

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

GEA-322-11.45

GEAUGA COUNTY
CLARIDON TOWNSHIP

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	STATE	37

GEAUGA COUNTY
GEA-322 11.45

CONVENTIONAL SIGNS

TOWNSHIP LINE
RAILROAD

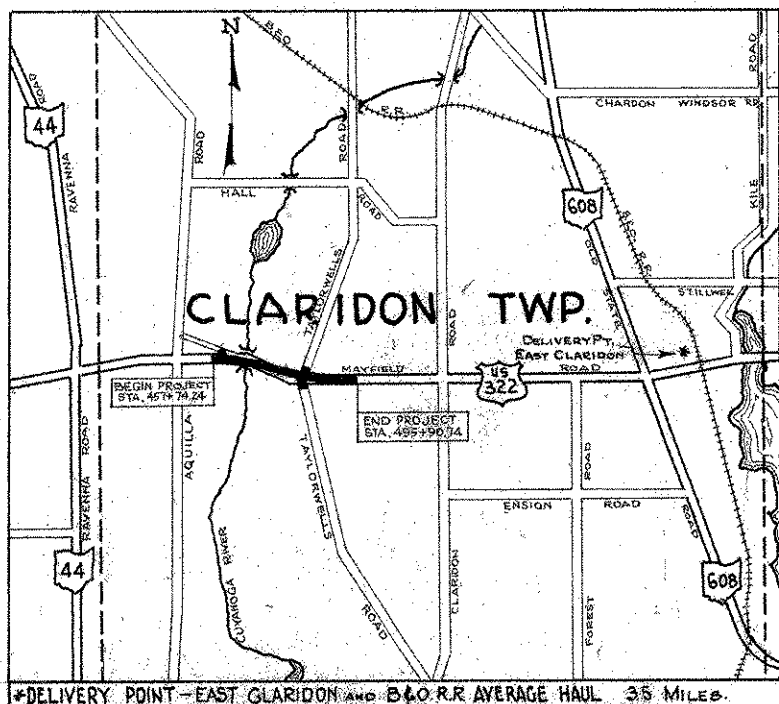
INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS	2
GENERAL NOTES & GENERAL SUMMARY	3-4
PLAN & PROFILE	4-8
EXTRA AREAS	9-10
SUPERELEVATION TABLES	11
CROSS SECTIONS	12-30
MONUMENT BOXES DETAIL	31
RIGHT OF WAY CENTER LINE	32
RIGHT OF WAY PLANS	33-34
BRIDGE PLANS	35-37

LINE DATA

BEGIN PROJECT STA. 457+74.24
END PROJECT STA. 495+90.74 GROSS LENGTH = 3816.50'
LESS EQUATION (STA. 490+51.94 = STA. 490+92.68) -40.74'
NET LENGTH OF PROJECT 3775.76 FT. = 0.715 MILES

BEGIN WORK STA. 458+50
END WORK STA. 498+50 GROSS LENGTH = 4000.00'
LESS EQUATION (STA. 490+51.94 = STA. 490+92.68) -40.74'
NET LENGTH OF WORK 3959.26 FT. = 0.749 MILES



SCALES		LEGEND	
PLAN	1" = 50'	PORTION TO BE IMPROVED	
PROFILE VER.	1" = 10'	STATE HIGHWAYS	
PROFILE HOR.	1" = 5'	OTHER ROADS	
CROSS SECTIONS	1" = 5'		

STANDARD DRAWINGS			
RI-1	G-1-53	G-7-07	I-2-53
L-3	4-1-50	AS-3-47 AS-4-47	7-27-49
L-3-A	4-1-50	CS-1-47	1-20-48
S-27 RC.1	5-1-52	S-27 PC.4	1-4-54
S-27 RC.2	3-15-48	A-1-49	7-27-49
S-27 PC.3	2-20-45	P-1-49	7-27-49
I-1,2,3,4,5	2-20-45		
I-15 N° 1	2-2-53		
I-15 N° 2	2-2-53		
T-35	10-1-52		

SUPPLEMENTAL SPECIFICATIONS			
B-119	Rev 12-14-53		
10	Rev 3-19-54		
CE-107	5-21-53		
T-17-19	Rev 3-19-53		
M-101-7	1-24-53		

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

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

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

Approved: *Arthur A. Enders*
Date: 2-26-54 Division Deputy Engineer

Approved: *John J. Newell*
Date: 5-20-54 Deputy Director of Planning & Programming

Approved: *Richard C. Peth*
Date: 5-11-54 Engineer of Bridges

Approved: *K. R. Roth*
Date: 5-11-54 Engineer of Location & Design

Approved: *J. P. Arnold*
Date: 5-11-54 Deputy Director of Design & Construction

Approved: *H. P. Schaubert*
Date: 5-21-54 First Assistant Director

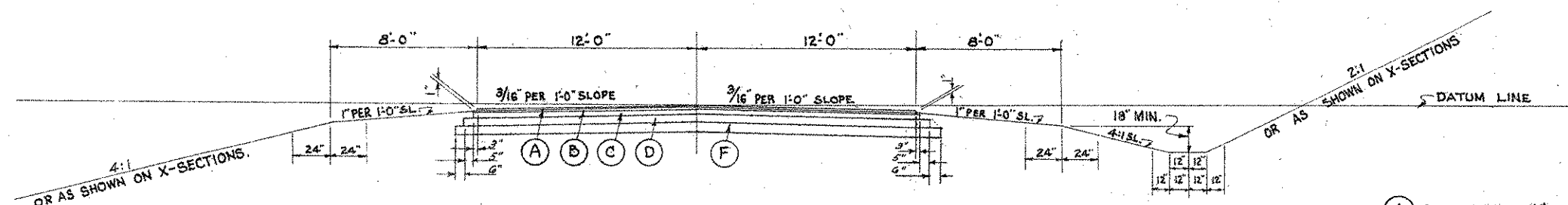
Approved: *A. D. Lingell*
Date: 5-21-54 Director of Highways

CONSTRUCTION
BUREAU
APR 12 1957
GROUND PHOTOLAB

FILE NO.	DATE OF LETTING
	CONTRACT NO.

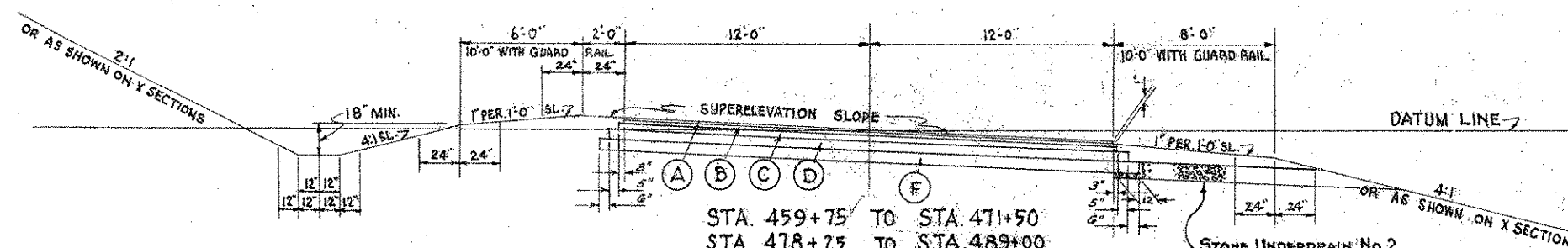
TYPICAL SECTIONS 24' PAVEMENT TYPE T-35

SCALE 1/4" = 1'-0"



STA. 491+90.74 TO STA. 495+90.74

NORMAL SECTION



STA. 459+75 TO STA. 471+50
STA. 478+25 TO STA. 489+00
STA. 457+74.24 TO STA. 459+75
STA. 471+50 TO STA. 473+59.40
STA. 476+68.26 TO STA. 478+25
STA. 489+00 TO STA. 491+90.74

TRANSITIONS

SUPERELEVATED SECTION

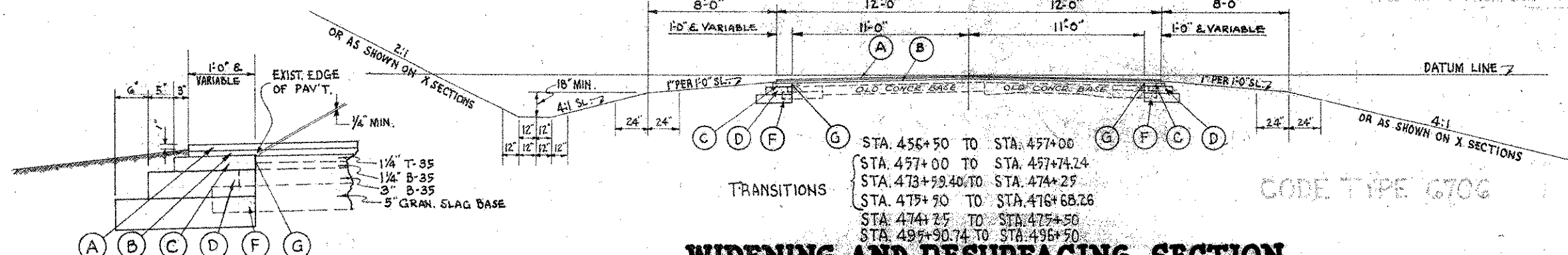
STONE UNDERDRAIN No. 2
SEE NOTE

SEEDING LIMITS.

In lieu of seeding widths shown on cross sections the seeding to be performed shall extend only to the construction limits. Pay quantities shall be determined by final measurement.

USE 10' FROM CONSTRUCTION LIMITS

NOTE:
TYPICAL PAVEMENTS FOR SPENCER, WELLS AND TAYLOR ROADS TO BE THE SAME AS NEW PAVEMENT FOR U.S. #322.



WIDENING AND RESURFACING SECTION

1'-0" PAVEMENT
WIDENING DETAIL
SCALE 1" = 1'-0"

GENERAL NOTES

GEAUGA COUNTY
GEA-322-1145

UTILITY ADJUSTMENT

Any and all work required for Public or Private Utilities will be done by and at the expense of their respective owners, unless otherwise noted in these Plans.

TREE REMOVAL

Cost of removal of trees and stumps to be included in the unit price bid for Item E-1 Roadway Excavation.

MAIL BOX TURNOUT AND DRIVES MATERIAL - ITEM 55-10

Granulated slag Sec. M-3.13 may be used for this item.

B-35 BASE COURSE

Asphaltic Concrete Base for widening may be constructed of Type "A" Surface Course Composition.

I-10 RIP-RAP

Rip-rap where called for on the plans, shall be Type "A" grout filled.

DESIGN SPEED

The design speed of the project is 60 miles per hour.

CRUSHED AGGREGATE BASE COURSE ITEM B-119

In addition to crushed materials permitted under B-119, Grade "B" Water Granulated Blast Furnace Slag, Sec. M-3.13 may be used for this course. Construction, method of measurement and basis of payment shall be in accord with 55-B-119.

SUBGRADE COMPACTION FOR WIDENINGS

In lieu of the requirements of Section E-1.09(a), the subgrade under the widening having a base width less than six feet shall be compacted for a depth of six (6) inches to the density requirements in Table III, Item E-1. Payment for subgrade compaction under widening as specified above shall be included in the unit price bid for E-1, Roadway Excavation.

PAVEMENT CALCULATIONS.

ITEM I-22 G" SUBBASE

STA. 457+74.24 To STA. 466+45.50 = 871.26 Lin. Ft.
STA. 467+48.50 To STA. 473+59.40 = 610.90 " "
STA. 476+68.26 To STA. 495+90.74 = 1922.48 " "

LESS EQUATION 40.74
TOTAL NET LENGTH 3363.90 Lin. Ft.

3363.90 x 26.33 x 5 ÷ 27 = 1640.21 Cu. Yds.

EXTRA AREA SH. 9 246.00 " "

STA. 456+50 To STA. 457+74.24 = 124.24 Lin. Ft. ②

AVER. 1.67 x 2 x 5 x 124.24 ÷ 27 = 768 " "

STA. 473+59.40 To STA. 476+68.26 = 308.86 Lin. Ft. ③

2.17 x 2 x 5 x 308.86 ÷ 27 = 248.2 " "

STA. 495+90.74 To STA. 496+50 = 59.26 Lin. Ft. ④

AVER. WIDTH 1.67 x 2 x 5 x 59.26 ÷ 27 = 3.67 " "

TOTAL G" SUBBASE 1922.38 Cu. Yds.

Use 1922 Cu. Yds.

ITEM B-119 5" CRUSHED AGGREGATE BASE COURSE

LENGTH SAME AS ① 3363.90 x 25.33 x 5 ÷ (12 x 27) = 1314.93 Cu. Yds.

EXTRA AREA SH. 9 197.00 " "

LENGTH SAME AS ② AVER. WIDTH 1.7 x 2 x 5 x 124.24 ÷ (12 x 27) = 4.49 " "

" " " " ③ 1.67 x 2 x 5 x 308.86 ÷ (12 x 27) = 15.92 " "

" " " " ④ AVER. WIDTH 1.7 x 2 x 5 x 59.26 ÷ (12 x 27) = 2.12 " "

TOTAL 5" BASE COURSE 1534.46 Cu. Yds.

Use 1535 Cu. Yds.

ITEM B-35 3" ASPHALTIC CONCRETE BASE COURSE

LENGTH SAME AS ① 3363.90 x 24.5 x 3 ÷ (12 x 27) = 763.10 Cu. Yds.

EXTRA AREA SH. 9 115.00 " "

LENGTH SAME AS ② AVER. WIDTH 0.75 x 2 x 3 x 124.24 ÷ (12 x 27) = 1.73 " "

" " " " ③ 1.25 x 2 x 3 x 308.86 ÷ (12 x 27) = 7.15 " "

" " " " ④ AVER. WIDTH 0.75 x 2 x 3 x 59.26 ÷ (12 x 27) = 0.82 " "

TOTAL 3" ASPH. BASE COURSE 887.80 Cu. Yds.

Use 889 Cu. Yds.

ITEM B-35 1/4" ASPHALTIC CONCRETE LEVELING COURSE

LENGTH SAME AS ① + APPROACH SLABS (3363.90 x 30 x 24 x 1.25 ÷ (12 x 27)) = 314.25 Cu. Yds.

EXTRA AREA SH. 9 48.00 " "

LENGTH SAME AS ② AVER. WIDTH 23 x 1.25 x 124.24 ÷ (12 x 27) = 11.02 " "

" " " " ③ 24 x 1.25 x 308.86 ÷ (12 x 27) = 28.60 " "

" " " " ④ AVER. WIDTH 23 x 1.25 x 59.26 ÷ (12 x 27) = 5.26 " "

TOTAL 1/4" ASPH. LEVELING COURSE 407.13 Cu. Yds.

Use 423 Cu. Yds.

ITEM T-35 1/4" ASPHALTIC CONCRETE SURFACE COURSE

TOTAL SAME AS B-35 ABOVE 407.13 Cu. Yds.

From Sheet 7 14 Cu. Yds.

From Sheet 8 Total 423 Cu. Yds.

ITEM T-30 BITUMINOUS TACK COAT

From Approach Slabs = 80 x 0.10 = 8 Gals.

ITEM B-35 SEALING VERTICAL FACE OF EXISTING PAVEMENT

2(124.24 + 308.86 + 59.26) x (4 x 22) + (3 x 20) = 1132.72 Lin. Ft.

Use 1133 Lin. Ft.

ITEM E-8 REMOVAL AND DISPOSAL OF EXISTING PAVEMENT

STA. 457+74.24 To OLD BRIDGE = 913.74 Lin. Ft.

BRIDGE To STA. 473+59.40 = 628.52 " "

STA. 476+68.26 To STA. 495+90.74 = 1922.48 " "

TOTAL = 3464.74 x 22 ÷ 9 = 8469 Sq. Yds.

SPENCER, WELLS, AND TAYLOR RDS. (750 + 880 + 253) = 1683 " "

TOTAL AND USE 10152 Sq. Yds.

ITEM E-1 COMPACTED SUBGRADE

LENGTH SAME AS ① 3363.93 + 30 = 3393.90 x 24 ÷ 9 = 9050.40 Sq. Yds.

SPENCER, WELLS AND TAYLOR (650 + 360 + 346) = 1356.00 " "

Use 10,406 Sq. Yds.

GENERAL SUMMARY

ROADWAY

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
E-1	8378	Cu. Yd.	Roadway Excavation, suitable material, as per plan
E-4	8521	Cu. Yd.	Borrow
E-8	10152	Sq. Yd.	Removal and Disposal of Existing Pavement
E-8	124	Sq. Yd.	Removal and Disposal of Existing Wearing Course
E-11	51	M. Gal.	Water
E-12	25	Lin. Ft.	Pipe Removed (under 15")
I-8	2	Each	Monument Boxes, Type "A", as per Plan.
I-8	12	Each	Monument Boxes, Type "B", as per Plan.
I-15	495	Lin. Ft.	Guard Rail Removed and Disposed of
I-15	129	Lin. Ft.	Guard Rail - Steel Beam Type (Deep)
55-10	83	Cu. Yd.	Stabilized Crushed Aggregate Shoulders and Approaches, as per plan
L-9	29,398	Sq. Yds.	Seeding and Protecting, Type "A" as per plan.
L-9	2.63	Tons	Commercial Fertilizer (10-6-4)
E-1	10,406	Sq. Yds.	Compacted Subgrade
E-1	748	Cu. Yds.	Roadway Excavation, Unsuitable Material

PAVEMENT

I-22	1922	Cu. Yds.	Subbase - Grading "A" or "B"
B-119	1535	Cu. Yds.	Crushed Aggregate Base as per plan
B-35	889	Cu. Yds.	Asphaltic Concrete Base Course (70-80)
B-35	423	Cu. Yds.	Asphaltic Concrete Leveling Course (70-80)
B-35	1133	Lin. Ft.	Sealing Vertical Face of Existing Pavement
T-35	423	Cu. Yds.	Asphaltic Concrete Surface Course Type "A" (70-80)
T-30	8	Gals.	Bituminous Tack Coat Sec. M-5.5 MS-2 or SS-1 for Sec. M-5.2 RC-1 or RC-2
T-10	2750	Cu. Yds.	Traffic Compacted Surface Course for Maintaining Traffic
M-10	55	Tons	Calcium Chloride For Maintaining Traffic
I-7	80	Sq. Yds.	Reinforced Concrete Approach Slab

DRAINAGE

E-2	78	Cu. Yds.	Excavation for Structures
E-3	12	Cu. Yds.	Channel Excavation
S-1	2.7	Cu. Yds.	Concrete for Structures Class "C"
S-1	1.8	Cu. Yds.	Concrete for Structures Class "E"
S-4	72	Lbs.	Reinforcing Steel
S-22	Lump Sum	Lump Sum	Removal of Portion of Existing Structure
S-24	Lump Sum	Lump Sum	Removal of Existing Structures
S-27	64	Lin. Ft.	50'x31" Corrugated Metal Arch With Integral Base M.6.4(i) For Roadway Culvert (As per Plan)
S-27	136	Lin. Ft.	18" Pipe for Roadway Culverts
I-1	24	Lin. Ft.	12" Pipe for Driveways
I-1	20	Lin. Ft.	18" Pipe for Driveways
I-2	26	Lin. Ft.	12" Pipe for Storm Sewers
I-5	1	Each	12" Pipe Special for Storm Sewers
I-10	9	Sq. Yds.	Riprap
I-9	200	Lin. Ft.	Stone Underdrains No. 2 As per Plan

Note: See Sheet No. 36 For Estimated Quantities For "Structures Over 20 Ft. Span."

SUGGESTED MAINTAINING TRAFFIC METHOD.

Traffic shall be maintained at all times. Traffic shall be maintained over the existing pavement and structure while the new structure is being built. At the time new construction interferes with the movement of traffic, traffic shall be routed over temporary pavements built over the berms. At points restricted to one lane temporary pavements, the lengths of one way traffic movements shall be kept to a minimum as directed by the Engineer.

Any alternate method suggested to be used to maintain traffic shall meet with the approval of the Engineer.

The Contractor shall maintain the temporary roads in a manner acceptable to the Engineer.

Additional earthwork incidental to installation of sections of temporary pavements, the removal and disposal of all materials used to build temporary pavements, and all other incidentals necessary to rebuild the berms after being used to maintain traffic shall be included in the unit price per cubic yard bid for Item E-1, "Roadway Excavation."

SEEDING SUMMARY				
SH. NO.	STATION	ITEM L-9	SEEDING	FERTILIZER
	FROM	TO	Sq. Yds.	Tons
12	456+50	457+74.24	488	.044
16	457+74.24	473+50	13451	1.211
22	473+50	476+50	1927	.173
26	476+50	495+90.74	13362	1.202
30	495+90.74	496+50	170	
TOTAL			29,398	2.630

EARTHWORK SUMMARY					
SH. No.	STATION		EXCAVATION	EMBANKMENT	EMB.+22%
	FROM	To	Cu. Yds.	Cu. Yds.	Cu. Yds.
5	456+50	457+74.24	41	22	27
5	457+74.24	473+50	1721	6413	7824
6	473+50	476+50	397	173	211
7	476+50	495+90.74	6211	1998	2438
8	495+90.74	496+50	8	17	21
TOTAL			8378	8623	10521

ITEM E-4 BORROW

Embarkment Required 10,521 Cu. Yds.

