CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Center Line
Corporation Line
Fence Line
Guard Rail (existing)
Guard Rail (proposed)
Railroad
Power Poles
Telephone Poles
Power or Telephone Poles with guys
Tower Line
Trees or Stumps (existing)
Limited Access L/A
Right of Way R/W
Existing Right of Way

INDEX OF SHEETS

STA. 1279+88.48 Bk = STA. 0+00 Ah.

LINE DATA

Begin Project	Sta. 1174+00
End Project	Sta. 114+50
* Length of Project	22,038.48 Lin. Ft. or 4.173 Miles
* Add for Sideroads' Approaches	4984.71 Lin. Ft. or 0.944 Miles
Length of Work	27,023.19 Lin. Ft. or 5.118 Miles

* See Sht. # 1A for Computations

FILE NO.		
	GUERNSEY COUNTY	GUE-77-22.59
	TUSCARAWAS COUNTY	TUS-77- 0.00
	DATE OF LETTING	196
	CONTRACT NO.	

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
GUE-77-22.59
TUS-77- 0.00
WHEELING TWP. GUERNSEY CO. AND
OXFORD TWP. TUSCARAWAS CO. OHIO

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

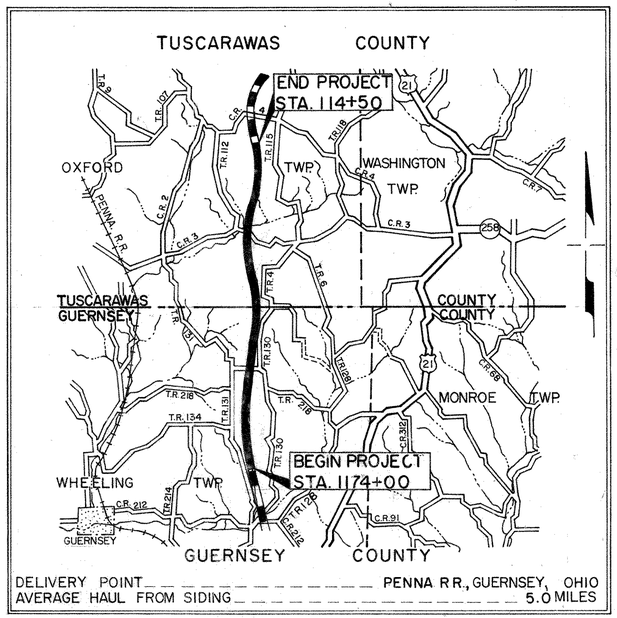
GUE-77-22.59
TUS-77- 0.00

1/230

— LIMITED ACCESS —

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH PROVISIONS OF SECTION 5511.02 REVISED CODE OF OHIO.

I-77- 2(8)58
1965 SPECIFICATIONS



DELIVERY POINT ..... PENNA R.R., GUERNSEY, OHIO
AVERAGE HAUL FROM SIDING ..... 5.0 MILES

LOCATION MAP

SCALE OF MILES 0 1 2

PORTION TO BE IMPROVED
STATE ROADS
OTHER ROADS

PLAN
PROFILE: HORIZONTAL 0 50 100
PROFILE: VERTICAL
CROSS SECTIONS: HORIZONTAL & VERTICAL 0 10 20

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

THE RIGHT OF WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

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

APPROVED _____
DATE 7-23-65 DIVISION DEPUTY DIRECTOR

APPROVED _____
DATE 10-27-65 ENGINEER OF BRIDGES

APPROVED _____
DATE 10-27-65 ENGINEER OF LOCATION AND DESIGN

APPROVED _____
DATE 10-27-65 DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION

APPROVED _____
DATE 11-4-65 DEPUTY DIRECTOR OF RIGHT OF WAY

No RR HAUL 11-27-65

APPROVED _____
DATE 11-4-65 DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING

APPROVED _____
DATE _____ FIRST ASSISTANT DIRECTOR

APPROVED _____
DATE 11/5/65 DIRECTOR OF HIGHWAYS

I-15

DESIGN DESIGNATION

ADT 1987	9350
DHV	1030
Dir. Dis.	52%
Truck Traffic	6%
D. S.	70 mph

PREPARED AND RECOMMENDED BY
BEISWENGER, HOCH & ARNOLD, CONSULTING ENGINEERS
AKRON OHIO CLEVELAND

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-1	6-1-65			CB-4	6-1-65	BR-1-65(1)	2-1-65
BP-2	6-1-65	F-2	6-1-65	CB-6	6-1-65	FSB-1-62	R-1-1063
BP-3	6-1-65	F-3	6-1-65	MH-1	6-1-65	SD-2-64	11-25-64
BP-4	6-1-65	GR-6	6-1-65	CR-1	6-1-65	SD-1-63(2,3,4)	11-12-63
BP-5	6-1-65	HW-1	6-1-65	CR-2	6-1-65	AS-1-54	8-10-65
BP-6	6-1-65	HW-2	6-1-65	CR-2A	6-1-65		
MC-1	6-1-65	HW-3	6-1-65	CR-3B	6-1-65		
MC-3	6-1-65	HW-E	6-1-65	L-1	6-1-65		
MC-4	6-1-65	SD-53	6-30-61	MH-1A	6-1-65		
MC-5	6-1-65	CB 2-2-A&B	6-1-65				

SUPPLEMENTAL SPECIFICATIONS

801	9-7-65
808	7-14-65
811	3-29-65
806	9-2-65

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

_____ DIVISION ENGINEER _____ DATE

12-22-65

SCHEMATIC PLAN

FED. RD.	STATE	PROJECT	
2	OHIO		

2/230

GUE-77-22.59
TUS-77-0.00

BEGIN PROJECT
STA. 1174+00
S.L.M. 22.59

END
I-77-2(6)54

BEGIN
I-77-2(8)58

BEGIN WORK
STA 1172+00

T.R. 131

T.R. 134

T.R. 131

T.R. 218

1150
1160
1170
1180
1190
1200
1210
1220
1230
1240
1250
1260
1270

N 12° 14' 55" W

Reloc. Channel

#1

P.C. Sta 1172+18.79

P.T. Sta 1186+49.87

Reloc. Channel

Reloc. Channel

N 02° 03' 44" E

Reloc. Channel

#2

P.C. Sta 1211+88.65

T.R. 130

T.R. 218

Begin Pav't. & Work
Sta. 38+50

Structure NO.
GUE-77-23.79

End Pav't & Work
Sta 53+50

P.T. Sta 1237+83.23

N 14° 10' 13" E.

P.C. Sta 1266+24.31

GUE/TUSCARAWAS CO. 12.79+88.48

TUSCARAWAS CO. 0+00

#3

N. 08° 05' 47" W.

T.R. 130

T.R. 4

T.R. 128

T.R. 128

T.R. 218

T.R. 218

Provide, erect and maintain lights, signs and barricades on T.R.# 218 at its intersections with T.R.# 130 and T.R.# 131.

℄ I-77 CURVE DATA

#1 CURVE	#2 CURVE	#3 CURVE
P.I. Sta 1179+38.07	P.I. Sta 1224+90.79	P.I. Sta. 1273+93.10
Δ = 14° 18' 39"	Δ = 12° 06' 29"	Δ = 22° 16'
Dc = 1°	Dc = 0° 28'	Dc = 1° 28'
R = 5729.58'	R = 12277.67'	R = 3906.53'
T = 719.28'	T = 1302.14'	T = 768.79
L = 1431.08'	L = 2594.58'	L = 1518.18'
E = 44.97'	E = 68.86'	E = 74.93'

SCHEMATIC PLAN

FED. RD.	STATE	PROJECT	
2	OHIO		

3
230

GUE-77-22.59
TUS-77-0.00

GUERNSEY CO. Sta. 1279+88.48=
TUSCARAWAS CO. Sta. 0+00
PT. Sta. 1+54.01

Match Line

T.R. 4

Access Drive
(To be abandoned)

℄ Cross Over
Sta. 0+50

N. 08° 05' 47" W.

Provide, erect and maintain lights, signs, and barricades on C.R. No. 3 at the construction limits, and at its intersection with T.R. No. 131 and C.R. No. 2.

T.R. 131

C.R. 2

C.R. 3

Begin Work Sta. 36+50
Begin Pavt. Sta. 36+50

Begin Pavt. & Work
Sta. 0+10.29

End Pavt. & Work
Sta. 4+50

T.R. 112

Postboy Creek

Private Drive

T.R. 4

P.C. Sta. 35+94.76

End Pavt.
Sta. 63+50
End Work
Sta. 63+75

P.T. Sta. 51+09.04

Structure No.
TUS-77-0098

N. 14° 06' 47" E.

P.C. Sta. 76+38.23

P.T. Sta. 97+07.65

Provide, erect and maintain lights, signs and barricades on T.R. No. 112 at the construction limits and at its intersection with C.R. No. 4.

END PROJECT
STA. 114+50
S.L.M. 2.17

END
I-77-2(8)58

BEGIN
I-77-3(1)64

END WORK
STA. 115+70

T.R. 112

C.R. 4

T.S. Sta. 130+63.48

N. 06° 34' 52" W.

T.R. 115

Provide, erect and maintain lights, signs and barricades on T.R. No. 9 at its intersection with T.R. No. 4

T.R. 4

T.R. 9

C.R. 3

T.R. 115

Provide, erect and maintain lights, signs and barricades on C.R. No. 3 at the construction limits and at its intersection with T.R. No. 115

℄ I-77 CURVE DATA

#1 CURVE	#2 CURVE
P.I. Sta. 43+61.53	P.I. Sta. 86+84.34
Δ = 22° 12' 34"	Δ = 20° 41' 39"
D_c = 1° 28'	D_c = 1° 00'
R = 3906.53'	R = 5729.58'
T = 766.77'	T = 1046.11'
L = 1514.28'	L = 2069.42'
E = 74.54'	E = 94.72'

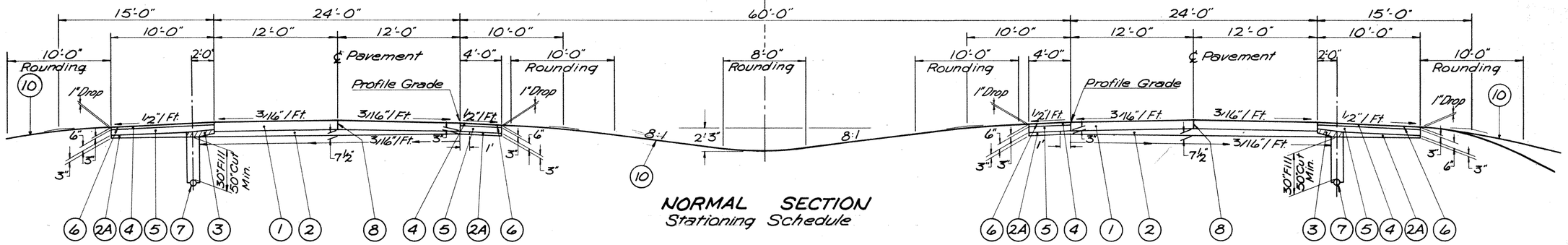
FED. RD.	STATE	PROJECT	
2	OHIO		

4/230

GUE-77-22.59
TUS-77-0.00

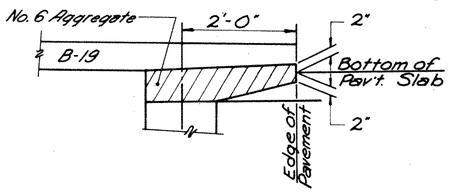
TYPICAL SECTIONS

TYPE 451
TYPE CODE 7221



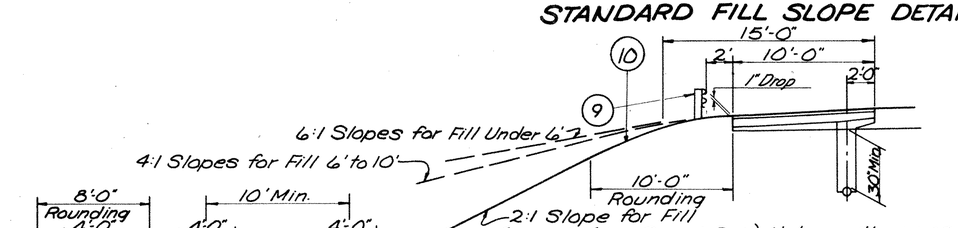
NORMAL SECTION
Stationing Schedule

Sta. 1187+75 (Both Lanes) to Sta. 1192+50 (Both Lanes)
Sta. 1192+50 (N.B.L.) to Sta. 1196+00 (N.B.L.)
Sta. 1196+00 (Both Lanes) to Sta. 1201+50 (Both Lanes)
Sta. 1201+50 (N.B.L.) to Sta. 1206+50 (N.B.L.)
Sta. 1206+50 (Both Lanes) to Sta. 1213+50 (Both Lanes)
Sta. 1213+50 (S.B.L.) to Sta. 1220+25 (S.B.L.)
Sta. 1220+25 (Both Lanes) to Sta. 1224+50 (Both Lanes)
Sta. 1224+50 (S.B.L.) to Sta. 1225+25 (S.B.L.)
Sta. 1259+75 (N.B.L.) to Sta. 1260+75 (N.B.L.)
Sta. 1260+75 (Both Lanes) to Sta. 1264+75 (Both Lanes)
Sta. 3+00 (Both Lanes) to Sta. 8+80 (Both Lanes)
Sta. 8+80 (N.B.L.) to Sta. 9+25 (N.B.L.)
Sta. 17+50 (S.B.L.) to Sta. 18+50 (S.B.L.)
Sta. 18+50 (Both Lanes) to Sta. 22+50 (Both Lanes)
Sta. 55+50 (S.B.L.) to Sta. 58+50 (S.B.L.)
Sta. 58+50 (Both Lanes) to Sta. 68+50 (Both Lanes)
Sta. 68+50 (N.B.L.) to Sta. 74+00 (N.B.L.)
Sta. 74+00 (Both Lanes) to Sta. 75+25 (Both Lanes.)
Sta. 98+25 (Both Lanes) to Sta. 105+50 (Both Lanes)
Sta. 105+50 (N.B.L.) to Sta. 106+50 (N.B.L.)
Sta. 108+50 (N.B.L.) to Sta. 111+00 (N.B.L.)
Sta. 111+00 (Both Lanes) to Sta. 114+50 (Both Lanes)



SPECIAL DRAINAGE DETAIL

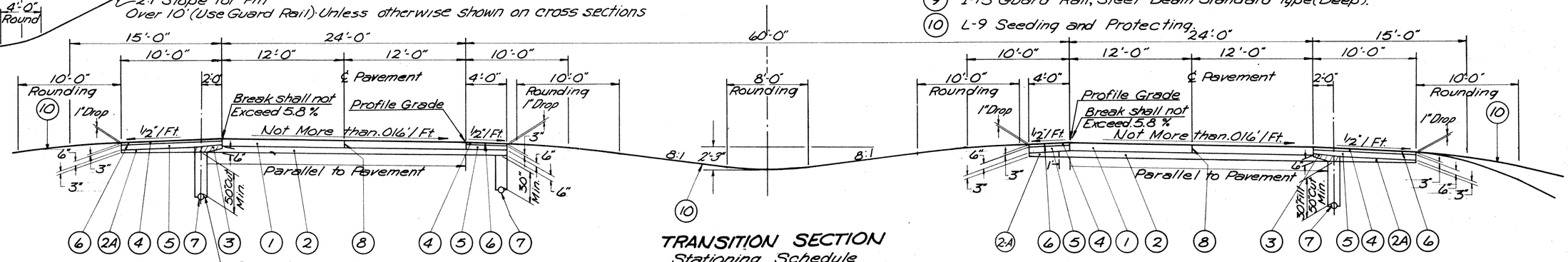
STANDARD FILL SLOPE DETAIL



Sequence of Construction Operations:

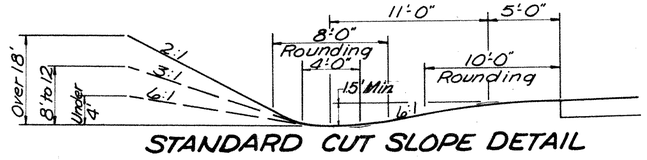
1. Install Pipe Underdrain on outside Shoulder. Installation of Shallow Underdrain in Median may be deferred until T-71 is Placed.
2. Place Subbase out to outside edge of Underdrain or to One foot beyond edge of Pav't. where no Underdrain is Present.
3. Construct T-71.
4. Remove Subbase and any contaminated backfill over drain and replace with No. 6 Aggregate as shown by Special Drainage Detail.
5. Complete Shoulder Construction.

(1) T-71 9" Reinforced Portland Cement Concrete Pavement.
(2) I-22 Variable Depth Subbase, Grading "A" or "B" Modified as Per General Note.
* (2A) I-22 Variable Depth Subbase, Regular Grading.
(3) Special Drainage Connection, Using No. 6 Aggregate. (See Detail this Sheet)
** (4) B-21 3" Waterproofed Aggregate Base Course (See note in Proposal).
(5) B-19 (Variable Depth) Aggregate Base Course
(6) T-31 Bituminous Surface Treatment - Consisting of One Application as follows: 0.008 Cu. Yd. No. 6 Aggregate and 0.25 Gal. Bituminous Material Per Square Yard (See Note in Proposal).
(7) I-1 6" Pipe Class I-3.
(8) Standard Longitudinal Joint.
(9) I-15 Guard Rail, Steel Beam Standard Type (Deep).
(10) L-9 Seeding and Protecting.



TRANSITION SECTION
Stationing Schedule

Sta. 1186+51.55 (Both Lanes) to Sta. 1187+75 (Both Lanes)
Sta. 1264+75 (Both Lanes) to Sta. 1265+88.88 (Both Lanes)
Sta. 1+86.12 (Both Lanes) to Sta. 3+00 (Both Lanes)
Sta. 75+25 (Both Lanes) to Sta. 76+48.45 (Both Lanes)
Sta. 97+01.55 (Both Lanes) to Sta. 98+25 (Both Lanes)



STANDARD CUT SLOPE DETAIL

* Subbase under Paved Shoulders shall meet the Grading Requirements of Regular Grading I-22. Limits for Regular Grading I-22 are from the Underdrain Trench (or One foot beyond the Slab Edge where underdrains are not used) to the edge of Shoulder.

** Thickness shown is "Designed" Thickness as described in Section B-21.01

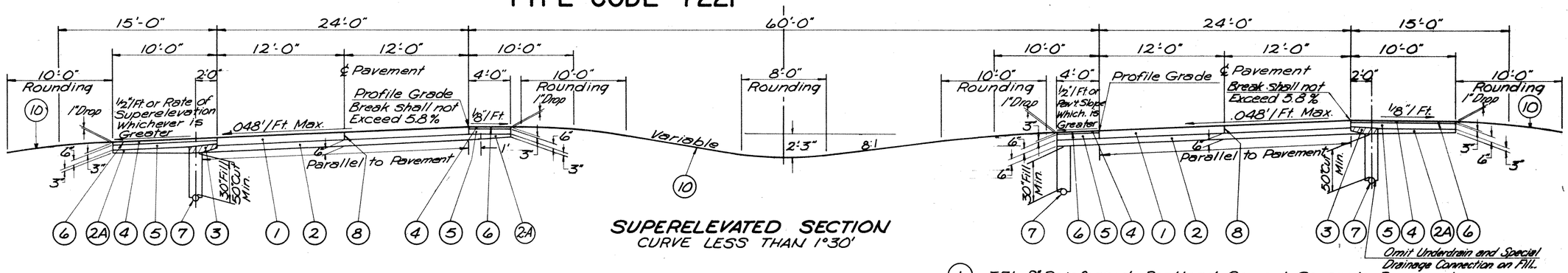
FED. RD.	STATE	PROJECT	
2	OHIO		

5
230

GUE-77-22.59
TUS-77-0.00

TYPICAL SECTIONS

TYPE 451
TYPE CODE 7221



SUPERELEVATED SECTION
CURVE LESS THAN 1°30'

NOTE: Slopes Typical Unless Otherwise Shown on Cross Sections.

NOTE: For Standard Fill Slope Section See Sheet No. 4

Stationing Schedule

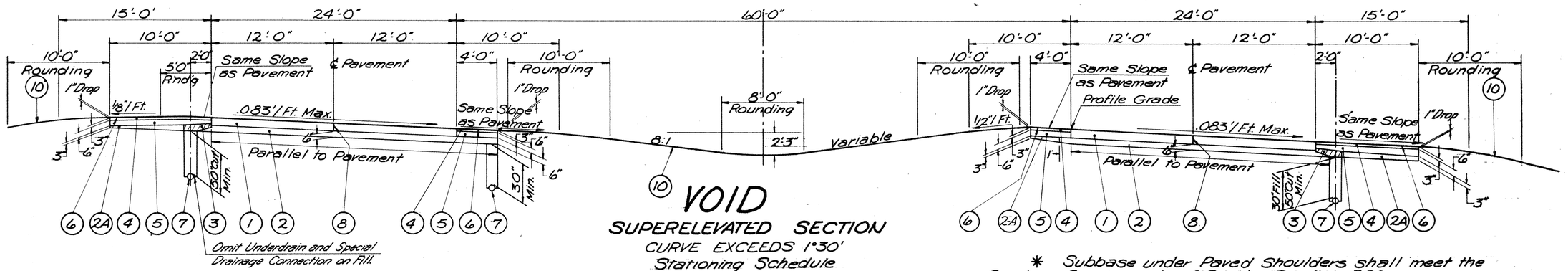
Transition =0.016'/Ft.≤0.032'/Ft.
- Sta. 1185+50 (Both Lanes) to Sta 1186+51.55 (Both Lanes)
- Sta. 76+48.45 (Both Lanes) to Sta. 77+50 (Both Lanes)
- Sta. 96+00 (Both Lanes) to Sta. 97+01.55 (Both Lanes)

Superelevated 0.032'/Ft.
- Sta. 1174+00 (S.B.L.) to Sta. 1175+00 (S.B.L.)
- Sta. 1175+00 (Both Lanes) to Sta. 1185+50 (Both Lanes)
- Sta. 77+50 (Both Lanes) to Sta. 84+00 (Both Lanes)
- Sta. 84+00 (S.B.L.) to Sta. 89+00 (S.B.L.)
- Sta. 89+00 (Both Lanes) to Sta. 96+00 (Both Lanes)

Transition =0.016'/Ft.≤0.048'/Ft.
- Sta. 1265+88 (Both Lanes) to Sta. 1266+50 (Both Lanes)
- Sta. 1266+50 (S.B.L.) to Sta. 1267+00 (S.B.L.)
- Sta. 0+25 (N.B.L.) to Sta. 0+50 (N.B.L.)
- Sta. 0+50 (Both Lanes) to Sta. 1+86.12 (Both Lanes)
- Sta. 50+00 (Both Lanes) to Sta. 51+34.18 (Both Lanes)

Superelevated 0.048'/Ft.
- Sta. 0+00 (N.B.L.) to Sta. 0+25 (N.B.L.)
- Sta. 44+75 (Both Lanes) to Sta. 50+00 (Both Lanes)

(1) T-71 9" Reinforced Portland Cement Concrete Pavement.
(2) I-22 Variable Depth Subbase, Grading "A" or "B" Modified as Per General Note.
*(2A) I-22 Variable Depth Subbase, Regular Grading.
(3) Special Drainage Connection, Using No. 6 Aggregate. (See Detail Sht # 4)
**(4) B-21 3" Waterproofed Aggregate Base Course (See note in Proposal).
(5) B-19 (Variable Depth) Aggregate Base Course.
(6) T-31 Bituminous Surface Treatment - Consisting of One Application as follows: 0.008 Cu. Yd. No. 6 Aggregate and 0.25 Gal. Bituminous Material Per Square Yard (See Note in Proposal).
(7) I-1 6" Pipe Class I-3.
(8) Standard Longitudinal Joint.
(9) I-15 Guard Rail, Steel Beam Standard Type (Deep).
(10) L-9 Seeding and Protecting.



VOID
SUPERELEVATED SECTION
CURVE EXCEEDS 1°30'
Stationing Schedule
This Section Does Not Apply to This Project.

* Subbase under Paved Shoulders shall meet the Grading Requirements of Regular Grading I-22. Limits for Regular Grading I-22 are from the Underdrain Trench (or One foot beyond the Slab Edge where Underdrains are not used) to the edge of Shoulder.

** Thickness shown is "Designed" Thickness as described in Section B-21.01

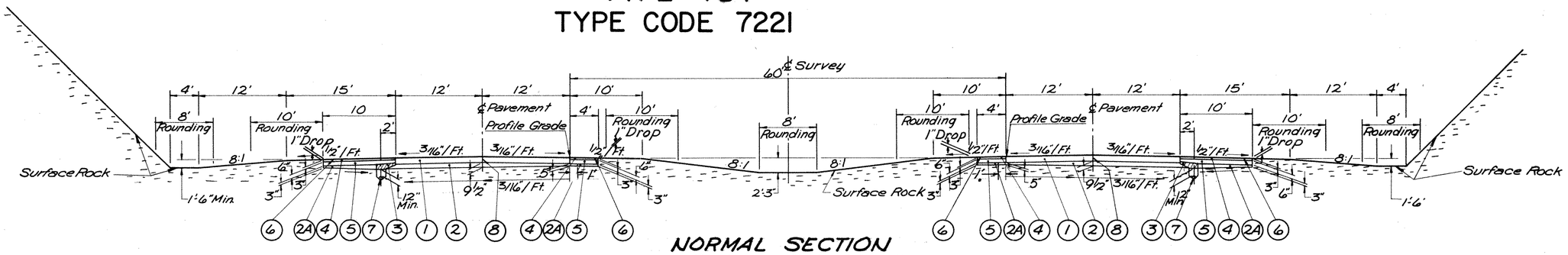
FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

6
230

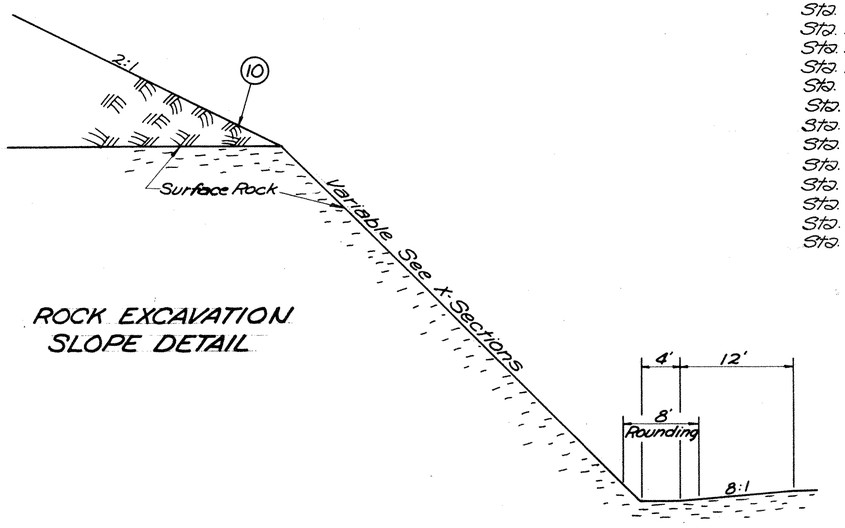
TYPICAL SECTIONS

TYPE 451
TYPE CODE 7221



NORMAL SECTION
Stationing Schedule

Sta. 1192+50 (S.B.L.) to Sta. 1196+00 (S.B.L.)
Sta. 1201+50 (S.B.L.) to Sta. 1206+50 (S.B.L.)
Sta. 1213+50 (N.B.L.) to Sta. 1220+25 (N.B.L.)
Sta. 1224+50 (N.B.L.) to Sta. 1225+25 (N.B.L.)
Sta. 1225+25 (Both Lanes) to Sta. 1259+75 (Both Lanes)
Sta. 1259+75 (S.B.L.) to Sta. 1260+75 (S.B.L.)
Sta. 8+80 (S.B.L.) to Sta. 9+25 (S.B.L.)
Sta. 9+25 (Both Lanes to Sta. 17+50 (Both Lanes)
Sta. 17+50 (N.B.L.) to Sta. 18+50 (N.B.L.)
Sta. 22+50 (Both Lanes) to Sta. 34+50 (Both Lanes)
Sta. 53+03.06 (Both Lanes) to Sta. 55+50 (Both Lanes)
Sta. 55+50 (N.B.L.) to Sta. 58+50 (N.B.L.)
Sta. 68+50 (S.B.L.) to Sta. 74+00 (S.B.L.)
Sta. 105+50 (S.B.L.) to Sta. 111+00 (S.B.L.)
Sta. 106+50 (N.B.L.) to Sta. 108+50 (N.B.L.)



ROCK EXCAVATION SLOPE DETAIL

(1) T-71 9" Reinforced Portland Cement Concrete Pavement.

(2) I-22 Variable Depth Subbase, Grading "A" or "B" Modified as Per General Note.

* (2A) I-22 Variable Depth Subbase, Regular Grading.

(3) Special Drainage Connection, Using No. 6 Aggregate. (See Detail Sht. # 4)

** (4) B-21 3" Waterproofed Aggregate Base Course (See note in Proposal).

(5) B-19 (Variable Depth) Aggregate Base Course.

(6) I-31 Bituminous Surface Treatment - Consisting of One Application as follows: 0.008 Cu. Yd. No. 6 Aggregate and 0.25 Gal. Bituminous Material Per Square Yard (See Note in Proposal).

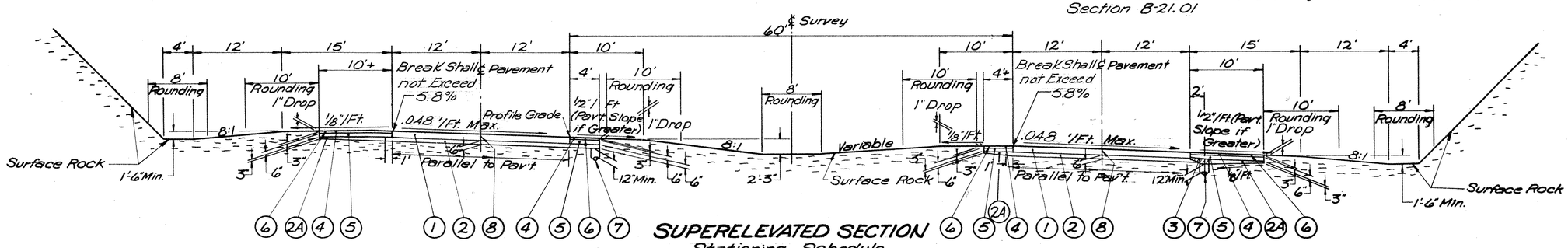
(7) I-1 6" Pipe Class I-3. Sec. M-6.4 (h).

(8) Standard Longitudinal Joint.

(10) L-9 Seeding and Protecting.

* Subbase under Paved Shoulders shall meet the Grading Requirements of Regular Grading I-22. Limits for Regular Grading I-22 are from the Underdrain Trench (or One foot beyond the Slab Edge where Underdrains are not used) to the edge of Shoulder.

** Thickness shown is "Designed" Thickness as described in Section B-21.01



SUPERELEVATED SECTION
Stationing Schedule

\+ Transition - Not More Than 0.016'/Ft.
Sta. 34+50 (Both Lanes) to Sta. 35+63.88 (Both Lanes)

\+ Superelevated - 0.032'/Ft.
Sta. 1174+00 (N.B.L.) to Sta. 1175+00 (N.B.L.)
Sta. 84+00 (N.B.L.) to Sta. 89+00 (N.B.L.)

\+ Transition - 0.016'/Ft = 0.048'/Ft.
Sta. 1266+50 (N.B.L.) to Sta. 1267+00 (N.B.L.)
Sta. 1267+00 (Both Lanes) to Sta. 1267+50 (Both Lanes)
Sta. 0+25 (S.B.L.) to Sta. 0+50 (S.B.L.)
Sta. 35+63.88 (Both Lanes) to Sta. 37+25 (Both Lanes)

Superelevated 0.048'/Ft.
Sta. 1267+50 (Both Lanes) to Sta. 1279+88.48 = 0+00 (Both Lanes)
Sta. 0+00 (S.B.L.) to Sta. 0+25 (S.B.L.)
Sta. 37+25 (Both Lanes) to Sta. 44+75 (Both Lanes)

\+ For Details Concerning Shoulder Slope Construction For Pavement Slopes, other than shown (.048'/Ft. Max), Reference Shall be made to the Appropriate Typical Section Shown on Sheets 4 & 5.

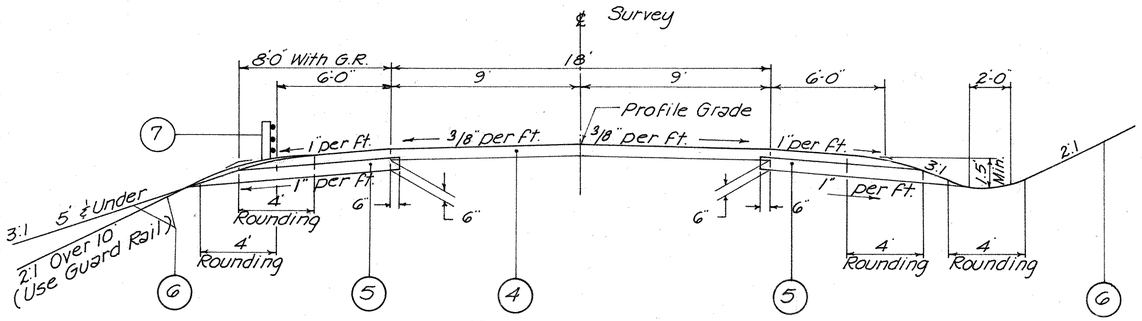
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

7/230

GUE - 77 - 22.59
TUS - 77 - 0.00

TYPE B-19

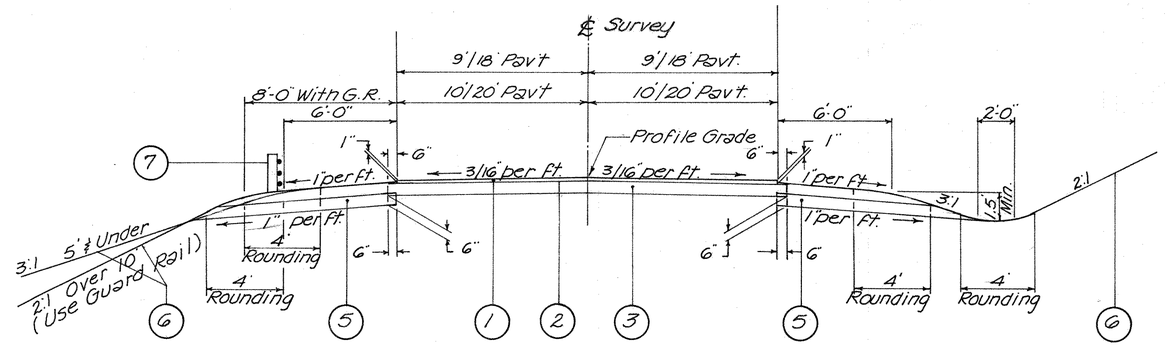


NORMAL SECTION

18' Pav't.
T.R. 112

See Superelevation Tables Sheet No. 20

TYPE T-35 ON B-19

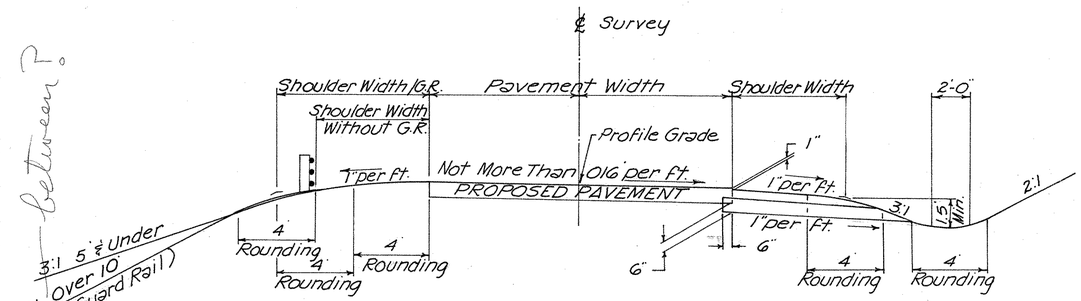


NORMAL SECTION

Stationing Schedule

18' Pav't
T.R. 218
Sta. 38+50 to Sta. 44+50 ±
Sta. 50+72.34 to Sta. 53+50

20' Pav't
C.R. 3
Sta. 36+50 to Sta. 41+60
Sta. 54+15 to Sta. 54+85
Sta. 62+90 to Sta. 63+50

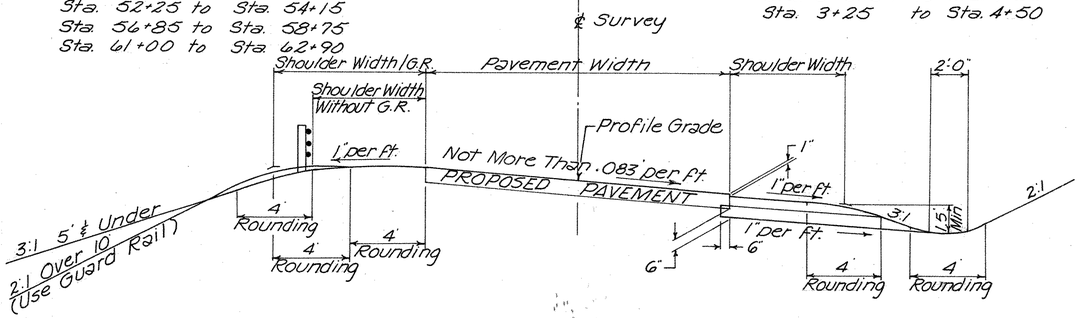


TRANSITION SECTION

See Superelevation Tables Sheet No. 20

Stationing Schedule
C.R. 3
Sta. 41+60 to Sta. 43+50
Sta. 52+25 to Sta. 54+15
Sta. 56+85 to Sta. 58+75
Sta. 61+00 to Sta. 62+90

Stationing Schedule
T.R. 112
Sta. 0+51.37 to Sta. 1+25
Sta. 3+25 to Sta. 4+50

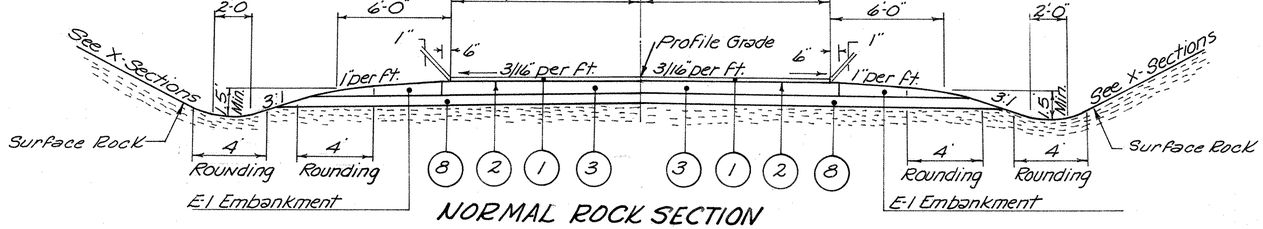


SUPERELEVATION SECTION

See Superelevation Tables Sheet No. 20
Stationing Schedule

C.R.3
Sta. 43+50 to Sta. 52+25
Sta. 58+75 to Sta. 61+00

T.R.112
Sta. 1+25 to Sta. 3+25



NORMAL ROCK SECTION

18' Pav't.
T.R. 218
Stationing Schedule
Sta. 44+50± to Sta. 47+70.28

(1)	T-35	1 1/2" Asphaltic Concrete Surface Course Type A (85-100)
(2)	T-30	Bituminous Prime Coat, Sec. M-5.7, Rt. 2 or Rt. 3, Applied At The Rate of 0.40 Gal. Per Sq. Yds.
(3)	B-19	8" Aggregate Base Course
(4)	B-19	8" Aggregate Base Course, With Application of Calcium Chloride as per 616.02
(5)	I-9	Stone Underdrains No. 2 (For Spacing See General Notes)
(6)	L-9	Seeding And Protecting
(7)	I-15	Guard Rail, wire cable, Type (3 Cables)
(8)	I-22	6" Subbase, Regular Grading.

Note: All thicknesses of T-35 Shown are designed thicknesses as described in T-35.01

GENERAL NOTES

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SPECIFICATIONS

ALL ITEMS APPEARING THROUGHOUT THE PLANS THAT ARE INDICATIVE OF THE 1963 STATE OF OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION AND MATERIAL SPECIFICATIONS ARE TO BE USED FOR REFERENCE PURPOSES ONLY. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 1965 STATE OF OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CROSS REFERENCES TO THE 1965 SPECIFICATIONS ARE SHOWN ON THE GENERAL SUMMARY SHEETS 18, 19, 19A AND 19B.

FIELD OFFICE

THE CONTRACTOR SHALL, IN ADDITION TO THE REQUIREMENTS OF 105.152, PROVIDE FOR THE EXCLUSIVE USE OF THE DEPARTMENT, A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 500 SQ. FT. OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED IN THIS FIELD OFFICE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND INSTALL WIRING AND OUTLETS SUITABLE FOR CONNECTING ELECTRIC LIGHTS AND OFFICE EQUIPMENT IN THE FIELD OFFICE AND PROVIDE 110-VOLT ALTERNATING CURRENT TO THE OFFICE DURING THE ENTIRE PERIOD OF CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM BID FOR FIELD OFFICE.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

DESIGN SPEED

THE GEOMETRICS FOR THIS PROJECT HAVE BEEN PLANNED FOR A DESIGN SPEED OF 70 MILES PER HOUR.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO MAKES NO GUARANTEES AS TO THEIR ACCURACY OR COMPLETENESS.

UTILITIES

THE CONTRACTOR SHALL NOTIFY AT LEAST TWO WORKING DAYS BEFORE BREAKING GROUND ALL PUBLIC OR PRIVATE UTILITIES HAVING WIRE, POLES, PIPE, CONDUITS, MANHOLES OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED AND NOT SHOWN ON THESE PLANS. ANY OR ALL WORK REQUIRED FOR PUBLIC OR PRIVATE UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS, UNLESS OTHERWISE NOTED ON THESE PLANS.

THE FOLLOWING IS A LIST OF UTILITIES WITHIN THE LIMITS OF THIS PROJECT:

OHIO POWER COMPANY, 301 CLEVELAND AVENUE, S.W.,
CANTON 2, OHIO
OHIO BELL TELEPHONE COMPANY, 840 ORCHARD STREET,
ZANESVILLE, OHIO
GUERNSEY MUSKINGUM ELEC. CORP., 27 E. MAIN STREET,
NEW CONCORD, OHIO
OHIO FUEL GAS COMPANY, 99 NO. FRONT STREET,
COLUMBUS 15, OHIO
ALLEGHENY PIPE LINE COMPANY
c/o TEXAS EASTERN TRANSMISSION CORP.
MECHANICSBURG, PA.

CONSTRUCTION LAYOUT STAKES

SEE NOTE IN PROPOSAL DESCRIBING THE WORK INCLUDED IN THIS LUMP SUM PAY ITEM.

SUPERELEVATION

SUPERELEVATED CURVES SHALL BE BUILT WITHOUT CROWN. THE CROWN SHALL BE WORKED OUT OF THE PAVEMENT IN THE PORTION BETWEEN THE BEGINNING OF THE TRANSITION AND THE POINT WHERE THE SUPERELEVATION EQUALS TWICE THE CROWN.

COOPERATION OF CONTRACTOR

IN ADDITION TO THE REQUIREMENTS OF 105.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT THE CULVERT AT STA.114+11 AND THE EMBANKMENT BETWEEN STA. 113+00 TO STA. 115+70 (END WORK) TO SUBGRADE ELEVATION, WHEN DIRECTED BY THE ENGINEER.

SOIL FOUNDATION AREAS

The initial fill layer over the flat lying bottom ground shall be constructed of rock as described in 203.02 from roadway excavation as shown on the cross sections between the following Stations:

1178+00	*1201+00*
48+40	*49+90*

The rock shall be placed in a single 18" lift by the method of end-dumping. Rock which cannot be incorporated in an 18" layer shall be reduced in size or excluded from this portion of the fill. Within these limits the embankment foundation should be cleared and grubbed but need not be scalped prior to placement of the rock layer. Cost of furnishing and placing the rock layer shall be included in the price bid for Item 203 Roadway Excavation including Embankment Construction. Above the initial 18" layer, the embankment shall be constructed in accordance with 203.07 to 203.12 inclusive.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS SECTIONS ON THIS PLAN INDICATE SPECIFIC WIDTHS AND DEPTHS OF PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED AND ALL OTHER SLOPED FOUNDATION AREAS SHALL BE BENCHED AS SET FORTH IN 203. 09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED BY THE PROVISIONS OF 203.09.

ITEM 203 PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE IN ITEM 203 PROOF ROLLING OF SUBGRADE ON THE MAINLINE AND PAVED SHOULDERS, *in accordance with Supplemental Specification 801.*

REMOVAL OF TREES AND STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

NUMBER & SIZES OF TREES & STUMPS

SIZES	NO. TREES	NO. STUMPS
18"	692	1
30"	0	0
48"	1	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING.

SPACING OF GUARD RAIL POSTS FOR TYPE 1 GUARD RAIL

WHERE TYPE 1 GUARD RAIL ON TANGENT ALIGNMENT, IS CALLED FOR ON THE PLANS, POSTS SHALL BE SPACED SO THAT THE OUTER EDGES OF THE OFFSET BRACKETS WILL BE 16 FEET ON CENTERS.

ITEM 601 RIPRAP, 6" REINFORCED CONCRETE SLAB, AS PER PLAN
Cut-off walls as detailed on the plans shall be provided and payment therefor shall be included in the unit price for this item.

