATION	TO STATION	RT. OR LT.	24" PIPE LIN. FT.	15" PIPE LIN. FT.	T.B. MATERIAL CU. YDS.
1-A	10+57	10+81	LT.	24		10
2-A	13+04	13+24	RT.		20	8
3-A	23+97	24+17	RT.		20	8
4-A	25+63	25+87	LT.	24		12
5-A	31+20	31+40	RT.		20	12
6-A	31+94	32+20	RT.		26	28
7-A	37+13	37+37	RT.		24	17
8-A	39+38	41+00	LT.		162	105
9-A	39+50	40+58	RT.		108	95
10-A	31+62	31+72	LT.			13
11-A	34+08	34+18	LT.			12
TOTAL				48	380	320

NEW TREES TO BE PLANTED				
SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY
	QUERCUS PALUSTRIS	PIN OAK	1 1/2" Col.	7
	ACER RUBRUM	RED MAPLE		4
	ULMUS AMERICANA	AMERICAN ELM		4
	LIRIODENDRON TULIPIFERA	TULIP TREE	1 1/2" Col.	1
	ACER SACCHARUM	SUGAR MAPLE		3

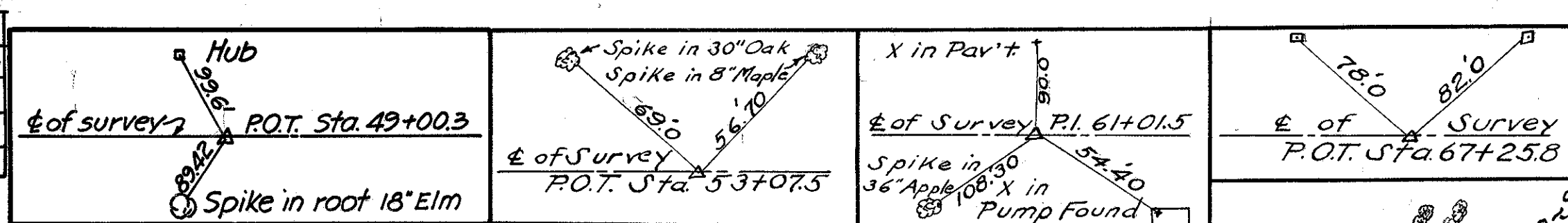
ROADWAY DRAINAGE				
REF. No.	FROM STATION	TO STATION	RT. OR LT.	24" PIPE LIN. FT.
1-P	10+81	11+63	LT.	82
2-P	31+40	31+94	RT.	54
3-P	32+20	33+50	RT.	130
4-P	29+58	30+50	LT.	92
5-P	9+95	10+57	LT.	62
TOTAL				236

REMOVING & STORING PIPE									
REF. No.	FROM STATION	TO STATION	RT. OR LT.	C.M.P. 18" LIN. FT.	C.M.P. 12" LIN. FT.	V.S.P. 24" LIN. FT.	V.S.P. 12" LIN. FT.	V.S.P. 15" LIN. FT.	
1-S	10+50	11+62	LT.					112 & 112	
2-S	13+08	13+20	RT.		12				
3-S	24+01	24+13	RT.		12				
4-S	31+24	31+36	RT.		12				
5-S	31+72	32+38	RT.				66		
6-S	37+29	37+49	LT.		20				
7-S	29+58	30+50	LT.			92			
8-S	39+24	39+64	LT.	40					
TOTAL				40	56	92	178	112	

STRUCTURES UNDER 20' SPAN					
REF. No.	STATION	REMOVAL TYPE	NEW WORK TYPE	DETAIL SHEET NO.	
1-C	35+75	—	C.I.P. 15'x64'	33	



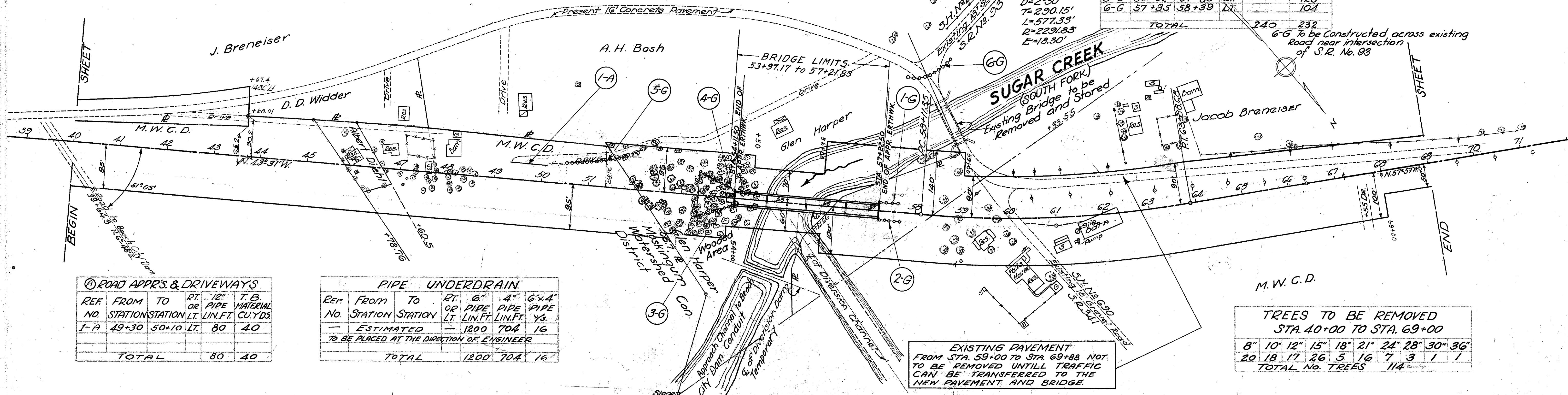
VINE PLANTING						
POCKET HOLES	ITEM	SCIENTIFIC NAME COMMON	QUANTITY	SIZE	STATION	SPACING
3160	I-216	LONICERA HALLIANA-HALL'S HONEYSUCKLE	3160	2 YR.	44+07.6 54+11.5-Lt.	3'
3232	I-216	LONICERA HALLIANA-HALL'S HONEYSUCKLE	3232	2 YR.	41+507.6 53+75-Rt.	3'
6392	TOTAL		6392			



GUARD RAIL						
REF. No.	FROM STATION	TO STATION	RT. OR LT.	TYPE I-15 S.C. LIN. FT.	TYPE I-15 P.P. LIN. FT.	
1-G	57+23	57+63	LT.	40		
2-G	57+23	57+63	LT.	40		
3-G	53+31	54+11	LT.	80		
4-G	53+31	54+11	LT.	80		
5-G	50+32	51+80	LT.		128	
6-G	57+35	58+39	LT.		104	
TOTAL				240	232	

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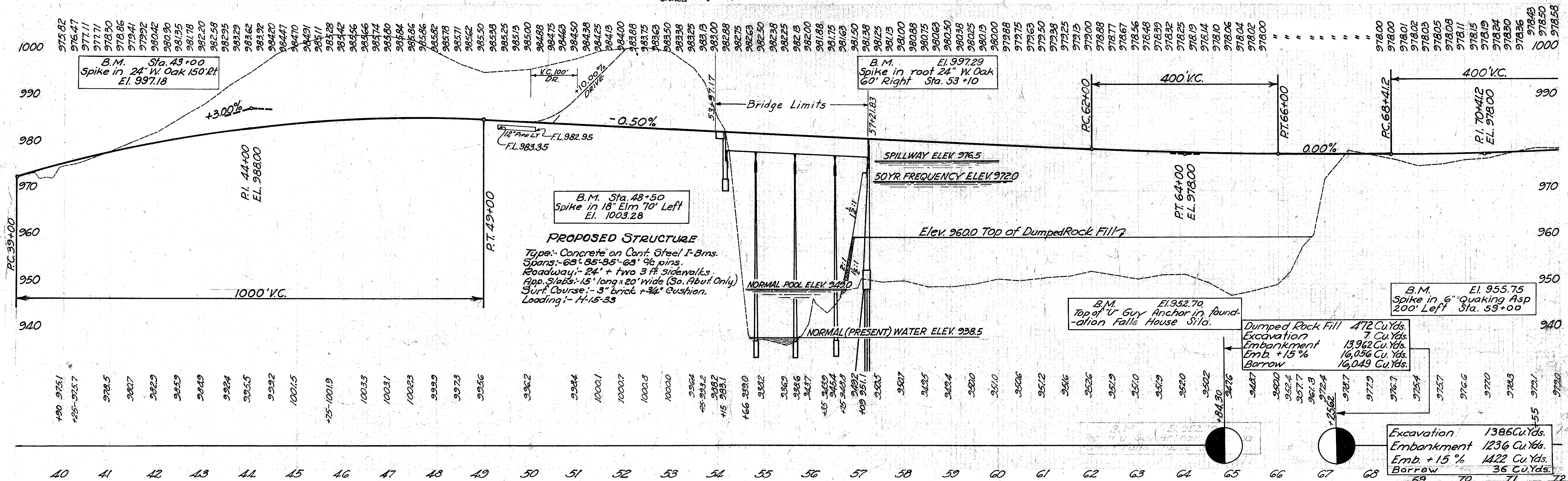
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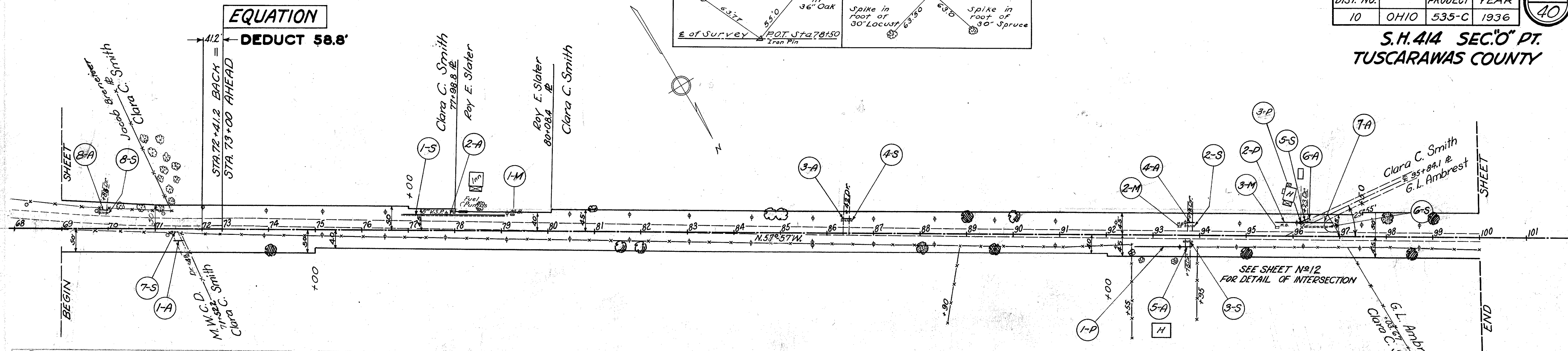
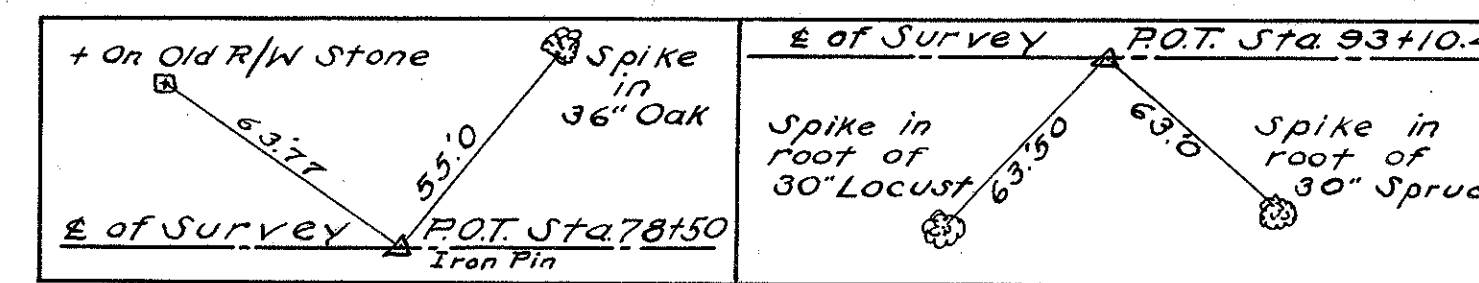
ROAD APPRS. & DRIVEWAYS					
REF. NO.	FROM STATION	TO STATION	RT. OR LT.	PIPE LIN. FT.	T.B. MATERIAL CU. YDS.
I-A	49+30	50+10	LT.	80	40
TOTAL				80	40

PIPE UNDERDRAIN						
REF. NO.	FROM STATION	TO STATION	RT. OR LT.	6" PIPE LIN. FT.	4" PIPE LIN. FT.	6"x4" PIPE YS.
ESTIMATED				1200	704	16
TO BE PLACED AT THE DIRECTION OF ENGINEER						
TOTAL				1200	704	16

TREES TO BE REMOVED STA. 40+00 TO STA. 69+00										
8"	10"	12"	15"	18"	21"	24"	28"	30"	36"	
20	18	17	26	5	16	7	3	1	1	
TOTAL No. TREES										114



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A) ROAD APPROX. & DRIVEWAYS						
REF NO.	FROM STATION	TO STATION	RT OR LT.	12" PIPE LIN. FT.	DETAIL SHEET NO.	T. B. MATERIAL CU. YDS.
1-A	71+38	71+58	RT.	20		10
2-A	76+90	79+08	LT.	218		14
3-A	86+32	86+52	LT.	20		10
4-A	93+68	93+88	LT.	20		8
5-A	93+65	93+85	RT.	20		10
6-A	96+15	96+33	LT.	20	12	4
7-A	96+15	96+85	LT.	70	12	30
8-A	69+79	69+93	LT.	20		13
		TOTAL		408		99

⑦ ROADWAY DRAINAGE						
REF. NO.	FROM STATION	TO STATION	RT. OR LT.	12" PIPE UNFT.	STD. I-8 CB-22	
1-D	92+55	93+65	RT	110		
2-D	95+63	96+13	LT	50	Sheet #12	
3-D	96+14	Sheet #12	LT		1	
TOTAL				160	1	

⑤ REMOVING & STORING PIPE						
REF. NO.	FROM STATION	TO STATION	RT. OR LT.	V.S.P. 8" LIN.FT.	C.M.P. 10" LIN.FT.	C.M.P. 12" LIN.FT.
1-S	76+90	79+06	LT	216		
2-S	93+72	93+84	LT		12	
3-S	93+65	93+85	RT		20	
4-S	86+36	86+48	LT			12
5-S	96+14	96+32	LT			20
6-S	96+14	96+76	LT			62
7-S	71+41	71+55	RT	14		
8-S	69+82	69+94	LT			12
TOTAL				230	32	106

M MAIL BOX APPROACHES						
REF. NO.	STATION	RT. OR LT.	TRAFFIC BOUND MATERIAL CU. YDS.	SIZE OF APPR.	A	B C

NEW TREES TO BE PLANTED				
SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY

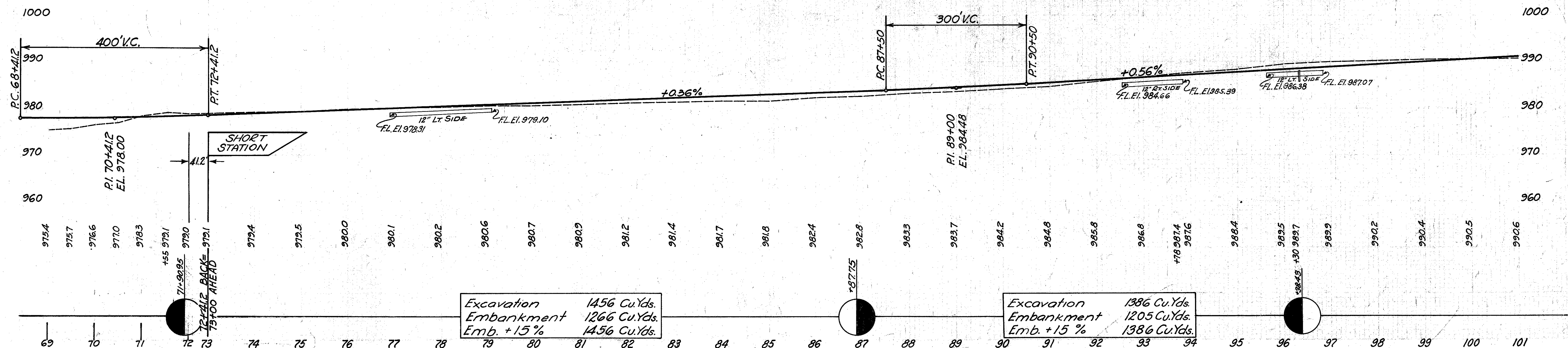
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B.M. El. 980.16
Spike in 15\"/>

B.M. El. 981.31
Spike in 40\"/>

B.M. El. 982.58
Spike in 28\"/>

B.M. El. 990.81
Spike in 15\"/>



Excavation 1456 Cu.Yds.
Embankment 1266 Cu.Yds.
Emb. + 15% 1456 Cu.Yds.

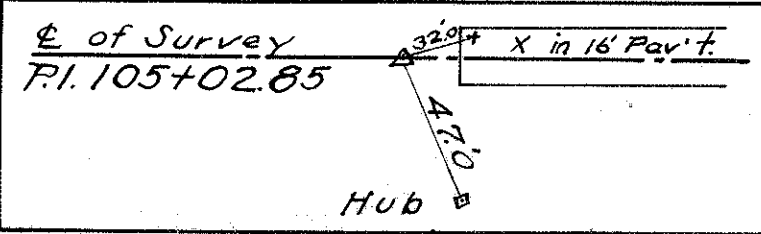
Excavation 1386 Cu.Yds.
Embankment 1205 Cu.Yds.
Emb. + 15% 1386 Cu.Yds.

STA. 104+93.6 END
FED. AID PROJECT No 535-C

STA. 0+000 BEG OF F.A.P. 535-B

Marker to be furnished
and erected by STATE
or OHIO before acceptance
of this Project

FA. 535-C

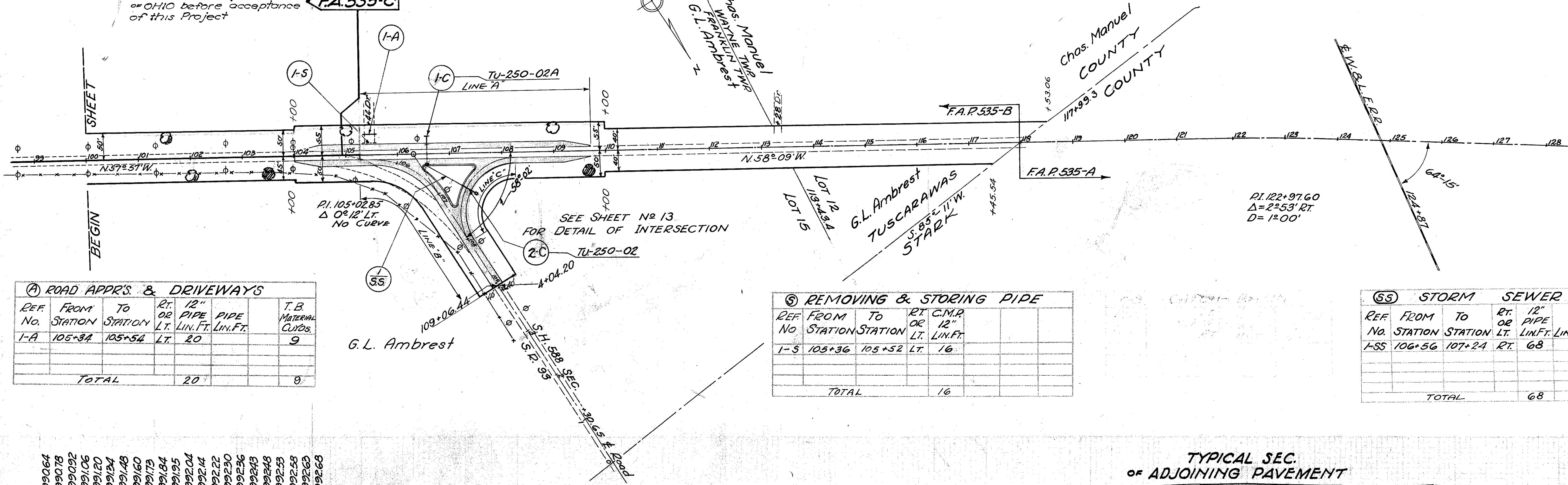


© STRUCTURES UNDER 20' SPAN					
REF. NO.	STATION	REMOVAL TYPE	NEW WORK SIZE	DETAIL SHEET NO.	
1-C	106+57.3	PIPE	H. WS.	PIPE 12"x22"	31
2-C	107+00. LINE C	—	—	C.I.P. 12"x36"	31

NEW TREES TO BE PLANTED			
SYMBOL	SCIENTIFIC NAME - COMMON	SIZE	QUANTITY
⊙	QUERCUS PALUSTRIS - PIN OAK	1 1/2" - 2" Caliper	2
⊙	ACER RUBRUM - RED MAPLE	"	2
⊙	ULMUS AMERICANA - AMERICAN ELM	"	2

FED. RD. DIST. No	STATE	FED. AID PROJECT	FISCAL YEAR	7/40
10	OHIO	535-C	1936	

S.H. 414 SEC. 00 PT.
TUSCARAWAS COUNTY

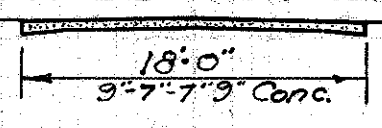


A ROAD APPRS. & DRIVEWAYS					
REF. No.	FROM STATION	TO STATION	RT. OR LT.	12" PIPE LIN. FT.	T.B. MATERIAL CUB. YDS.
1-A	105+34	105+54	LT.	20	9
TOTAL				20	9

© REMOVING & STORING PIPE					
REF. No.	FROM STATION	TO STATION	RT. OR LT.	C.M.P. 12" LIN. FT.	
1-5	105+36	105+52	LT.	16	
TOTAL				16	

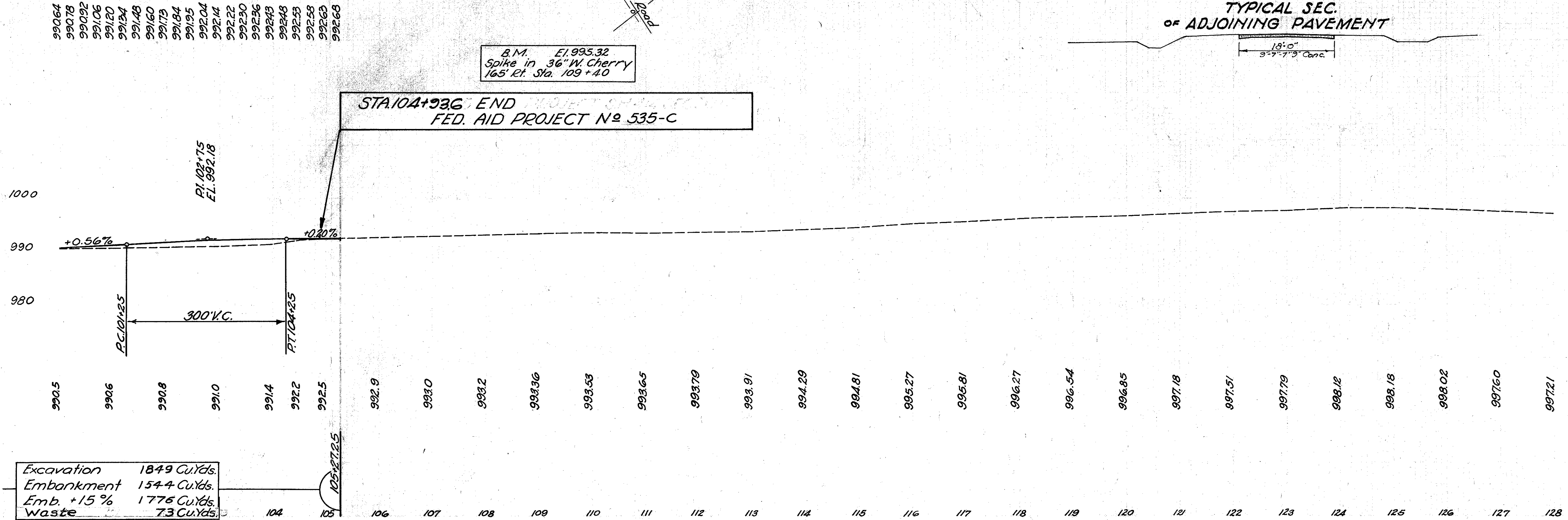
© STORM SEWER					
REF. No.	FROM STATION	TO STATION	RT. OR LT.	12" PIPE LIN. FT.	DETAIL SHEET NO.
1-SS	106+56	107+24	RT.	68	13
TOTAL				68	

TYPICAL SEC. OF ADJOINING PAVEMENT



B.M. EL. 995.32
Spike in 36" W. Cherry
165' El. Sta. 109+40

STA. 104+93.6 END
FED. AID PROJECT No 535-C



Excavation	1849 Cu.Yds.
Embankment	1544 Cu.Yds.
Emb. +15 %	1776 Cu.Yds.
Waste	73 Cu.Yds.

S.H. NO 414. SEC. "O" Pt.
TUSCARAWAS COUNTY

PC. 58+11.35			L = 577.33' D = 2° 30' Lt.		RT. 63+88.68		
LEFT					RIGHT		
DEDC CROWN	EDGE OF PAVEMT	WIDTH	STATION	GRADE ELEV.	WIDTH	EDGE OF PAVEMT	ADD. SURF
0.17	981.22	10.00	57 +21.83	981.39	10.00	981.22	0.00
	981.21		+25	981.38		981.21	0.00
	981.08		+50	981.25		981.15	0.07
	980.96		+75	981.13		981.22	0.26
	980.83		58 +00	981.00		981.39	0.56
	980.71		+25	980.88		981.55	0.84
	980.58		+50	980.75		981.58	1.00
	980.47		+71.83	980.64		981.51	1.04
	980.46		+75	980.63		981.50	
	980.33		59 +00	980.50		981.37	
	980.21		+25	980.38		981.25	
	980.08		+50	980.25		981.12	
	979.96		+75	980.13		981.00	
	979.83		60 +00	980.00		980.87	
	979.71		+25	979.88		980.75	
	979.58		+50	979.75		980.62	
	979.46		+75	979.63		980.50	
	979.33		61 +00	979.50		980.37	
	979.21		+25	979.38		980.25	
	979.08		+50	979.25		980.12	
	978.96		+75	979.13		980.00	
	978.83		62 +00	979.00		979.87	
	978.71		+25	978.88		979.75	
	978.60		+50	978.77		979.64	
	978.50		+75	978.67		979.54	
	978.39		63 +00	978.56		979.43	
	978.31		+25	978.48		979.35	
	978.22		+50	978.39		979.26	
	978.15		+75	978.32		979.19	
	978.11		+88.68	978.28		979.15	1.04
	978.08		64 +00	978.25		979.11	1.03
	978.02		+25	978.19		978.94	0.92
	977.97		+50	978.14		978.66	0.69
	977.93		+75	978.10		978.31	0.38
	977.89		65 +00	978.06		978.03	0.14
	977.87		+25	978.04		977.89	0.02
0.17	977.86	10.00	+38.68	978.03	10.00	977.86	0.00

No Extra Pavement Area

- ① BASE, $10' \times 1' \times 50' = 275.0'$ or 30.6 Sq. Yds.
- BRICK, $9.25' \times 0.25' \times 50' = 237.5'$ or 26.4 Sq. Yds.
- ② BASE, $296.3' \times 10' = 2963.0'$ or 329.2 Sq. Yds.
- BRICK, $296.3' \times 9.25' = 2740.8'$ or 304.5 Sq. Yds.
- ③ BASE, Same as 1 or 30.6 Sq. Yds.
- BRICK, Same as 1 or 26.4 Sq. Yds.
- ⑦ BASE, " " " or 30.6 Sq. Yds.
- BRICK, " " " or 26.4 Sq. Yds.

0+01.6 = Beginning of
F.A. Project No. 535-C.

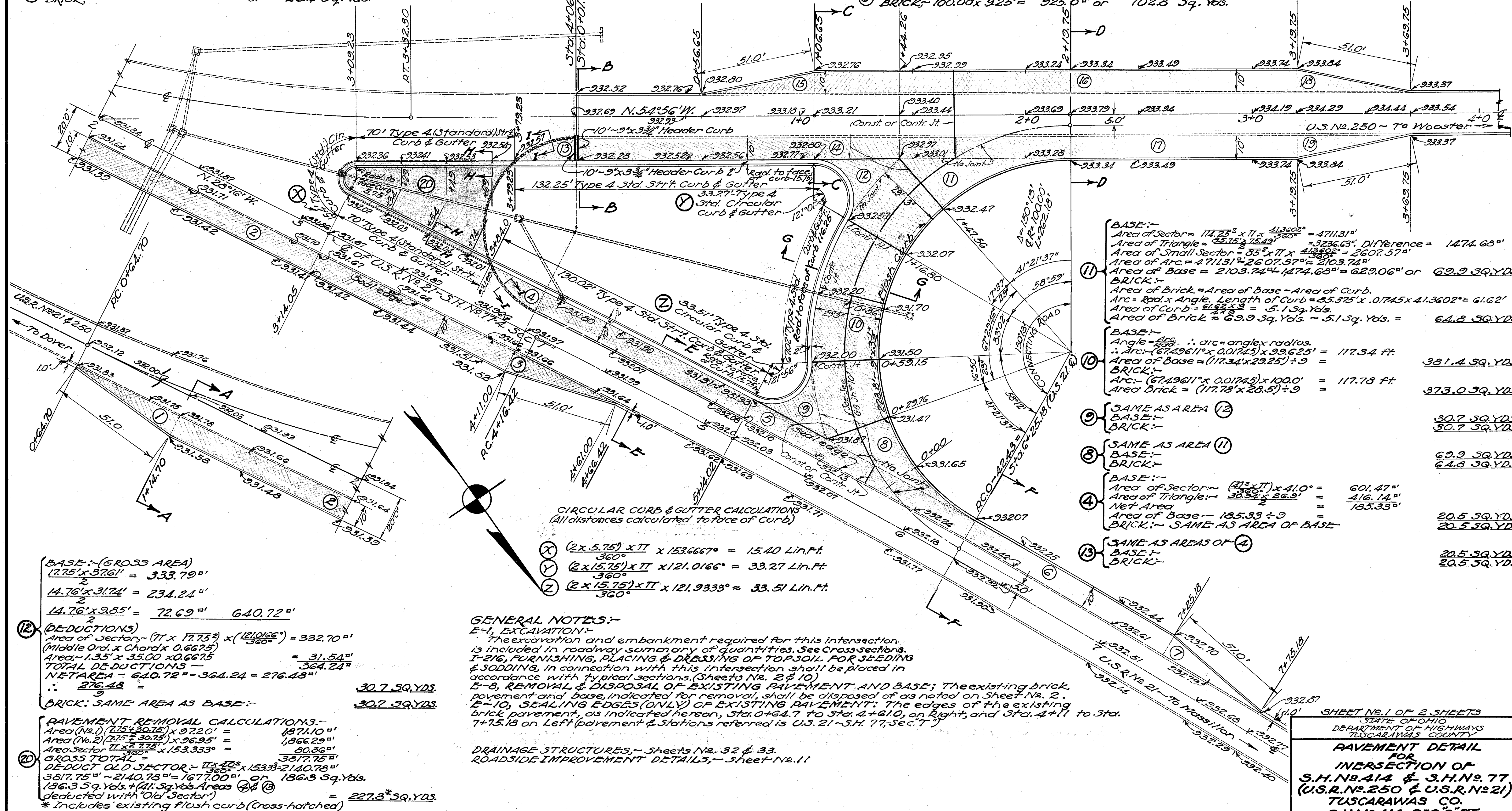
- ⑫ BASE, $10' \times 50' = 250'$ or 27.7 Sq. Yds.
- BRICK, $10' \times 9.25' = 250'$ or 27.7 Sq. Yds.
- ⑬ BASE, Same as 15 or 27.7 Sq. Yds.
- BRICK, Same as 15 or 27.7 Sq. Yds.
- ⑭ BASE, " " " or 27.7 Sq. Yds.
- BRICK, " " " or 27.7 Sq. Yds.

- ⑭ BASE, $218.15' \times 9.25' = 2017.9'$ or 224.2 Sq. Yds.
- BRICK, $218.15' \times 10' = 2181.5'$ or 242.4 Sq. Yds.
- ⑮ BASE, $213.10' \times 10' = 2131.0'$ or 236.8 Sq. Yds.
- BRICK, $213.10' \times 10' = 2131.0'$ or 236.8 Sq. Yds.
- ⑯ BASE, $100.00' \times 10' = 1000.0'$ or 111.1 Sq. Yds.
- BRICK, $100.00' \times 10' = 1000.0'$ or 111.1 Sq. Yds.
- ⑰ BASE, $214.18' \times 9.25' = 1981.2'$ or 220.1 Sq. Yds.
- BRICK, $214.18' \times 9.25' = 1981.2'$ or 220.1 Sq. Yds.
- ⑱ BASE, $100.00' \times 10' = 1000.0'$ or 111.1 Sq. Yds.
- BRICK, $100.00' \times 9.25' = 925.0'$ or 102.8 Sq. Yds.

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO	535-C	1936

9
40

TUSCARAWAS COUNTY
S.H. No. 414 - SEC. 10 PT.



⑪ BASE:-
Area of Sector $= \frac{1}{2} \times 17.75^2 \times \pi \times \frac{41.3602}{360} = 4711.31'$
Area of Triangle $= \frac{1}{2} \times 17.75' \times 75.42' = 336.63'$ Difference = 1474.68'
Area of Small Sector $= \frac{1}{2} \times 85' \times \pi \times \frac{41.3602}{360} = 2607.57'$
Area of Arc $= 4711.31' - 2607.57' = 2103.74'$
Area of Base $= 2103.74' - 1474.68' = 629.06'$ or 69.9 SQ. YDS.