Estimate of excavation available 2,000 Cu. Yds.

Borrow 8,521 Cu. Yds.

WATER - ITEM E-11

E-1 8623 Cu. Yds. @ 5 M. Gals. per 1000 = 43.11 M. Gals.

B-119 1535 Cu. Yds. @ 5 M. Gals. per 1000 = 7.7 " "

TOTAL 50.8 M. Gals.

Use 51 M. Gals.

NOTE -
FOR TYPICAL SECTION OF ADJOINING
PAYEMENT SEE WIDENING AND RESURFACING
SECTION OF TYPICAL SECTIONS SHEET #2

BEGIN SHEET STA 445+00

BEGIN TAPER STA 456+50
BEGIN WORK

END SHEET STA 457+00

GENERAL NOTES CONT'D.

ITEM I-9 STONE UNDERDRAINS No. 2.

An estimated 200 Lin.Ft. of Stone Underdrains has been provided for shoulder drains to be located as directed by the Engineer as per STD. DWS. T-35. In lieu of the material specified in Sec. I-9.02, the following shall govern. Material. The aggregate shall be slag screenings, bank-run sand, or bank-run sand and gravel. The gradation shall be such that not over 10% will pass the No. 100 Sieve, 100% shall pass 1" sieve, and the aggregate shall have a permeability of not less than 5 feet per day.

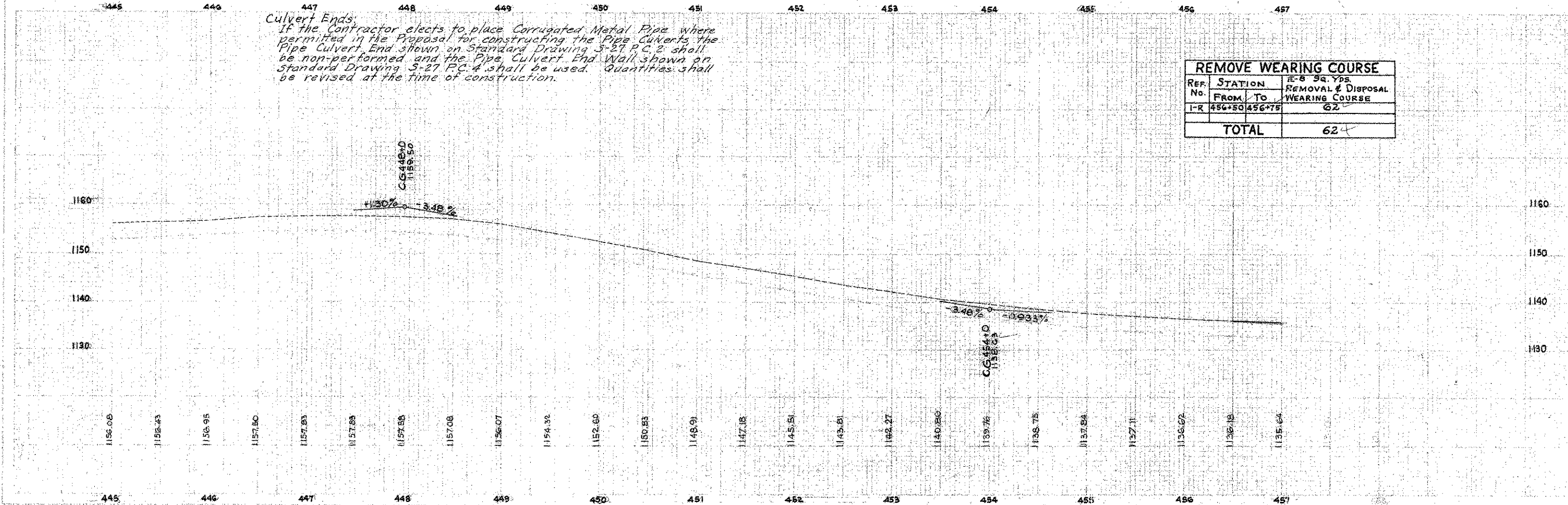
FIELD HOUSE.
The contractor shall provide a suitable field office in accordance with Sec. S-0.01 having a minimum floor area of 100 sq.ft. The contractor shall have a telephone installed and maintained during the construction of this project. Suitable latrine facilities shall be provided near the Field Office.

ITEM L-9 SEEDING AND PROTECTING TYPE "A"

In lieu of requirement of Section L-9.12 for Seed Mixtures, the following seed mixture shall be used. Rate 3 Pounds per 1000 Sq. Ft.
15% Kentucky Blue.
35% Creeping Red Fescue.
35% Chewings Fescue.
15% Perennial Rye.

Culvert Ends.
If the Contractor elects to place Corrugated Metal Pipe where permitted in the Proposal for constructing the Pipe Culverts, the Pipe Culvert End shown on Standard Drawing S-27 P.C. 2 shall be non-performed and the Pipe Culvert End Wall shown on Standard Drawing S-27 P.C. 4 shall be used. Quantities shall be revised at the time of construction.

REMOVE WEARING COURSE			
REF. No.	STATION		E-S SQ. YDS. REMOVAL & DISPOSAL WEARING COURSE
	FROM	TO	
I-R	456+50	456+75	62
TOTAL			62



PLAN AND PROFILE STA. 445+0 TO STA. 457+0

EXISTING STRUCTURE
TYPE: CONCRETE GIRDER
SPAN: 38' CLEAR
RDWY: 19'-6" BIT: SURFACE
SKEW: NONE
CONDITION: FAIR
LOADING: S-15-46
TO BE REMOVED

PROPOSED STRUCTURE
TYPE: CONTINUOUS CONCRETE SLAB WITH CAPPED
PILE ABUTMENTS AND PIERS.
SPANS: 22'-27.5'-22' 6" BEARINGS
LOADING: S-15-46
SKEW: NONE
SURFACE COURSE: BITUMINOUS
APPR. SLABS: AS-4-47
ALIGNMENT: 1° 45' CURVE RIGHT
SUPERELEVATION: 0.0417' PER FT.

GUARD RAIL		
REFERENCE No.	ITEM I-15 GUARD RAIL REMOVED AND DISPOSED OF LIN. FT.	ITEM I-15 GUARD RAILS
1-G	285✓	28.97✓
2-G	210✓	35.53✓
3-G		35.53✓
4-G		28.97✓
TOTALS	495	129.00

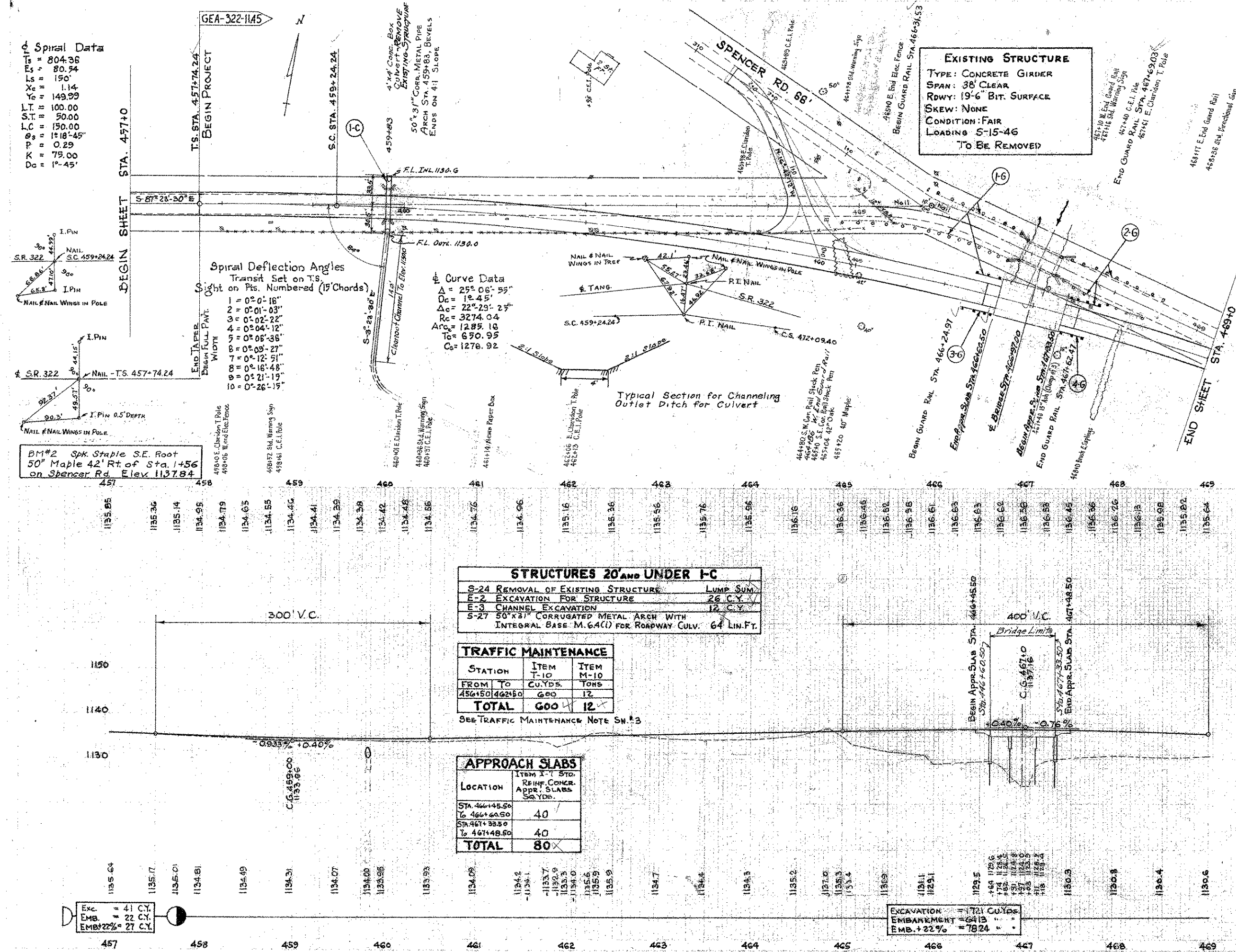
STRUCTURES 20' AND UNDER I-C		
S-24	REMOVAL OF EXISTING STRUCTURE	LUMP SUM
E-2	EXCAVATION FOR STRUCTURE	26 C.Y.
E-3	CHANNEL EXCAVATION	12 C.Y.
S-27	10"x13" CORRUGATED METAL ARCH WITH INTEGRAL BASE M. 64(1) FOR ROADWAY CULV.	64 LIN.FT.

TRAFFIC MAINTENANCE			
STATION		ITEM T-10	ITEM M-10
FROM	TO	CU.YDS.	TONS
456150	462150	600	12
TOTAL		600	12

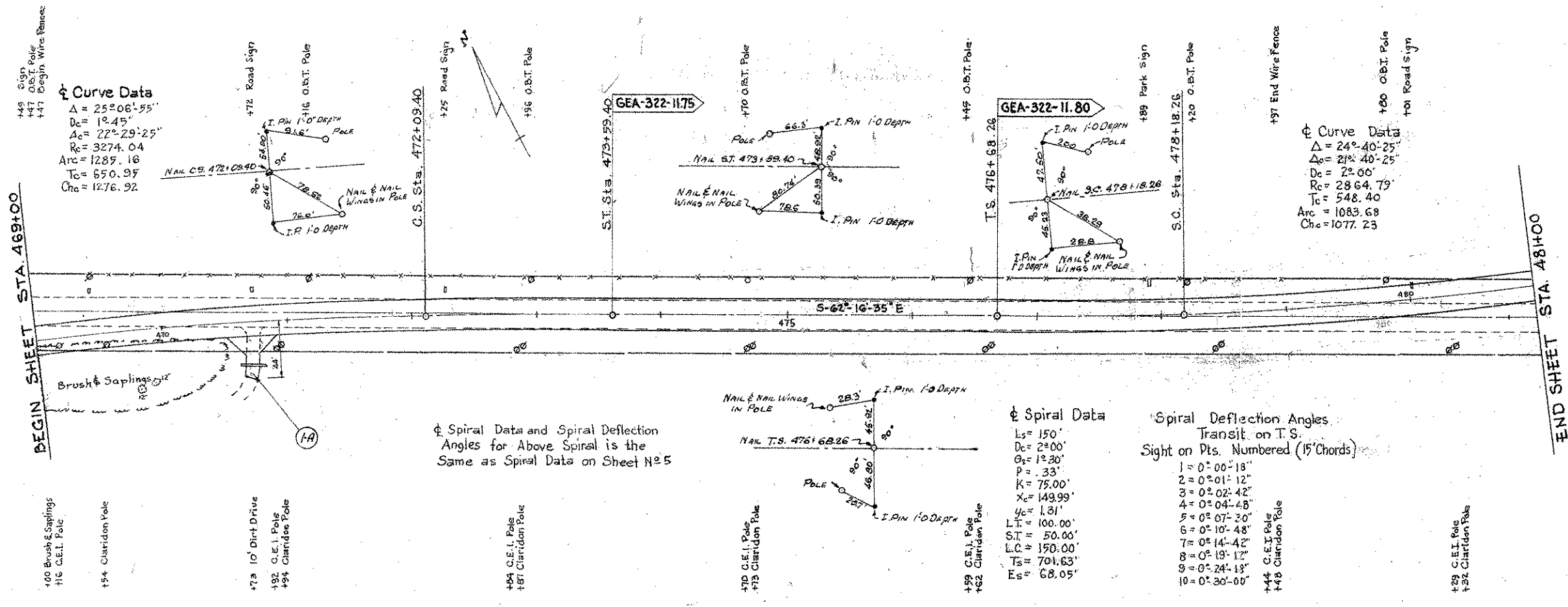
APPROACH SLABS	
LOCATION	ITEM 1-1 STD. REINF. CONCR. APPR. SLABS SQ.YDS.
STA. 466+45.50	
To 466+60.50	40
STA. 467+33.50	
To 467+48.50	40
TOTAL	80

EXCAVATION = 1721 CU.Yds.
EMBANKMENT = 6413 " "
EMB.+22% = 7824 " "

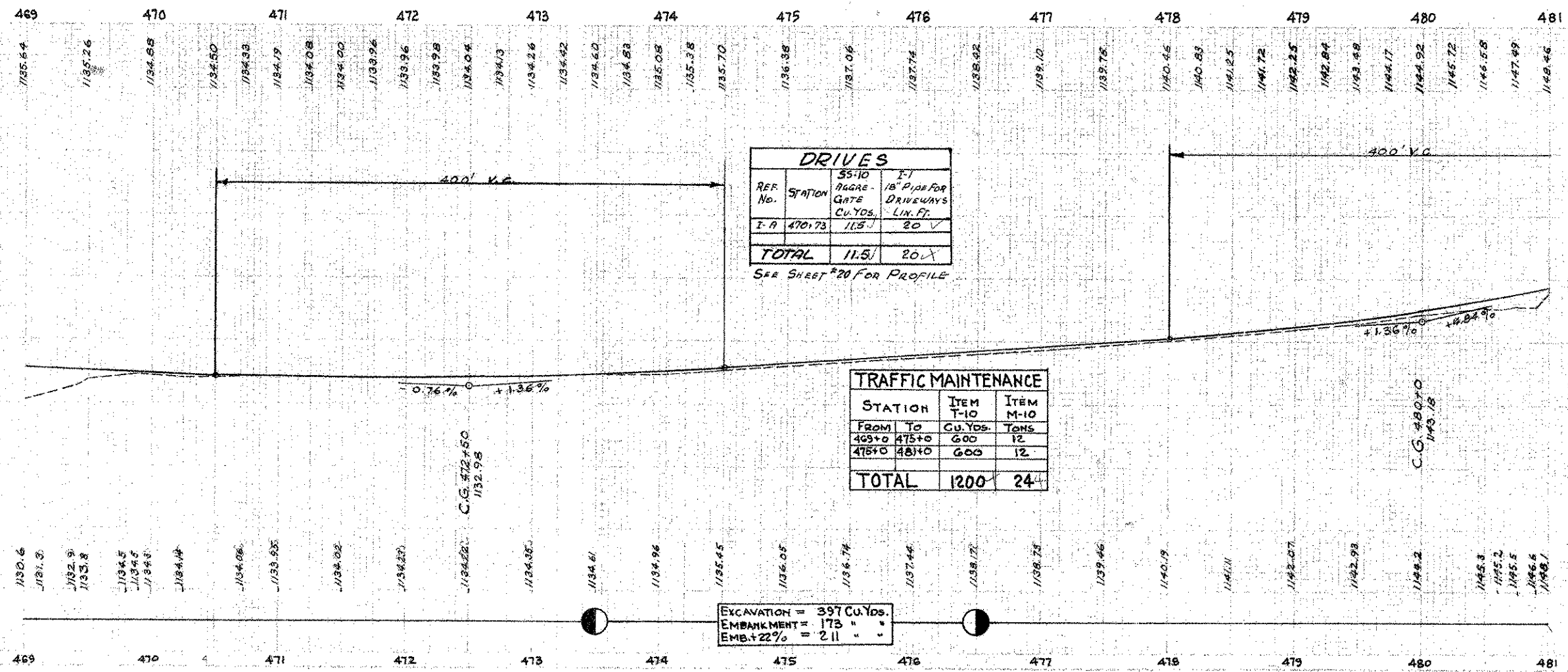
PLAN AND PROFILE STA. 457+0 TO STA. 469+0

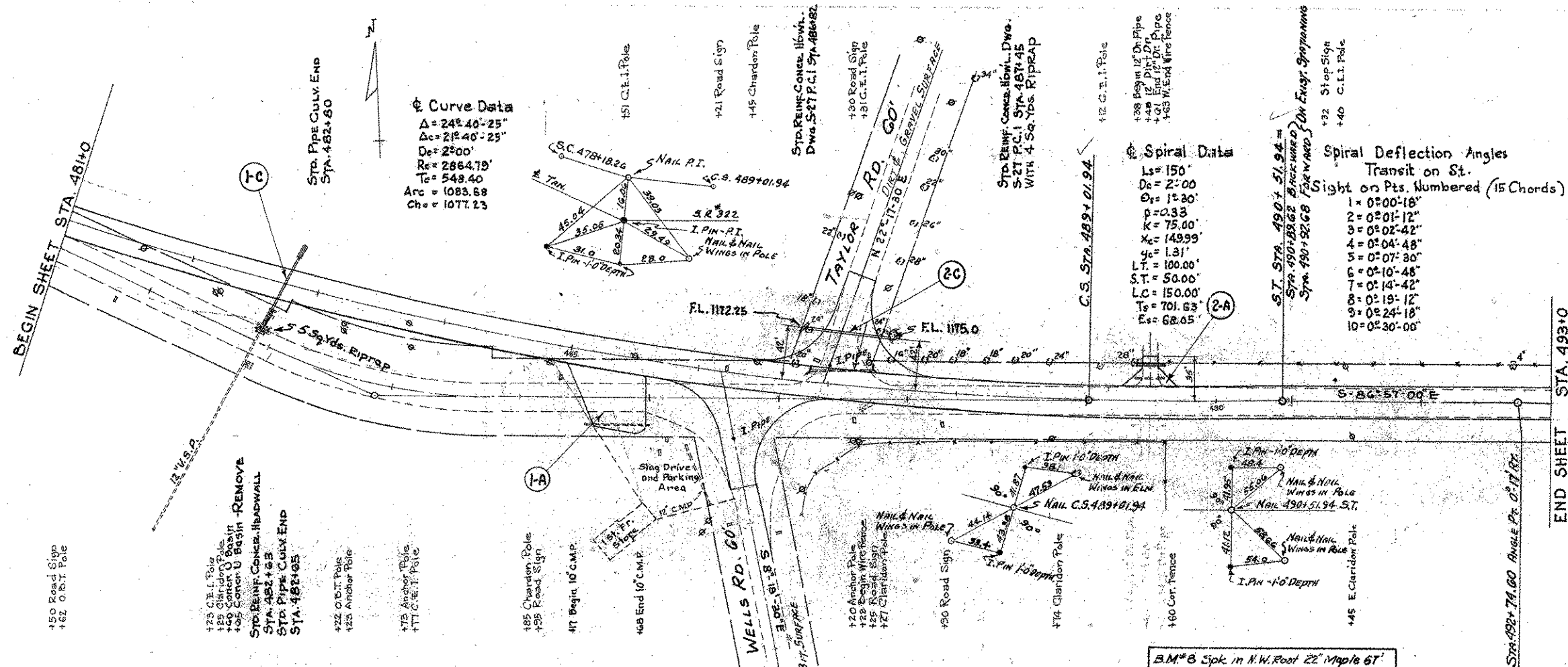


GEAUGA COUNTY
GEA-322-11.45



BM #5 Spk. in N. Face C.E.I.
 Pole # 43492 - 28' R. of
 Sta. 472+84 Elev. 1134.30