SEEDING AND PROTECTION

QUANTITIES FOR SEEDING ITEM 659, ARE CALCULATED FOR THE MAINLINE SOIL AREAS BETWEEN THE RIGHT-OF-WAY FENCE LINES, BETWEEN THE RIGHT-OF-WAY LINES IN UNFENCED AREAS, AND WITHIN THE WORK LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. BACK SLOPES IN ROCK WILL NOT BE SEEDED.

QUANTITIES FOR SEEDING, RELOCATED T.R. 218, RELOCATED C.R. 3 AND RELOCATED T.R. 112, ARE CALCULATED FOR SOIL AREAS BETWEEN THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS. ALL AREAS OUTSIDE THESE LIMITS WHERE THE VEGETATIVE GROWTH HAS BEEN INJURIOUSLY DISTURBED OR DESTROYED BY THE CONTRACTOR SHALL BE RESTORED AND SEEDED IN ACCORDANCE WITH THE PROVISIONS OF 107.12 BY THE CONTRACTOR AT HIS OWN EXPENSE. BACK SLOPES IN ROCK WILL NOT BE SEEDED.

TREATMENT OF EXISTING AGGREGATE PAVEMENT OUTSIDE NORMAL CONSTRUCTION LIMITS

THE EXISTING ROADWAY SHALL BE PLOWED, HARROWED AND DRAGGED TO A SMOOTH GRADE, THE OLD DITCHES FILLED, AS DIRECTED BY THE ENGINEER AND THE ENTIRE AREA SLOPED TO DRAIN AND LEFT IN A NEAT CONDITION READY FOR SEEDING. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION. SEEDING SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM 659, SEEDING & MULCHING.

ITEM 659 COMMERCIAL FERTILIZER

ALL AREAS TO BE SEEDED UNDER ITEM 659 OR SODDED UNDER ITEM 660 SHALL HAVE COMMERCIAL FERTILIZER 12-12-12, APPLIED AT THE RATE OF 20 POUNDS PER 1000 SQUARE FEET.

ITEM 659 AGRICULTURAL LIMING MATERIAL

ALL AREAS TO BE SEEDED UNDER ITEM 659 OR SODDED UNDER ITEM 660 SHALL HAVE AGRICULTURAL LIMING MATERIAL APPLIED AT THE RATE OF 100 POUNDS PER 1000 SQUARE FEET.

RIGHT-OF-WAY FENCE

THE LOCATIONS OF RIGHT-OF-WAY FENCE POSTS AS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED, AS DIRECTED BY THE ENGINEER, TO SUIT FIELD CONDITIONS.

ITEM 310 UNDER APPROACH SLABS

THE AREA BETWEEN THE SUBGRADE AND THE APPROACH SLAB SHALL BE FILLED WITH 6" OF ITEM 310 SUBBASE.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS
The rounded corners shown on Standard Drawing MC-1, as modified by the typical sections, apply to all cross sections, even though otherwise shown on these plans.

ITEM 310 SUBBASE, GRADING A OR B, AS PER PLAN
Material for this item shall meet the requirements of grading A or B of 310.02 except that for either grading, no more than 10% of the material shall pass a No. 200 sieve after all operations of placing and compacting have been completed.

C.&E.

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SPRING DRAINS

REFERENCE IS MADE TO THE DETAILED DRAWING ON SHEET NO. 169 SHOWING THE METHOD OF DRAINING ANY SPRINGS THAT MAY BE SHOWN ON THE PLAN OR ENCOUNTERED DURING CONSTRUCTION AS DETERMINED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 1-1	6" PIPE CLASS 1-3 SEC.M-6.4(h) AS PER PLAN	1000 LIN.FT.
ITEM 1-9	STONE UNDERDRAINS, NO. 1	15 LIN.FT.

THE CONTRACTOR SHALL NOT ORDER MATERIALS FOR "SPRING DRAINS" UNTIL AUTHORIZED BY THE ENGINEER AND IN THE EVENT NO SPRINGS ARE ENCOUNTERED, THE ITEM SHALL BE NON-PERFORMED.

REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

ITEM 605 AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS AND AT TWENTY-FIVE (25) FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS, EXCEPT WHERE ITEM 605 PIPE UNDERDRAINS HAVE BEEN PROVIDED.

A STONE UNDERDRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

BITUMINOUS COATED CORRUGATED METAL STRUCTURES

THE METAL PLATES THAT ARE INCORPORATED INTO THE LOWER 1/4 OF SECTIONAL PLATE STRUCTURES (SEE CULVERT DETAILS SHEET NOS. 178 AND 182) SHALL BE SHOP COATED IN ACCORDANCE WITH 707.04. THE REMAINDER OF THE PLATES NEED NOT BE BITUMINOUS COATED.

AFTER INSTALLATION OF THE STRUCTURES, DAMAGED OR WORN SPOTS IN THE BITUMINOUS COATING ON THE INSIDE OF THE STRUCTURES SHALL BE RECOATED USING MATERIALS AND METHODS RECOMMENDED BY THE MANUFACTURER AND AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603 CONDUIT.

ITEM 601 RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

CUT-OFF WALLS AS DETAILED ON THE PLANS SHALL BE PROVIDED AND PAYMENT THEREFORE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

FARM DRAINS (SEE DETAIL ON SHEET 169)

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS AND WHICH CROSS THE ROADWAY SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS BY ITEM 603 CONDUIT, TYPE B WITH CLASS "B" BEDDING, *one commercial size larger than the existing conduit.*

EXISTING COLLECTORS AND ISOLATED FARM DRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY A COLLECTOR (603 TYPE E CONDUIT) AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING. IF THE COLLECTOR PIPE CROSSES PROPERTY LINES ENROUTE TO AN OUTLET, THE COLLECTOR SHALL BE INSTALLED BY THE CONTRACTOR WITHIN THE RIGHT-OF-WAY LIMITS AND SHALL BE PART OF THIS CONTRACT. IF THE COLLECTOR PIPE DOES NOT CROSS PROPERTY LINES ENROUTE TO AN OUTLET, THE COLLECTOR SHALL BE INSTALLED BY OTHERS OUTSIDE THE RIGHT-OF-WAY LIMITS AND THE COST OF SUCH WORK SHALL BE INCLUDED IN THE RIGHT-OF-WAY SETTLEMENT.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 1-1	6" PIPE CLASS B-1	100 LIN.FT.
ITEM 1-1	8" PIPE CLASS B-1	100 LIN.FT.
ITEM 1-1	10" PIPE CLASS B-1	100 LIN.FT.
ITEM 1-1	6" PIPE CLASS F-4	100 LIN.FT.
ITEM 1-1	8" PIPE CLASS F-4	100 LIN.FT.
ITEM 1-1	10" PIPE CLASS F-4	100 LIN.FT.
ITEM 1-1	6" PIPE CLASS H-2	100 LIN.FT.
ITEM 1-1	8" PIPE CLASS H-2	100 LIN.FT.
ITEM 1-1	10" PIPE CLASS H-2	100 LIN.FT.
ITEM 1-5	6" PIPE SPECIALS CLASS H-2	5 EACH
ITEM 1-5	8" PIPE SPECIALS CLASS H-2	5 EACH
ITEM 1-5	10" PIPE SPECIALS CLASS H-2	5 EACH
ITEM 1-10	DUMPED ROCK CHANNEL PROTECTION	10 CU.YDS.

ANY NECESSARY PIPE SPECIALS SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

None of the above materials shall be ordered by the Contractor until requested by the Engineer.

SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEMS WITHIN THE INTERSTATE LIMITED ACCESS RIGHT-OF-WAY

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY EXISTING OR NEW DRAINAGE INTO THE HIGHWAY DRAINAGE SYSTEM WHEN SUCH DRAINS CARRY FLOW FROM ANY PLUMBING FIXTURES INCLUDING FLOOR DRAINS AND SINK DRAINS OR DRAINS FROM LIVESTOCK LOTS OR BARNS OR POLLUTED WATER OF ANY KIND.

EXISTING PIPE CARRYING FLOW WHICH COMES WITHIN THE CATEGORY OUTLINED ABOVE SHALL BE PLUGGED WITH CLASS E CONCRETE AT THE RIGHT-OF-WAY LINE. PAYMENT FOR SAID PLUGGING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION.

ESTIMATED QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. THESE QUANTITIES ARE NOT TO BE ORDERED FOR THE PROJECT UNLESS APPROVED BY THE ENGINEER.

STANDARD CONSTRUCTION DRAWINGS

THROUGHOUT THE PLANS REFERENCE IS MADE TO STANDARD CONSTRUCTION DRAWINGS THAT ARE INDICATIVE OF THE 1963 STATE OF OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION AND MATERIAL SPECIFICATIONS, WHICH ARE TO BE USED FOR REFERENCE PURPOSES ONLY. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 1965 STANDARD CONSTRUCTION DRAWINGS. LISTED BELOW ARE THE CROSS REFERENCES TO THE 1965 STANDARD CONSTRUCTION DRAWINGS.

1963	1965
B-T-70-71	BP-1
B-T-71-R	BP-2
L.J. No.1	BP-3
T.J.	BP-4
T-35	BP-5
DR-1	BP-6
R-1	MC-1
G-7.07	MC-3
I-1	MC-4
I-14G	MC-5
F-1	F-1
F-2	F-2
F-3	F-3
F-4	F-4
HW No.1	HW-1
HW No.2	HW-2
HW No.3	HW-3
HW-E	HW-E
SP-53	SP-53
I-8 C.B. 2-2-A & B	CB 2-2-A & B
I-8 C.B. No.4	CB-4
I-8 C.B. No.5	CB-5
I-8 M.H. No.1	MH-1
I-15 No. 1	GR-1
I-15 No. 2	GR-2
I-15 No. 2-A	GR-2A
I-15 No. 5-B	GR-5B
L-1	L-1

SUPPLEMENTAL SPECIFICATIONS

CE-101.04	801
L-120	*Item 667*
I-125	*Item 621*
I-127	*Item 620*

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MAINTENANCE OF TRAFFIC

T.R. NO. 218
TWO-WAY TRAFFIC SHALL BE MAINTAINED WITHIN THE WORK LIMITS AT ALL TIMES EXCEPT THAT BETWEEN MAY 15 AND SEPT. 5, IT MAY BE CLOSED TO THROUGH TRAFFIC. THE CONTRACTOR SHALL SO ARRANGE HIS WORK THAT ALL CONSTRUCTION SHALL BE COMPLETED DURING THIS INTERVAL; AFTER WHICH TIME THE ROAD SHALL BE RE-OPENED TO TRAFFIC. A TEMPORARY DETOUR WILL BE PROVIDED OVER OTHER COUNTY ROADS, BY THE COUNTY, DURING THE CONSTRUCTION ON T.R. NO. 218.

C.R. NO. 3 AND T.R. NO. 112
TWO-WAY TRAFFIC SHALL BE MAINTAINED WITHIN THE WORK LIMITS AT ALL TIMES EXCEPT DURING THE PERIOD BETWEEN THE DATES OF JUNE 1 TO SEPTEMBER 1, WHEN COUNTY ROAD NO. 3 AND TOWNSHIP ROAD NO. 112 MAY BE CLOSED TO TRAFFIC. THE CONTRACTOR SHALL SO ARRANGE HIS WORK THAT ALL CONSTRUCTION SHALL BE COMPLETED AND THESE ROADS RE-OPENED TO TRAFFIC AFTER THIS INTERVAL. A TEMPORARY DETOUR WILL BE PROVIDED OVER OTHER COUNTY ROADS, BY THE COUNTY, DURING THE CONSTRUCTION ON COUNTY ROAD NO. 3 AND TOWNSHIP ROAD NO. 112.

T.R. NO. 218 AND C.R. NO. 3 WILL NOT BE CLOSED TO TRAFFIC AT THE SAME TIME.

LIGHT AND SIGNS AT ADJACENT ROAD INTERSECTIONS

THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 ON THIS PROJECT, PERFORM THE FOLLOWING:

PROVIDE, ERECT AND MAINTAIN STANDARD 48" x 30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS, AND LIGHTS AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

(1) T.R. NO. 218 AT ITS INTERSECTION WITH T.R. NO. 131 AND ITS INTERSECTION WITH T.R. NO. 130.

(2) C.R. NO. 3 AT ITS INTERSECTION WITH T.R. NO. 131 AND C.R. NO. 2 AND AT ITS INTERSECTION WITH T.R. NO. 115 AND THE INTERSECTION OF T.R. NO. 9 WITH T.R. NO. 4

(3) T.R. NO. 112 AT ITS INTERSECTION WITH C.R. NO. 4.

SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING LIGHTS, SIGNS AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 614 MAINTAINING TRAFFIC".

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

TEMPORARY ROADWAYS

TEMPORARY ROADWAYS SHALL BE SURFACED WITH ITEM 410 AGGREGATE AND STABILIZED WITH ITEM 616 CALCIUM CHLORIDE. ITEMS 616 AND 410 SHALL BE APPLIED WHERE DIRECTED AND IN AMOUNTS REQUESTED BY THE ENGINEER.

USE OF TEMPORARY ROADWAYS

THE LIMITS AND DURATION OF USE OF TEMPORARY ROADWAYS SHALL BE HELD TO AN ABSOLUTE MINIMUM AND IN ALL CASES SHALL BE SUBJECTED TO THE APPROVAL OF THE ENGINEER.

THE ESTIMATED QUANTITIES FOR TEMPORARY TRAFFIC LANES AND DRIVES ARE AS FOLLOWS:

T-10 TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC	50 CU. YDS.
T-10 MODIFIED TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC	150 CU. YDS.
1-4 CALCIUM CHLORIDE FOR DUST CONTROL	2 TONS
1-4 WATER FOR DUST CONTROL	10 M-GAL.

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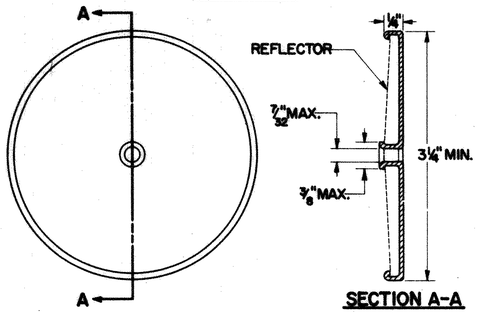
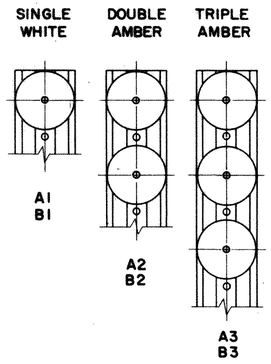
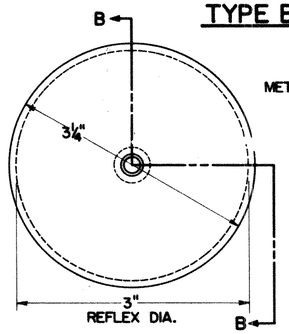
TYPE A

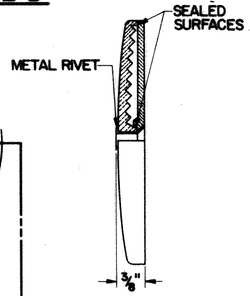


SECTION A-A



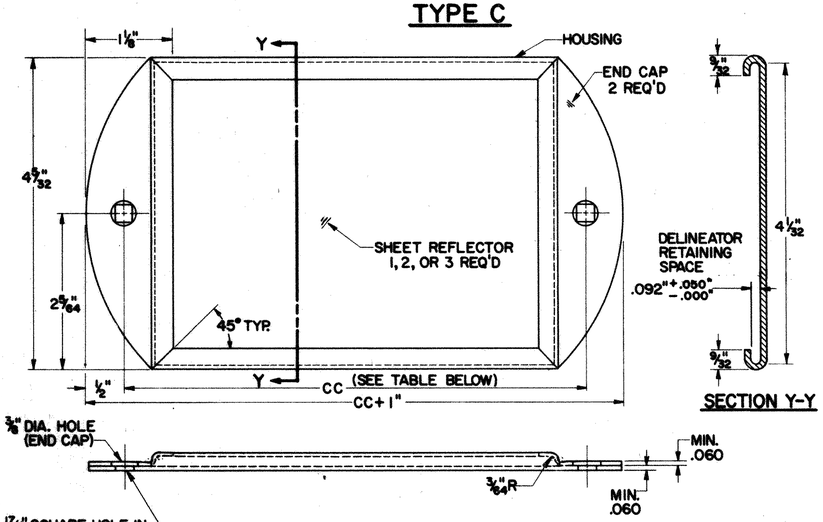
TYPE B





SECTION B-B

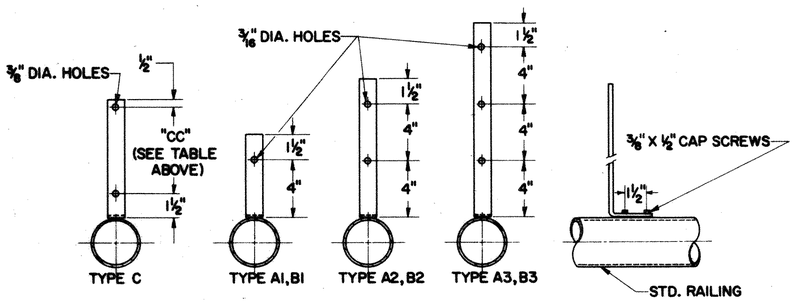
TYPE C



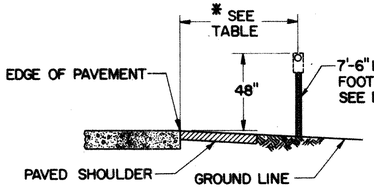
SECTION Y-Y

TYPE	DIM. CC
C1-SINGLE WHITE	6"
C2-DOUBLE AMBER	11"
C3-TRIPLE AMBER	16"

ALL BRACKETS 1/4" X 1 1/4" STAINLESS STEEL



BRIDGE RAIL BRACKET

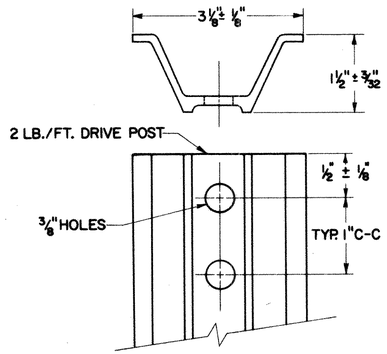


LATERAL PLACEMENT OF DELINEATORS

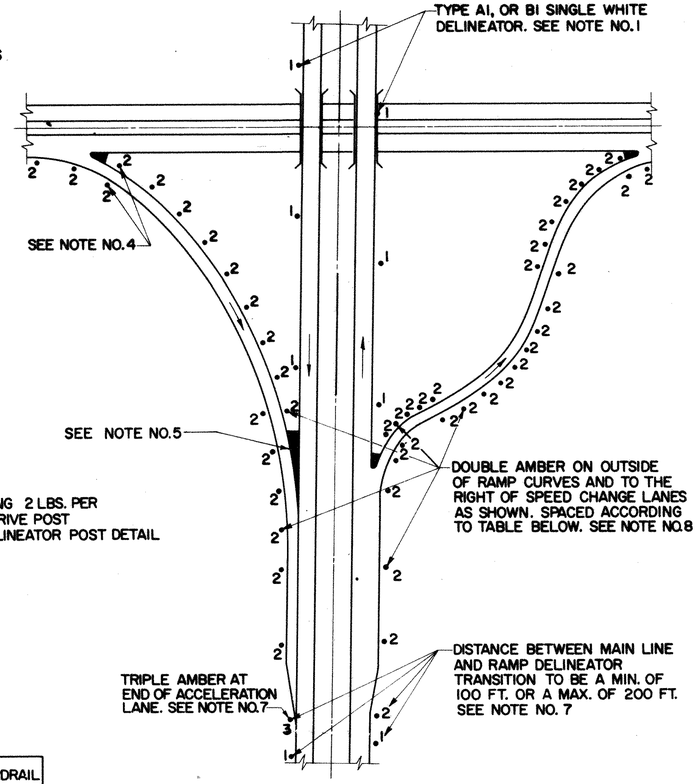
* TABLE

TYPE DELINEATOR	NO GUARDRAIL	GUARDRAIL
SINGLE WHITE	12'-6"	6" OUTSIDE
DOUBLE AMBER RIGHT SIDE	** 8'-6"	6" OUTSIDE
DOUBLE AMBER LEFT SIDE	4'-6"	6" OUTSIDE
TRIPLE AMBER	12'-6"	6" OUTSIDE

** THIS DIMENSION SHALL VARY ON SPEED CHANGE LANES TO MAINTAIN MINIMUM DISTANCE OF 2'-6" FROM EDGE OF PAVED SHOULDER.



DELINEATOR POST



TYPICAL DELINEATOR PLACEMENT

NOTES

1. TYPE A1 OR B1 DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES, BEGINNING AT STA. +00, +25, +50, OR +75.
2. DELINEATORS SHALL BE FURNISHED AND ERECTED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION NO. I-127, (1-15-62).
3. PAYMENT FOR SUPPORTS (DRIVEPOST OR BRACKET) SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR "ITEM I-127 DELINEATORS".
4. WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.
5. NO DELINEATORS ARE TO BE PLACED IN PAVED BERM.
6. WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.
7. RAMP DELINEATOR AT END OF ACCELERATION & BEGINNING OF DECELERATION LANES TO BE A MAXIMUM OF 5' FROM POINT OF TANGENCY AT MAIN LINE.
8. ALL RAMP DELINEATORS SHALL BE PLACED TO THE NEAREST 5' INCREMENTS, SUCH AS +05, +10, +15. +20 AND SO ON.

DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

RADII, FT. FROM	RADII, FT. TO	SPACING ON CURVE	* TRANSITION SPACING	
TANGENT	1,801	100'	100'	100'
1,800	1,401	80'	100'	100'
1,400	1,001	70'	100'	100'
1,000	751	60'	100'	100'
750	551	50'	80'	100'
550	326	40'	70'	100'
325	———	30'	60'	100'

* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

DELINEATOR DETAILS	I-127	DATE 9-25-62 10-2-63

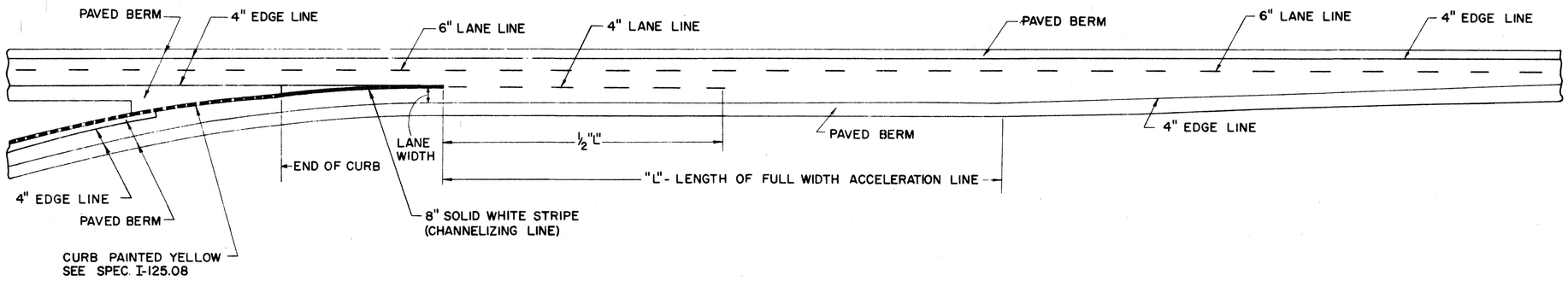
APPROVED Robert E. Homer
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

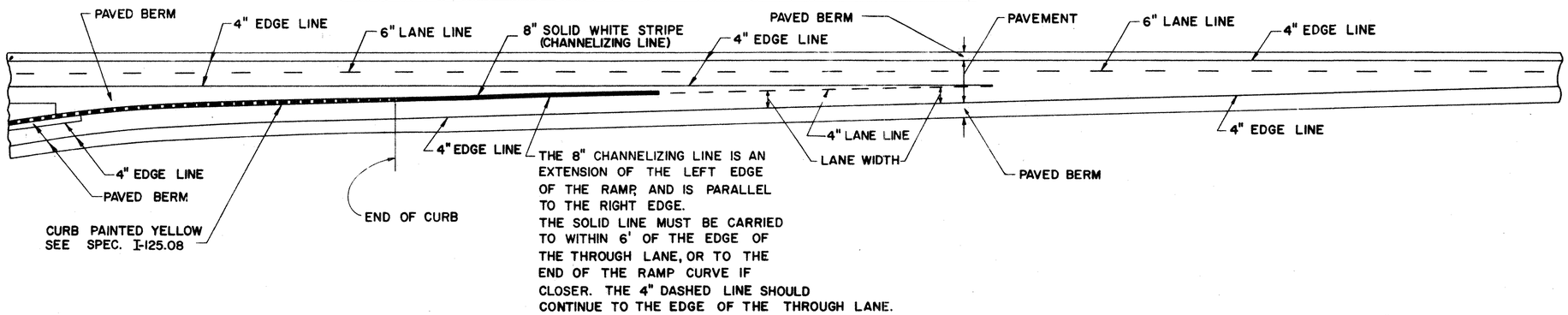
12/230

GUE-77-22.59
TUS-77-0.00

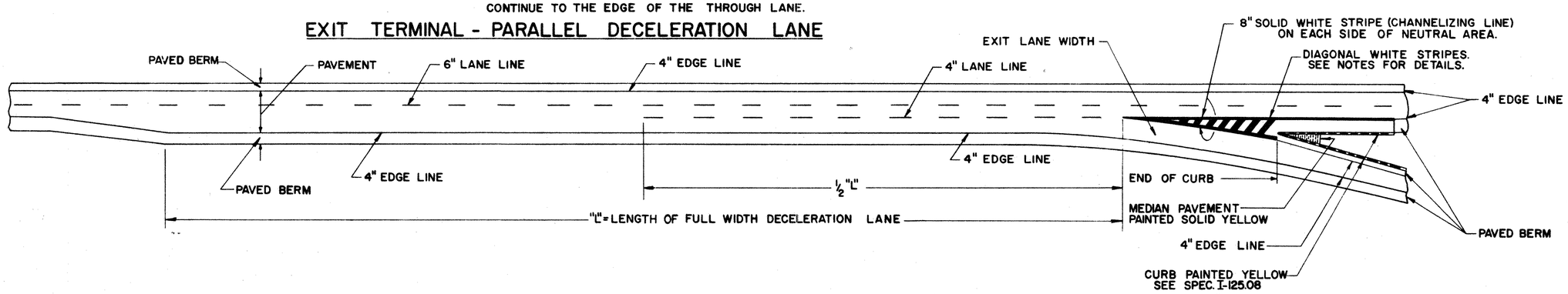
ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE



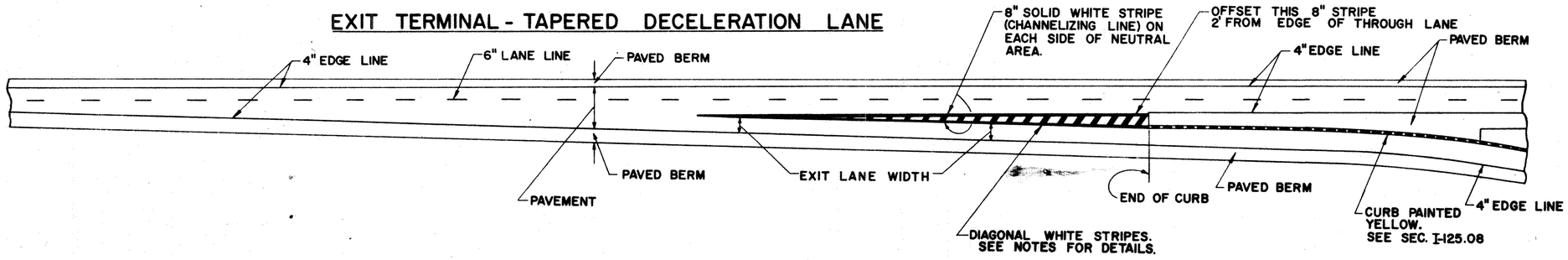
ENTRANCE TERMINAL - TAPERED ACCELERATION LANE



EXIT TERMINAL - PARALLEL DECELERATION LANE



EXIT TERMINAL - TAPERED DECELERATION LANE



NOTES

EDGE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. I-125 AND DEFINED IN SECTION I-125.06.

LANE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. I-125 AND DEFINED IN SECTION I-125.07.

CHANNELIZING LINES SHALL BE CONTINUOUS WHITE BEADED STRIPES 8" IN WIDTH PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. I-125 AND DEFINED IN SECTION I-125.07 b.

DIAGONAL STRIPES IN EXIT RAMP MARKINGS SHALL BE 2' WIDE WHITE BEADED STRIPES SET AT A 45° ANGLE TO THE CENTER LINE OF THE THROUGH PAVEMENT AND SLANTED IN THE DIRECTION OF THE FLOW OF TRAFFIC ON SAID PAVEMENT. SPACE BETWEEN THE 2' DIAGONAL STRIPES SHALL BE 6' AS MEASURED PARALLEL TO THE CENTER LINE OF THE THROUGH PAVEMENT. PAINT ON THE DIAGONAL STRIPES SHALL BE APPLIED AT THE RATE OF ONE GALLON TO EACH 100 SQUARE FEET AND GLASS BEADS SHALL BE APPLIED AT THE RATE OF SIX POUNDS PER GALLON OF PAINT. DIAGONAL WHITE STRIPES SHALL BE PLACED BETWEEN THE TWO 8" WHITE CHANNELIZING LINES AT EXIT RAMPS AS SHOWN TO CONFORM TO SUPPLEMENTAL SPECIFICATION No. I-125 AND DEFINED IN SECTION I-125.07 c.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

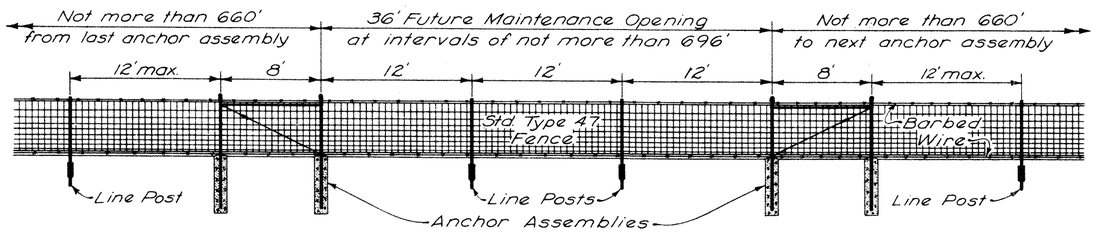
PAVEMENT MARKING	PM-1	DATE 7-17-61 4-6-62

APPROVED Robert E. Lower
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

13
230

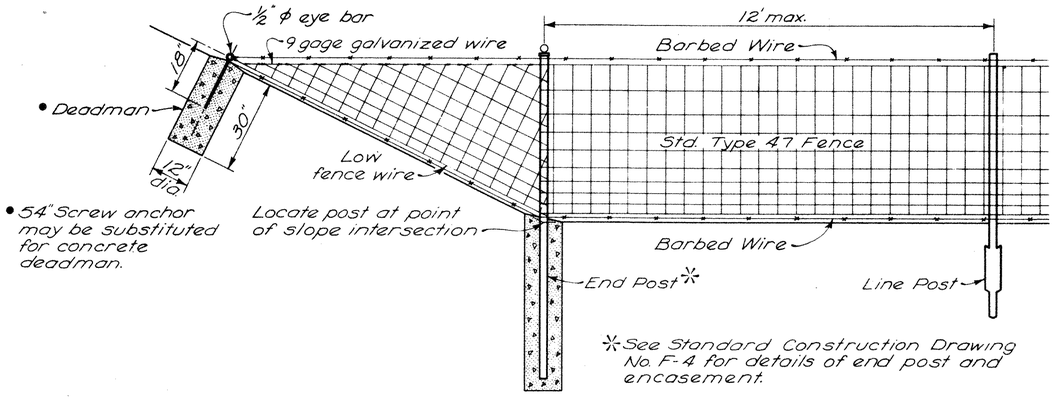
GUE-77-22.59
TUS-77-0.00



FUTURE MAINTENANCE OPENING

At locations where channels are located in channel easements, and fencing is provided between the channel and a freeway, at least one maintenance opening shall be provided as indicated above, and others at intervals of 696 feet if the length of the parallel channel exceeds 1800 feet.

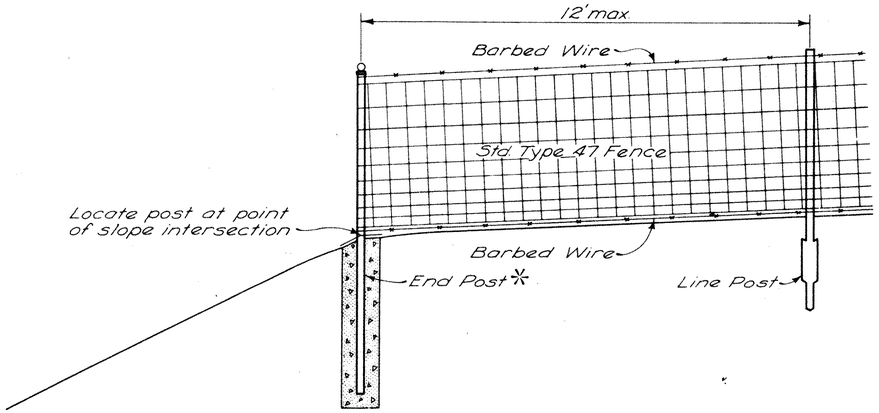
See Standard Construction Drawing No. F-4 for details of anchor assemblies.



FENCE TERMINAL AT TOE OF DEEP FILL SLOPE

NOTE

Barbed wire shall not be installed below fence fabric unless required on adjacent fencing.



FENCE TERMINAL AT TOP OF DEEP CUT SLOPE

COMPUTATIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

14/230

GUE-77-22.59
TUS-77-0.00

ROADWAY LENGTH GUE-77-22.59, TUS-77-0.00

	NORMAL LANES 2 @ 24' (Lin. Ft.)
Begin Project Sta. 1174+00	
Equation Sta. 1279+88.48 Bk. = Sta. 0+00.00 Ah.	10,588.48
End Project Sta. 114+50	11,450.00
Less Bridges and Approaches	- 168.88
TOTAL	21,869.60

T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

	SQUARE YARDS
Factor: (2 @ 24') 48'÷9 = 5.3333 Sq. Yds. per Lin. Ft.	
Normal Lanes = 5.3333 Sq. Yds. per Lin. Ft. × 21,869.60 Lin. Ft.	116,637
TOTAL	116,637

B-21 WATERPROOFED AGGREGATE BASE COURSE

	CUBIC YARDS
Factor: 2[(4'×10') × 0.25' × 1.0'÷27'] = 0.2593 Cu. Yds. per Lin. Ft.	
Normal Lanes = 0.2593 Cu. Yds. per Lin. Ft. × 21,869.60 Lin. Ft.	5,670.8
Adjacent to Approach Slabs 0.2593 Cu. Yds. per Lin. Ft. × 50 Lin. Ft.	13.0
U-Turn Median Opening	31.5
TOTAL	5,715

T-31 BITUMINOUS SURFACE TREATMENT

Consisting of one Application as Follows: 0.008 Cu. Yds. No. 6 Aggregate and 0.25 Gallons of Bituminous Material per Sq. Yd.

Converting Volumes B-21 to Areas
Area 3" B-21 = 5,715 Cu. Yds. × 36 in. per Yd. ÷ 3 in. = 68,580 Sq. Yds.

	CUBIC YARDS	GALLONS
Volume T-31 No. 6 Aggregate 68,580 × 0.008	548.6	
Volume T-31 Bituminous Material 68,580 × 0.25		17,145

ITEM SPECIAL DRAINAGE CONNECTIONS

Drainage Connector
- Normal Section 1.56 Sq. Ft.
- Transition & Superelevated Section 1.33 Sq. Ft. (Avg.)
- Normal Rock Section 1.91 Sq. Ft.

Volume:	CUBIC YARDS
15,745 Lin. Ft. × 1.56 Sq. Ft. ÷ 27 Cu. Ft. per Cu. Yd.	910
6,859 Lin. Ft. × 1.33 Sq. Ft. ÷ 27 Cu. Ft. per Cu. Yd.	338
14,721 Lin. Ft. × 1.91 Sq. Ft. ÷ 27 Cu. Ft. per Cu. Yd.	1,041
TOTAL	2,289

E-1 COMPACTED SUBGRADE

	SQUARE YARDS
Under 9" T-71 Pavement	116,637
Beneath Mainline Shoulders (See T-31 Computations)	68,580
Approach Slabs = (50' × 24' ÷ 9) × 2	267
Deduction for Areas in Rock Cut 20,249 Lin. Ft. × 38' ÷ 9	- 85,496
Sideroads (See Sheet No. 17)	8,582
TOTAL	108,570

SS CE-101.04 COMPACTION USING HEAVY PNEUMATIC TIRED ROLLER

	HOURS
Area 9" T-71 Pavement and Approach Slabs 116,904 Sq. Yds.	
Deduction for Areas in Rock Cut 20,249 Lin. Ft. × 24' ÷ 9 - 53,997 Sq. Yds.	
TOTAL 62,907 Sq. Yds.	
62,907 Sq. Yds. ÷ 2000 Sq. Yds. per Hour	31
Additional Proofrolling time for Mainline Shoulders (1965 Specifications) } 68,580 Sq. Yds. - 31,498 Sq. Yds. (Rock Cut) / 2,000	19

B-19 AGGREGATE BASE COURSE

Area of B-21 3 in. Depth = 68,580 Sq. Yds. (See T-31 Computation)

	CUBIC YARDS
Volume B-19 = 68,580 Sq. Yds. × 6 in. ÷ 36 in. per Yd.	11,430
Deduction for Special Drainage Connector = 37,325 Lin. Ft. × (1.2 in. × 2.75 ft. ÷ 2) ÷ 12 in. per Ft. × 27 Cu. Ft. per Cu. Yd.	- 317
Sideroads (See Sheet No. 17)	2,155
Drives (See Sheet No. 17)	199
TOTAL	13,467

I-22 SUBBASE

I-22 End Areas for Pavement and Paved Berm
1. Normal Section 18.19 Sq. Ft. 1 Lane
2. Transition Section not more than 0.016 ft/ft 34.97 Sq. Ft. 2 Lanes
3. Superelevated Curve 0.032 ft/ft 35.07 Sq. Ft. 2 Lanes
4. Superelevated Curve 0.048 ft/ft 35.16 Sq. Ft. 2 Lanes
5. Normal Section (Rock) 23.50 Sq. Ft. 1 Lane

	CUBIC YARDS TOTAL	MODIFIED	REGULAR
Volume I-22 Subbase			
1. 14,505 Lin. Ft. × 18.19 Sq. Ft. ÷ 27 Cu. Ft. per Cu. Yd.	9,772.0		
1 & 2. 398.11 Lin. Ft. × [(2 × 18.19 Sq. Ft. + 34.97 Sq. Ft.) ÷ 2] ÷ 27	790.2		
2 & 3. 113.88 Lin. Ft. × [(34.97 Sq. Ft. + 2 × 23.50 Sq. Ft.) ÷ 2] ÷ 27	172.8		
2 & 3. 304.65 Lin. Ft. × [(34.97 Sq. Ft. + 35.07 Sq. Ft.) ÷ 2] ÷ 27	395.1		
3. 3000 Lin. Ft. × 35.07 Sq. Ft. ÷ 27	3,896.6		
2 & 4. 642.54 Lin. Ft. × [(34.97 Sq. Ft. + 35.16 Sq. Ft.) ÷ 2] ÷ 27	834.5		
4. 2,538.48 Lin. Ft. × 35.16 Sq. Ft. ÷ 27 Cu. Ft. per Cu. Yd.	3,305.6		
5. 14,938.88 Lin. Ft. × 23.50 Sq. Ft. ÷ 27 Cu. Ft. per Cu. Yd.	13,002.3		
TOTALS	32,169	26,379	5,790 *
U-Turn Median Opening			63
Sideroads (See Sheet No. 17)			214
GRAND TOTAL		26,379	6,067

* Estimated 18.0% Total I-22 is Regular Grading

L-9 SEEDING & FERTILIZER

	SEEDING Sq. Yds.		FERTILIZER (12-12-12) .00009 Tons per Sq. Yd.
Mainline	691,478		
Sideroads & Drives	52,123		
	743,601	× .00009	66.92
Sod	1,968	× .00009	.18
TOTAL			67.10 TONS

L-9 AGRICULTURAL LIMING MATERIAL

	TONS
Rate 100 Lbs. per 1000 Sq. Ft. × 743,601 Sq. Yds. × 9 Sq. Ft. per Sq. Yd. ÷ 2000 Lbs. per Ton	334.62

E-11 WATER

Formula M-Gallons = (5 Gal. per Cu. Yd. ÷ 1000) × (Embankment + 8%) + (E-4 Granular Borrow as per Plan + 5%) + I-22 + B-19

M-Gallons = (5 Gal. per Cu. Yd. ÷ 1000) × (2,990,033 + 22,525 + 32,446 + 13,467) = * 15,292 M-Gals.

* Includes 67 M-Gals. For B-19

I-125 TRAFFIC (ZONE) PAINT MARKINGS

	MILES
Centerlines - 6" Wide (22,038.48' × 2 × 15 ÷ 40) ÷ 5280 Lin. Ft. per Mile	3.13
Edge Lines - 4" Wide (22,038.48' × 4) ÷ 5280 Lin. Ft. per Mile	16.70

I-127 DELINEATORS

Reference Number	Side	Station From	Station To	Spacing in Ft.	Post Mounted A-1	Bracket Mtd. A-1
IR-77	Rt. & Lt.	1174+00	1278+00	200	106	
IR-77	Rt. & Lt.	0+00	50+00	200	52	
IR-77	Rt. & Lt.	52+00				2
IR-77	Rt. & Lt.	54+00	114+00	200	62	
TOTALS					220	2

EARTHWORK

E-1 Excavation	Mainline	3,004,658
	Sideroads	48,341
	Drives	1,900
E-3 Excavation		347
E-2 Structure Excavation (50% of 982)		491
TOTAL		3,055,737 Cu. Yds.
18" Rock Layer		21,452
Embankment + 8%	Mainline	2,815,802
	Sideroads	173,726
	Drives	505
TOTAL		3,011,485 Cu. Yds.

TOTAL EXCAVATION	3,055,737
TOTAL EMBANKMENT + 8%	3,011,485
TOTAL EXCESS EXCAVATION	44,252 Cu. Yds.