BRICK:-
Area of Brick = Area of Base - Area of Curb.
Arc $= \text{Rad.} \times \text{Angle}$ Length of Curb $= 85.375' \times 0.0745 \times 41.3602' = 61.62'$
Area of Curb $= \frac{1}{2} \times 85.375' \times 5.1' = 5.1 \text{ Sq. Yds.}$
Area of Brick = 69.9 Sq. Yds. - 5.1 Sq. Yds. = 64.8 SQ. YDS.

⑩ BASE:-
Angle $= \frac{\text{Arc}}{\text{Rad.}}$ $\therefore \text{arc} = \text{angle} \times \text{radius}$
 $\therefore \text{Arc} = (67.4961' \times 0.0745) \times 99.625' = 117.34 \text{ ft.}$
Area of Base $= (117.34' \times 29.25') \div 9 = 381.4 \text{ SQ. YDS.}$

BRICK:-
Arc $= (67.4961' \times 0.0745) \times 100.0' = 117.78 \text{ ft.}$
Area of Brick $= (117.78' \times 28.5') \div 9 = 373.0 \text{ SQ. YDS.}$

⑨ SAME AS AREA ⑩
BASE:- 30.7 SQ. YDS.
BRICK:- 30.7 SQ. YDS.

⑧ SAME AS AREA ⑩
BASE:- 69.9 SQ. YDS.
BRICK:- 64.8 SQ. YDS.

④ BASE:-
Area of Sector $= \frac{1}{2} \times 27^2 \times \pi \times \frac{41.0}{360} = 601.47'$
Area of Triangle $= \frac{1}{2} \times 30.92' \times 26.9' = 416.14'$
Net Area $= \frac{1}{2} \times 185.33' \div 9 = 20.5 \text{ SQ. YDS.}$
BRICK:- SAME AS AREA OF BASE
20.5 SQ. YDS.

⑬ SAME AS AREAS OF ④
BASE:- 20.5 SQ. YDS.
BRICK:- 20.5 SQ. YDS.

SHEET NO. 1 OF 2 SHEETS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
TUSCARAWAS COUNTY

PAVEMENT DETAIL

FOR

INTERSECTION OF

S.H. No. 414 & S.H. No. 77

(U.S. No. 250 & U.S. No. 21)

TUSCARAWAS CO.

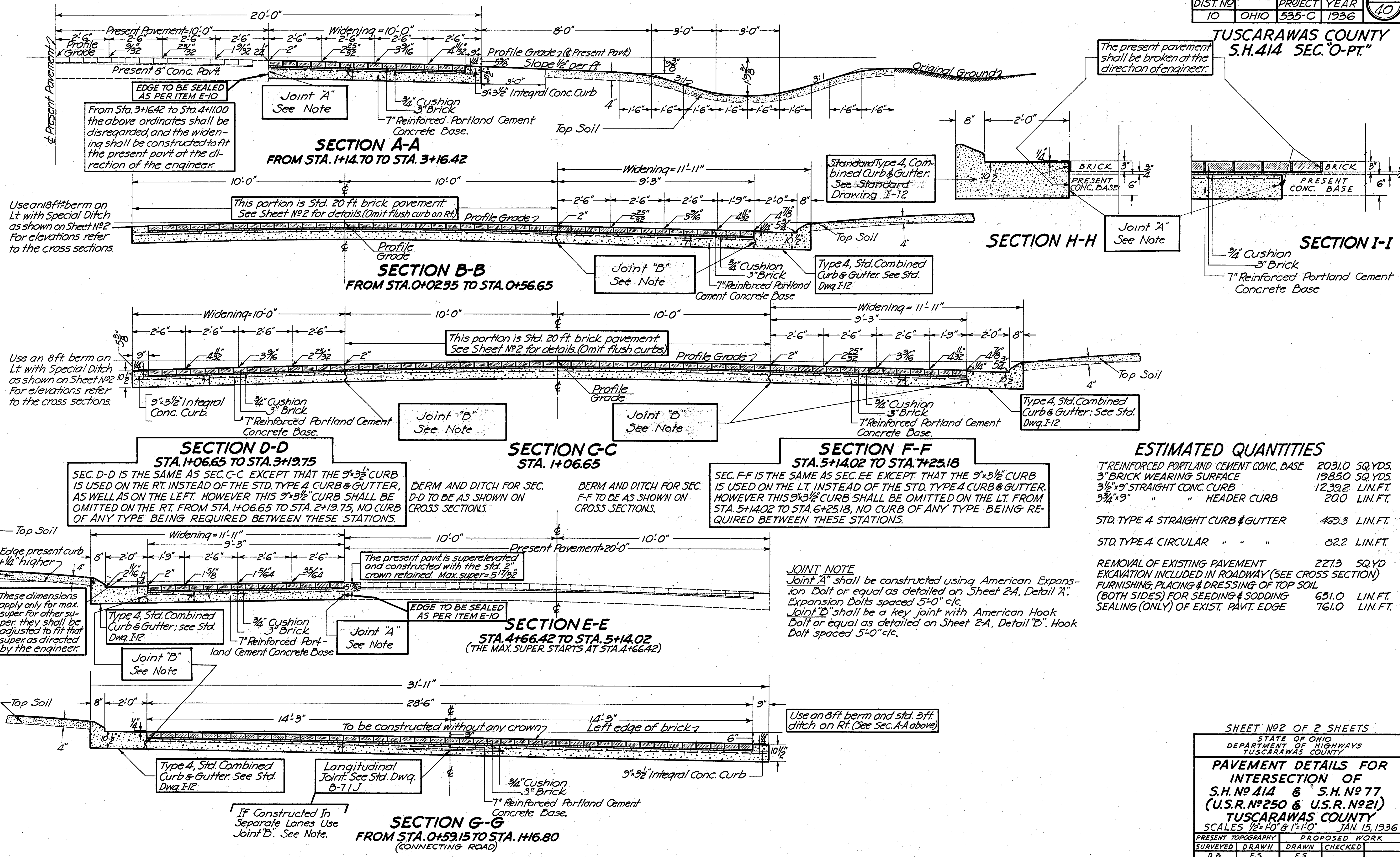
S.H. No. 414 - SEC. 10 PT.

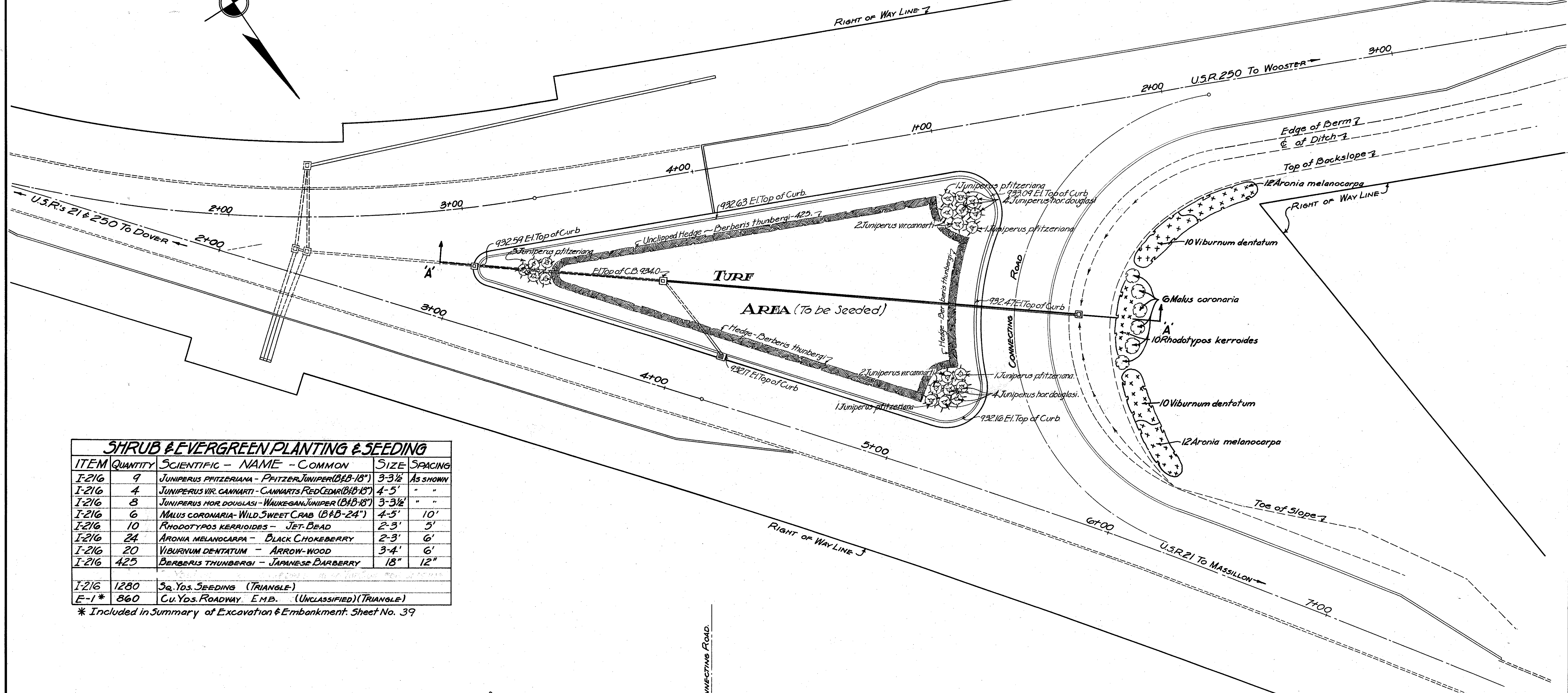
SCALE: 1" = 20'

PRES. TOPOG. PROPOSED WORK
SURVEY PRN. & TRCD. DRN. & TRCD. CHECKED
D.B. W.H.T. W.H.T.

TUSCARAWAS COUNTY
S.H. 414 SEC. "O-PT."

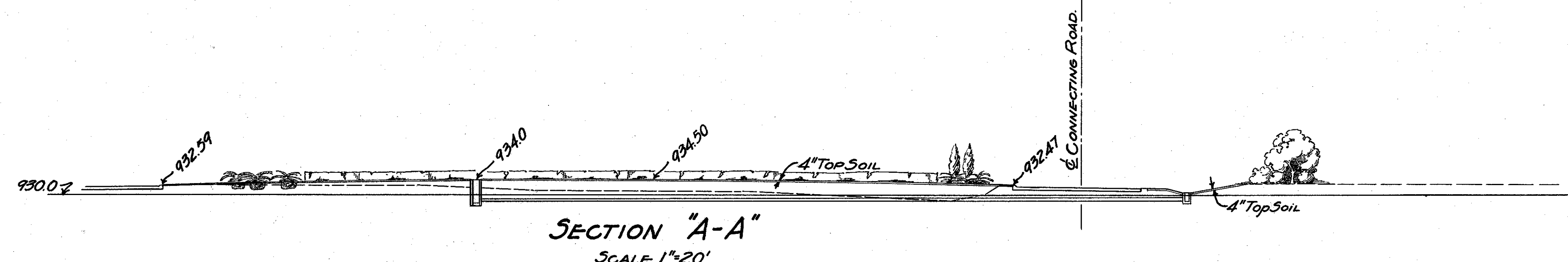
The present pavement shall be broken at the direction of engineer.





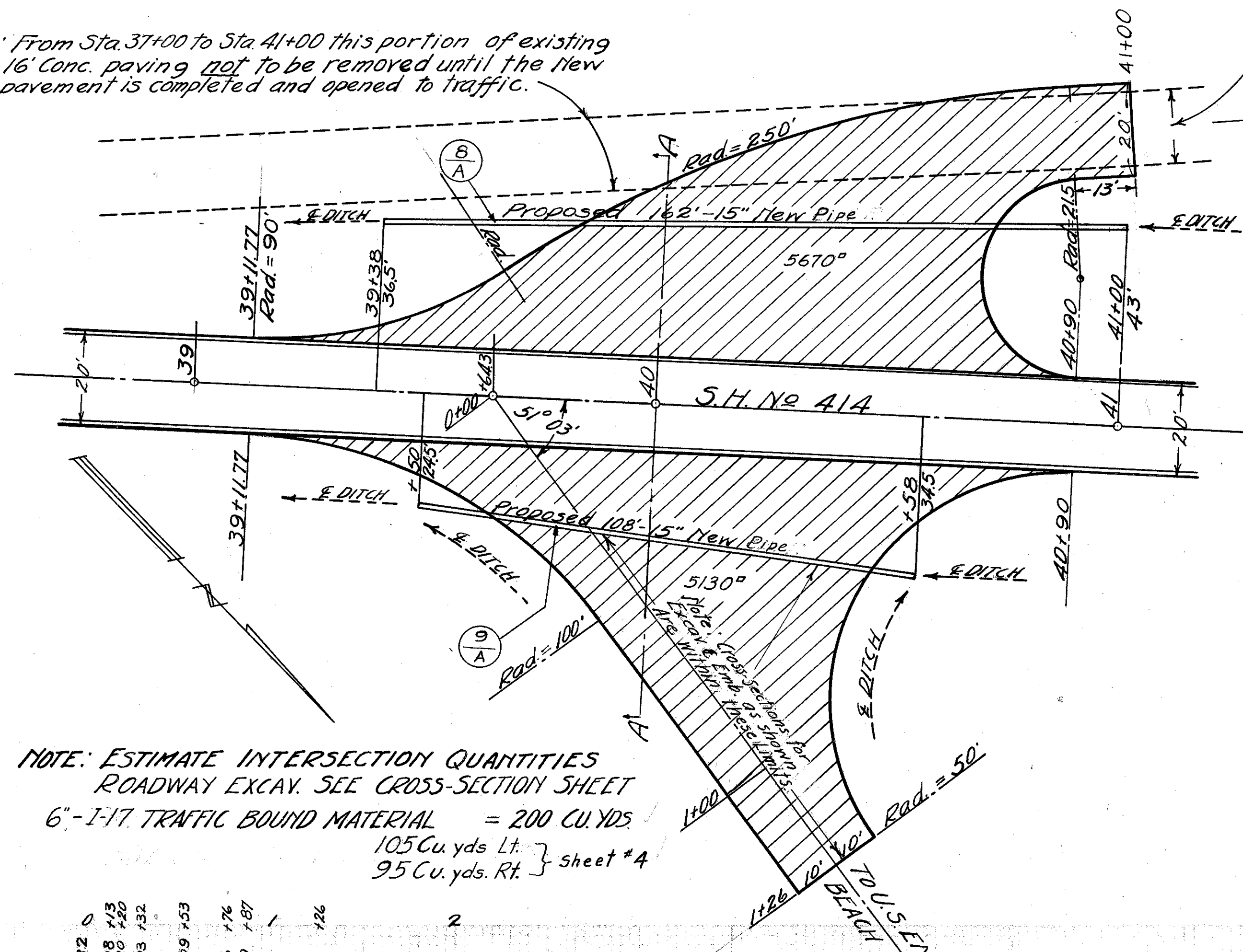
SHRUB & EVERGREEN PLANTING & SEEDING				
ITEM	QUANTITY	SCIENTIFIC - NAME - COMMON	SIZE	SPACING
I-216	9	JUNIPERUS PFITZERIANA - PFITZER JUNIPER (B&B-18")	3-3 1/2	As shown
I-216	4	JUNIPERUS VIR. GANNARTI - GANNARTS RED CEDAR (B&B-18")	4-5'	" "
I-216	8	JUNIPERUS HOR. DOUGLASI - WAUKEGAN JUNIPER (B&B-18")	3-3 1/2	" "
I-216	6	MALUS CORONARIA - WILD SWEET CRAB (B&B-24")	4-5'	10'
I-216	10	RHODOTYPOS KERRIODES - JET-BEAD	2-3'	5'
I-216	24	ARONIA MELANOCARPA - BLACK CHOKEBERRY	2-3'	6'
I-216	20	VIBURNUM DENTATUM - ARROW-WOOD	3-4'	6'
I-216	425	BERBERIS THUNBERGI - JAPANESE BARBERRY	18"	12"
I-216	1280	Sq. Yds. SEEDING (TRIANGLE)		
E-1*	860	Cu. Yds. ROADWAY E.M.B. (UNCLASSIFIED) (TRIANGLE)		

* Included in Summary of Excavation & Embankment. Sheet No. 39

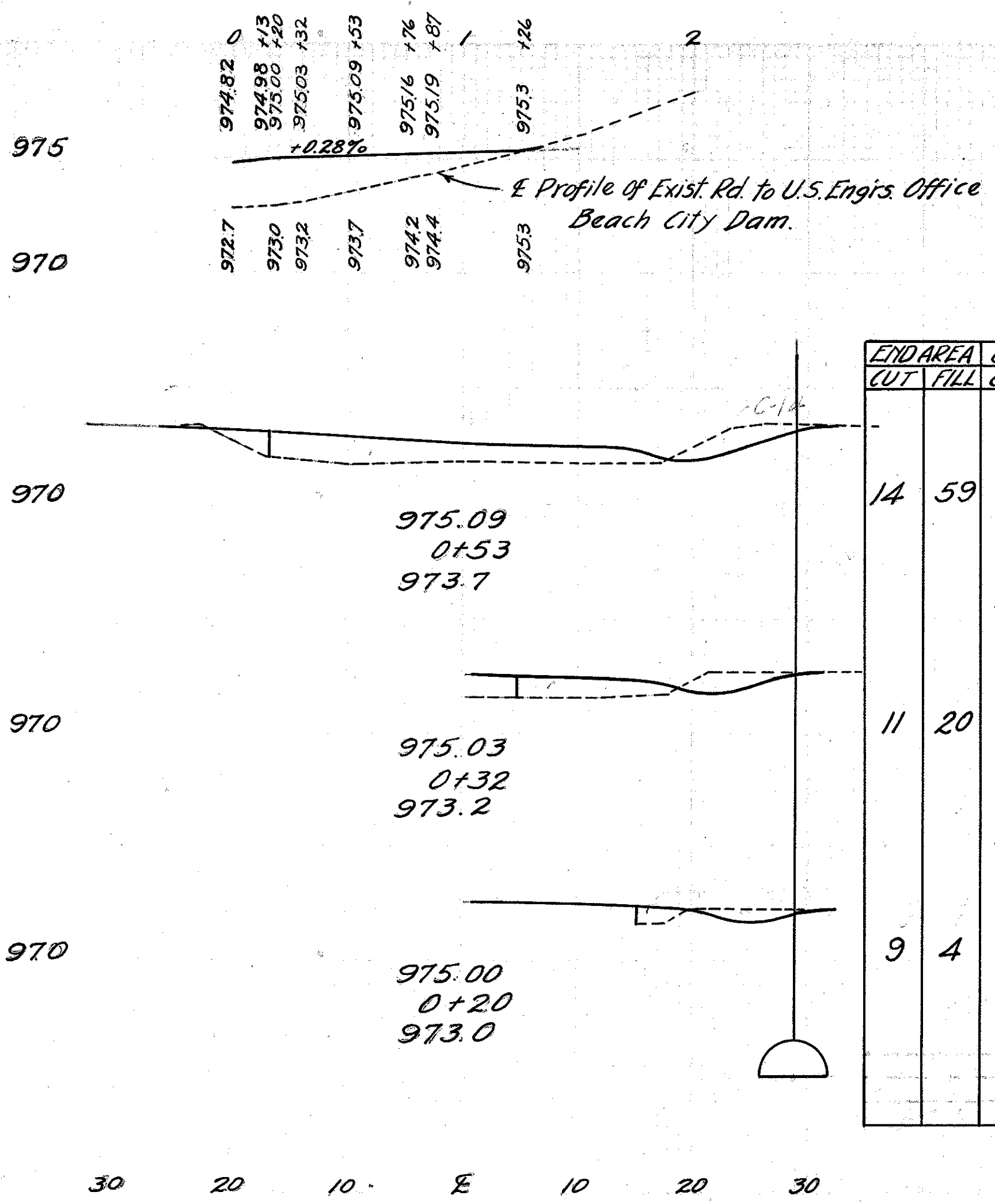


S.H. 414 SEC. 0 PT.
TUSCARAWAS COUNTY

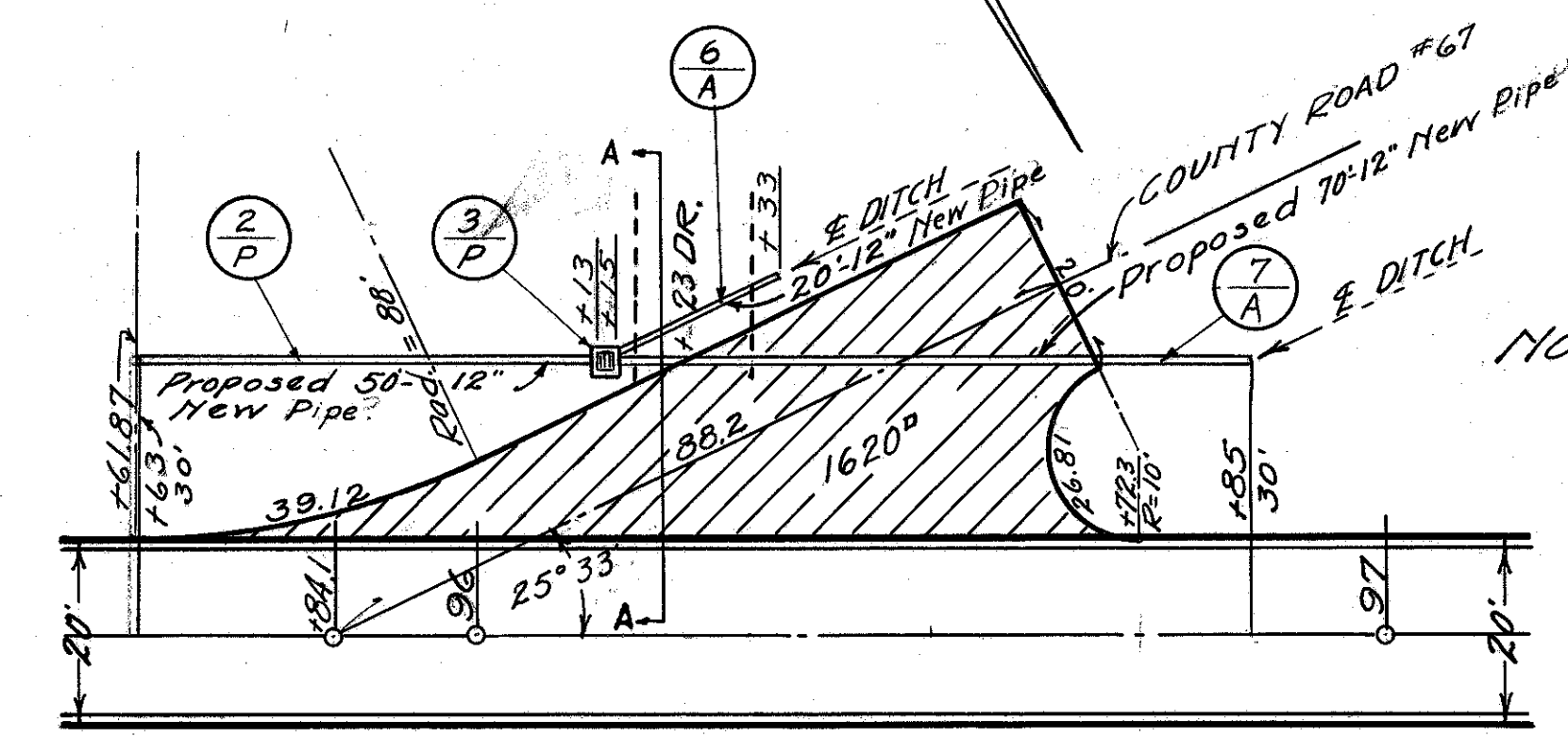
Note: From Sta. 37+00 to Sta. 41+00 this portion of existing 16' Conc. paving not to be removed until the new pavement is completed and opened to traffic.



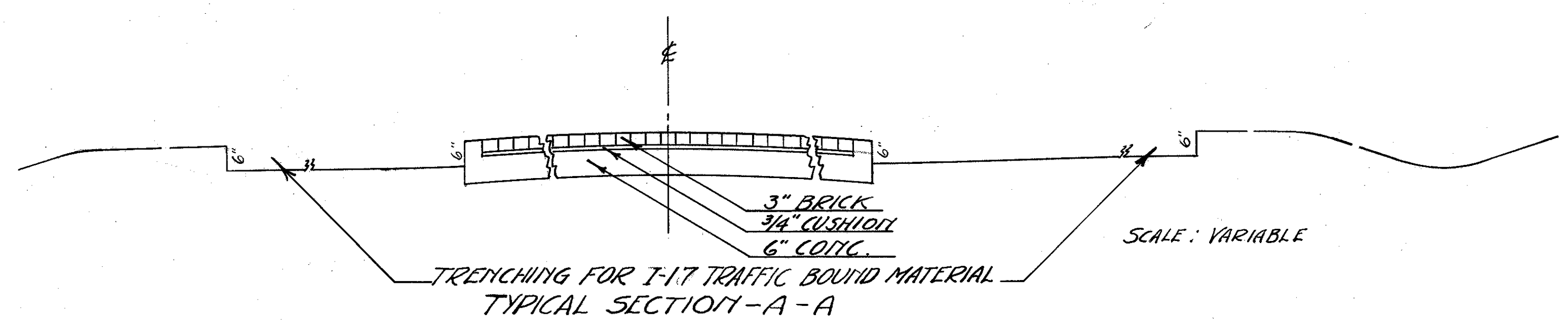
NOTE: ESTIMATE INTERSECTION QUANTITIES
ROADWAY EXCAV. SEE CROSS-SECTION SHEET
6"-I-17 TRAFFIC BOUND MATERIAL = 200 CU. YDS
105 Cu. yds Lt. } Sheet #4
95 Cu. yds Rt. }



END AREA		CU. YDS	
CUT	FILL	CUT	FILL
14	59		
		10	31
11	20		
		4	5
9	4		



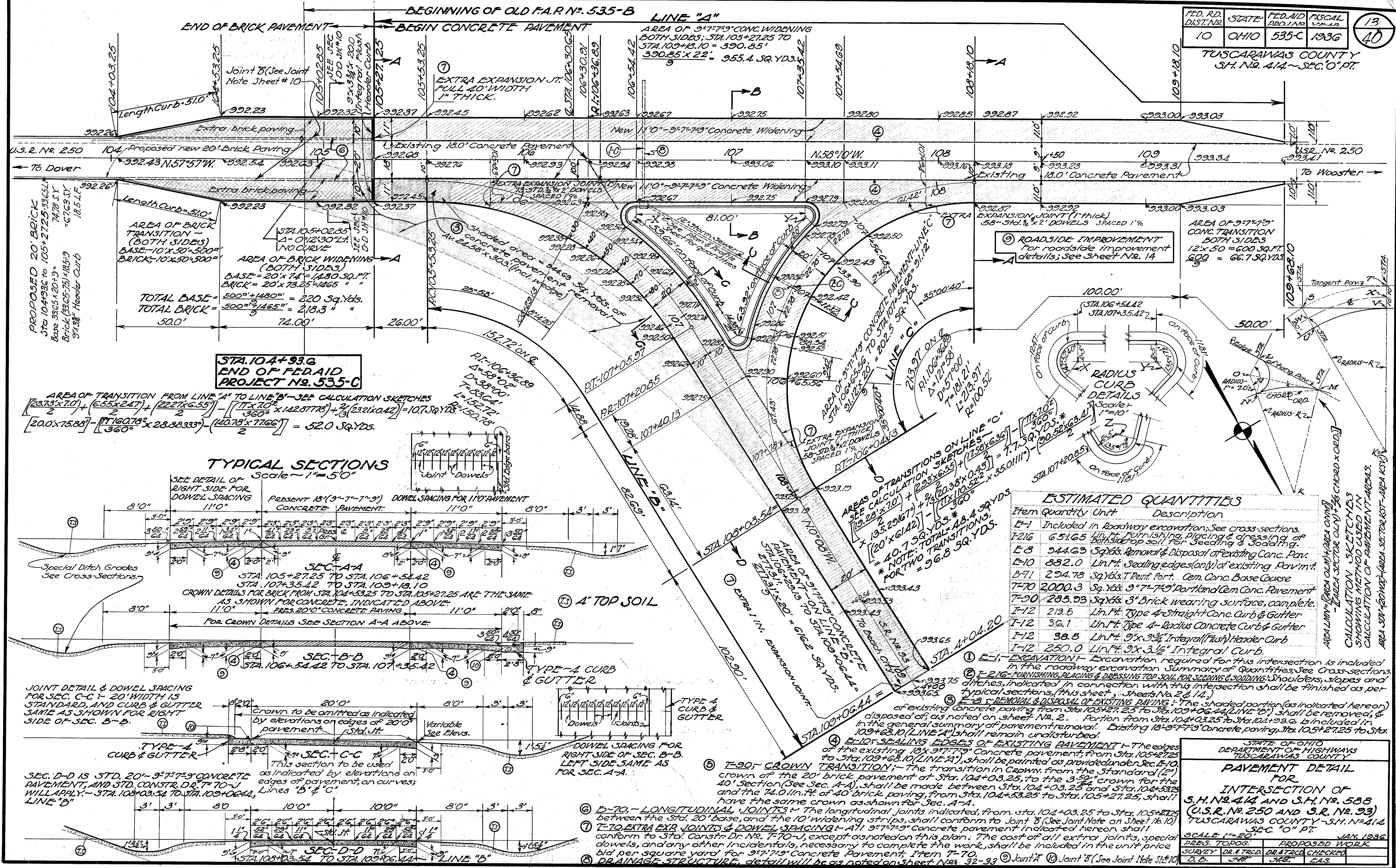
NOTE: ESTIMATE INTERSECTION QUANTITIES
6"-I-17 TRAFFIC BOUND MATERIAL = 30 CU. YDS
Sheet #6



Note: Payment for excavation or trenching shall be included in the unit price bid per Cu. Yd. for Item I-17

END AREA		CU. YDS	
CUT	FILL	CUT	FILL
0	0		
		125	22
173	31		
		45	16
49	48		
		27	46

EXCAVATION 211 Cu Yds
EMBANKMENT 120 CU YDS
Carried to X-Sept Sheet No 21



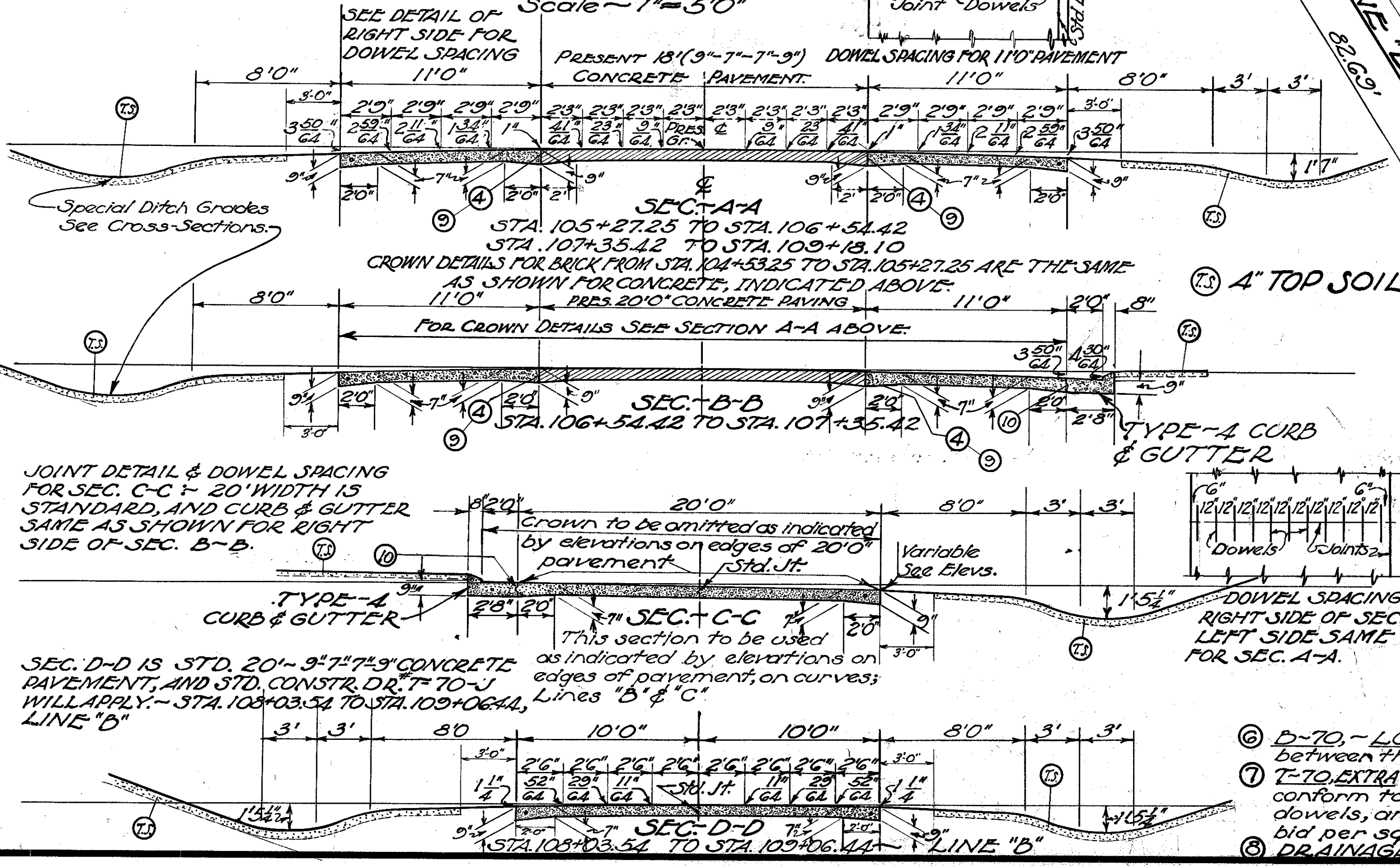
STA. 104+93.6
END OF F.D.AID
PROJECT NO. 535-C

AREA OF TRANSITION FROM LINE "A" TO LINE "B" - SEE CALCULATION SKETCHES

$$\left[\frac{(23.73 \times 7.0)}{2} + \frac{(6.55 \times 2.47)}{2} + \frac{(22.27 \times 6.55)}{2} \right] - \left[\frac{(11 \times 70^2)}{360} \times 142.87778 \right] + \frac{2}{3} (23.21 \times 0.42) = 10.7 \text{ Sq. Yds.}$$

$$\left[\frac{(20.0 \times 75.88)}{2} - \left[\frac{(1160.78^2)}{360} \times 23.33333 \right] - \left[\frac{(140.78 \times 7.766)}{2} \right] \right] = 52.0 \text{ Sq. Yds.}$$

TYPICAL SECTIONS
Scale - 1" = 50'



ESTIMATED QUANTITIES

Item	Quantity	Unit	Description
E-1	Included		In Roadway excavation; See cross-sections.
T-216	651.65	Lin. Ft.	Furnishing, placing & dressing of topsoil for seeding & sodding.
E-8	244.63	Sq. Yds.	Removal & disposal of existing Conc. Pav.
E-10	882.0	Lin. Ft.	Sealing edges (only) of existing Pav. m't.
B-71	294.78	Sq. Yds.	Reinf. Port. Cem. Conc. Base Course
T-70	2000.3	Sq. Yds.	9'-7'-9" Portland Cem. Conc. Pavement
T-90	285.93	Sq. Yds.	3" Brick wearing surface, complete.
T-12	213.5	Lin. Ft.	Type 4-Straight Conc. Curb & Gutter
T-12	36.1	Lin. Ft.	Type 4-Radius Concrete Curb & Gutter
T-12	38.5	Lin. Ft.	9'-3'-3 1/2" Integral (Flush) Header Curb
T-12	250.0	Lin. Ft.	9'-3'-3 1/2" Integral Curb.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
TUSCARAWAS COUNTY

PAVEMENT DETAIL
FOR
INTERSECTION OF
S.H. NO. 414 AND S.H. NO. 588
(U.S.R. NO. 250 AND S.R. NO. 93)
TUSCARAWAS COUNTY - S.H. NO. 414
SEC. 0 PT.