STRUCTURES 20' AND UNDER									
REF. No.	STATION	S-22 REMOVAL OF PORTION OF EXIST. STRUC.	S-24 REMOVAL OF EXIST. STRUC.	E-2 EXCAV. FOR STRUC.	S-1 CONC. FOR STRUC.	S-4 REINF. STEEL	S-27 18" PIPE FOR ROADWAY CULV.	I-10 RIP RAP	SEE DETAIL SHEET*
1-C	482+72±	Lump Sum	Lump Sum	C.Y.	C.Y.	LBS.	LN. FT.	Sq. Yd.	24
2-C	482+72±	Lump Sum	Lump Sum	24	0.7	1.8	20	70	5
2-C	482+72±	Lump Sum	Lump Sum	28	2.0	52	60	4	
TOTALS		Lump Sum	Lump Sum	52	2.7	1.8	72	136	9

DRIVES				
REF. No.	STATION	S-10 AGGREGATE CULV.	I-1 18" PIPE FOR DRIVEWAYS LN. FT.	E-12 PIPE REMOVED LN. FT.
1-A	485+30	55		
2-A	489+48	10.5	24	25
TOTALS		65.5	24	25

* Pave with 7" of SS-10 and 2" of T-35
 T-35 = 14 Cu. Yds. (Carried to Sheet 3)

TREE REMOVAL SUMMARY				
SHEET NO.	12-18"	18-24"	24-30"	36-42"
4				
5	1			
6	2			
7	4	1		
8				
TOTAL	7	1	1	

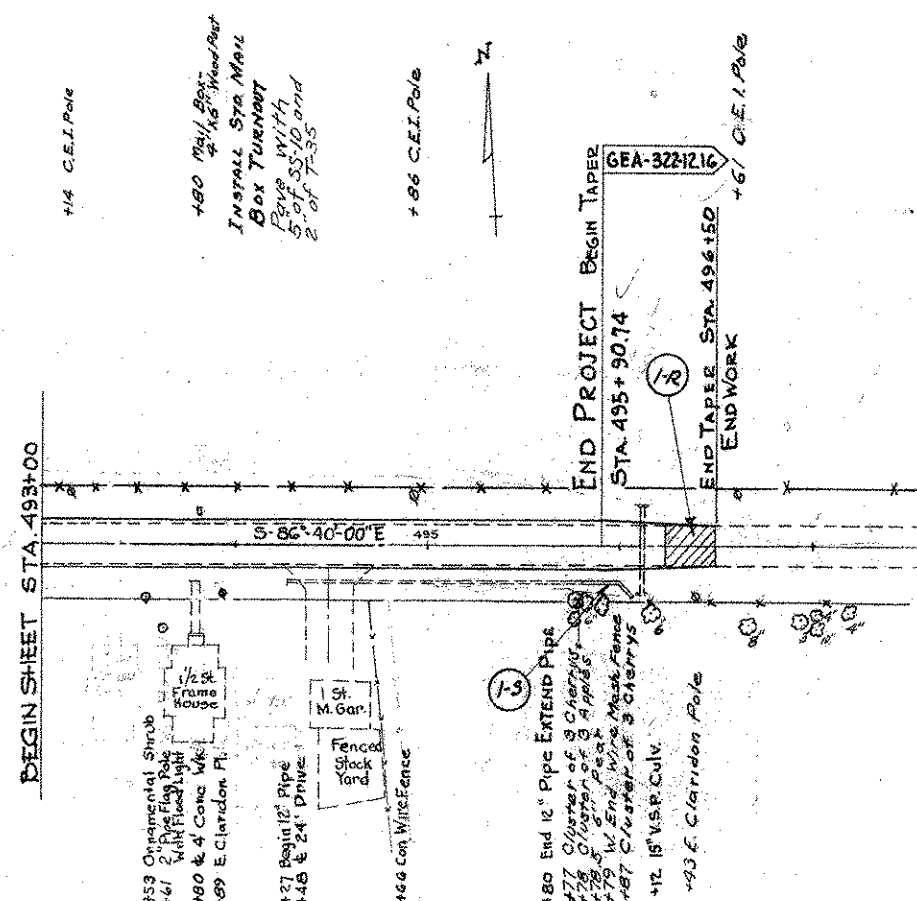
NOTE: COST OF REMOVAL OF TREES AND STUMPS TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1 ROADWAY EXCAVATION. TREES OVER 12" IN DIAMETER ARE LISTED IN THE ABOVE TABLE FOR THE BENEFIT OF THE CONTRACTOR, AND THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY THEREOF.

TRAFFIC MAINTENANCE		
STATION	ITEM T-10	ITEM M-10
FROM TO	CU. YDS.	TONS
487+0 496+50	950	19
TOTAL*	950	19

SEE TRAFFIC MAINTENANCE NOTI. SH. #3
 * QUANTITIES FOR SHEET # 3 INCLUDED

EXCAVATION	6231	CU. YDS.
EMBANKMENT	1998	" "
EMB +22%	2436	" "

NOTE
FOR TYPICAL SECTION OF ADJOINING
PAVEMENT SEE WIDENING AND RESURFACING
SECTION OF TYPICAL SECTIONS SHEET # 2

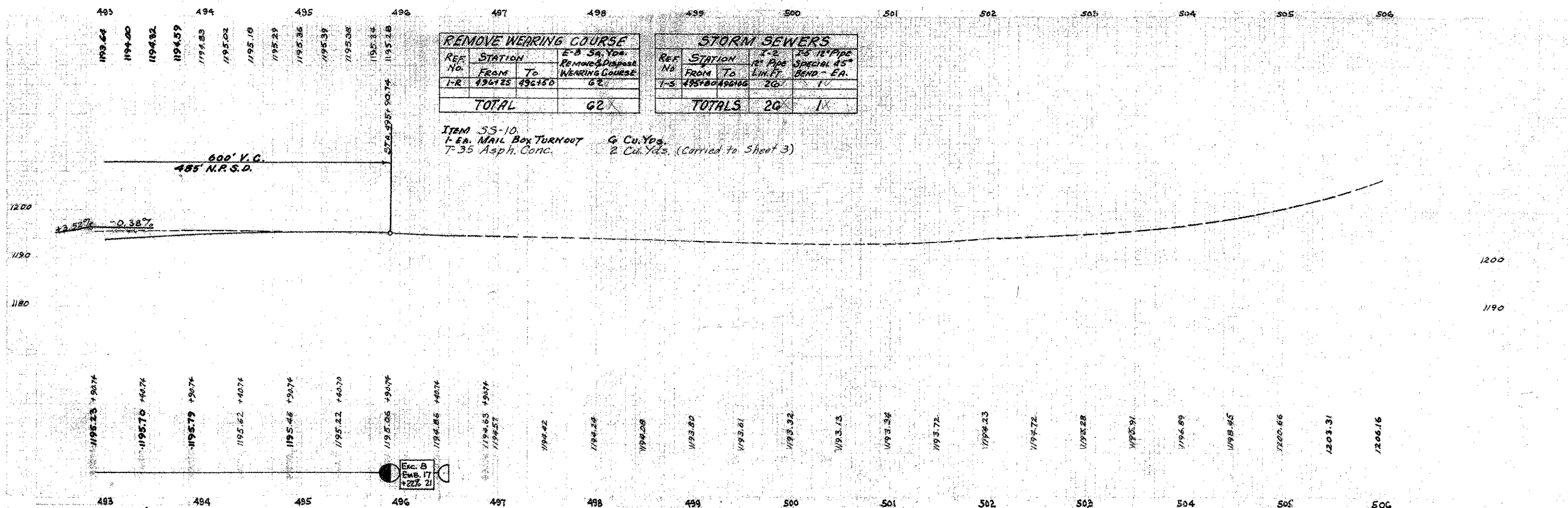


BM #10 SpK in GEI Pole #43505
Lt. of Sta 496+60.94 Elev 1194.42

REMOVE WEARING COURSE			
REF. No.	STATION	FROM	TO
1-R	496+125	496+150	62
TOTAL		62	

STORM SEWERS			
REF. No.	STATION	FROM	TO
1-S	495+80	496+00	20
TOTALS		20	

ITEM 55-10,
1 EA. MAIL BOX TURNOUT 4 Cu. Yds.
7-35 Asph. Conc. 2 Cu. Yds. (Carried to Sheet 3)

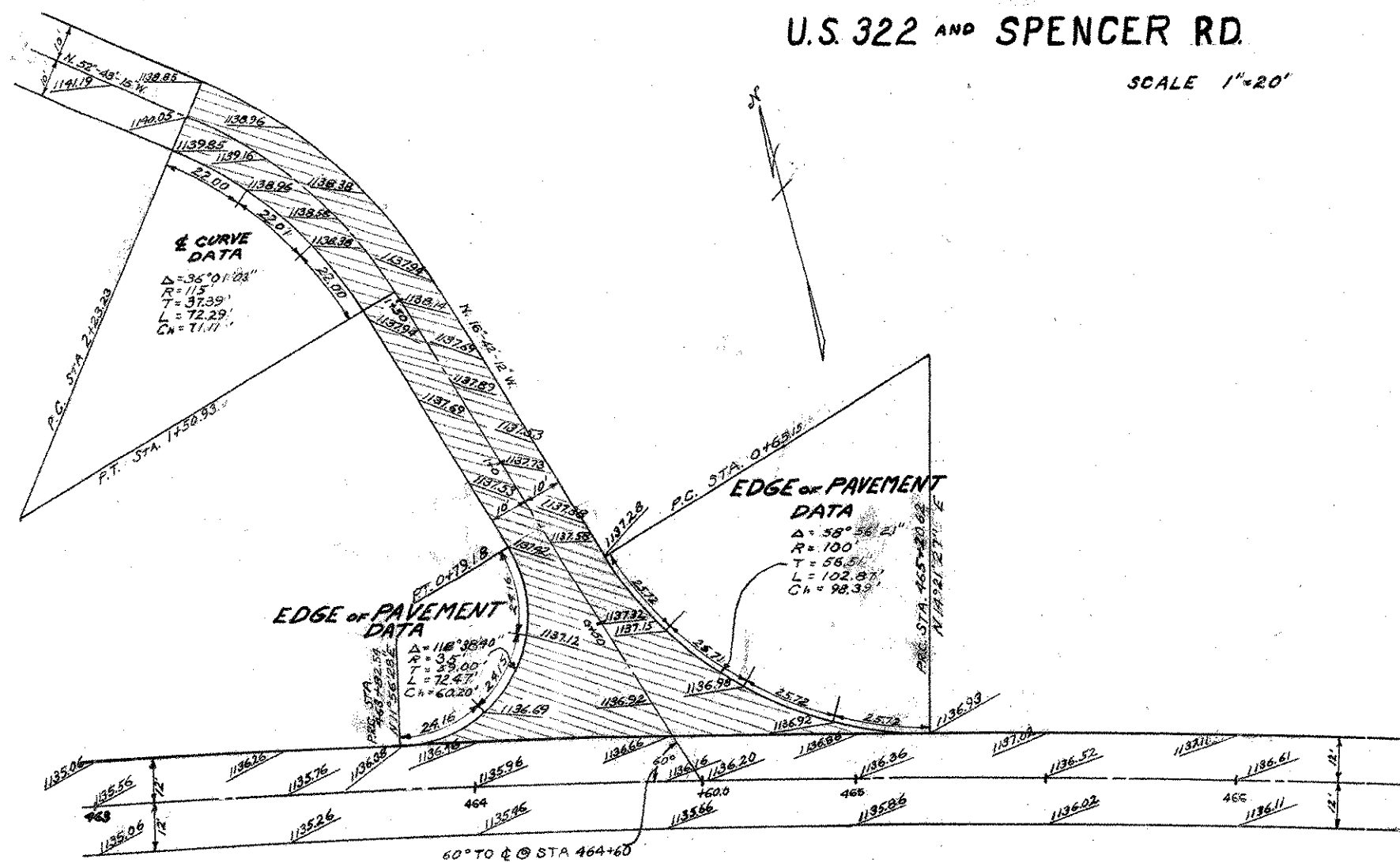


PLAN and PROFILE STA. 493+00 to STA. 506+00

EXTRA AREA DETAIL

INTERSECTION OF
U.S. 322 AND SPENCER RD.

SCALE 1"=20'



EXTRA AREAS QUANTITIES					
LOCATION	ITEM I-22	ITEM B-119	ITEM B-35	ITEM B-35	ITEM T-25
	6" SUBBASE	5" CRUSHED AGGREGATE BASE	3" ASPH. BASE COURSE	1 1/4" ASPH. LEVILLING COURSE	1 1/4" ASPH. SURFACE COURSE
	CU. YDS.	CU. YDS.	CU. YDS.	CU. YDS.	CU. YDS.
SPENCER RD.	118	95	55	23	23
WELLS RD.	65	52	31	13	13
TAYLOR RD.	63	50	29	12	12
TOTALS	246	197	115	48	48

FOR WELLS RD. & TAYLOR RD. EXTRA AREAS DETAILS SEE SH. #10

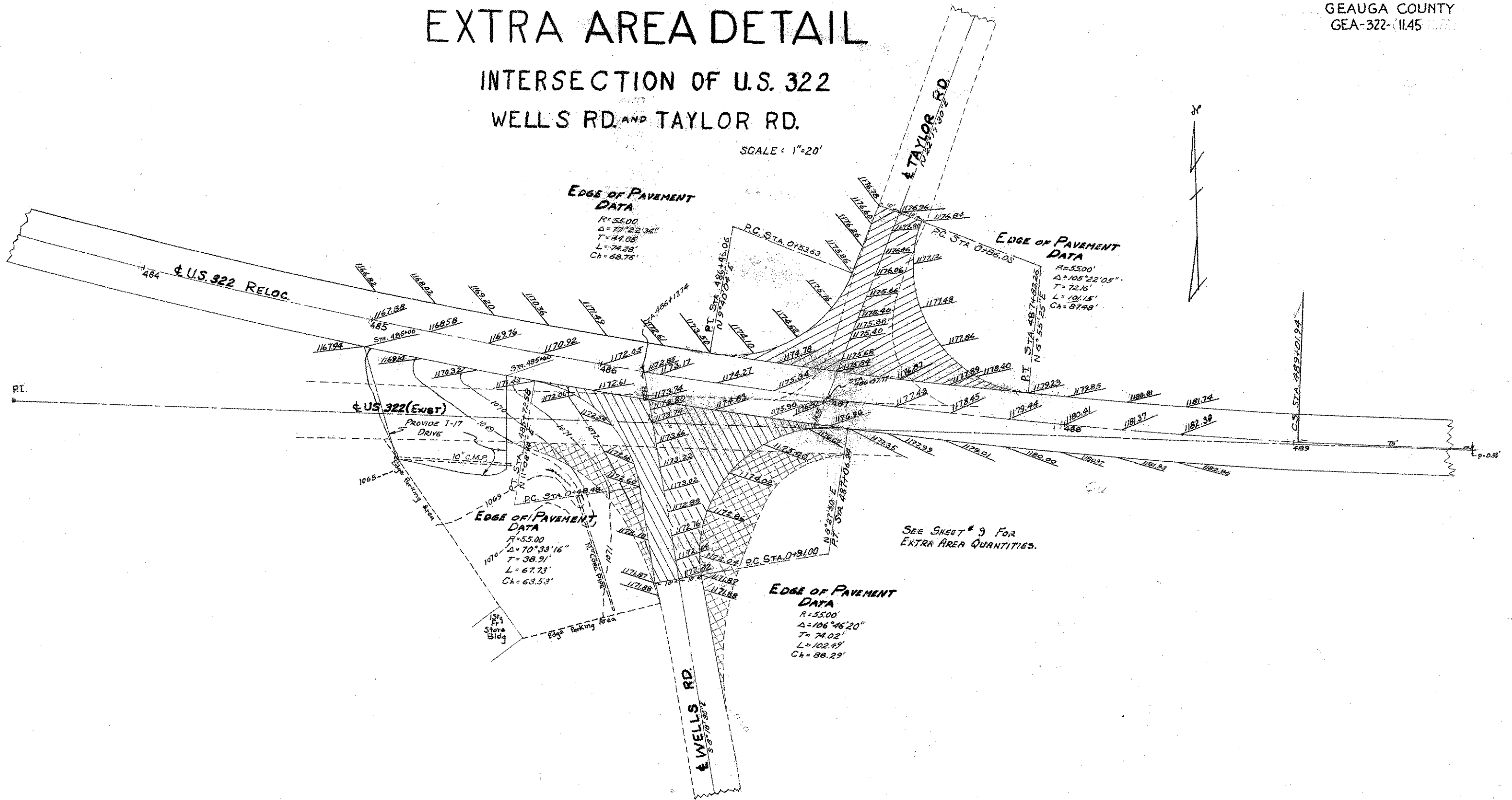
EXTRA AREA SPENCER ROAD

GEAUGA COUNTY
GEA-322-11.45

EXTRA AREA DETAIL

INTERSECTION OF U.S. 322
WELLS RD. AND TAYLOR RD.

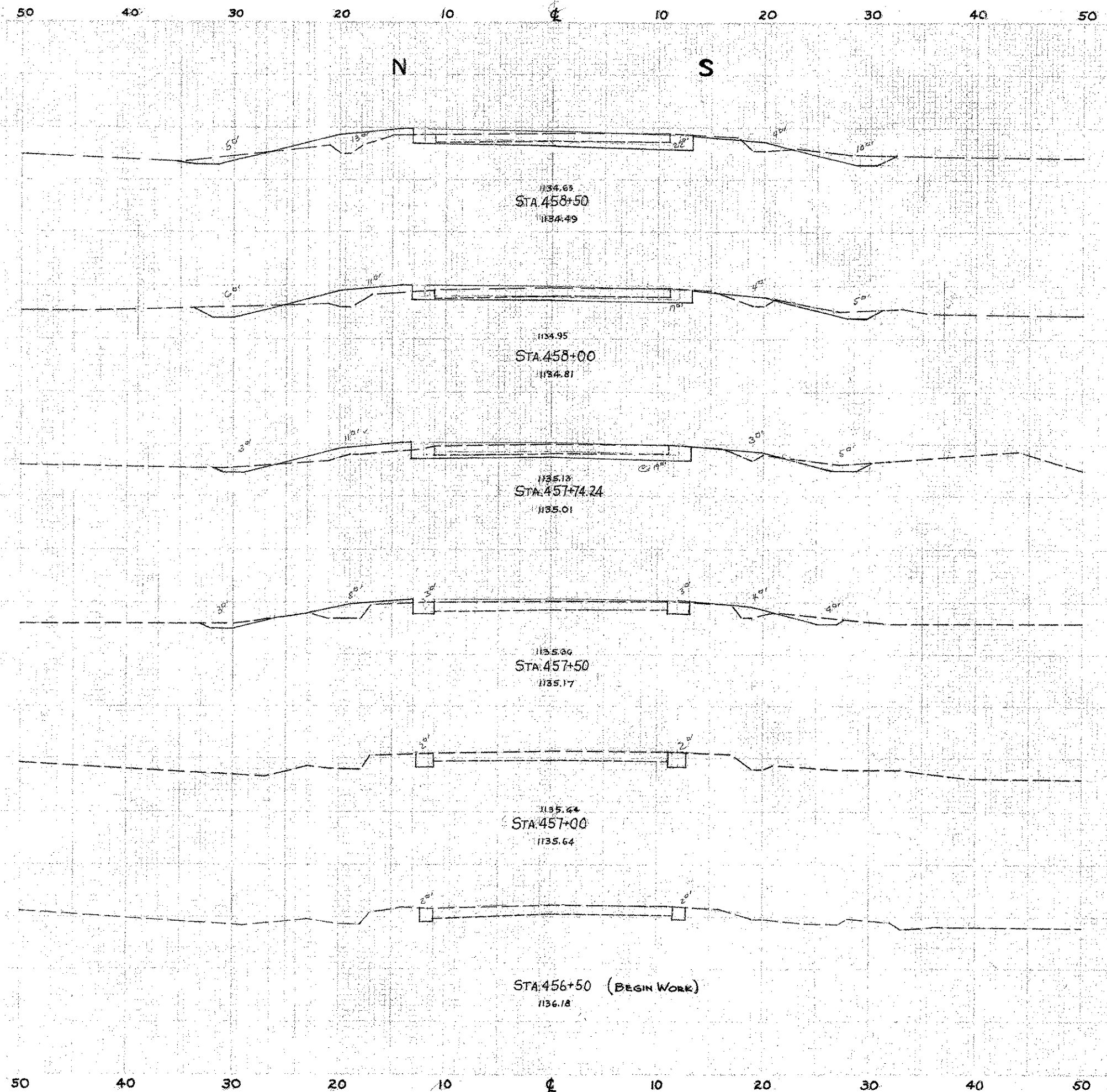
SCALE: 1"=20'