LINE DATA COMPUTATIONS - MAINLINE, SIDEROADS & APPROACHES

Begin Project Sta. 1174+00	
Equation Sta. 1279+88.48 Bk. = Sta. 0+00.00 Ah.	10,588.48
End Project Sta. 114+50	11,450.00
Length of Project	22,038.48

Begin Work	Sta.	1172+00
Begin Project	Sta.	1174+00
		200 Lin. Ft.
End Project	Sta.	114+50
End Work	Sta.	115+70
		120 Lin. Ft.
T.R. 218		
Begin Work	Sta.	38+50
End Work	Sta.	53+50
Net Length of Work		1500 Lin. Ft.
C.R. 3		
Begin Work	Sta.	36+50
End Work	Sta.	63+75
Net Length of Work		2725 Lin. Ft.
T.R. 112		
Begin Work	Sta.	0+10.29
End Work	Sta.	4+50
Net Length of Work		439.71 Lin. Ft.
TOTAL		4984.71 Lin. Ft. or 0.944 Miles
TOTAL LENGTH of WORK		27,023.19 Lin. Ft. or 5.118 Miles

SUMMARY OF QUANTITIES

FED. NO.	STATE	PROJECT	
2	OHIO		

15
230

GUE-77-22.59/TUS-77-0.00

Sheet No	Earthwork: Excavation (Cu.Yds.)	Earthwork: Embankment (Cu.Yds.)	Earthwork: Embankment +8% (Cu.Yds.)	E-3 Channel Excavation (Cu.Yds.)	Rock Embankment (Cu.Yds.)	E-9 Removal of Trees and Stumps (Lump)	E-12 Pipe Removed: 15" and under (Lin.Ft.)	E-12 Pipe Removed: over 15" (Lin.Ft.)	I-4 Calc. for Dust Control (Tons)	I-4 Water for Dust Control (M-Gal)	I-7 Reinf. Conc. Approach Slab T=13" (Sq.Yds.)	I-9 Stone Underdrains: No. 1 (Lin.Ft.)	I-9 Stone Underdrains: No. 2 (Lin.Ft.)	I-15 Guard Rail: Steel Beam Type Deep Standard (Lin.Ft.)	I-15 Guard Rail: Steel Beam Type Deep Barrier (Lin.Ft.)	I-15 Guard Rail: Wire Cable Type 3 Cables (Lin.Ft.)	L-9 Seeding (Sq.Yds.)	L-10 Sod (Sq.Yd.)	L-120 Jute Matting (Sq.Yd.)	S-24 Removal of Existing Structures (Lump)	T-10 Traffic Compacted Surface Course For Main Traffic (Cu.Yds.)	T-10 Modified Traffic Comp. Surf. Course For Main. Traffic (Cu.Yds.)	I-1 Pipe: Class B-1 6" (Lin.Ft.)	Class B-1 8"	Class B-1 10"	Class B-1 15"	Class B-1 18"	Class B-1 30"	Class C-4 12"	Class C-4 21"	Class C-4 24"	Class E-1 12"	Class E-1 18"	Class E-1 24"	Class E-1 30"
8						Lump																														
9												15													100	100	100									
10									2	10												50	150													
17	1900	468	505	329														90																	
21	4,726	7,991	8,630											100			1,544							29											
22	5,602	140,201	151,417		8,360									1800			28,212		139							113									
23	24,353	173,905	187,817		7,844									1300			34,233	450	139							93									
24	71,235	159,977	172,775		2,260									1275			38,430	165	139							72									
25	53,447	149,648	161,641											1300			41,004		139							72									
26	144,213	61,401	66,313											8875			36,270	40	264									83						461
27	325,780	—	—											175			23,837		667							147						19	19	200	900
28	270,649	—	—														23,142		389								166								500
29	152,816	22,704	24,520											125			25,390	70																	
30	77,510	67,030	72,392											450			27,945		139						29	86									
31	100,590	279,021	301,343											925			40,085		139						29	93									
32	253,527	295,924	319,598											875			41,929		139							90									
33	255,448	75,640	81,713											650			35,978		139							99									
34	509,877	—	—											225			30,199		139						58	92									
35	395,071	222,347	240,135		1,195									822			30,622		139							96									
36	100,704	228,094	246,342		1,793						266.8			1365	5	200	35,748		14							71						187			
37	48,221	274,977	296,975											1750			47,138		276							163									
38	40,468	136,411	147,324											1050			39,295	464	137						29	72									
39	69,737	75,355	81,383											1100			33,349	50	139							71									
40	161,176	123,575	133,461	18										1200			37,914	89	139						29	71									
41	84,487	107,718	116,335											1250			39,214	100	139							98									
42	21	5,267	5,688														—																		
140	18,305	3	3									297					5,817	81													77				
141	7,031	—	—								142.2	143		100			2,680	112													38				
146	1,492	32,290	34,873				25	30				352				658	8,877	64		Lump											42				
147	14,254	82,152	88,724									319				1137	18,045																		
148	6,448	37,905	40,937									429				1197	12,819																		
163	811	8,508	9,189									187				520	3,885	183													42				
Totals	3,054,899	2,768,552	2,990,033	347	21,452	Lump	25	30	2	10	409.0	15	1727	18725	200	3512	743,601	1,958	3554	Lump	50	150	303	100	100	1599	166	83	115	42	42	206	19	700	1361

SUMMARY OF QUANTITIES

FED. RD.	STATE	PROJECT	
2	OHIO		

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Sheet No.	I-1 Pipe, Class F-4, 6" (Lin. Ft.)	I-1 Pipe, Class F-4, 8" M-44 (C) (Lin. Ft.)	I-1 Pipe, Class F-4, 10" (Lin. Ft.)	I-1 Pipe, Class F-4, 15" (Lin. Ft.)	I-1 Pipe, Class H-2, 6" (Lin. Ft.)	I-1 Pipe, Class H-2, 8" (Lin. Ft.)	I-1 Pipe, Class H-2, 10" (Lin. Ft.)	I-1 Pipe, Class I-3, 6" Pipe, Deep (Lin. Ft.)	I-1 Pipe, Class I-3, 6" Pipe, Shallow (Lin. Ft.)	I-1 Pipe, Class I-3, 6" Pipe, M&A (h) (Lin. Ft.)	I-1 Pipe, Class I-3, 6" Pipe, M&A (h) (Lin. Ft.)	I-2 Masonry (Cu. Yds.)	I-5 Pipe Specials, Class B-1, 6"x6" Tee (Each)	I-5 Pipe Specials, Class B-1, 6" 90° Bend (Each)	I-5 Pipe Specials, C1.F4, 15" 25° Bend (Each)	I-5 Pipe Specials, Class H-2, 6" (Each)	I-5 Pipe Specials, Class H-2, 8" (Each)	I-5 Pipe Specials, Class H-2, 10" (Each)	I-5 Pipe Specials, Class I-3, 6" 60° Wye (Each)	I-5 Pipe Specials, Class I-3, 6" 90° Bend (Each)	I-5 Pipe Specials, Class I-3, 6"x6" Tee (Each)	I-8, No.2-2B Catch Basin (Each)	I-8, No. 4 Catch Basin (Each)	I-8, No. 5 Catch Basin (Each)	I-8, Standard No. 1 Manhole (Each)	I-10 Dumped Rock (Cu. Yds.)	I-14 Paved Gutter Modified as per Plan (Lin. Ft.)	I-25 Type 47 Woven Wire Fence (Lin. Ft.)
9	100	100	100		100	100	100			1000						5	5	5									10		
17												239.3															605		
21		10							118		220			1													4.4		
22	10	10							2825			.26								1	1			1			39.8		
23		30							1889		379	.26								1	2	1		1			101.1		
24	10	10		92					1717		529	.26			2						1	1		1			52.1		
25	10	20		68					1669		579	.26			2						2	1		1			276.9		
26		20							1070		1208	.51									2	2		1	1		28.4		
27	20								36		2192									2				3	2	2	8.0	91	
28	20								36		2192									2				1	2	1			
29									550		1708											2							
30	10	10							787		1446	.26		2						1	1			1			1.8		
31		20							969		1286	.26		1							1	2		1			221.0		
32	10								795		1395	.26												1			195.6		
33	10	20							907		1356	.26									2	2		1			196.1		
34	10	10							42		2196	.26		3						1				1					
35	10								863		1406	.26								1		2		1			264.5		
36	20	10		70					1127		884	.26			2							4	1	1			9.5		
37		40		46					2004		250	.52			2					2		2		2			490.6		
38		10		66					1910		300	.26		2	2					1				1			75.2		
39	10	10		54					1724		529	.26			2					1		1		1			32.8		
40	10	20		50				623	1846			.26	1	1	2					1	1			1			133.9		
41									1346		808	.26										2		1			109.8		
146			10									75.3																	
147												69.5																	
148												34.0																	
212												5.6															1550		
217																											232		
218																											850		
Totals	260	350	110	446	100	100	100	623	23630	1000	20863	244.23	1	10	14	5	5	5	14	13	22		1	22	5	3	3040.9	91	2632

SUMMARY OF QUANTITIES

FED. RD.	STATE	PROJECT	
2	OHIO		

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STRUCTURES - 20' SPAN & UNDER

Ref. Sht. No.	Station	Item I-1, Class A-1: M-6.4(d) 14 Gage 24" (LIN. FT.)	M-6.4(d) 12 Gage 30"	M-6.4(d) 10 Gage 30"	M-6.6(b) M-6.8(b) 30"	M-6.6(d) 30"	M-6.4(d) 10 Gage 36"	M-6.6(a) or M-6.4(d) 12 Gage 42"	M-6.4(d) 10 Gage 42"	M-6.6(d) 48"	M-6.6(d) or M-6.4(d) 8 Gage 48"	M-6.4(d) 8-Gage Elongated 54"	M-6.4(g)(c) 5-3 Gage 60"	M-6.4(g)(c) 5-3 Gage 144"	M-6.4(g)(c) 1-1 Gage 144"	I-2 Masonry (Cu. Yds.)	I-10 Dumped Rock Channel Prot'n (Cu. Yds.)	I-10 Rip-Rap 6" Reinf. Conc. (Sq. Yds.)	L-10 Sodding (Sq. Yds.)	E-3 Channel Excav. (Cu. Yds.)
171	1180+50					224										9.4	11		6	
171	1186+42									352						20.6	14		9	
172	1197+60		268													7.6	15		6	
173	1208+15								250							18.4	26	40	7	
172	1223+68					236										9.4	7	16	6	
174	3+51												524			25.8	33		9	
175	20+71			432												9.6	15		7	
176	48+96												524			25.4	15		9	
178	64+00														398	21.7	302			30.2
179	79+18											370				25.2	14		10	
179	90+00				192											9.4	28		6	
180	103+00										302					17.6	19		8	
180	114+11						292									11.6	7		7	
181	Rel. C.R. 3-Sta. 39+65							92								5.1	19			
182	Rel. C.R. 3-Sta. 42+50													198		21.7	74			
183	Rel. C.R. 3-Sta. 56+00	166														0.8	6	9		27
	TOTALS	166	268	432	192	460	292	92	250	352	302	370	1048	198	398	239.3 *	605 *	65	* 90	329 *

* Quantities Carried to Summary of Quantities Sheet No. 15 & 16
The Remaining Quantities Carried to General Summary Sheet No 18

PAVEMENT QUANTITIES

SIDEROADS

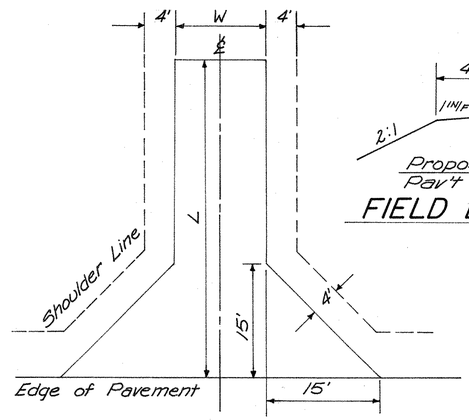
Description	Station to Station	Ref. Sht. No.	T-35, 1½" Asph. Conc. Surf. Cour. "A" (85-100) (C.Y.)	T-30 Bituminous Prime Ct. (Gal.)	B-19, 8" Agg. Base Course (C.Y.)	Special Furnish & Apply Cat. 6 Aggreg. (S.Y.)	I-22, C" Subbase (Over Rock) (C.Y.)	E-1 Compact Subgrade (S.Y.)
C.R. *3	36+50 - 63+50	146	248.8	2504	1391		*	5972
T.R. *112	0+10.29 - 4+50	163			210	938		938
T.R. *218	38+50 - 53+50	140	38.4	396	554		214	1672
TOTALS			* *347	* *3500	2155	* * 938	214	8582

* I-22 Subbase not to be used over Rock Subgrade on C.R. *3
** Quantities Carried to General Summary Sheet No. 19
The Remaining Quantities Carried to Computation Sheet No. 14

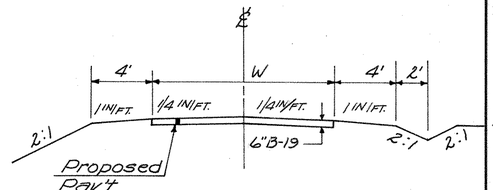
DRIVEWAYS

Station	Ref. Sheet No.	Side	Exist. Mat'l	Proposed Type	Width (Ft)	Length (Ft)	Earthwork: Excavation (C.Y.)	Earthwork: Embank. (C.Y.)	B-19, "G", Aggregate Base (C.Y.)
C.R. *3									
37+13	146	R	Gravel	Field Dr.	30	18	0	10	14
37+61	146	R	Gravel	Field Dr.	12	18	0	8	8
39+82	146	L	Gravel	Field Dr.	12	58	0	135	17
T.R. *112									
1+07	163	L	Gravel	Field Dr.	12	79	0	260	22
T.R. *218									
44+00	140	L	———	Field Dr.	12	308	1085	20	73
45+10	140	R	———	Field Dr.	12	192	725	15	47
51+40	141	R	———	Field. Dr.	12	598	90	20	18
TOTALS							* 1900	* 468	199

* Quantities Carried to Summary of Quantities Sheet No. 15
The Remaining Quantity Carried to Computation Sheet No. 14



FIELD DRIVE - TYPICAL PLAN



FIELD DRIVE - TYPICAL SECTION

GENERAL SUMMARY

FED. RD.	STATE	PROJECT	
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TUS-77-0.00

1963 SPECIFICATIONS

† The 1965 Spec. include this item with item 616 Calcium Chloride.

*CODE Y-005
TYPE CODE 7221

Line No.	Sht. No.	Item	Quantities		Total	Unit	Description
1							
2							ROADWAY
3							
4	14	E-1			108,570	Sq.Yds.	Compacted Subgrade
5	15	E-1			3,054,899	Cu.Yds.	Roadway Excavation, Method "B", As per Plan
6							
7							
8							
9							
10							
11	15	E-9			Lump	Lump	Removal of Trees and Stumps
12							
13							
14	14	E-11			15,292	M-Gal.	Water
15							
16							
17	15	I-4			10	M-Gal.	Water for Dust Control
18	15	I-4			2	Tons	Calcium Chloride for Dust Control
19							
20							
21	207 & 208	I-8			32	Each	Centerline Reference Monuments, as per Plan
22	207 & 208	I-8			10	Each	Standard Monument Assemblies
23							
24							
25	15	I-15			18,725	Lin.Ft.	Guard Rail, Steel Beam, Standard, Type (Deep)
26	15	I-15			200	Lin.Ft.	Guard Rail, Steel Beam, Barrier, Type (Deep)
27	15	I-15			3,512	Lin.Ft.	Guard Rail, Wire Cable, Type (3 Cables)
28							
29							
30	16	I-25			2632	Lin.Ft.	Woven Wire Fence, Type A7
31							
32							
33	14	I-125			3.13	Miles	6" Lanelines and Centerlines
34	14	I-125			16.70	Miles	4" Edge Lines
35							
36							
37	14	I-127			220	Each	Delineators, Type A-1, Post Mounted
38	14	I-127			2	Each	Delineators, Type A-1, Bracket Mounted
39							
40							
41	15	L-9			*743,601	Sq.Yds.	Seeding and Protecting
42	14	L-9			*67.10	Tons	Commercial Fertilizer (12-12-12)
43	14	L-9			*334.62	Tons	Agricultural Liming Material
44							
45							
46	15	L-10			*1958	Sq.Yds.	Sodding
47							
48							
49	15	L-120			*3554	Sq.Yds.	Jute Matting
50							
51							
52	17	Special			938	Sq.Yds.	Furnishing and Applying Calcium Chloride to Aggregate †
53							
54							
55	14	S.S.C.E. 101.04			31	Hours	Compaction, Using Heavy Pneumatic Tired Roller
56							
57							
58	15	T-10			50	Cu.Yds.	Traffic Compacted Surface Course for Maintaining Traffic
59	15	T-10			150	Cu.Yds.	Traffic Compacted Surface Course for Maintaining Traffic, Modified as per Plan
60							
61							
62							
63							
64							
65							
66							
67							
68							
69							

TYPE CODE 7221

Line No.	Sht. No.	Item	Quantities		Total	Unit	Description
70							
71							DRAINAGE
72							
73	15	E-3			347	Cu.Yds.	Channel Excavation
74							
75							
76	15	E-12			30	Lin.Ft.	Pipe Removed over 15"
77	15	E-12			25	Lin.Ft.	Pipe Removed 15" and Under
78							
79							
80	17	I-1			166	Lin.Ft.	24" Pipe, Class A-1, Sec. M-6.4(d) Gage 14
81	17	I-1			268	Lin.Ft.	30" Pipe, Class A-1, Sec. M-6.4(d) Gage 12
82	17	I-1			432	Lin.Ft.	30" Pipe, Class A-1, Sec. M-6.4(d) Gage 10
83	17	I-1			192	Lin.Ft.	30" Pipe, Class A-1, Sec. M-6.6(b) or M-6.8(b)
84	17	I-1			460	Lin.Ft.	30" Pipe, Class A-1, Sec. M-6.6(d)
85	17	I-1			292	Lin.Ft.	36" Pipe, Class A-1, Sec. M-6.4(d) Gage 10
86	17	I-1			92	Lin.Ft.	42" Pipe, Class A-1, Sec. M-6.6(a) or Sec. M-6.4(d) Gage 12
87	17	I-1			250	Lin.Ft.	42" Pipe, Class A-1, Sec. M-6.4(d) Gage 10
88	17	I-1			352	Lin.Ft.	48" Pipe, Class A-1, Sec. M-6.6(d)
89	17	I-1			302	Lin.Ft.	48" Pipe, Class A-1, Sec. M-6.6(d) or Sec. M-6.4(d) Gage 8
90	17	I-1			370	Lin.Ft.	54" Pipe, Class A-1, Sec. M-6.4(d) Gage 8 Elongated, as per Plan
91	17	I-1			1048	Lin.Ft.	60" Pipe, Class A-1, Sec. M-6.4(g)(c) Gage 5-3
92	17	I-1			198	Lin.Ft.	144" Pipe, Class A-1, Sec. M-6.4(g)(c) Gage 5-3
93	17	I-1			398	Lin.Ft.	144" Pipe, Class A-1, Sec. M-6.4(g)(c) Gage 1-1
94							
95							
96	15	I-1			303	Lin.Ft.	6" Pipe, Class B-1
97	15	I-1			100	Lin.Ft.	8" Pipe, Class B-1
98	15	I-1			100	Lin.Ft.	10" Pipe, Class B-1
99	15	I-1			1599	Lin.Ft.	15" Pipe, Class B-1
100	15	I-1			166	Lin.Ft.	18" Pipe, Class B-1
101	15	I-1			83	Lin.Ft.	30" Pipe, Class B-1
102							
103							
104	15	I-1			115	Lin.Ft.	12" Pipe, Class C-4
105	15	I-1			42	Lin.Ft.	21" Pipe, Class C-4
106	15	I-1			42	Lin.Ft.	24" Pipe, Class C-4
107							
108							
109	15	I-1			206	Lin.Ft.	12" Pipe, Class E-1
110	15	I-1			19	Lin.Ft.	18" Pipe, Class E-1
111	15	I-1			700	Lin.Ft.	24" Pipe, Class E-1
112	15	I-1			1361	Lin.Ft.	30" Pipe, Class E-1
113							
114							
115	16	I-1			260	Lin.Ft.	6" Pipe, Class F-4
116	16	I-1			350	Lin.Ft.	8" Pipe, Class F-4 Sec. M-6.4(c)
117	16	I-1			110	Lin.Ft.	10" Pipe, Class F-4
118	16	I-1			446	Lin.Ft.	15" Pipe, Class F-4
119							
120							
121	16	I-1			100	Lin.Ft.	6" Pipe, Class H-2
122	16	I-1			100	Lin.Ft.	8" Pipe, Class H-2
123	16	I-1			100	Lin.Ft.	10" Pipe, Class H-2
124							
125							
126	16	I-1			23,630	Lin.Ft.	6" Pipe, Class I-3 (Shallow)
127	16	I-1			623	Lin.Ft.	6" Pipe, Class I-3 (Deep)
128	16	I-1			20,863	Lin.Ft.	6" Pipe, Class I-3 Sec. M-6.4(h)
129	16	I-1			1000	Lin.Ft.	6" Pipe, Class I-3 Sec. M-6.4(h), as per Plan (Spring Drain)
130							
131	16	I-2			244.23	Cu.Yds.	Masonry
132							
133							
134	16	I-5			11	Each	6" Pipe Specials, Class B-1 } ‡ (See note on Sheet No. 19)
135							
136							
137	16	I-5			14	Each	15" Pipe Specials, Class F-4 }
138							

GENERAL SUMMARY

1963 SPECIFICATIONS

FED. RD.	STATE	PROJECT	
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* The 1965 Spec. include this item with the pertinent 603 conduit item or 605 item.

*CODE Y-005
TYPE CODE 7221

Line No.	Sht. No.	Item	Quantities		Total	Unit	Description
139							
140							DRAINAGE (Con't.)
141							
142	16	I-5			5	Each	6" Pipe Specials, Class H-2 ≠
143	16	I-5			5	Each	8" Pipe Specials, Class H-2 ≠
144	16	I-5			5	Each	10" Pipe Specials, Class H-2
145							
146							
147	16	I-5			49	Each	6" Pipe Specials, Class I-3 ≠
148							
149							
150	16	I-8			1	Each	Standard No. 2-2B Catch Basin
151	16	I-8			22	Each	Standard No. 4 Catch Basin
152	16	I-8			5	Each	Standard No. 5 Catch Basin
153							
154							
155	16	I-8			3	Each	Standard No. 1 Manhole
156							
157							
158	15	I-9			15	Lin. Ft.	Stone Underdrains No. 1, as per Plan (Spring Drain)
159	15	I-9			1727	Lin. Ft.	Stone Underdrains No. 2
160							
161							
162	17	I-10			* 65	Sq. Yds.	Rip-Rap, using 6" Reinforced Concrete Slab, as per Plan
163	16	I-10			*3041	Cu. Yds.	Dumped Rock Channel Protection
164	16	I-14			* 91	Lin. Ft.	Paved Gutter, Modified as per Plan
165							
166	15	S-24			Lump	Lump	Removal of Existing Structures
167							
168							
169	14	Special			2289	Cu. Yds.	Drainage Connections, Using No. 6 Aggregate
170							
171							
172							
173							
174							
175							
176							
177							
178							
179							
180							
181							
182							
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199							
200							
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203							
204							
205							
206							
207							

TYPE CODE 7221

Line No.	Sht. No.	Item	Quantities		Total	Unit	Description
208							
209							PAVEMENT
210							
211	15	I-7			409	Sq. Yds.	Reinforced Concrete Approach Slabs (T=13")
212							
213							
214	14	I-22			6067	Cu. Yds.	Subbase
215	14	I-22			26,379	Cu. Yds.	Subbase, Grading A or B, as per Plan
216							
217							
218	14	B-19			13,467	Cu. Yds.	Aggregate Base Course
219							
220							
221	14	B-21			5,715	Cu. Yds.	Waterproofed Aggregate Base Course, as per plan
222							
223							
224	17	T-30			3500	Gals.	Bituminous Prime Coat. Sec. M-5.7 or RT-2 or RT-3
225							
226							
227	14	T-31			549	Cu. Yds.	Bituminous Surface Treatment, No. 6 Aggregate as per Plan
228	14	T-31			17,145	Gals.	Bituminous Surface Treatment, Bituminous Material as per Plan
229							
230							
231	17	T-35			347	Cu. Yds.	Asphaltic Concrete Surface Course, Type "A" (85-100)
232							
233							
234	14	T-71			116,637	Sq. Yds.	9" Reinforced Portland Cement Concrete Pavement
235							
236							BUILDING REMOVAL
237		E-10			Lump	Lump	Removal of Frame Shed, Parcel No. 218T
238							
239							STRUCTURES OVER 20' SPAN
240							
241							For Estimated Quantities See Sheet No.
242							GUE-77-2379 187
243							TUS-77-0098 L&R 195
244							
245						Lump	Lump Construction Layout Stakes
246		I-3				Lump	Lump Maintaining Traffic
247	8					Lump	Lump Field Office
248							

GENERAL SUMMARY

1965 SPECIFICATIONS

FED. RD.	STATE	PROJECT	
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TUS-77- 0.00

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*CODE Y-005
TYPE CODE 7221

Sht. No.	Line No.	Item	Quantities		Total	Unit	Description
							ROADWAY
18	11	201			Lump	Lump	Clearing & Grubbing
18	4	203			108,570	Sq.Yds.	Subgrade Preparation
18	5&73	203			3,055,246	Cu.Yds.	Excavation, Including Embankment Construction, as per plan
18	14	203			15,225	M-Gal.	Water
14&18	55	203			50	Hours	Proof Rolling
18	58	410			50	Cu.Yds.	Traffic Compacted Surface Type A or B for Maintaining Traffic
18	59	410			150	Cu.Yds.	Traffic Compacted Surface Type C for Maintaining Traffic
18	21	604			32	Each	Centerline Reference Monuments, as per plan
18	22	604			10	Each	Monument Assemblies, Standard
18	25	606			18,725	Lin.Ft.	Guard Rail, Type 4
18	26	606			200	Lin.Ft.	Guard Rail, Type 4, Barrier Design
18	27	606			3,512	Lin.Ft.	Guard Rail, Type 1, (3 Ropes)
18	30	607			2,632	Lin.Ft.	Fence, Type 47
18	17	616			10	M-Gal.	Water
18	18&52	616			2.47	Tons	Calcium Chloride
18	37	620			220	Each	Mono-Directional Delineators, Type A-1, Post Mounted
18	38	620			2	Each	Mono-Directional Delineators, Type A-1, Bracket Mounted
18	33	621			3.13	Miles	6" Lanelines and Centerlines
18	34	621			16.70	Miles	4" Edge Lines
18	41	659			* 743,601	Sq.Yds.	Seeding and Mulching
18	42	659			* 67.10	Tons	Commercial Fertilizer (12-12-12)
18	43	659			* 334.62	Tons	Agricultural Liming
18	46	660			* 1,958	Sq.Yds.	Sodding
18	49	667			* 3554	Sq.Yds	Jute Matting
19	237	202			Lump	Lump	Parcel No. 218T, Removal of one frame shed
							DRAINAGE
19	166	202			Lump	Lump	Existing Structures Removed, as per plan
18	76	202			30	Lin.Ft.	Pipe Removed, over 15"
18	77	202			25	Lin.Ft.	Pipe Removed, 15" and Under
19	162	601			* 65	Sq.Yds	Rip-Rap, Using 6" Reinforced Concrete Slab, as per plan
19	163	601			* 3,041	Cu.Yds.	Dumped Rock Channel Protection
19	164	601			* 91	Lin.Ft.	Paved Gutter, Modified as per plan, Std. Type 1-2
18	131	602			244.2	Cu.Yds.	Concrete Masonry

TYPE CODE 7221

Sht. No.	Line No.	Item	Quantities		Total	Unit	Description
							DRAINAGE (Con't)
18	80	603			166	Lin.Ft.	24" Conduit, Type A, 707.05 Gage 14, with Class "B" Bedding
18	81	603			268	Lin.Ft.	30" Conduit, Type A, 707.05 Gage 12, with Class "B" Bedding
18	82	603			432	Lin.Ft.	30" Conduit, Type A, 707.05 Gage 10, with Class "B" Bedding
18	83	603			192	Lin.Ft.	30" Conduit, Type A, 706.02, Class III, with Class "B" Bedding or 706.08
18	84	603			460	Lin.Ft.	30" Conduit, Type A, 706.02, Class V, with Class "B" Bedding
18	85	603			292	Lin.Ft.	36" Conduit, Type A, 707.05, Gage 10, with Class "B" Bedding
18	86	603			92	Lin.Ft.	42" Conduit, Type A, 706.02 or 707.05 , with Class "B" Bedding
18	87	603			250	Lin.Ft.	42" Conduit, Type A, 707.05, Gage 10, with Class "B" Bedding
18	88	603			352	Lin.Ft.	48" Conduit, Type A, 706.02, Class V, with Class "B" Bedding
18	89	603			302	Lin.Ft.	48" Conduit, Type A, 706.02 Class V or 707.05 Gage 8, with Class "B" Bedding
18	90	603			370	Lin.Ft.	54" Conduit, Type A, 707.05 Gage 8, Elongated, , with Class "B" Bedding
18	91	603			1048	Lin.Ft.	60" Conduit, Type A, 707.03 Gage 5-3, Bit. Coated, as per plan, with Class "B" Bedding
18	92	603			198	Lin.Ft.	144" Conduit, Type A, 707.03 Gage 5-3, Bit. Coated, as per plan, with Class "B" Bedding
18	93	603			398	Lin.Ft.	144" Conduit, Type A, 707.03 Ga 1-1, Bit. Coated, as per plan, with Class "B" Bedding
18	96&134	603			303	Lin.Ft.	6" Conduit, Type "B", with Class "B" Bedding
18	97	603			100	Lin.Ft.	8" Conduit, Type "B", with Class "B" Bedding
18	98	603			100	Lin.Ft.	10" Conduit, Type "B", with Class "B" Bedding
18	99	603			1599	Lin.Ft.	15" Conduit, Type "B" with Class "B" Bedding
18	100	603			166	Lin.Ft.	18" Conduit, Type "B" with Class "B" Bedding
18	101	603			83	Lin.Ft.	30" Conduit, Type "B" with Class "B" Bedding
18	109	603			206	Lin.Ft.	12" Conduit, Type "C" with Class "B" Bedding
18	110	603			19	Lin.Ft.	18" Conduit, Type "C" with Class "B" Bedding
18	111	603			700	Lin.Ft.	24" Conduit, Type "C" with Class "B" Bedding
18	112	603			1361	Lin.Ft.	30" Conduit, Type "C" with Class "B" Bedding
18	104	603			115	Lin.Ft.	12" Conduit, Type "D"
18	105	603			42	Lin.Ft.	21" Conduit, Type "D"
18	106	603			42	Lin.Ft.	24" Conduit, Type "D"
18	121&142	603			100	Lin.Ft.	6" Conduit, Type "E"
18	122&143	603			100	Lin.Ft.	8" Conduit, Type "E"
18	123&144	603			100	Lin.Ft.	10" Conduit, Type "E"
18	115	603			260	Lin.Ft.	6" Conduit, Type "F"
18	116	603			350	Lin.Ft.	8" Conduit, Type "F"
18	117	603			110	Lin.Ft.	10" Conduit, Type "F"
18	118&137	603			446	Lin.Ft.	15" Conduit, Type "F"
19	150	604			1	Each	Standard No. 2-28 Catch Basin
19	151	604			22	Each	Standard No. 4 Catch Basin
19	152	604			5	Each	Standard No. 5 Catch Basin
19	155	604			3	Each	Standard No. 1 Manhole
19	158	605			15	Lin.Ft.	Aggregate for Spring Drains, as per plan
19	159	605			1,727	Lin.Ft.	Aggregate Drains
18	126&147	605			23,630	Lin.Ft.	6" Shallow Pipe Underdrains
18	127&147	605			623	Lin.Ft.	6" Deep Pipe Underdrains
18	128&147	605			20,863	Lin.Ft.	6" Shallow Pipe Underdrains, 707.06 or 707.12
18	129&147	605			1,000	Lin.Ft.	6" Unclassified Pipe Underdrains, as per plan, 707.06 or 707.12
19	169	Special			2,289	Cu.Yds.	Drainage Connections, Using No. 8 Aggregate

GENERAL SUMMARY

1965 SPECIFICATIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77- 0.00

198
230

TYPE CODE 7221

Sht No.	Line No.	Item	Quantities		Total	Unit	Description
							PAVEMENT
19	221	301			5,715	Cu.Yds.	Bituminous Aggregate Base, as per plan, 702.01 (B5-100) or 702.09 RT-12
19	218	304			13,467	Cu.Yds.	Aggregate Base
18	219	304			67	M-Gal	Water
19	214	310			6,067	Cu.Yds.	Subbase
19	215	310			26,379	Cu.Yds.	Subbase, Grading "A" or "B", as per plan
19	231	404			347	Cu.Yds.	Asphalt Concrete (B5-100)
19	224	408			3500	Gals.	Bituminous Prime Coat, 702.09 RT-2 or RT-3
19	227	409			549	Cu.Yds.	Seal Coat Cover Aggregate No. 8
19	228	409			17,145	Gals.	Seal Coat Bituminous Material, as per plan
19	234	451			116,637	Sq.Yds.	9" Reinforced Portland Cement Concrete Pavement
19	211	611			409	Sq.Yds.	Reinforced Concrete Approach Slabs. (T=13")
							STRUCTURES OVER 20' SPAN
							For Estimated Quantities See Sheet No.
19	242						GUE-77-23.79 187
19	243						TUS-77-0098 L&R 195
19	245				Lump	Lump	Construction Layout Stakes
19	246	614			Lump	Lump	Maintaining Traffic
19	247				Lump	Lump	Field Office

Sht No.	Line No.	Item	Quantities		Total	Unit	Description

SUPERELEVATION TABLES

FED. RD.	STATE	PROJECT	
2	OHIO		

20/230

GUE-77-22.59
TUS-77-0.00

Curve Data ℄ I.R. 77
P.I. Sta. 1179+38.07
Δ = 14°18' 39"
Dc = 1°
R = 5729.58
T = 719.28
L = 1431.08

	STATION	LT.EDGE PAV'T. ELEVATION	CENTERLINE ELEVATION	PROFILE GRADE ELEVATION	CENTERLINE ELEVATION	RT.EDGE PAV'T. ELEVATION
	1171+00		838.70	838.51	838.70	
	+25	839.10	839.23	839.04	839.16	838.98
	+50	839.70	839.77	839.58	839.64	839.46
	+75	840.33	840.33	840.14	840.14	839.95
	1172+00	841.00	840.90	840.71	840.61	840.42
P.C.	+18.79	841.50	841.33	841.14	840.97	840.78
	+23.45	841.63	841.44	841.25	841.06	840.87
	+25	841.67		841.29		840.91
	+50	842.35		841.88		841.41
	+75	843.06		842.49		841.92
	1173+00	843.78		843.11		842.44
	+25	844.51 (+0.77' Above P.G.)		843.74		842.97 (-0.77'Below P.G.).
		FULL SUPERELEVATION: ± 0.77' FROM PROFILE GRADE ELEVATION				
	1185+50	880.75 (+0.77' Above P.G.)		879.98		879.21 (-0.77' Below P.G.)
	+75	881.40		880.73		880.06
	1186+00	882.05		881.48		880.91
	+25	882.70		882.23		881.76
P.T.	+49.87	883.36		882.98		882.60
	+50	883.36		882.98		882.60
	+51.55	883.41	883.22	883.03	882.84	882.65
	+75	884.02	883.92	883.73	883.63	883.44
	1187+00	884.67	884.67	884.48	884.48	884.29
	+25	885.35	885.42	885.23	885.29	885.11
	+50	886.04	886.17	885.98	886.10	885.92
	+75		886.92	886.73	886.92	

Curve Data ℄ I.R. 77
P.I. Sta. 1273+93.10
Δ = 22° 16' 00"
Dc = 1° 28'
R = 3906.53
T = 768.79
L = 1518.18

	STATION	LT.EDGE PAV'T. ELEVATION	CENTERLINE ELEVATION	PROFILE GRADE ELEVATION	CENTERLINE ELEVATION	RT.EDGE PAV'T. ELEVATION
	1264+75		1073.92	1073.73	1073.92	
	1265+00	1073.42	1073.60	1073.48	1073.67	1073.54
	+25	1073.11	1073.29	1073.23	1073.42	1073.35
	+50	1072.79	1072.98	1072.98	1073.17	1073.17
	+75	1072.42	1072.61	1072.73	1072.92	1073.04
	+88.88	1072.21	1072.40	1072.59	1072.78	1072.97
	1266+00	1072.05		1072.48		1072.91
P.C.	+24.31	1071.69		1072.24		1072.79
	+25	1071.68		1072.23		1072.78
	+50	1071.31		1071.98		1072.65
	+75	1070.94		1071.73		1072.52
	1267+00	1070.57		1071.48		1072.39
	+25	1070.20		1071.23		1072.26
	+50	1069.83 (-1.15' Below P.G.)		1070.98		1072.13 (+1.15' Above P.G.)
		FULL SUPERELEVATION: ± 1.15' FROM PROFILE GRADE ELEVATION				
	0+25	1057.20 (-1.15' Below P.G.)		1058.35		1059.50 (+1.15' Above P.G.)
	+50	1057.07		1058.10		1059.13
	+75	1056.94		1057.85		1058.76
	1+00	1056.81		1057.60		1058.39
	+25	1056.68		1057.35		1058.02
	+50	1056.55		1057.10		1057.65
P.T.	+54.01	1056.53		1057.06		1057.59
	+75	1056.42		1056.85		1057.28
	+86.12	1056.36	1056.55	1056.74	1056.93	1057.12
	2+00	1056.29	1056.48	1056.60	1056.79	1056.91
	+25	1056.16	1056.35	1056.35	1056.54	1056.54
	+50	1055.98	1056.16	1056.10	1056.29	1056.22
	+75	1055.79	1055.97	1055.85	1056.04	1055.91
	3+00		1055.79	1055.60	1055.79	

Curve Data ℄ I.R. 77
P.I. Sta. 43+61.53
Δ = 22° 12' 34"
Dc = 1° 28'
R = 3906.53
T = 766.77
L = 1514.28

	STATION	LT.EDGE PAV'T. ELEVATION	CENTERLINE ELEVATION	PROFILE GRADE ELEVATION	CENTERLINE ELEVATION	RT.EDGE PAV'T. ELEVATION
	34+50		1005.04	1004.85	1005.04	
	+75	1004.16	1004.29	1004.10	1004.22	1004.04
	35+00	1003.47	1003.54	1003.35	1003.41	1003.23
	+25	1002.79	1002.79	1002.60	1002.60	1002.41
	+50	1002.16	1002.04	1001.85	1001.73	1001.54
	+63.88	1001.81	1001.62	1001.43	1001.24	1001.05
	+75	1001.53		1001.10		1000.67
P.C.	+94.76	1001.03		1000.51		999.99
	36+00	1000.90		1000.35		999.80
	+25	1000.27		999.60		998.93
	+50	999.64		998.85		998.06
	+75	999.01		998.10		997.19
	37+00	998.38		997.35		996.32
	+25	997.75 (+1.15' Above P.G.)		996.60		995.45 (-1.15' Below P.G.)
		FULL SUPERELEVATION: ± 1.15' FROM PROFILE GRADE ELEVATION				
	50+00	959.50 (+1.15' Above P.G.)		958.35		957.20 (-1.15' Below P.G.)
	+25	958.63		957.60		956.57
	+50	957.76		956.85		955.94
	+75	956.89		956.10		955.31
	51+00	956.02		955.35		954.68
P.T.	+09.04	955.71		955.08		954.45
	+25	955.15		954.60		954.05
	+50	954.28		953.85		953.42
	+61.12	953.90	953.71	953.52	953.33	953.14
	+75	953.41	953.29	953.10	952.98	952.79
	52+00	952.54	952.54	952.35	952.35	952.16
	+25	951.72	951.79	951.60	951.66	951.48
	+50	950.91	951.04	950.85	950.97	950.79
	+75		950.29	950.10	950.29	

Curve Data ℄ I.R. 77
P.I. Sta. 86+84.34
Δ = 20° 41' 39"
Dc = 1° 00'
R = 5729.58
T = 1046.11
L = 2069.42

	STATION	LT.EDGE PAV'T. ELEVATION	CENTERLINE ELEVATION	PROFILE GRADE ELEVATION	CENTERLINE ELEVATION	RT.EDGE PAV'T. ELEVATION
	75+25			915.60	915.79	
	+50	915.79	915.97	915.85	916.04	915.91
	+75	915.98	916.16	916.10	916.29	916.22
	76+00	916.16	916.35	916.35	916.54	916.54
	+25	916.31	916.50	916.60	916.79	916.89
P.C.	+38.23	916.39	916.58	916.73	916.92	917.07
	+48.45	916.45	916.64	916.83	917.02	917.21
	+50	916.47		916.85		917.23
	+75	916.63		917.10		917.57
	77+00	916.78		917.35		917.92
	+25	916.93		917.60		918.27
	+50	917.08 (-0.77' Below P.G.)		917.85		918.62 (+0.77' Above P.G.)
		FULL SUPERELEVATION: ± 0.77' FROM PROFILE GRADE ELEVATION				
	96+00	936.91 (-0.77' Below P.G.)		937.68		938.45 (+0.77' Above P.G.)
	+25	937.44		938.11		938.78
	+50	937.97		938.54		939.11
	+75	938.51		938.98		939.45
	97+00	939.05		939.43		939.81
	+01.55	939.08	939.27	939.46	939.65	939.84
P.T.	+07.65	939.21	939.40	939.57	939.76	939.92
	+25	939.61	939.80	939.90	940.19	940.19
	+50	940.18	940.37	940.37	940.56	940.56
	+75	940.74	940.92	940.86	941.05	940.98
	98+00	941.29	941.47	941.35	941.54	941.41
	+25		942.05	941.86	942.05	

Curve Data ℄ Relocated T.R. No.112
P.I. Sta. 2+15.19
Δ = 31° 58' 10"
Dc = 9° 30'
R = 603.11
T = 172.76
L = 336.52

	STATION	LT.EDGE PAV'T. ELEVATION	PROFILE GRADE ELEVATION (℄)	RT.EDGE PAV'T. ELEVATION
	0+10.29			
		SEE INTERSECTION DETAIL FOR PAVEMENT ELEVATIONS		
	1+25	883.43 (+0.19' Above P.G.)	883.24	883.05 (-0.19' Below P.G.)
		FULL SUPERELEVATION: ± 0.19' FROM PROFILE GRADE ELEVATION		
	3+25	892.15 (+0.19 Above P.G.)	891.96	891.77 (-0.19' Below P.G.)
	+50	893.91	893.82	893.63
	+75	894.84	895.84	895.65
P.T.	+78.95	896.30	896.34	896.15
	4+00	897.79	898.04	897.85
	+25	899.90	900.40	900.21
	+50	902.2 (Meet Exist.)	902.94 (Meet Exist.)	902.8 (Meet Exist.)

Curve Data ℄ Relocated C.R. No.3
P.I. Sta. 48+91.37
Δ = 80° 50' 30"
Dc = 8°
R = 716.20
T = 609.98
L = 1010.52

	STATION	LT.EDGE PAV'T. ELEVATION	PROFILE GRADE ELEVATION (℄)	RT.EDGE PAV'T. ELEVATION
	41+60	879.08	879.24	879.08
	+75	880.32	880.44	880.24
	42+00	882.38	882.44	882.28
	+25	884.44	884.44	884.28
	+50	886.56	886.44	886.28
	+56.25	887.10	886.94	886.78
	+75	888.69	888.44	888.19
P.C.	+81.39	889.24	888.96	888.68
	43+00	890.82	890.44	890.06
	+25	892.95	892.44	891.93
	+50	895.08 (+0.64' Above P.G.)	894.44	893.80 (-0.64' Below P.G.)
		FULL SUPERELEVATION: ± 0.64' FROM PROFILE GRADE ELEVATION		
	52+25	933.72 (+0.64' Above P.G.)	933.08	932.44 (-0.64' Below P.G.)
	+50	933.39	932.88	932.37
	+75	932.99	932.61	932.23
P.T.	+91.91	932.65	932.37	932.09
	53+00	932.50	932.25	932.00
	+18.75	932.11	931.95	931.79
	+25	931.95	931.83	931.67
	+50	931.33	931.33	931.17
	+75	930.70	930.76	930.60
	54+00	929.99	930.11	929.95
	+15	929.54	929.70	929.54

Curve Data ℄ Relocated C.R. No.3
P.I. Sta. 59+92.44
Δ = 28° 35' 12"
Dc = 8° 30'
R = 674.07
T = 171.73
L = 336.32

	STATION	LT.EDGE PAV'T. ELEVATION	PROFILE GRADE ELEVATION (℄)	RT.EDGE PAV'T. ELEVATION
	56+85	922.15	922.31	922.15
	57+00	921.73	921.89	921.77
	+25	921.05	921.21	921.15
	+50	920.36	920.52	920.52
	+75	919.68	919.84	919.97
	+79.41	919.55	919.71	919.87
	58+00	918.88	919.15	919.42
P.C.	+20.71	918.20	918.58	918.96
	+25	918.07	918.47	918.87
	+50	917.24	917.78	918.32
	+75	916.42 (-0.68' Below P.G.)	917.10	917.78 (+0.68' Above P.G.)
		FULL SUPERELEVATION: ± 0.68' FROM PROFILE GRADE ELEVATION		
	61+00	913.31 (-0.68' Below P.G.)	913.99	914.67 (+0.68' Above P.G.)
	+25	913.53	914.07	914.61
	+50	913.75	914.15	914.55
P.T.	+57.03	913.81	914.17	914.53
	+75	913.96	914.23	914.50
	+95.59	914.14	914.30	914.46
	62+00	914.15	914.31	914.44
	+25	914.23	914.39	914.39
	+50	914.31	914.47	914.41
	+75	914.39	914.55	914.43
	+90	914.44	914.60	914.44

GUE-77-22.59 TUS-77-0.00

NOTE: * *
I-1 Underdrains shall be outletted as shown above if the Underdrains for the adjacent Project are not in place. If the Underdrains are in place, underdrains shall be connected through and Quantities setup for outletting shall be Non-Performed.