SCALE 1" = 20'

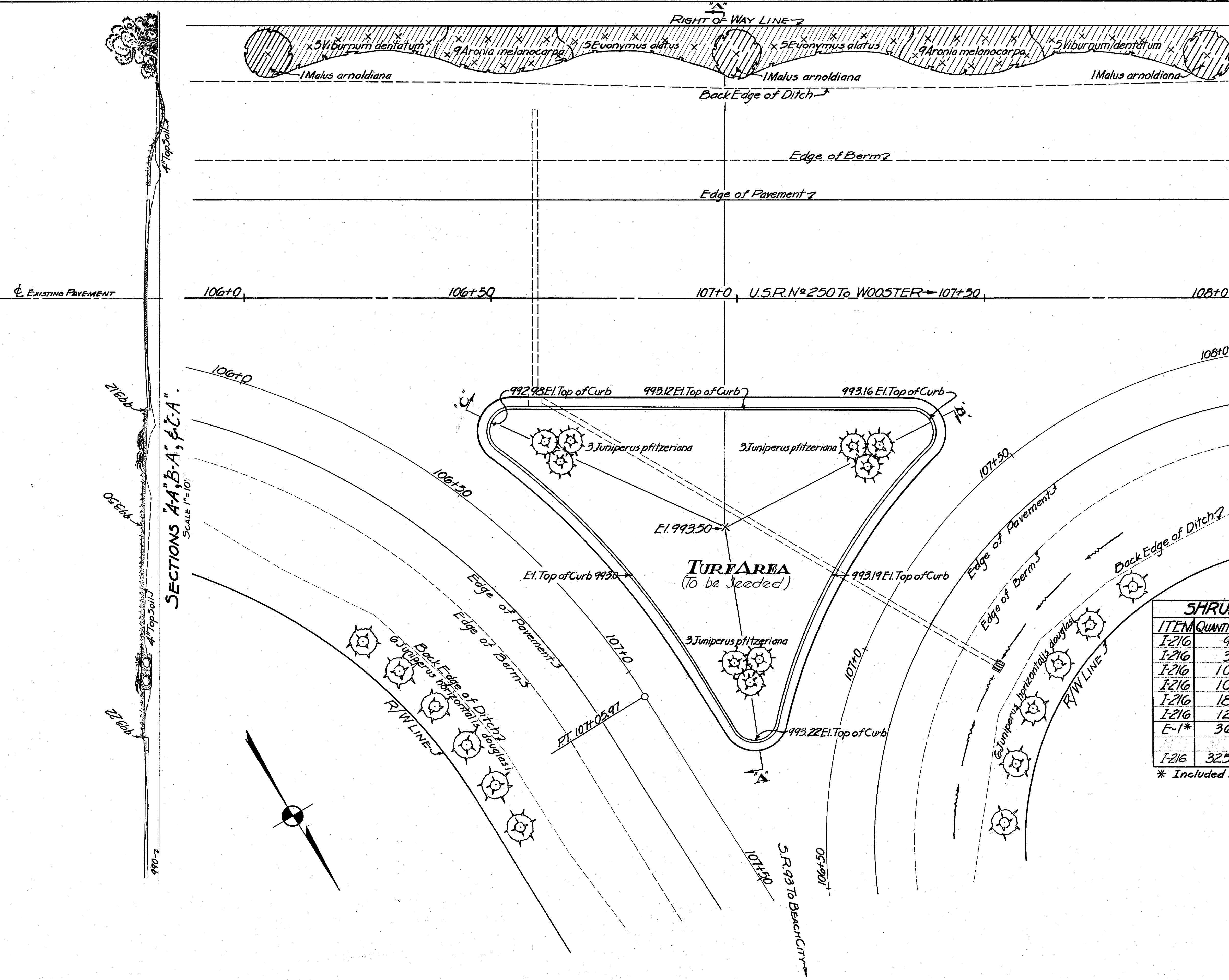
DES. TOPOG.	PROPOSED WORK
SURVEY	DR. & TRCD
D.E.	DR. & TRCD
J.H.	J.H.
J.H.	J.H.
J.H.	J.H.

JAN. 1936

- E-1, EXCAVATION - Excavation required for this intersection is included in the roadway excavation. Summary of Quantities, See Cross-sections.
- T-216, FURNISHING, PLACING & DRESSING TOP SOIL FOR SEEDING & SODDING: Shoulders, slopes and ditches, indicated in connection with this intersection shall be finished as per typical sections, (this sheet - Sheets No. 2 & 14.)
- E-8, REMOVAL & DISPOSAL OF EXISTING PAVING: The shaded portion (as indicated hereon) of existing concrete paving from Sta. 105+27.25 to Sta. 109+06.44 (LINE "B") shall be removed, & in the general summary of pavement removal. Existing 18'-9'-7'-9" concrete paving, Sta. 105+27.25 to Sta. 109+06.44 (LINE "A") shall remain undisturbed.
- E-10, SEALING EDGES OF EXISTING PAVEMENT - The edges of the existing 18'-9'-7'-9" concrete paving, from Sta. 105+27.25 to Sta. 109+06.44 (LINE "A"), shall be painted as provided under Sec. E-10.
- T-90, CROWN TRANSITION: The transition in crown, from the Standard (2") crown of the 20' brick pavement at Sta. 104+03.25, to the 3"-5 1/2" crown for the 40' section (See Sec. A-A), shall be made between Sta. 104+03.25 and Sta. 104+53.25 and the 74.0 lin. ft. of 40' brick paving, from Sta. 104+53.25 to Sta. 105+27.25, shall have the same crown as shown for Sec. A-A.
- B-70, LONGITUDINAL JOINTS - The longitudinal joints indicated, from Sta. 104+03.25 to Sta. 105+27.25 between the Std. 20' base, and the 10' widening strips, shall conform to Joint "B" (See Joint Note on Sheet No. 10).
- T-70, EXTRA EXP. JOINTS & DOWEL SPACING - All 9'-7'-9" concrete pavement indicated hereon shall conform to Std. Constr. Dr. No. T-70, except as noted on this plan. The cost of all extra joints, special dowels, and any other incidentals, necessary to complete the work, shall be included in the unit price bid per square yard for 9'-7'-9" concrete pavement, Item T-70.
- RAINAGE STRUCTURE, detail will be as noted on Sheet Nos. 32-33
- Joint "A" 10 Joint "B" (See Joint Note Sheet No. 10)

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.
10	OHIO	535C	1936	40

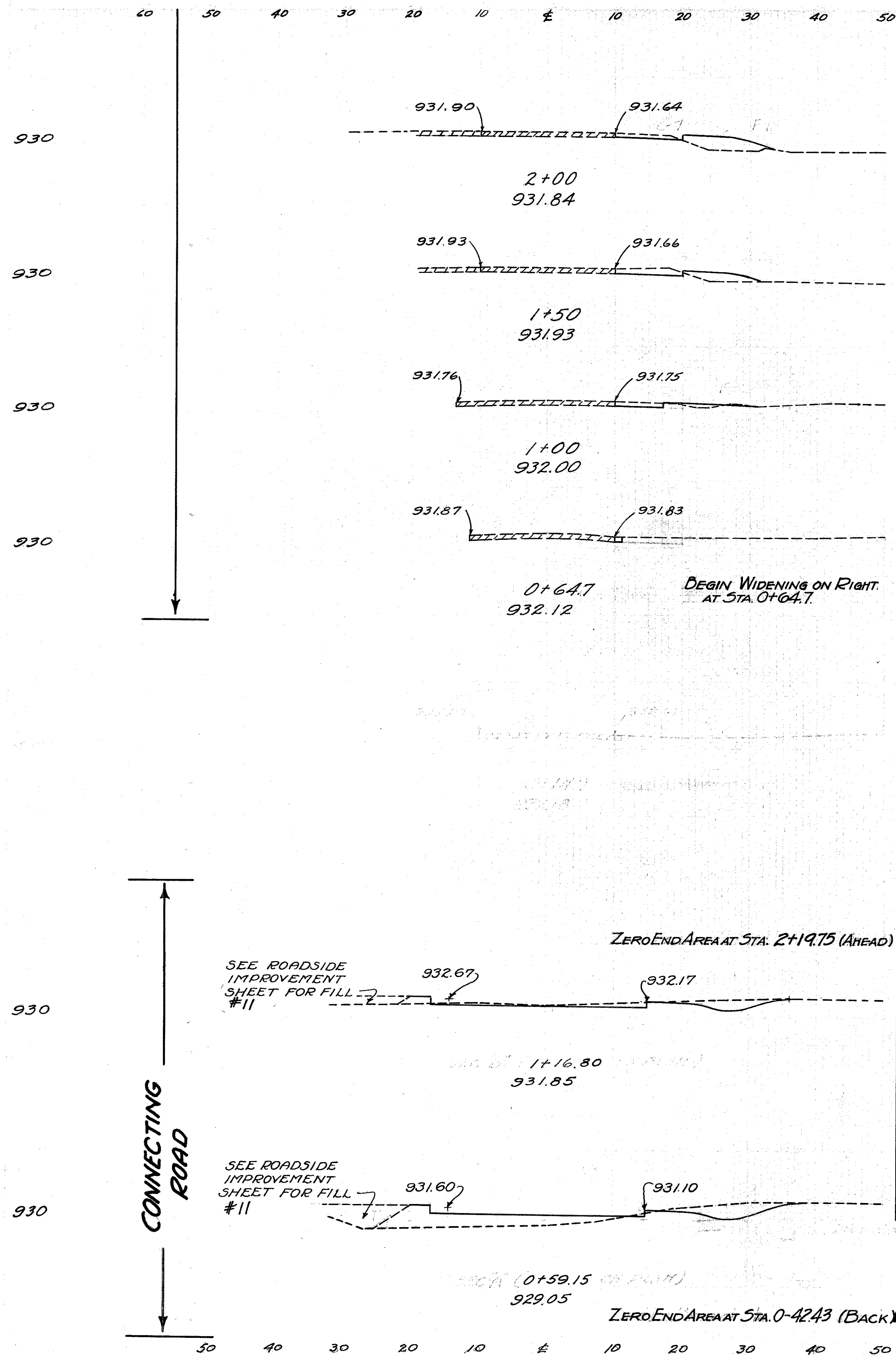
TUSCARAWAS COUNTY
S.H. 414 SEC. 0-PT



SHRUB & EVERGREEN PLANTING & SEEDING				
ITEM	QUANTITY	SCIENTIFIC - NAME - COMMON	SIZE	SPACING
I-216	9	JUNIPERUS PFITZERIANA - PITZERS JUNIPER (B&B 18")	3-3 1/2'	6'
I-216	3	MALUS ARNOLDIANA - ARNOLD'S FLOWERING CRAB (B&B 24")	4-5'	As Shown
I-216	10	VIBURNUM DENTATUM - ARROWWOOD	3-4'	6'
I-216	10	EUONYMUS ALATUS - WINGED BURNINGBUSH	3-4'	6'
I-216	18	ARONIA MELANOCARPA - BLACK CHOKEBERRY	2-3'	6'
I-216	12	JUNIPERUS H. DOUGLASI - WAUKEGAN JUNIPER (B&B 18")	3-3 1/2'	10'
E-1*	36	CU. YDS. ROADWAY E.M.B. (UNCLASSIFIED) TRIANGLE		
I-216	325	SQ. YDS. SEEDING (ESTIMATED) TRIANGLE		

* Included in Summary of Excavation & Embankment. Sheet No. 39.

STATE OF OHIO DEPARTMENT OF HIGHWAYS TUSCARAWAS COUNTY			
ROADSIDE IMPROVEMENT DETAIL FOR INTERSECTION OF S.H. NO. 414 & S.H. NO. 588 (U.S.R. NO. 250 & S.R. NO. 93) TUSCARAWAS COUNTY S.H. NO. 414 SCALE 1"=10' SEC. 0 (PT.) JANUARY 1936.			
PRES. TOPOGRAPHY	PROPOSED WORK		
SURVEYED DR. & TR.	DR. & TR. CHECKED		
D.B.	H.T.	E.P.S.	

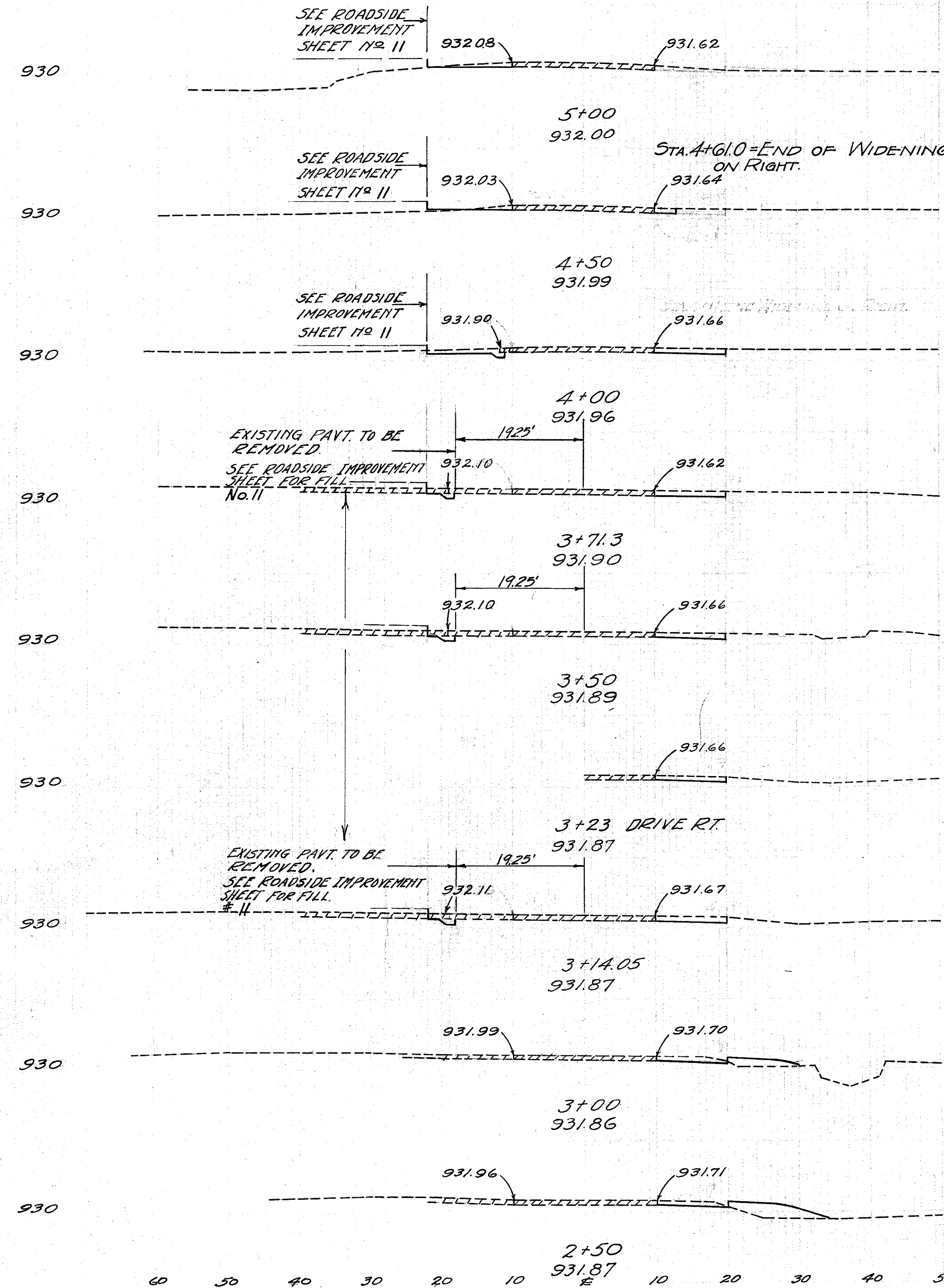


END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
7	18		
	14	28	
8	12		
	14	13	
7	2		
	5	1	
1	0		
0	0		
26	4	49	7
	52	66	
23	58		
	44	109	
0	0		

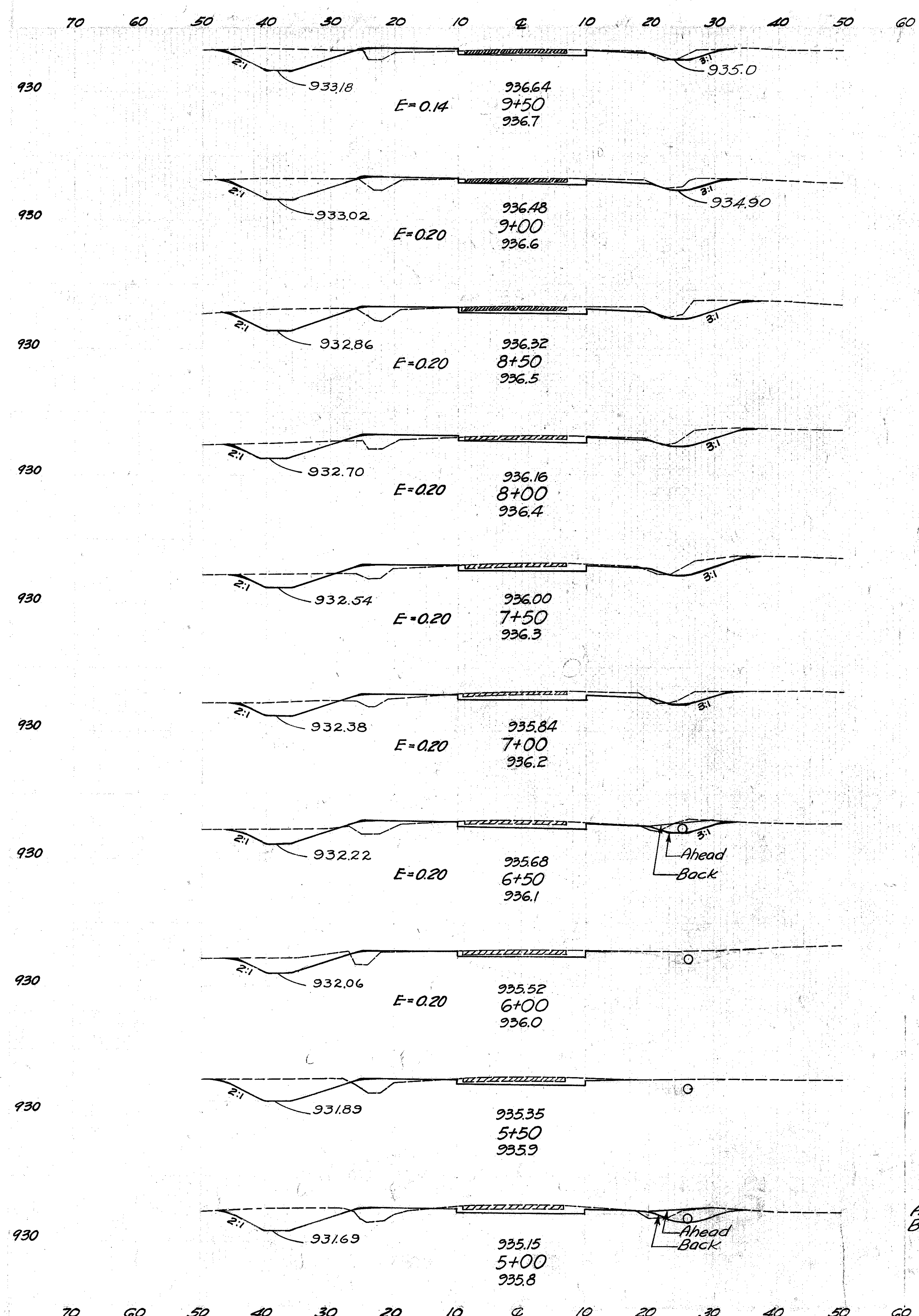
U.S. 21

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	
10	OHIO	535-C	1936	15 40

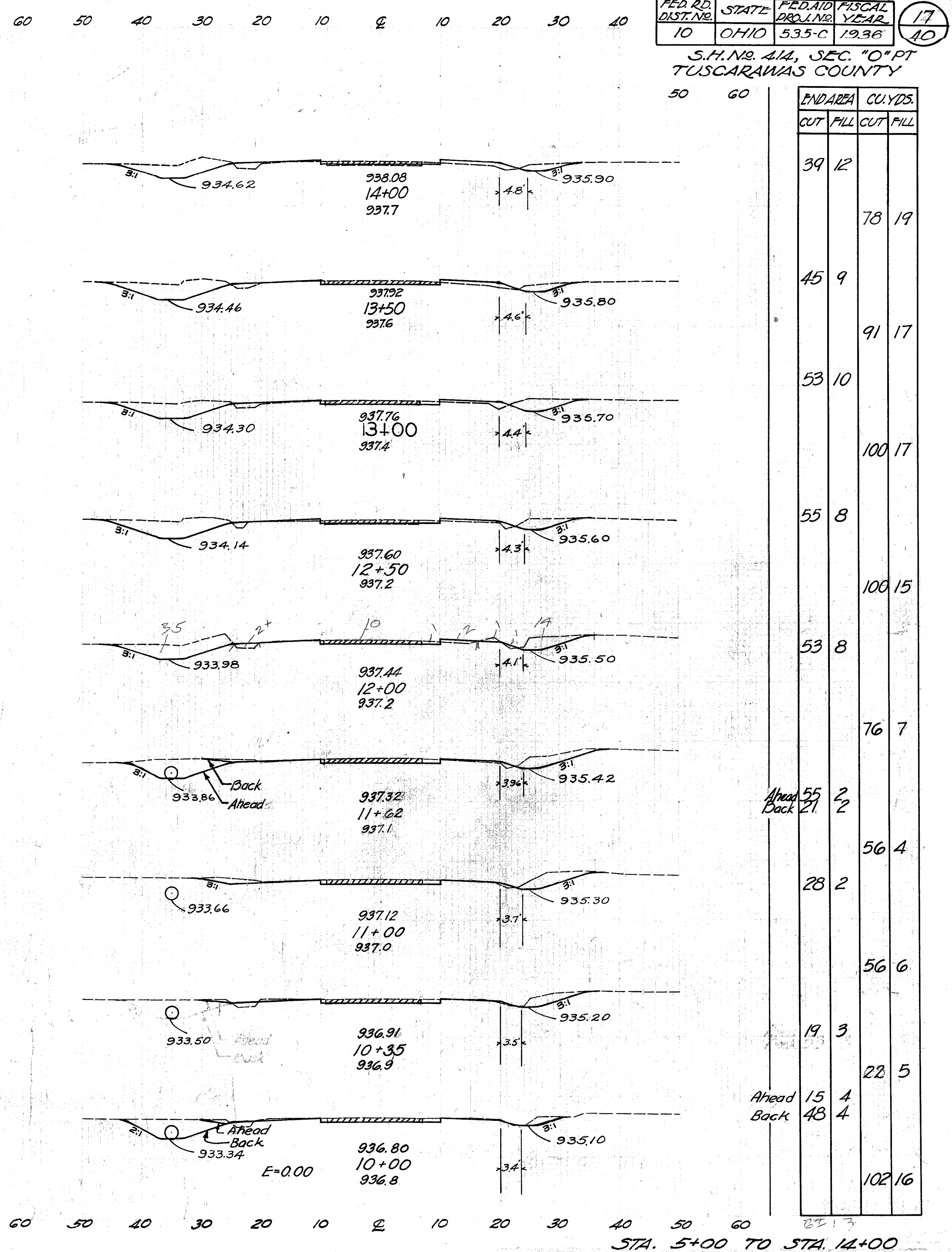
S.H. 414 SEC. 0 PT. TUSCARAWAS COUNTY



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	3		
		3	3
3	0		
	15	0	
13	0		
	11	0	
8	0		
	6	0	
8	0		
	11	0	
8	0		
	4	2	
7	9		
	13	25	
7	18		
	13	33	



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
62	13	113	23
60	12	123	23
73	13	115	33
51	22	89	37
45	18	88	28
50	12	90	28
Ahead Back	47 18 36 19	67	25
37	8	84	20
54	14	102	30
Ahead Back	56 18 71 15	135	25



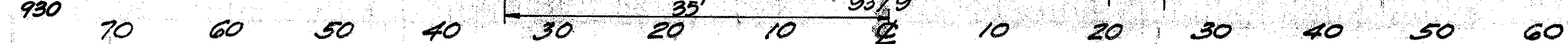
FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO	535-C	1936

S.H. NO. 414, SEC. "O" PT TUSCARAWAS COUNTY

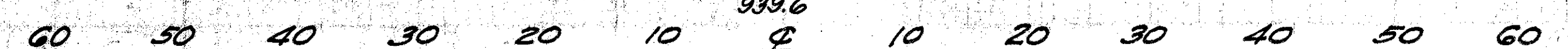
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
39	12	78	19
45	9	91	17
53	10	100	17
55	8	100	15
53	8	76	7
Ahead Back	55 2 21 2	56	4
28	2	56	6
19	3	22	5
Ahead Back	15 4 48 4	102	16

$\frac{18}{40}$

40 50 60

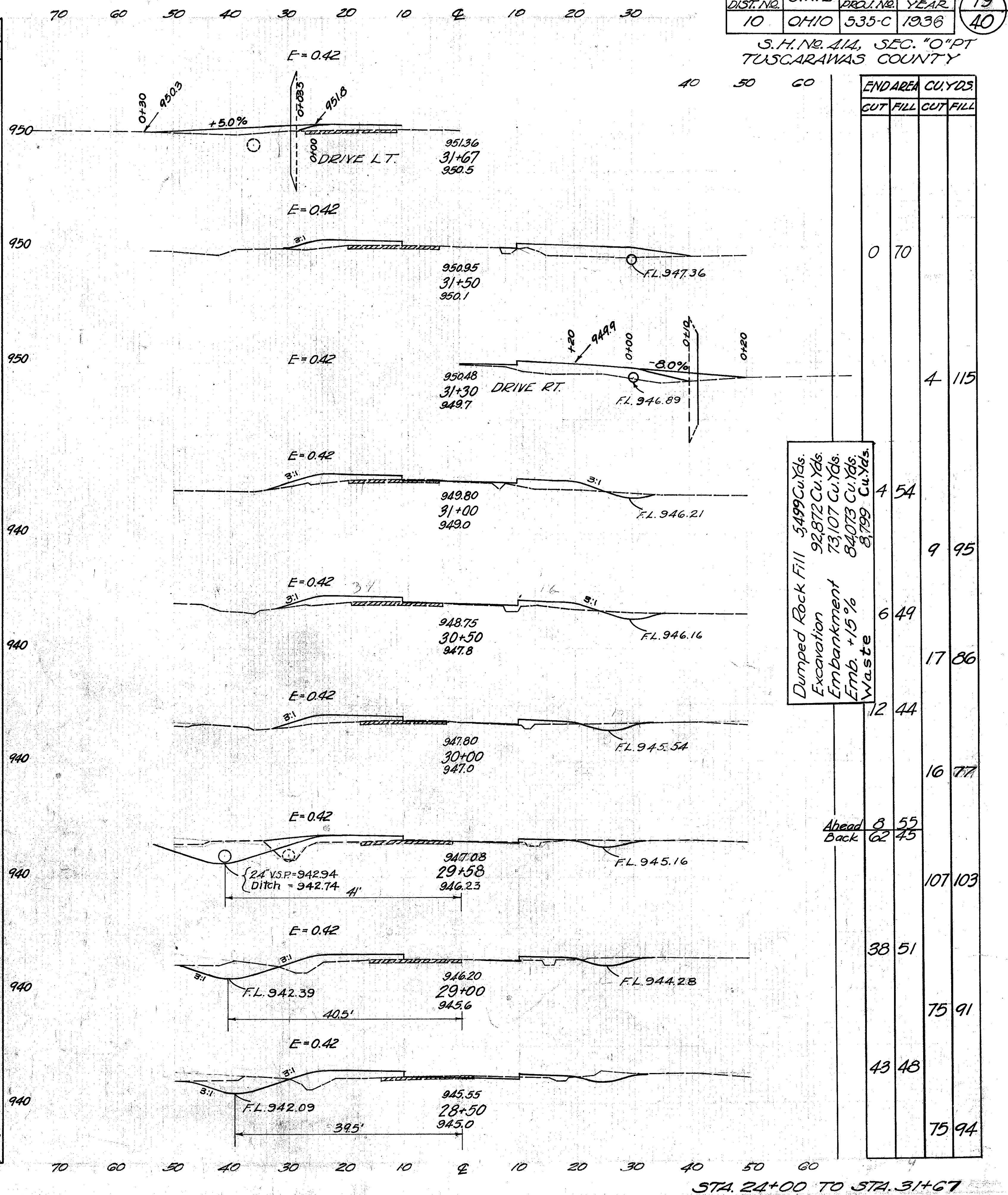
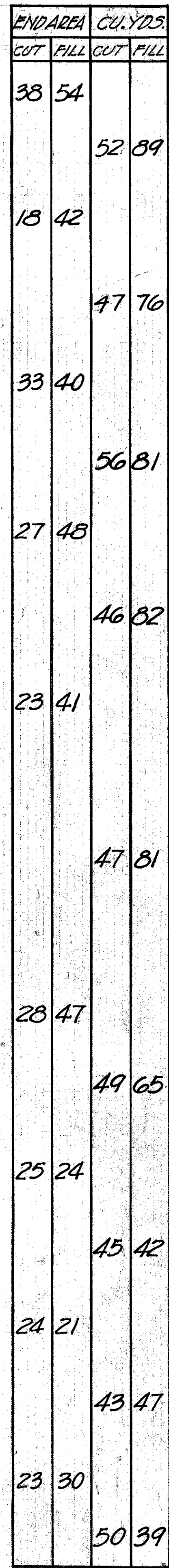


69	24
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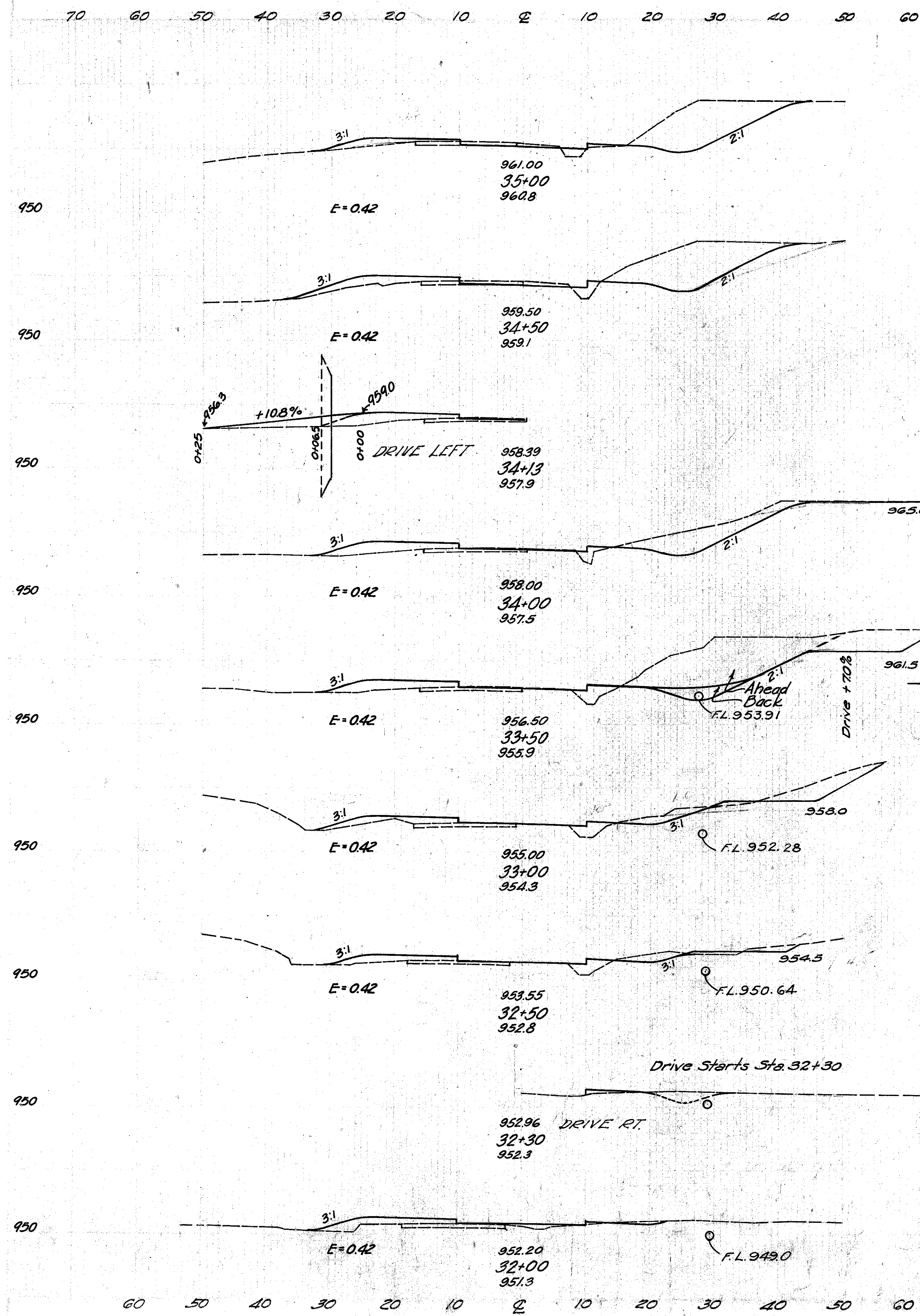