SUPERELEVATION TABLES

T.S. STA. 457+74.24 TO S.T. STA. 473+59.40 24' Pav. Dc=1°45' Ls=225 S=.0417 CROWN = $\frac{3}{16}$ " PER FT. DEFLECTION TO RIGHT			
STATION	LEFT EDGE	PAVEMENT	RIGHT EDGE
457+00	1135.57	1135.76	1135.57
+25	1135.42	1135.56	1135.37
+50	1135.27	1135.36	1135.17
T.S. +74.24	1135.14	1135.14	1134.93
+89.24	1135.07	1135.02	1134.80
458+04.24	1135.02	1134.92	1134.66
+19.24	1134.96	1134.81	1134.52
+34.24	1134.92	1134.72	1134.40
+49.24	1134.90	1134.65	1134.30
+64.24	1134.88	1134.58	1134.20
+79.24	1134.88	1134.52	1134.10
+94.24	1134.87	1134.47	1134.02
459+09.24	1134.87	1134.44	1133.96
S.C. +24.24	1134.87	1134.41	1133.92
+50	1134.88	1134.39	1133.89
+75	1134.88	1134.38	1133.88
460+00	1134.92	1134.42	1133.92
FULL SUPERELEVATION FROM STA. 459+75 TO STA. 471+50			
471+25	1134.58	1134.08	1133.58
+50	1134.50	1134.00	1133.50
+75	1134.44	1133.96	1133.46
472+00	1134.40	1133.96	1133.46
G.S. +09.40	1134.39	1133.97	1133.48
+24.40	1134.38	1133.98	1133.51
+39.40	1134.38	1134.01	1133.57
+54.40	1134.38	1134.05	1133.65
+69.40	1134.39	1134.10	1133.75
+84.40	1134.41	1134.16	1133.85
+99.40	1134.45	1134.25	1133.98
473+14.40	1134.50	1134.33	1134.09
+29.40	1134.55	1134.43	1134.21
+44.40	1134.61	1134.55	1134.35
S.T. +59.40	1134.69	1134.69	1134.50
+75	1134.78	1134.83	1134.64
474+00	1134.96	1135.08	1134.89
474+25	1135.20	1135.38	1135.19
474+50	1135.51	1135.70	1135.51

T.S. STA. 476+68.26 TO S.T. STA. 490+51.94 24' Pav. Dc=2°00' Ls=250 S=.047 CROWN = $\frac{3}{16}$ " PER FT. DEFLECTION TO LEFT			
STATION	LEFT EDGE	PAVEMENT	RIGHT EDGE
475+00	1136.19	1136.38	1136.19
+25	1136.64	1136.73	1136.54
+50	1136.87	1137.06	1136.87
+75	1137.22	1137.41	1137.23
476+00	1137.55	1137.74	1137.62
+25	1137.90	1138.09	1138.01
+50	1138.23	1138.42	1138.37
T.S. +68.26	1138.51	1138.70	1138.70
+83.26	1138.70	1138.90	1138.96
+98.26	1138.87	1139.09	1139.20
477+13.26	1139.02	1139.27	1139.43
+28.26	1139.21	1139.50	1139.71
+43.26	1139.37	1139.70	1139.97
+58.26	1139.54	1139.90	1140.24
+73.26	1139.70	1140.10	1140.50
+88.26	1139.86	1140.30	1140.77
478+03.26	1140.00	1140.49	1141.00
S.C. +18.26	1140.18	1140.74	1141.30
+25	1140.27	1140.83	1141.39
+50	1140.69	1141.25	1141.81
+75	1141.16	1141.72	1142.28
FULL SUPERELEVATION FROM STA. 478+18.26 TO STA. 489+01.94			
488+50	1181.74	1182.30	1182.86
+75	1182.65	1183.21	1183.77
489+00	1183.54	1184.10	1184.66
G.S. +01.94	1183.58	1184.14	1184.70
+16.94	1184.16	1184.68	1185.18
+31.94	1184.71	1185.20	1185.65
+46.94	1185.27	1185.73	1186.13
+61.94	1185.84	1186.27	1186.60
+76.94	1186.39	1186.78	1187.04
+91.94	1186.92	1187.27	1187.48
490+06.94	1187.47	1187.76	1187.92
+21.94	1188.00	1188.22	1188.33
+36.94	1188.48	1188.65	1188.78
S.T. +51.94	1189.90	1189.09	1189.09
=490+22.68 - FORWARD ON EXISTING STATIONS			
491+00	1189.13	1189.32	1189.31
+25	1189.81	1190.00	1189.94
+50	1190.46	1190.65	1190.54
+75	1191.05	1191.24	1191.08
492+00	1191.62	1191.81	1191.72

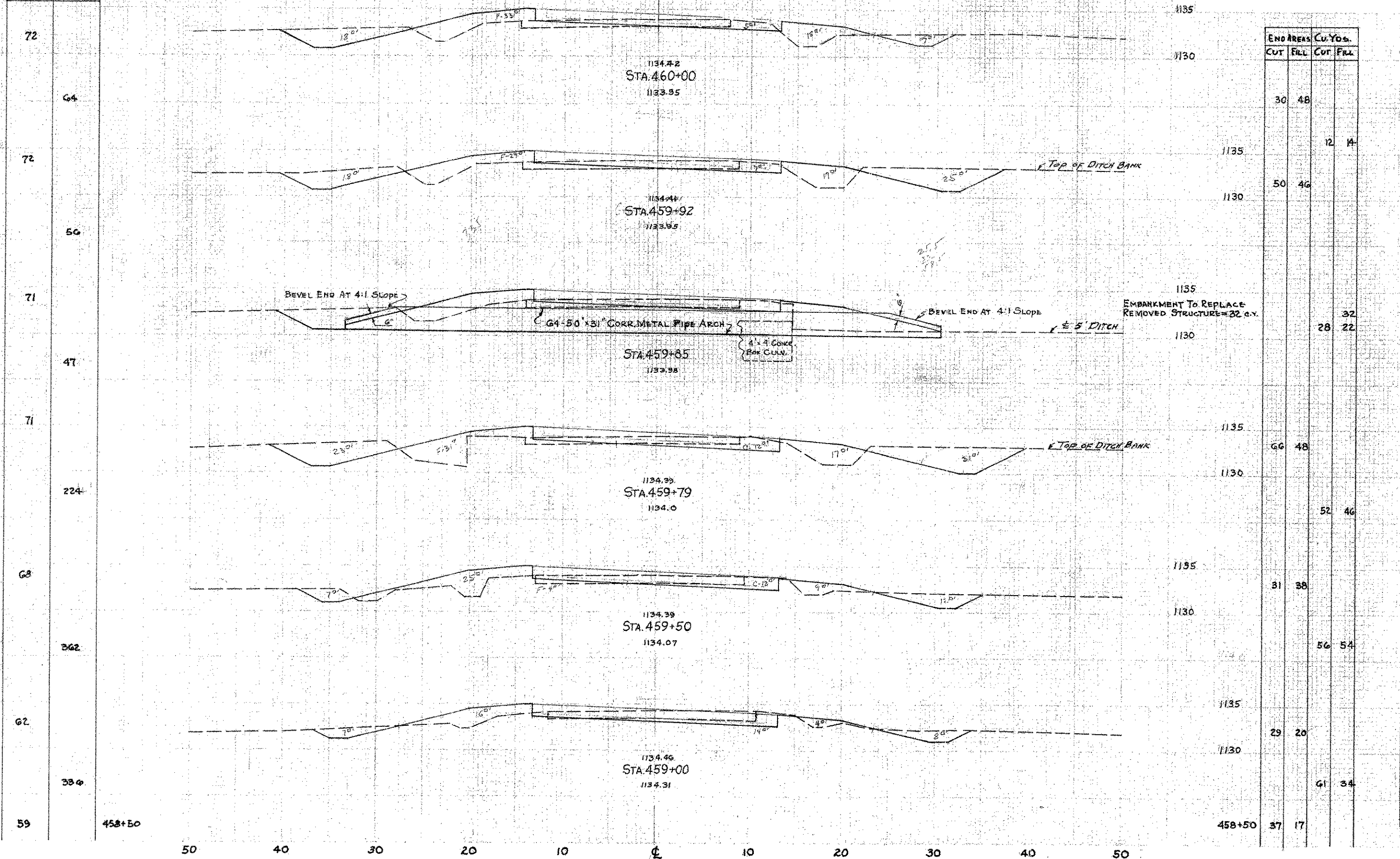


EXCAVATION =	41 Cu Yds.
EMBANKMENT =	22 Cu Yds.
EMO. + 22% =	27 Cu Yds.

SEEDING & SODDING	
WIDTH LIN. FT.	AREA SQ. YDS.

GEAUGA COUNTY
GEA-322-11.45

13
37



STA. 459+00 to STA. 460+00

SEEDING & SODDING
WIDTH AREA
LIN. FT. SQ. YDS.

67

342

57

70

56

262

59

344

65

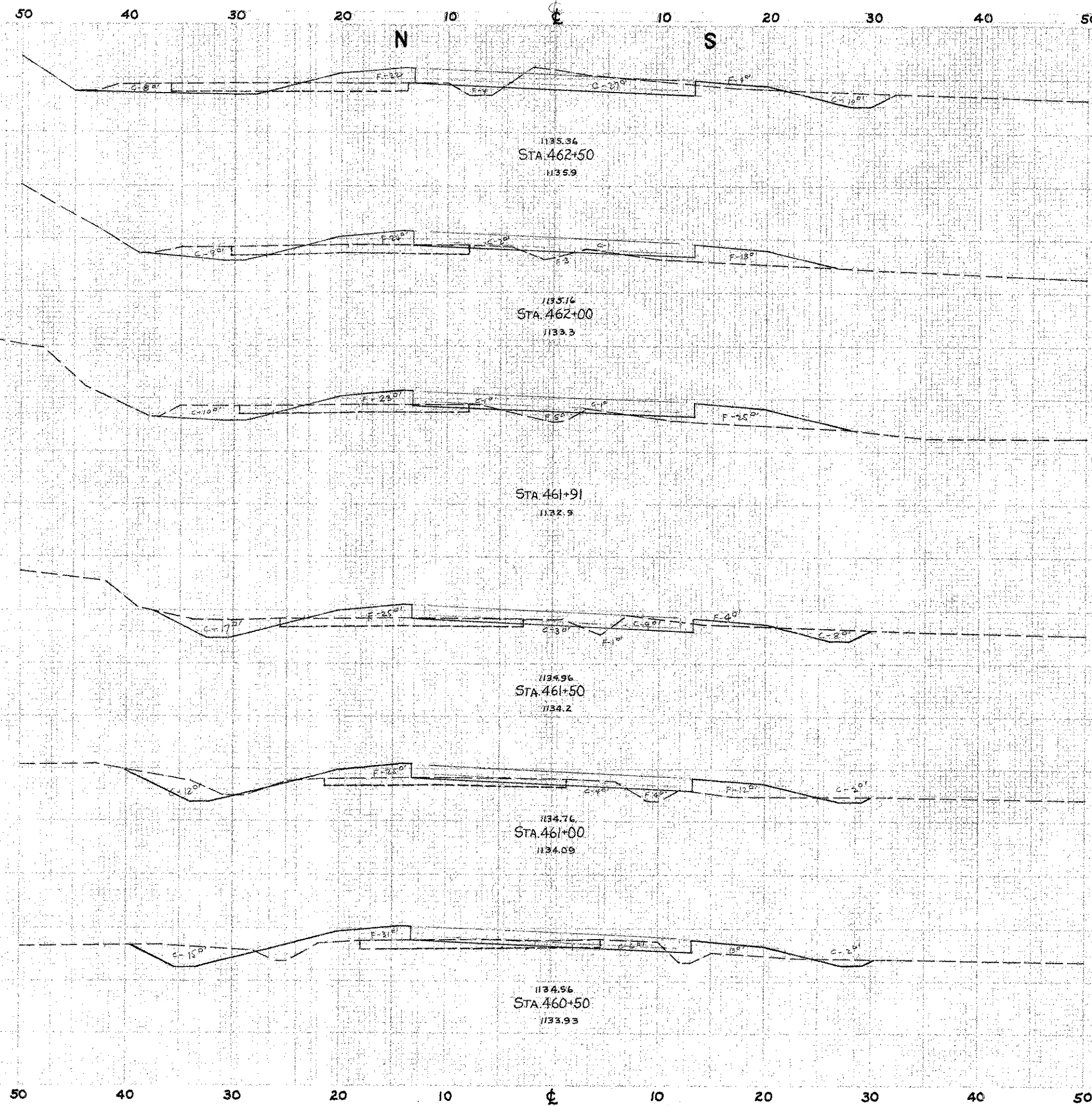
360

68

389

72

460+0



GEAUGA COUNTY
GEA.-3 22- 11.45

14
37

END AREA
CUT FILL CUT FILL

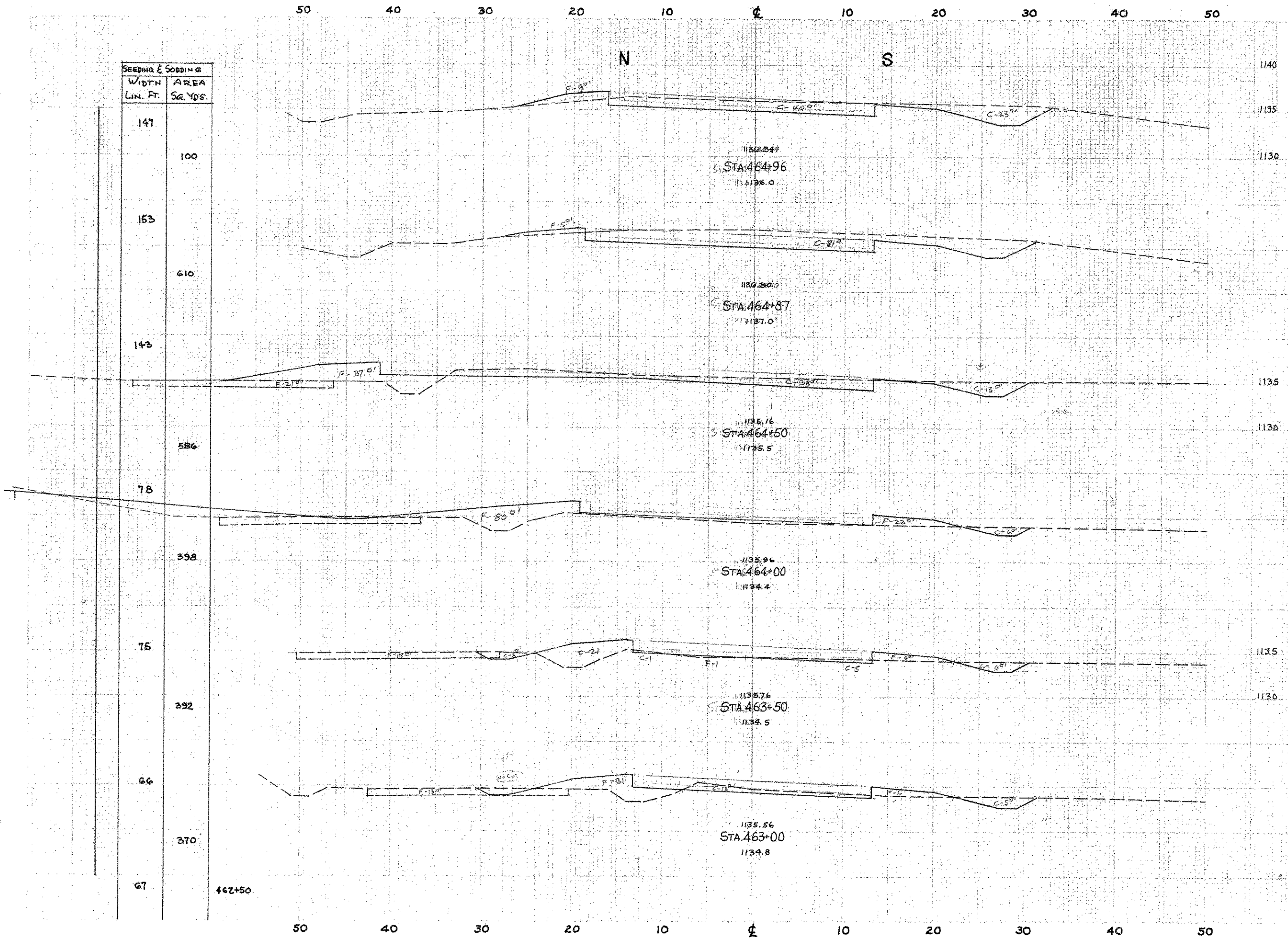
STA	CUT	FILL	CUT	FILL
1140				
1135	45	30		
			53	69
1130	12	45		
			4	16
1140				
1135				
1130	12	53		
1140				
1135				
1130	37	30		
1140				
1135				
1130				
			51	66
1135				
1130	18	41		
1135				
1130				
			40	79
1135				
1130	23	44		
1135				
1130				
			49	85
460+0	30	48		

STA. 460+50 to STA. 462+50

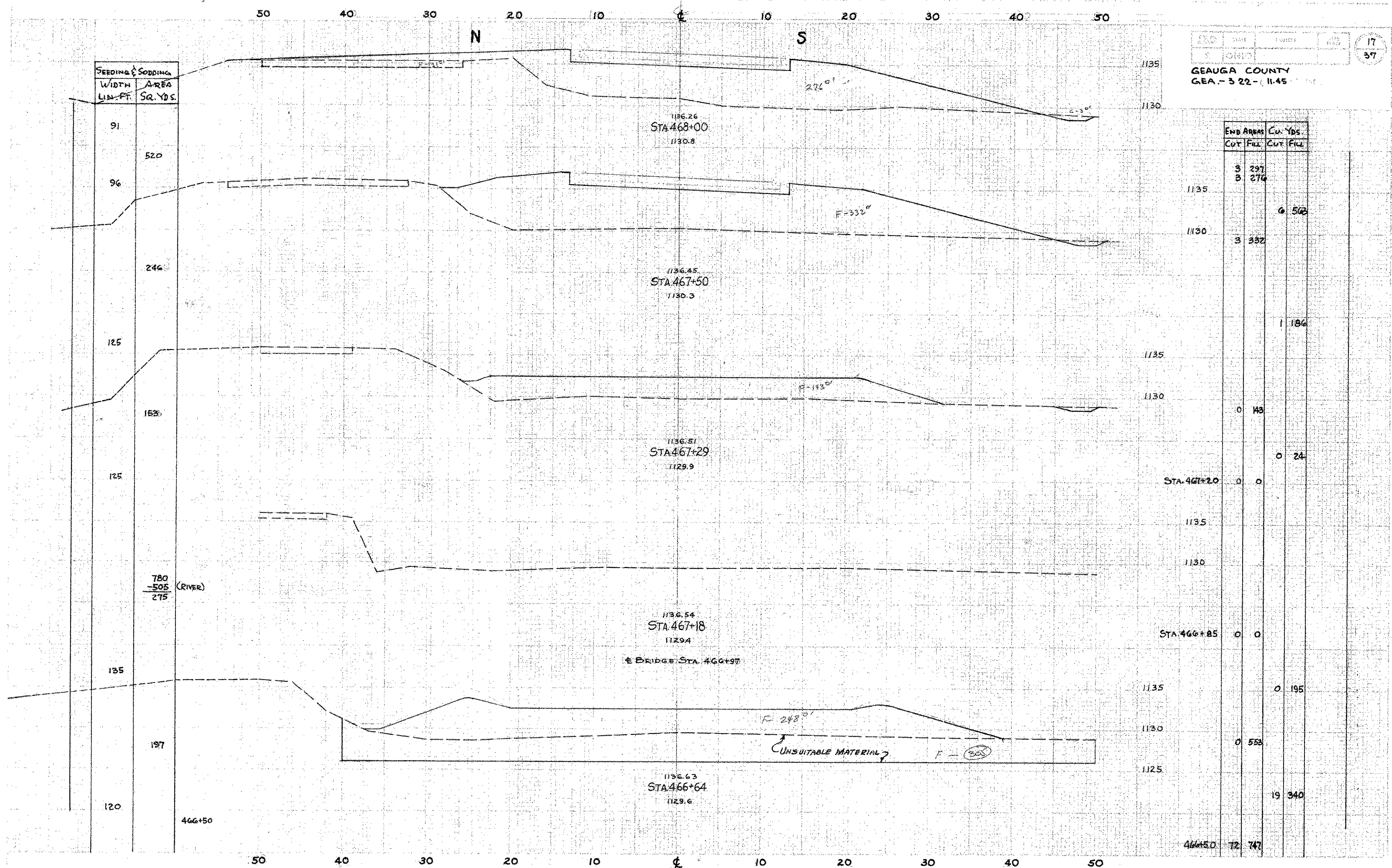
SEEDING & SODDING	
WIDTH LIN. FT.	AREA SQ. YDS.