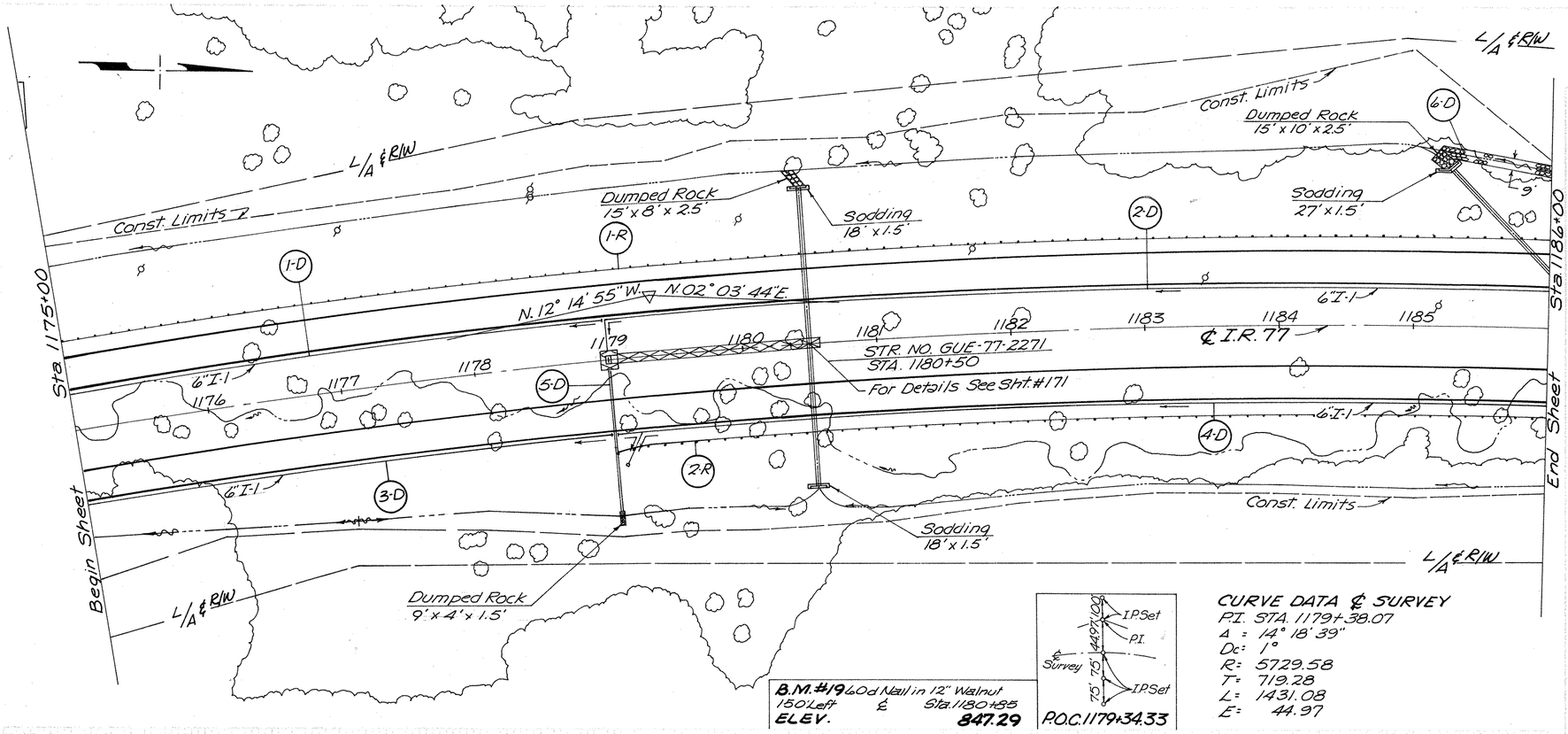
NOTE: *
Temporary Channel (Lt.) and Ditch (Rt.) will be provided to outlet Roadway Ditches if excavation for the adjacent Project has not been completed. For Temporary Channel and Ditch grades See x-Section Sht# 45 & 46

Excavation	4,726	Cu. Yds.
Embankment	7,991	Cu. Yds.
Embank. + 8%	8,630	Cu. Yds.
Seeding	1,544	Sq. Yds.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	I-1 Cl. B1 6" Pipe	I-1 Cl. F4 8" Pipe M-6.4(c)	I-1 Class I-3 6" Pipe Shallow	I-1 Class I-3 6" Pipe M-6.4(h)	I-5 Pipe Spec. Cl. B-1 6" 90° Bend	I-10 Dumped Rock	I-15 Guard Rail St. Beam Std. Type Deep
				Lin. Ft.				Each	Cu. Yds.	Lin. Ft.
1-D	1174+00	1175+00	Lt.			100				
2-D	1174+00	1175+00	Rt.				100			
3-D	1174+02		Lt.	29	10	18		1		
4-D	1172+80	1174+00	Rt.				120			
5-D	1174+13		Lt.						4.4	
1-R	1174+00	1175+00	Lt.							100
TOTALS				29	10	118	220	1	4.4	100

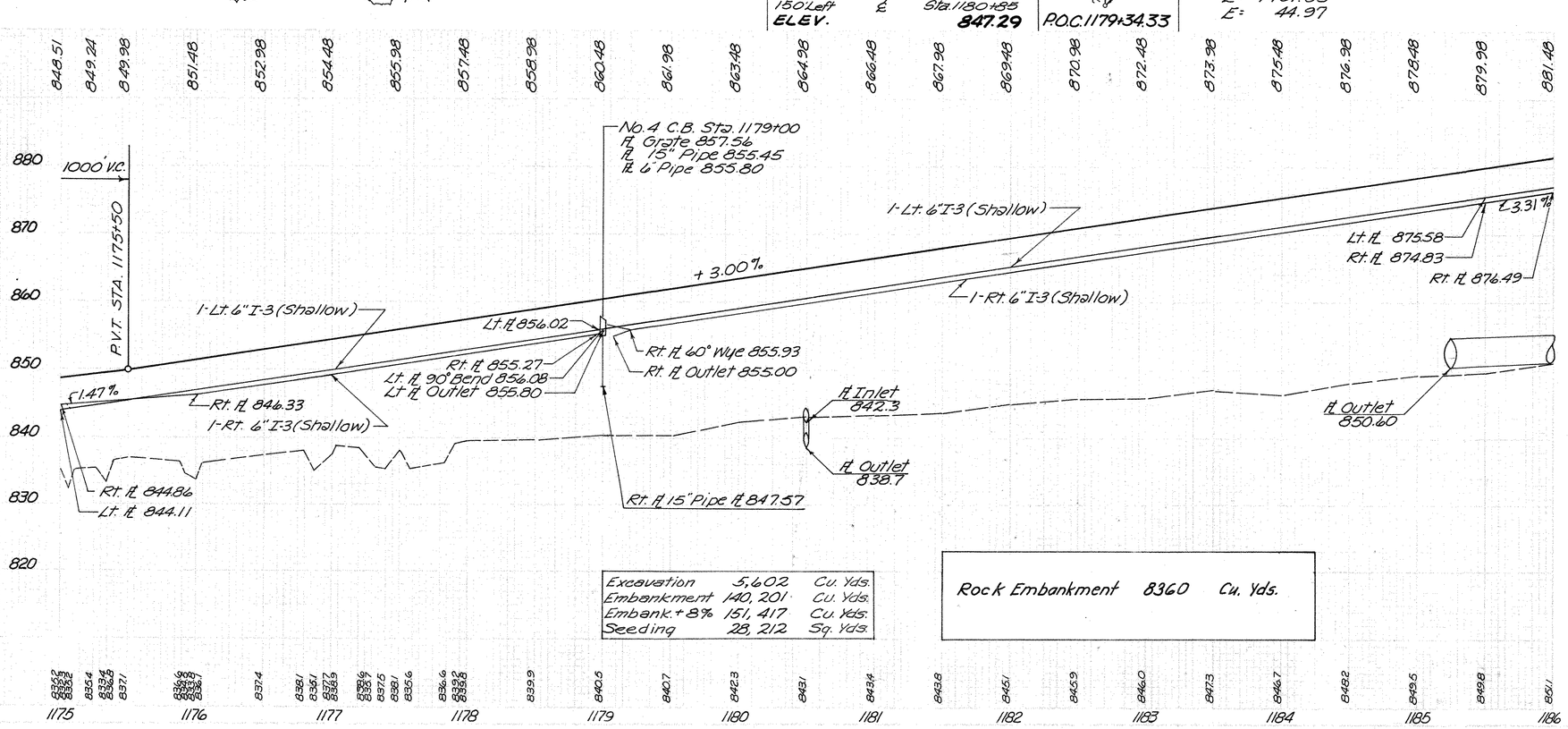
** Sta 1164+00 to Sta 1175+00



B.M. #19 60d Nail in 12" Walnut
150' Left ℄ Sta. 1180+85
ELEV. 847.29

P.O.C. 1179+34.33

CURVE DATA ℄ SURVEY
P.I. STA. 1179+38.07
Δ = 14° 18' 39"
Dc = 1°
R = 5729.58
T = 719.28
L = 1431.08
E = 44.97



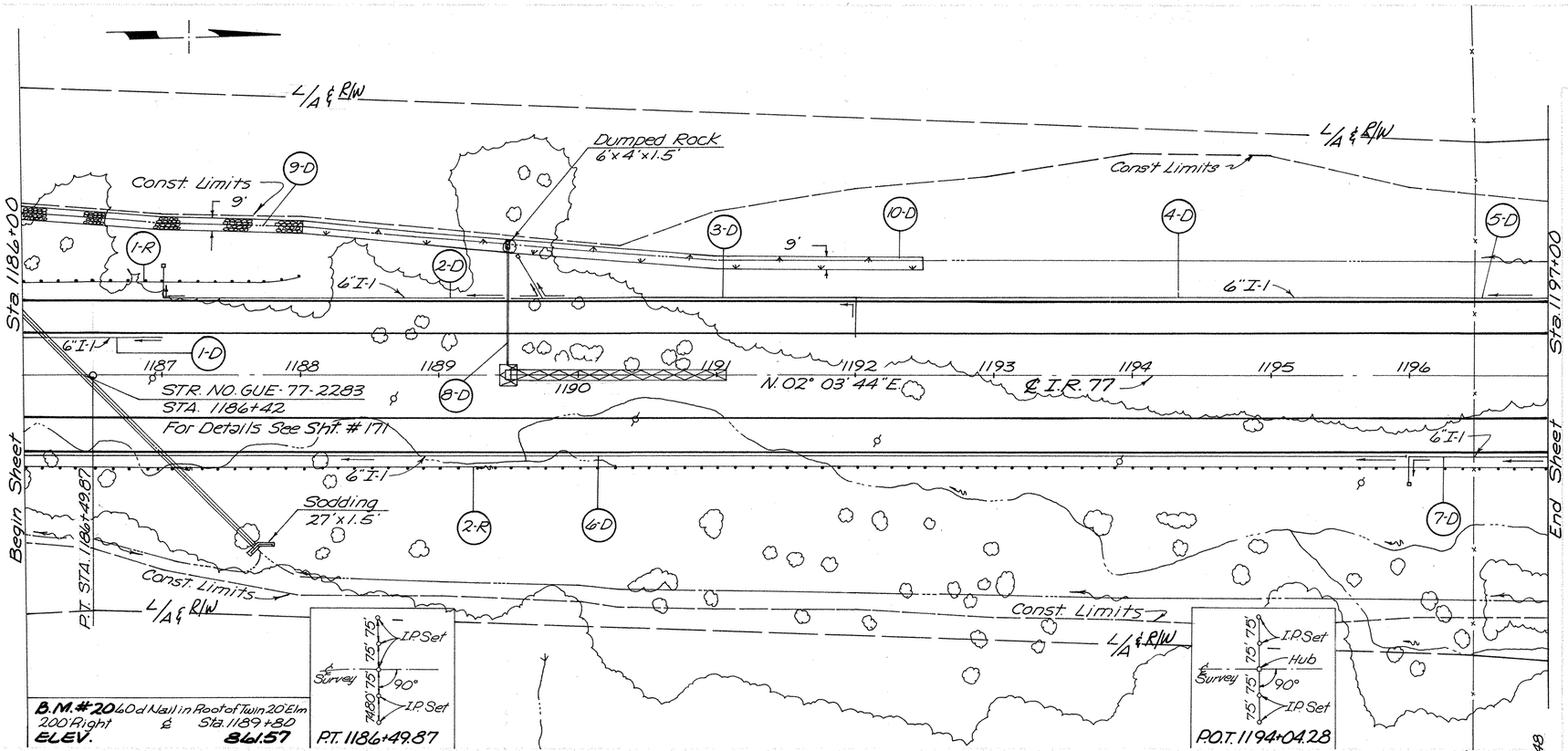
Excavation	5,602	Cu. Yds.
Embankment	140,201	Cu. Yds.
Embank. + 8%	151,417	Cu. Yds.
Seeding	28,212	Sq. Yds.

Rock Embankment 8360 Cu. Yds.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	I-1				I-2	I-5		I-8	I-10	I-15	L-120	SEE SHEET NO.
				Cl. B-1	Class F-4		Cl. I-3	Masonry	Pipe Specials Cl. I-3		No. 4 Catch Basin	Dumped Rock	Guard Rail St. Beam Std. Type Deep	Jute Matting	
				15" Pipe	6" Pipe	8" Pipe M-6.4(C)	6" Pipe Shallow		6"-60° Wye	6"-90° Bend					
				Lin. Ft.				Cu. Yds.	Each		Each	Cu. Yds.	Lin. Ft.	Sq. Yds.	
1-D	1175+00	1178+98	Lt.				398								
2-D	1179+00	1186+00	Lt.		10		717			1					
3-D	1175+00	1178+98	Rt.				398								
4-D	1179+02	1186+00	Rt.			10	712		1						
5-D	1179+00		Rt.	113				0.26			1	2.0		139	
6-D	1185+25	1186+00	Lt.									37.8			
1-R	1175+00	1186+00	Lt.										1100		
2-R	1179+00	1186+00	Rt.										700		
TOTALS				113	10	10	2225	0.26	1	1	1	39.8	1800	139	

Sta. 1175+00 to Sta. 1186+00



23
230

GUE-77-22.59 TUS-77-0.00

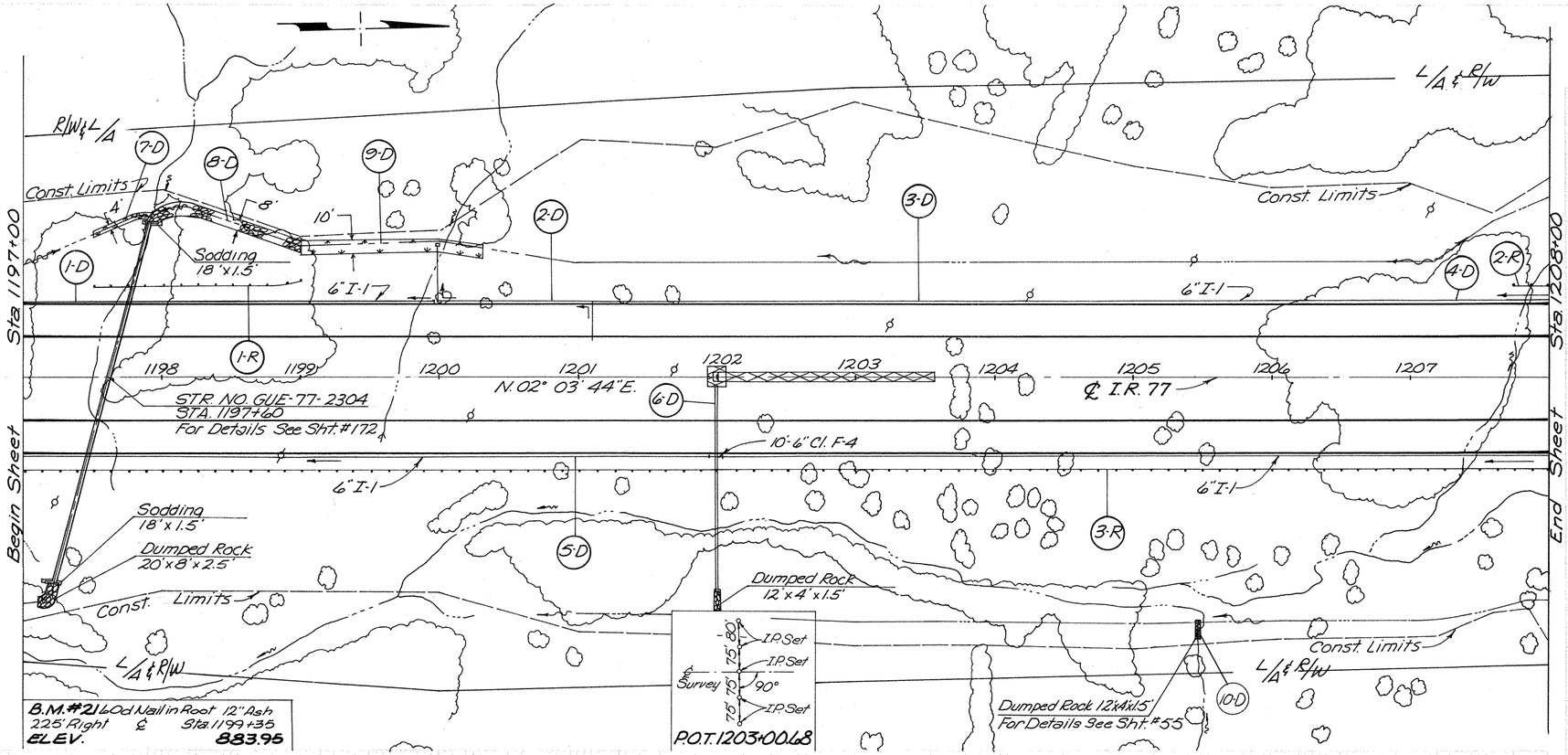
Excavation	24,353	Cu. Yds.
Embankment	173,905	Cu. Yds.
Embank. + 8%	187,817	Cu. Yds.
Seeding	34,233	Sq. Yds.

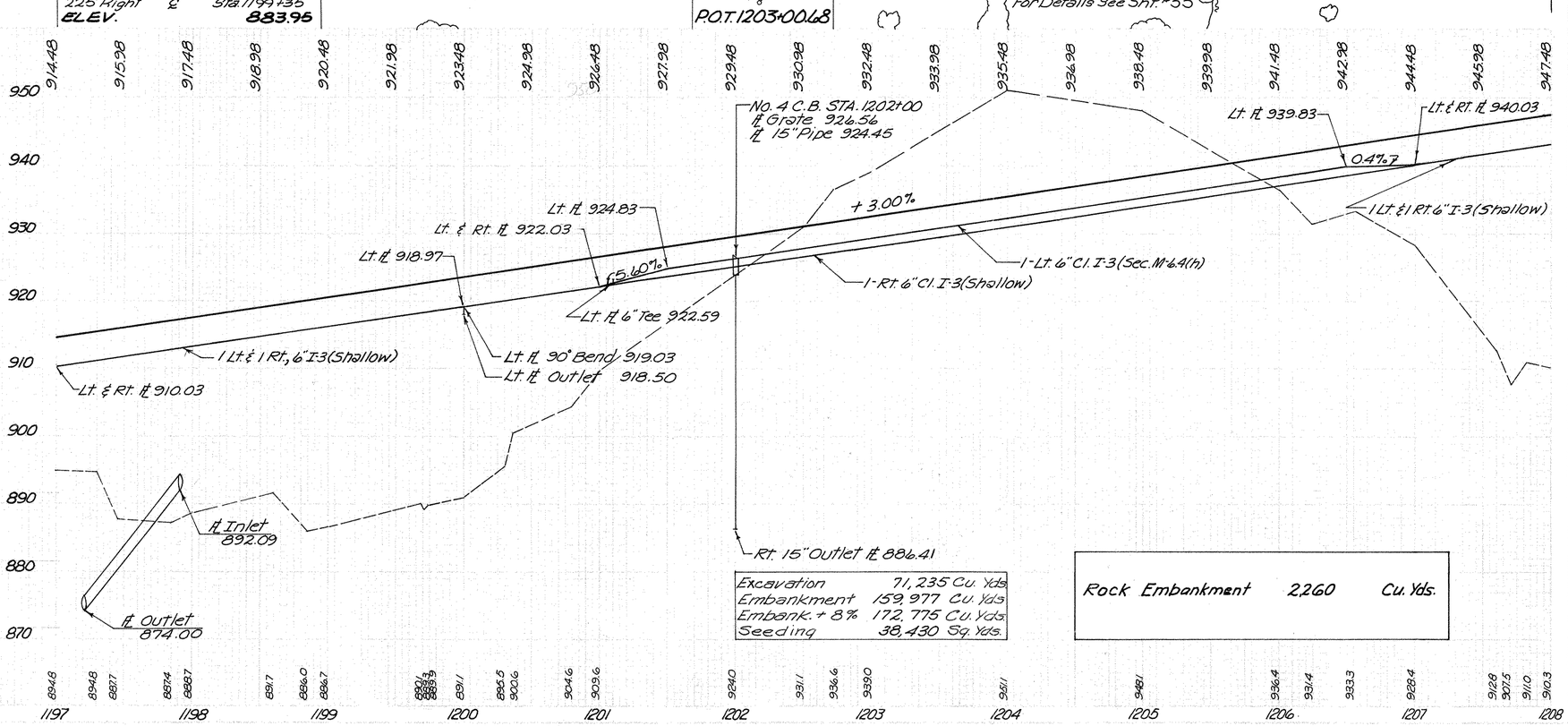
Rock Embankment 7,844 Cu. Yds.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	I-1 Cl. B-1 15" Pipe	I-1 Cl. F-4 8" Pipe M-6.4(c)	I-1 Class I-3 6" Pipe Shallow	I-1 Class I-3 6" Pipe M-6.4(h)	I-2 Masonry	I-5 Pipe Specials Cl. I-3 6"-60° Wye	I-5 Pipe Specials Cl. I-3 6"-90° Bend	I-5 Pipe Specials Cl. I-3 6"x6" Tee	I-8 No. 4 Catch Basin	I-10 Dumped Rock	I-15 Guard Rail St. Beam Std. Type Deep	L-10 Sod	L-120 Jute Matting
				Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Cu. Yds.	Each	Each	Each	Each	Cu. Yds.	Lin. Ft.	Sq. Yds.	Sq. Yds.
1-D	1186+00	1187+00	Lt.			100										
2-D	1187+00	1189+48	Lt.		10	260				1						
3-D	1189+52	1192+50	Lt.		10	319	29		1		1					
4-D	1192+50	1196+00	Lt.				350									
5-D	1196+00	1197+00	Lt.			100										
6-D	1186+00	1195+98	Rt.			998										
7-D	1196+00	1197+00	Rt.		10	112				1						
8-D	1189+50		Lt.	93				0.26				1	1.1			139
9-D	1186+00	1188+00	Lt.										100.0			
10-D	1188+00	1192+50	Lt.												450	
1-R	1186+00	1188+00	Lt.											200		
2-R	1186+00	1197+00	Rt.											1100		
TOTALS				93	30	1889	379	0.26	1	2	1	1	101.1	1300	450	139

Sta. 1186+00 to Sta. 1197+00





GUE-77-22.59 TUS-77-0.00

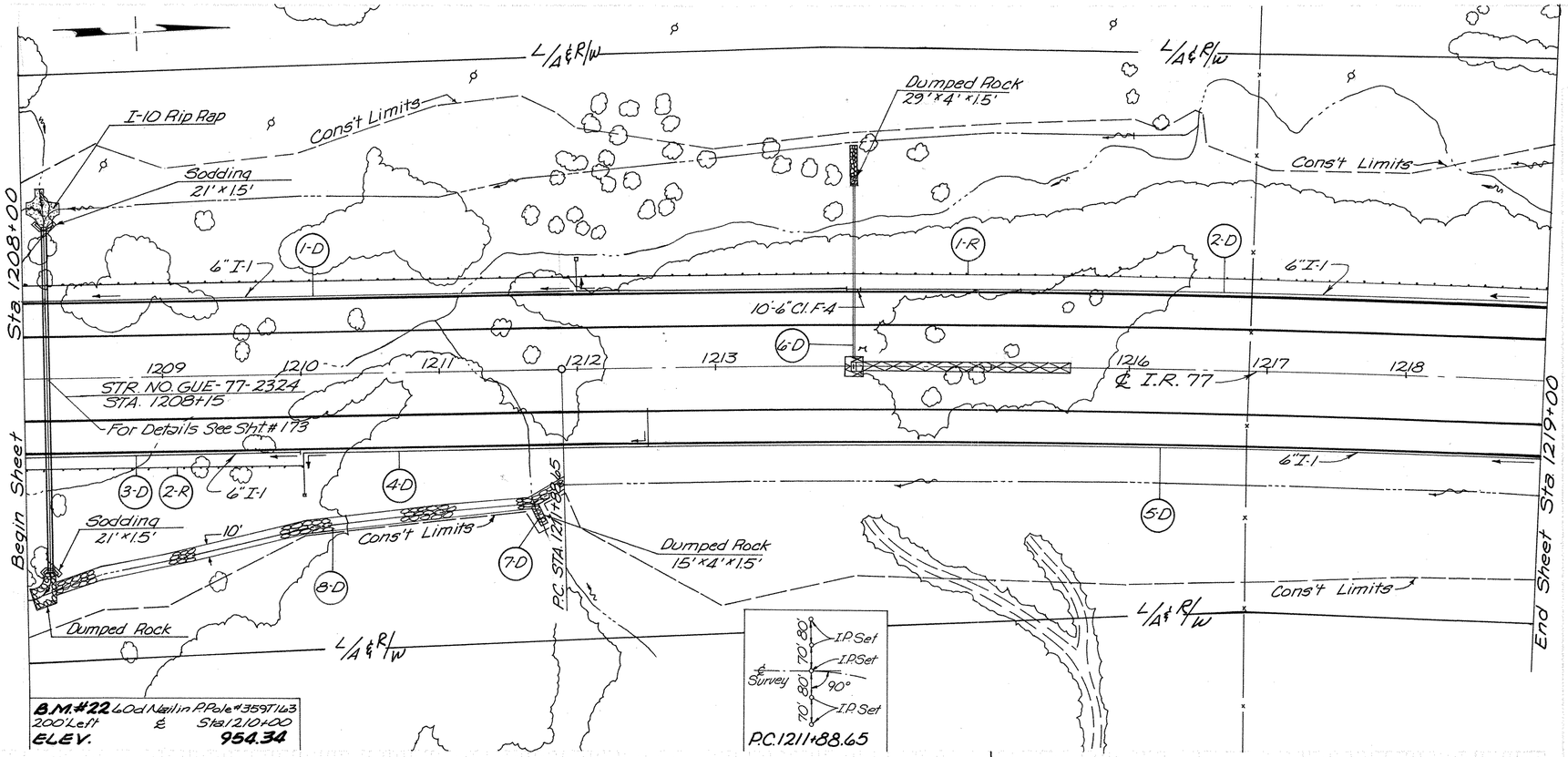
Excavation	71,235 Cu. Yds.
Embankment	159,977 Cu. Yds.
Embank. + 8%	172,775 Cu. Yds.
Seeding	38,430 Sq. Yds.

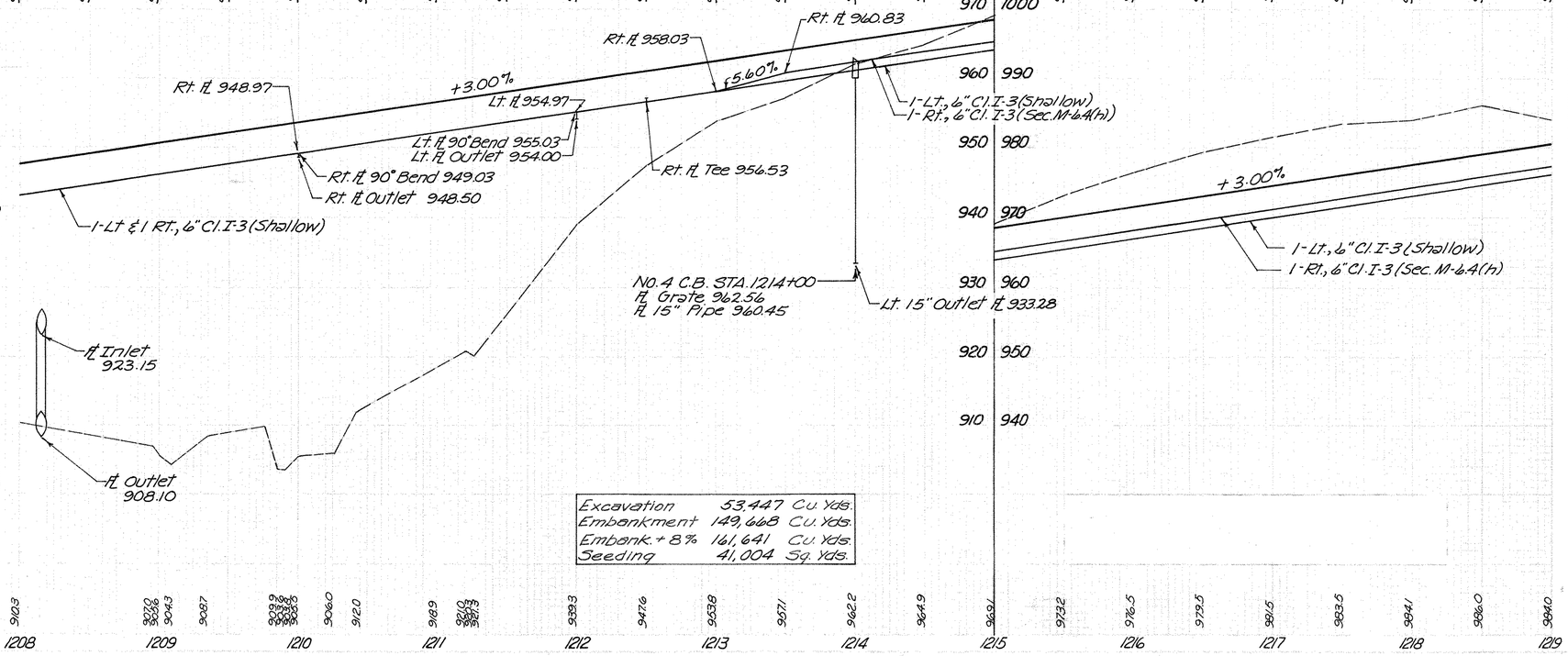
Rock Embankment 2,260 Cu. Yds.

ESTIMATED QUANTITIES

REF NO.	STATION	TO STATION	SIDE	I-1 Cl. B-1 15" Pipe	I-1 Class F-4 6" Pipe	I-1 Class F-4 8" Pipe M-6.4(c)	I-1 Class F-4 15" Pipe	I-1 Class I-3 6" Pipe Shallow	I-1 Class I-3 6" Pipe M-6.4(h)	I-2 Masonry	I-5 Pipe Specials F-4 15"25° Bend	I-5 Pipe Specials Cl. I-3 6"90° Bend	I-5 Pipe Specials Cl. I-3 6"x6" Tee	I-8 No. 4 Catch Basin	I-10 Dumped Rock	I-15 Guard Rail St. Beam Std. Type Deep	L-10 Sod	L-120 Jute Matting
				Lin. Ft.						Cu. Yds.	Each			Each	Cu. Yds.	Lin. Ft.	Sq. Yds.	Sq. Yds.
1-D	1197+00	1199+98	Lt.					298										
2-D	1200+00	1201+50	Lt.			10		179	29			1	1					
3-D	1201+50	1206+50	Lt.						500									
4-D	1206+50	1208+00	Lt.					150										
5-D	1197+00	1208+00	Rt.		10			1090										
6-D	1202+00		Rt.	72			92			0.26	2			1	2.7			139
7-D	1197+50	1197+90	Lt.														20	
8-D	1197+95	1199+00	Lt.												46.7			
9-D	1199+00	1200+30	Lt.														145	
10-D	1205+45 ±		Rt.												2.7			
1-R	1197+50	1199+00	Lt.													150		
2-R	1207+75	1208+00	Lt.													25		
3-R	1197+00	1208+00	Rt.													1100		
TOTALS				72	10	10	92	1717	529	0.26	2	1	1	1	52.1	1275	165	139

Sta. 1197+00 to Sta. 1208+00





FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

GUE-77-22.59 TUS-77-0.00

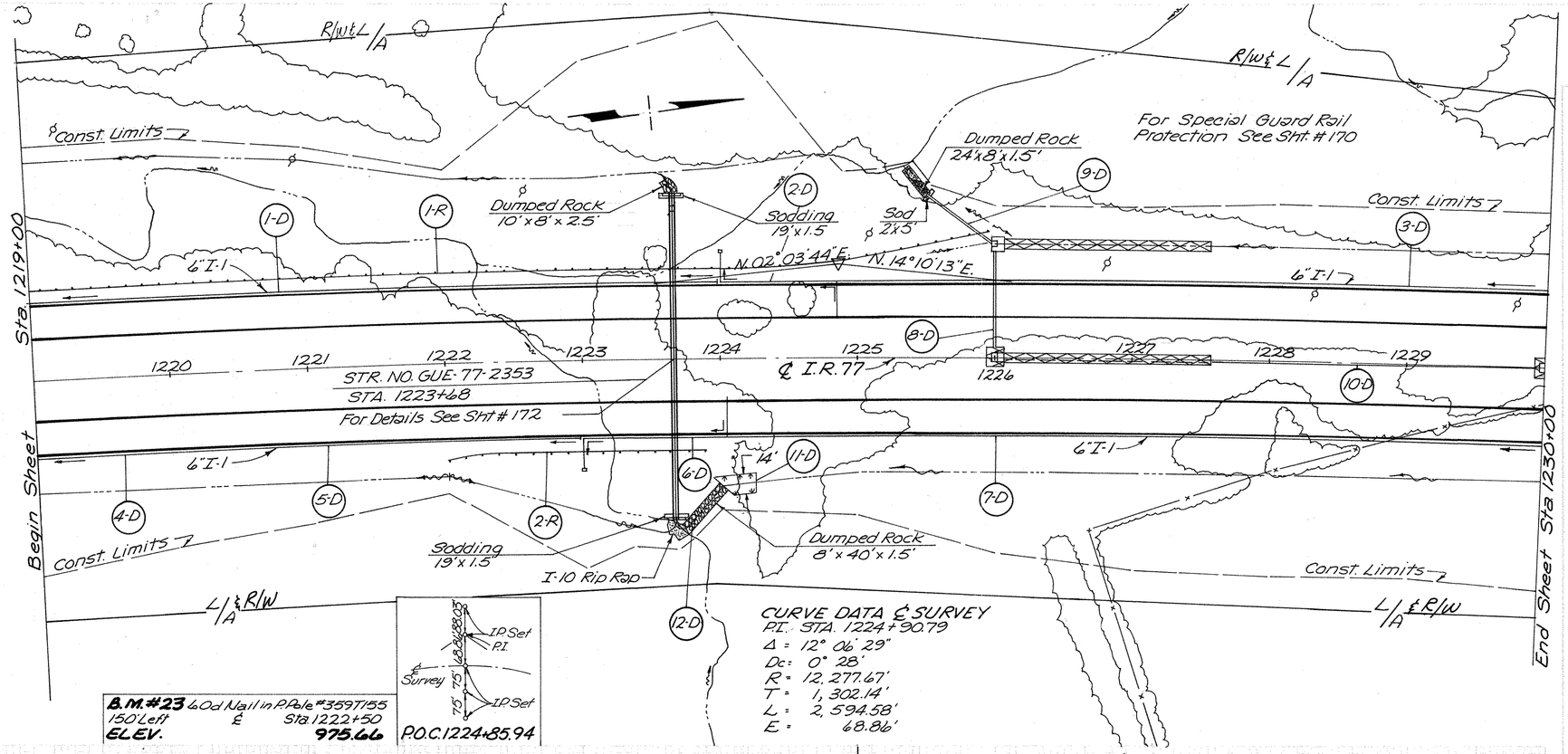
B.M. #22 60d Nail in P.Pole # 3597163
200' Left ℄ Sta. 1210+00
ELEV. 954.34

Excavation	53,447	Cu. Yds.
Embankment	149,668	Cu. Yds.
Embank. + 8%	161,641	Cu. Yds.
Seeding	41,004	Sq. Yds.

ESTIMATED QUANTITIES

Ref. No.	Station to Station		Side	I-1 Cl. B-1 15" Pipe	I-1 Class F-4 6" Pipe	I-1 Class F-4 8" Pipe M-6.4(c)	I-1 Class F-4 15" Pipe	I-1 Class I-3 6" Pipe Shallow	I-1 Class I-3 6" Pipe M-6.4(h)	I-2 Masonry	I-5 Pipe Specials Cl. F-4 15" 25° Bend	I-5 Pipe Specials Class I-3 6" 90° Bend	I-5 Pipe Specials Class I-3 6"×6" Tee	I-8 No. 4 Catch Basin	I-10 Dumped Rock	I-15 Guard Rail St. Beam Std.	L-120 Jute Matting Type Deep	See Sheet No.
				Lin. Ft.						Cu. Yds.	Each			Each	Cu. Yds.	Lin. Ft.	Sq. Yds.	
1-D	1208+00	1211+98	Lt.					398										
2-D	1212+00	1219+00	Lt.		10	10		703				1						
3-D	1208+00	1209+98	Rt.					198										
4-D	1210+00	1213+50	Rt.			10		370	29			1	1					
5-D	1213+50	1219+00	Rt.						550									
6-D	1214+00±		Rt.	72			68			0.26	2			1	6.4		139	
7-D	1211+60±		Rt.												3.3			
8-D	1208+19	1211+88	Rt.												267.2			
1-R	1208+00	1219+00	Lt.													1100		
2-R	1208+00	1210+00	Rt.													200		
TOTALS				72	10	20	68	1669	579	0.26	2	2	1	1	276.9	1300	139	

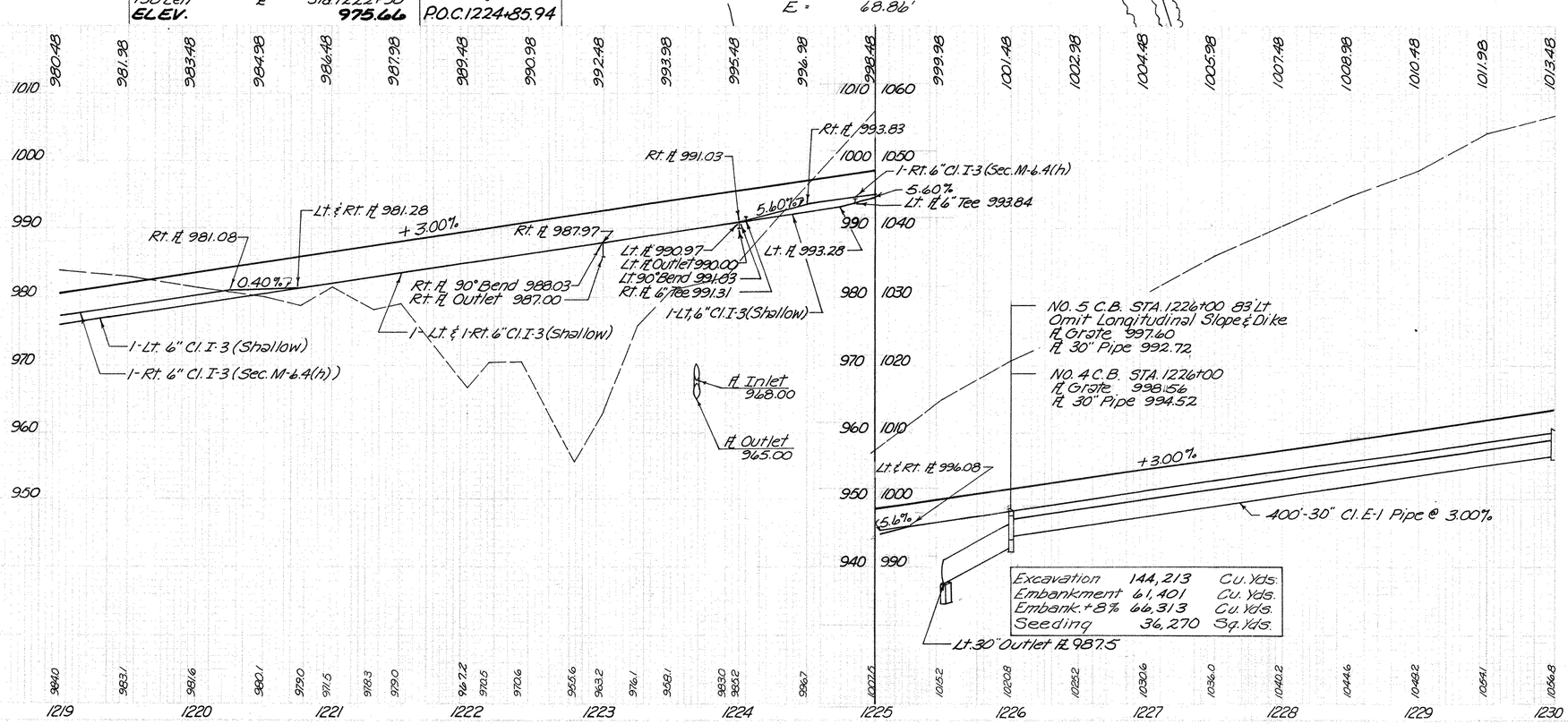
Sta. 1208+00 to Sta. 1219+00



B.M. #23 60d Nail in P. Pole #3597155
150' Left ℄ Sta. 1222+50
ELEV. **975.66**

P.O.C. 1224+85.94

CURVE DATA & SURVEY
P.I. STA. 1224+90.79
Δ = 12° 06' 29"
Dc = 0° 28'
R = 12,277.67'
T = 1,302.14'
L = 2,594.58'
E = 68.86'



Excavation	144,213	Cu. Yds.
Embankment	61,401	Cu. Yds.
Embank. + 8%	66,313	Cu. Yds.
Seeding	36,270	Sq. Yds.

ESTIMATED QUANTITIES

REF. NO.	STATION	TO STATION	SIDE	Cl. B-1 30" Pipe	I-1 Cl. E-1 30" Pipe	I-1 Cl. F-4 8" Pipe M-6.4(c)	I-1 Class I-3 6" Pipe Shallow	I-1 Class I-3 6" Pipe M-6.4(h)	I-2 Masonry	I-5 Pipe Spec. Cl. I-3 6" 90° Bend	I-5 Pipe Spec. Cl. I-3 6"x6" Tee	I-8 No. 4 Catch Basin	I-8 No. 5 Catch Basin	I-10 Dumped Rock	I-15 Guard Rail St. Beam Std. Type Deep	L-10 Sod	L-120 Jute Matting	SEE SHEET NO.
				Lin. Ft.					Cu. Yds.	Each		Each		Cu. Yds.	Lin. Ft.	Sq. Yds	Sq. Yds	
1-D	1219+00	1223+98	Lt.				498											
2-D	1224+00	1225+25	Lt.			10	137	29		1	1							
3-D	1225+25	1230+00	Lt.					475										
4-D	1219+00	1220+25	Rt.					125										
5-D	1220+25	1222+98	Rt.				273											
6-D	1223+00	1224+50	Rt.			10	162	29		1	1							
7-D	1224+50	1230+00	Rt.					550										
8-D	1226+00		Lt.	83								1					139	
9-D	1225+50±	1226+00	Lt.		61				0.51				1	10.7		1.0	125	
10-D	1226+00	1230+00	℄		400													
11-D	1224+00	1224+25	Rt.													39.0		
12-D	1223+74	1224+01	Rt.											17.7				
1-R	1219+00	1225+93±	Lt.												700.0			
2-R	1222+00	1223+87.5	Rt.												187.5			
TOTALS				83	461	20	1070	1208	0.51	2	2	1	1	28.4	887.5	40.0	264	

Sta. 1219+00 to Sta. 1230+00

STRUCTURE DATA

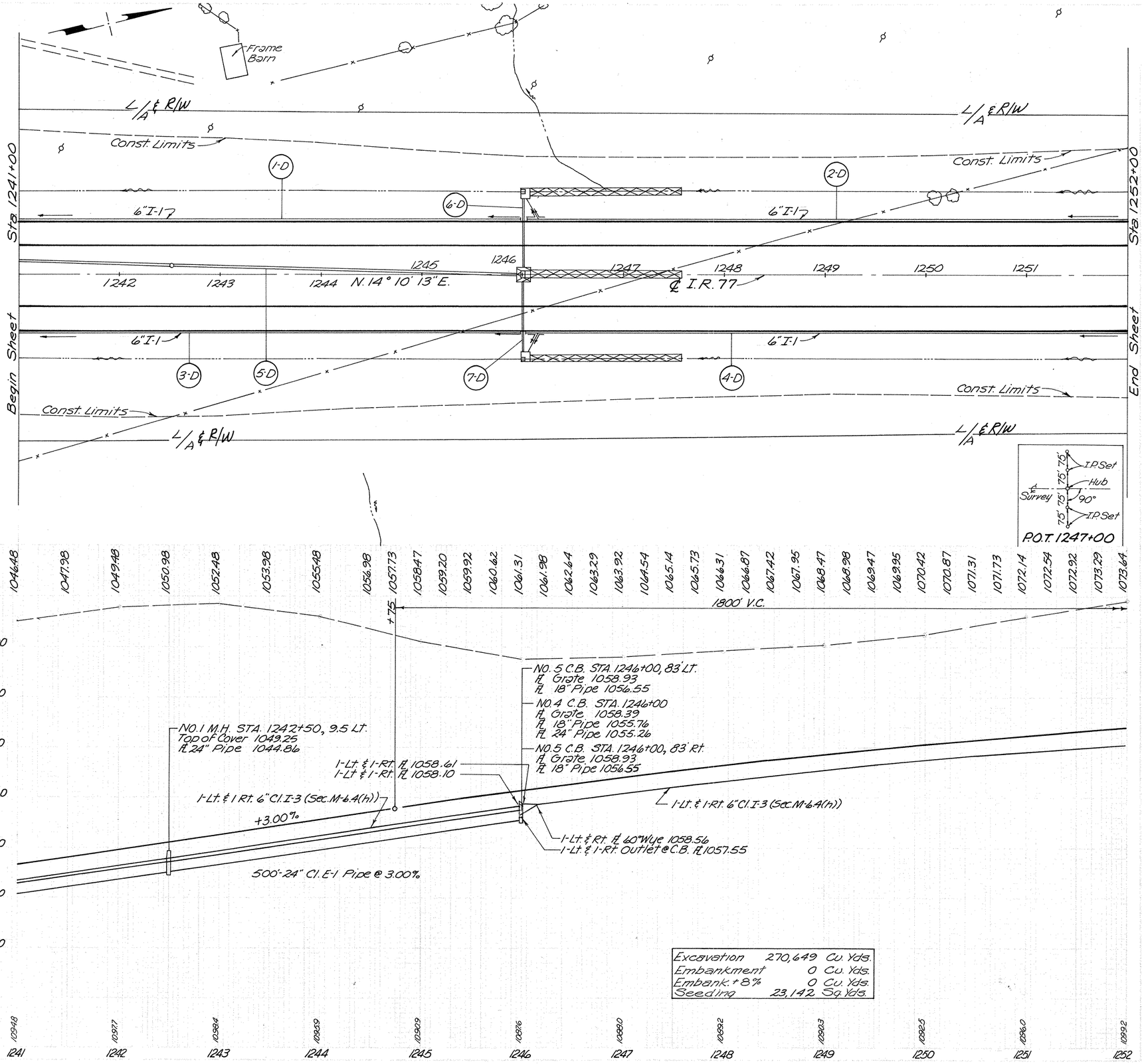
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 49'-6", 70'-9", 70'-9", 56'-6" C/C BRGS.
SKEW: 9° 52' 36" LF TO LOC. TAN.
ROADWAY: 24'-0" F/F 2'-0" SAFTY CURBS
LOAD FREQUENCY: CF=130
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG-SPECIAL
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: NONE Abut. 1; Crushed Agg Abut. 2

Excavation	325,780	Cu. Yds.
Embankment	0	Cu. Yds.
Embank. + 8%	0	Cu. Yds.
Seeding	23,837	Sq. Yds.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	I-14 Paved Gutter Mod. Std. #1 (Lin. Ft.)	Manhole (Each)	I-8 No. 4 Catch Basin (Each)	I-8 No. 5 Catch Basin (Each)	I-10 Dumped Rock (Cu. Yds.)	I-15 Guard Rail St. Beam Std. Type Deep (Lin. Ft.)	L-120 Jute Matting (Sq. Yds.)		I-1 Cl. B-1 15" Pipe (Lin. Ft.)	I-1 Class E-1 12" Pipe (Lin. Ft.)	I-1 Class E-1 18" Pipe (Lin. Ft.)	I-1 Class E-1 24" Pipe (Lin. Ft.)	I-1 Class E-1 30" Pipe (Lin. Ft.)	I-1 Cl. F4 6" Pipe (Lin. Ft.)	I-1 Class I-3 6" Pipe (Lin. Ft.)	I-1 Class I-3 6" Pipe Shallow M-6.4(h) (Lin. Ft.)	I-5 Pipe Spec. Cl. I-3 6"-60° Wye (Each)
1-D	1230+00	1238+98	LT.																898	
2-D	1239+02	1241+00	LT.														10	18	198	1
3-D	1230+00	1238+98	Rt.																898	
4-D	1239+02	1241+00	Rt.														10	18	198	1
5-D	1230+00	1234+00	LT.			1				139						400				
6-D	1234+00		LT.		1	1				139			19							
7-D	1234+00	1239+00	LT.													500				
8-D	1239+00		LT.				1			125		64								
9-D	1239+00		Rt.				1			125		83								
10-D	1239+00		LT.		1	1				139				19						
11-D	1239+00	1241+00	LT.												200					
12-D	1233+80		Rt.					8.0												
13-D	1237+43	50+61 T.R. 218	Rt.	46							71									
14-D	1237+93	50+68 T.R. 218	Rt.	45							71									
1-R	1237+24	1238+11.5	LT.						87.5											
2-R	1236+85.5	1237+73	Rt.						87.5											
TOTALS				91	2	3	2	8.0	175	667		147	19	19	200	900	20	36	2192	2

Sta. 1230+00 to Sta. 1241+00



Excavation	270,649	Cu. Yds.
Embankment	0	Cu. Yds.
Embank. +8%	0	Cu. Yds.
Seeding	23,142	Sq. Yds.