1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

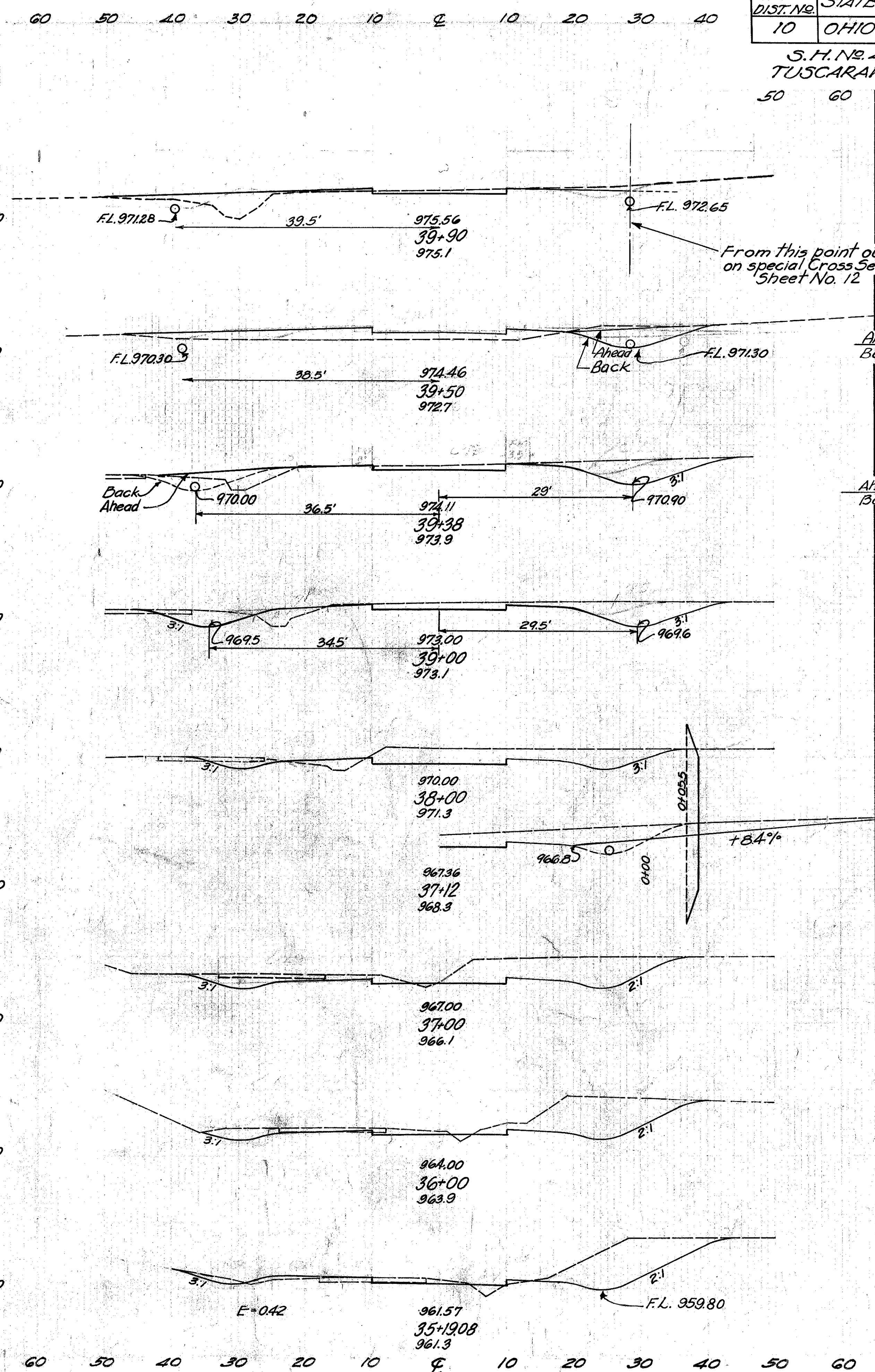
STA. 14+50 TO STA. 23+50



S.H. No. 414, S.E.C. "O" PT.
TUSCARAWAS COUNTY



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
109	28	210	63
118	40		
		167	77
		(14)	
62	43		
		254	78
		212	42
		192	
		221	81
47	45		
		56	80
14	42		
		12	72
3	38		
		3	100



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
17	42		
		18	92
8	32		
40	82		
		26	24
79	28		
97	16		
		144	22
107	15		
		406	50
112	12		
		132	
		459	24
136	1		
		493	6
130	2		
		348	28
103	17		
		75	16

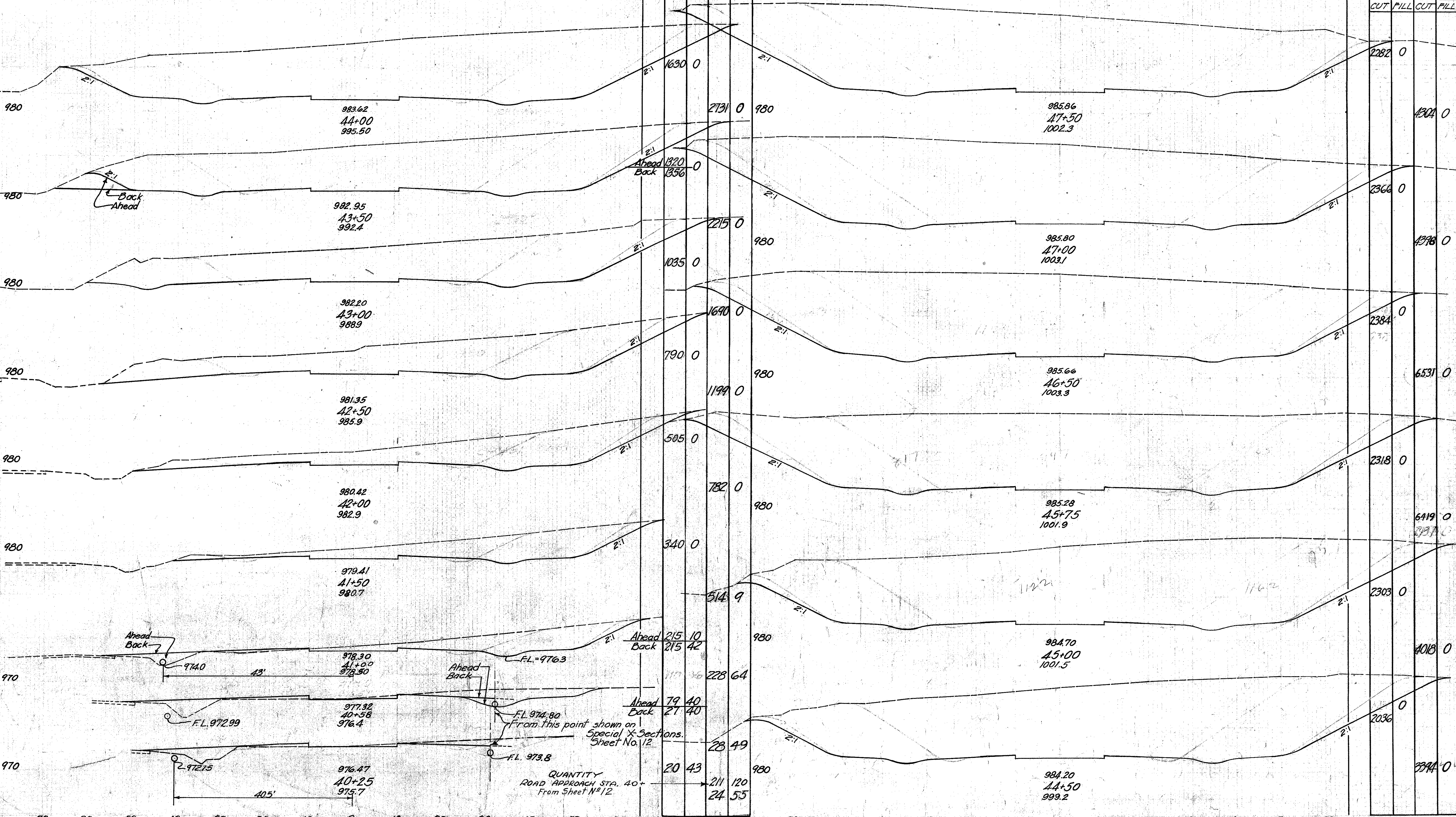
STA. 32+00 TO STA. 39+90

70 60 50 40 30 20 10 0 10 20 30 40 50 60

60 50 40 30 20 10 0 10 20 30 40 50 60

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	21
10	OHIO	535-C	1936	40

S.H. No. 414, SEC. "O" PT.
TUSCARAWAS COUNTY



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
1630	0	2731	0
1320	0	1320	0
1356	0	1356	0
2215	0	2215	0
1035	0	1035	0
1690	0	1690	0
790	0	790	0
1199	0	1199	0
505	0	505	0
782	0	782	0
340	0	340	0
514	9	514	9
215	10	215	10
215	42	215	42
79	40	79	40
27	40	27	40
28	49	28	49
20	43	20	43
211	120	211	120
24	55	24	55

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
2282	0	2282	0
1904	0	1904	0
2366	0	2366	0
4398	0	4398	0
2384	0	2384	0
6531	0	6531	0
2318	0	2318	0
6419	0	6419	0
2303	0	2303	0
4018	0	4018	0
2036	0	2036	0
3394	0	3394	0

QUANTITY
ROAD APPROACH STA. 40+
From Sheet No. 12

STA. 40+25 TO STA. 47+50

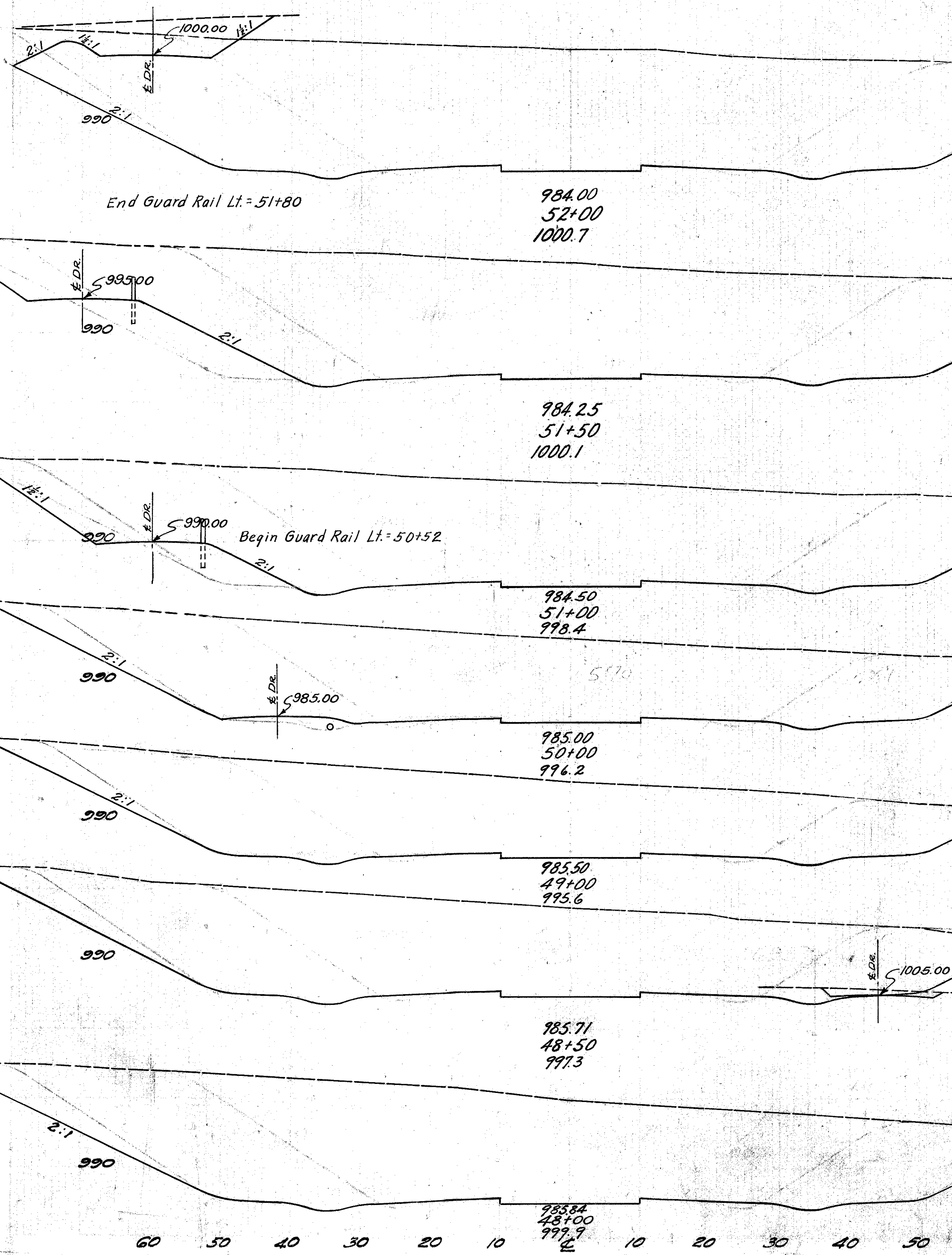
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60

60 50 40 30 20 10 0 10 20 30 40 50 60

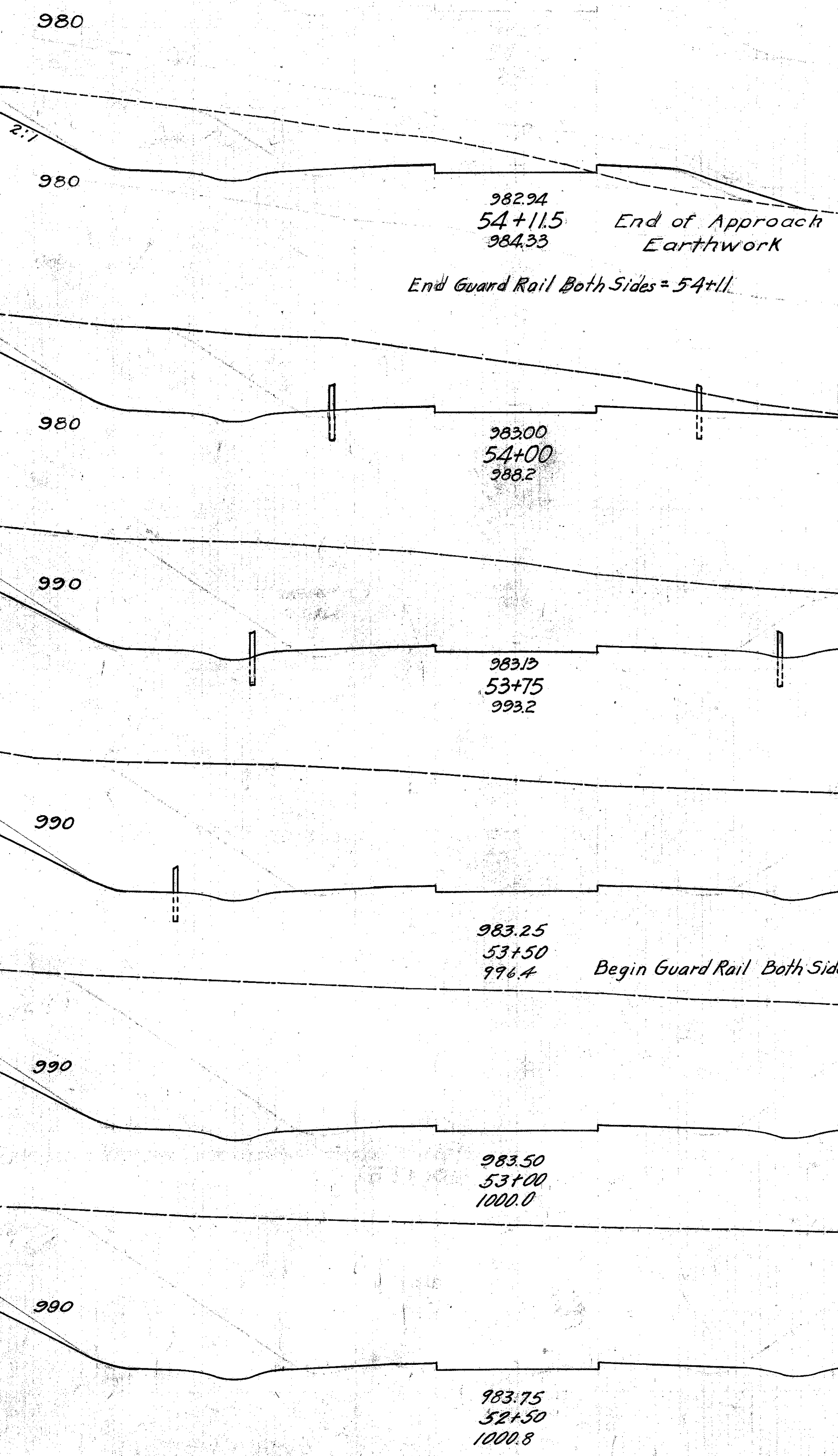
FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	22
10	OHIO	535-C	1936	40

S.H. No. 414, SEC. "O" PT
TUSCARAWAS COUNTY

90 100 110 120



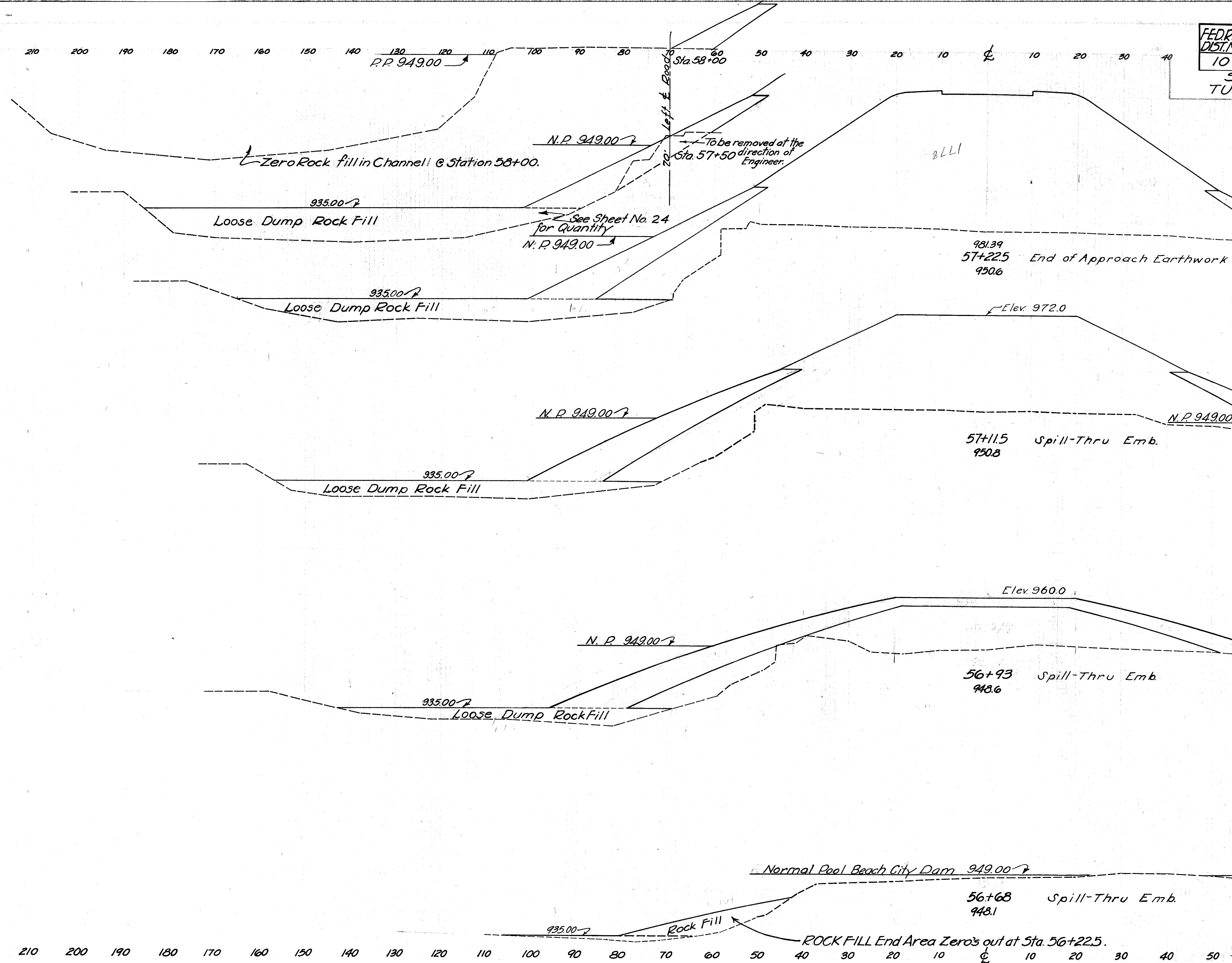
ROCK FILL END AREA CU YDS.	END AREA		CU YDS.	
	CUT	FILL	CUT	FILL
2507	0			
4325	0			
2163	0			
3812	0			
1954	0			
6526	0			
1570	0			
5556	0			
1430	0			
2858	0			
1656	0			
3433	0			
2052	0			
4013	0			



ROCK FILL END AREA CU YDS.	END AREA		CU YDS.	
	CUT	FILL	CUT	FILL
412	43			
706	0			
1354	0			
1483	0			
1848	0			
3883	0			
2346	0			
462	0			
2454	0			
431	0			

STA. 48+00 TO STA. 54+11.5

240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40



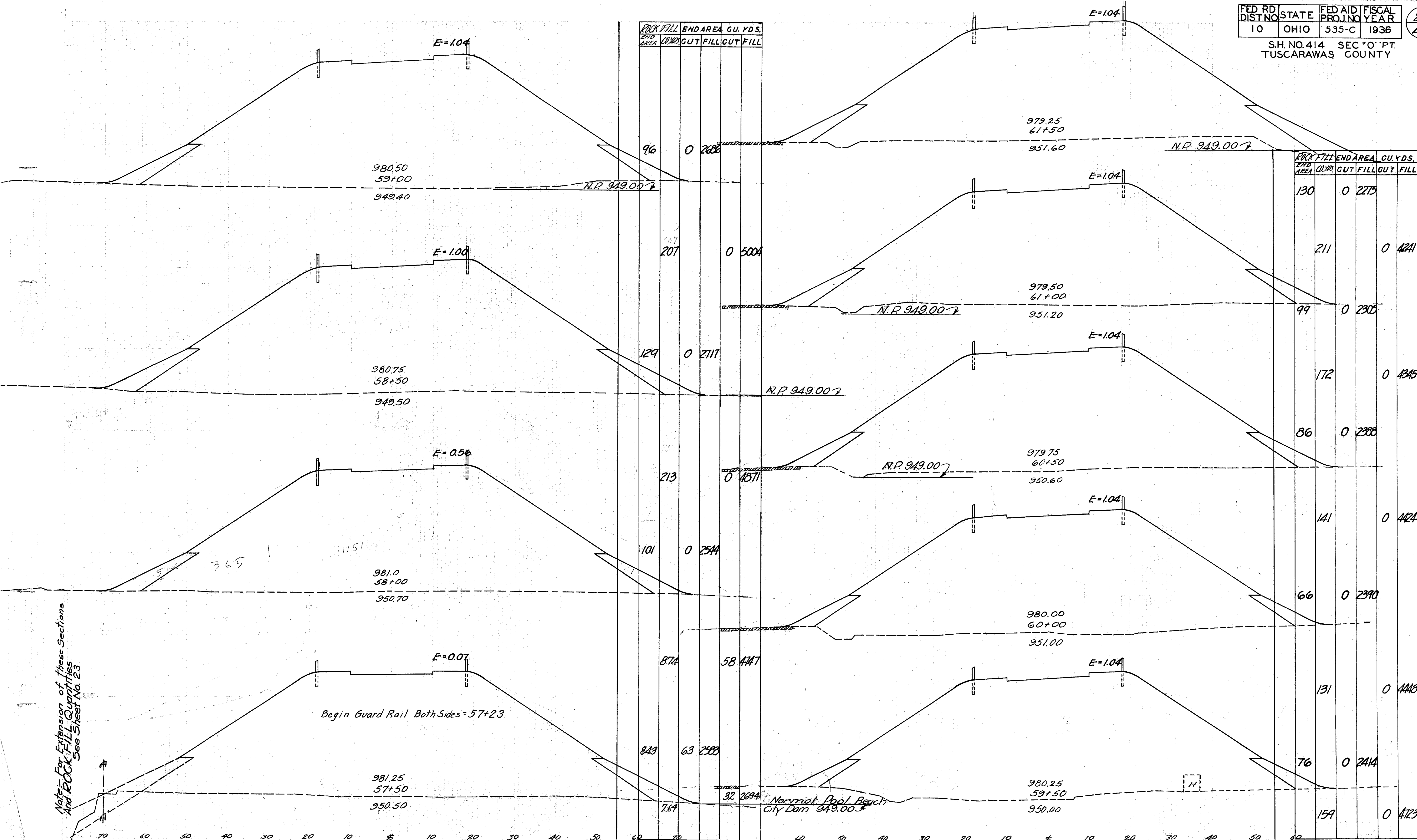
END AREA	ROCK FILL	CUM. CUT	END AREA	CUM. CUT
657	0	2707	0	951
262				
630	0	1962		
464			930	
726	0	752		
394			0	348
124	0	0		
105				

240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50

FED RD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR
10	OHIO	535-C	1936

24
40

S.H. NO. 414 SEC. "O" PT.
TUSCARAWAS COUNTY



Note: For Extension of these Sections
And ROCK FILL Quantities
See Sheet No. 23

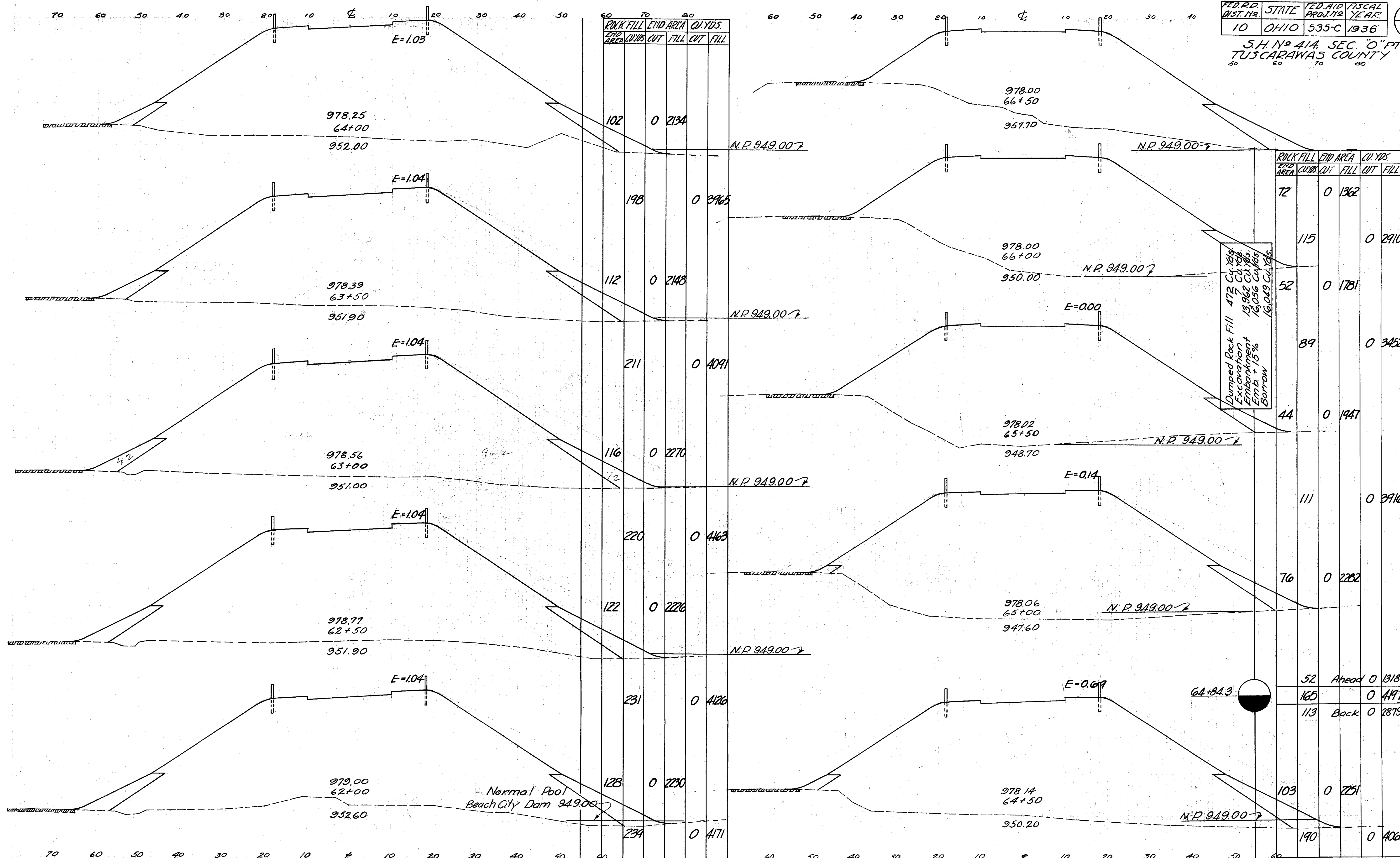
Begin Guard Rail Both Sides = 57+23

Normal Pool Beach
City Dam 949.00

Sta. 57+50 to Sta. 61+50

STATION 57+50 TO 61+50

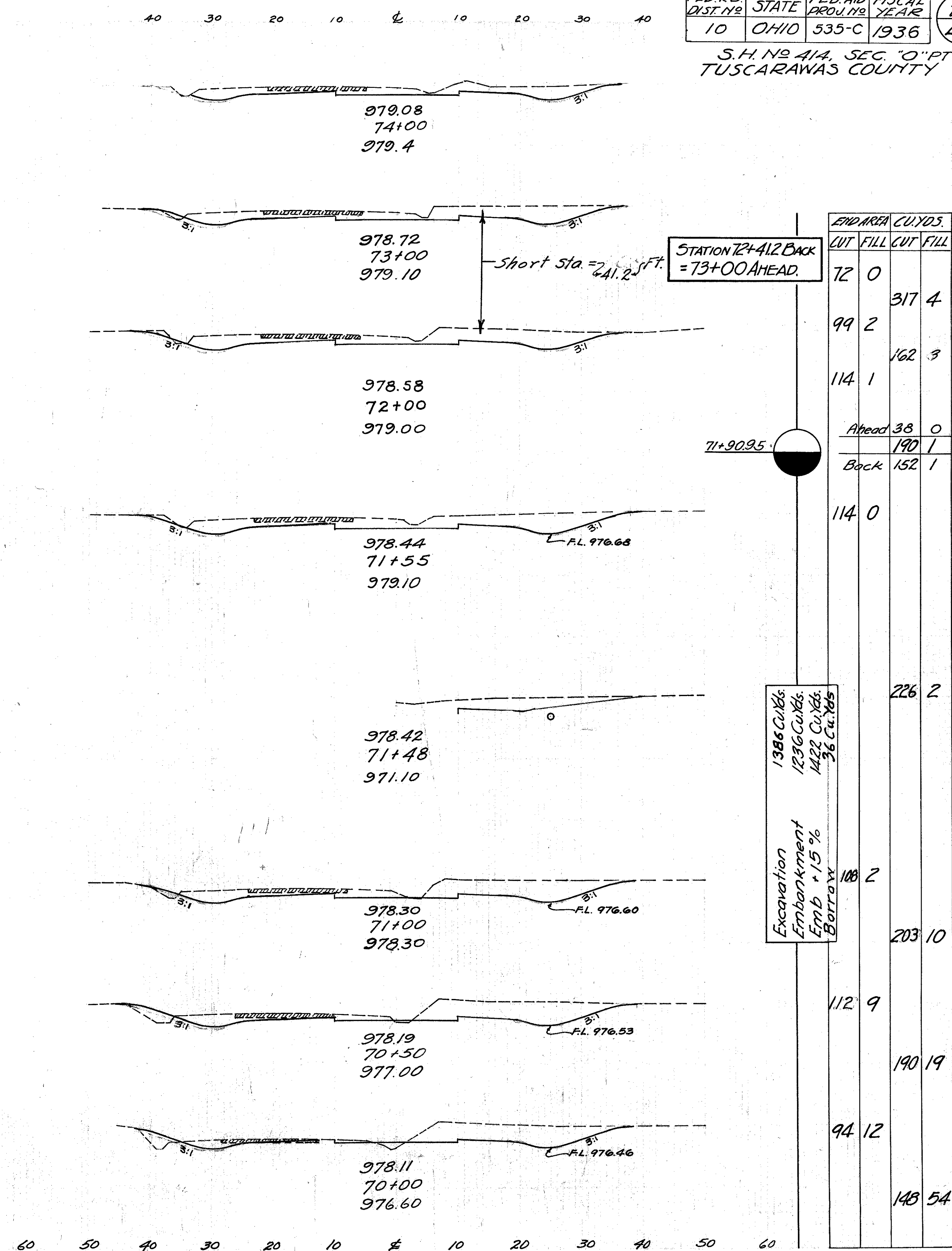
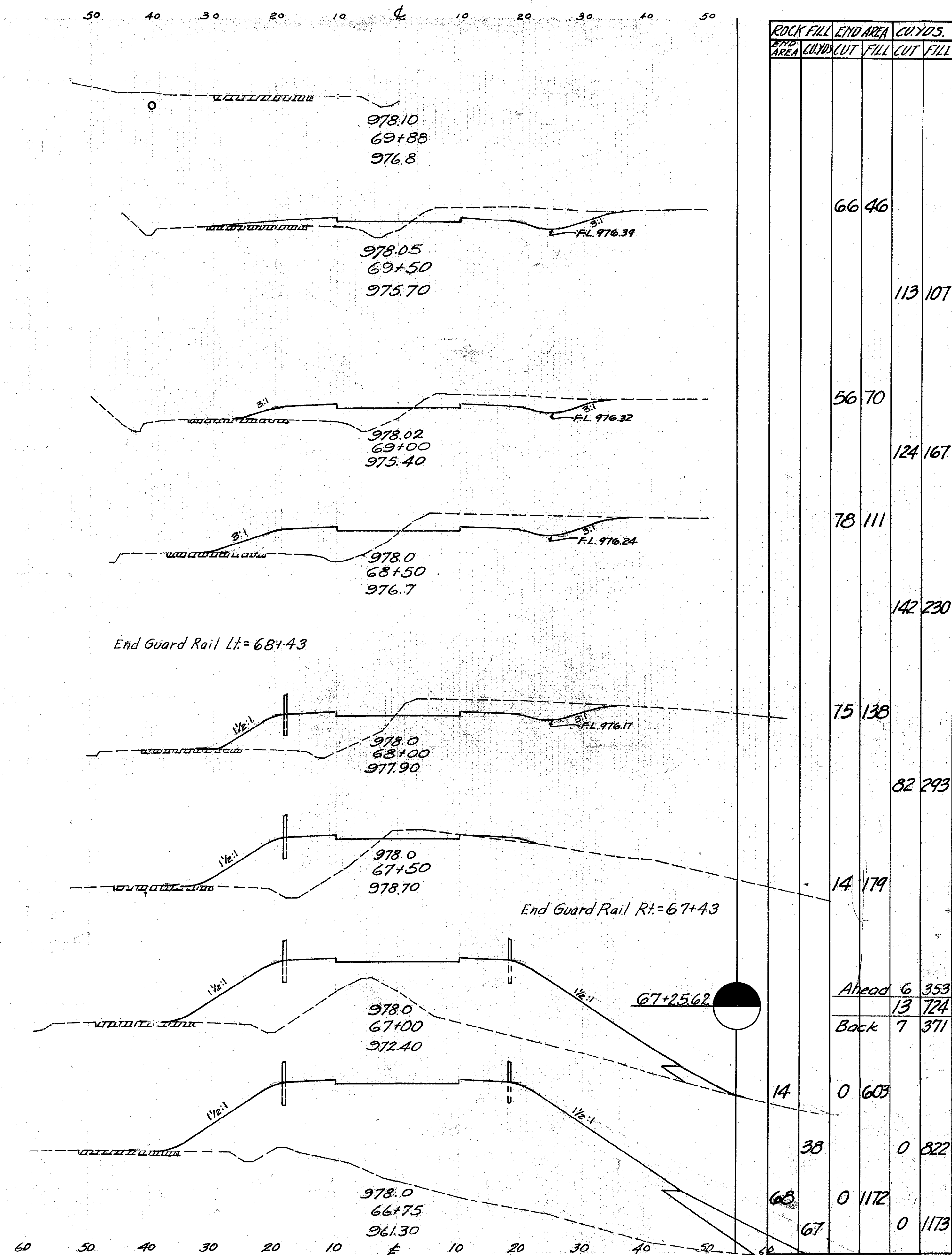
S.H. No 414, SEC. "O" PT
TUSCARAWAS COUNTY