147	100
153	610
143	586
78	398
75	392
66	370
67	462+50.

END AREAS		CU. YDS.	
CUT	FILL	CUT	FILL
63	9		
		24	2
81	5		
		90	29
51	37		
51	58		
		53	148
6	102		
		19	187
15	46		
		31	89
18	50		
		58	74
45	30		



STA.463+00 to STA.464+96



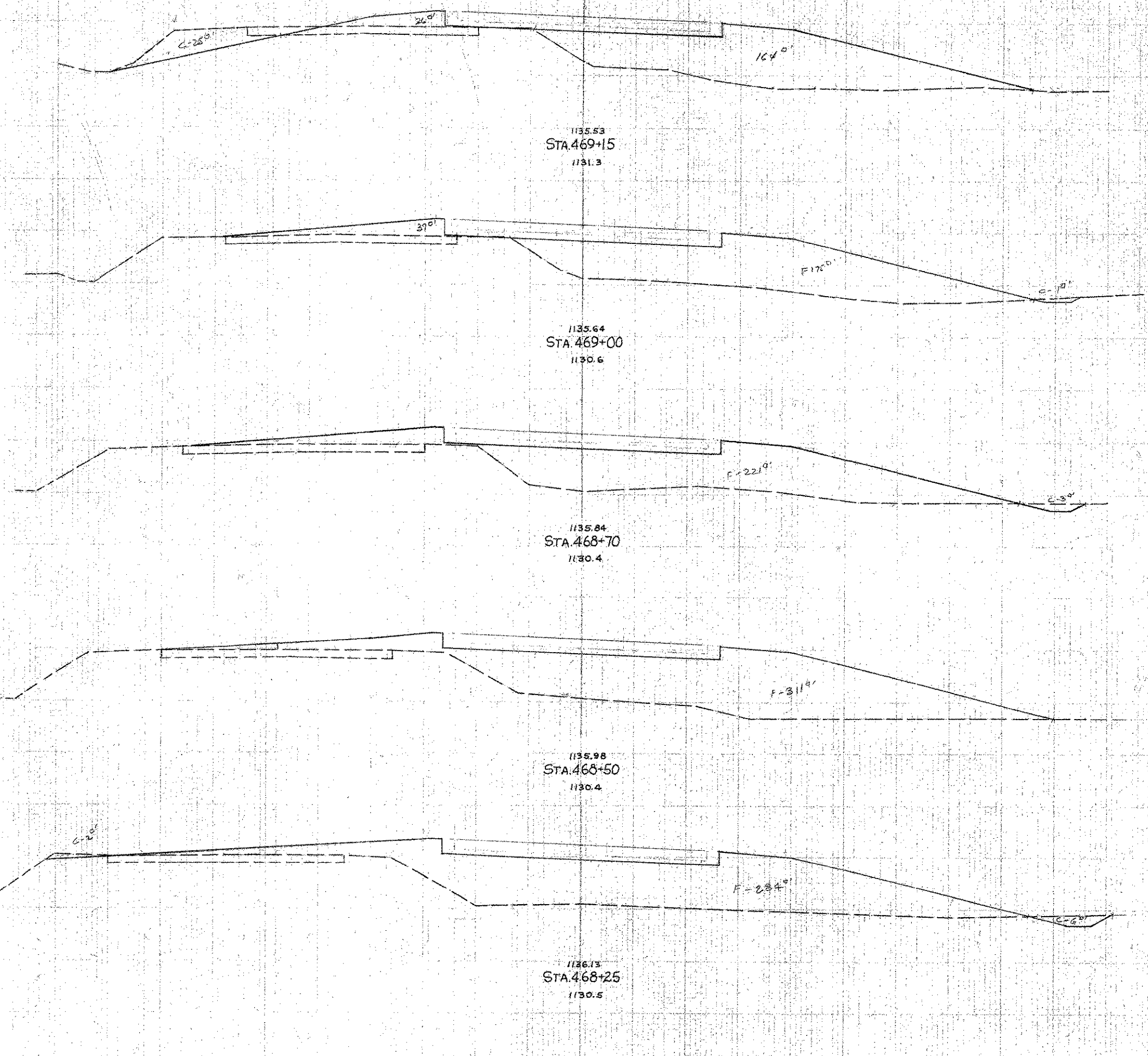
50 40 30 20 10 0 10 20 30 40 50

N S

GEAUGA COUNTY
GEA-3 22- 11.45

SEEDING & SODDING
WIDTH AREA
LIN. FT. SQ. YDS.

82	129
73	243
79	179
82	233
86	246
91	468+0



END AREA
CUT FILL CUT FILL

25	190	7	112
1	212		
		2	241
3	221		
		1	197
0	311		
		4	275
8	284		
		5	269
3	297		

STA. 468+25 TO STA. 469+15

50 40 30 20 10 0 10 20 30 40 50

N S

GEAUGA COUNTY
GEA-322-1145

SEEDING & SODDING
WIDTH AREA
LIN. FT. SQ. YDS.

73

164

75

83

74

82

74

253

78

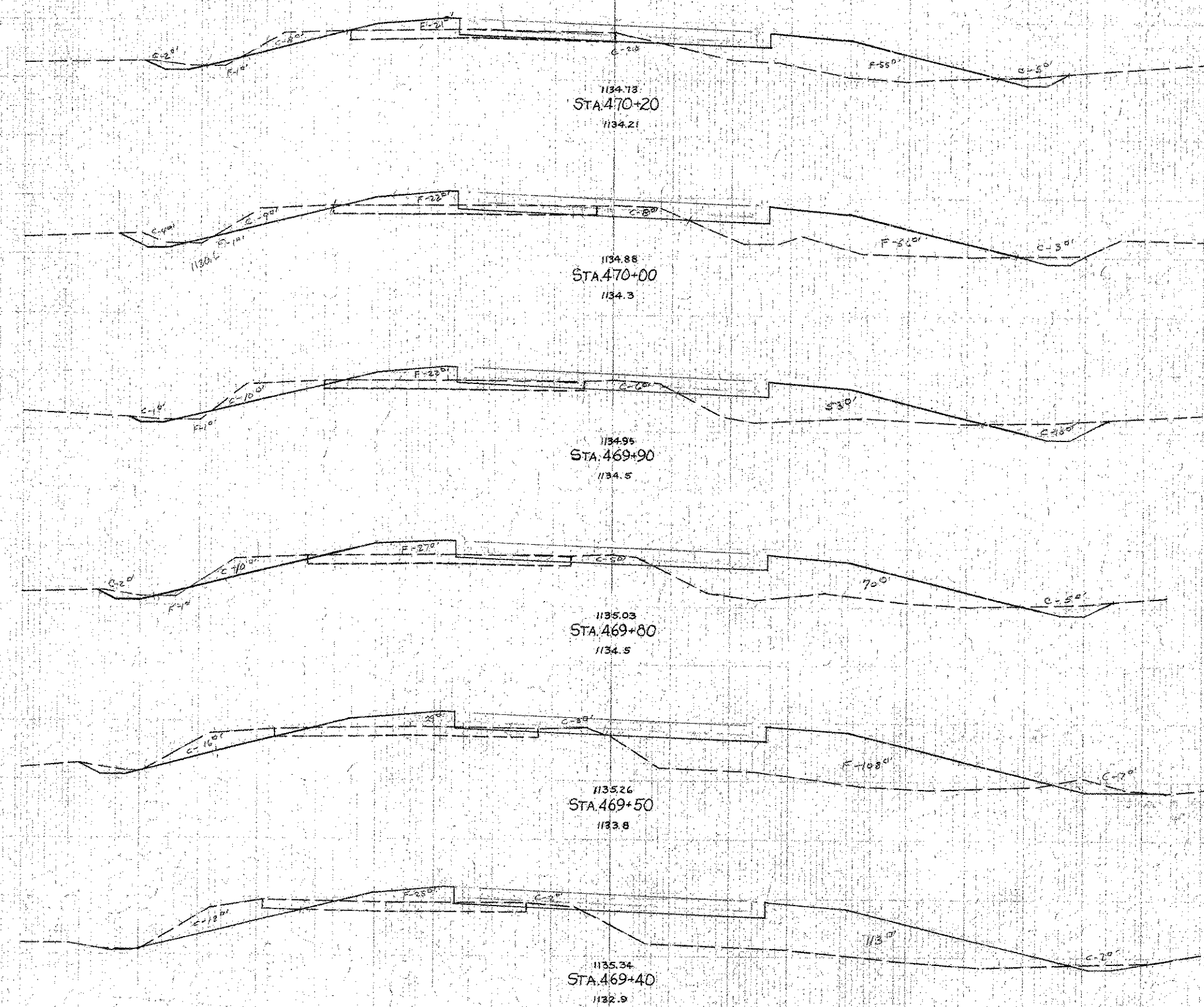
88

81

227

82

469+15

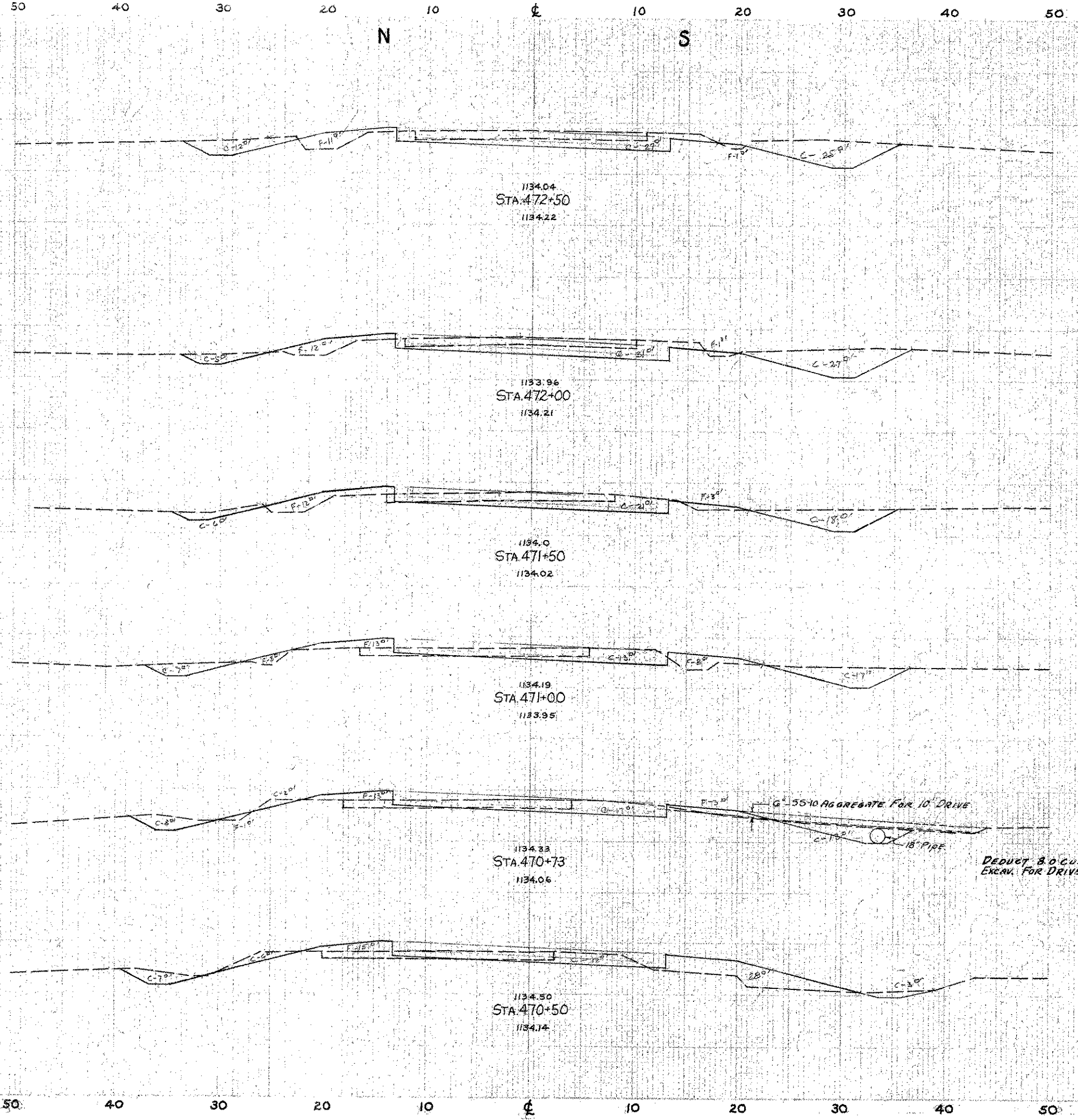


	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
1135				
1130	17	77		
			15	43
1135				
1130	24	78		
			9	29
1135				
1130	27	76		
			9	32
1135				
1130	22	98		
			27	131
1135				
1130	26	137		
			9	51
1135				
1130	22	138		
			22	152
469+15	25	190		

STA. 469+40 TO STA. 470+20

SEEDING	SONDING
WIDTH	AREA
LINE FT.	SQ. YDS.

55	
	314
58	
	348
60	
	376
65	
	201
69	
	179
71	
	240
73	470+20



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
64	12		
	118	23	
63	13		
	100	20	
45	15		
	76	26	
37	24		
	38	20	
40	17		
	8	29	26
28	43		
	25	67	
17	77		

DEDUCT 3.0 CU. YDS.
EXCAV. FOR DRIVE.

55-40 AGGREGATE FOR 10' DRIVE

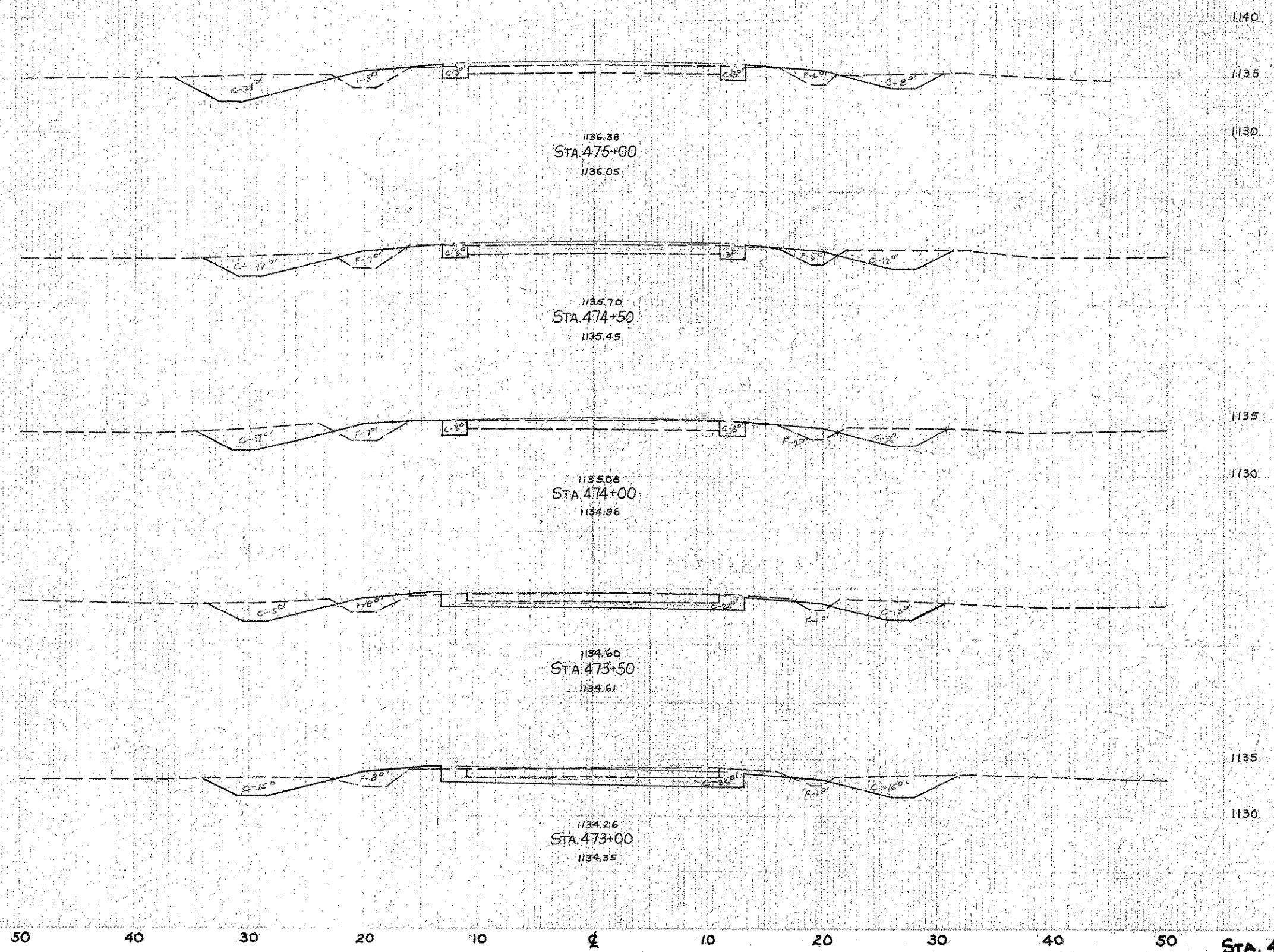
18" PIPE

SEEDING & SODDING	
WIDTH	AREA
Lin. Ft.	Sq. Yds.

END AREA		Cu. Yds.	
CUT	FILL	CUT	FILL

59	320
56	306
54	292
51	292
54	303
55	472+50

38	14	68	24
35	12	65	21
35	11	79	19
50	9	97	17
57	9	112	19
64	12		



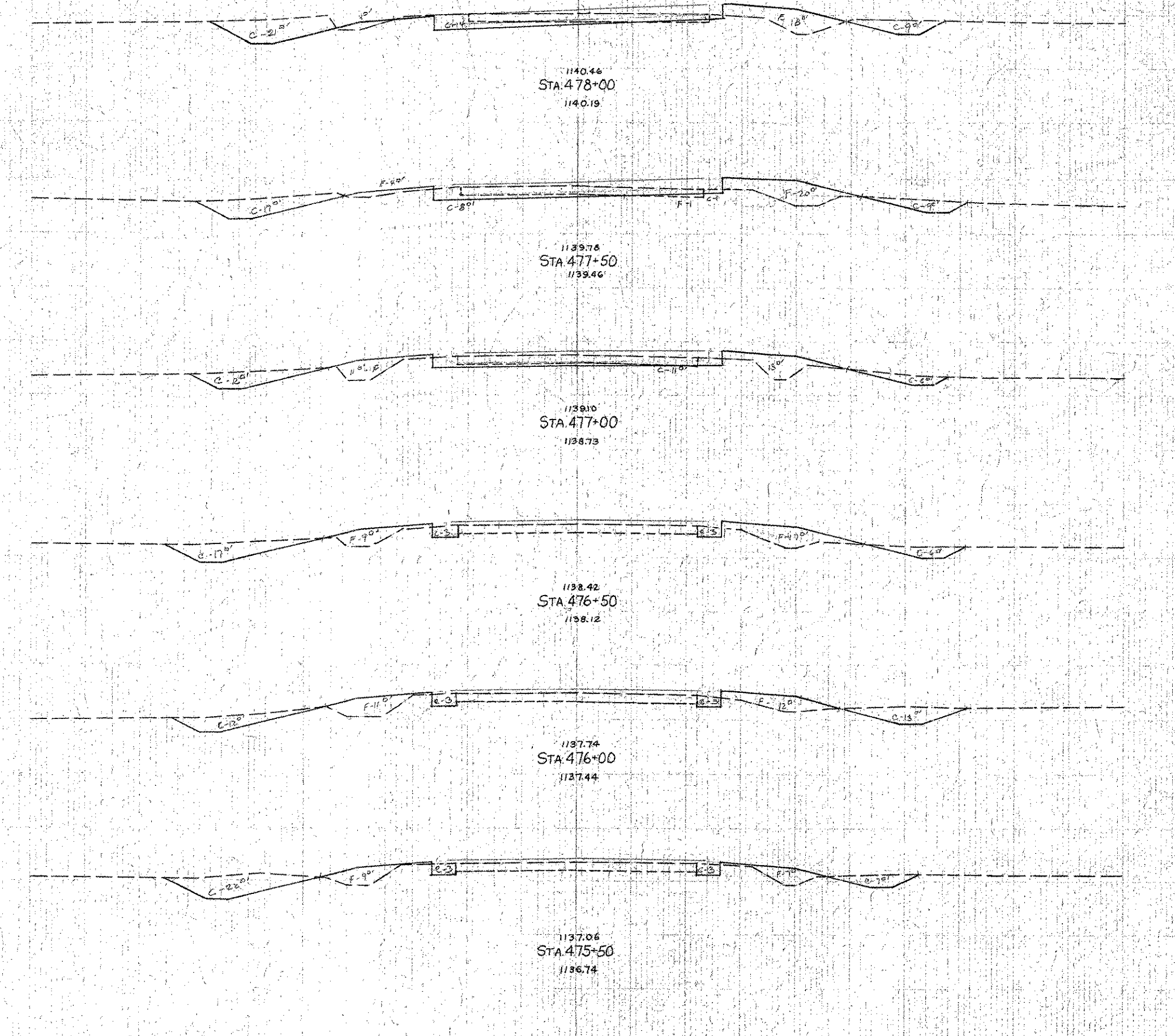
STA. 473+00 TO STA. 475+00

SEEDING & SODDING
WIDTH LIN. FT.
AREA SQ. YDS.