ESTIMATED QUANTITIES

SHEET NO.	STATION TO STATION	L-120 Jute Matting	Sq. Yds.	I-8 No. 1 Man-hole	No. 4 Catch Basin	No. 5 Catch Basin	Each	TOTALS
1-D	1241+00 to 1246+00					1	1	1
2-D	1246+02 to 1252+00				1		1	2
3-D	1241+00 to 1245+98		139			1		1
4-D	1246+02 to 1252+00		125		1			1
5-D	1241+00 to 1246+00		125	1				2
6-D	1246+00 to 1246+00							
7-D	1246+00 to 1252+00							
TOTALS			389	1	1	2	2	6

SHEET NO.	STATION TO STATION	I-1 Cl. B-1 18" Pipe	Cl. E-1 24" Pipe	Cl. F-4 6" Pipe Shallow	Class I-3 6" Pipe M-6.4(h)	I-5 Pipe Spec. Cl. I-3 6"-60° Wye	Each	Lin. Ft.	TOTALS
1-D	1241+00 to 1246+00								
2-D	1246+02 to 1252+00			10	18	498		1	1
3-D	1241+00 to 1245+98								
4-D	1246+02 to 1252+00			10	18	498		1	1
5-D	1241+00 to 1246+00		500						
6-D	1246+00 to 1246+00	83							
7-D	1246+00 to 1252+00	83							
TOTALS		166	500	20	36	2/92	2	2	2

Sta. 1241+00 to Sta 1252+00

Excavation	152,816	Cu. Yds.
Embankment	22,704	Cu. Yds.
Embank. + 8%	24,520	Cu. Yds.
Seeding	25,390	Sq. Yds.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	I-1 Class I-3 6" Pipe Shallow	M-6.4(h)	I-5 Pipe Spec. Cl. I-3 6" x 6" Tee	I-15 Guard Rail St. Beam Std. Type Deep	L-10 Sod	SHEET NO.
				Lin. Ft.		Each	Lin. Ft.	Sq. Yds.	
1-D	1252+00	1258+25	Lt.		625				
2-D	1258+25	1260+75	Lt.		250				
3-D	1260+75	1263+00	Lt.	225	29	1			
4-D	1252+00	1258+25	Rt.		625				
5-D	1258+25	1259+75	Rt.		150				
6-D	1259+75	1263+00	Rt.	325	29	1			
7-D	1261+00	1262+00	Lt.						
1-R	1261+75	1263+00	Lt.				125	70	
TOTALS				550	1708	2	125	70	

Sta. 1252+00 to Sta. 1263+00

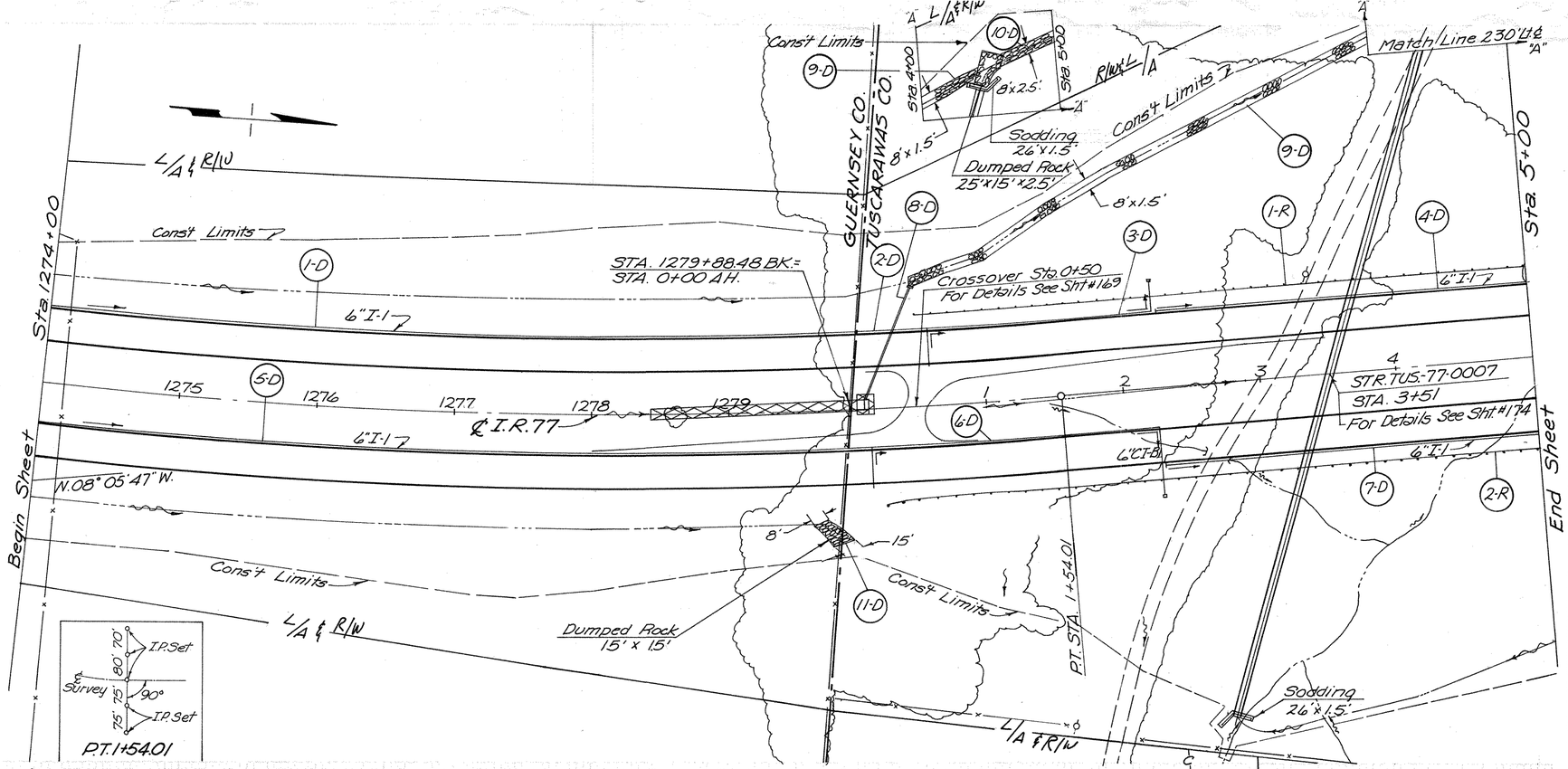
CURVE DATA ℄ SURVEY
P.I. Sta. 1273+93.10
Δ = 22° 16' 00"
Dc = 1°-28'
R = 3906.53'
T = 768.79'
L = 1518.18'
E = 74.93'

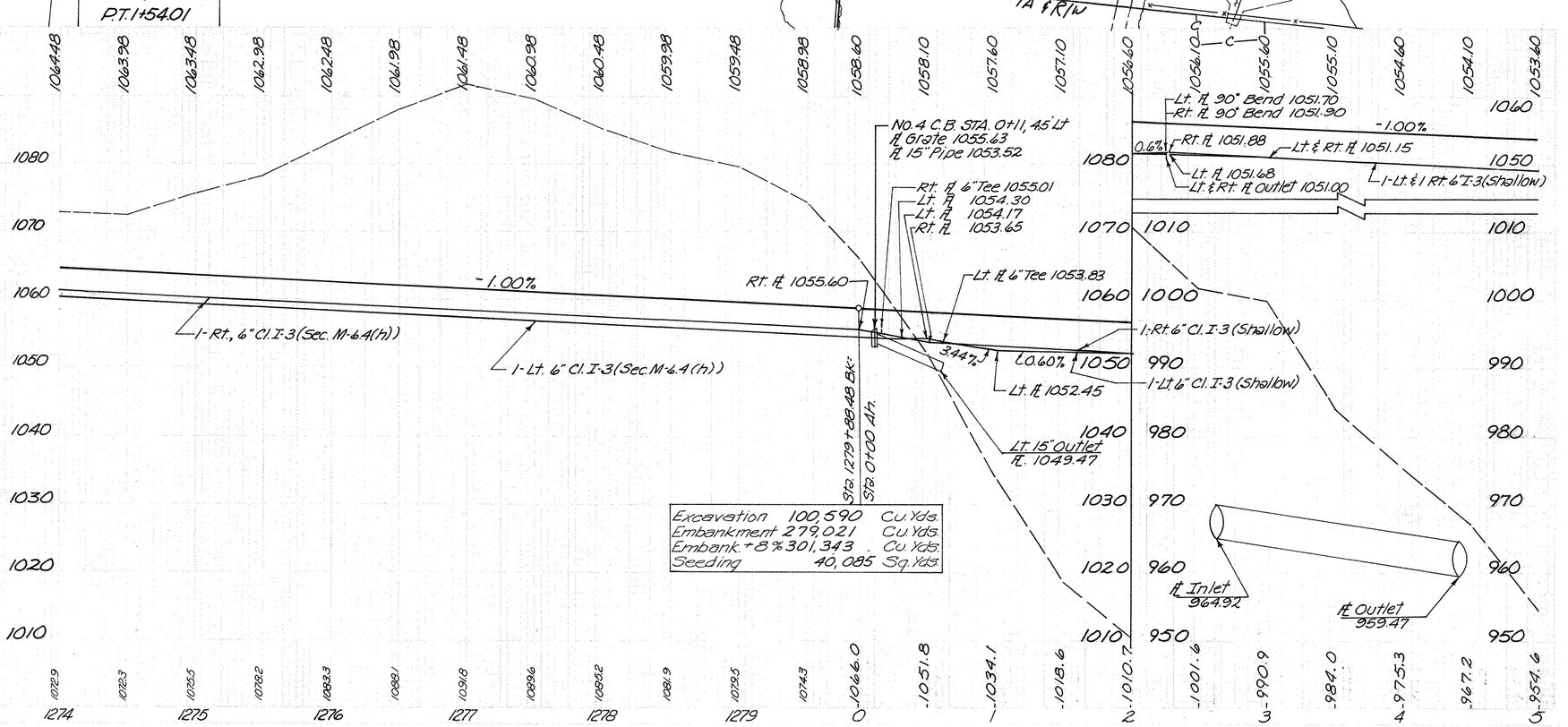
Excavation	77,510	Cu. Yds.
Embankment	67,030	Cu. Yds.
Embank. + 8%	72,392	Cu. Yds.
Seeding	27,945	Sq. Yds.

ESTIMATED QUANTITIES

Sheet No.	Station to Station	Side	I-1 Class B-1 6" Pipe	I-1 Class B-1 15" Pipe	I-1 Class F-4 6" Pipe	I-1 Class F-4 8" Pipe M-6.4(c)	I-1 Class I-3 6" Pipe Shallow	I-1 Class I-3 6" Pipe M-6.4(h)	I-2 Masonry	I-5 Pipe Specials Class I-3 6"-60° Wye	I-5 Pipe Specials Class I-3 6"-90° Bend	I-5 Pipe Specials B-1 6"-90° Bend	I-8 No. 4 Catch Basin	I-10 Dumped Rock	I-15 Guard Rail St. Beam Std Type Deep	L-120 Jute Matting
			Lin. Ft.						Cu. Yds.	Each			Each	Cu. Yds.	Lin. Ft.	Sq. Yds.
1-D	1263+00 – 1266+98	Lt.				10	420			1						
2-D	1267+02 – 1274+00	Lt.						698								
3-D	1263+00 – 1265+50	Rt.	29				250					2				
4-D	1265+50 – 1266+50	Rt.					100									
5-D	1266+50 – 1267+00	Rt.			10		17	50			1					
6-D	1267+02 – 1274+00	Rt.						698								
7-D	1267+00	Lt.		86					0.26				1	1.8		139
1-R	1263+00 – 1267+50	Lt.													450	
TOTALS			29	86	10	10	787	1446	0.26	1	1	2	1	1.8	450	139

Sta. 1263+00 to Sta. 1274+00





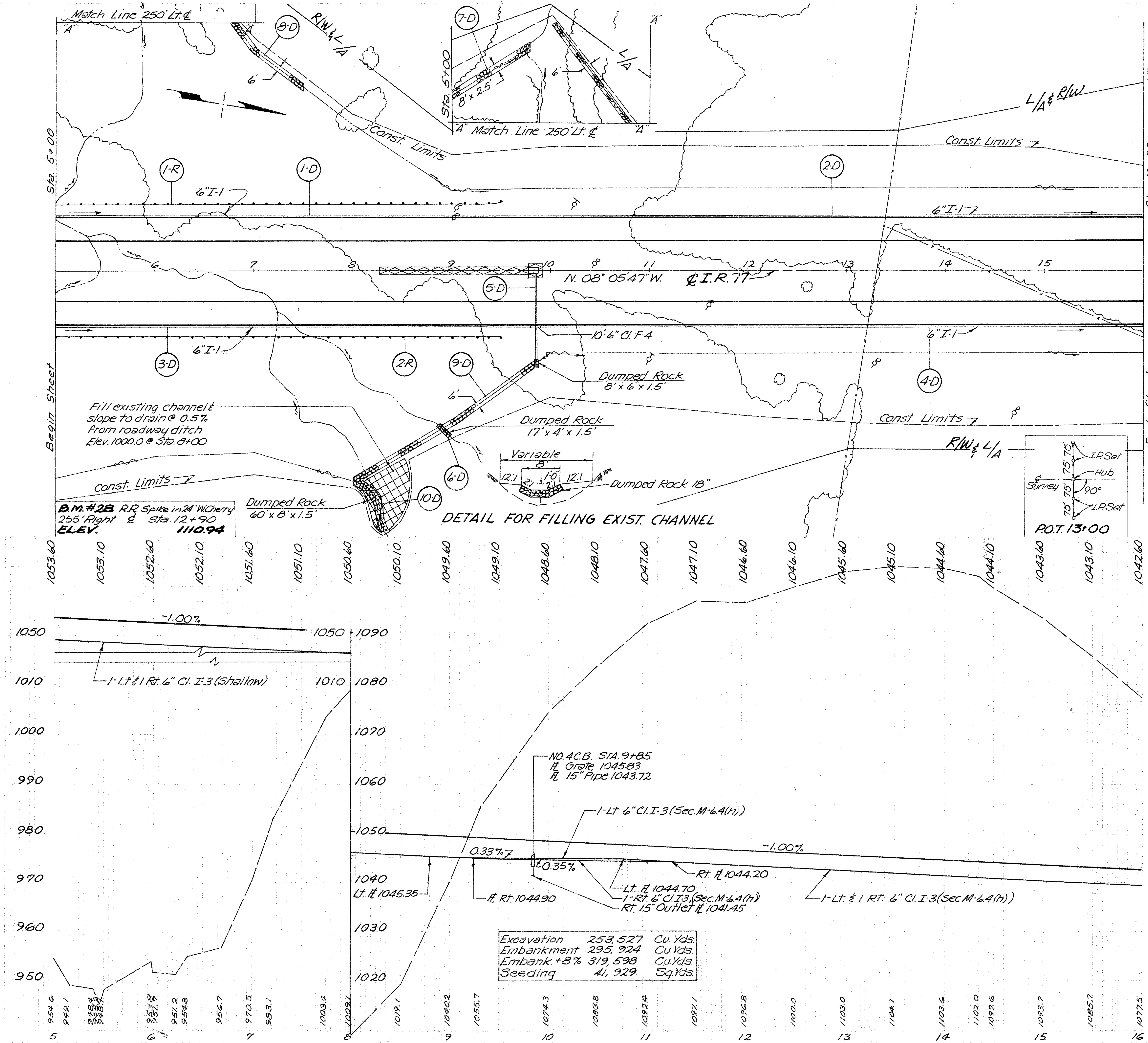
Excavation	100,590	Cu. Yds.
Embankment	279,021	Cu. Yds.
Embank. + 8%	301,343	Cu. Yds.
Seeding	40,085	Sq. Yds.

Sta. 1274+00 to Sta. 5+00

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	I-1 Class B-1 6" Pipe	I-1 Class B-1 15" Pipe	I-1 Cl. F-4 8" Pipe M-6.4(c)	I-1 Class I-3 6" Pipe Shallow	I-1 Class I-3 6" Pipe M-6.4(h)	I-2 Masonry	I-5 Pipe Specials B-1 6"-90° Bend	I-5 Pipe Specials Class I-3 6"x6" Tee	I-5 Pipe Specials Class I-3 6"x90 Bend	I-8 No. 4 Catch Basin	I-10 Dumped Rock	I-15 Guard Rail St. Beam Std. Type Deep	L-120 Jute Matting
						Lin. Ft.			Cu. Yds.		Each		Each	Cu. Yds.	Lin. Ft.	Sq. Yds.
1-D	1274+00	1279+88.48	Lt.					589								
2-D	0+00	0+50	Lt.					50								
3-D	0+50	2+25	Lt.			10	187	29			1	1				
4-D	2+27	5+00	Lt.				273									
5-D	1274+00	1279+88.48	Rt.					589								
6-D	0+00	2+25	Rt.	29		10	236	29		1	1					
7-D	2+27	5+00	Rt.				273									
8-D	0+11	0+50	Lt.		93				0.26				1			139
9-D	0+50	4+40	Lt.											187.1		
10-D	4+63	5+00	Lt.											24.4		
11-D	1279+60±		Rt.											9.5		
1-R	0+50	5+00	Lt.												450	
2-R	0+25	5+00	Rt.												475	
TOTALS				29	93	20	969	1286	0.26	1	2	1	1	221.0	925	139

GUE-77-22.59
TUS-77-0.00

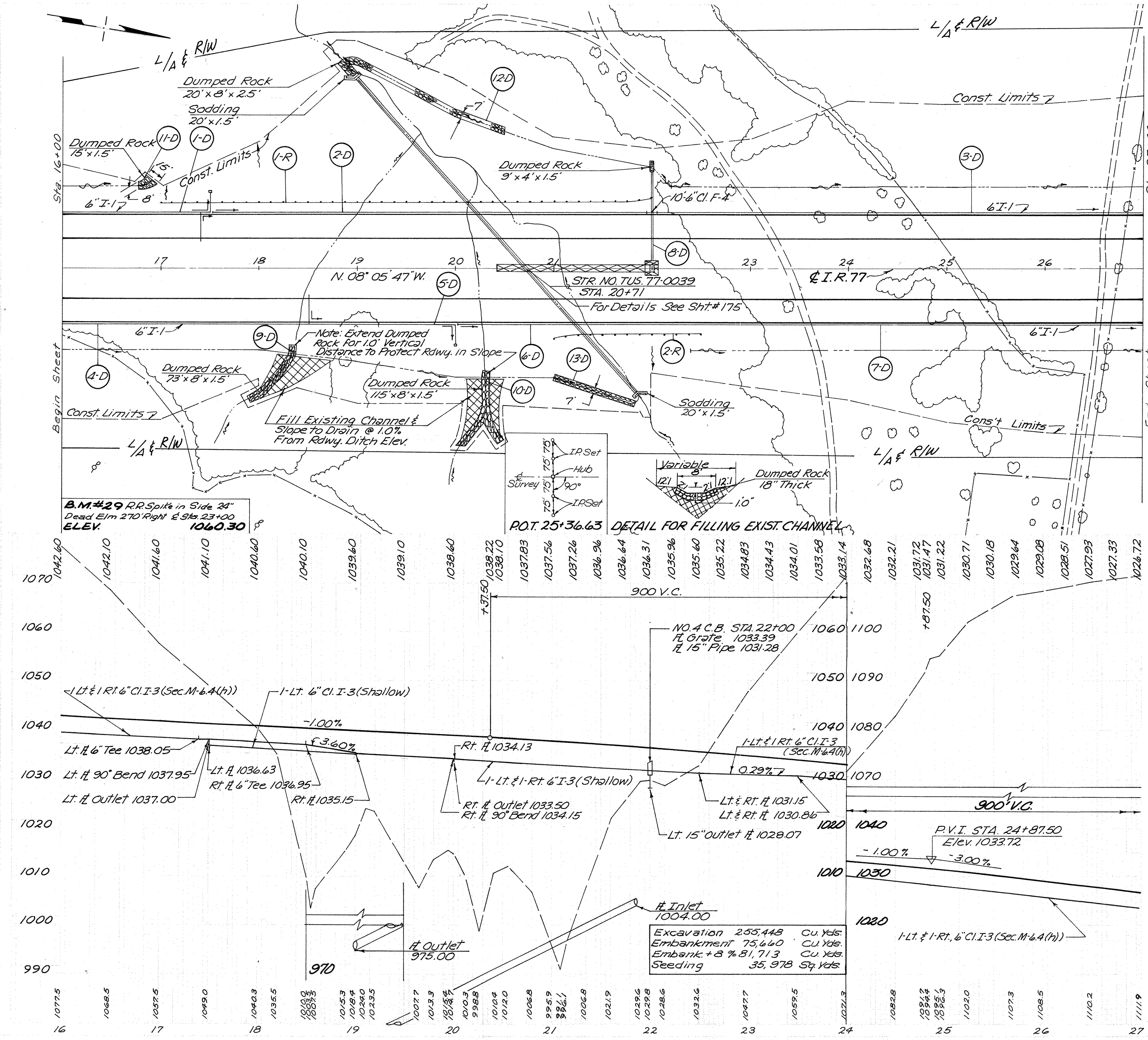

Match Line 250' Lt. ℄
"A" Match Line 250' Lt. ℄
R/W & L/A
L/A & R/W
Const. Limits
Sta. 5+00
Sta. 16+00
Begin Sheet
End Sheet
6" I-1
N. 08° 05' 47" W.
℄ I.R. 77
10'-6" Cl. F-4
Dumped Rock 8' x 6' x 1.5'
Dumped Rock 17' x 4' x 1.5'
Dumped Rock 60' x 8' x 1.5'
Dumped Rock 18"
Fill existing channel & slope to drain @ 0.5% from roadway ditch Elev. 1000.0 @ Sta. 8+00
B.M. #28 R.R. Spike in 24" W.Cherry 255' Right ℄ Sta. 12+90 ELEV. 1110.94
DETAIL FOR FILLING EXIST. CHANNEL
Variable
P.O.T. 13+00
I.P. Set
Hub
℄ Survey
-1.00%
1-Lt. & 1 Rt. 6" Cl. I-3 (Shallow)
NO. 4 C.B. STA. 9+85
℄ Grate 1045.83
℄ 15" Pipe 1043.72
1-Lt. 6" Cl. I-3 (Sec. M-6.4(h))
0.33%
0.35%
Rt. ℄ 1044.20
Lt. ℄ 1044.70
1-Rt. 6" Cl. I-3 (Sec. M-6.4(h))
Rt. 15" Outlet ℄ 1041.45
Lt. ℄ 1045.35
℄ Rt. 1044.90
1-Lt. & 1 RT. 6" Cl. I-3 (Sec M-6.4(h))
Excavation 253,527 Cu. Yds.
Embankment 295,924 Cu. Yds.
Embank. +8% 319,598 Cu. Yds.
Seeding 41,929 Sq. Yds.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	I-1 Cl. B-1 15" Pipe (Lin. Ft.)	I-1 Cl. F-4 6" Pipe (Lin. Ft.)	I-1 Class I-3 6" Pipe Shallow (Lin. Ft.)	I-1 Class I-3 6" Pipe M-6.4(h) (Lin. Ft.)	I-2 Masonry (Cu. Yds.)	I-8 No. 4 Catch Basin (Each)	I-10 Dumped Rock (Cu. Yds.)	I-15 Guard Rail St. Beam Std. Type Deep (Lin. Ft.)	L-120 Jute Matting (Sq. Yds.)
1-D	5+00	8+80	Lt.			380						
2-D	8+80	16+00	Lt.				720					
3-D	5+00	9+25	Rt.		10	415						
4-D	9+25	16+00	Rt.				675					
5-D	9+00		Rt.	90				0.26	1	1.8		139
6-D	8+90		Rt.							3.8		
7-D	5+00	5+80	Lt.							42		
8-D	6+03	7+50	Lt.							49		
9-D	8+00	9+85	Rt.							72		
10-D	8+00		Rt.							27		
1-R	5+00	9+50	Lt.								450	
2-R	5+00	9+25	Rt.								425	
TOTAL				90	10	795	1395	0.26	1	195.6	875	139

Sta. 5+00 to Sta. 16+00

GUE-77-22.59
TUS-77-0.00

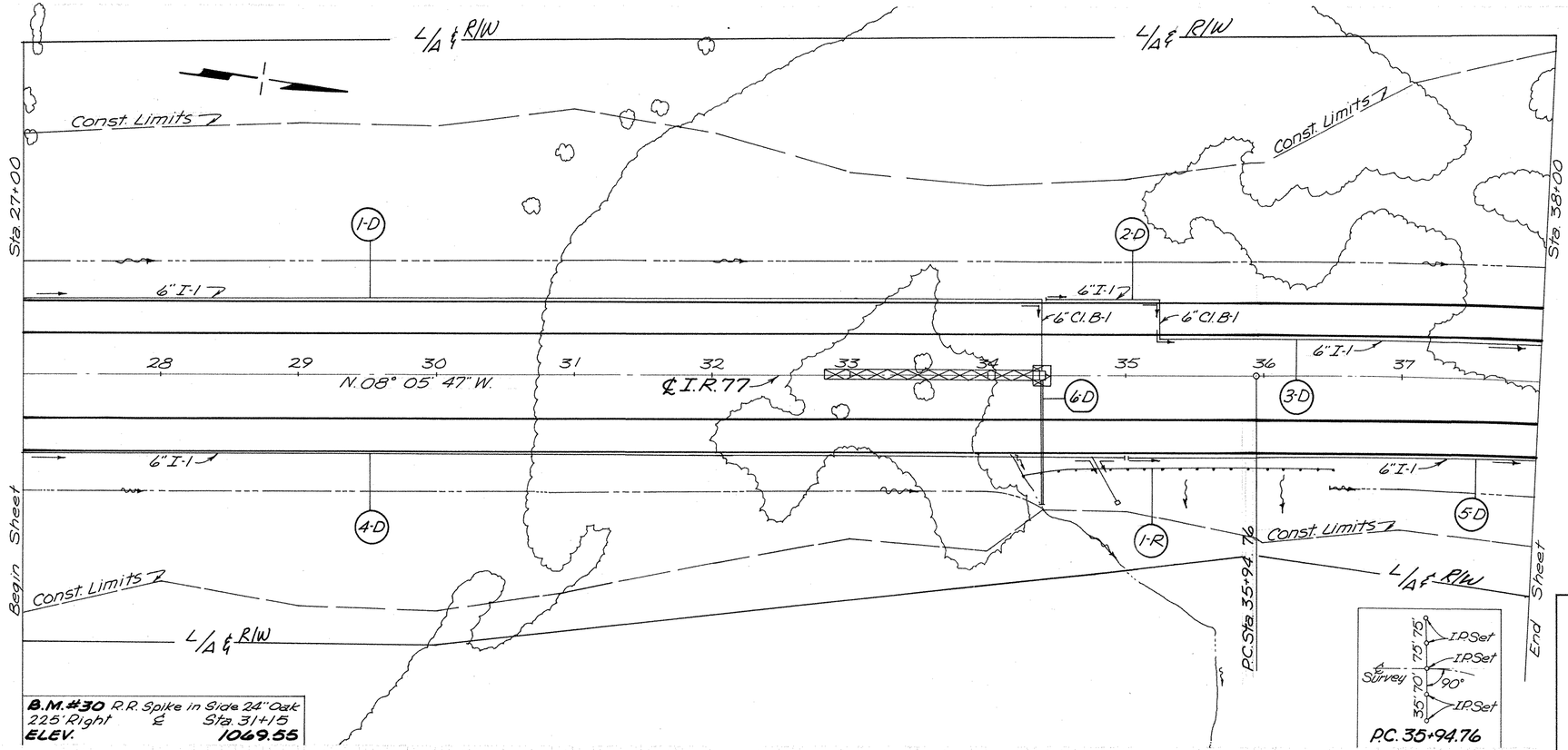

L/A & R/W
Dumped Rock 20'x8'x2.5'
Sodding 20'x1.5'
Const. Limits
Dumped Rock 15'x1.5'
Sta. 16+00
6" I-1
Dumped Rock 9'x4'x1.5'
10-6" Cl. F-4
6"I-1
Sta. 27+00
N. 08° 05' 47" W.
STR. NO. TUS. 77-0039
STA. 20+71
For Details See Sht. #175
℄ I.R. 77
Note: Extend Dumped Rock For 1.0' Vertical Distance To Protect Rdwy. in Slope
Dumped Rock 73'x8'x1.5'
Dumped Rock 115'x8'x1.5'
Sodding 20'x1.5'
Fill Existing Channel & Slope to Drain @ 1.0% From Rdwy. Ditch Elev.
Begin Sheet
End Sheet
Cons't Limits
B.M. #29 R.R. Spike in Side 24" Dead Elm 270' Right ℄ Sta. 23+00
ELEV. 1060.30
P.O.T. 25+36.63
I.P. Set
Hub
℄ Survey
DETAIL FOR FILLING EXIST. CHANNEL
Variable
Dumped Rock 18" Thick
900 V.C.
NO. 4 C.B. STA. 22+00
℄ Grate 1033.39
℄ 15" Pipe 1031.28
1-Lt. & 1 Rt. 6" Cl. I-3 (Sec. M-6.4(h))
1-Lt. 6" Cl. I-3 (Shallow)
-1.00%
℄ 3.60%
Lt. ℄ 6" Tee 1038.05
Lt. ℄ 1036.63
Lt. ℄ 90° Bend 1037.95
Rt. ℄ 6" Tee 1036.95
Lt. ℄ Outlet 1037.00
Rt. ℄ 1035.15
Rt. ℄ 1034.13
1-Lt. & 1-Rt. 6" I-3 (Shallow)
Rt. ℄ Outlet 1033.50
Rt. ℄ 90° Bend 1034.15
0.29%
Lt. & Rt. ℄ 1031.15
Lt. & Rt. ℄ 1030.86
Lt. 15" Outlet ℄ 1028.07
900' V.C.
P.V.I. STA. 24+87.50
Elev. 1033.72
-1.00%
-3.00%
℄ Inlet 1004.00
℄ Outlet 975.00
Excavation 255,448 Cu. Yds.
Embankment 75,660 Cu. Yds.
Embank. + 8% 81,713 Cu. Yds.
Seeding 35,978 Sq. Yds.
1-Lt. & 1-Rt. 6" Cl. I-3 (Sec. M-6.4(h))

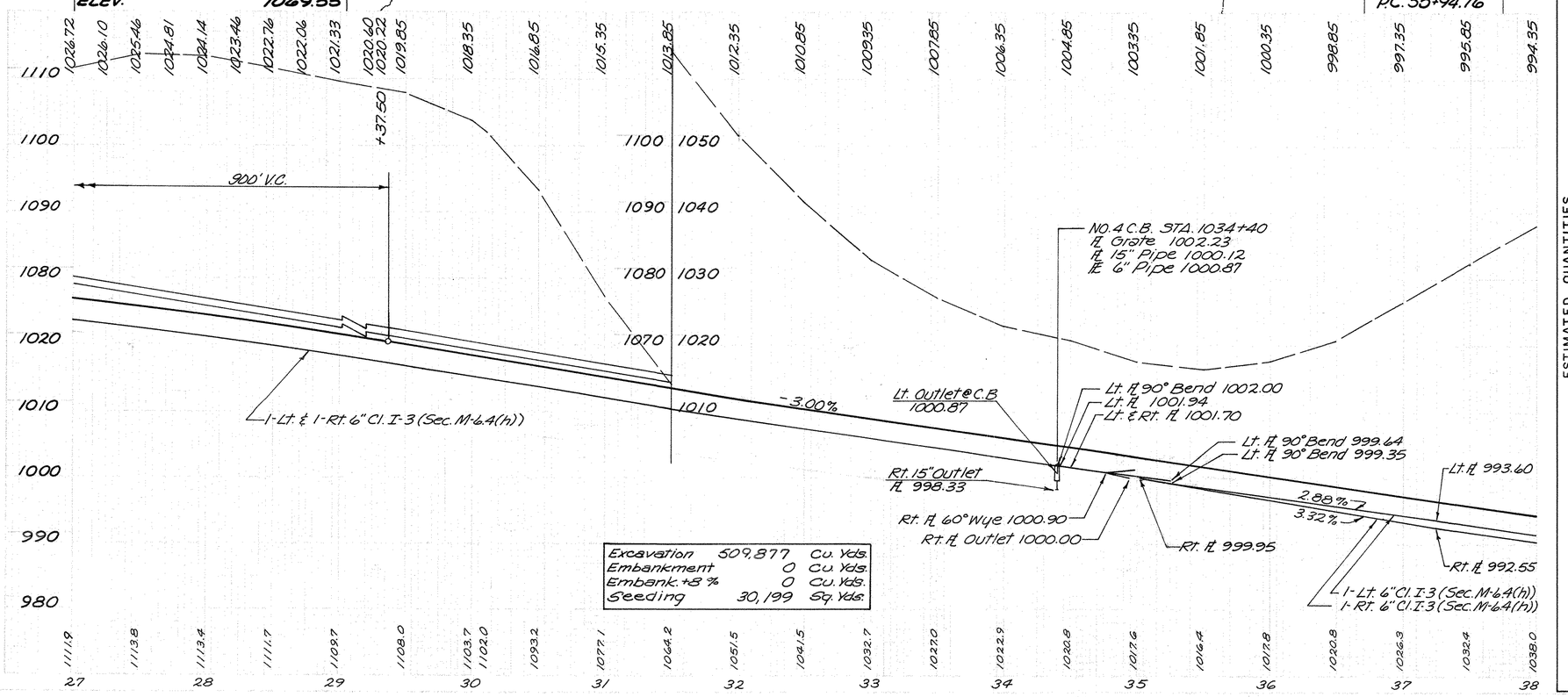
ESTIMATED QUANTITIES

REF. NO.	STATION	TO STATION	SIDE	I-1 Cl. B-1 15" Pipe	I-1 Class 6" Pipe	I-1 Class F-4 8" Pipe M-6.4(c)	I-1 Class I-3 6" Pipe Shallow	I-1 Class I-3 6" Pipe M-6.4(h)	I-2 Masonry	I-5 Pipe Specials Class I-3 6" 90° Bend	I-5 Pipe Specials Class I-3 6"x6" Tee	I-8 No. 4 Catch Basin	I-10 Dumped Rock	I-15 Guardrail St. Beam Std. Type Deep	L-120 Jute Matting
				Lin. Ft.					Cu. Yds.	Each	Each	Each	Cu. Yds.	Lin. Ft.	Sq. Yds.
1-D	16+00	17+50	Lt.			10	10	178		1	1				
2-D	17+52	22+50	Lt.		10		488								
3-D	22+50	27+00	Lt.					450							
4-D	16+00	18+50	Rt.					278			1				
5-D	18+50	20+00	Rt.			10	161			1					
6-D	20+02	22+50	Rt.				248								
7-D	22+50	27+00	Rt.					450							
8-D	22+00		Lt.	99					0.26			1	2.0		139
9-D	18+00±	18+35±	Rt.										32.0		
10-D	20+05±	20+45±	Rt.										55.5		
11-D	16+77	16+92	Lt.										9.5		
12-D	19+00	20+50	Lt.										63.7		
13-D	21+00	21+86	Rt.										33.4		
1-R	17+00	22+00	Lt.											500	
2-R	21+00	22+50	Rt.											150	
TOTAL				99	10	20	907	1356	0.26	2	2	1	196.1	650	139

Sta. 16+00 to Sta. 27+00

GUE-77-22.59
TUS-77-0.00





Excavation	509,877	Cu. Yds.
Embankment	0	Cu. Yds.
Embank. +8 %	0	Cu. Yds.
Seeding	30,199	Sq. Yds.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	I-1 Class B-1 15" Pipe	I-1 Class 6" Pipe	I-1 Class F-4 8" Pipe M-6.4(h) Sta/Low	I-1 Class I-3 6" Pipe	I-2 Masonry Cu. Yds.	I-5 Pipe Specials Cl. B-1 6"-90° Bend	I-5 Cl. I-3 6"-60° Wye	I-8 No. 4 Catch Basin Each	I-15 Guard Rail St. & Conn. STD Type Dwg.	L-120 Jute Matting Lin. Ft. Sq. Yds.	
			Lin. Ft.				Each						
1-D	27+00 to 34+40	Lt.		29									
2-D	34+40 to 35+25	Lt.		29									
3-D	35+25 to 36+00	Rt.						1					
4-D	27+00 to 35+00	Rt.			10	17	0.26						
5-D	35+00 to 38+00	Rt.			25	275		2					
6-D	34+40 to 38+00	Rt.	92			800				1			
1-R	34+25 to 36+50	Rt.		10		740		1					
						83					139		
						298						225	
TOTAL			92	10	10	42	0.26	3	1	1	139	225	139

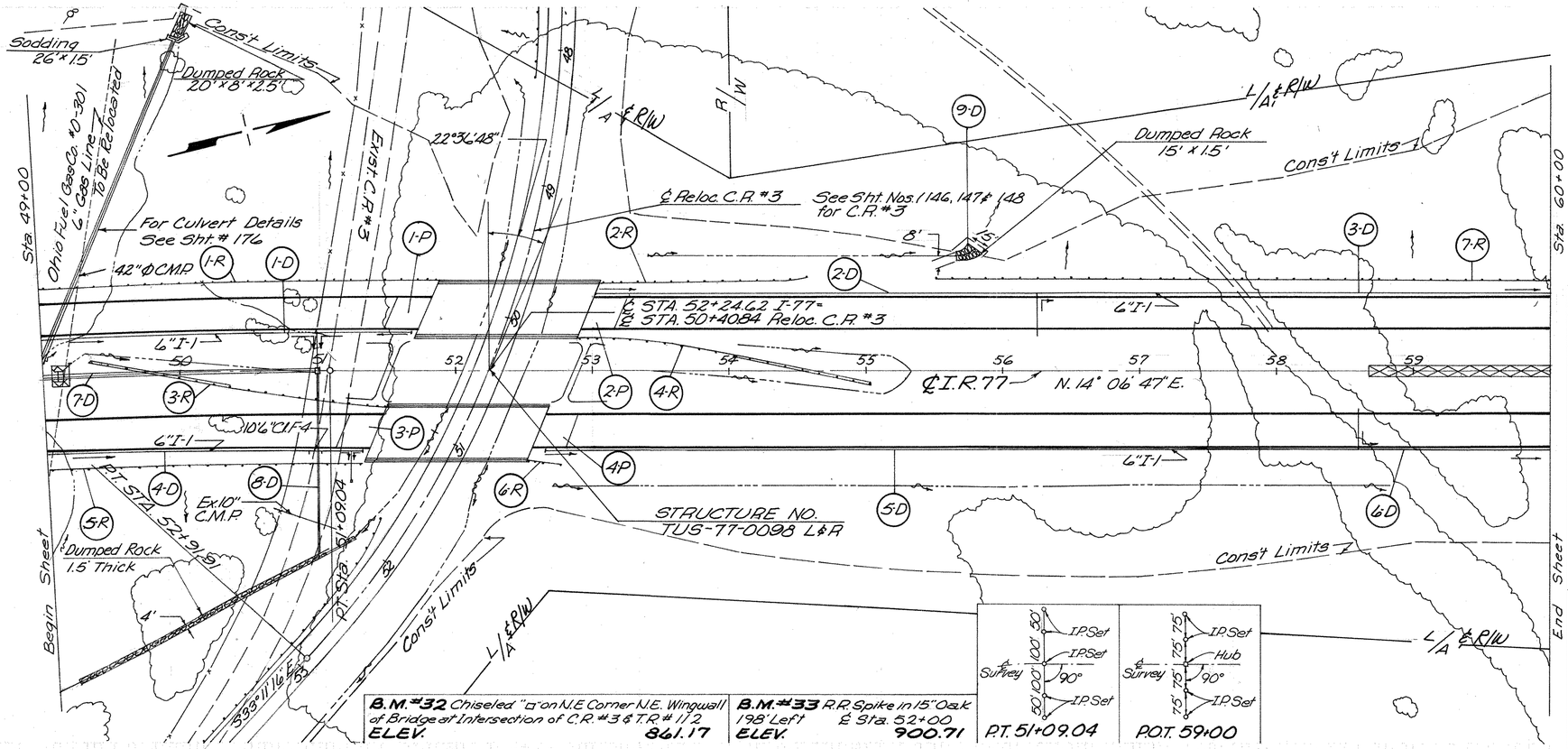
Sta. 27+00 to Sta. 38+00

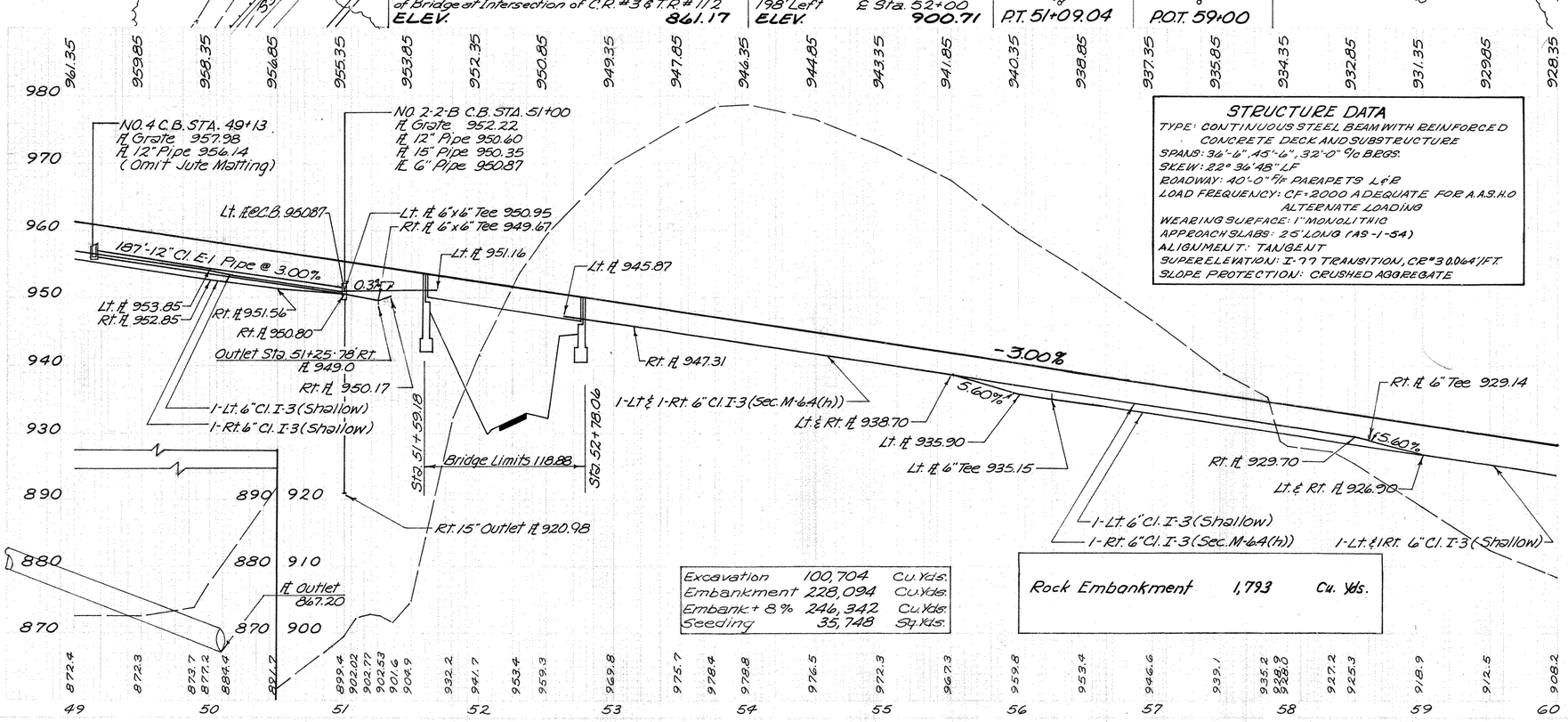
GUE-77-22.59
TUS-77-0.00

REF. NO.	STATION TO STATION		SIDE	ESTIMATED QUANTITIES											
				I-1					I-2	I-5		I-8	I-10	I-15	L-120
				Cl. B-1	Cl. F-4	Class I-3			Masonry	Pipe Specials Class I-3		No. 4 Catch Basin	Dumped Rock	Guard Rail St. Beam Std. Type Deep	Jute Matting
				15" Pipe	6" Pipe	6" Pipe				6"x6"	6"x60°				
						Shallow	M-64(h)			Tee	Wye				
				Lin. ft.					Cu. Yds.	Each		Each	Cu. Yds.	Lin. ft.	Sq. Yds.
1-D	38+00	45+13	Lt.		10	55	703			1	1				
2-D	45+17	49+00	Lt.			383									
3-D	38+00	44+75	Rt.				675								
4-D	44+75	49+00	Rt.			425	28			1					
5-D	45+00		Lt.	96					0.26			1			139
6-D	45+15	48+80	Lt.										255.0		
7-D	44+65±		Rt.										9.5		
1-R	45+24	49+00	Lt.											376.0	
2-R	44+54	49+00	Rt.											446.0	
TOTAL				96	10	863	1406		0.26	2	1	1	264.5	822.0	139

Sta. 38+00 to Sta. 49+00

GUE-77-22.59
TUS-77-0.00





STRUCTURE DATA

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 36'-6", 45'-6", 32'-0" ℄ to ℄ BRGS.
SKEW: 22° 36' 48" LF
ROADWAY: 40'-0" ℄ for PARAPETS L & R
LOAD FREQUENCY: CF=2000 ADEQUATE FOR A.A.S.H.O ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: I-77 TRANSITION, CE=3.0064'/FT.
SLOPE PROTECTION: CRUSHED AGGREGATE

Excavation	100,704 Cu. Yds.
Embankment	228,094 Cu. Yds.
Embank + 8%	246,342 Cu. Yds.
Seeding	35,748 Sq. Yds.