Sta. 62+00 to Sta. 66+50

SECTION 62+00 TO 66+50

S.H. No 414, SEC. "O" PT
TUSCARAWAS COUNTY

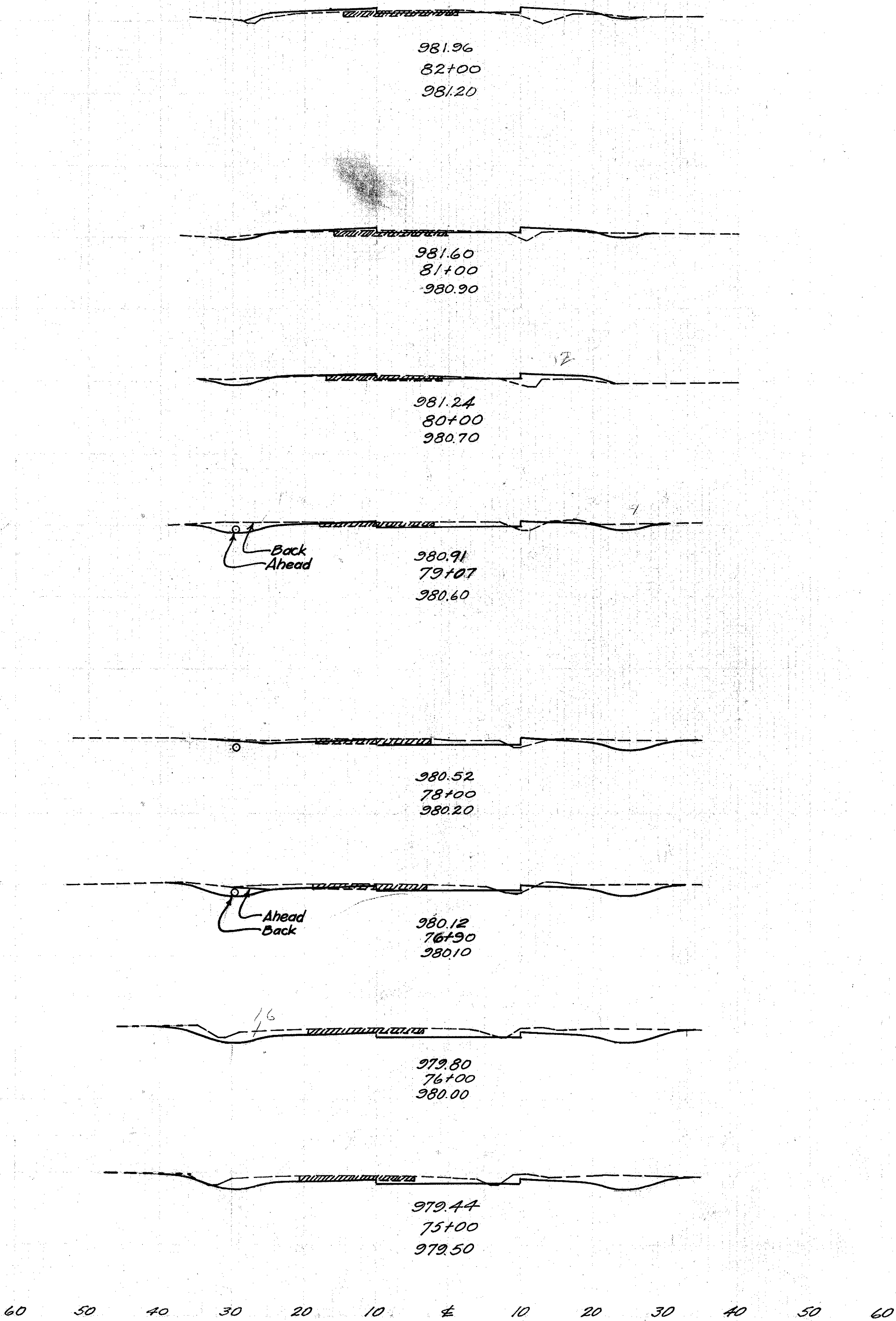


Sta. 66+75 to Sta. 74+00

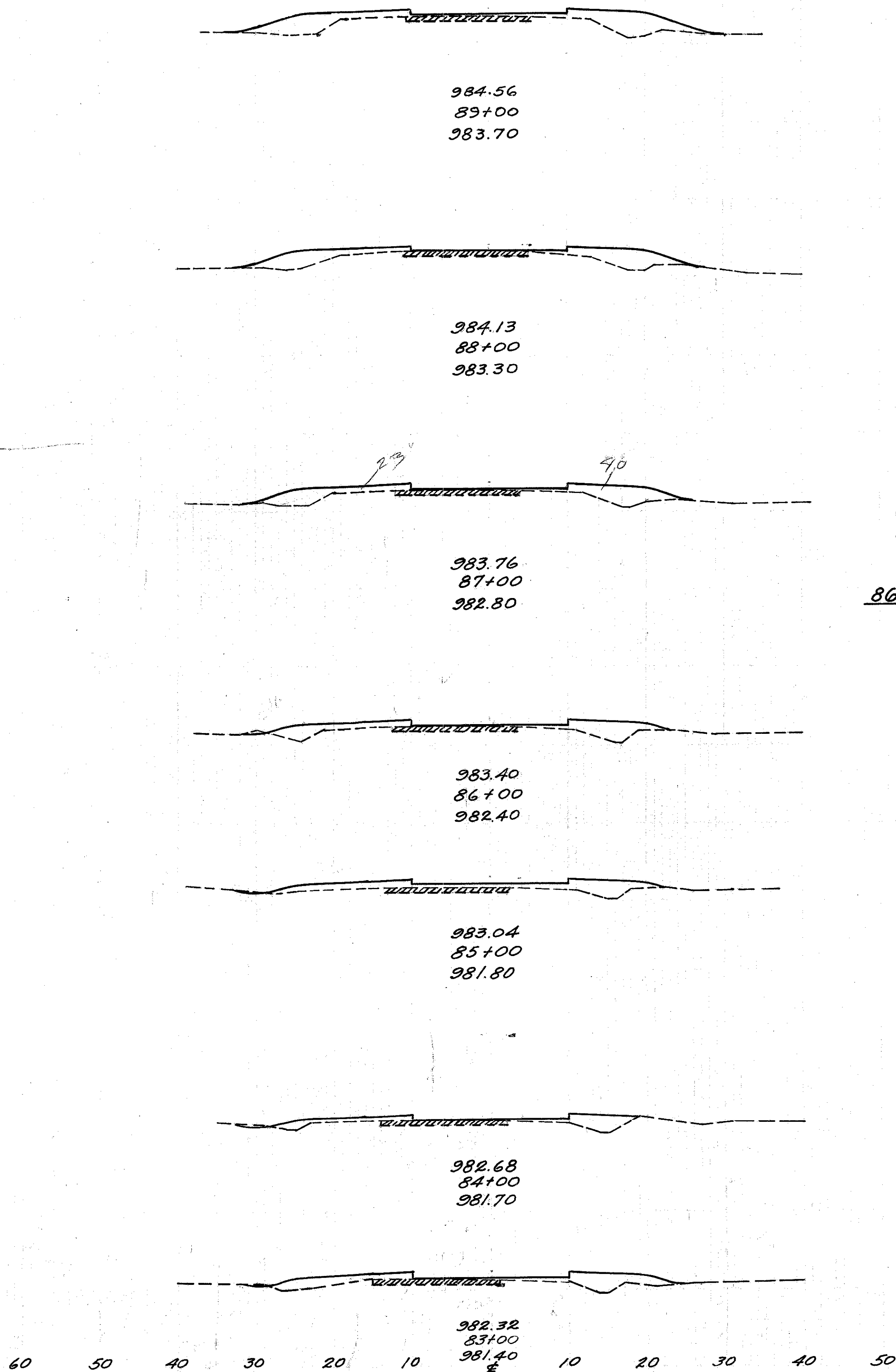
STATION 66+75 TO 74+00

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
10	OHIO	535-C	1936

S.H. No 414, SEC. "O" PT.
TUSCARAWAS COUNTY



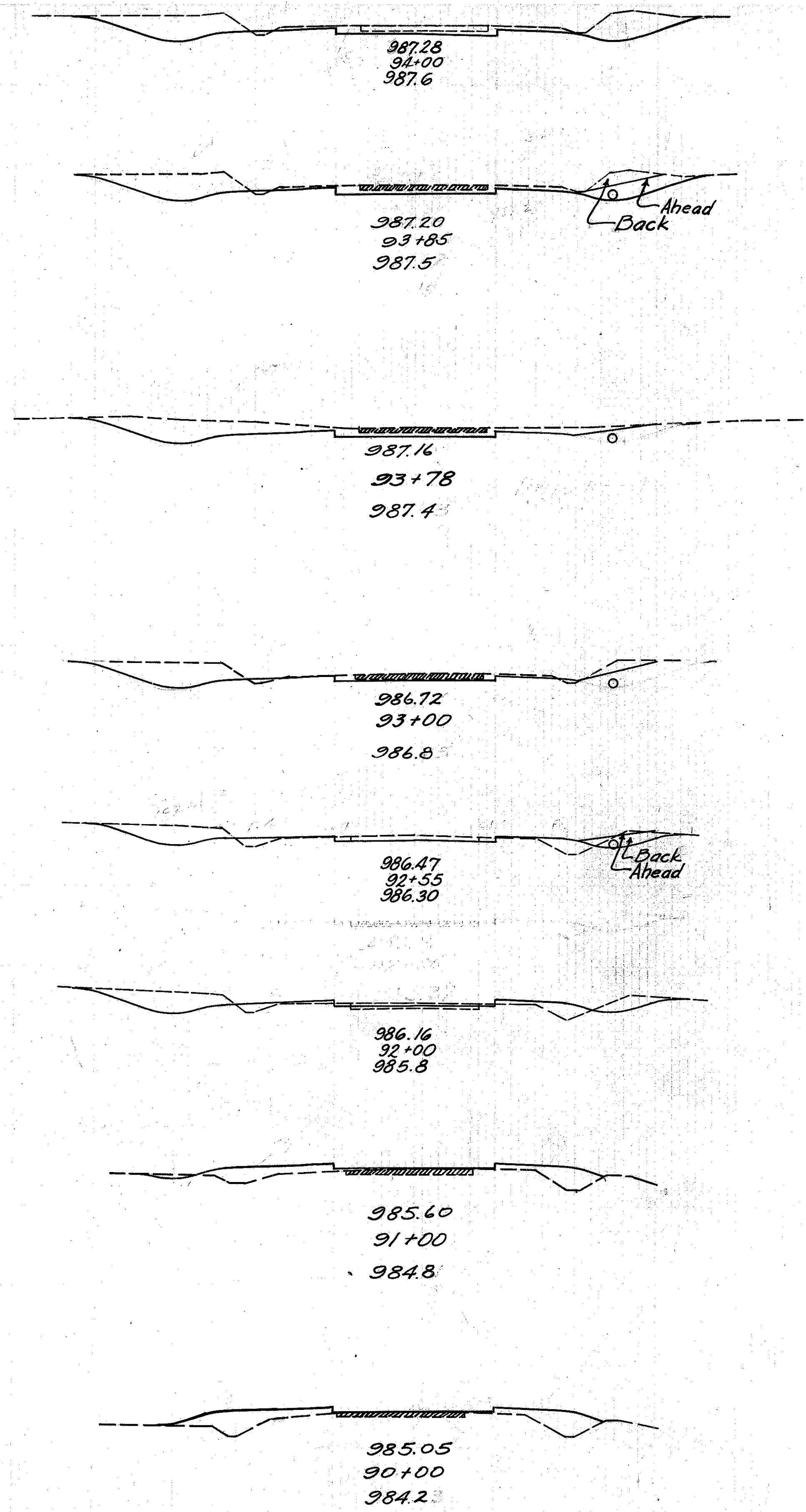
END AREA	CU. YDS.		END AREA	CU. YDS.	
	CUT	FILL		CUT	FILL
2	32		17	104	
7	24		26	81	
7	20		61	48	
Ahead Back	28 18	8 8	85	28	
Excavation 1456 Cu. Yds. Embankment 1266 Cu. Yds. Emb. +15% 1456 Cu. Yds.					
Ahead Back	34 44	1 1	174	2	
60	0		209	0	
53	0		231	0	



END AREA	CU. YDS.		END AREA	CU. YDS.	
	CUT	FILL		CUT	FILL
0	78		0	269	
0	67		0	235	
0	60		Ahead Back	1 2	27 222
1	60		Back	1	195
			4	219	
1	58				
			4	193	
1	46				
			2	200	
0	62				
			4	174	

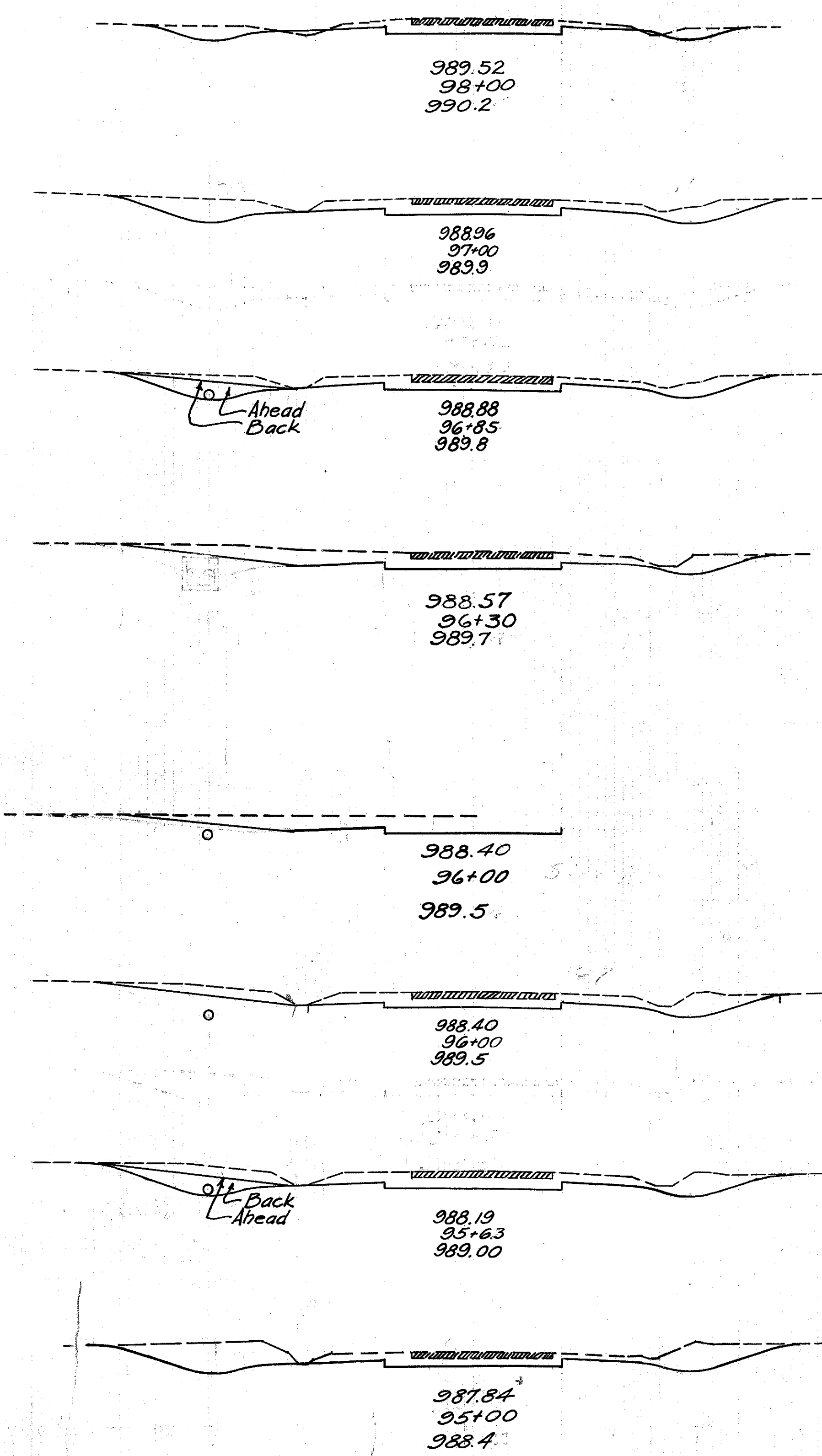
STATION 75+00 TO 89+00

S.H. No 414, SEC. "O" PT
TUSCARAWAS COUNTY



PICK FILL END AREA	END AREA		CU YDS.	
	CUT	FILL	CUT	FILL
	95	1	52	1
Ahead Back	94	1	74	
			20	0
	80	0		
			196	4
	56	2		
			71	15
Ahead Back	29	16	39	14
			81	41
	41	26		
			80	150
	2	55		
			4	209
	0	58		
			0	252

Excavation 1386 Cu Yds.
Embankment 1205 Cu Yds.
Emb. +1.5 % 1386 Cu Yds.



PICK FILL END AREA	END AREA		CU YDS.	
	CUT	FILL	CUT	FILL
	49	2		
			256	4
	89	0		
			48	0
Ahead Back	83	0	62	0
			127	0
			150	0
	86	0	23	0
			98	0
	90	0		
			121	0
Ahead Back	86	0	112	0
			259	0
	110	0		
			380	2

Sta. 90+00 to Sta. 98+00

STATION 90+00 TO 98+00

S.H. 414 SEC. "O" PT.
TUSCARAWAS COUNTY

STA. 104+93.6 = END OF
FED. AID PROJ. NO 535-C

END AREA	CU. YDS.	
	CUT	FILL
28	31	
	23	29
18	26	
	31	69
16	49	
	25	96
13	62	
	59	262
18	75	
	63	263
16	67	
	56	206
14	44	
	44	122
10	22	
	67	50
26	5	
	139	13

INTERSECTION QUANTITIES
LINE "A"
Sheet #31
LINE "B"
Sheet #29
LINE "C"

Excavation 1849 Cu.Yds.
Embankment 1544 Cu.Yds.
Emb. + 15% 1776 Cu.Yds.
Waste 73 Cu.Yds.

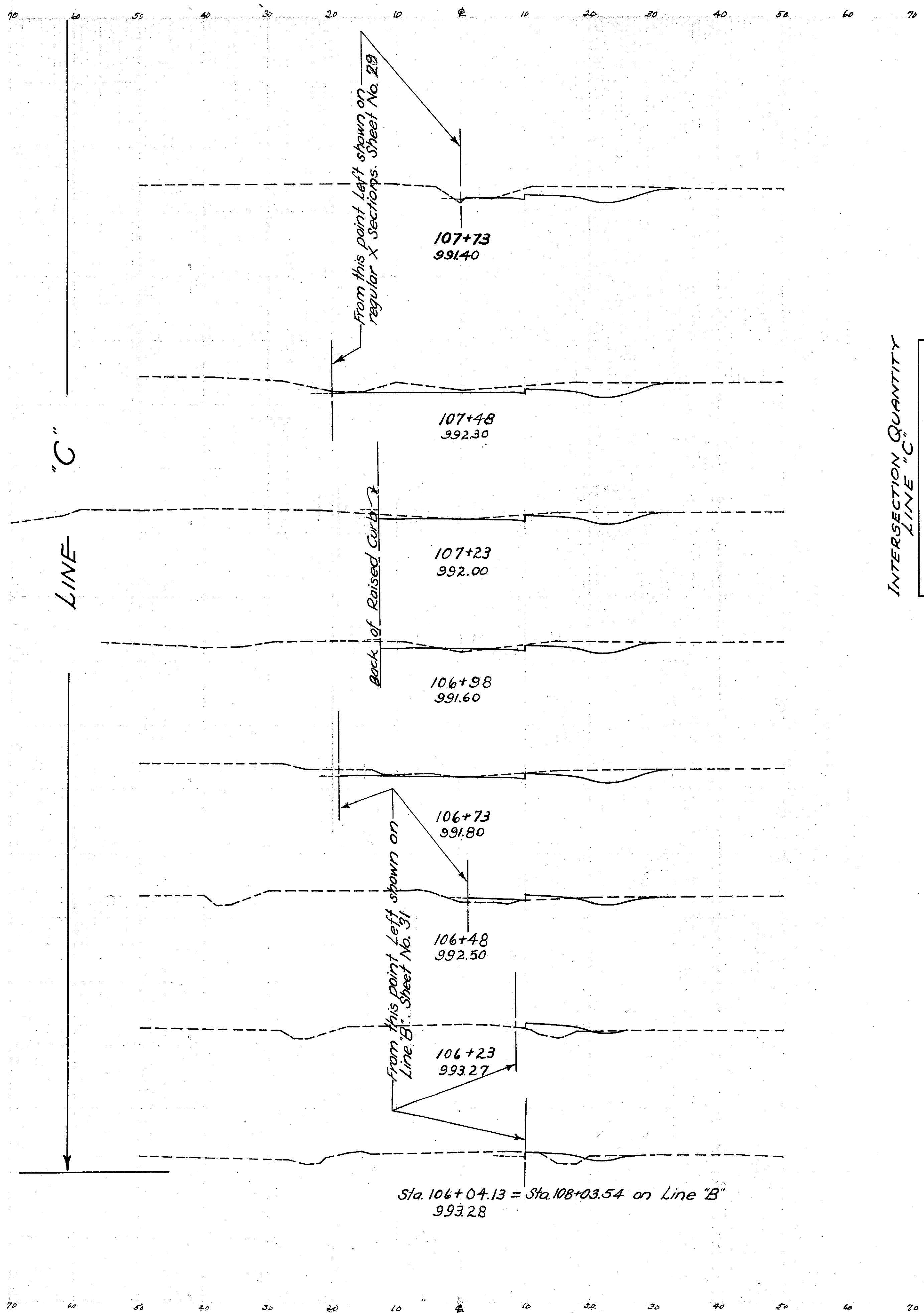
END AREA	CU. YDS.	
	CUT	FILL
2	0	
	46	12
47	13	
	24	11
24	21	
	43	41
23	24	
	41	50
22	30	
	37	49
18	23	
	31	41
16	21	
	30	43
17	26	
	56	41
44	18	
	56	42
21	30	
	24	29

INTERSECTION QUANTITY
LINE "A"

Excavation 388 Cu.Yds.
Embankment 359 Cu.Yds.

Sta. 99+00 to Sta. 109+94

STATION 99+00 TO 100+00

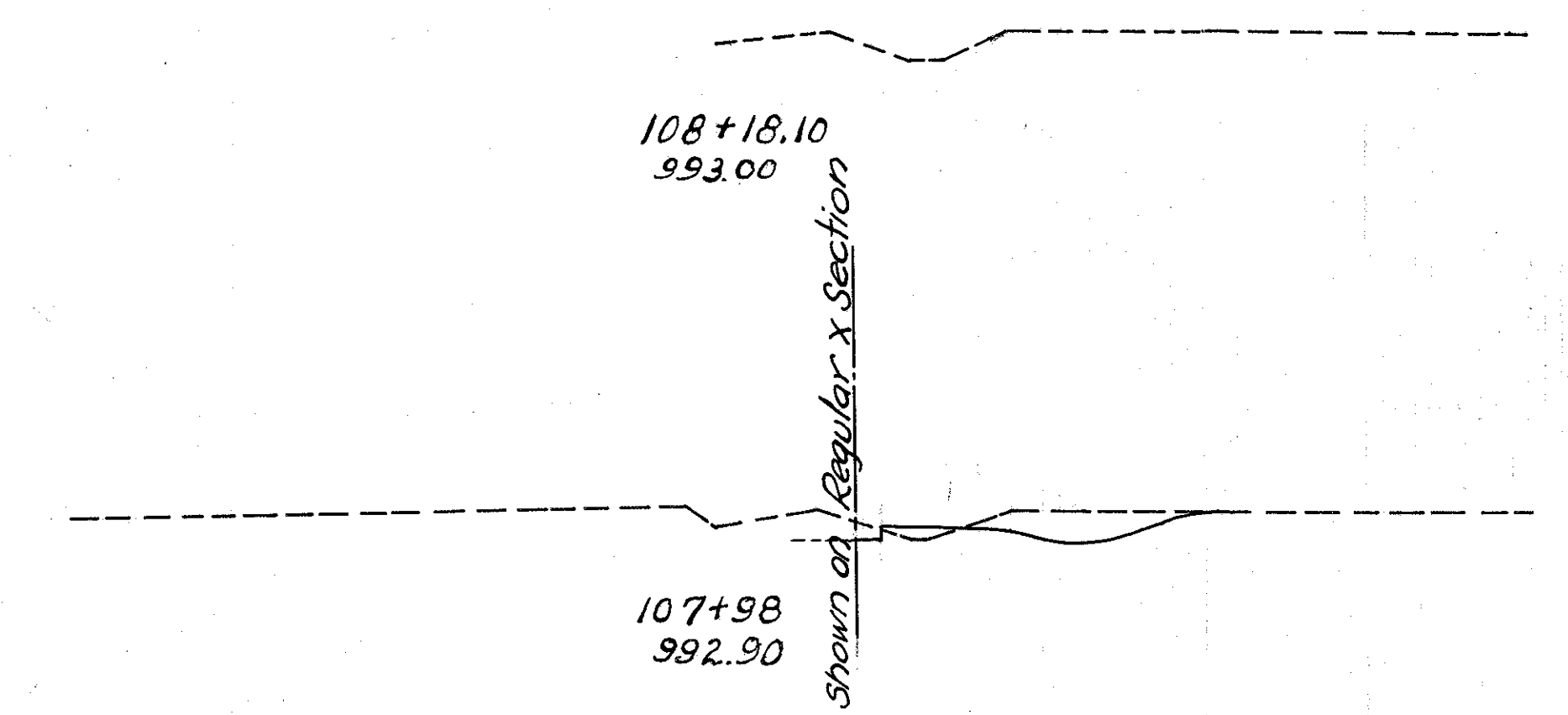
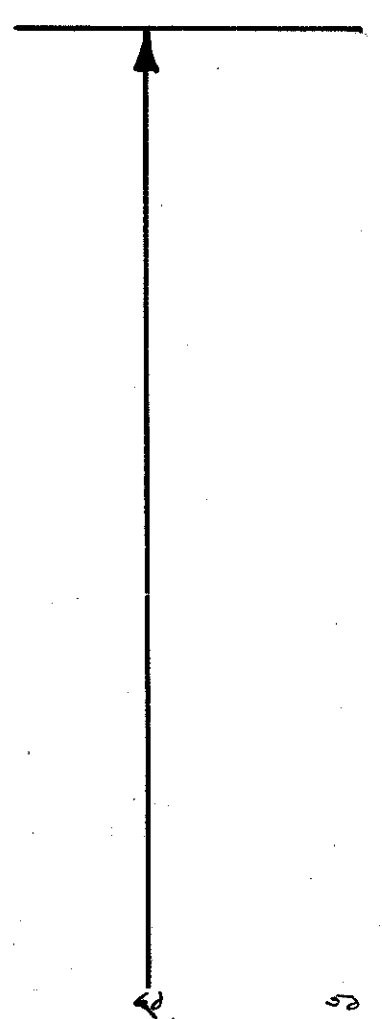


INTERSECTION QUANTITY
LINE "C"

Excavation 195 Cuyds
Embankment 20 Cuyds

Carried to sheet No. 29

END AREA	CUT	FILL	CUT	FILL	CUT	FILL
40	0					
		43	0			
54	0					
		39	0			
30	0					
		26	1			
27	2					
		30	1			
38	0					
		22	4			
10	8					
		5	11			
1	15					
		2	8			
4	8					