END AREA
CUT FILL CUT FILL

55	312
57	322
59	336
62	342
61	336
60	331
59	475+0

44	22	73	44
35	25	59	45
29	24	54	46
29	26	56	45
31	23	61	36
35	16	68	28
38	14		



EXCAVATION = 387 CU. YDS.
EMBANKMENT = 175 CU. YDS.
EMB + 25% = 211 CU. YDS.

END AREA		CU. YDS	
CUT	FILL	CUT	FILL



71

372

63

250

63

334.

57

320

52

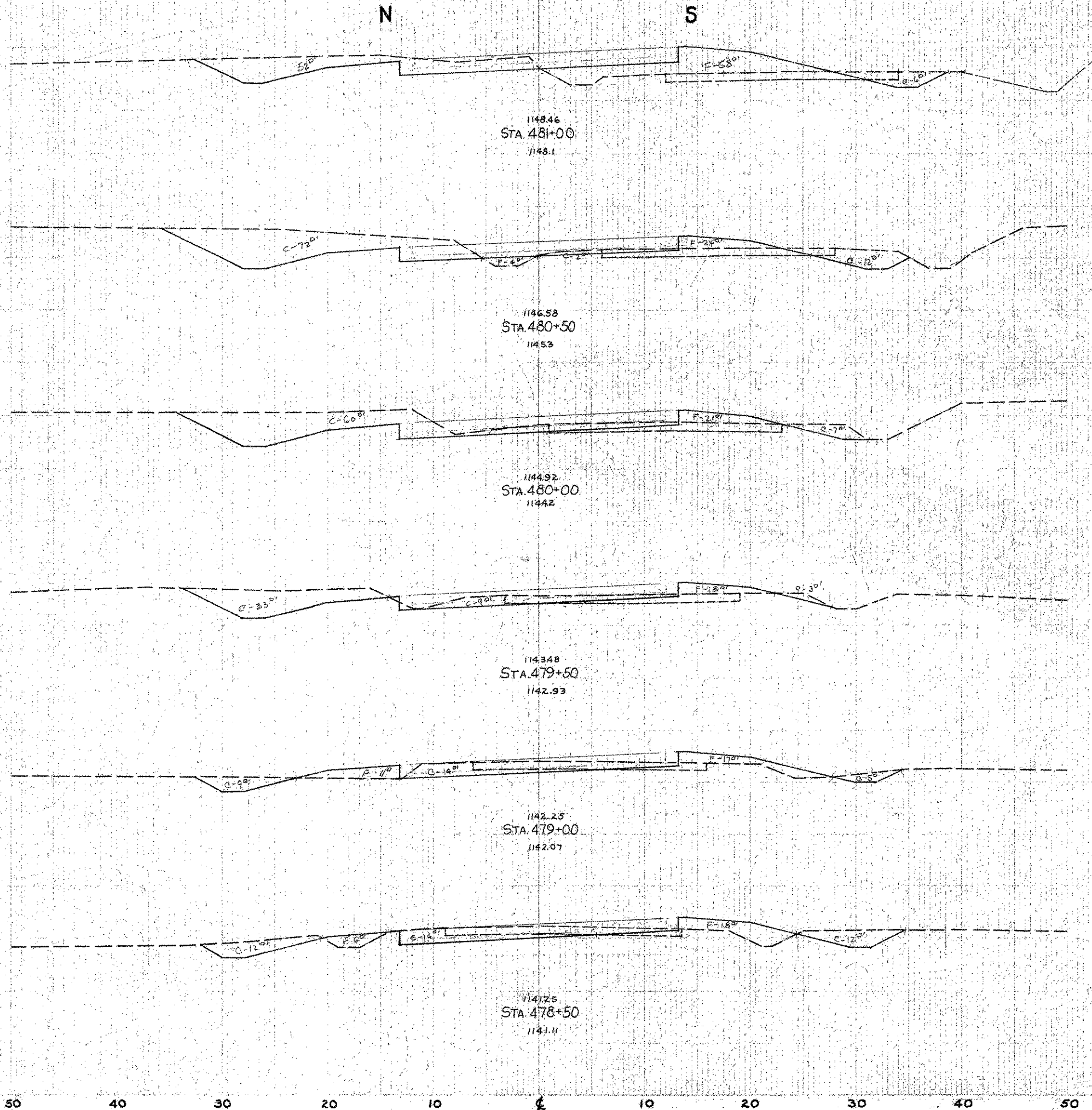
309

53

300

55

47B+0



END AREA		CU. YDS	
CUT	FILL	CUT	FILL

58

20

1150

145

1140

1145

1140

1135

1145

1140

1135

1145

1140

1135

1145

1140

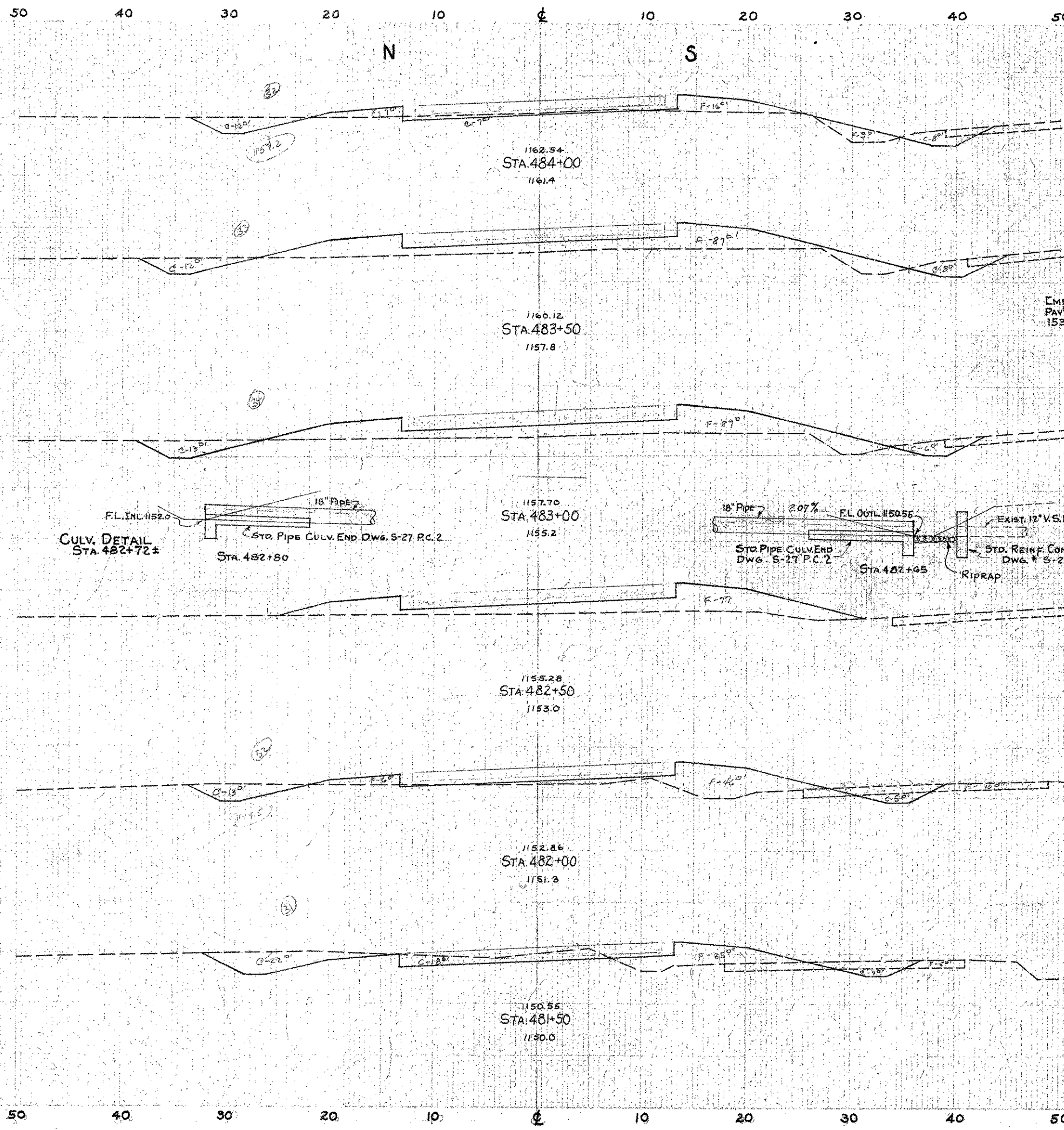
1135

... ..

44

21

STA. 478 + 50 TO STA. 481 + 00



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
27	32		
		44	110
20	87		
		153	
		36	16
19	89		
		18	150
0	77		
		17	119
18	52		
18	62		
		57	94
44	40		
		94	89
58	58		

STA. 481+50 TO STA. 484+00

50 40 30 20 10 0 10 20 30 40 50

N

S

GAUGA COUNTY
GEA-322-11.45

25
37

SEEDING & SODDING	SEEDING & SODDING
WIDTH	AREA
LINE, FT.	SQ. YDS.

30

278

70

284

32

312

80

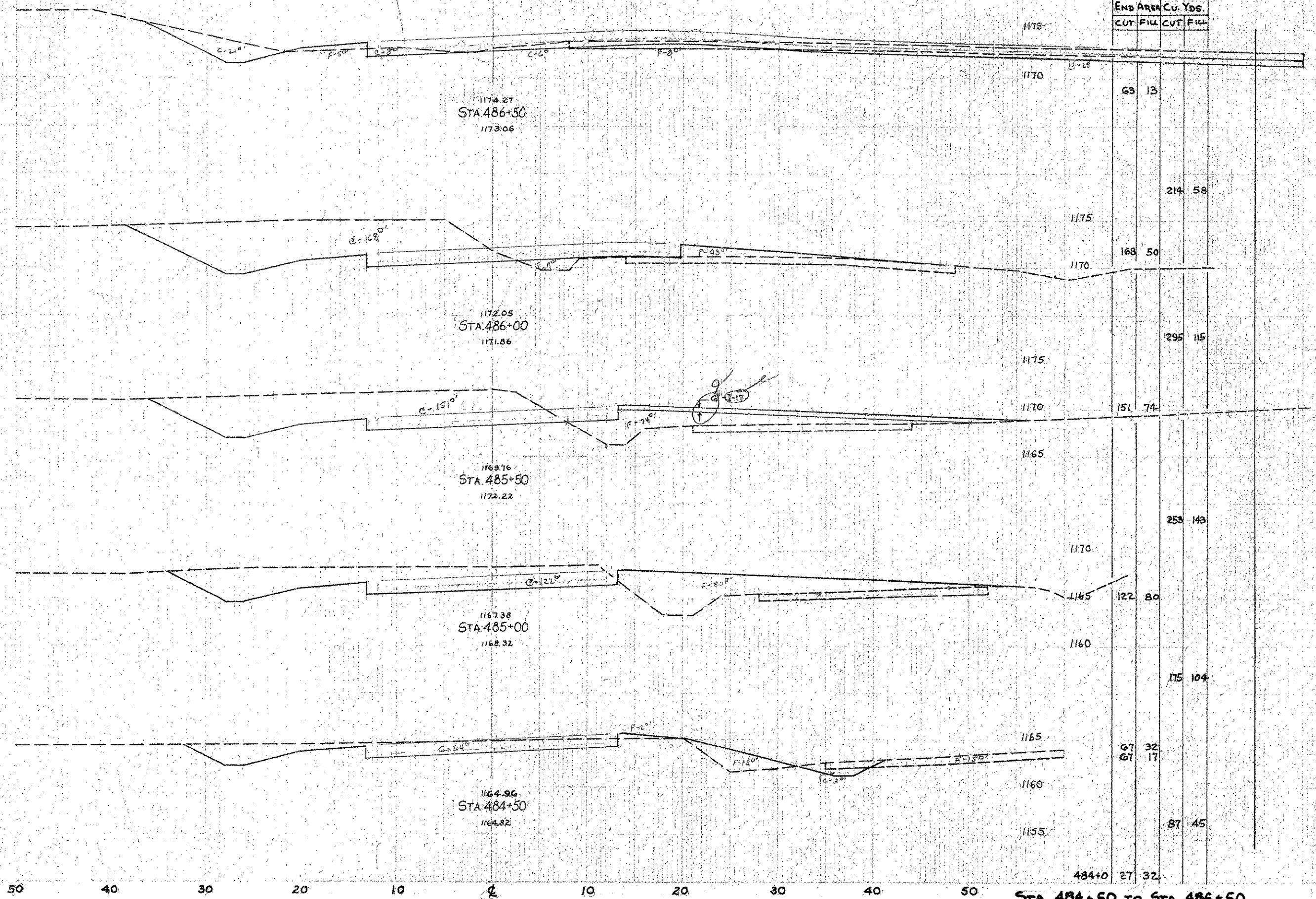
469

87

459

88

484+0



END AREA	CUT	FILL	CUT	FILL
CU. YDS.				

63 13

214 58

168 50

295 115

151 74

253 143

122 80

175 104

67 32

67 17

87 45

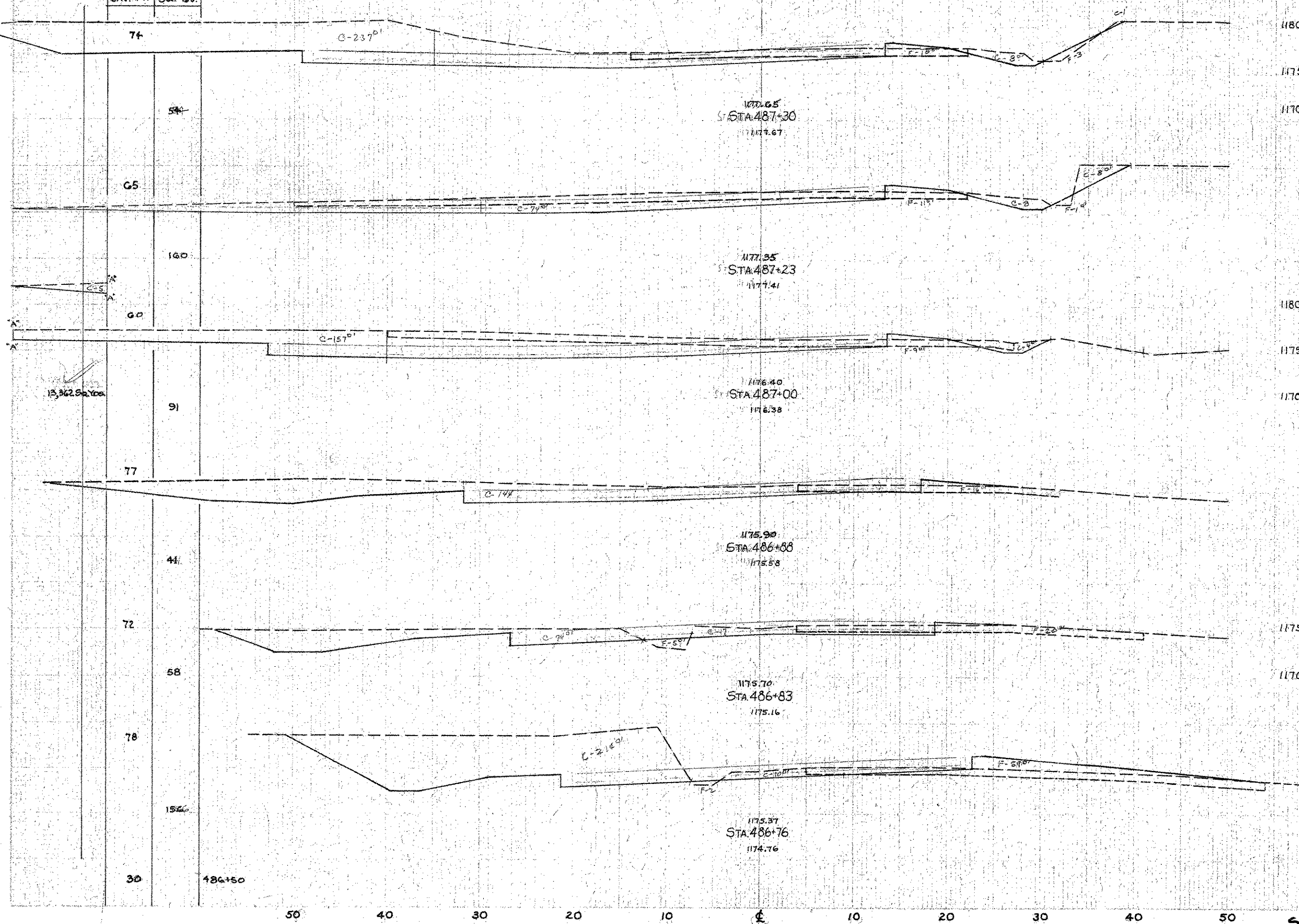
484+0 27 32

STA. 484+50 TO STA. 486+50

SEEDING & SODDING	
WIDTH LIN. FT.	AREA SQ. YDS.

GEAUGA COUNTY
GEA.-322-11.45

26
37



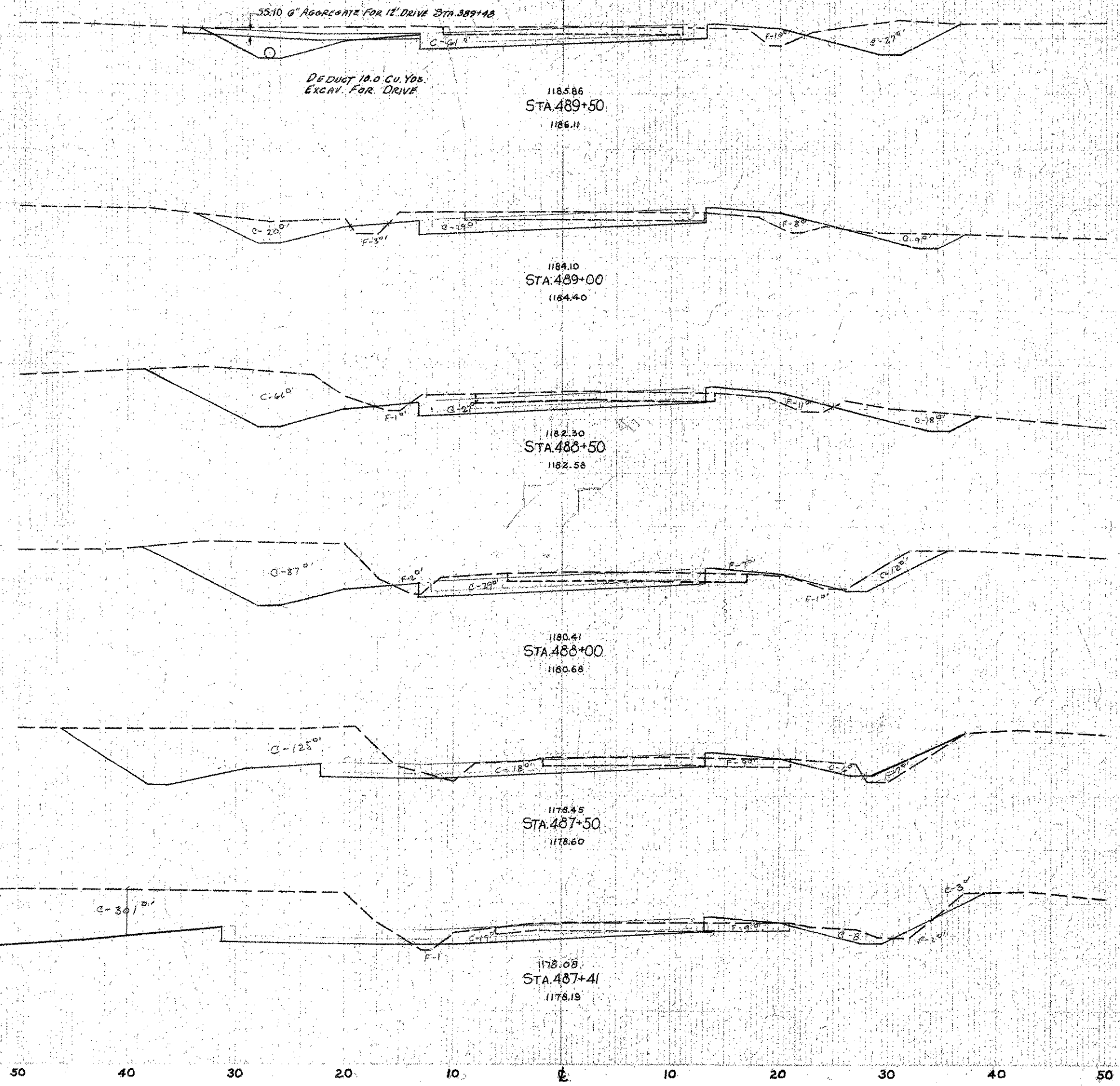
END AREA	CUT		FILL	
	CUT	FILL	CUT	FILL
245	13			
			43	3
90	12			
			109	9
166	9			
			69	6
144	16			
			22	4
91	25			
			41	11
224	61			
			138	36
63	13			

EXCAVATION = 63.11 CU.YDS.
EMBANKMENT = 199.88 CU.YDS.
E.M.B. = 22% = 20.59 CU.YDS.