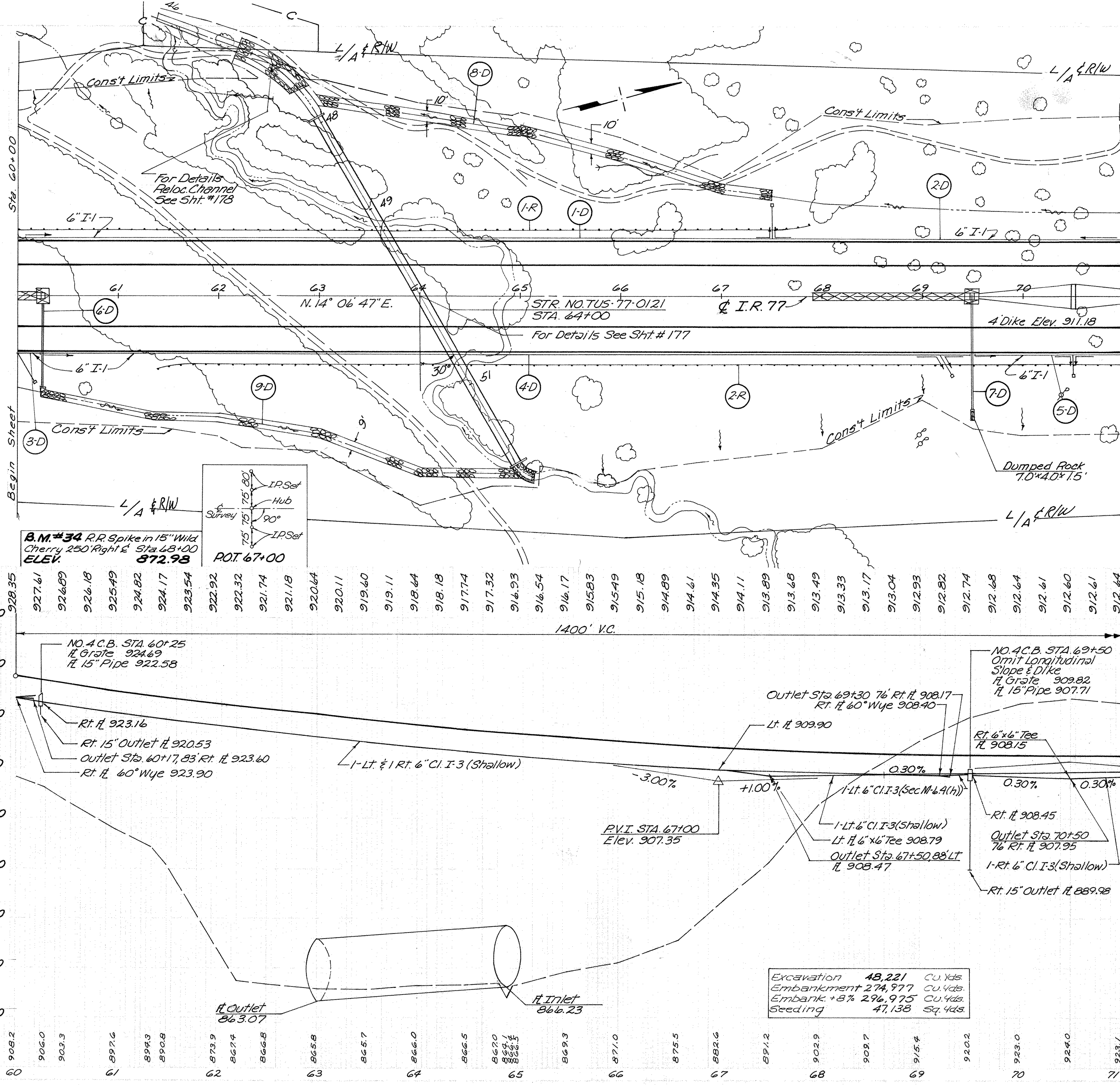
Rock Embankment 1,793 Cu. Yds.

ESTIMATED QUANTITIES

REF NO.	STATION	TO STATION	SIDE	I-1 Class F-4 Cl. B:1 15" Pipe	I-1 Class F-4 Cl. E:1 12" Pipe	I-1 Class F-4 6" Pipe	I-1 Class F-4 8" Pipe (M6.4(c))	I-3 Class F.3 6" Pipe Shallow (M6.4(h))	I-3 Class F.3 15" Pipe Shallow (M6.4(h))	I-2 Masonry Cu. Yds.	I-5 Pipe Specials C.I.F.3 Cl. 6"x6" Tee	I-5 Pipe Specials C.I.F.3 Cl. 15"x25" Apron Stub Bend	I-7 Reinf Conc. Apron Stub T. 13"	I-8 No. 4 Catch Basin	I-8 No. 228 Catch Basin	I-10 Dumped Rock	I-15 Guard Rail St. Beam Type Deep Standard Barrier	I-120 Jute Matting
				Lin. Ft.						Cu. Yds.	Each		Sq. Yds.	Each		Cu. Yds.	Lin. Ft.	Sq. Yds.
1-D	49+00	51+68	Lt.			10			285		1							
2-D	49+11	55+50	Lt.															
3-D	49+00	51+33	Rt.			10			450		1							
4-D	52+63	58+30	Rt.															
5-D	58+50	60+00	℄						242									
6-D	49+13	51+00	℄		187				587		1							
7-D	49+13	51+00	Rt.						29									
8-D	51+00	55+85	Lt.							0.26								
9-D	55+85																	
1-R	49+00	51+86.5	Lt.													286.5		
2-R	53+08	54+58	Lt.													150.0		
3-R	49+35	51+47.5	Rt.													112.5	100	
4-R	52+90.5	55+13.0	Lt.															
5-R	49+00	51+22	Rt.													229.0	100	
6-R	52+52	52+77	Rt.													25.0		
7-R	55+50	60+00	Lt.													450.0		
1-P	51+34.18	51+59.18	Lt.										6@6.7					
2-P	52+78.06	53+03.06	Lt.										6@6.7					
3-P	51+34.18	51+59.18	Rt.										6@6.7					
4-P	52+78.06	53+03.06	Rt.										6@6.7					
TOTAL				71	187	20	10	70	1127	0.26	4	2	266.8	1	1	9.5	365.5	200

Sta. 49+00 to Sta. 60+00

GUE-77-22.59
TUS-77-0.00

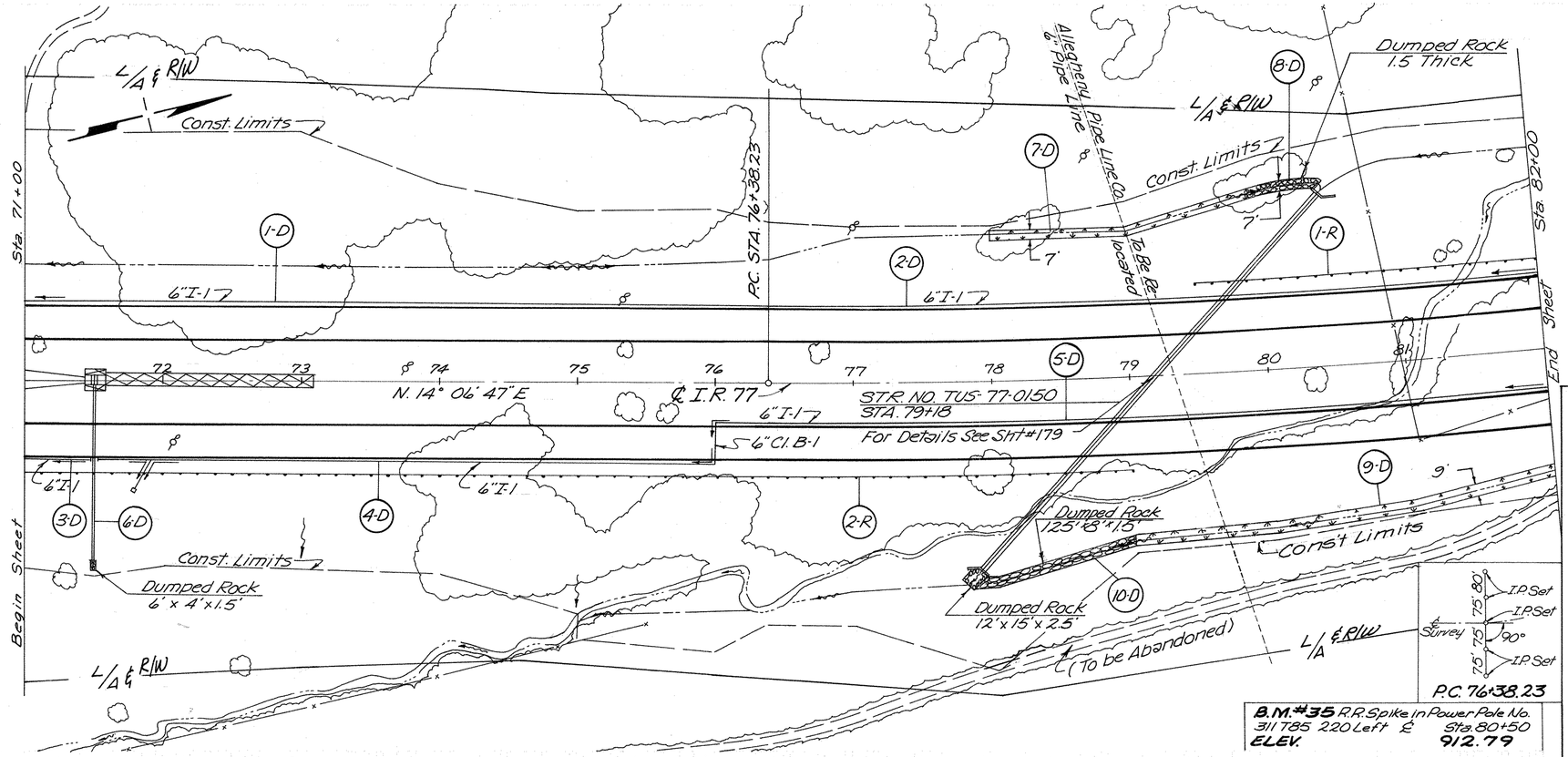


ESTIMATED QUANTITIES

REF. NO.	STATION	TO STATION	SIDE	I-1 C.B.-1 15" Pipe (Lin. Ft.)	I-1 Class 8" Pipe M-6.4(c) (Lin. Ft.)	I-1 Class F-4 15" Pipe (Lin. Ft.)	I-1 Class I-3 6" Pipe Shallow (Lin. Ft.)	I-1 Class I-3 6" Pipe M-6.4(h) (Lin. Ft.)	I-2 Masonry (Cu. Yds.)	I-5 Pipe Specials Cl. F-4 15"-25° Bend (Each)	I-5 Pipe Specials Cl. I-3 6"×60° Wye (Each)	I-5 Pipe Specials Cl. I-3 6"×6" Tee (Each)	I-8 No. 4 Catch Basin (Each)	I-10 Dumped Rock (Cu. Yds.)	I-15 Guard Rail St. Beam Std. Type Deep (Lin. Ft.)	L-120 Jute Matting (Sq. Yds.)
1-D	60+00	68+50	Lt.		10		872					1				
2-D	68+50	71+00	Lt.					250								
3-D	60+00	60+23	Rt.		10		43				1					
4-D	60+27	69+48	Rt.		10		931				1					
5-D	69+52	71+00	Rt.		10		158					1				
6-D	60+25		Rt.	91					0.26				1			139
7-D	69+50		Rt.	72		46			0.26	2			1	1.6		137
8-D	63+00	67+50	Lt.											254.0		
9-D	60+25	64+88	Rt.											235.0		
1-R	60+00	67+87.5	Lt.												787.5	
2-R	61+37.5	71+00	Rt.												962.5	
TOTAL				163	40	46	2004	250	0.52	2	2	2	2	490.6	1750.0	276

Sta. 60+00 to Sta. 71+00

GUE-77-22.59
TUS-77-0.00



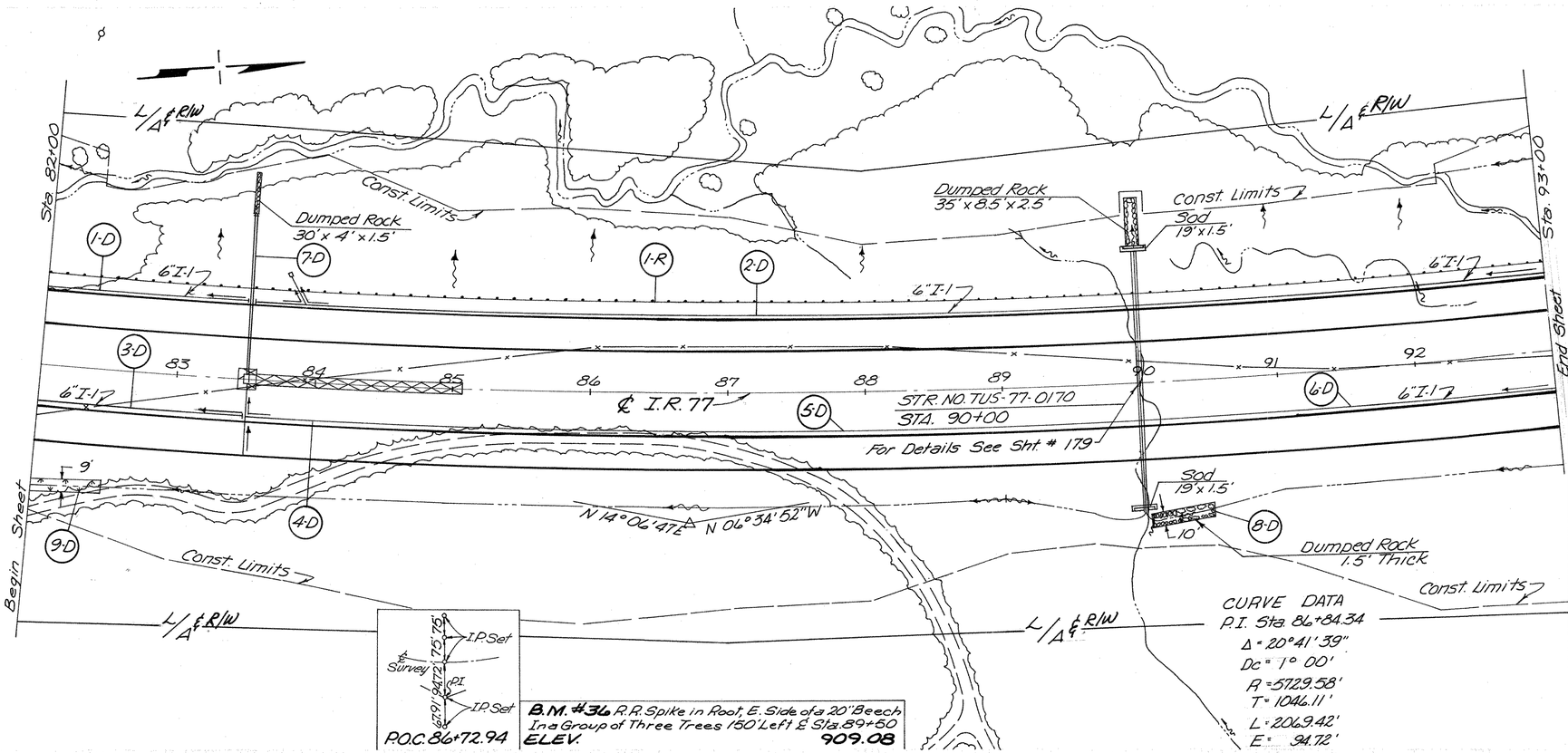
Excavation	40,468	Cu. Yds.
Embankment	136,411	Cu. Yds.
Embank. +8 %	147,324	Cu. Yds.
Seeding	39,295	Sq. Yds.

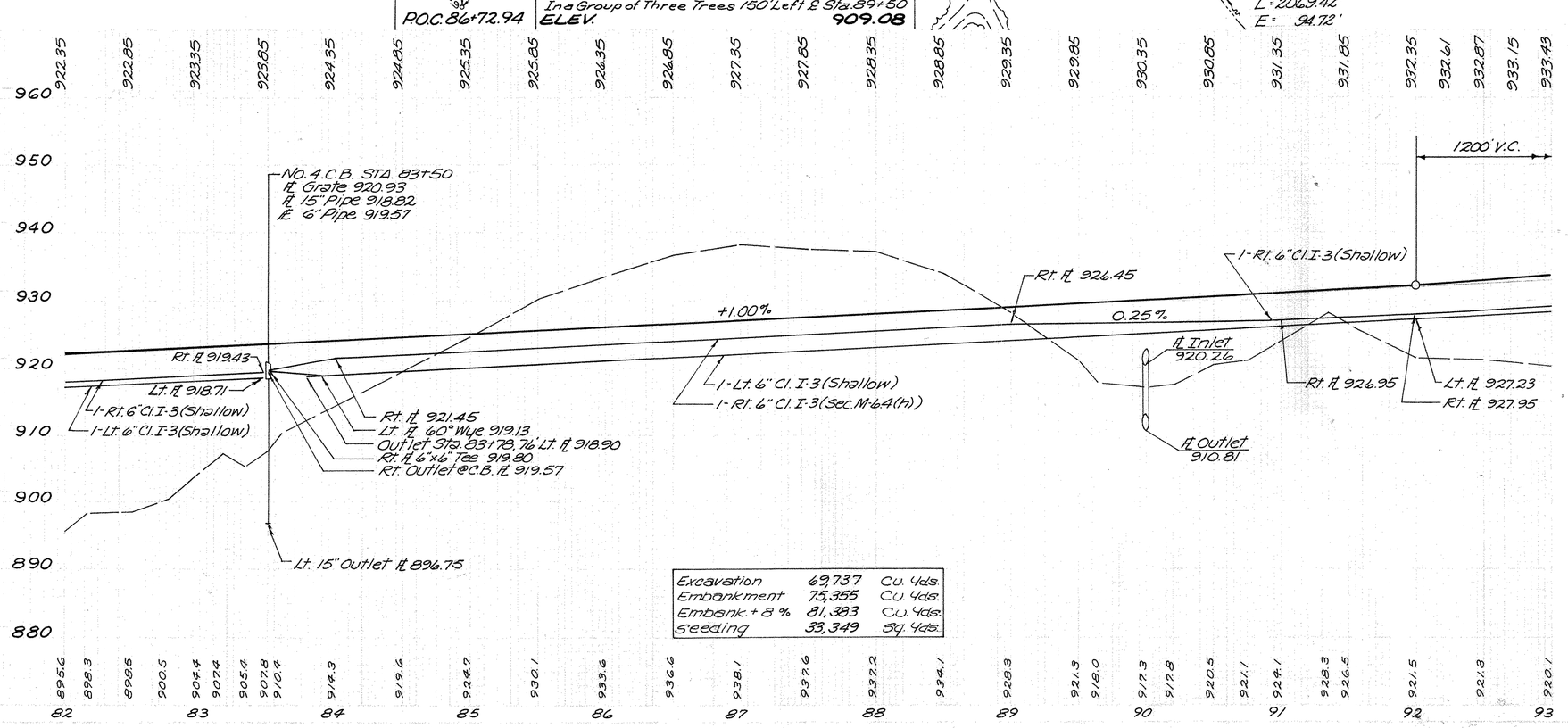
ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	I-1 Class B-1 6" Pipe	I-1 Class F-4 15" Pipe	I-1 Class F-4 8" Pipe M-6.4(C)	I-1 Class I-3 6" Pipe Shallow M-6.4(1)	I-2 Masonry	I-5 Pipe Special Cl. B-1 6"90° Bend	I-5 Cl. F-4 Cl. I-3 15"-25° Bend	I-5 6'-60° Wye	I-8 NO.4 Catch Basin	I-10 Dumped Rock	I-15 Guardrail St. Beam Std. Type Dbep	L-10 Sod	L-120 Jute Matting	TOTAL
			Lin. Ft.				Cu. Yds.	Each			Each	Cu. Yds.	Lin. Ft.	Sq. Yds.	Sq. Yds.	
1-D	71+00	Lt.									1	1.3				1
2-D	74+00	Lt.				300										300
3-D	82+00	Lt.														
4-D	71+48	Rt.				800										800
5-D	74+00	Rt.			10	46										56
6-D	71+52	Rt.				462				2						462
7-D	76+00	Rt.				600										600
8-D	71+50	Lt.		72			0.26					17.9		137		137
9-D	80+00	Lt.														
10-D	80+46	Lt.														
	82+00	Rt.														
	79+00	Rt.										56.0		308		308
	78+00	Rt.	29													29
1-R	79+50	Lt.											250			250
2-R	82+00	Rt.											800			800
	79+00	Lt.														
	71+00	Rt.														
TOTAL			29	72	10	300	0.26	2	1	2	1	75.2	1050	464	137	

Sta. 71+00 to Sta. 82+00

GUE-77-22.59
TUS-77-0.00





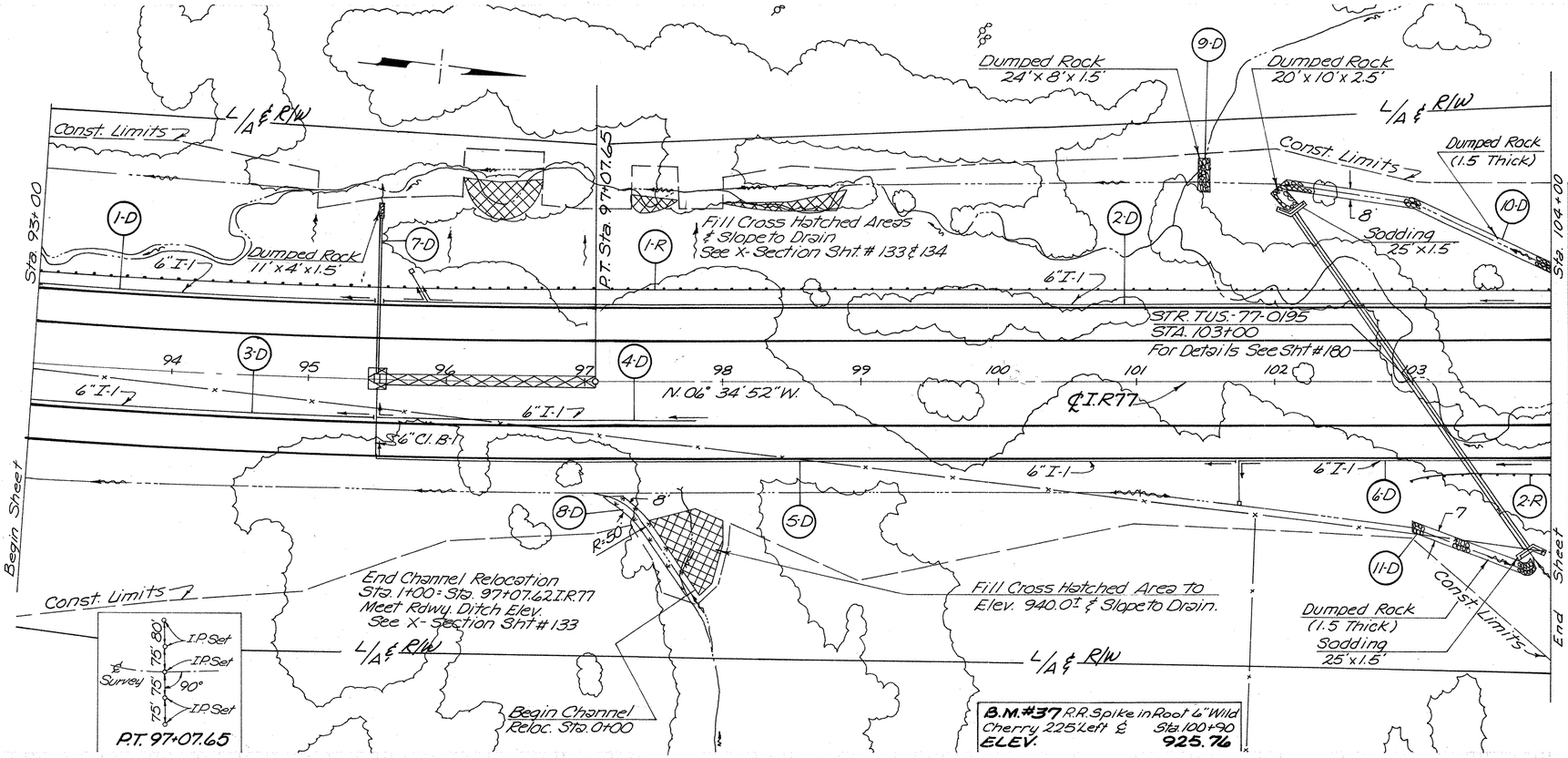
Excavation	69,737	Cu. Yds.
Embankment	75,355	Cu. Yds.
Embank. + 8 %	81,383	Cu. Yds.
Seeding	33,349	Sq. Yds.

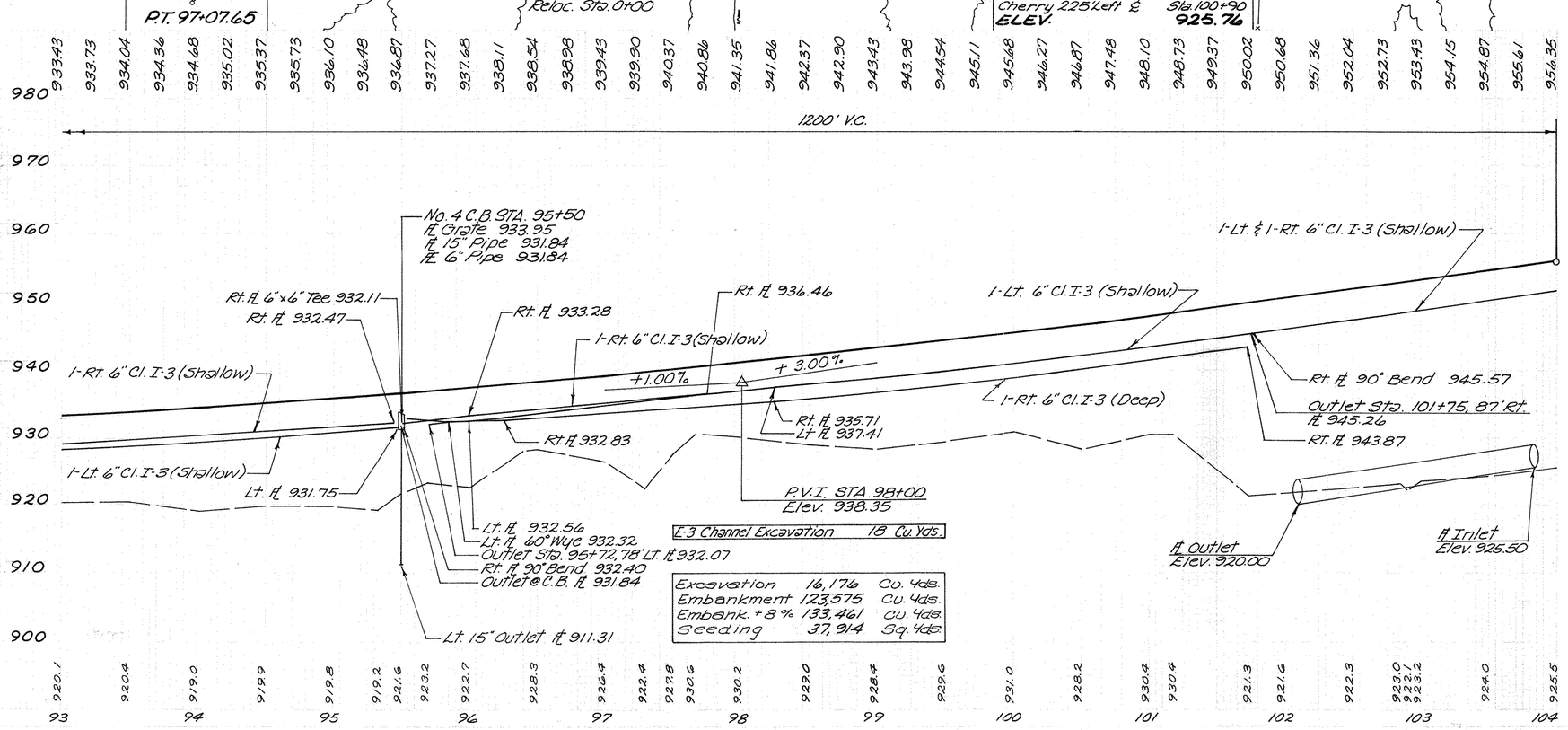
ESTIMATED QUANTITIES

REF NO.	STATION TO STATION	SIDE	C1 B-1 15" Pipe	I-1 Class F-4 6" Pipe	I-1 Class F-4 8" Pipe (M-64.1(h))	I-1 Class F-4 15" Pipe	I-3 Class I-3 6" Pipe Shallow (M-64.1(h))	I-2 Masonry	I-5 Pipe Specials Cl. F-4 15"-25° Bend	I-5 Pipe Specials Class I-3 6"x6" Tee	I-5 Pipe Specials Class I-3 6"x60° Wye	I-8 No. 4 Catch Basin	I-10 Dumped Rock	I-15 Guardrail St. Beam Stl. Type Deep	L-10 Sod	L-120 Jute Matting	TOTAL
			Lin. Ft.					Cu. Yds.	Each			Each	Cu. Yds.	Lin. Ft.	Sq. Yds.	Sq. Yds.	
1-D	82+00																1
2-D	83+52	Lt.					148										148
3-D	83+00	Rt.			10		261										271
4-D	83+48	Rt.					148										148
5-D	84+00	Rt.					67			1		1	6.7				74.7
6-D	89+00	Rt.		10			29						26.1				65.1
7-D	93+00	Lt.					500							139	50	139	828
8-D	90+03	Rt.				54	400	0.26	2								456.26
9-D	82+00	Rt.	71														71
1-R	82+00	Lt.												100			100
	93+00																
TOTAL			71	10	10	54	1724	0.26	2	1	1	1	32.8	1100	50	139	

Sta. 82+00 to Sta. 93+00

GUE-77-22.59
TUS-77-0.00





E-3 Channel Excavation 18 Cu. Yds.

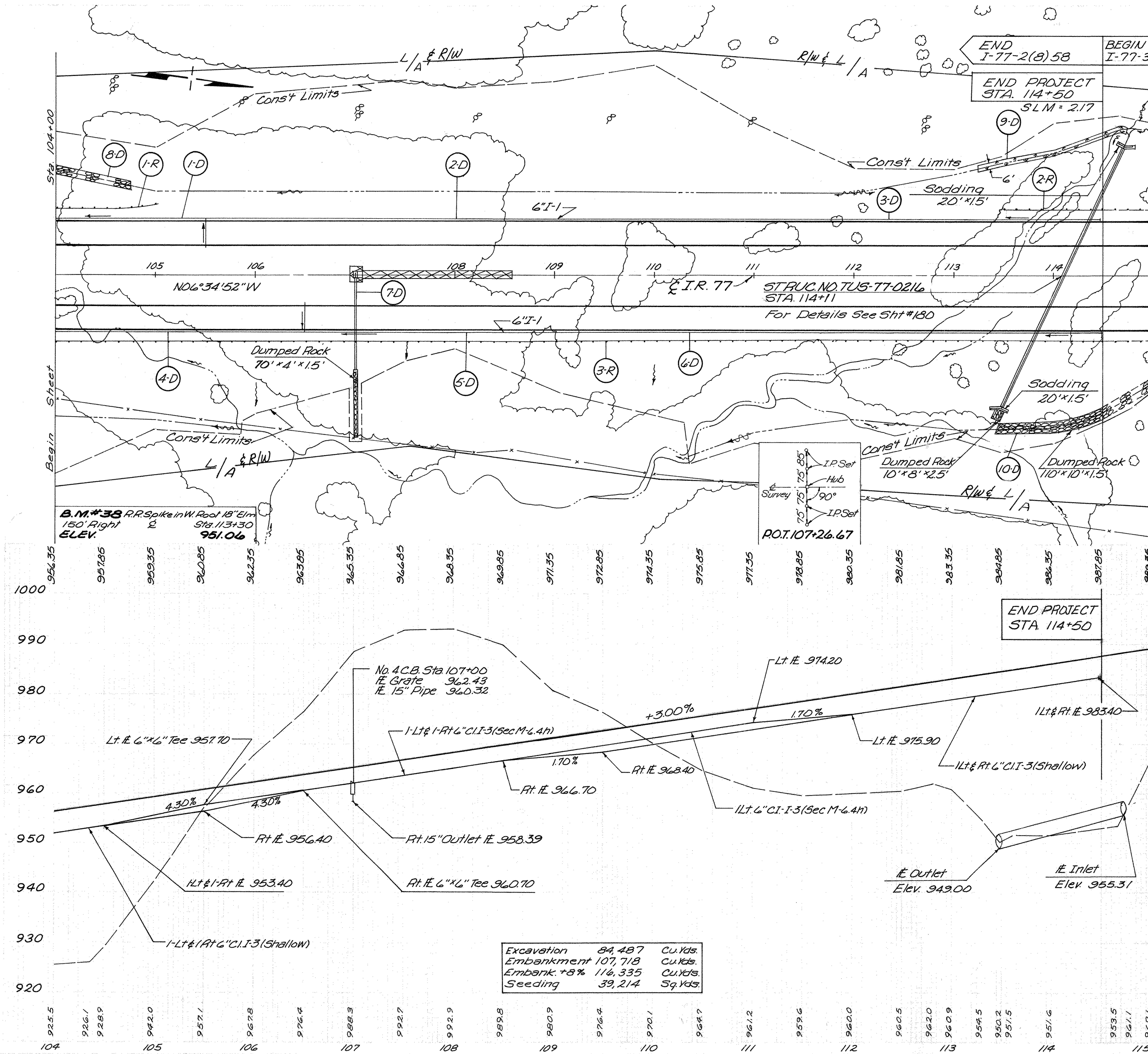
Excavation	16,176	Cu. Yds.
Embankment	123,575	Cu. Yds.
Embank. +8%	133,461	Cu. Yds.
Seeding	37,914	Sq. Yds.

ESTIMATED QUANTITIES

REF NO.	STATION TO STATION	SIDE	I-1 Class B-1 6" Pipe	I-1 Class B-1 15" Pipe	I-1 Class F-4 6" Pipe	I-1 Class F-4 8" Pipe M & A(C)	I-1 Class F-4 15" Pipe	I-1 Class I-3 6" Pipe Shallow Deep	I-2 Masonry	I-5 Pipe Specials Class B-1 6"-90° Bend	I-5 Pipe Specials Cl. F-4 Class 15"-25° Bend	I-5 Pipe Specials Class I-3 6"-90° Bend	I-5 Pipe Specials Wye	I-5 Pipe Specials Tee	I-8 No. 4 Catch Basin	I-10 Dumped Rock	I-15 Guard Rail St. Beam Std. Type Deep	L-10 Sod	L-120 Jute Matting	TOTAL
			Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Lin. Ft.	Cu. Yds.	Each	Each	Each	Each	Each	Each	Cu. Yds.	Lin. Ft.	Sq. Yds.	Sq. Yds.	
1-D	93+00	Lt.													1					1
2-D	95+48	Lt.													1					1
3-D	95+48	Rt.													1					1
4-D	97+75	Rt.													1					1
5-D	101+73	Rt.													1					1
6-D	104+00	Rt.													1					1
7-D	95+50	Lt.													1					1
8-D	0+90 Rel. Chan.	Rt.													1					1
9-D	101+50	Lt.													1					1
10-D	102+05	Lt.													1					1
11-D	103+00	Rt.													1					1
1-R	93+00	Lt.	29	71	10		50	248	0.26		1					2.4		89	139	1846
2-R	103+00	Rt.			10	10		863				1			1	10.7				623
	104+00							248								86.6				0.26
								225								34.2				50
								277									1100			20
								623									100			10
								245												71
TOTAL			29	71	10	10	50	2730	0.26	1	1	1	1	2	1	133.9	1200	89	139	

Sta. 93+00 to Sta. 104+00

GUE-77-22.59
TUS-77-0.00


END
I-77-2(8) 58
BEGIN
I-77-3(1) 64
END PROJECT
STA. 114+50
SLM = 2.17
Const Limits
Sta. 104+00
Sta. 115+00
6"I-1
N06°34'52"W
℄ I.R. 77
STRUC. NO. TUS-77-0216
STA. 114+11
For Details See Sht #180
Sodding
20'×1.5'
Dumped Rock
70'×4'×1.5'
Dumped Rock
10'×8'×2.5'
Dumped Rock
110'×10'×1.5'
Begin Sheet
End Sheet
B.M.#38 R.R. Spike in W. Root 18" Elm
150' Right ℄ Sta. 113+30
ELEV. 951.06
P.O.T. 107+26.67
END PROJECT
STA. 114+50
No. 4 C.B. Sta. 107+00
℄ Grate 962.43
℄ 15" Pipe 960.32
Lt. ℄ 974.20
+3.00%
1.70%
4.30%
I Lt & Rt ℄ 983.40
Lt. ℄ 975.90
Rt. ℄ 968.40
Rt. ℄ 966.70
I Lt & Rt 6" Cl. I-3 (Shallow)
I Lt. 6" Cl. I-3 (Sec M-6.4h)
I-Lt & I-Rt 6" Cl. I-3 (Sec M-6.4h)
Lt. ℄ 6"×6" Tee 957.70
Rt. ℄ 956.40
Rt. 15" Outlet ℄ 958.39
I Lt & I-Rt ℄ 953.40
Rt. ℄ 6"×6" Tee 960.70
I-Lt & I Rt 6" Cl. I-3 (Shallow)
℄ Outlet
Elev. 949.00
℄ Inlet
Elev. 955.31
Excavation 84,487 Cu. Yds.
Embankment 107,718 Cu. Yds.
Embank. +8% 116,335 Cu. Yds.
Seeding 39,214 Sq. Yds.

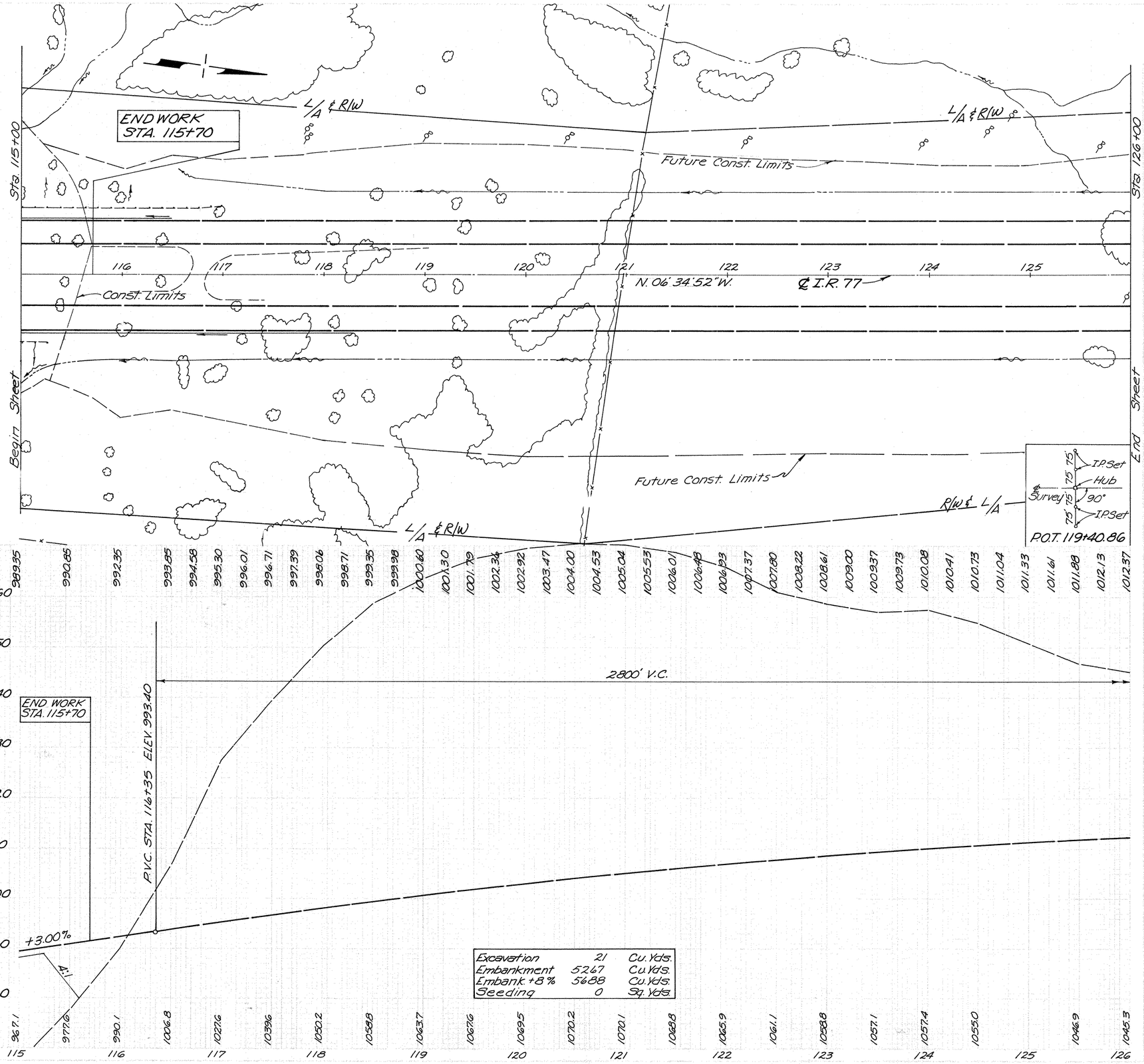
Note:
For Adjoining Typical Section - See Proposed Typical Section this project.
* End Guard Rail at Stations shown on plan. Terminals will not be required at end of Guard Rail at these Stations.

ESTIMATED QUANTITIES

REF. NO.	STATION	TO STATION	SIDE	I-1 Cl. B-1 15" Pipe (Lin. Ft.)	I-1 Class I-3 6" Pipe Shallow (Lin. Ft.)	I-1 Class I-3 6" Pipe M-6.4(h) (Lin. Ft.)		I-2 Masonry (Cu. Yds.)	I-5 Pipe Spec. Cl. I-3 6"×6" Tee (Each)	I-8 No. 4 Catch Basin (Each)	I-10 Dumped Rock (Cu. Yds.)	I-15 Guard Rail St. Beam Std. Type Deep (Lin. Ft.)	L-10 Sod (Sq. Yds.)	L-120 Jute Matting (Sq. Yds.)
1-D	104+00	105+50	Lt.		150									
2-D	105+50	111+00	Lt.			579			1					
3-D	111+00	114+48	Lt.		348									
4-D	104+00	106+50	Rt.		250									
5-D	106+50	108+50	Rt.			229			1					
6-D	108+50	114+48	Rt.		598									
7-D	107+00		Rt.	98				0.26		1	15.5			139
8-D	104+00	104+75	Lt.								33.3			
9-D	113+25	114+75	Lt.										100	
10-D	113+45	114+50	Rt.								61.0			
1-R	104+00	105+00	Lt.									100		
2-R*	113+50	114+50	Lt.									100		
3-R*	104+00	114+50	Rt.									1050		
TOTAL				98	1346	808		0.26	2	1	109.8	1250	100	139

Sta. 104+00 to Sta. 115+00

GUE-77-22.59 TUS-77-0.00



Excavation	21	Cu. Yds.
Embankment	5267	Cu. Yds.
Embank. +8%	5688	Cu. Yds.
Seeding	0	Sq. Yds.