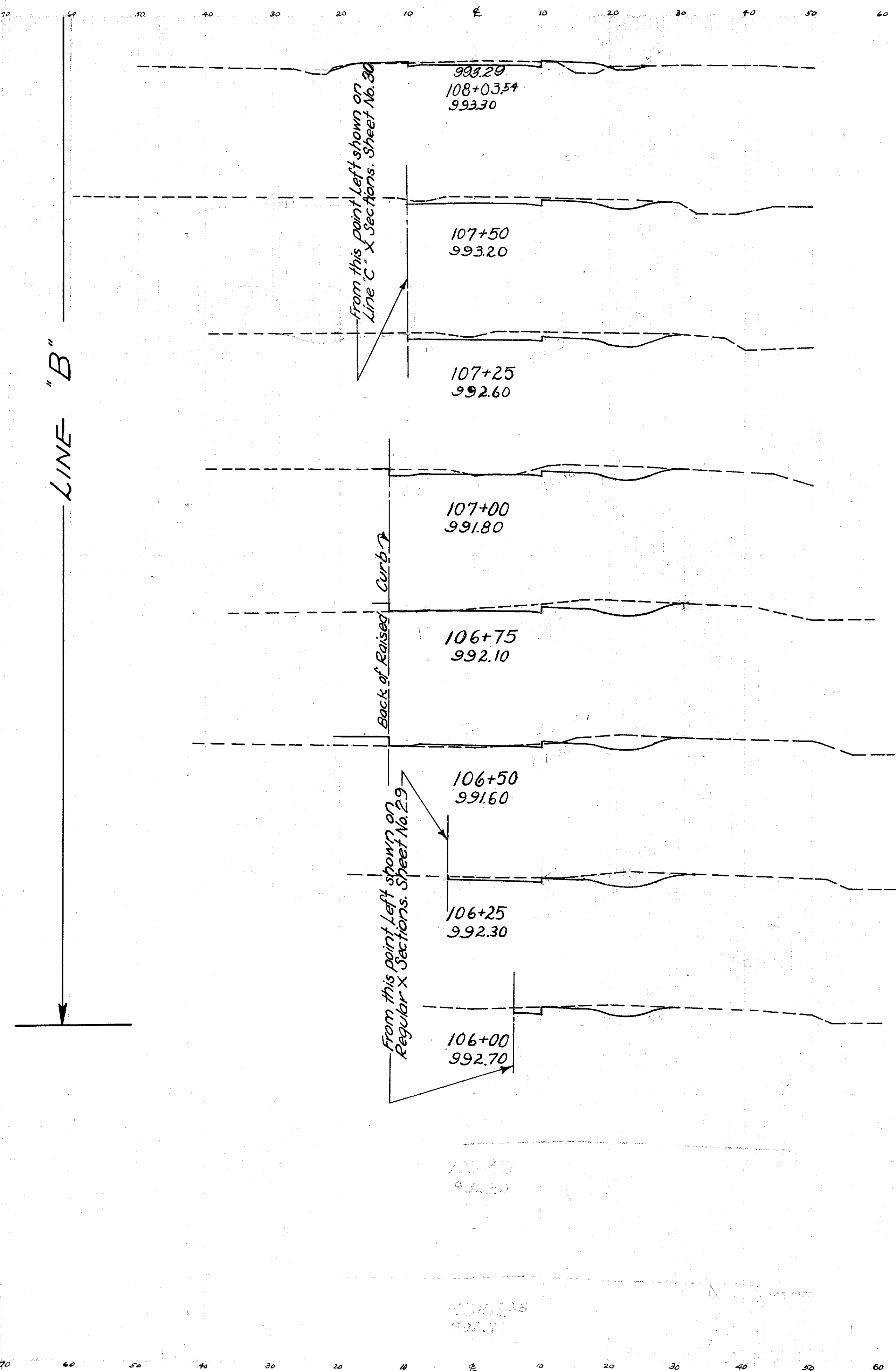


FED. AID	STATE	FED. RD	FISCAL	
DIST. NO.		PROJ.	YEAR	
10	OHIO	535-C	1936	30 40

S.H. No. 414 SEC. 0" PT.
TUSCARAWAS COUNTY

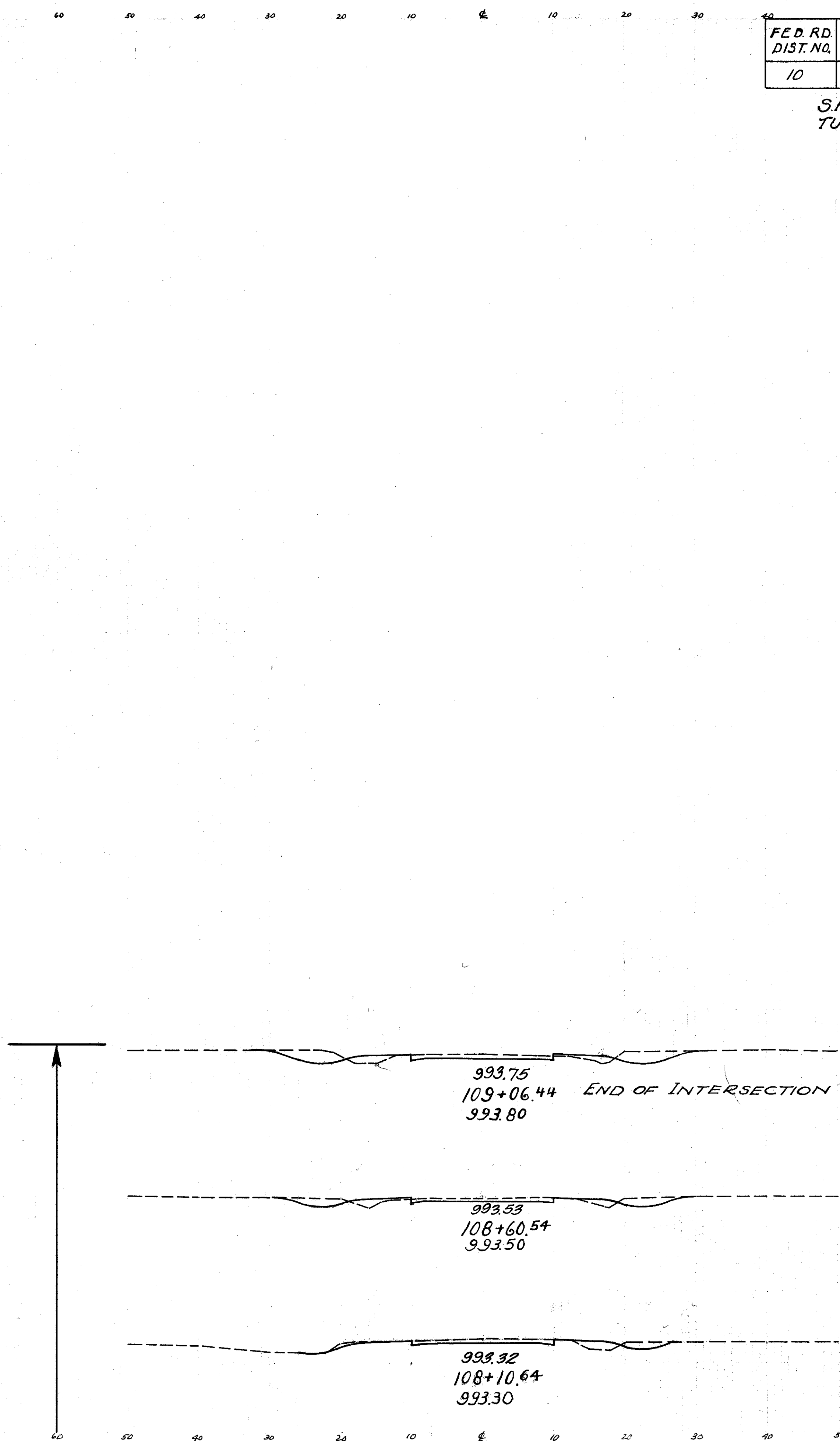
END AREA	CUT	FILL	CUT	FILL	CUT	FILL
20	3					
		28	1			

Int. Line "C"



INTERSECTION QUANTITY
LINE "B"
Excavation 328 Cu Yds.
Embankment 45 Cu Yds.

END AREA		CU. YDS	
CUT	FILL	CUT	FILL
15	11		
		44	11
30	0		
		36	0
47	0		
		39	0
38	0		
		35	0
37	0		
		29	2
25	4		
		25	2
30	0		
		22	0
18	0		



FED. RD. DIST. NO.	STATE	FED. AID PROJ.	FISCAL YEAR
10	OHIO	535-C	1936

S.H. 414 SEC. 0 PT.
TUSCARAWAS COUNTY

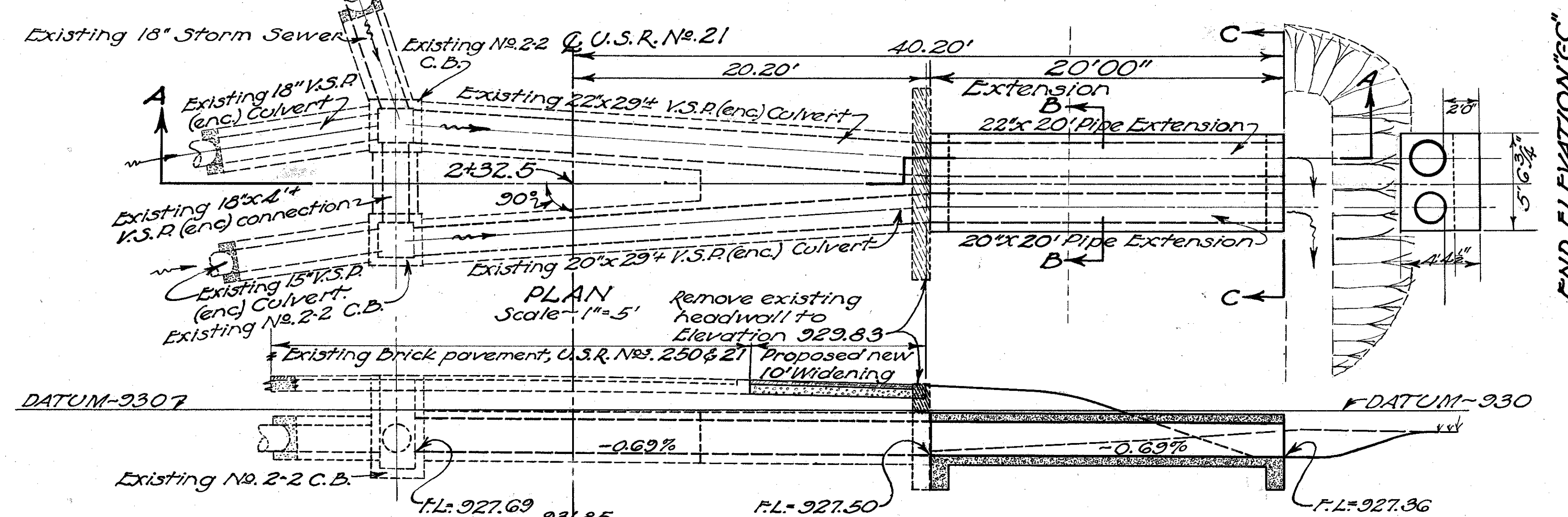
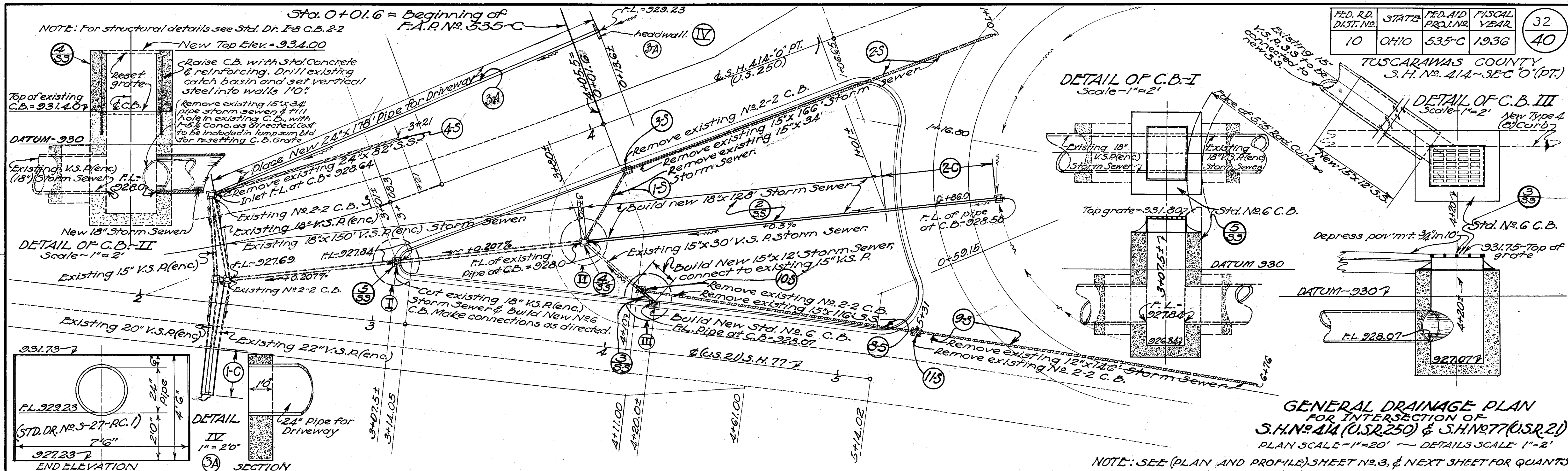
31
40

END AREA		CU. YDS	
CUT	FILL	CUT	FILL
38	11		
		54	16
25	8		
		40	12
18	5		
		4	2

Int. Line "B"

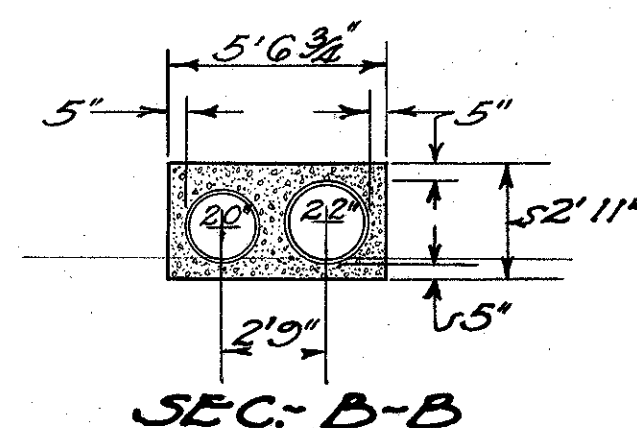
FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	32 40
10	OHIO	535-C	1936	

TUSCARAWAS COUNTY
S.H. No. 414~SEC "O" (PT.)



STRUCTURE DATA

TYPE: Std. Pipe Culvert. Std. Constr. Dr. No. S-27 R.C. 2
SIZE: 22"x20" & 20"x20" Extensions, (parallel) on Right.
WORK REQUIRED: - Remove existing headwall to elevation
shown, and build new Std. 22"x20" & Std. 20"x20"
pipe culvert extension on right, as detailed above.
Excavate outlet as indicated hereon.



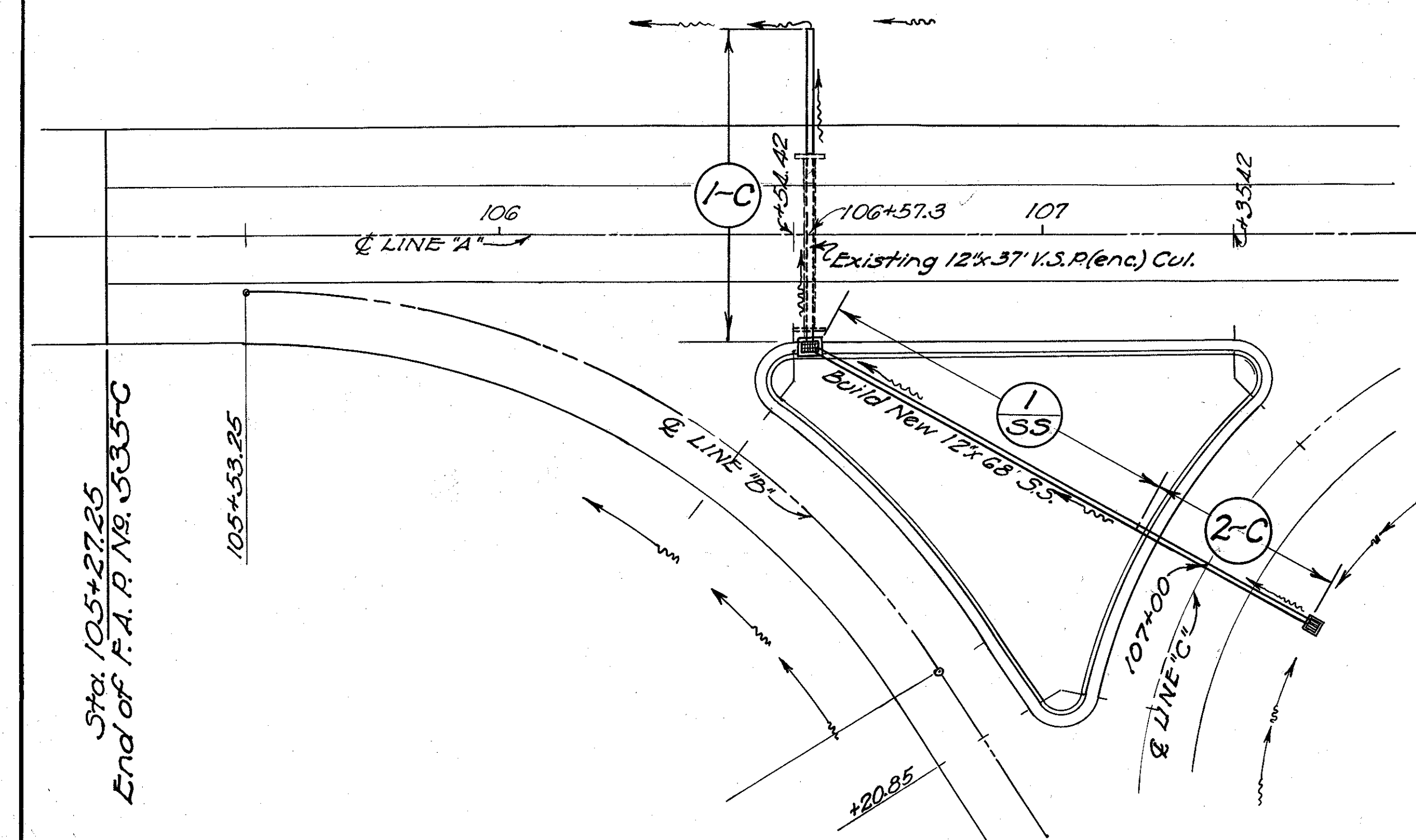
ESTIMATED QUANTITIES

15. Cu. Yds. Structure Excavation, (Dry)
 .6 Cu. Yds. 1-5 $\frac{1}{2}$ Conc. (for C.O. Walls)
 20. Lin. Ft. 20" Pipe. (WSP enc.)
 20. Lin. Ft. 22" Pipe. (" ")
 .6 Cu. Yds. Removal existing conc. H.W.

NOTE:- See general drainage plan, above, for intersection of U.S.R. Nos. 250 & 21.

(1C) See Plan & Profile Sheet No 3

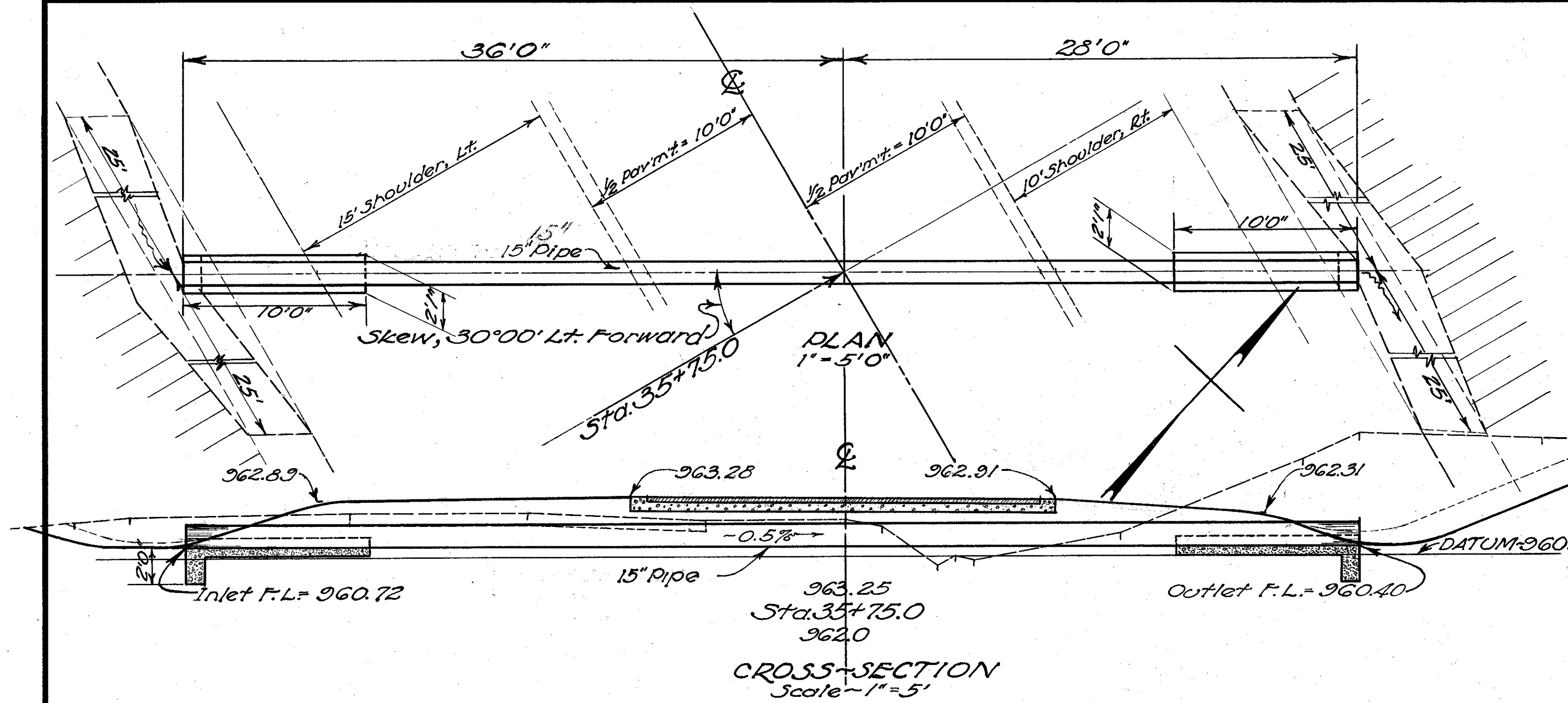
STRUCTURE NO. TU-250-23
STA. 2+32.5 (U.S.R. NO. 21)



GENERAL DRAINAGE PLAN
FOR INTERSECTION OF
S.H. N^o. 414 (U.S.R. 250) & S.H. N^o. 588-
Scale - 1" = 20' (S.R. N^o. 93)

NOTE:- SEE (PLAN & PROFILE) SHEET NO. 3 & NEXT SHEET FOR QUANTITIES.

Drawn: W.H.T. 1-23-36
Traced: W.H.T. 1-24-36
Checked:



STRUCTURE DATA

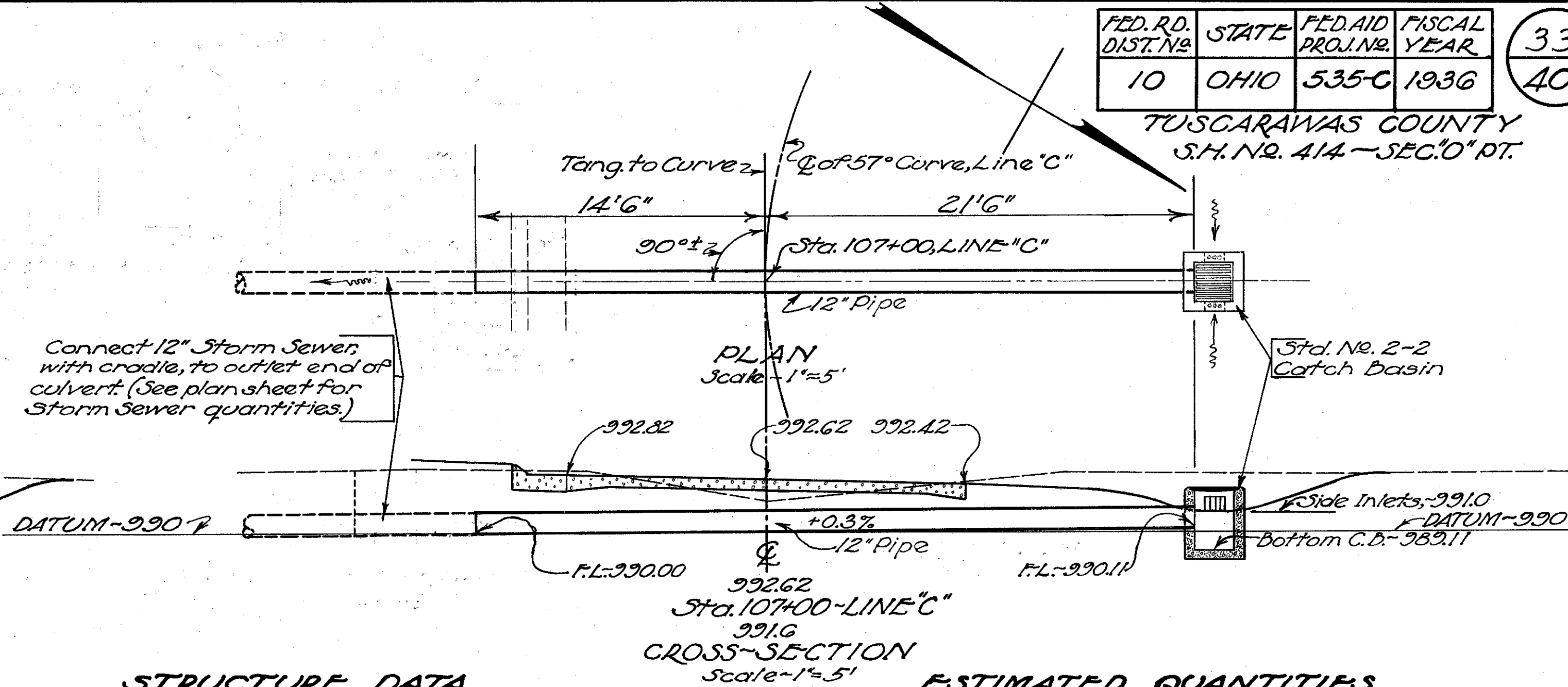
TYPE: Std. Pipe Culvert, Std. Constr. Dr. No. S-27 RC. 2.
SIZE: 15' x 64'.
WORK REQUIRED: Build new Std. 15' x 64' Pipe Culvert. Excavate inlet and outlet as indicated above. Zero inlet and outlet excavation ahead and back 25 feet.

ESTIMATED QUANTITIES

- 40. Cu. Yds. Structure Excavation (Dry)
- 64. Lin. Ft. 15" Pipe
- 1.4 Cu. Yds. 1-5 1/2 Conc. (for Cradles & C.O. Walls)

(10) - See Plan and Profile Sheet No. 4
STRUCTURE NO. TU-250-15
STA. 35+75.0

Drawn: 2/11/36
Traced: 2/11/36
Checked:



STRUCTURE DATA

TYPE: Std. Pipe Culvert, Std. Constr. Drawings No. S-27 RC. 2 and I-8 C.B. 1-2 & 2-2.
SIZE: 12' x 36'.
WORK REQUIRED: Build Std. 12' x 36' Pipe Culvert with Standard No. 2-2 Catch Basin on Right. Connect Outlet end to 12" Storm Sewer.

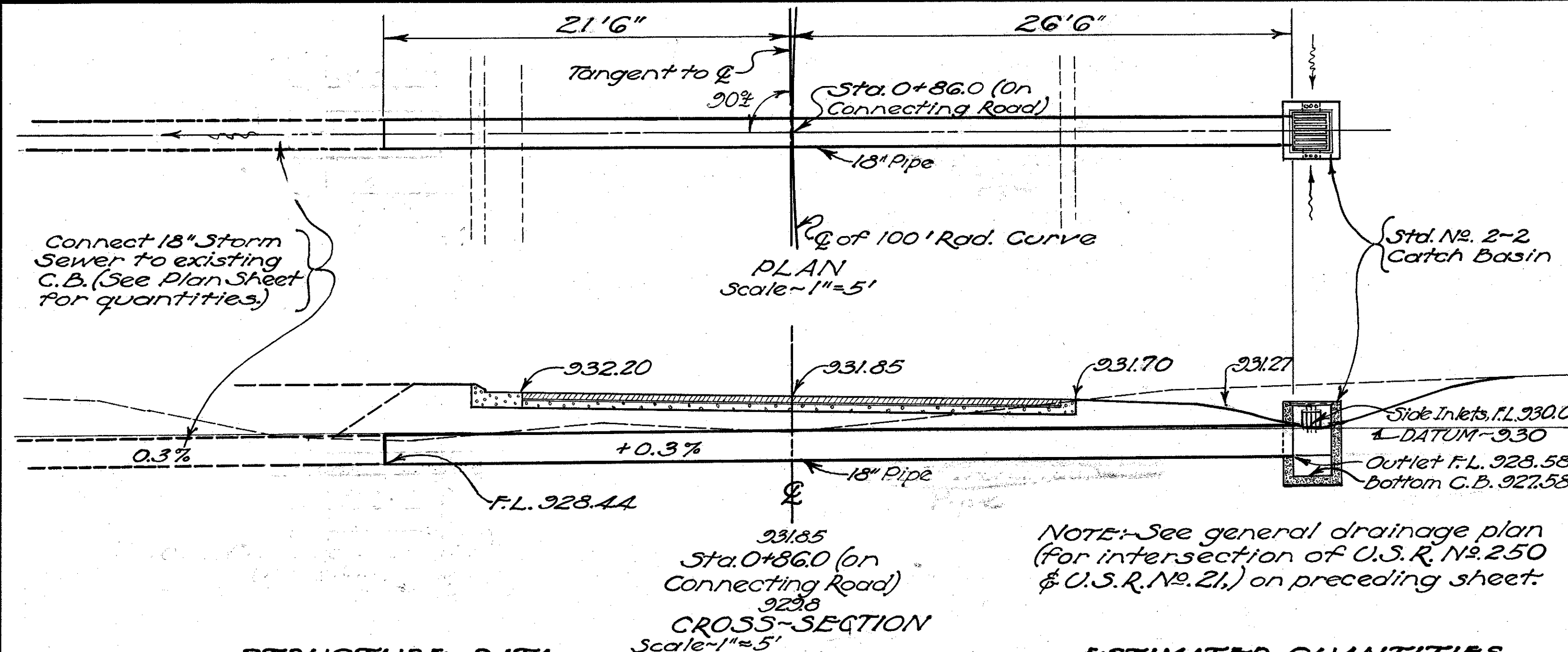
ESTIMATED QUANTITIES

- 13. Cu. Yds. Structure Excavation (Dry)
- 36. Lin. Ft. 12" Pipe
- 1. Unit Std. No. 2-2 Catch Basin

NOTE: See general drainage plan, (for intersection of U.S.R. No. 250 & S.R. No. 93) on preceding sheet.

(20) - See Plan & Profile Sheet No. 7.
STRUCTURE NO. TU-250-02A
STA. 107+00 - LINE "C"

Drawn: 2/11/36
Traced: 2/11/36
Checked:



STRUCTURE DATA

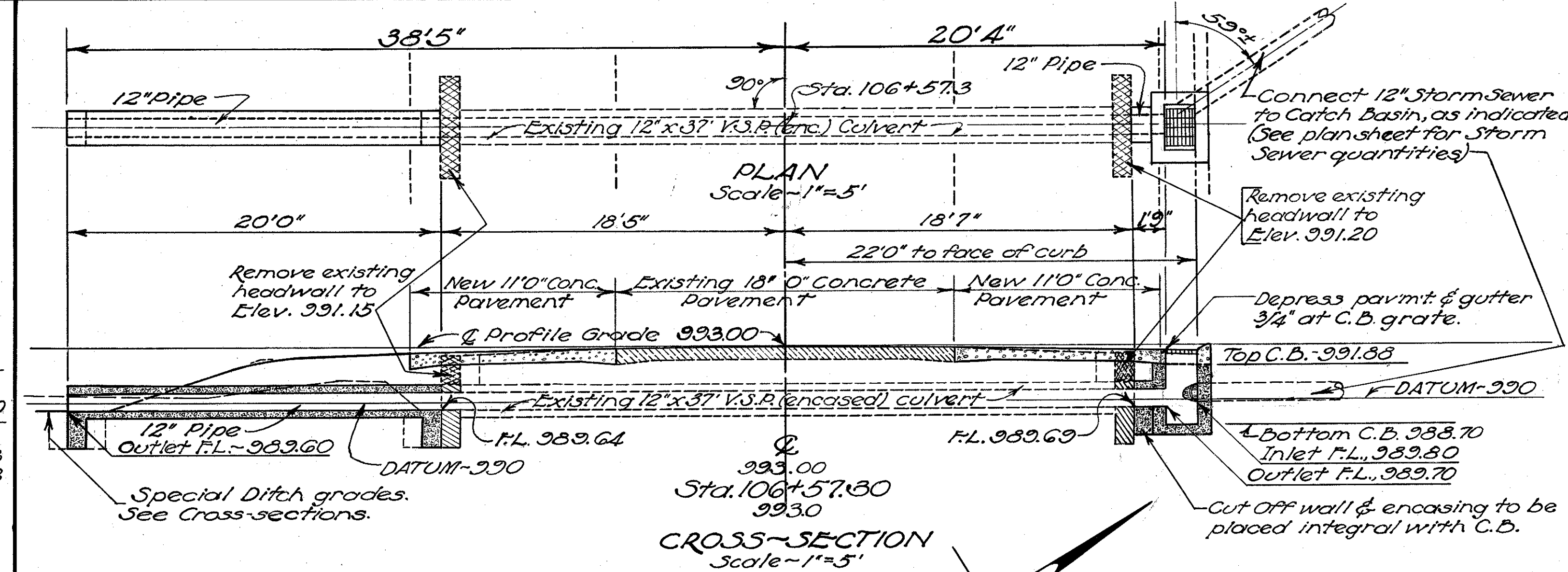
TYPE: Std. Pipe Culvert, Std. Constr. Dr. No. S-27 RC. 2 & I-8 C.B. 1-2 & 2-2.
SIZE: 18' x 64'.
WORK REQUIRED: Build new Std. 18' x 64' Pipe Culvert with Std. No. 2-2 Catch Basin on Right. Connect outlet (Lt.) end to 18" Storm Sewer.

ESTIMATED QUANTITIES

- 17. Cu. Yds. Structure Excavation (Dry)
- 48. Lin. Ft. 18" Pipe
- 1. Unit Std. No. 2-2 Catch Basin

(20) - See Plan & Profile Sheet No. 3
STRUCTURE NO. TU-250-22
STA. 0+86.0 (ON CONNECTING RD.)

Drawn: 2/11/36
Traced: 2/11/36
Checked:



STRUCTURE DATA

TYPE: Std. Pipe Culvert, Std. Constr. Drawing No. S-27 RC. 2 and I-8 C.B. No. 6.
SIZE: 12' x 20' Extension on Left; and 12' x 11'9" Extension on Right.
WORK REQUIRED: Build Std. 12' x 20' Pipe Culvert extension on Left; 12' x 11'9" Extension and Std. No. 6 C.B. on Rt. Connect 12" Storm Sewer to C.B., as indicated. Remove existing headwalls to elevations shown.

ESTIMATED QUANTITIES

- 10. Cu. Yds. Structure excav. (Dry)
- 0.3 Cu. Yds. 1-5 1/2 Conc. for C.O. Walls
- 22. Lin. Ft. 12" Pipe (K.S.P. enc.)
- 1. Unit Std. No. 6 Catch Basin
- 0.6 Cu. Yds. Remove portion of existing concrete headwall.