STA. 486+76 TO STA. 487+30

SEEDING	SOODING
WIDTH	AREA
LIN. FT	SQ. YDS.

61	353
61	322
55	336
66	378
70	76
82	95
74	487+30



END AREA	CU. YDS.	
	CUT	FILL
88	10	-10
		135
58	11	
		156
111	12	
		221
128	10	
		256
149	16	
		80
331	12	
		117
487+30	245	13

STA. 487+41 TO STA. 489+50

50 40 30 20 10 0 10 20 30 40 50

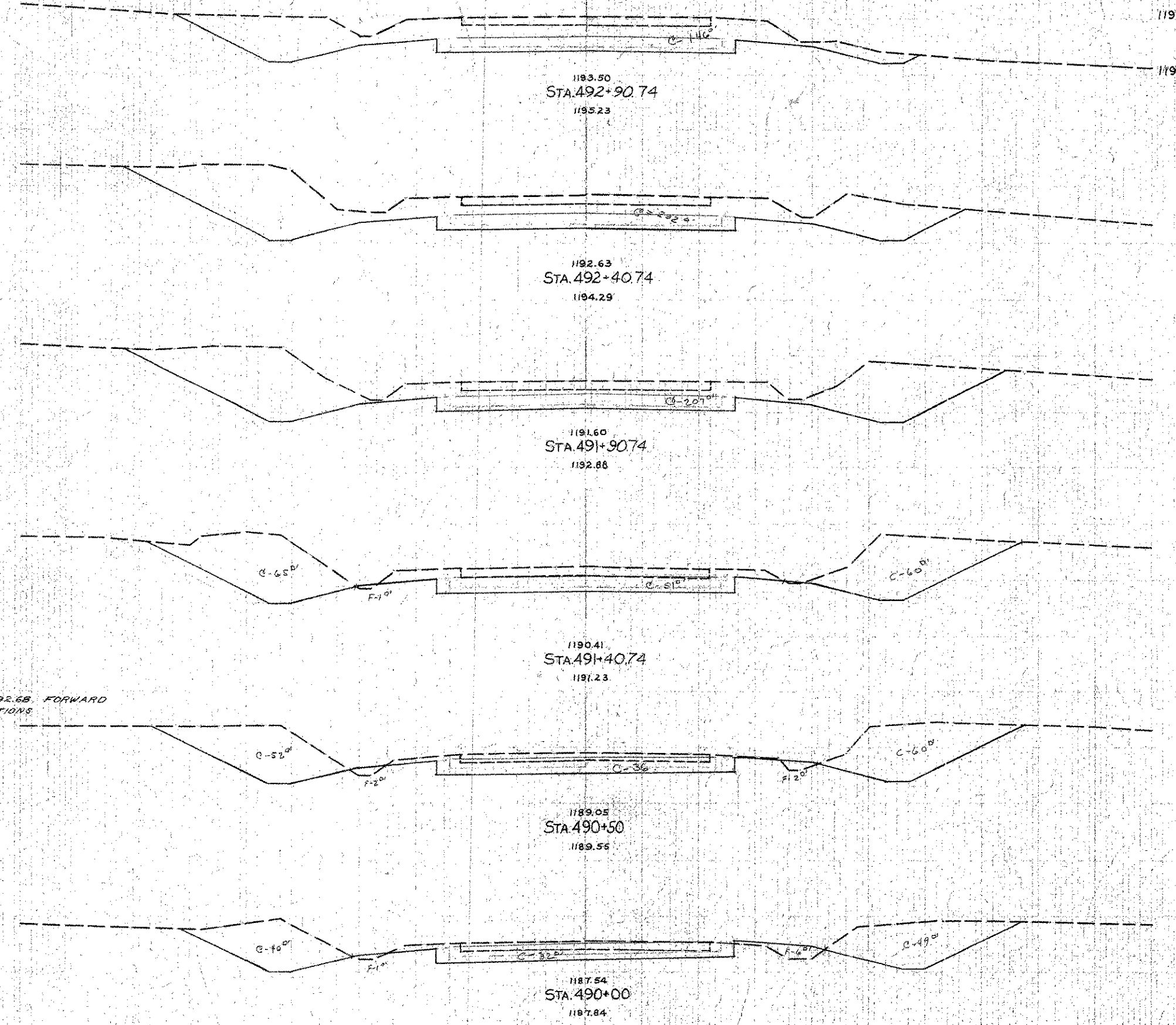
N S

GEAUGA COUNTY
GEA.-3 22- 11.45

SEEDING	Grass
WIDTH	AREA
Lin. Ft.	Sq. Yds.

52	317
62	353
66	372
68	378
68	372
66	353
61	489+50

NOTE: STA. 490+51.94 = STA. 490+92.68 FORWARD
ON EXISTING STATIONS

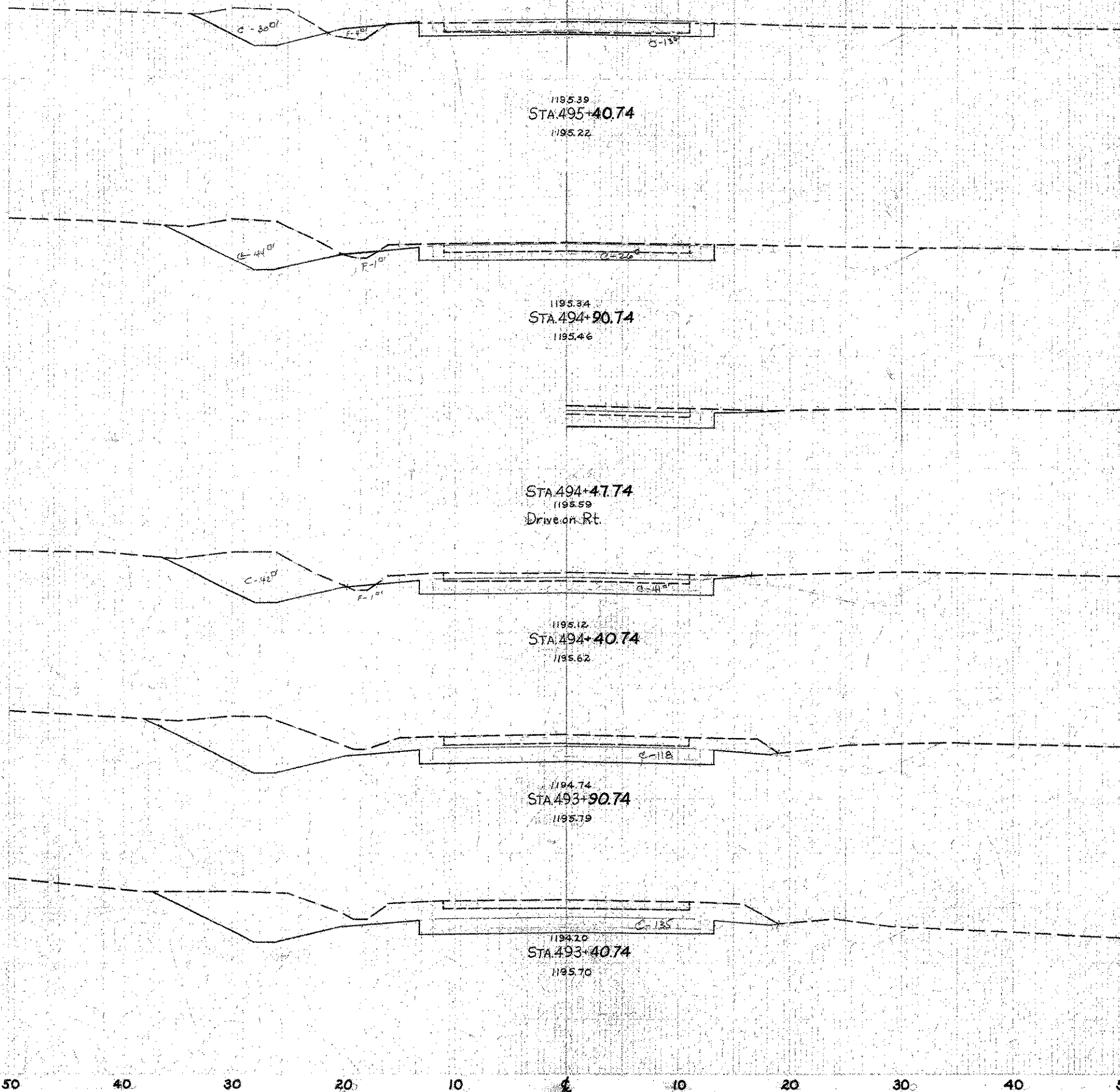


End Area	Cut	Fill	Cut	Fill
144	0			
		322	0	
202	0			
		379	0	
207	0			
		355	1	
176	1			
		300	5	
148	4			
		249	10	
121	7			
		194	16	
88	10			

STA. 490+00 TO STA. 492+50

SEEDING	SODDING
WIDTH	AREA
LIN. FT	SQ. YDS.

43	225
38	
	242
43	
	278
51	
	286
52	
	289
52	492+90.74



END AREA	Cu. Yds.
CUT	FILL

43	4		
		105	5
70	1		
		142	1
83	1		
		186	1
118	0		
		234	0
135	0		
		260	0
146	0		

SEEDING & SODDING	
WIDTH	AREA
LIN. FT.	SQ. YDS.

GEAUGA COUNTY
GEA- 3 22- 11.45

30
37

170 Sq. Yds.

20

141

33

29

36

40

36

20

36

154

43

495+46.74

50

40

30

20

10

0

10

20

30

40

50

STA. 496+50 (END WORK)
1194.80

STA. 496+00
1194.98

STA. 495+90.74
1195.06

STA. 495+80.74
1195.09

STA. 495+75.74
1195.11

END AREA	CUT	FILL	CUT	FILL
----------	-----	------	-----	------

1

1

5

10

4

10

3

7

13

30

5

10

15

25

3

3

19

9

40

8

43

4

STA. 495+35 to STA. 496+50

EXCAVATION = 8 CU. YDS.
EMBANKMENT = 17 CU. YDS.
EMB. 12.2% 21 CU. YDS.

GEAUGA COUNTY
GEA-322- 1145

AA3

MONUMENT BOX LOCATIONS ON SUBSTITUTE CENTERLINE

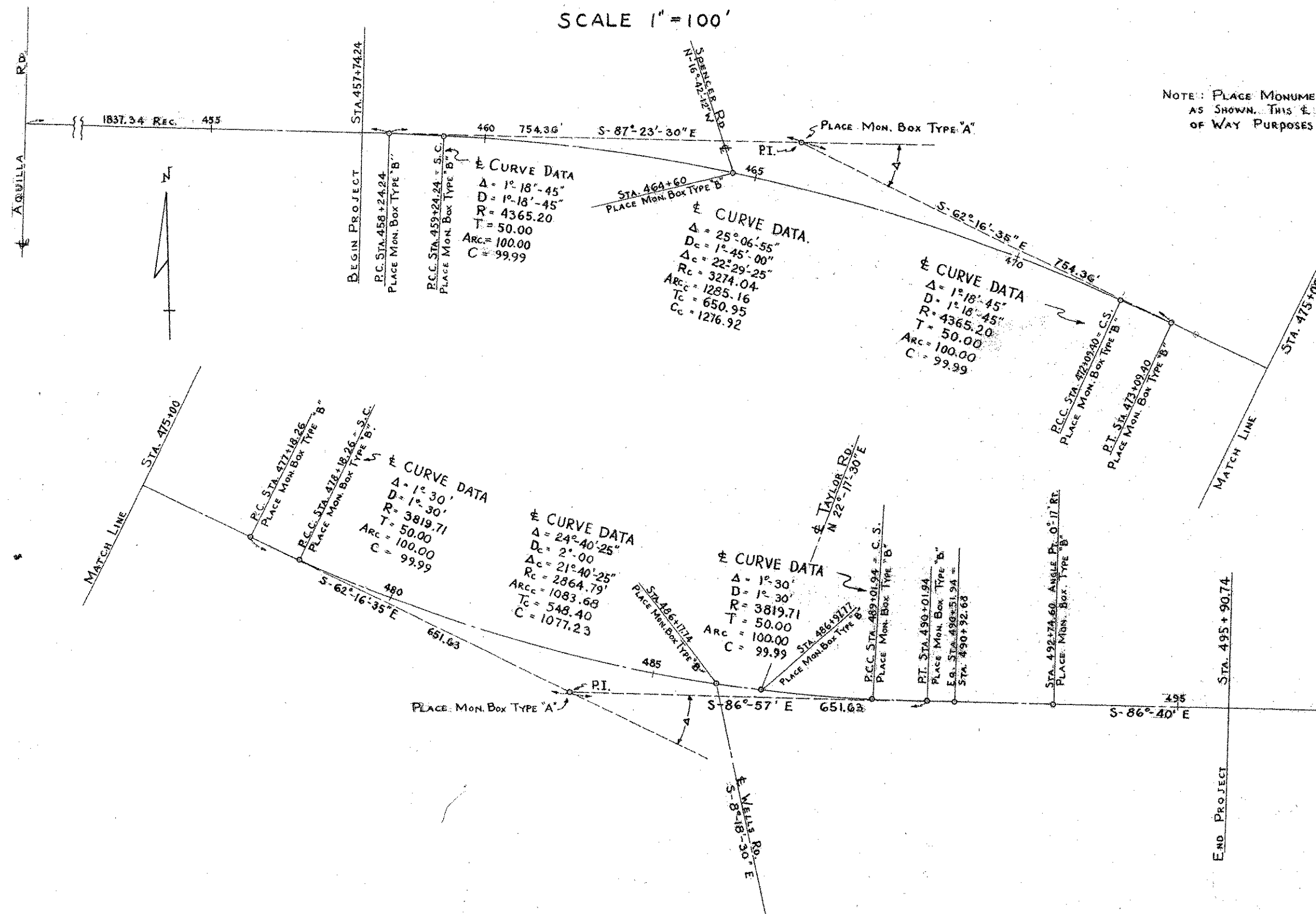
SCALE 1" = 100'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		32 37

GEAUGA COUNTY
GEA-322-11.45

NOTE: PLACE MONUMENTS ON SUBSTITUTE AS SHOWN. THIS IS TO BE USED FOR RIGHT OF WAY PURPOSES ONLY.

STATION	I-B MONUMENT BOXES	
	TYPE "A"	TYPE "B"
	EACH	EACH
458+24.24		
459+24.24		
464+60.00		
P.I.		
472+09.40		
473+09.40		
477+18.26		
478+18.26		
P.I.		
486+17.74		
486+97.77		
489+01.94		
490+01.94		
492+74.60		
TOTALS	2	12