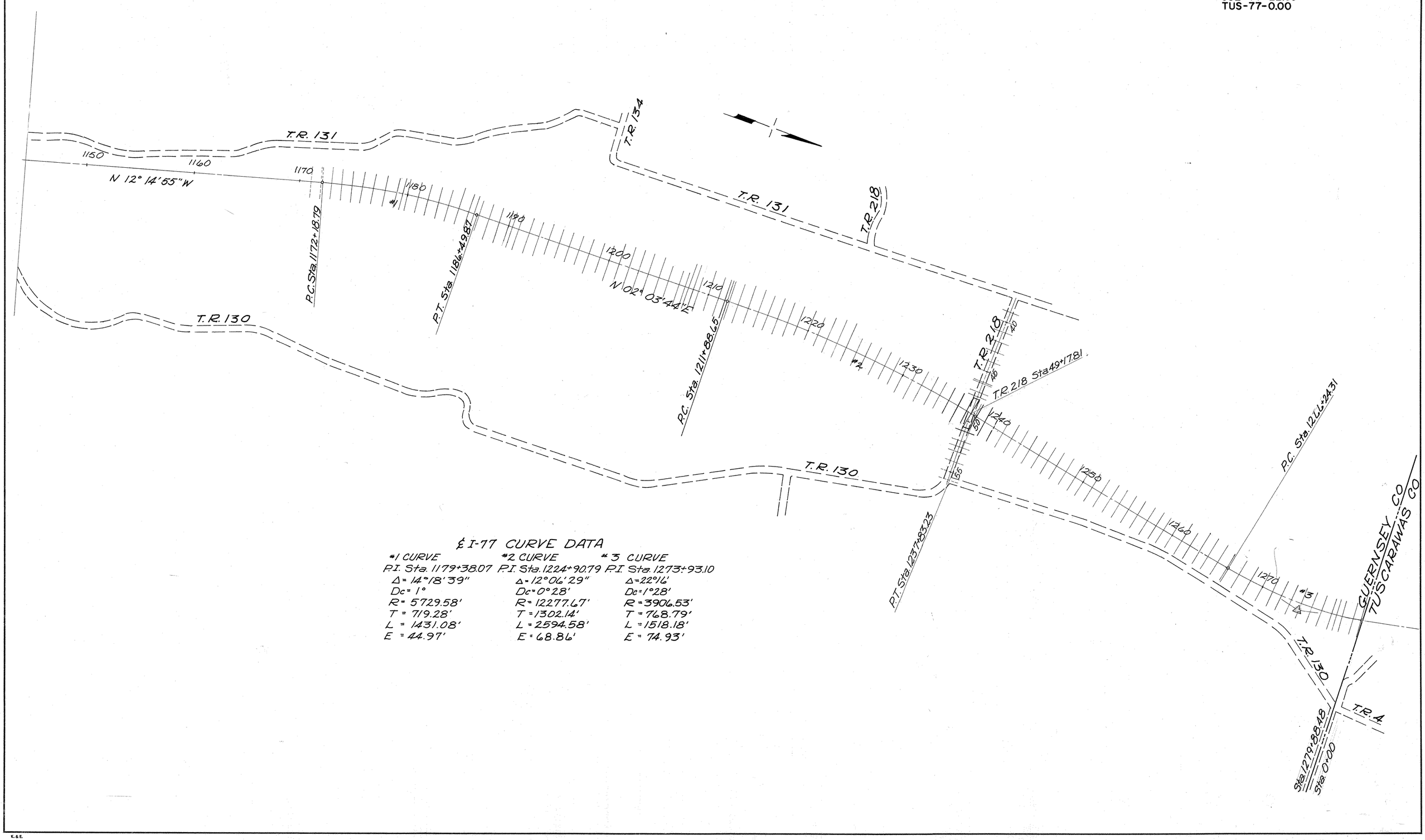
Sta. 115+00 to Sta. 126+00

CROSS SECTION LAYOUT

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

43
230



℄ I-77 CURVE DATA

#1 CURVE	#2 CURVE	#3 CURVE
P.I. Sta. 1179+38.07	P.I. Sta. 1224+90.79	P.I. Sta. 1273+93.10
Δ = 14°18'39"	Δ = 12°06'29"	Δ = 22°16'
Dc = 1°	Dc = 0°28'	Dc = 1°28'
R = 5729.58'	R = 12277.67'	R = 3906.53'
T = 719.28'	T = 1302.14'	T = 768.79'
L = 1431.08'	L = 2594.58'	L = 1518.18'
E = 44.97'	E = 68.86'	E = 74.93'

K.&E.

CROSS SECTION LAYOUT

CROSS SECTION LAYOUT

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

44/230

GUERNSEY CO. Sta 1279+88.13
TUSCARAWAS CO. Sta 0+00
P.T. Sta 1+54.01
Match Line
T.R.4
Private Drive
N 08°05'47"W
10
20
30
40
T.R.131
C.R.3
T.R.112 Sta. 0+00
T.R.112
P.C. Sta 35+94.76
P.T. Sta 51+09.04
N 14°06'47"E
50
55
60
65
70
80
90
100
110
120
#1
#2
P.C. Sta 74+38.23
P.T. Sta 97+07.65
N 06°34'52"W
Postboy Creek
T.R.4
T.R.129
C.R.3
T.R.115
T.R.112
C.R.4
T.S. Sta 130+63.48
T.R.115

℄ I-77 CURVE DATA

#1 CURVE	#2 CURVE
P.I. Sta. 43+61.53	P.I. Sta. 86+84.34
Δ = 22°12'34"	Δ = 20°41'39"
Dc = 1°28'	Dc = 1°00'
R = 3906.53'	R = 5729.58'
T = 766.77'	T = 1046.11'
L = 1514.28'	L = 2069.42'
E = 74.54'	E = 94.72'

K & E

CROSS SECTION LAYOUT

FED. RD.	STATE	PROJECT	
2	OHIO		

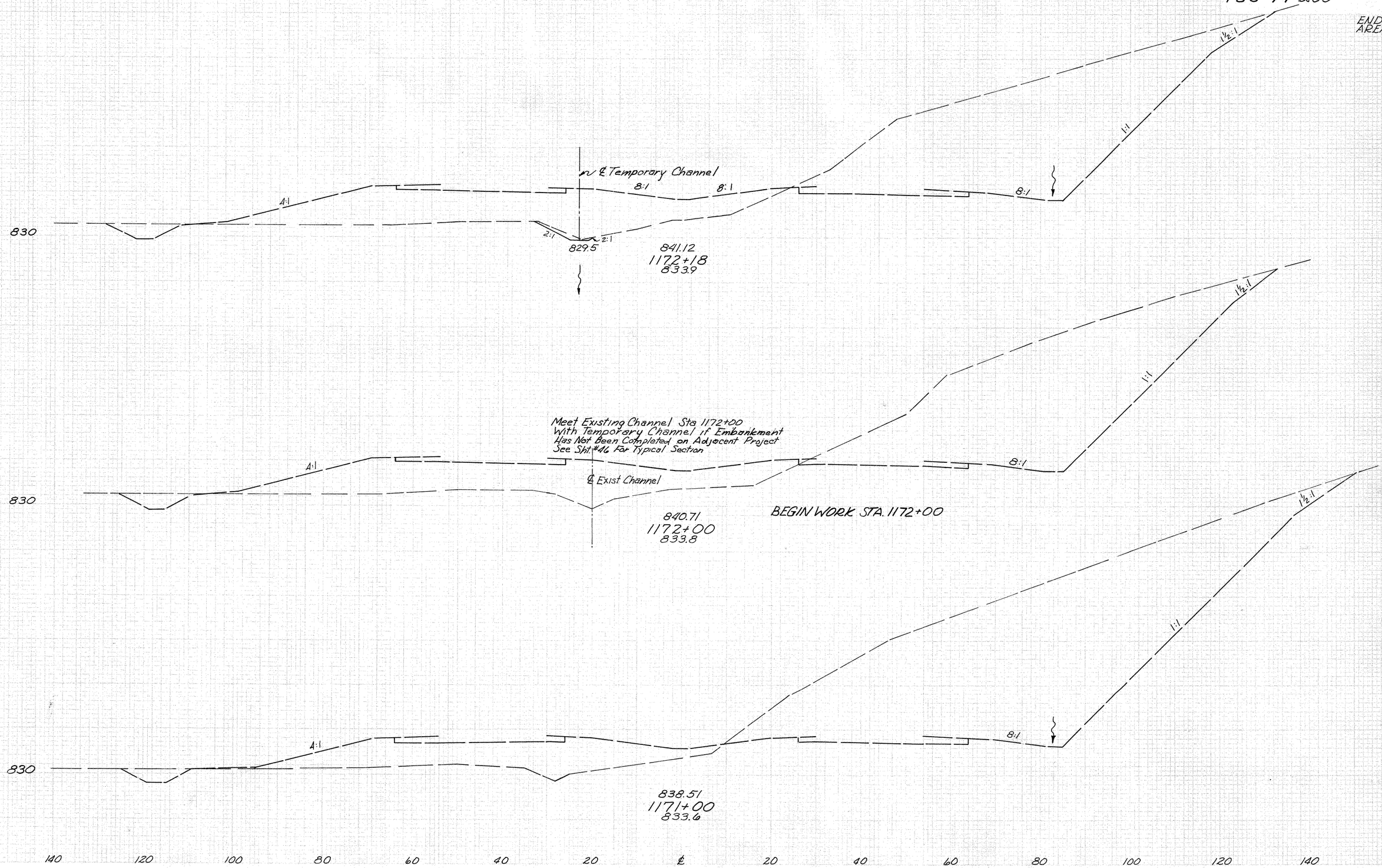
45/230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100



140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1171+00 TO STA. 1172+18

FED. RD.	STATE	PROJECT	
2	OHIO		

46/230

GUE-77-2259
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

241
830
2:1 2:1 835.9
2:1 8:1 4:1 4:1 848.0
18" E-4 Borrow
857.48
1178+00
839.8
C=21
F=2480

BEGIN 18" Rock Embankment - STA. 1178+00
SEE GENERAL NOTE SHT. #8

2500
830
2:1 2:1 12:1 834.8
2:1 8:1 6:1 848.5
854.48
1177+00
837.9
C=96
F=8933
C=31
F=2344

209
C=135
F=7914

2367
830
2:1 2:1 12:1 833.7
2:1 8:1 6:1 846.7
851.48
1176+00
835.4
C=42
F=1930
C=598
F=6252

217

2571
830
2:1 2:1 12:1 832.6
2:1 8:1 6:1 845.61
848.51
1175+00
834.6
C=281
F=1446

Note
If Earthwork is Completed on Adjacent Project Begin Earthwork Sta. 1175+00

235
C=2032
F=4328

Begin Guard Rail
Sta. 1174+00

1544
830
2:1 2:1 12:1 831.5
3:1 8:1 6:1 2:1 845.71
1174+00
836.0
C=816
F=891
C=2387
F=3141

223

BEGIN PROJECT - STA. 1174+00

Embankment to be Completed by others
Embankment to be Completed by others
830
2:1 2:1 12:1 830.4
4:1 8:1 6:1 2:1
2.5%
℄ Temporary Ditch See P&P Sht #21
843.11
1173+00
837.6
C=473
F=805
C=307
F=522

2:1 2:1 4'
Typical Temporary Ditch

Begin Earthwork
Sta. 1172+65
C=0
F=0

Note: If Earthwork has not been completed on the adjacent Project the Contractor will provide a temporary outlet from the Left Ditch @ Sta. 1173+00 to the existing stream @ Sta. 1172+00 See Typical Section this sheet

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1173+00 TO STA 1178+00

FED. RD.	STATE	PROJECT	
2	OHIO		

47
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ
FT. YDS.
140
120
100
80
60
40
20
¢
20
40
60
80
100
END AREA
CUBIC YARDS
282
3228
Match Line B
850
849.4
860
872.48
1183+00
846.0
18" Rock Emb.
853.0
C=139
F=4276
C=569
F=15104
299
2818
Match Line A
850
845.8
860
869.48
1182+00
845.1
18" Rock Emb.
848.5
C=168
F=3880
C=396
F=14041
273
2298
840
842.2
866.48
1181+00
843.4
18" Rock Emb.
843.0
C=46
F=3702
C=431
F=12858
Culvert Sta. 1180+50
℄ Outlet 838.7
For Details See Sht #171
Culvert Sta. 1180+50
℄ Inlet 842.3
For Details See Sht #171
263
1450
Varies
840
838.1
863.48
1180+00
842.3
18" Rock Emb.
843.8
C=187
F=3241
C=294
F=5884
259
1384
840
837.6
861.98
1179+50
840.7
18" Rock Emb.
844.1
C=131
F=3114
C=178
F=5720
239
2667
840
837.0
860.48
1179+00
840.5
18" Rock Emb.
113'-15" Cl. B1 Pipe @ 7.13%
No. 4 C.B. Sta. 1179+00
℄ Grate 857.56
℄ 15" Pipe 855.45
℄ 6" Pipe 855.80
HW-E Endwall ℄ 847.57
847.5
Dumped Rock
9'x4'x1.5'
Begin Guard Rail
Sta. 1179+00
C=61
F=3074
C=152
F=10285
241 Sta. 1178+00
Sta. 1178+00
C=21
F=2480

Rock Embankment

Station	End Area	Volume
1184+00	309	
1183+00	304	1135
1182+00	302	1122
1181+00	346	1200
1180+00	267	1135
1179+50	249	478
1179+00	216	431
1178+00	245	854
Total		6355

X-SECTIONS ~ STA. 1179+00 TO STA. 1183+00

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

48
230

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

Culvert Sta. 1187+69
Inlet 852.85
For Details See Sht. #171

END AREA | CUBIC YARDS

300 | 870 | 4:1 12:1 2:1 | 869.6 | 8:1 8:1 | 2:1 12:1 4:1 | 858.0 | C=0 F=5299
1664 | 884.48 | 1187+00 | 853.0 | 18" Rock Emb.

299 | 870 | 4:1 12:1 2:1 | 866.4 | 8:1 | 2:1 12:1 4:1 | 863.0 | C=0 F=9910 | C=0 F=5403
1725 | 882.98 | 1186+50 | 851.5 | 18" Rock Emb.

322 | 870 | 4:1 12:1 2:1 | 863.5 | 8:1 | 2:1 12:1 4:1 | 862.7 | C=0 F=5259
3561 | Begin Dumped Rock Sta. 1185+25 | 18" Rock Emb. | 881.48 | 1186+00 | 851.1 | C=911 F=18930

Culvert Sta. 1185+25
Outlet 850.60
For Details See Sht #171

319 | 860 | Match Line B | 180 160 | 2:1 8:1 2:1 | 12:1 4:1 | 859.0 | C=492 F=4963
1778 | 860 | 2:1 12:1 | 850.0 | 878.48 | 1185+00 | 849.5 | 18" Rock Emb. | C=1248 F=17776

195 | 860 | Match Line A | 180 160 140 | 2:1 8:1 2:1 | 12:1 4:1 | 857.0 | C=182 F=4636 | C=594 F=16504
1650 | 875.48 | 1184+00 | 846.7 | 18" Rock Emb.
850 | Match Line A | 12:1 2:1 | 849.7 | Sta. 1183+00 | C=139 F=4276
282 Sta. 1183+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1184+00 TO STA. 1187+00

FED. RD.	STATE	PROJECT	
2	OHIO		

49
230

GUE-77-22.59
TUS-77-0.00

Rock Embankment		
Station	End Area	Volume
1190+27	101	187
1190+00	272	972
1189+00	253	956
1188+00	263	1069
1187+00	314	524
1186+50	252	491
1186+00	278	974
1185+00	248	1031
1184+00	309	6204
Total		

END AREA | CUBIC YARDS

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

294
495
890
297
900
3300
297
890
3306
298
890
3322
300 Sta 1187+00

888.9
4:1
Match Line D
860
12:1
2:1
2:1
856.6
190 160 180 200
894.29
1190+27
860.4
18" Rock Emb.
2:1
C=44
F=4942
C=41
F=5000
888.0
93'-15" Cl. B-1 Pipe @ 1.61%
Dumped Rock
6'x4'x1.5'
HW-E Endwall #E 885.5
No 4 C.B. Sta 1189+50
#E Grate 889.06
#E 15" Pipe 886.95
Match Line C
860
2:1
2:1
856.2
140 160 180 200
12:1
893.48
1190+00
859.8
18" Rock Emb.
C=38
F=5057
C=107
F=18617
883.0
4:1
Match Line B
860
2:1
2:1
854.8
140 160 180 200
12:1
End Guard Rail
Sta. 1188+00
890.48
1189+00
859.0
18" Rock Emb.
C=20
F=4996
C=69
F=19008
Begin Sod
Sta 1188+00
877.8
End Dumped Rock
Sta 1188+00
Match Line A
850
2:1
1½:1
853.4
140 160 180
12:1
887.48
1188+00
854.7
18" Rock Emb.
Sta 1187+00
C=17
F=5268
C=31
F=19569
C=0
F=5299

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1188+00 TO STA. 1190+27

FED. RD.	STATE	PROJECT	
2	OHIO		

50
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

274
940
3172
297
930
3356
307
920
2437
294 STA 1190+27

1½:1
1:1
8:1

End Sod
Sta. 1192+50

902.48
1193+00
888.4

870 Match Line C
12:1 2:1 2:1
140 861.6 180 200
2:1
18" Rock Emb.
Match Line C

C=1353
F=3189

C=3717
F=13076

C=654
F=3872

899.48
1192+00
875.4

870 Match Line B
12:1 2:1 2:1
140 859.6 180 200
2:1
18" Rock Emb.
Match Line B

C=1580
F=15376

C=199
F=4431

896.48
1191+00
865.5

860 Match Line A
12:1 2:1 2:1
140 857.6 160 180 200
2:1
Rock Emb.
Sta 1190+27
Match Line A

C=329
F=12671

C=44
F=4942

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1191+00 TO STA. 1193+00

FED. RD.	STATE	PROJECT	
2	OHIO		

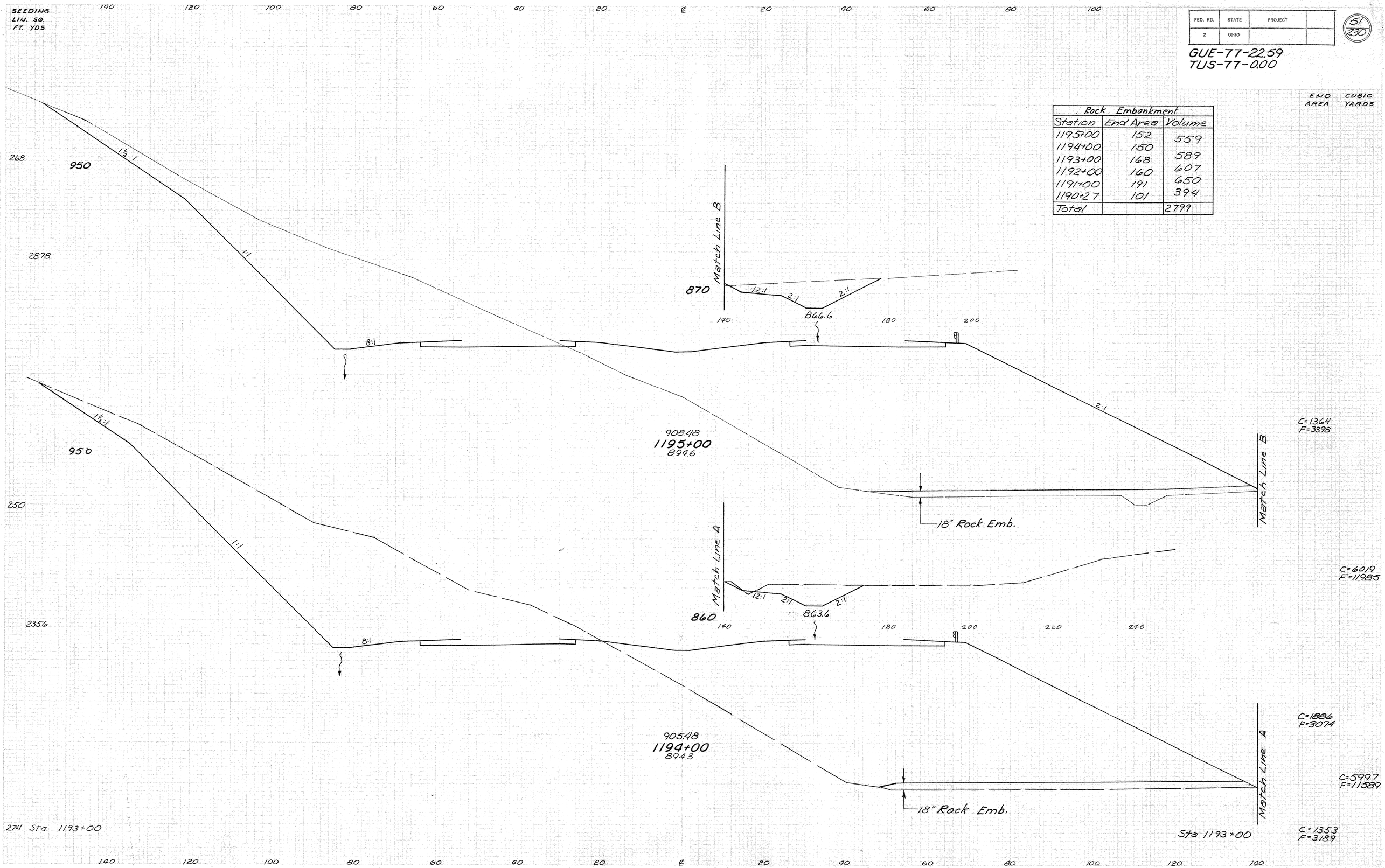
51
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS

END AREA | CUBIC YARDS

Rock Embankment		
Station	End Area	Volume
1195+00	152	559
1194+00	150	589
1193+00	168	607
1192+00	160	650
1191+00	191	394
1190+27	101	2799
Total		



X-SECTIONS ~ STA. 1194+00 TO STA. 1195+00

FED. RD.	STATE	PROJECT	
2	OHIO		

52/230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
F.T. YDS
END AREA
CUBIC YARDS
140 120 100 80 60 40 20 ℄ 20 40 60 80 100
306
890
3367
2:1
4:1 4:1 12:1
894.0
18" Rock Emb.
Culvert Sta. 1197+90
℄ Outlet 892.09
For Details See Sht. #172
Match Line C
870
140 160 180
917.48
1198+00
888.6
18" Rock Emb.
C=12
F=5344
Begin Dumped Rock
Sta 1197+95
End Sod Sta. 1197+90
Begin Sod-Sta 1197+50
Begin Guard Rail
Sta. 1197+50
300
930
3200
C=767
F=16919
3:1
8:1
Culvert Sta. 1197+20
℄ Outlet 874.00
For Details See Sht. #172
276
950
Match Line B
2:1 12:1
2:1 2:1
872.6
140 160 180 200
914.48
1197+00
894.9
C=402
F=3792
1½:1
1:1
18" Rock Emb.
3022
C=2341
F=13976
8:1
Match Line A
2:1 12:1
2:1 2:1
869.6
140 180 200
911.48
1196+00
895.7
C=862
F=3755
C=4122
F=13246
18"
268 Sta. 1195+00
Sta. 1195+00
C=1364
F=3398
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1196+00 TO STA. 1198+00

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

53
230

SEEDING
LIN. SQ.
FT. YDS.

END Rock Embankment - STA. 1201+00
SEE GENERAL NOTE SHT. #8

END AREA CUBIC YARDS

Rock Embankment		
Station	End Area	Volume
1201+00	117	515
1200+00	161	693
1199+00	213	661
1198+00	144	391
1197+00	67	344
1196+00	119	502
1195+00	152	
Total		3106

346
960
Match Line D
2:1
3783
2:1
Match Line D
960
160
140
1:1
8:1
880
Match Line C
2:1
12:1
2:1
880.6
2:1
140
160
180
200
220
926.48
1201+00
909.6
2:1
Match Line C
18" Rock Emb.
C=1014
F=3699

End Sod Sta. 1200+30

930
335
6:1
918.0
3672
End Guard Rail
Sta. 1199+00
Begin Sod Sta. 1199+00
End Dumped Rock Sta. 1199+00
890
Match Line B
2:1
140
160
180
200
923.48
1200+00
891.1
2:1
Match Line B
18" Rock Emb.
C=1878
F=17371
C=0
F=5681

920
326
6:1
915.7
3511
880
Match Line A
2:1
140
160
180
200
920.48
1199+00
886.7
2:1
Match Line A
18" Rock Emb.
C=0
F=21069
C=0
F=5696
C=22
F=20445
C=12
F=5344

306 Sta. 1198+00
Sta. 1198+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1199+00 TO STA. 1201+00

FED. RD.	STATE	PROJECT	
2	OHIO		

54
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.
END AREA
CUBIC YARDS
Match Line C
Match Line B
Match Line A
303
2800
201
3039
346 Sta. 1201+00
990
930
880
890
2:1
1:1
8:1
12:1
884.6
882.6
932.48
1203+00
939.0
929.48
1202+00
924.0
C=4282
F=1820
C=12863
F=7791
C=2664
F=2387
C=6811
F=11271
C=1014
F=3699
No.4C.B. Sta. 1202+00
IE Grate 926.56
IE 15" Pipe 924.45
4W-E Endwall IE 886.41
Dumped Rock (12.0'×4.0'×1.5')
10'-15" Cl.F-4 Pipe @ 2.0%
15"-25° Bend IE 886.61
Concrete Collar
72'-15" Cl. B-1 Pipe @ 2.0%
15"-25° Bend IE 923.06
82'-15" Cl. F-4 Pipe
Sta. 1201+00

X-SECTIONS ~ STA. 1202+00 TO STA. 1203+00

FED. RD.	STATE	PROJECT	
2	OHIO		

55/230

GUE-77-22.59
TUS-77-0.00

SEEDING LIN. SQ. FT. YDS.
END AREA
CUBIC YARDS
319
3467
305
3378
303
Sta 1203+00
980
940
990
930
2:1
1:1
8:1
24:1
12:1
Match Line B
Match Line A
Match Line C
Match Line
890
1'-0"
Cut Slope
1'-6"
2'-0"
SECTION "A-A"
℄ Exist. Stream
Dumped Rock 12'x 4'x 1.5'
Sta. 1205+45±
888.6
886.6
938.48
1205+00
948.1
935.48
1204+00
951.1
C=3731 F=1555
C=17400 F=6037
C=5665 F=1705
C=18420 F=6528
C=4282 F=1820
Sta. 1203+00
140
120
100
80
60
40
20
℄
160
180
200
220

X-SECTIONS ~ STA. 1204+00 TO STA. 1205+00

FED. RD.	STATE	PROJECT
2	OHIO	

56/230

GUE-77-22.59
TUS-77-0.00


SEEDING LIN. SQ. FT. YDS.
Culvert Sta.1208+15
℄ Inlet 923.15
For Details See Sht #173
Culvert Sta. 1208+15
℄ Outlet 908.10
For Details See Sht #173
END AREA
CUBIC YARDS
358
930
825.7
1571
Match Line D
910
906.5
C=91
F=7384
947.48
1208+00
910.3
Begin Guard Rail
Sta.1207+75
349
940
935.0
2337
Match Line C
900
901.8
C=169
F=10510
Ditch Break-Sta.1207+17±
352
C=0
F=6804
946.28
1207+60
912.8
950
3844
C=140
F=20554
944.48
1207+00
928.4
340
Match Line B
910
896.4
960
C=342
F=4295
3661
C=3245
F=13278
941.48
1206+00
936.4
Match Line A
890
892.6
C=1410
F=2875
C=9520
F=8204
319 Sta. 1205+00
Sta. 1205+00
C=3731
F=1555

X-SECTIONS ~ STA. 1206+00 TO STA. 1208+00

FED. RD.	STATE	PROJECT	
2	OHIO		

57
230

GUE-77-2.259
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

End Guard Rail
Sta. 1210+00

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

313
930
1½:1
2:1
12:1
2:1
827.2
4350
953.48
1210+00
905.5
4:1
942.5
C=159
F=6557
C=731
F=26398

930
Match Line D
2:1
140 160 180
C=236
F=7698

470
930
1½:1
2:1
12:1
2:1
826.9
2213
950.48
1209+00
905.6
2:1
12:1
4:1
2:1
923.5
Match Line D
Match Line A
2:1
940
Match Line B
920
2:1
917.8
140 160 180
C=596
F=12856

220 200 180 160
Match Line A
930
2:1
2:1
12:1
2:1
826.7
360
2074
949.04
1208+52
907.1
12:1
4:1
Match Line B
C=434
F=6765
C=505
F=13625

358 Sta. 1208+00
Begin Dumped Rock
Sta 1208+19
Sta. 1208+00
C=91
F=7384

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1208+52 TO STA. 1210+00

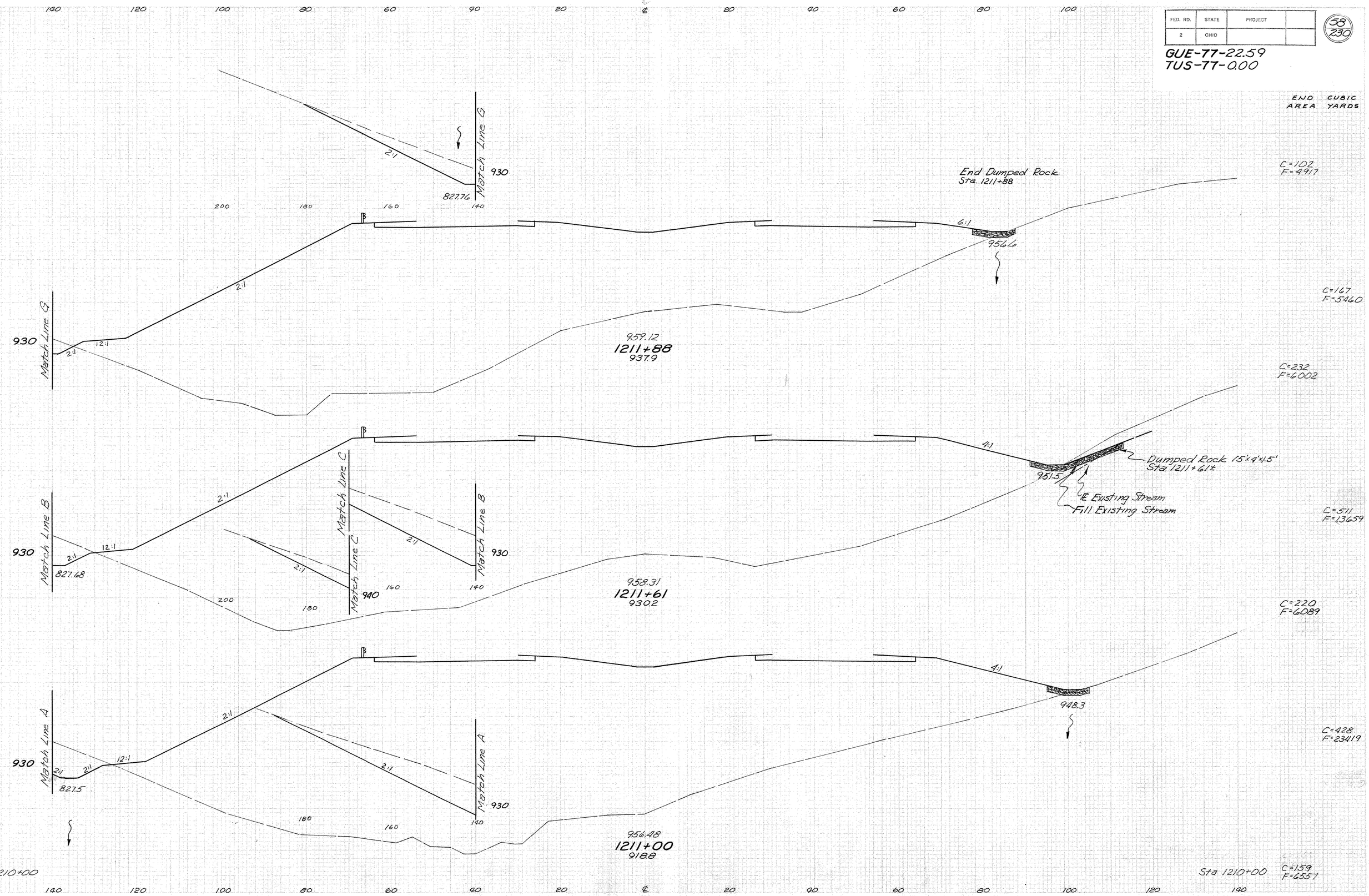
FED. RD.	STATE	PROJECT	
2	OHIO		

38
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS



X-SECTIONS ~ STA. 1211+00 TO STA. 1211+88

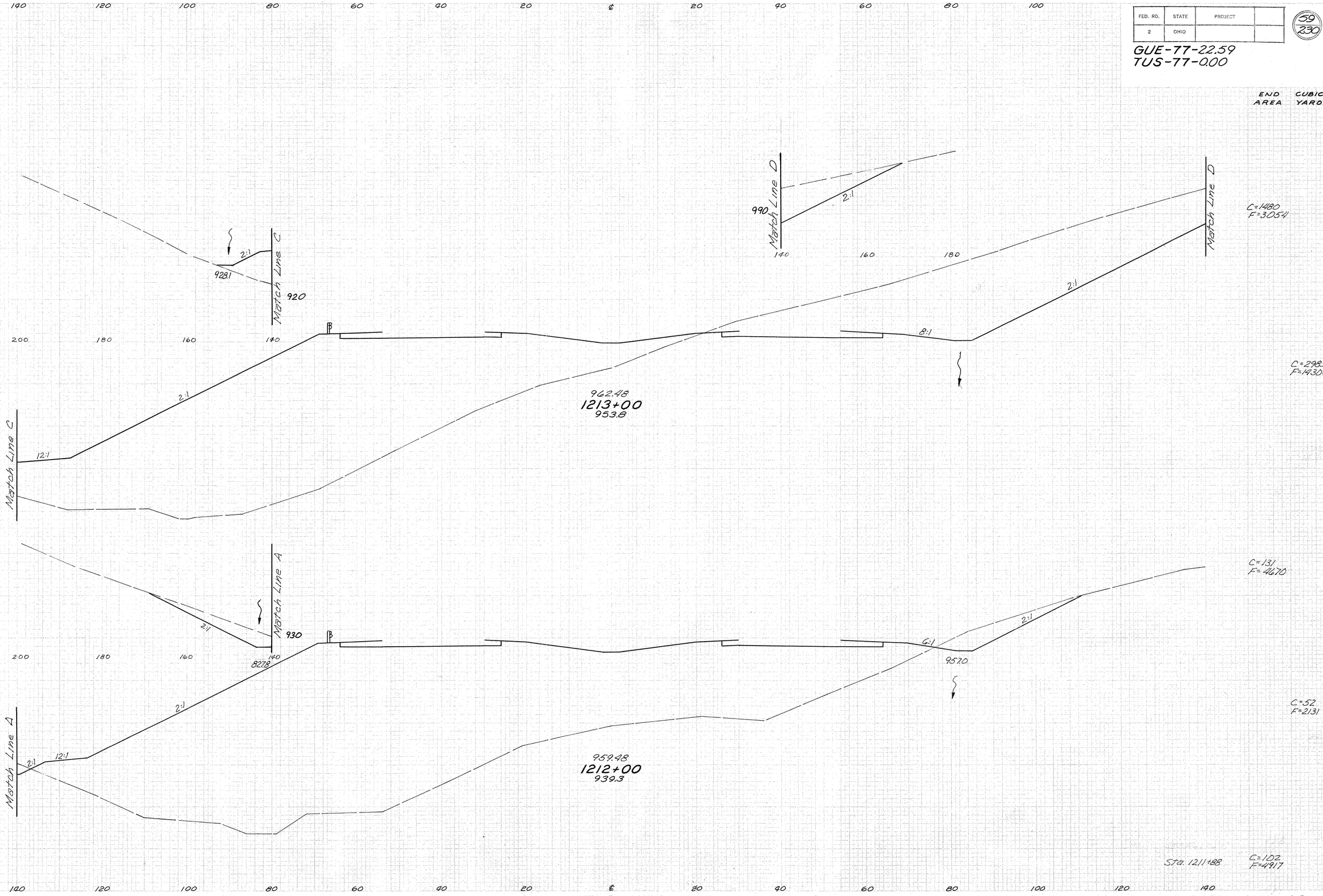
FED. RD.	STATE	PROJECT	
2	OHIO		

59
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS



X-SECTIONS ~ STA. 1212+00 TO STA. 1213+00

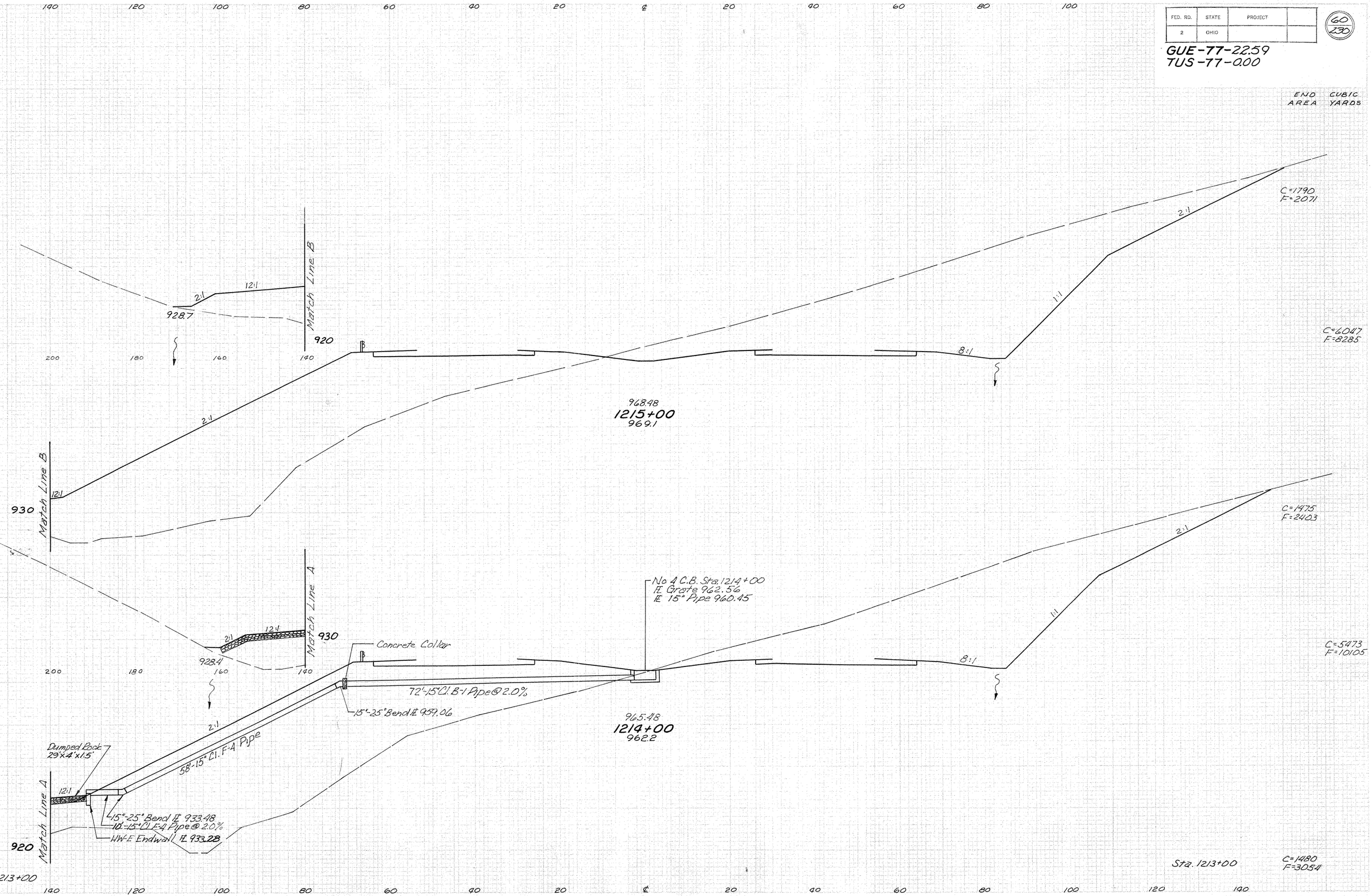
FED. RD.	STATE	PROJECT	
2	OHIO		

60
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS



X-SECTIONS ~ STA. 1214+00 TO STA. 1215+00

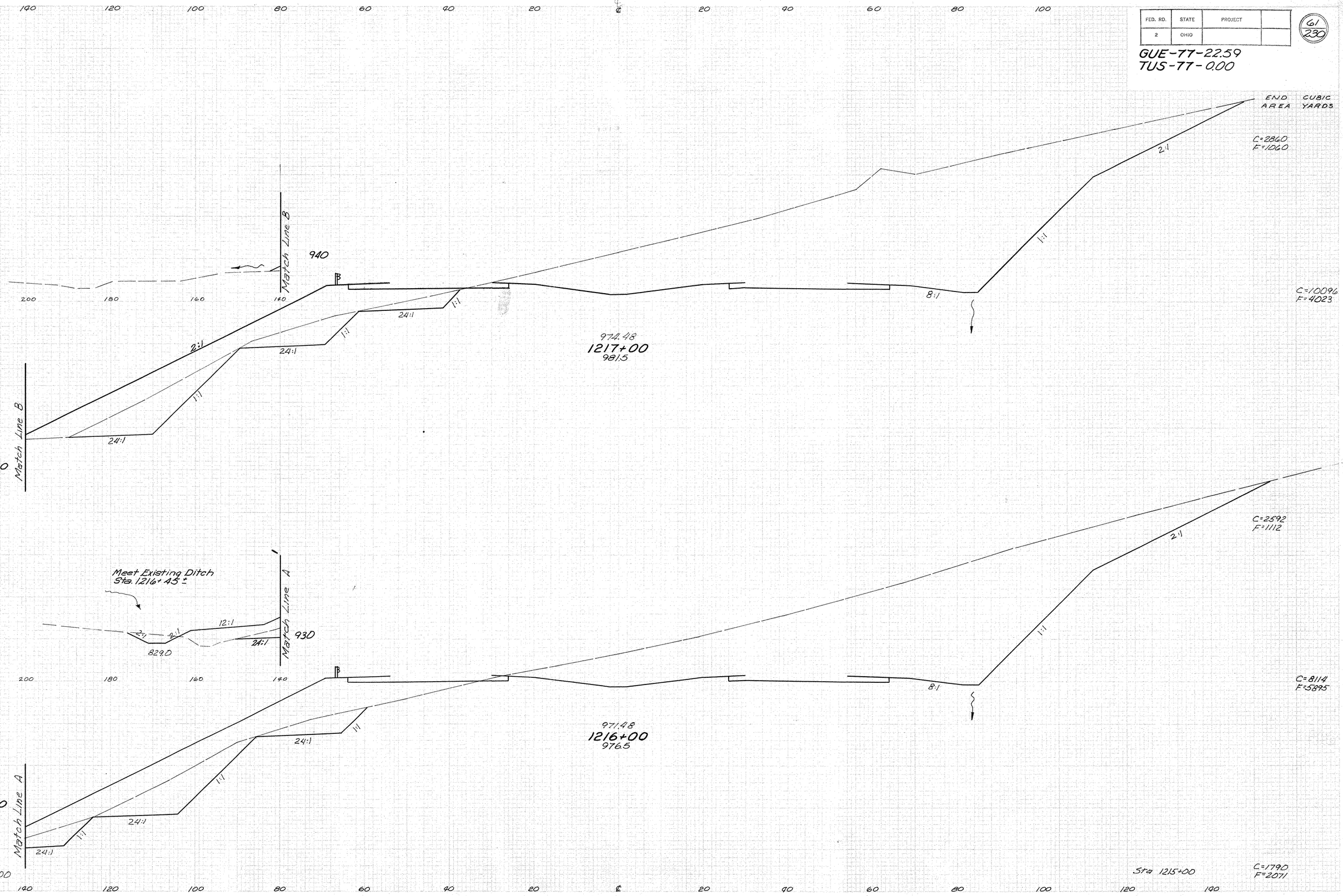
SEEDING
LIN. SQ.
FT. YDS.

FED. RD.	STATE	PROJECT	
2	OHIO		

61/230

GUE-77-22.59
TUS-77-0.00

END AREA CUBIC YARDS



X-SECTIONS ~ STA. 1216+00 TO STA. 1217+00

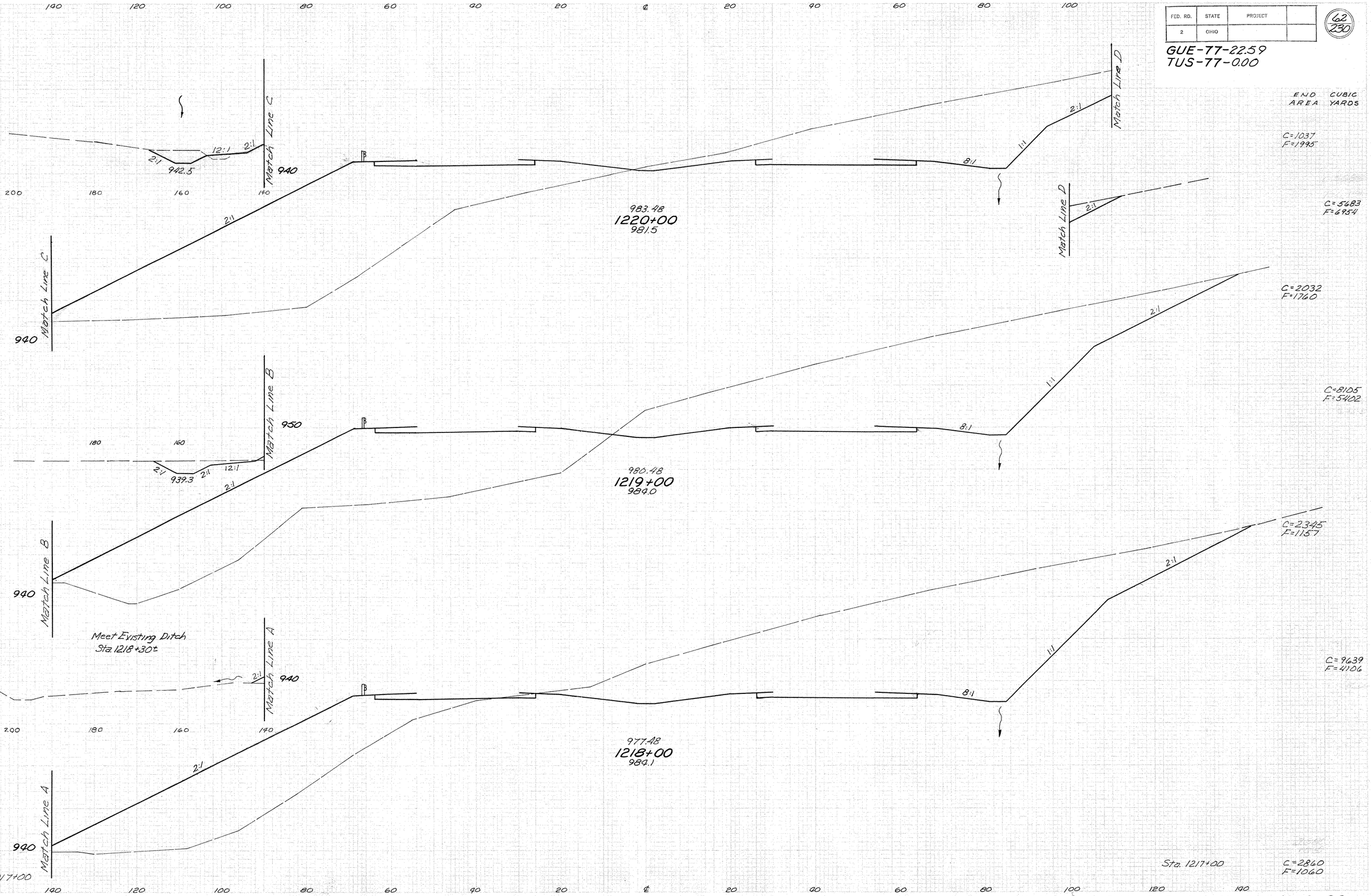
FED. RD.	STATE	PROJECT	
2	OHIO		

62
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS



X-SECTIONS ~ STA. 1218+00 TO STA. 1220+00

SEEDING
LIN. SQ.
FT. YDS.