NOTE: See general drainage plan, (for intersection of U.S.R. No. 250 & S.R. No. 93) on preceding sheet.

(10) - See Plan & Profile Sheet No. 7.
STRUCTURE NO. TU-250-02
STA. 106+57.30

Drawn: 2/11/36
Traced: 2/11/36
Checked:



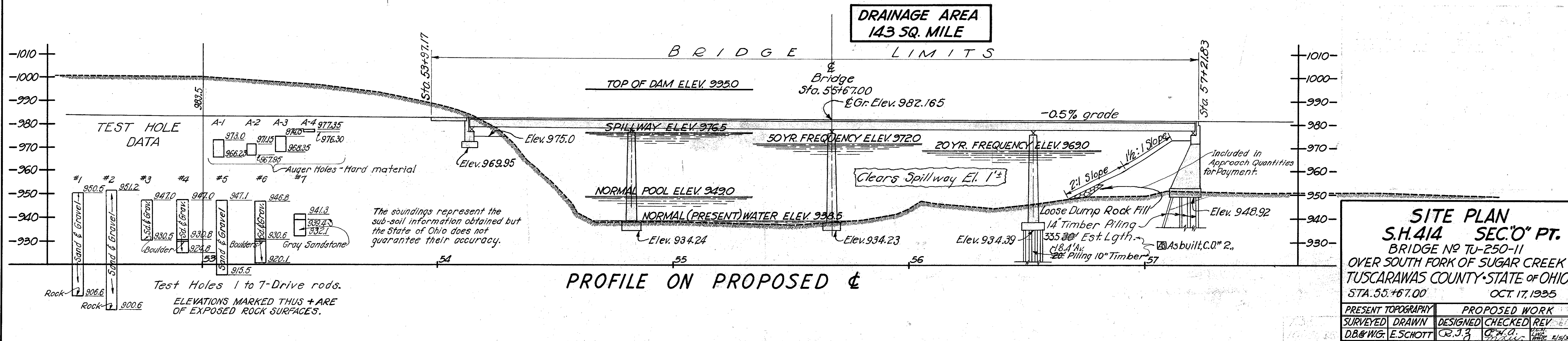
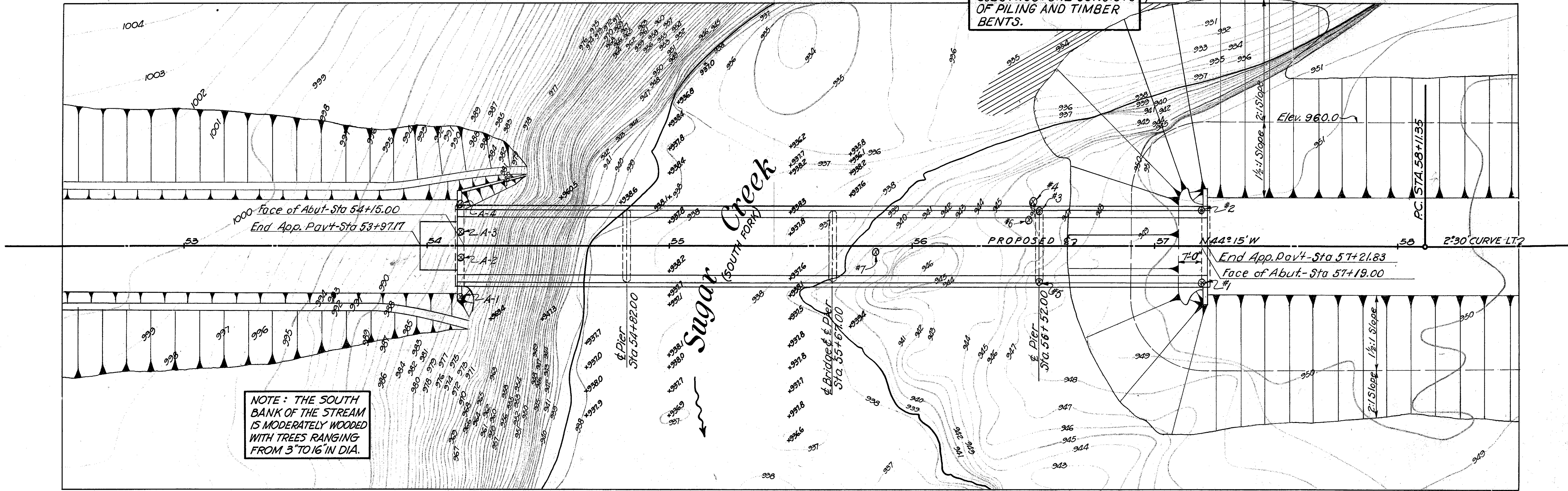
**TUSCARAWAS COUNTY
S.H. 414 SEC. 0" PT.
BEACH CITY DAM
2.58 MILE N.W. OF STRASBURG**

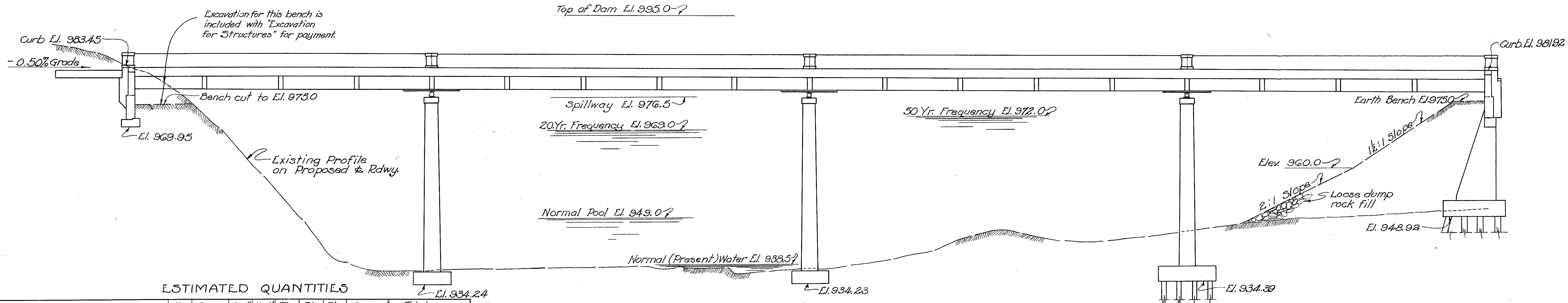
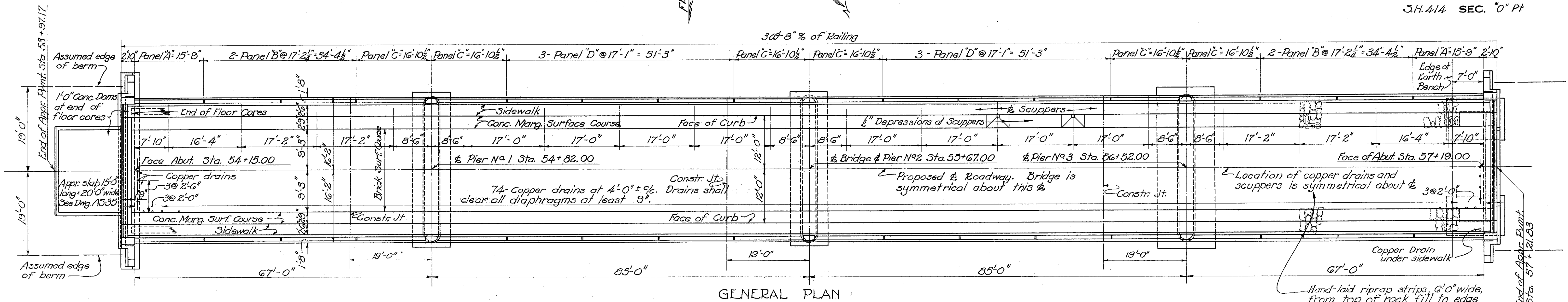
PROPOSED STRUCTURE
TYPE Concrete on Cont. Steel I-Beams
SPANS 68'-85'-85'-68' % pins
ROWY 24' plus two 3' sidewalks
SKEW None
LOADING H-15-33
A PR. SLAB 15' long x 20' wide (So. Abut. only)
SURF COURSE- 3" Brick + 3/4" Cushion

PRESENT BRIDGE DATA
BRIDGE NO. T-250-11 LOCATED
APPROXIMATELY 300 FT. UP-
STREAM, WARREN CAMEL-BACK
SPAN 35 FT. CLEAR ROADWAY
19'4" AND 2-20 FT. (TTB-33)
TIMBER APPROACH SPANS.
SUBSTRUCTURE CONSISTS
OF PILING AND TIMBER
BENTS.

TO BE REMOVED

Hole filled with rock fill (level)
to Elev. 935.0 (cross hatched)





ESTIMATED QUANTITIES

Item	Super-Structure	South Abut.	North Abut.	Pier No. 1	Pier No. 2	Pier No. 3	General	Total
Cofferdams and Pumping	E-2						Lump	Lump Sum
Excavation for Structures, Earth	E-2	40	21		425	260	25	346 Cu. Yds.
Excavation for Structures, Rock	E-2	90		40			55	225 Cu. Yds.
1-5 1/2" Concrete, Superstructure	5-1	301						301 Cu. Yds.
1-6 1/2" Concrete, Walls	5-1		36	61	156	156	150	559 Cu. Yds.
1-6 1/2" Concrete, Footings	5-1		12	33	34	34	62	173 Cu. Yds.
Type "B" Waterproofing	5-3		16	30			36.5	46 Sq. Yds.
Type "C" Waterproofing	5-3	648						648 Sq. Yds.
Reinforcing Steel	5-4	61,200	1290	5750	4200	4200	5460	82,230 Lbs.
10 1/2" Reinf. Conc. Approach Slab	5-5						33.3	33.3 Sq. Yds.
Structural Steel (Except field painting)	5-7	348,000						348,000 Lbs.
Steel Castings (Except field painting)	5-7						12,720	12,720 Lbs.
Field Painting of Structural Steel and Steel Castings (two coats)	5-8	348,000					12,720	360,720 Lbs.
Bridge Railing (Concrete)	5-14	619.3						619.3 Lin. Ft.
First Test Pile (Timber)	5-16						Lump	Lump Sum
10" Timber Piling, Including Steel Points (Estimated Length 20ft)	5-17						867	960 Lin. Ft.
14" Timber Piling, Including Steel Points (Estimated Length 30ft)	5-17						825	720 Lin. Ft.
Removal of Existing Bridge	5-24						Lump	Lump Sum
Cast Iron Scuppers, Special	1-8	36						36 Pieces
Hand-laid Rip-rap	1-10						56	56 Sq. Yds.
3 1/2" Marginal Conc. Surf. Course	T-70	187						187 Sq. Yds.
Brick Surface Course (3" Brick + 3/4" Cushion)	T-90	627					294	656.4 Sq. Yds.

RIVETING PROCEDURE for field splices of main beams shall be as follows: Before completing the field splice over the first pier, all of the structural steel in the first two spans shall be lightly pinned and bolted together. Then the bottom splice shall be thoroughly pinned, bolted and riveted. Next the end of the beam at the second pier shall be raised 3 1/4" and supported during the completion of the top flange splice at the first pier. In like manner the end of the beam at the third pier shall be raised a like amount before completing the top flange splice at the second pier, but the end of the beam at the second abutment shall be raised only 2 1/4" before completing the top flange splice at the third pier.

COPPER DRAINS shall be provided, as indicated on the "General Plan" and "Section Thru Roadway." Drains shall consist of 1 1/2" copper tubing, flush with top of slab and projecting 1" below bottom of slab and shall be covered with 4" x 4" copper screens, 16 mesh. Payment included with concrete.

GENERAL NOTES

STANDARD DRAWINGS CSS-35, A5-35, and MBD-35 are supplemental to these drawings.

ALL PILING shall be equipped with cast steel pile points see Std. Dwg. MBD-35, detail "C," for details. Pile points included with piling for payment.

EXISTING SUPERSTRUCTURE shall be carefully dismantled and delivered to the State Highway Garage at New Philadelphia.

CONSTRUCTION JOINTS in concrete deck shall be made normal to centerline of roadway, full width of deck, where shown on "General Plan" and placed as shown in sketch below.

Place section "A" first; then "B" starting at far end and progressing toward "A" then "C" starting at far end and progressing toward "B" and then "D" starting at far end and progressing toward section "C."

ALL TREES which interfere with the proposed structure shall be removed. Cost of removal is included with "Excavation for Structures" for payment.

EXISTING SUBSTRUCTURE All timber in existing substructure shall be delivered to the State Highway Garage at New Philadelphia. Piling shall be cut off at ground or waterline. Timber shall be carefully dismantled.

This structure is within the permanent pool of the Beach City Reservoir of the Muskingum Watershed Conservancy District. The frequency of floods and constant pool level shown hereon represent conditions after the completion of the dam for this reservoir and were taken from the M.W.C.D. plans of this reservoir. The War Department has stated that the gates at this dam probably will not be closed until sometime in the year of 1937. Due to the retarding effect of construction work for this reservoir, flood levels prior to the closing of the gates may be higher than previous floods have been.

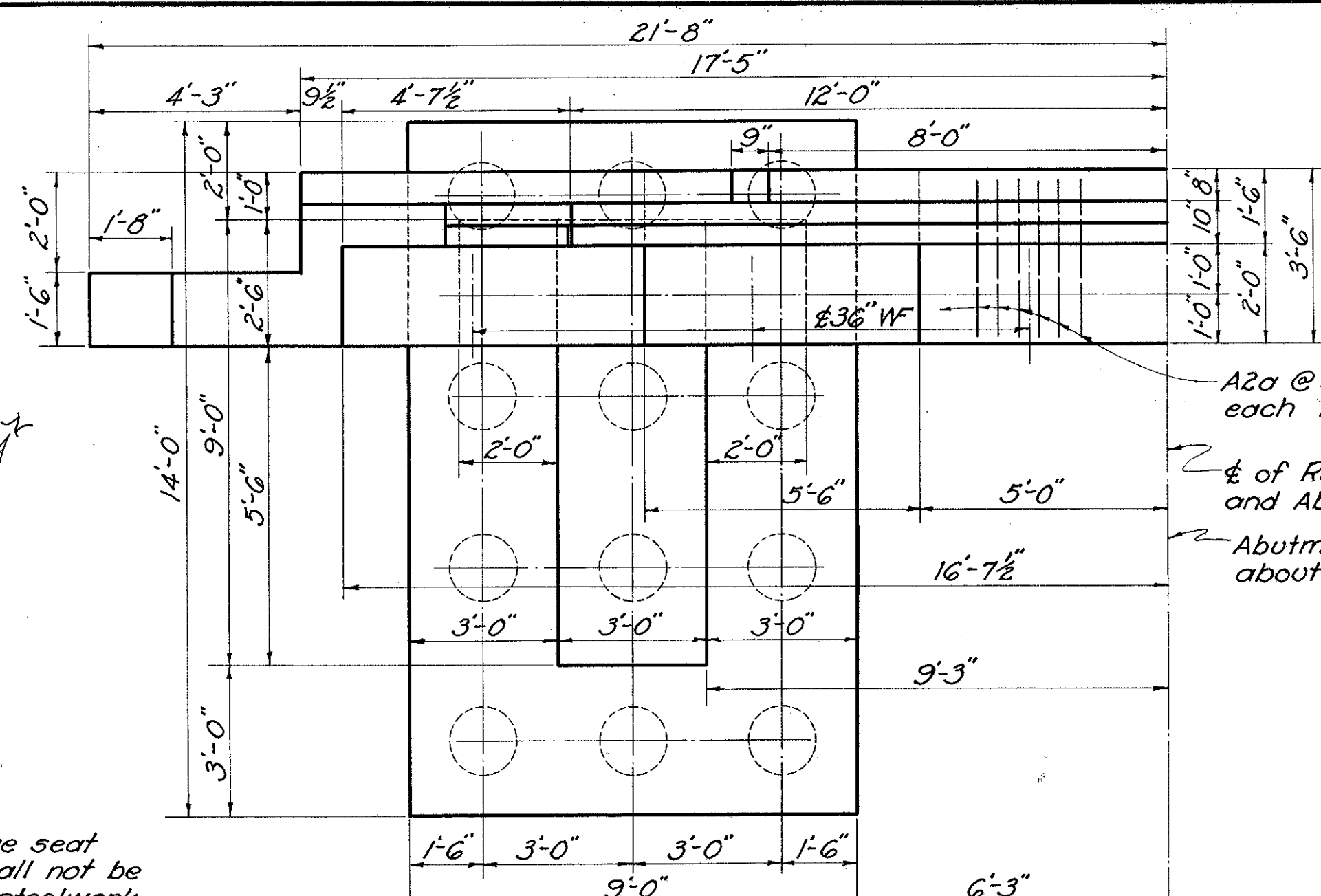
The State of Ohio, Department of Highways, assumes no responsibility for the accuracy of this information regarding flood frequencies, pool level, and time of closing the gates, and will expect that the bidder and contractor keep informed on the progress of work on this dam.

GENERAL PLAN & ELEVATION QUANTITIES & NOTES

BRIDGE No. TU-250-11
OVER SOUTH FORK OF SUGAR CK.
TUSCARAWAS COUNTY S.H. 414
SEC. "O" Pt. STA. 55+67.00

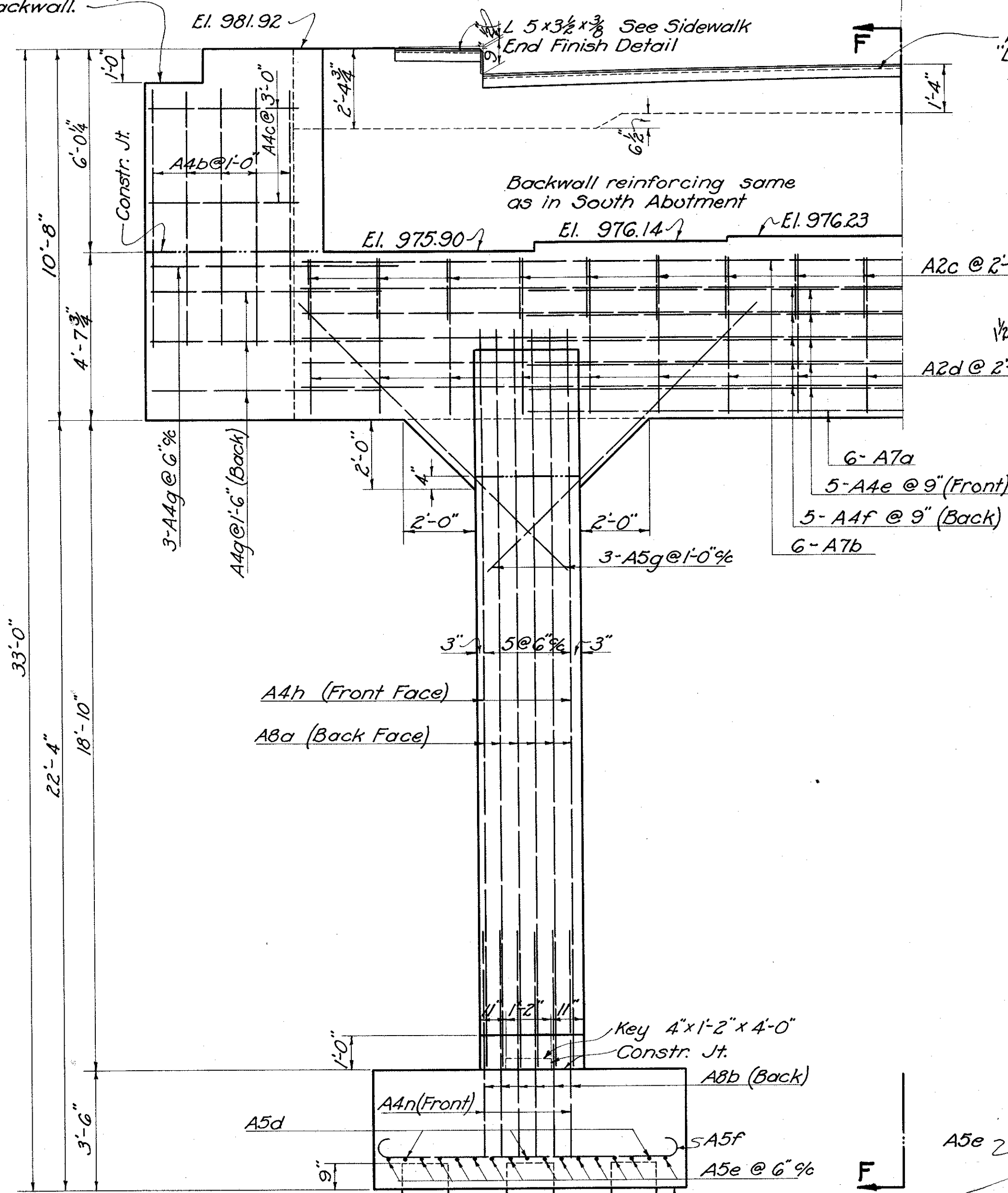
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SKR	SKR	efg	R.R.B.	J.C.M.	11/4/36	2/5/36

TUSCARAWAS COUNTY
S.H. 414 SEC. 'O' PT.



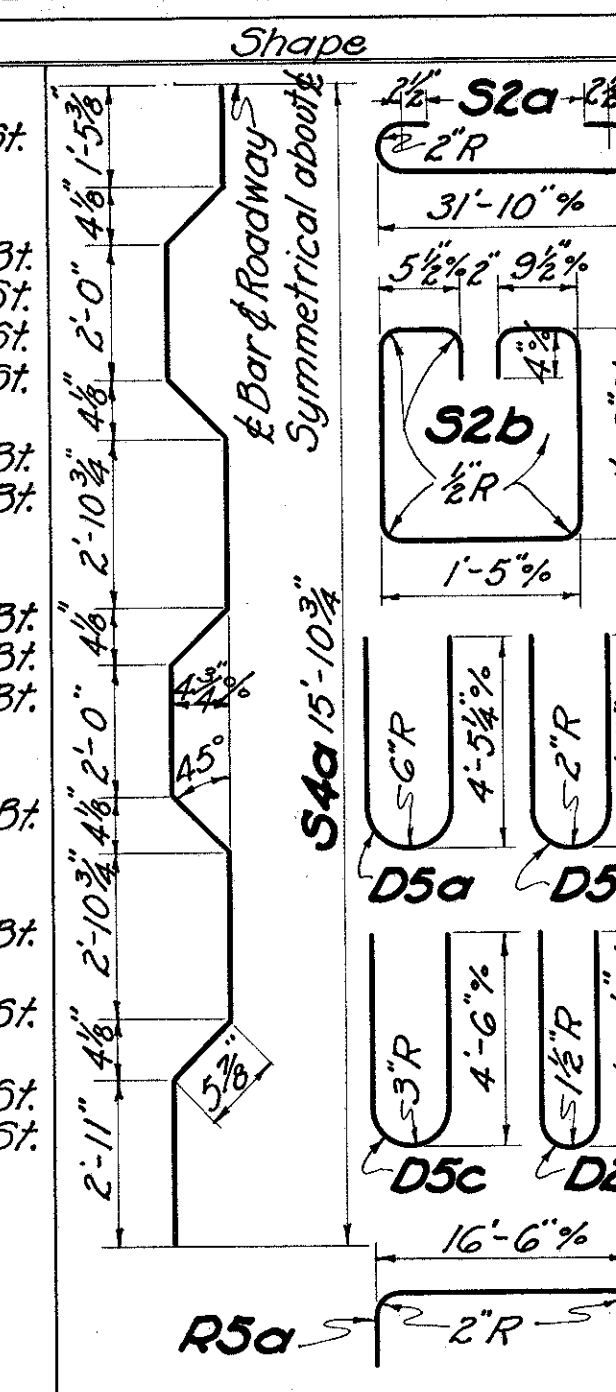
HALF OF NORTH ABUTMENT PLAN

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



HALF OF NORTH ABUTMENT ELEVATION

Mark	Size	No.	Length	Weight	Shape
SUPERSTRUCTURE STEEL					
S7a	1"	144	37'-9"	14,530	St.
S4a	3/8"	307	33'-3"	10,660	St.
S4b	3/8"	306	31'-9"	10,140	St.
S4c	3/8"	324	36'-3"	12,250	St.
S4d	3/8"	66	37'-0"	2,530	St.
S2a	1/2"	306	33'-0"	6,750	St.
S2b	1/2"	612	6'-3"	2,560	St.
D5a	3/4"	8	9'-6"	140	St.
D5b	3/4"	56	9'-0"	760	St.
D5c	3/4"	24	9'-3"	330	St.
D2a	1/2"	92	9'-0"	550	St.
R5a	3/4"	144	18'-6"		St.
R4a	5/8"	72	16'-6"		St.
R1a	3/8"	72	16'-6"		St.
R1b	3/8"	504	3'-0"		St.

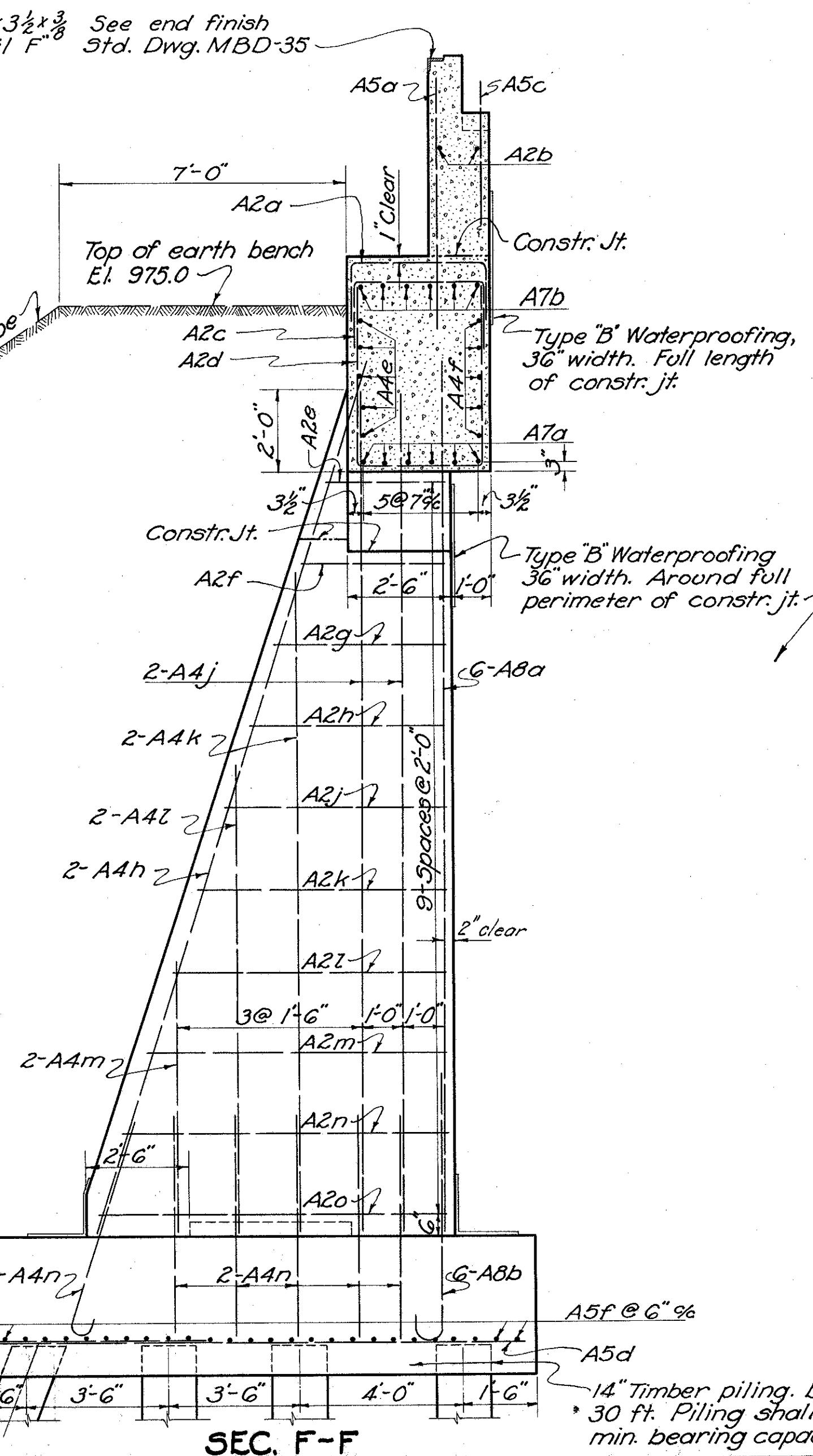


Mark	Size	No.	Length	Weight	Shape
ABUTMENT STEEL					
A8a	1"	12	21'-6"	880	St.
A8b	1"	12	7'-6"	310	St.
A7a	1"	6	21'-6"	340	St.
A7b	1"	6	34'-3"	550	St.
A5a	3/4"	34	13'-3"	680	St.
A5b	3/4"	16	10'-3"	250	St.
A5c	3/4"	18	13'-0"	350	St.
A5d	3/4"	6	13'-6"	120	St.
A5e	3/4"	28	6'-6"	270	St.
A5f	3/4"	54	10'-0"	810	St.
A5g	3/4"	12	11'-0"	200	St.
A4a	3/8"	44	5'-6"	250	St.
A4b	3/8"	20	7'-3"	130	St.
A4c	3/8"	10	4'-3"	40	St.
A4d	3/8"	2	22'-9"	50	St.
A4e	3/8"	5	21'-6"	110	St.
A4f	3/8"	5	34'-3"	180	St.
A4g	3/8"	12	7'-0"	90	St.
A4h	3/8"	4	22'-6"	90	St.
A4i	3/8"	8	20'-6"	170	St.
A4j	3/8"	4	16'-3"	70	St.
A4k	3/8"	4	11'-6"	50	St.
A4l	3/8"	4	6'-9"	30	St.
A4m	3/8"	24	6'-3"	160	St.
A4n	3/8"	24	6'-3"	160	St.

Mark	Size	No.	Length	Weight	Shape
PIER STEEL					
P6a	3/8"	62	14'-6"	1840	St.
P5a	3/4"	108	6'-6"	1060	St.
P4a	3/8"	118	28'-6"	3510	St.
P4b	3/8"	72	38'-6"	2900	St.
P4c	3/8"	30	8'-3"	260	St.
P4d	3/8"	30	8'-6"	270	St.
P4e	3/8"	30	8'-9"	270	St.
P4f	3/8"	28	9'-0"	260	St.
P4g	3/8"	120	9'-6"	1190	St.
P4h	3/8"	8	34'-6"	290	St.
P4i	3/8"	36	37'-0"	1390	St.
P4j	3/8"	7	36'-0"	260	St.
P2a	1/2"	108	5'-0"	360	St.

Mark	Size	No.	Length	Weight	Shape
REPLACEMENT STEEL					
RE8	1"	1	8'-0"	30	St.
RE7	1"	2	8'-0"	40	St.
RE6	3/4"	1	9'-0"	20	St.
RE5	3/4"	1	8'-0"	10	St.
RE4	3/4"	2	9'-0"	20	St.
RE2	1/2"	1	10'-0"	10	St.
RE1	3/8"	1	6'-0"	0	St.