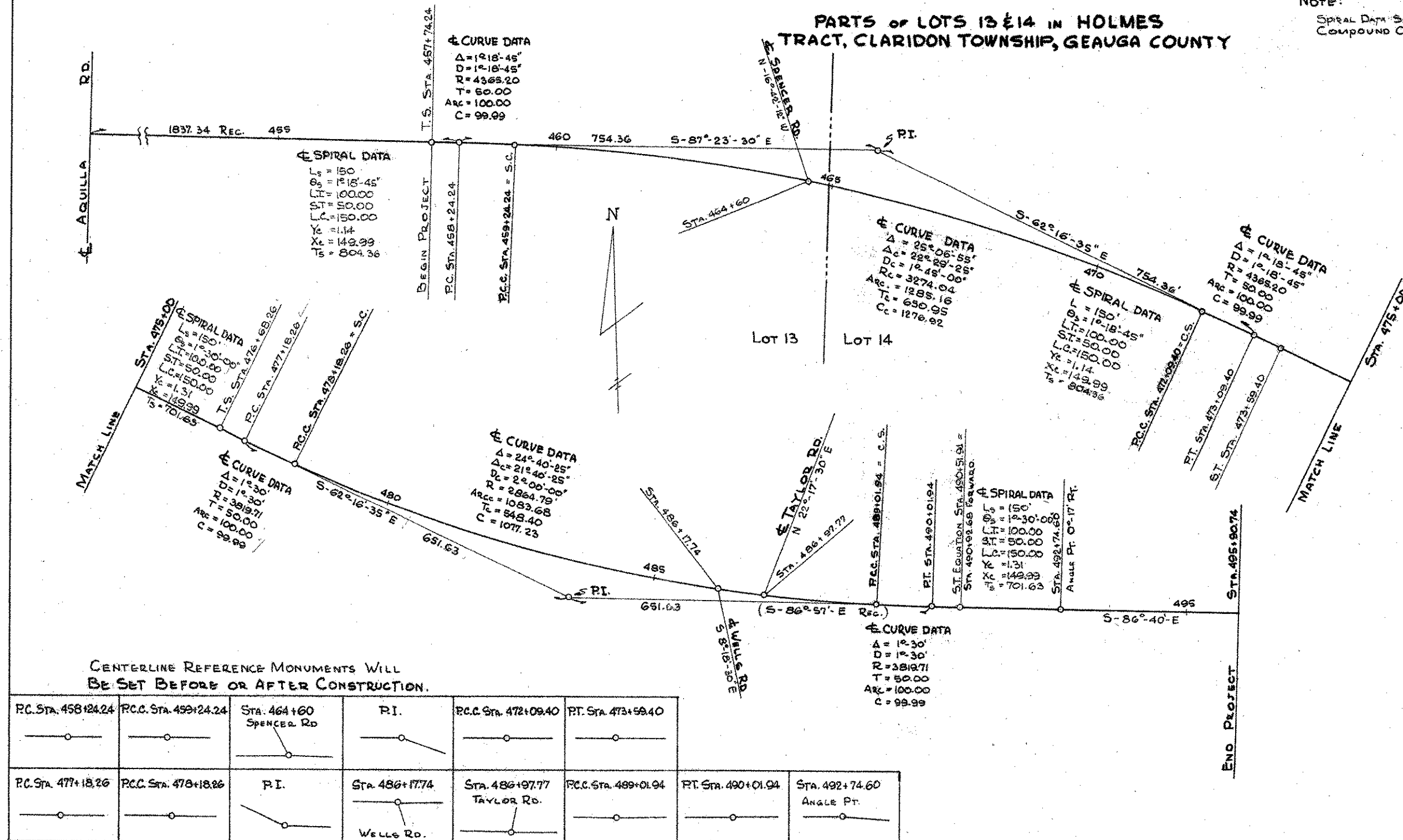


STATE OF OHIO DEPARTMENT OF HIGHWAYS LOCATION PLAN GEA.-322-(11.45-11.80) MAYFIELD ROAD

1954
SCALE 1" = 100'

NOTE:
Spiral Data Shown is on Construction &
Compound Curve Data Shown is on R/W

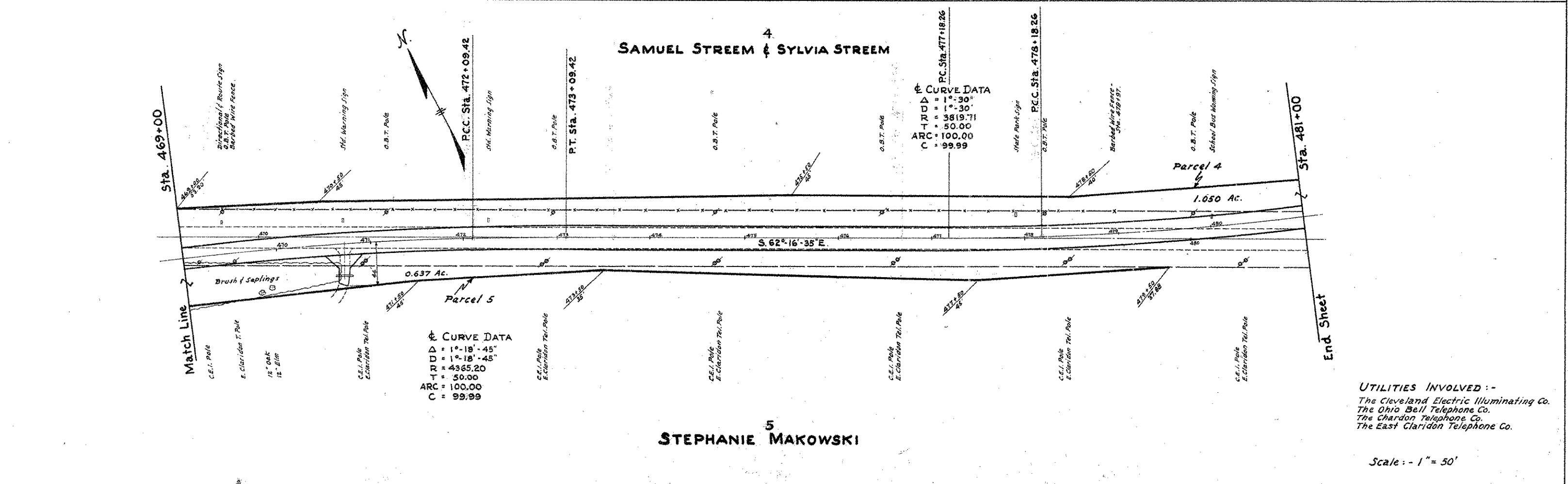
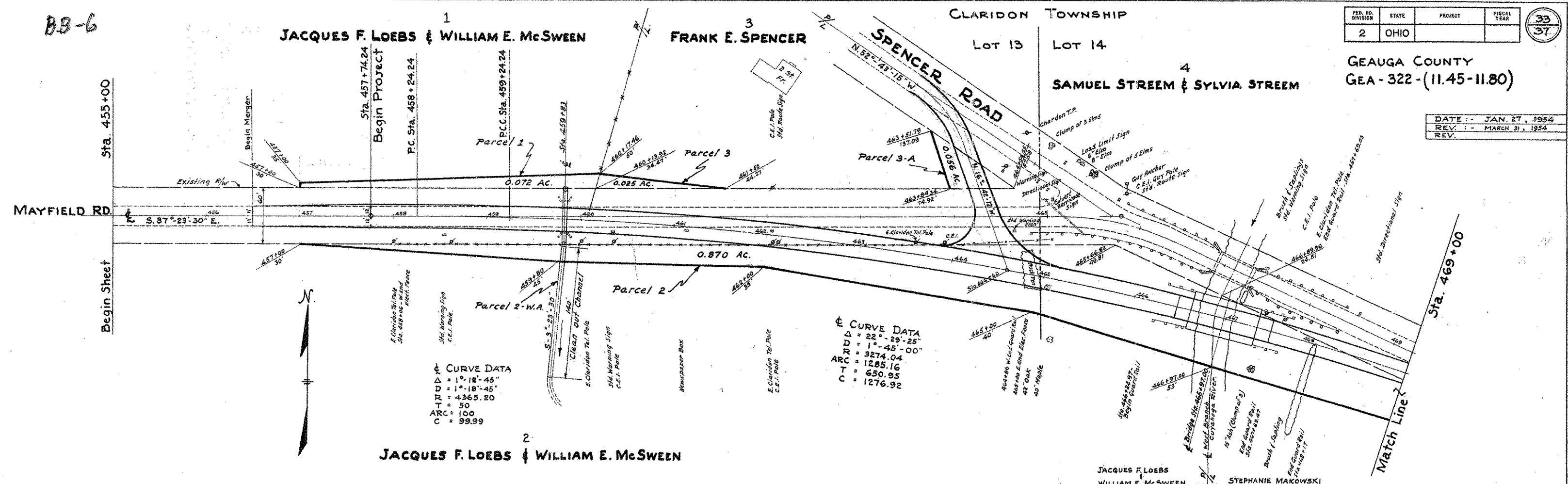
PARTS OF LOTS 13 & 14 IN HOLMES
TRACT, CLARIDON TOWNSHIP, GEauga COUNTY



ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAT
IS A CORRECT PLAT OF THE CENTERLINE
SURVEY FOR THE ABOVE TITLE PROJECT AS
SURVEYED AND PLANNED.
DATE 1-20-1954
H. D. Hollenbeck
DIVISION ENGINEER DIV. #12

8-11

BB-6



RIGHT-OF-WAY STA. 455+00 TO STA. 481+00

GEAUGA COUNTY
GEA-322-11.45
1.4 Mi ± W. of Claridon

EXISTING STRUCTURE
TYPE CONCRETE GIRDER
SPAN 38' CLEAR
RDWY. 19'-6" BIT SURFACE
SKEW NONE
CONDITION FAIR (SLIGHT DISINTEGRATION)
LOADING S-15-46
TO BE REMOVED

$\Delta = 25^{\circ}06'55''$
P.I. STA. 465+78.60

End Appr. Slab Sta. 466+60.50

Begin Appr. Slab Sta. 467+33.50

Curve Data
 $\Delta = 25^{\circ}06'55''$
 $\Delta_c = 22^{\circ}29'25''$
 $D_c = 1^{\circ}45'$
 $T_c = 650.95$
 $Arc. = 1285.16$
 $R_c = 3274.04$
 $Ch. = 1276.92$

Transition 2:1 to 4:1 slopes
at all four corners of bridge

PROPOSED STRUCTURE
Type: Continuous concrete slab with
capped pile abutments and piers
Spans: 22'-27.5' - 22' brgs.
Roadway: 40' face to face of guard rails
Loading: S-15-46
Skew: None
Surf. Course: Bituminous
Appr. Slabs: As 4-47
Alignment: 1° 45' Curve right
Superelevation: 0.041 per ft.

Spiral Data
T.S. Sta. 457+74.24
S.C. Sta. 459+24.24
Ls = 150'
Ts = 804.36
Es = 80.54
Xc = 149.99'
Yc = 1.14'
L.T. = 100.00
S.T. = 50.00
L.C. = 150.00
 $\theta_s = 1^{\circ}18'45''$
P = 0.29
K = 73.00

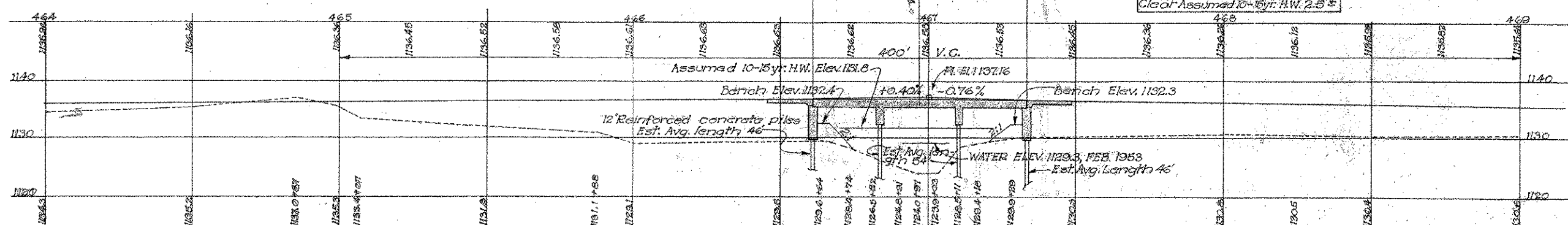
Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.

Spiral Data
C.S. = 472+09.40
S.T. = 478+59.40
Ls = 150.00
Ts = 804.36
Es = 80.54
Xc = 149.99
Yc = 1.14
L.T. = 100.00
S.T. = 50.00
L.C. = 150.00
 $\theta_s = 1^{\circ}18'45''$
P = 0.29
K = 73.00

BRIDGE LIMITS

Exist. BRIDGE PWT
ELEV. 1136.11

Clear Assumed 10-6yr. H.W. 2.5'



DRAINAGE AREA = 14.20 SQ. MI.
= 9100 ACRES

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES			
SITE PLAN			
BRIDGE NO. GE-322-117 OVER W. BRANCH GUYAHOGA RIVER			
GEAUGA CO.		U.S.R. 322	
SEC. GEA-322-11.45		STA. 466+97.00	
SCALE 1" = 20'			
PRESENT TOPOGRAPHY		PROPOSED WORK	
SURVEYED	DRAWN	TRACED	DESIGN
Aerial Survey	Aerial Survey	Aerial Survey	Checked
J.R. G.S.		J.R. G.S.	
BFG		BFG	

GEAUGA COUNTY
GEA-322-11.45

GENERAL NOTES

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

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed and shall become the property of the Contractor. Suitable waste masonry may be used as bank protection where directed by the Engineer. The substructure shall be removed to 6" below existing ground line at face of abutments and embankments dressed at 2:1 slope. Dressing of embankment slopes included with removal of existing structure for payment.

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

PILING shall be driven to a minimum bearing capacity of 20 tons at the abutments and 35 tons at the piers.

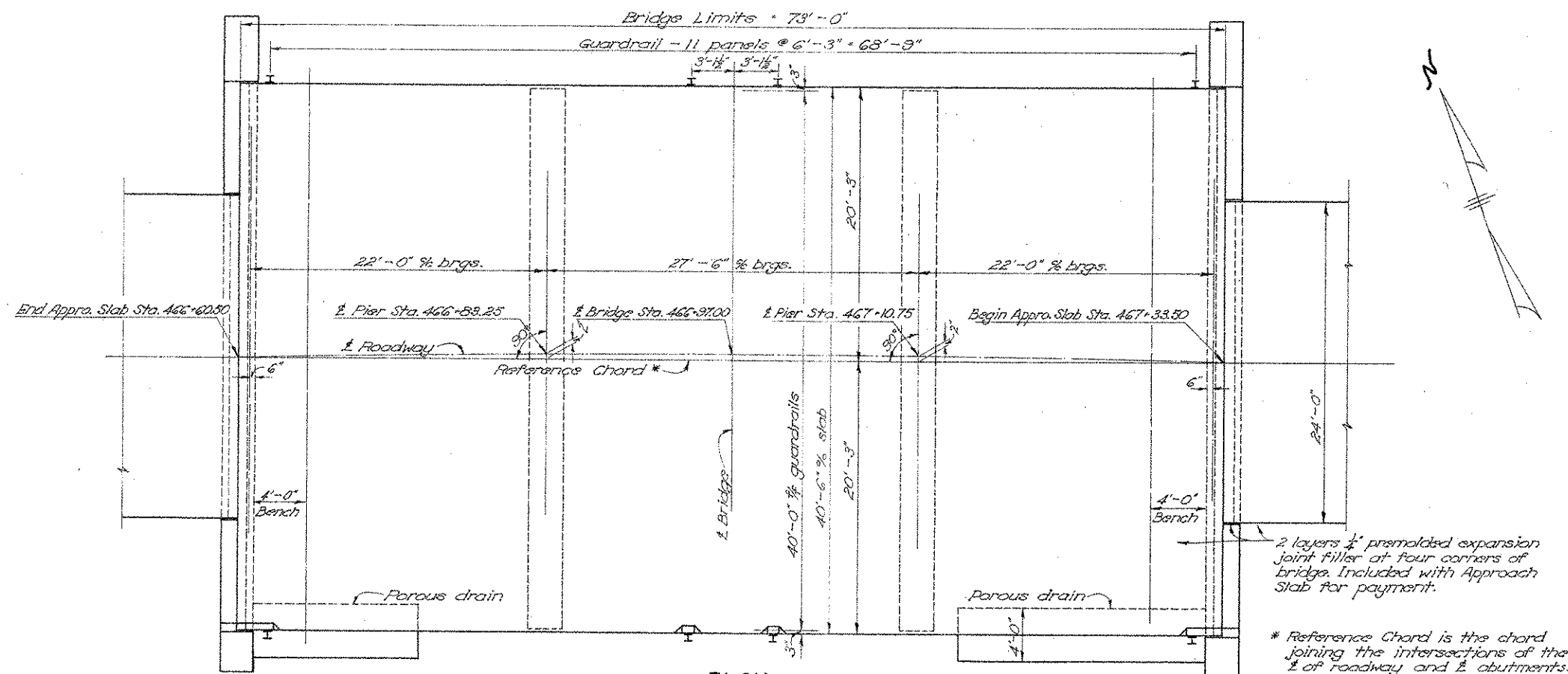
METAL WASHERS of approximately 3" diameter shall be provided on the anchor bolts, between the railing posts and the fascia of the deck, to hold the railing in accurate alignment. Washers shall be used only to the extent necessary for this purpose. The space between each railing post and the face of the concrete shall be thoroughly and neatly filled with "Leadite" or approved equivalent, to exclude moisture. Payment for washers and filling shall be considered as included in the contract price per lin. ft. of railing. Bush-hammering as shown on Std. Dwg. CS-1-47 shall not be done.

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

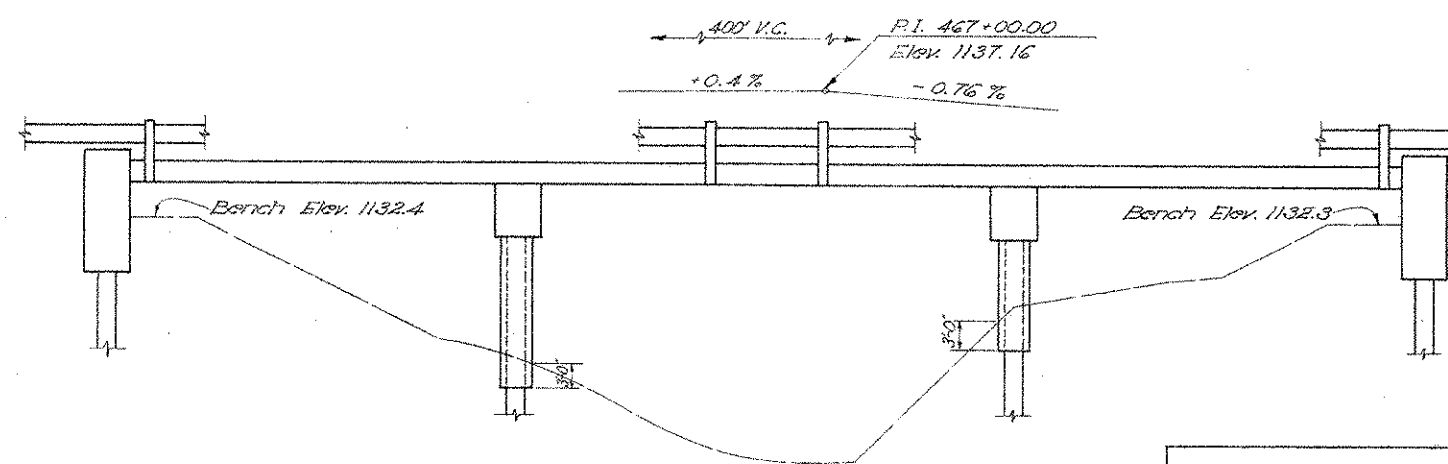
POROUS DRAINS, extending from face of abutment to Elev. 1128.0, shall be placed on and flush with embankment slopes at the south corners of the bridge. The drains shall be 4 ft. wide and one foot thick. They shall be centered under edge of deck. They shall be composed of No. 1 or No. 12 gravel, stone or slag. Construction procedure shall conform essentially to Item I-3. Trench excavation shall be included for payment with the price per cu. yd. bid for "Porous drains on embankment slopes".

ASPHALTIC CONCRETE SURFACE COURSE, Item T-35, laid in two 1 1/2" courses.

GRAVEL, if used as the coarse aggregate, shall be according to Sec. M-3.93 instead of M-3.91 for "Class C" concrete, superstructure and pier caps.



PLAN



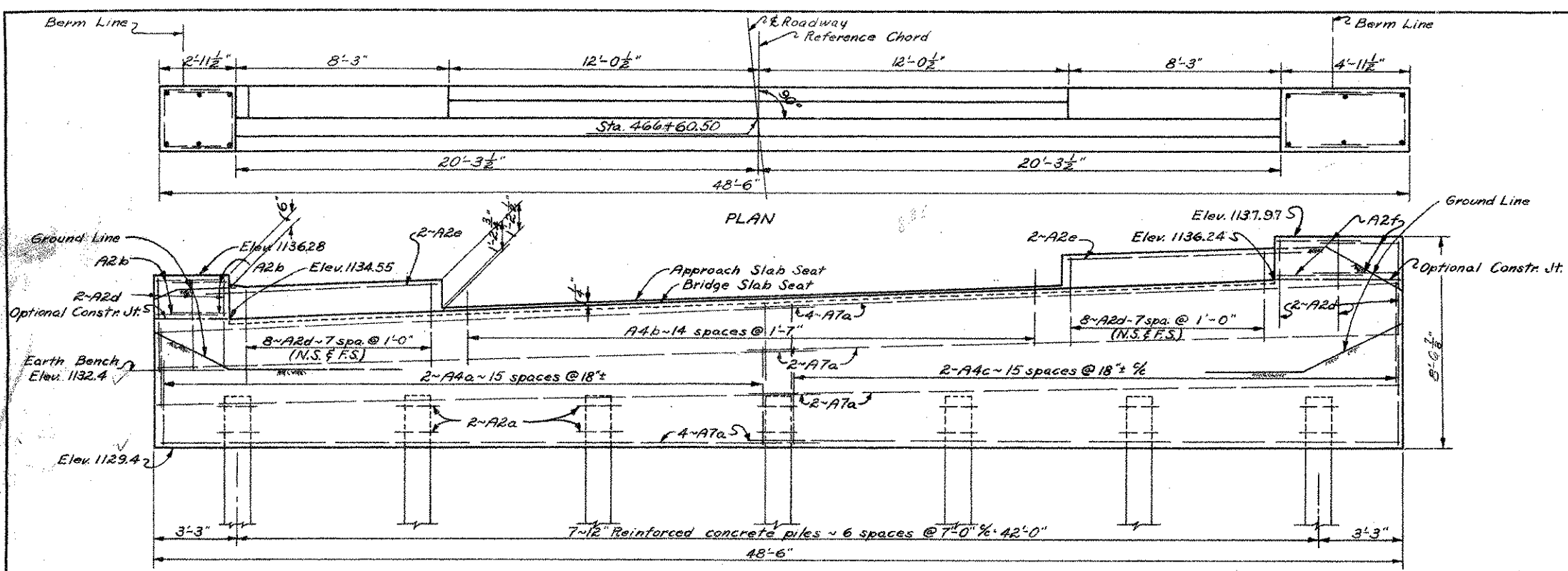
ELEVATION

ESTIMATED QUANTITIES

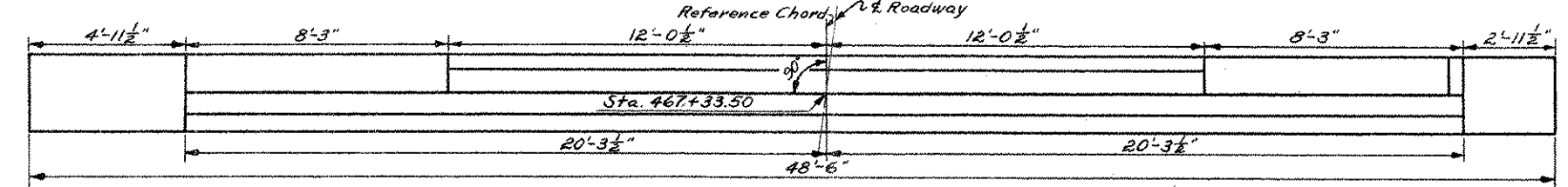
Item	Total	Unit	Description	Abut.	Superstr.	Piers	Gen.
E-2	50	cu.yd.	Unclassified excavation	50			
S-1	134	cu.yd.	Class "C" concrete, superstructure and pier caps		13.4		
S-2	58	cu.yd.	Class "C" concrete, abutments	58			
S-3	330	sq.yd.	Type "C" waterproofing		330		
S-4	36,132	lbs.	Reinforcing steel	5,184	27,466	3,382	99
S-9	11	sq.ft.	1/2" Premolded expansion joint filler		11		
S-14	146	lin.ft.	Railing (Type I-15.13 with steel posts)		146		
S-16	146	lin.ft.	First test pile				146
S-18	1290	lin.ft.	12" cast-in-place reinforced concrete piling	640		650	
S-24	146	lin.ft.	Removal of existing structure				146
S-29	5	cu.yd.	Porous drains on embankment slopes				5
T-35	23	cu.yd.	Asphaltic concrete surface course, Type "A" or "C" (10-80)		23		

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES AND RAILROAD CROSSINGS							
GENERAL PLAN & ELEVATION, NOTES & ESTIMATED QUANTITIES BRIDGE No. GE-322-117 over W. BRANCH of CUYAHOGA RIVER Geauga County Sec. GEA-322-11.45							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	BY	
GPH	GPH	JR	JEM	9.9.5	11-17-53		

GEAUGA COUNTY
GEA-322-11.45



ELEVATION
WEST ABUTMENT



ELEVATION
EAST ABUTMENT