Mark	Size	No.	Length	Weight	Shape
GRAND TOTAL					
				81,550	



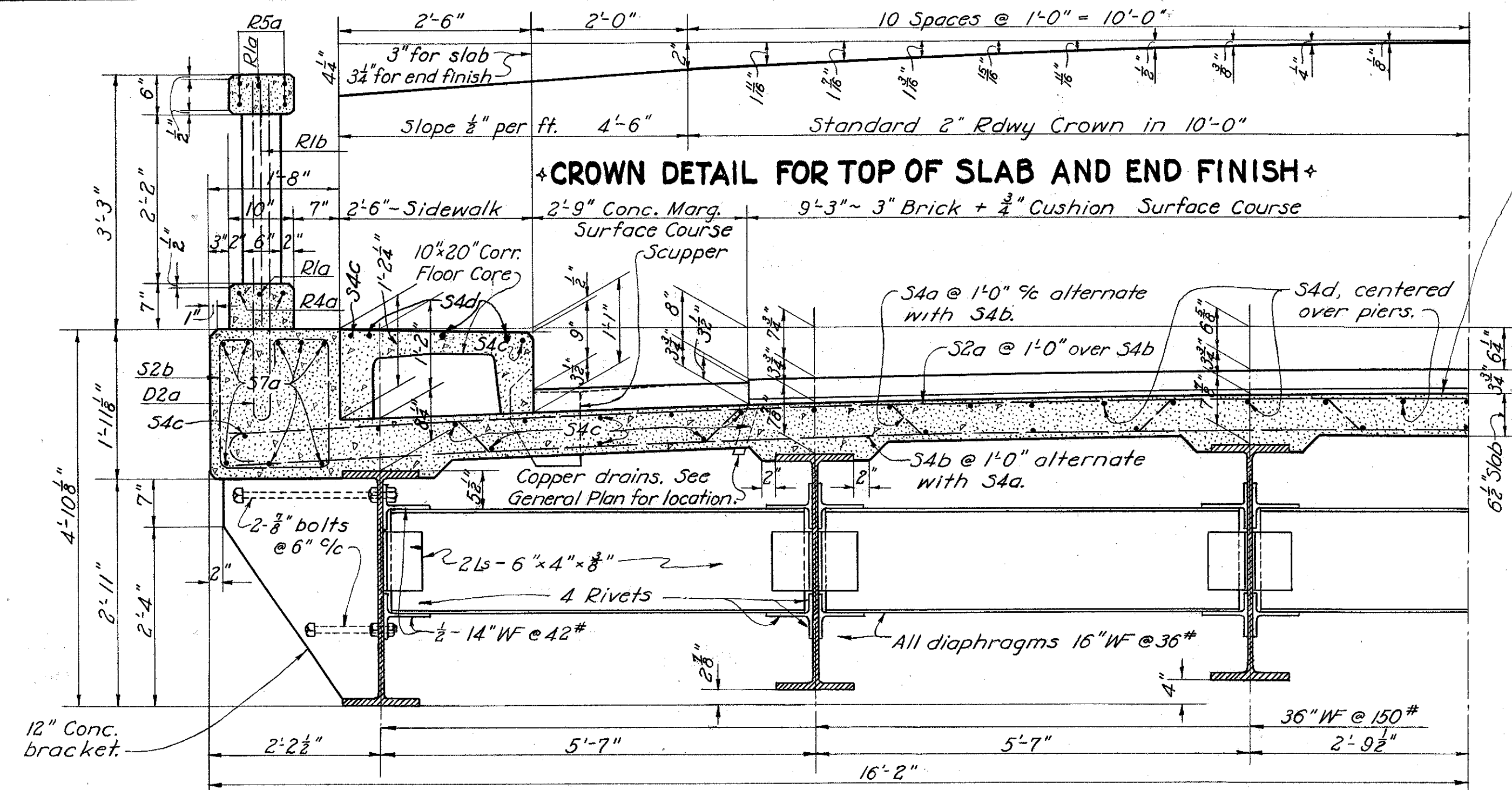
SEC. F-F

14" Timber piling. Estimated length 30 ft. Piling shall be driven to a min. bearing capacity of 28 tons and preferably 30 tons.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

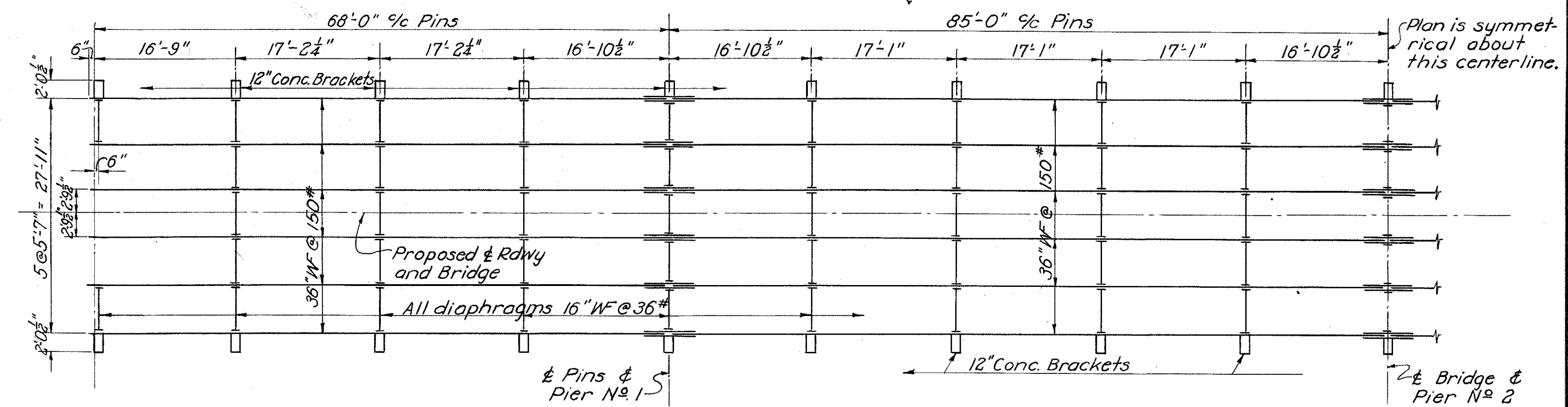
**NORTH ABUTMENT DETAILS
AND STEEL LIST**
BRIDGE NO. TU-250-11
OVER SOUTH FORK OF SUGAR CREEK
TUSCARAWAS COUNTY S.H. 414
SEC. 'O' PT. STA. 55+67.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SKR	SKR	W.H.L.	R.R.C.	J.G.M.	2/5/36	

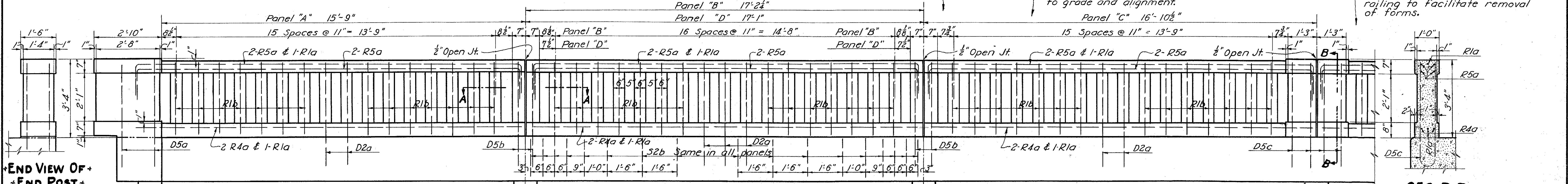


HALF SECTION THRU ROADWAY

All concrete surfaces on superstructure that are in contact with brick surface course shall be treated with type "C" Waterproofing.



HALF PLAN OF STRUCTURAL LAYOUT



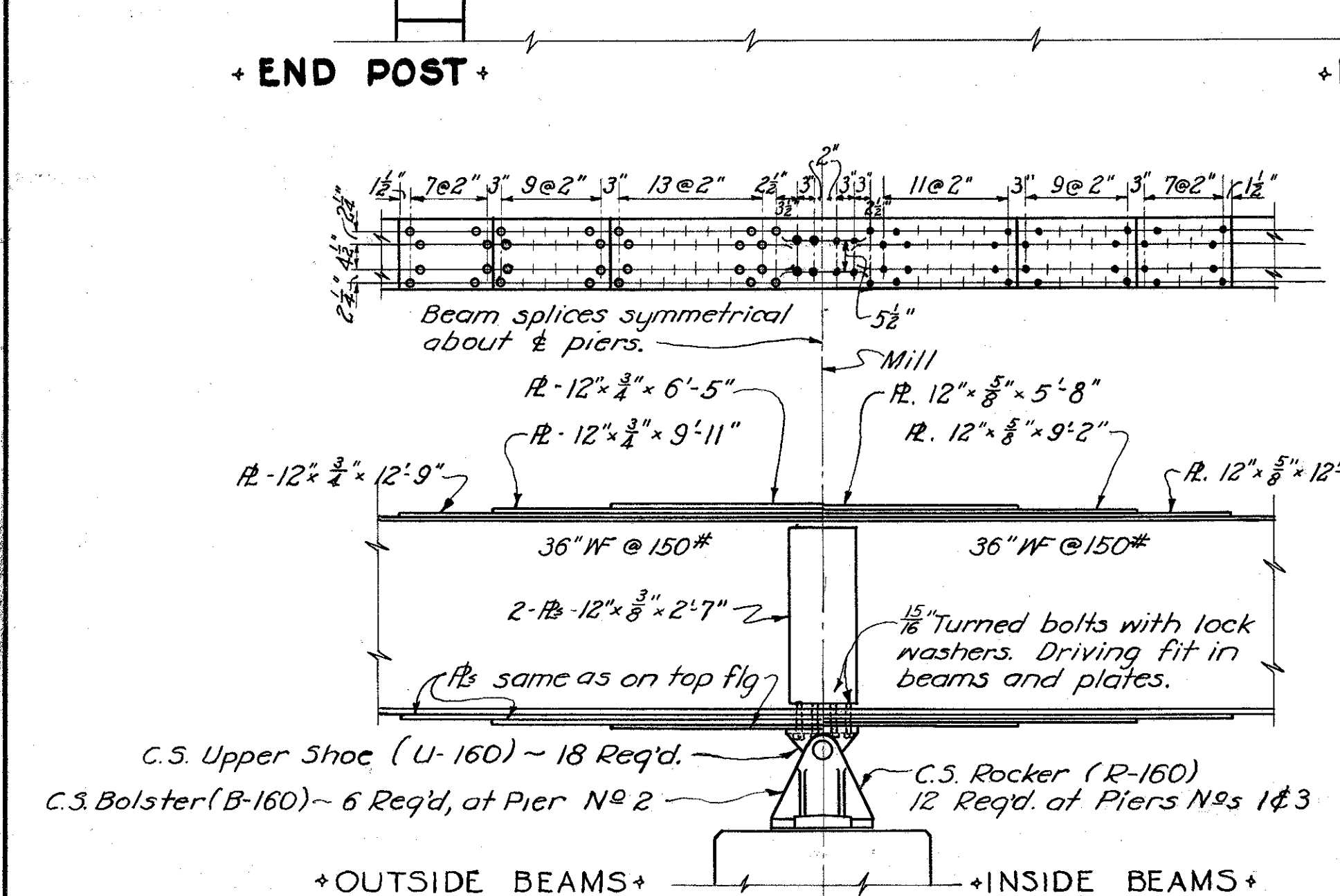
RAILING DETAILS

STRUCTURAL NOTES

- RIVETS:- Rivets in end finish may be 3/4"; all others shall be 1/2".
- ROADWAY END FINISH: For details of roadway end finish see Std. Dwg. MBD-35, "Detail F." Bent curb plates may be fastened to 1/8" Rb. either by cap screws or welding.
- USE (R-100) ROCKERS and (U-100-A) upper shoes at both abutments. 12 (R-100) rockers and 12 (U-100-A) upper shoes required. See Std. Dwg. CSS-35 for details.

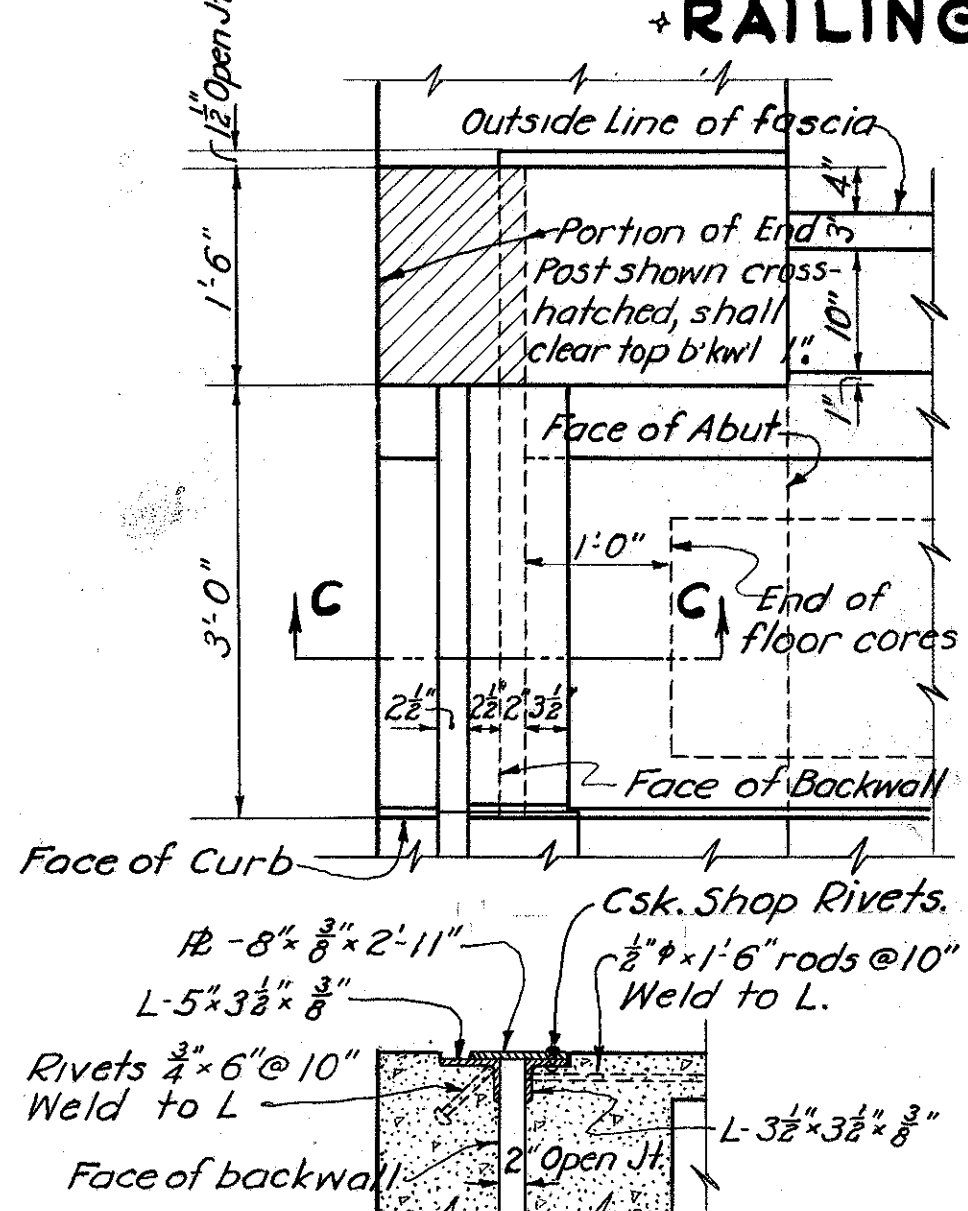
	DEFLECTION & CAMBER			
	OUTSIDE BEAMS		INSIDE BEAMS	
	END SPANS	MIDDLE SPANS	END SPANS	MIDDLE SPANS
Deflection due to weight of steel	1/8"	1/8"	1/8"	1/8"
Deflection due to remaining dead load	3/8"	1"	3/8"	1/2"
Total Camber Required	1"	1 1/8"	None	None

Inside beams need not be cambered, but the fabricator shall inspect these beams for curve and shall so fabricate that any curved beams will be placed convex side up.



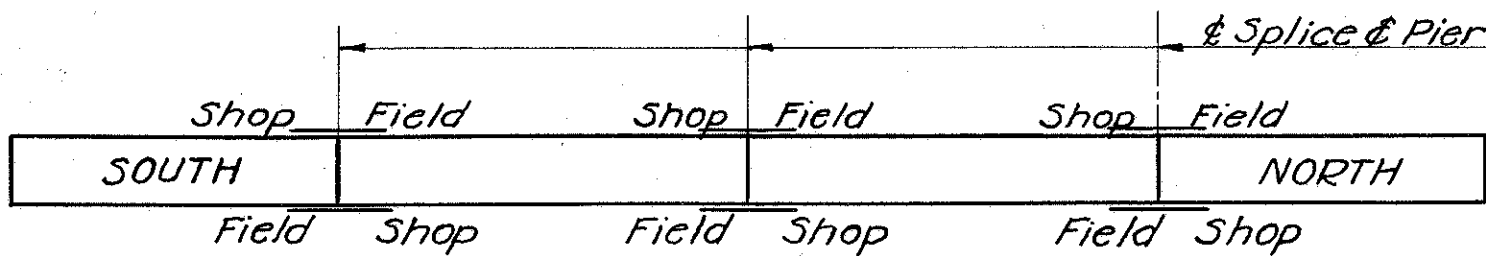
BEAM SPLICE DETAILS

FOR DETAILS OF C.S. ROCKERS, BOLSTERS AND SHOES SEE STD. DRWG. CSS-35



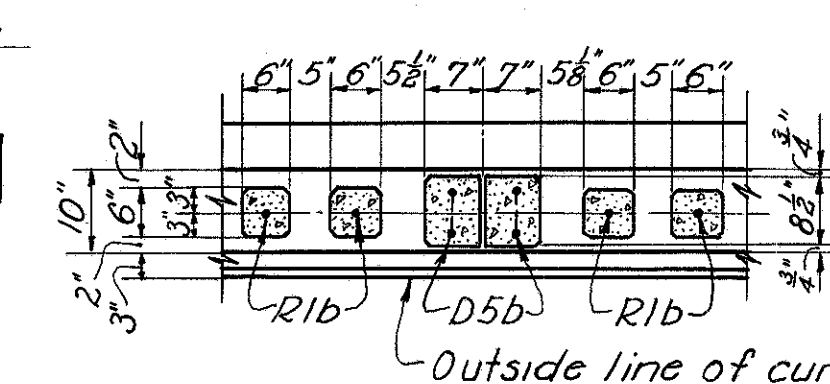
SEC. C-C

SIDEWALK END FINISH & PLAN OF CORNER OF SUPERSTRUCTURE



RIVETING ARRANGEMENT FOR BEAM SPLICES

(Assuming that erection begins at North Span)



SEC. A-A

SCUPPER DETAILS
2" CAST IRON
36 REQUIRED

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS
BRIDGE No. + + + TU-250-11
OVER SOUTH FORK OF SUGAR CREEK
TUSCARAWAS COUNTY S.H. 414
SEC. "O" Pt. STA. 55+67.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SKL	SKL	G.W.S.	R.P.B.	J.G.M.	11/1/36	

SUMMARY OF QUANTITIES

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	39 40
10	OHIO	535-C	1936	

TUSCARAWAS COUNTY
S.H. 414 SEC. O-PT.

STRUCTURES 20 FT. SPAN AND UNDER

STRUCTURE NO.	SEE SHEET NO. FOR DETAILS	STATION	TYPE	SIZE	LENGTH	REMOVAL OF EXIST. CONC. CU. YDS.	EXCAVATION	CONCRETE	K.S.P. (ENC.)			PIPE			CATCH BASINS	
							DRY	1:5 1/2 MIX	12"	20"	22"	12"	15"	18"	STD. NO. 6	STD. NO. 22
							CU. YDS.	CU. YDS.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.		
1-C	32	2+32.50	PIPE	20" x 22"	20' x 20'	0.6	15	0.6		20	20					
2-C	33	0+86.00	C.I.P.	18"	48		17							48		1
1-C	33	35+75.00	C.I.P.	15"	64		40	1.4					64			
1-C	33	106+57.30	PIPE	12"	22	0.6	10	0.3	22						1	
2-C	33	107+00	C.I.P.	12"	36		13					36				1
TOTALS						1.2	95	2.3	22	20	20	36	64	48	1	2

SUMMARY OF NEW TREES TO BE PLANTED

TOTAL OF SHEET NO.	ULMUS AMERICANA	ACER RUBRUM	QUERCUS PALUSTRIS	LIRIODENDRON TULIPIFERA	ACER SACCHARUM
	AMERICAN ELM	RED MAPLE	PIN OAK	TULIP TREE	SUGAR MAPLE
3	3	2			
4	4	4	7	1	3
5					
6	4	3	2	2	2
7	2	2	2		
TOTALS	13	11	11	3	5

SALVAGED PLANTS

SHEET NO.	SIZE	NO.
5	3YR.	14
TOTAL		14

EXCAVATION AND EMBANKMENT

FROM STATION	TO STATION	EXCAVATION CU. YDS.	EMBANKMENT CU. YDS.	EMB.+15% CU. YDS.	BORROW CU. YDS.	DUMPED ROCK FILL CU. YDS.	WASTE CU. YDS.
0+01.60	64+84.30	92,872	73,107	84,073		54,99	8,799
64+84.30	67+25.62	7	13,962	16,056	16,049	472	
67+25.62	71+90.95	1,386	1,236	1,422	36		
71+90.95	86+87.75	14,56	1,266	14,56			
86+87.75	96+38.43	1386	1205	1386			
96+38.43	105+27.25	1849	1544	1776			73
TURF AREAS (SEE SHEET NOS 11 AND 14)				896	896		
TOTALS		98,956	92,320	107,065	16,981	5,971	8,872

NET BORROW 8,250 CU. YDS.

ESTIMATED PIPE UNDERDRAIN TO BE PLACED AT THE DIRECTION OF THE ENGINEER.

TOTAL OF SHEET NO.	4" PIPE	6" PIPE	6" x 4" Y.S.	12" PIPE	15" PIPE	24" PIPE	STD. NO. 22 C.B.	RAISE EXIST. C.B.
	LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH
3					110		1	
4					184	236		
5	704	1200	16					
6				160			1	
7								
TOTALS	704	1200	16	160	294	236	2	

ROADWAY DRAINAGE

ROAD APPROACHES & DRIVEWAYS

TOTAL OF SHEET NO.	12" PIPE	15" PIPE	24" PIPE	1:5 1/2 CONC.	REINF. STEEL	TRAFFIC BOUND MAT.
	LIN. FT.	LIN. FT.	LIN. FT.	CU. YDS.	LBS.	CU. YDS.
3		36	208	1.1	32	38
4		380	48			320
5	80					40
6	408					99
7	20					9
TOTALS	508	416	256	1.1	32	506

• NET LENGTH OF PROJECT •

END OF PROJECT = STA. 104+33.6
BEG. OF PROJECT = STA. 0+01.60
GROSS LENGTH OF PROJECT = 10,432.0 LIN. FT.
DEDUCTION OF SHORT STATION EQUATION:
STA. 72+41.20 BACK = STA. 73+00 AHEAD = 58.80 LIN. FT.
NET LENGTH OF PROJECT = 10,433.20 LIN. FT.
NET LENGTH OF PROJECT = 1.975 MILES

• FURNISHING, PLACING & DRESSING OF TOP SOIL FOR SEEDING & SODDING •

NET LENGTH OF PROJECT = 10,433.20 LIN. FT.
DEDUCTION FOR BRIDGE : STA. 54+11.50 TO STA. 57+21.83 = 310.33 LIN. FT.
ADDITION FOR INTERSECTIONS (DETAILS ON SHEET NOS 9 & 13) = 1302.65 LIN. FT.
∴ NET ADDITIONS = 1302.65 - 310.33 = 992.32 LIN. FT.
∴ FURNISHING, PLACING & DRESSING OF TOP SOIL FOR SEEDING & SODDING = 10,433.20 + 992.32 = 11,425.52 LIN. FT.

REMOVING & STORING PIPE (TOTAL PIPE = 15400 LIN. FT.)

TOTAL OF SHEET NO.	12" V.S.P.	15" V.S.P.	24" V.S.P.	12" CORR. P.	15" CORR. P.	8" V.S.P.	10" CORR. P.	24" x 6" CONC. BOX	STD. NO. 22 C.B.
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	CU. YDS.	CU. YDS.
3	250	316	82	30				2.8	2.6
4	178	112	92	56	40				
5									
6				106		230	32		
7				16					
TOTALS	428	428	174	208	40	230	32	2.8	2.6

MAIL BOX APPR'S.

TOTAL OF SHEET NO.	TRAFFIC BOUND MATERIAL CU. YDS.
3	6
4	9
5	
6	9
7	
TOTAL	24

SHRUBS, EVERGREENS, VINES, AND SEEDING

TOTAL OF SHEET №	JUNIPERUS PITZERIANA PITZER JUNIPER	JUNIPERUS VIRGIANICA CANNARY'S	JUNIPERUS RED CEDAR	WAIKUEGAN JUNIPER	MALUS CORONARIA WILD SWEET CRAB	RHODOTYPOS KERROIDES JET BEAD	ARONIA MELANOCARPA BLACK CHERRY	VIBURNUM DENTATUM ARROW-WOOD	BERBERIS THUNBERGI JAPAN BARBERRY	MALUS ARNOLDIANA ARNOLD CRAB	EVONYMUS ALATUS WINGED BURNING BUSH	POCKET HOLE PREPARATION	SEEDING SQ. YDS.	LONGICERA HALLIANA HALL'S HONEY-SUCKLE
5											6392		6392	
11	9	4	8	6	10	24	20	425				1280		
14	9		12			18	10		3	10		325		
ESTIMATED SEEDING FOR REMAINDER OF PROJECT = $\frac{11,425.52 \times 50 (\text{AV. WIDTH})}{9} - [1817 (\text{DRIVE DEDUCTION})] = 61,658$														
TOTALS	18	4	20	6	10	42	30	425	3	10	6392	63263	6392	

STORM SEWER

TOTAL OF SHEET NO.	12" PIPE	18" PIPE	STD. NO. 6 C.B.	RAISE EXIST. C.B.	15" PIPE
	LIN. FT.	LIN. FT.	EACH	EACH	LIN. FT.
3	68	128	2	1	12
TOTALS	68	128	2	1	12

REMOVAL OF TREES

TOTAL OF SHEET NO.	TOTAL NO. OF TREES FROM 8" TO 36" DIA.	
4	12	
5	114	
TOTAL	126	

GUARD RAIL

TOTAL OF SHEET NO.	TYPE H-5 S.C.	TYPE H-5 R.P.
	LIN. FT.	LIN. FT.
5	240	232
TOTAL	240	232

SUMMARY OF QUANTITIES • CONTINUED •

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	
10	OHIO	535-C	1936	40 40

TUSCARAWAS COUNTY
S.H. 414 SEC. O-PT.

DERIVATION OF PAVEMENT QUANTITIES

STATIONS	7" REINF. PORT. CEMENT CONCRETE BASE	3" BRICK WEARING SURFACE	3 1/2" x 9" STRAIGHT CONC. CURB	3 3/4" x 9" STRAIGHT HEADER CURB	3 1/2" x 9" CIRCULAR CONC. CURB	STD. TYPE 4 STRAIGHT CURB & GUTTER	MODIFIED TYPE 4 STR. CURB & GUTTER	STD. TYPE 4 CIRCULAR CURB & GUTTER	MODIFIED TYPE 4 CIR. CURB & GUTTER	REMOVAL OF EXISTING PAVEMENT	SEALING EDGE (ONLY) OF THE EXIST. PAVT.	9" 7'-7"-9" CONC. PAVT.
	SQ. YDS.	SQ. YDS.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. YDS.	LIN. FT.	SQ. YDS.
INTERSECTION (BEG. OF PROJECT) SEE SHEET NO 9 & 10 FOR DETAILS	2031.00	1985.00	1239.20	20.00		469.30		32.20		227.30	761.00	
STA. 0+01.60 TO STA. 53+97.17 STA. 0+01.60 (3 3/4" x 9" HEADER CURB) STA. 53+97.17 (" " " ") BASE = (5395.57 x 20) ÷ 9 BRICK = [(5395.57 - 1.5) 18.5] ÷ 9 CURB = (5395.57 - 368.15) 2 + 55.05	11990.16	11087.81	10109.89	18.50 18.50								
STA. 0+01.60 TO STA. 41+00 PAVT. REMOVAL = (4098.4 x 16) ÷ 9										7286.04		
STA. 53+97.17 TO STA. 57+21.83 BRIDGE												
STA. 57+21.83 TO STA. 104+23.6 SHORT STATION EQUATION: STA. 72+41.20 BACK = STA. 73+00 AHEAD (DEDUCT 58.80 LIN. FT.) STA. 57+21.83 (3 3/4" x 9" HEADER CURB) BASE = (4712.97 x 20) ÷ 9 BRICK = [(4712.97 - 75) 18.5] ÷ 9 CURB = (4712.97 - 3035) 2	10473.26	9606.23	9245.24	18.50								
STA. 59+00 TO STA. 104+23.6 - (58.80 LIN. FT.) PAVT. REMOVAL = (4534.80 x 16) ÷ 9 ADD EXTRA WIDENING FROM STA. 103+91.75 TO STA. 104+23.6 = 100 SQ. YDS.										8161.07		
INTERSECTION (END OF PROJECT) SEE SHEET NO 13 FOR DETAILS	294.78	285.23	250.00	38.50		219.50		36.10		944.63	882.00	2000.30
TOTALS	24,789.20	23,044.97	20,844.33	114.00		688.80		118.30		16,619.84	16,430.00	2000.30

(GENERAL SUMMARY CONCLUDED FROM RIGHT)

I-216 1 1/2" CAL. QUERCUS PALUSTRIS • PIN OAK •	11 ONLY
" " LIRIODENDRON TULIPIFERA • TULIP TREE • B & B	3 "
" " ACER SACCHARUM • SUGAR MAPLE •	5 "
" 3 YR. SALVAGED PLANTS	14

AGGREGATE FOR TRAFFIC LANES

Station 0+01.6 to Station 39+38	=	3936.4 lin. ft.
Station 69+88 to Station 105+27.25	=	3480.45 lin. ft.
Total length of traffic lane	=	7416.85 lin. ft.
7416.85' x 15' x 4" = Total T-10	=	1373.49 cu. yds.
27 x 12		

ITEM T-10

— ROADSIDE IMPROVEMENT —

ITEM NO		
I-216	SEEDING (ESTIMATED)	63,263 SQ. YDS.
I-216	FURNISHING, PLACING & DRESSING OF TOP SOIL FOR SEEDING & SODDING	11,425.5 LIN. FT.

I-216	3 3/4" JUNIPERUS PFITZERIA • PFITZER JUNIPER • B & B	18 ONLY
"	4 1/2" " VIR. CANNARTI • CANNARTS RED CEDAR • B & B	4 "
"	3 3/4" JUNIPERUS HOR. DOUGLASI • WAUKEGAN JUNIPER • B & B	20 "
"	4 1/2" MALUS CORONARIA • WILD SWEET CRAB • B & B	6 "
"	2 3/4" RHODOTYPOS KERROIDES • JET BEAD •	10 "
"	2 3/4" ARONIA MELANOCARPA • BLACK CHERRY •	42 "
"	3 1/4" VIBURNUM DENTATUM • ARROW WOOD •	30 "
"	18" BERBERIS THUNBERGI • JAPAN BARBERRY •	425 "
"	4 1/2" MALUS ARNOLDIANA • ARNOLD CRAB • B & B	3 "
"	3 1/4" EVONYMUS ALATUS • WINGED BURNING BUSH •	10 "
"	2 YR. LONICERA HALLIANA • HALL'S HONEY-SUCKLE •	6392 "
"	POCKET HOLE PREPARATION	6392 "
"	1 1/2" 2" CAL. ULMUS AMERICANA • AMERICAN ELM	13 "
"	" " ACER RUBRUM • RED MAPLE •	11 "

(GENERAL SUMMARY CONTINUED TO THE LEFT)

• GENERAL SUMMARY •

— ROADWAY —

ITEM NO		
E-101	ROADWAY EXCAVATION (UNCLASSIFIED)	98,956 CU. YDS.
E-101	BORROW (CONTRACTOR TO FURNISH)	8,109 CU. YDS.
E-101	DUMPED ROCK FILL	5971 CU. YDS.
E-8	REMOVAL OF EXISTING PAVEMENT	16,619.8 SQ. YDS.
E-9	REMOVAL OF TREES (FROM 8" TO 36" DIA.)	126 EACH
E-10	SEALING (ONLY) OF EXISTING PAVT. EDGE	16430 LIN. FT.
E-11	WATERING EMBANKMENTS (ESTIMATED)	466.0 M GAL.
I-1	12" PIPE FOR ROAD APPROACHES & DRIVEWAYS	508.0 LIN. FT.
I-1	15" " " " " " "	416.0 LIN. FT.
I-1	24" " " " " " "	256.0 LIN. FT.
I-2	12" " " " STORM SEWER	68.0 LIN. FT.
I-2	15" " " " " " "	12.0 LIN. FT.
I-2	18" " " " " " "	128.0 LIN. FT.
I-3	12" " " " ROADWAY DRAINAGE	160.0 LIN. FT.
I-3	15" " " " " " "	294.0 LIN. FT.
I-3	24" " " " " " "	236.0 LIN. FT.
I-4	4" PIPE UNDERDRAIN (ESTIMATED)	704.0 LIN. FT.
I-4	6" " " " " " "	1200.0 LIN. FT.
I-5	PIPE SPECIALS • 6" x 4" Y BRANCHES	16.0 EACH
I-6	8" PIPE REMOVED AND STORED	230.0 LIN. FT.
I-8	STD. NO. 6 CATCH BASINS	2 EACH
I-8	STD. NO. 2-2 CATCH BASINS	2 EACH
I-15	GUARD RAIL (TYPE I-15 S-C)	240.0 LIN. FT.
I-15	GUARD RAIL (TYPE I-15 P-P)	232.0 LIN. FT.
I-17	TRAFFIC BOUND SIDE APPROACHES	530.0 CU. YDS.
S-1	CONCRETE FOR HEADWALLS (1:5 1/2 MIX)	1.1 CU. YDS.
S-4	REINFORCING STEEL FOR HEADWALL	32.0 LBS.
S-22	REMOVAL OF PORTIONS OF EXISTING MASONRY	5.4 CU. YDS.
I-6	10" PIPE REMOVED AND STORED	32.0 LIN. FT.
I-8	RAISE EXISTING CATCH BASIN	1 EACH
I-6	12" PIPE REMOVED AND STORED	636.0 LIN. FT.
"	15" " " " " " "	428.0 " "
"	18" " " " " " "	40.0 " "
"	24" " " " " " "	174.0 " "
T-10	AGGREGATE FOR TRAFFIC LANES	1373.49 Cu. Yds.

— PAVEMENT —

B-71	7" REINF. PORT. CEMENT CONC. BASE COURSE	24789.2 SQ. YDS.
T-70	9" 7'-7"-9" PORTLAND CEMENT CONC. PAVEMENT	2000.3 SQ. YDS.
T-90	3" BRICK WEARING SURFACE	23045.0 SQ. YDS.
I-12	3 1/2" x 9" STRAIGHT CONC. CURB	20844.3 LIN. FT.
I-12	3 3/4" x 9" STRAIGHT CONC. HEADER CURB	114.0 LIN. FT.
I-12	STD. TYPE 4 STRAIGHT CURB & GUTTER	688.8 LIN. FT.
I-12	STD. TYPE 4 CIRCULAR CURB & GUTTER	118.3 LIN. FT.

— STRUCTURES 20 FT. SPAN AND UNDER —

S-1	CONCRETE (1:5 1/2 MIX)	2.3 CU. YDS.
S-22	REMOVAL OF PORTIONS EXISTING MASONRY	1.2 CU. YDS.
S-27	12" PIPE FOR ROADWAY CULVERTS	36.0 LIN. FT.
S-27	15" " " " " " "	64.0 LIN. FT.
S-27	18" " " " " " "	48.0 LIN. FT.
S-27	12" K.S.P. (ENC.) SEC. M-60(G) FOR RDWY. CULVERTS	22.0 LIN. FT.
S-27	20" " " " " " "	20.0 LIN. FT.
S-27	22" " " " " " "	20.0 LIN. FT.
I-8	STD. NO. 6 CATCH BASINS	1 EACH
I-8	STD. NO. 2-2 " " "	2 EACH
E-2	EXCAVATION (DRY)	95.0 CU. YDS.

— STRUCTURES OVER 20 FT. SPAN —

SEE SHEET NO 35 FOR GENERAL SUMMARY OF QUANTITIES

(GENERAL SUMMARY CONTINUED TO THE LEFT)