FED. RD.	STATE	PROJECT	
2	OHIO		

63
230

GUE-77-22.59
TUS-77- 0.00

END AREA CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

180
160
140
Match Line B
960

Begin Guard Rail
Sta. 1222+00

C=0
F=38.44

6:1
978.0

2:1
2:1
12:1
960
Match Line B
959.5

353

989.48
1222+00
967.2

C=411
F=1297.0

3878

2:1
2:1
12:1
Match Line A
950
949.75

180 160 140

345

2:1
950
Match Line A

986.48
1221+00
971.6

C=222
F=3160

8:1
2:1

C=2331
F=9546

3733

327 Sta. 1220+00

Sta. 1220+00 C=1037 F=1995

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X SECTIONS - STA. 1221+00 TO STA. 1222+00

FED. RD.	STATE	PROJECT	
2	OHIO		

64
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

Meet Exist. Channel
Sta. 1224+75±

2:1
2:1
965.1
970
Match Line B

End Sod
Sta. 1224+25

240 220 200 180 160 140

354

980

Match Line B
2:1
12:1

995.78
1224+00
985.2

6:1
4:1
991.1

C=1454
F=2090

Begin Sod
Sta. 1224+00

Culvert Sta. 1223+68
Invert Elev. 968.0
For Details See Sht #172

Culvert Sta. 1223+68
FL Outlet 965.00
For Details See Sht #172

4067

2:1
970
Match Line A
964.8

C=4396
F=12,296

End Guard Rail
Sta. 1223+87.5

220 200 180 160 140

378

980

Match Line A
2:1
2:1
12:1

2:1
12:1
4:1 977.2
2:1

C=918
F=4550

C=1700
F=15545

4061

992.98
1223+00
963.2

353 Sta 1222+00

Sta. 1222+00 C=0
F=3844

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X SECTIONS ~ STA. 1223+00 TO STA. 1224+00

FED. RD.	STATE	PROJECT	
2	OHIO		

65
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

263
1010

2:1
1:1
8:1
30" C.I.E-1 Pipe
1004.48
1227+00
1030.5
Match Line A"
2:1
2:1
1:1
8:1
C=65.10
F=0
C=207.17
F=0

2808

No. 5 C.B. Sta 1226+00, 83' Lt.
Omit Longitudinal Slope & Dyke
℄ Grate 997.60
℄ 30" Pipe 992.72
No. 4 C.B. Sta. 1226+00
℄ Grate 998.56
℄ 30" Pipe 994.52
2:1
2:1
2:1
4:1
8:1
1:1
C=46.77
F=0
C=122.54
F=1.11

291
990
3383

End Guard Rail
Sta. 1225+93±
83'-30" Cl. B I Pipe @ 2.28%
1001.48
1226+00
1020.8

HW-E Endwall ℄ 987.5
118' Lt. Sta. 1225+51
Normal 12:1
8:1
12:1
999.98
1225+50
1014.8

℄ Exist. Stream
Dumped Rock
24'x8'x1.5'
PROFILE Outlet
Ditch for 30" Pipe
@ Sta. 1225+51
2:1
2:1
1:1
8:1
C=19.40
F=60

318
℄ Exist. Stream
End Outlet
Ditch 13.6' Lt.
Sta. 1225+37
El. 971.0
998.48
1225+00
1007.5
C=62.84
F=39.79

3373
970
2:1
2:1
4'
TYPICAL SECTION
OUTLET DITCH

354 Sta 1224+00
Sta. 1224+00
C=14.54
F=20.90

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1225+00 TO STA. 1227+00

FED. RD.	STATE	PROJECT	
2	OHIO		

66
230

GUE-77-22.59
TUS-77-000

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

186

1020

2:1 1:1 8:1

30" C.I.E-1 Pipe

1010.48
1229+00
1049.2

8:1 1:1 2:1

END AREA | CUBIC YARDS

C = 8500
F = 0

C = 30,222
F = 0

2311

230

1020

2:1 1:1 8:1

30" C.I.E-1 Pipe

1007.48
1228+00
1040.2

8:1 1:1 2:1

C = 7820
F = 0

C = 26,537
F = 0

2739

263 STA. 1227+00

Sta. 1227+00 C = 6510 F = 0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1228+00 TO STA. 1229+00

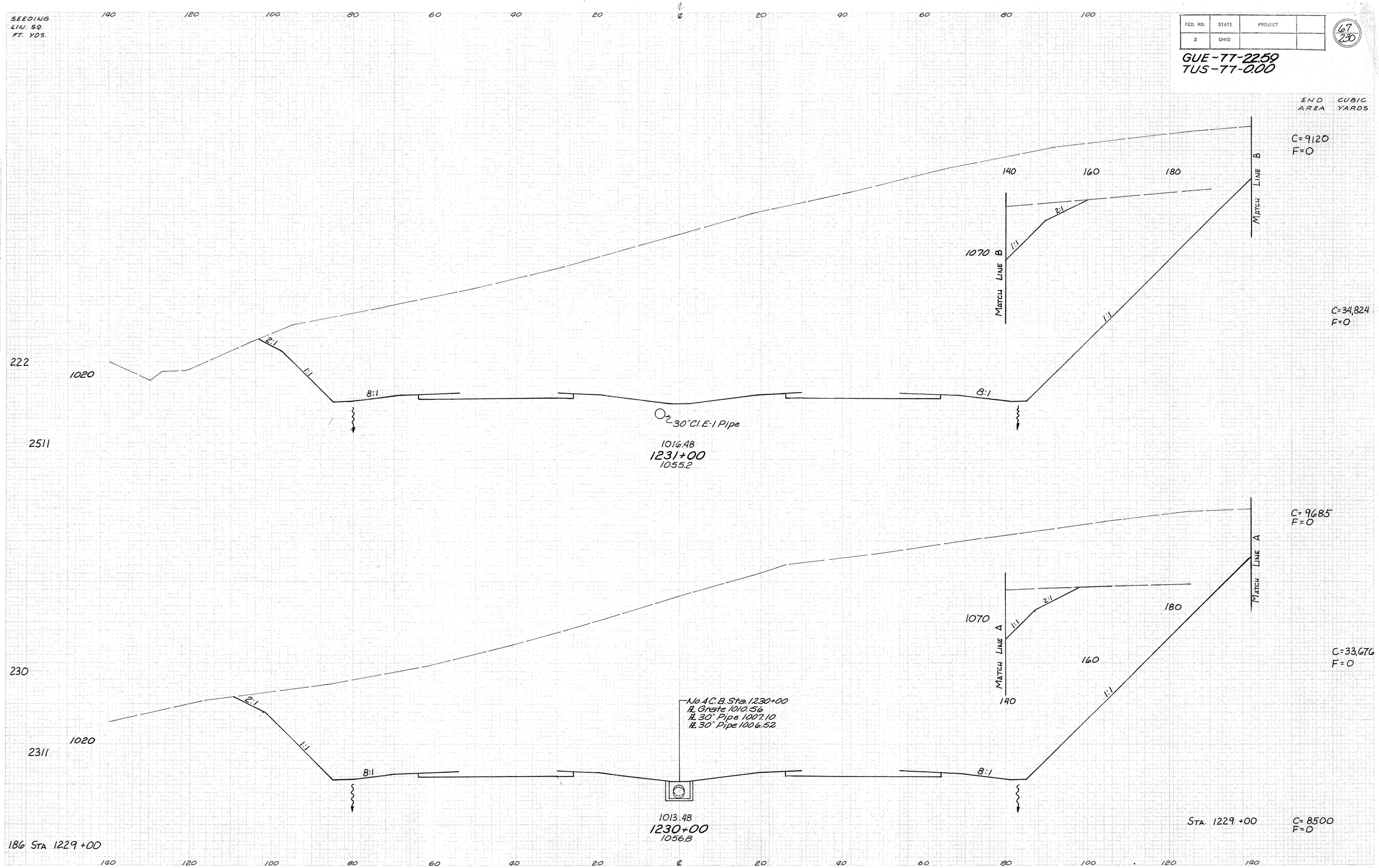
FED. RD.	STATE	PROJECT	
2	OHIO		

67
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS



X-SECTIONS ~ STA. 1230+00 TO STA. 1231+00

FED. RD.	STATE	PROJECT	
2	OHIO		

68
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ
FT. YDS.

END AREA | CUBIC YARDS

190 120 100 80 60 40 20 ℄ 20 40 60 80 100

1050

225

2:1 1:1 8:1 8:1 2:1 1:1

C=5689
F=0

C=23286
F=0

30" C.I.E-1 Pipe

1022.48
1233+00
1043.2

2544

233

1030

2258

2:1 1:1 8:1 8:1 2:1 1:1

C=6885
F=0

C=29639
F=0

30" C.I.E-1 Pipe

1019.48
1232+00
1049.2

STA. 1231+00

C=9,120
F=0

222 STA. 1231+00

190 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1232+00 TO STA. 1233+00

FED. RD.	STATE	PROJECT	
2	OHIO		

69
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.
140
120
100
80
60
40
20
℄
END AREA
CUBIC YARDS
186
1070
2:1
1:1
8:1
C=77.59
F=0
2139
C=2729.8
F=0
30" Cl.E-1 Pipe
1031.48
1236+00
1058.4
199
1070
C=69.82
F=0
2344
C=2351.6
F=0
1028.48
1235+00
1051.5
223
1060
C=57.16
F=0
℄ Exist. Stream.
A
Dumped Rock 36"x4'x1.5'
Sta. 1233+80±
2489
No. 1 M.H. Sta. 1234+00, 19' Lt.
Top of Cover 1024.93
℄ 12" Pipe 1020.48
℄ 30" Pipe 1018.98
No. 4 C.B. Sta. 1234+00
℄ Grate 1022.56
℄ 12" Pipe 1020.72
19'-12" Cl.E-1 Pipe @ 1.67%
C=2112.1
F=0
2'-0"
Cut Slope
10"
1'-6"
Dumped Rock
Note: For Ditch Typical Section in Rock Cut Backslope See Sheet No. 70.
SECTION "A-A"
STA 1233+00
C=56.89
F=0
1025.48
1234+00
1044.5
225 STA. 1233+00

X-SECTIONS ~ STA. 1234+00 TO STA. 1236+00

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

10
230

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

198 — 1080 — 2:1 — 1:1 — 8:1 — 3:1 — 3:1 — 8:1 — 1035.6 — 1035.6 — 30"C.I.E-1 Pipe — 1036.97 — 1237+83 — 1072.2 — End Guard Rail Sta 1237+73 — 1:1 — 2:1 — Structure — C=8370 F=0

DITCH TYPICAL SECTION IN ROCK CUT BACKSLOPES

697 — 1080 — T.R.2.18 — Match Line Sta. 47+75 — Bench Elev. 1059.90 — Elev. 1058.80 — 1:1 — 10' — 8:1 — 3:1 — 3:1 — 8:1 — 1034.6 — 1034.6 — 30"C.I.E-1 Pipe — 1035.98 — 1237+50 — 1071.8 — Begin Guard Rail Sta. 1237+24 — Rt. Ditch @ 1237+55

Note: T.R.2.18 Ditch shall be constructed from Elev. 1062.35 @ Sta. 47+85 to Elev. 1058.80, 114' Lt. of ℄ Sta. 1237+55 ℄ Survey; then constructed down the backslope at Sta. 1237+55 to the mainline roadway Ditch. For ditch Typical Section, see Typical Section on this sheet.

182 — 1080 — T.R.2.18 — Match Line Sta. 47+75 — Bench Elev. 1059.90 — Elev. 1058.80 — 1:1 — 10' — 8:1 — 3:1 — 3:1 — 8:1 — 1033.0 — 1033.0 — 30"C.I.E-1 Pipe — 1034.48 — 1237+00 — 1067.6 — Begin Guard Rail Sta. 1236+85.5 — Rt. Ditch Sta. 1237+43 — 2'-0" — 1'-0" — 3:1 — 2:1 — Cut off wall — 1'-0" — 6" — SECTION "A-A" — 2'-0" — 1:1 — 1'-0" — 1:1 — 6" — SECTION "B-B" & "C-C" — Match Line — T.R.2.18 Sta 50+00 — C=8450 F=0 — El. Ditch 1066.64 28.5' Rt. Sta 50+51 T.R.2.18 — 6.0% — 6" — El. Ditch 1069.64 @ 20.5' Rt. Sta 51+00 T.R.2.18 — Template @ Sta. 1237+43 — 10' — Transition Gutter Slopes from Section "A-A" to Section "B-B" in 10'. — 46' Paved Gutter Modified, See Std. Consit. Drwg. I-14G For Notes. — 6" — 1'-0" — 1:1 — C=15071 F=0 — For Ditch Typical Section on 1:1 Backslopes, see Typical Section this sheet.

908 — 1080 — Match Line Sta. 47+75 T.R.2.18 — Rt. Ditch Sta. 47+75 T.R.2.18, 1062.38 — Rt. Ditch Sta. 45+80, T.R.2.18, 1062.36 — Bench Elev. 1059.90 — 0.3% — Elev. 1058.90 — 1:1 — 10' — Rt. Ditch @ 1237+04 — C=7826 F=0

Note: T.R.2.18 Ditch shall be constructed from Sta. 47+80 to meet the mainline ditch at Sta. 1237+04. For ditch Typical Section, see Typical Section on this sheet.

1839 — 2:1 — 1:1 — C=28861 F=0

186 STA. 1236+00 — STA. 1236+00 — C=7759 F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1237+00 TO STA. 1237+83

FED. RD.	STATE	PROJECT	
2	OHIO		

71
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

174	1090	
1702		
181	1080	
2128		
202	1080	
378		
198	STA. 1237+83	

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 190

2:1 1:1 8:1

END AREA CUBIC YARDS

C=10061
F=0

C=35525
F=0

○ 24" Cl. E-1 Pipe
1043.48
1240+00
1087.4

C=9122
F=0

No. 1 M.H. Sta 1239+00, 19' Lt
Top of Cover 1039.93
℄ 15" Pipe 1035.11
℄ 18" Pipe 1034.86
℄ 24" Pipe 1034.36
℄ 30" Pipe 1033.86

No. 5 C.B. Sta 1239+00, 83' Lt
℄ Grate 1038.10
℄ 15" Pipe 1035.99
℄ 6" Pipe 1036.74

No. 4 C.B. Sta 1239+00
℄ Grate 1037.56
℄ 15" Pipe 1035.25
℄ 18" Pipe 1035.00

No. 5 C.B. Sta. 1239+00, 83' Rt
℄ Grate 1038.10
℄ 15" Pipe 1035.99
℄ 6" Pipe 1036.74

64'-15" Cl. B-1 Pipe @ 1.45%
19'-18" Cl. E-1 Pipe @ 1.00%
83'-15" Cl. B-1 Pipe @ 0.94%

End Guard Rail
Sta. 1238+11.5

1040.48
1239+00
1080.0

2'-0" 3:1 2:1 1'-0" 6" 1'-0"
Cut-off Wall
SECTION "A-A"

C=32662
F=0

2'-0" 1:1 1:1 1'-0" 6"
SECTION "B-B" & "C-C"

Match Line T.P. 218 Sta. 50+60

C=8515
F=0

Elev. 1067.80 @ 20.5' Lt
Sta. 50+58 T.P. 218

3.88%

6"

Elev. 1068.46 @ 20.5' Lt. Sta. 50+75 T.P. 218

Transition Gutter Slopes from Section "A-A" to Section "B-B" in 10'.

45' Paved Gutter Modified. See Std. Const. Drwg. I-14G For Notes.

C=5,316
F=0

For Ditch Typical Section on 1:1 Backslope See Typical Section Preceding Sheet

1'-0"

℄ Ditch Sta. 1237+93

30" Cl. E-1 Pipe ○ 1036.0 1036.0

1037.48
1238+00
1073.3

STA. 1237+83

C=8370
F=0

X-SECTIONS ~ STA. 1238+00 TO STA. 1240+00

FED. RD.	STATE	PROJECT	
2	OHIO		

72
230

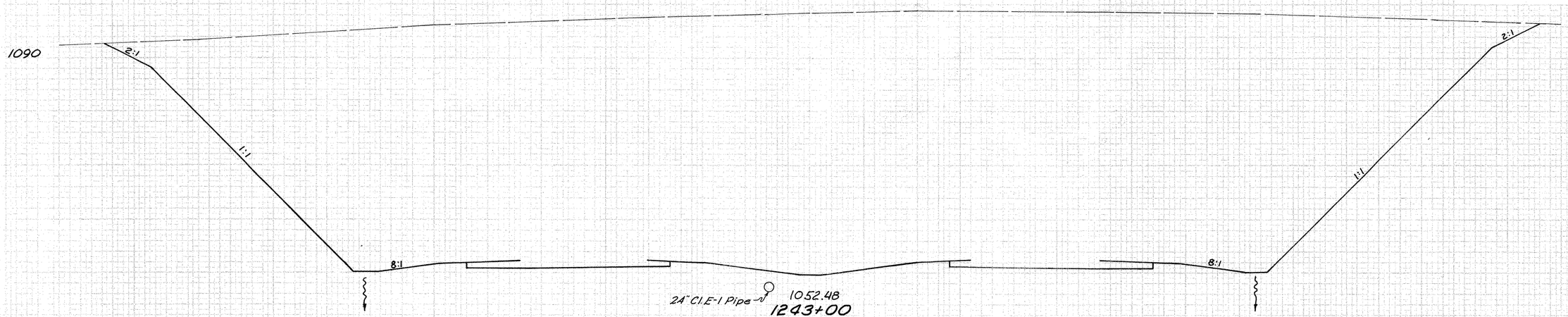
GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT YDS.

190 120 100 80 60 40 20 ℄ 20 40 60 80 100

END AREA CUBIC YARDS

171 1090 1845

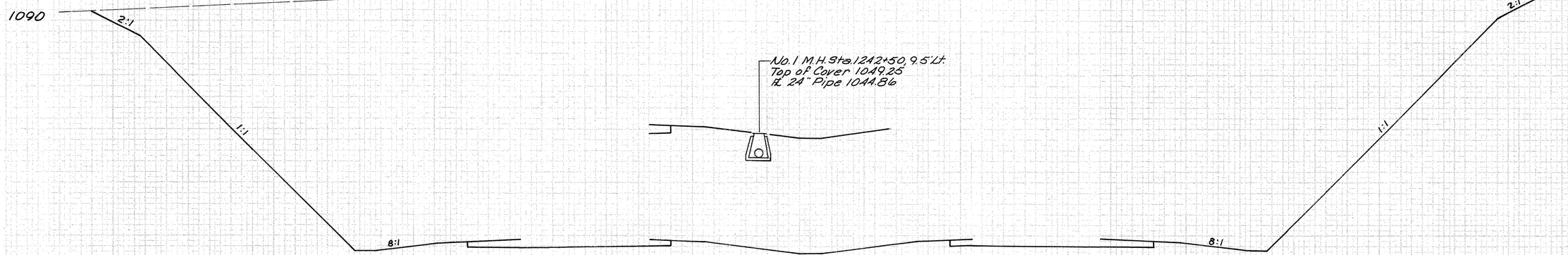


24" Cl. E-1 Pipe
10.52.48
1243+00
1098.4

C=10,025
F=0

C=38,130
F=0

161 1090 1828



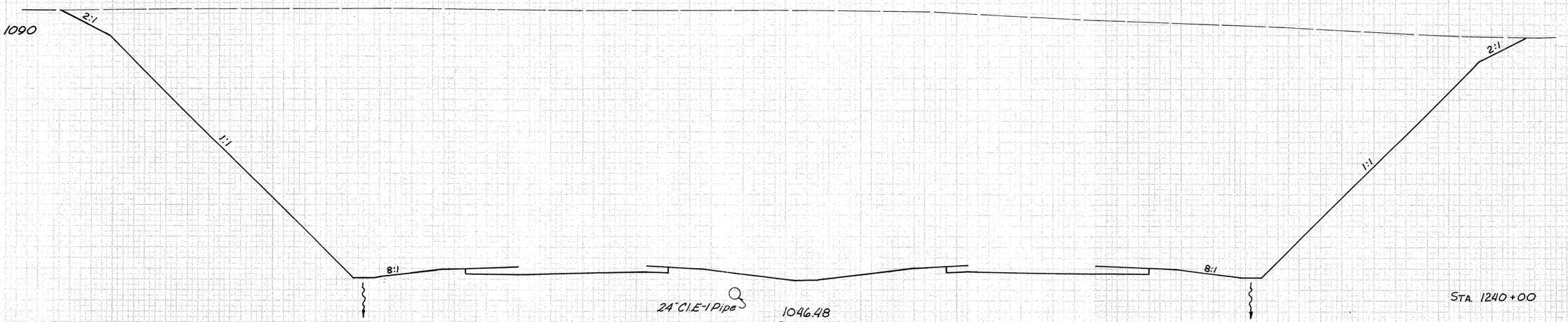
No. 1 M.H. Sta. 1242+50, 9.5' Lt.
Top of Cover 1049.25
℄ 24" Pipe 1044.86

24" Cl. E-1 Pipe
1049.48
1242+00
1097.7

C=10,565
F=0

C=39,315
F=0

168 1090 1900



24" Cl. E-1 Pipe
1046.48
1241+00
1094.8

C=10,665
F=0

C=38382
F=0

174 STA. 1240+00

STA. 1240+00

C=10061
F=0

190 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1241+00 TO STA. 1243+00

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-2259
TUS-77-000

13
230

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS

202
1080
2189

2:1 1:1 8:1

No. 5 C.B. Sta. 1246+00, 83' Lt.
Rt. Grate 1058.93
Rt. 18" Pipe 1056.55
Rt. 6" Pipe 1057.55

No. 4 C.B. Sta. 1246+00
Rt. Grate 1058.39
Rt. 18" Pipe 1055.76
Rt. 24" Pipe 1055.26

No. 5 C.B. Sta. 1246+00, 83' Rt.
Rt. Grate 1058.93
Rt. 18" Pipe 1056.55
Rt. 6" Pipe 1057.55

C=5,455
F=0

C=22,676
F=0

83'-18" Cl. B-1 Pipe @ 1.00%

83'-18" Cl. B-1 Pipe @ 1.00%

1061.31
1246+00
1087.6

192
1080
1712

2:1 1:1 8:1

C=6,790
F=0

C=28,370
F=0

24" Cl. E-1 Pipe

1058.47
1245+00
1090.9

181
1080
1956

2:1 1:1 8:1

C=8,530
F=0

C=34,361
F=0

24" Cl. E-1 Pipe

1055.48
1244+00
1095.9

171 STA. 1243+00

STA. 1243+00

C=10,025
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1244+00 TO STA. 1246+00

FED. RD.	STATE	PROJECT	
2	OHIO		

74
230

GUE-77-2259
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS

204
1090
2289
2:1 1:1 8:1 8:1 1:1 2:1
1070.42
1250+00
1092.5
C=4655
F=0
C=17,157
F=0

208
1090
2300
2:1 1:1 8:1 8:1 1:1 2:1
1068.47
1249+00
1090.3
C=4610
F=0
C=17,056
F=0

206
1080
2289
2:1 1:1 8:1 8:1 1:1 2:1
1066.31
1248+00
1089.2
C=4600
F=0
C=17,509
F=0

206
1080
2267
2:1 1:1 8:1 8:1 1:1 2:1
1063.92
1247+00
1088.0
C=4855
F=0
C=19,093
F=0

202 STA. 1246+00
STA. 1246+00
C=5455
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1247+00 TO STA. 1250+00

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

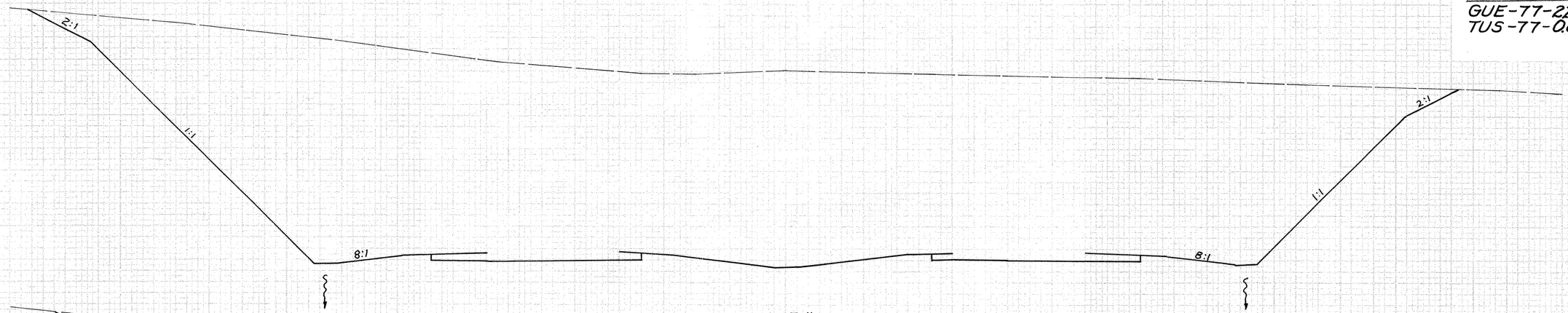
75
230

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

171 1110



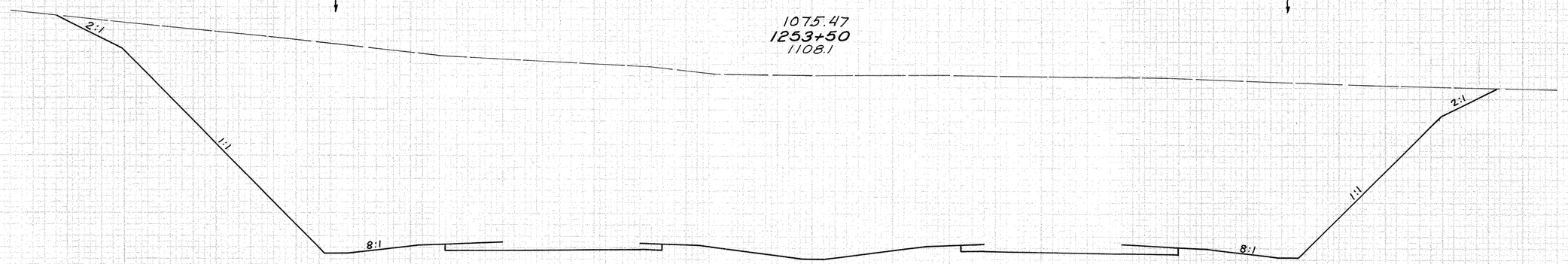
978

C=7290
F=0

C=12,810
F=0

181 1110

1075.47
1253+50
1108.1



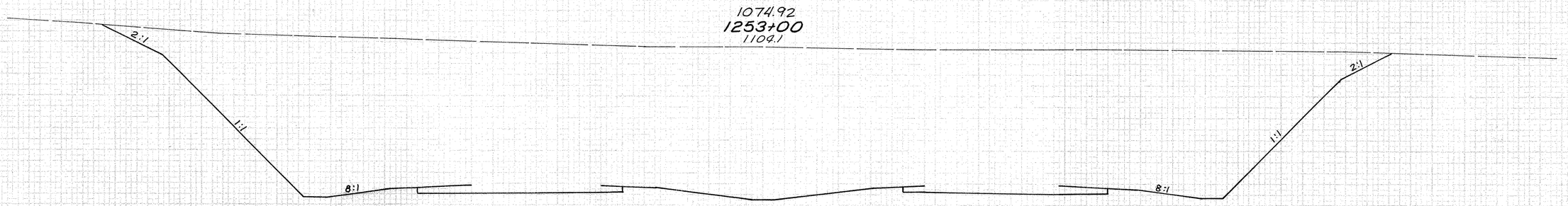
2105

C=6545
F=0

C=22,241
F=0

1074.92
1253+00
1104.1

198 1100



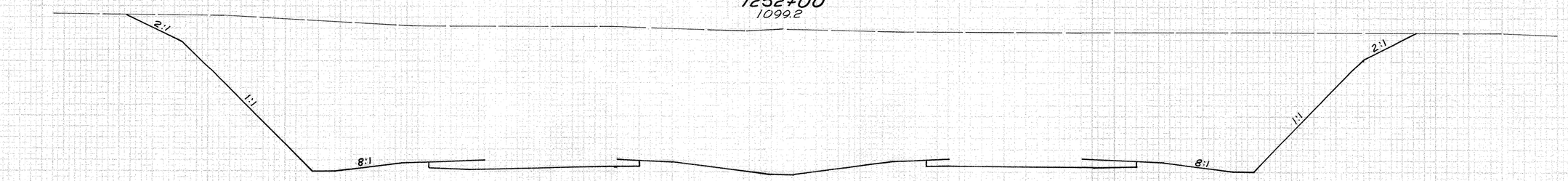
2217

C=5465
F=0

C=19,241
F=0

1073.64
1252+00
1099.2

201 1100



2250

C=4925
F=0

C=17,741
F=0

1072.14
1251+00
1096.0

204 STA. 1250+00

STA. 1250+00

C=4655
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1251+00 TO STA. 1253+50

FED. RD.	STATE	PROJECT	
2	OHIO		

76
230

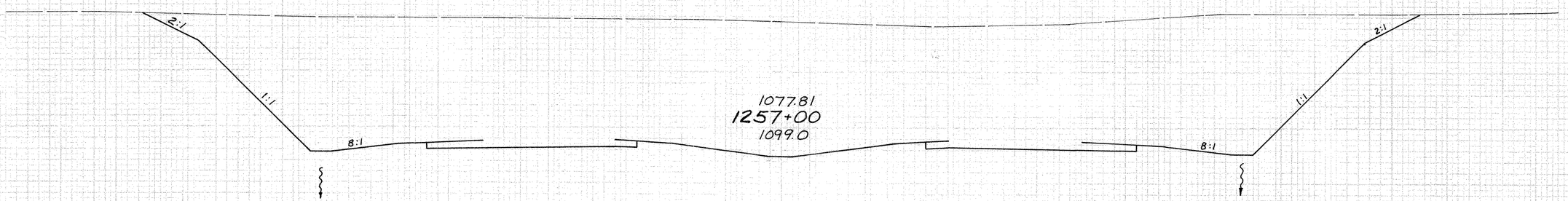
GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS

194 1100 2112

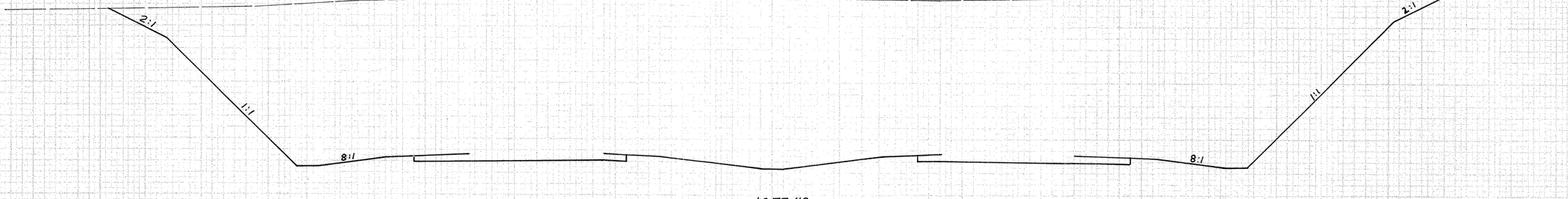


1077.81
1257+00
1099.0

C=4525
F=0

C=19,120
F=0

186 1100 2022

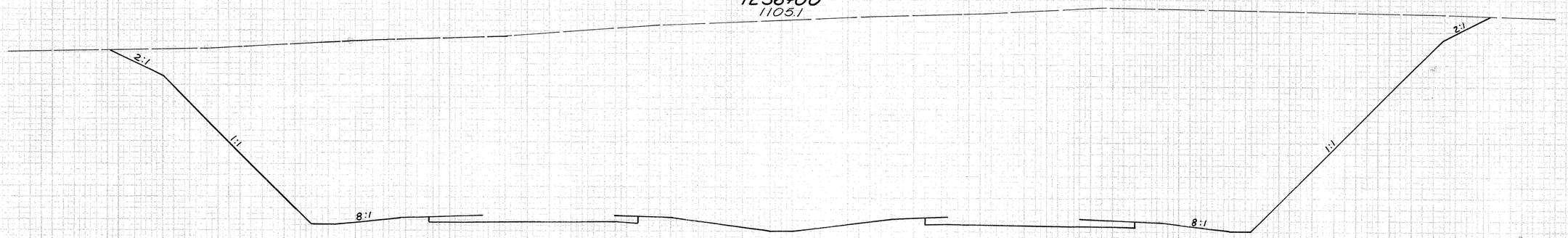


C=5800
F=0

C=24,602
F=0

1077.42
1256+00
1105.1

178 1100 1950

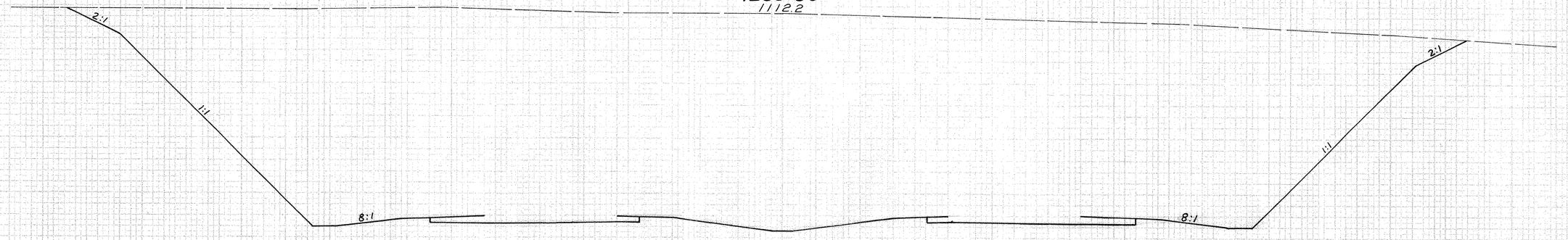


C=7485
F=0

C=28,333
F=0

1076.81
1255+00
1112.2

173 1110 956



C=7815
F=0

C=13,986
F=0

171 STA. 1253+50

1075.97
1254+00
1112.9

STA. 1253+50 C=7290
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1254+00 TO STA 1257+00

FED. RD.	STATE	PROJECT
2	OHIO	

77
230

GUE-77-22.59
TUS-77-0.00

SEEDING LIN. SQ. FT. YDS.
END AREA
CUBIC YARDS
140 120 100 80 60 40 20 ℄ 20 40 60 80 100
267
2956
1060
2:1
12:1
4:1
4:1
1060.8
5:1
1070.4
C=19 F=2633
C=237 F=6547
End Sod - Sta. 1262+00
Begin Guard Rail
Sta. 1261+75
1076.42
1262+00
1057.6
265
1080
2278
3:1
8:1
4:1
4:1
1070.7
C=109 F=905
C=1554 F=1731
Begin Sod Sta. 1261+00
1077.14
1261+00
1067.7
226
1090
2461
2:1
1:1
8:1
6:1
3:1
1075.5
C=730 F=30
C=5333 F=56
1077.64
1260+00
1076.3
217
1090
2344
2:1
1:1
8:1
6:1
1:1
2:1
C=2150 F=0
C=9991 F=0
Sta. 1258+25
Sta. 1258+25
1077.92
1259+00
1085.8
205
1090
2217
2:1
1:1
8:1
8:1
1:1
2:1
C=3245 F=0
C=14389 F=0
194 Sta. 1257+00
Sta. 1257+00
C=4525 F=0
1077.97
1258+00
1092.9
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1258+00 TO STA. 1262+00

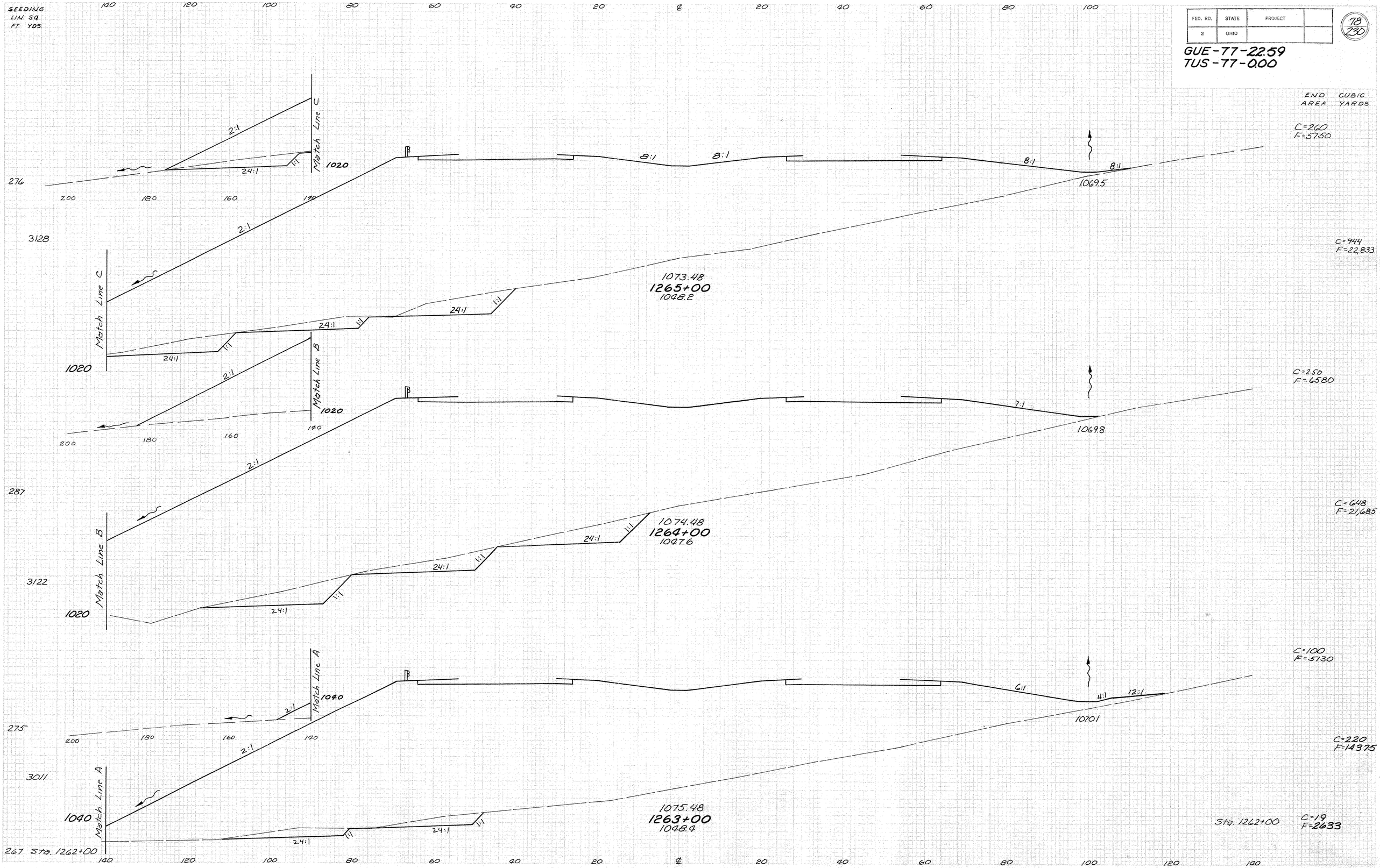
FED. RD.	STATE	PROJECT	
2	OHIO		

78
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS



X-SECTIONS - STA. 1263+00 TO STA. 1265+00

FED. RD.	STATE	PROJECT	
2	OHIO		

79/230

GUE-77-22.59
TUS-77-0.00


SEEDING
LIN. SQ
FT. YDS.
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140
END AREA
CUBIC YARDS
217
1070
2:1
6:1
8:1
6:1
½:1
2:1
1068.3
C=3340
F=0
2556
C=10,260
F=0
1069.48
1269+00
1086.2
C=2200
F=0
243
1070
2:1
6:1
8:1
6:1
2:1
1068.6
1070.48
1268+00
1081.4
2672
C=6,463
F=102
End Guard Rail
Sta.1267+50
No. A C.B. Sta.1267+00
℄ Grate 1068.56
℄ 15" Pipe 1066.45
℄ 6" Pipe 1067.22
C=750
F=55
4:1
8:1
6:1
2:1
1068.9
86'-15" Cl. B-1 Pipe @ 1.00%
HW-E Endwall ℄ 1065.62
Dumped Rock 8.0'x4.0'x1.5'
C=1224
F=3181
238
1071.48
1267+00
1075.1
1050
C=120
F=2205
2082
2:1
8:1
8:1
4:1
1069.1
C=127
F=2451
255
1072.24
1266+24
1060.1
24:1
1:1
24:1
1:1
268
1040
C=165
F=3310
8:1
9:1
10:1
1069.2
252
2:1
C=787
F=16,778
2933
1072.48
1266+00
1056.2
24:1
1:1
24:1
1:1
24:1
1:1
1040
Sta. 1265+00
C=260
F=5750
276 Sta. 1265+00
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA 1266+00 TO STA 1269+00

FED. RD.	STATE	PROJECT	
2	OHIO		

80
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN SQ
FT. YDS.
140 120 100 80 60 40 20 ℄ 20 40 60 80 100
END AREA
CUBIC YARDS
C-22.30
F-0
2:1
1/2:1
8:1
6:1
222
1060
C-3307
F-0
1065.48
1273+00
1076.5
2389
C-30.60
F-0
208
C-12,380
F-0
1060
2267
1066.48
1272+00
1081.4
C-36.25
F-0
200
C-14,204
F-0
1060
1067.48
1271+00
1084.9
1717
C-40.45
F-0
190
C-13,676
F=0
2261
1060
1068.48
1270+00
1089.1
217 Sta. 1269+00
Sta 1269+00
C-33.40
F-0
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA 1270+00 TO STA 1273+00

SEEDING
LIN SQ
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

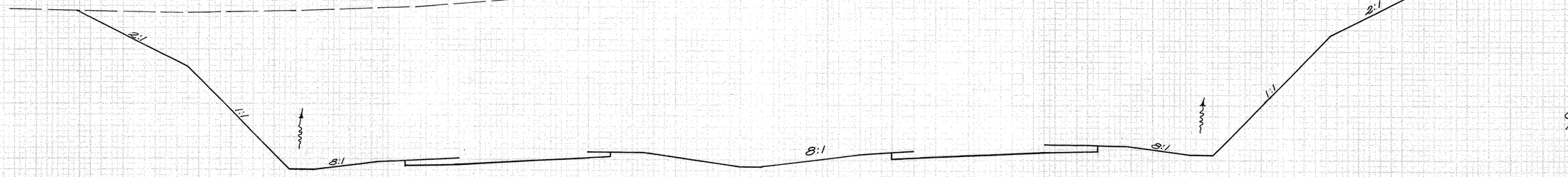
FED. RD.	STATE	PROJECT	
2	OHIO		

81/230

GUE-77-22.59
TUS-77-000

END AREA CUBIC YARDS

229
1080
255.6

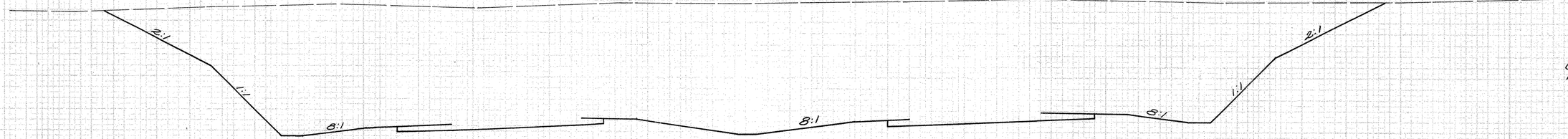


C-6445
F-0

C-20325
F-0

1061.48
1277+00
1091.8

231
1080
2600

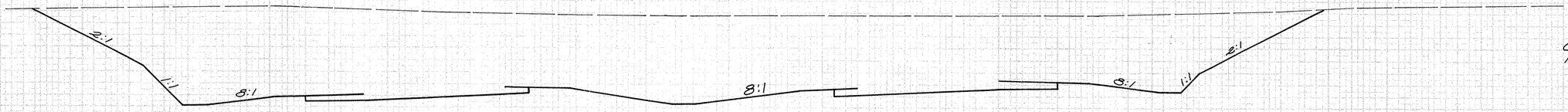


C-4530
F-0

C-13383
F-0

1062.48
1276+00
1083.3

237
1070
2633

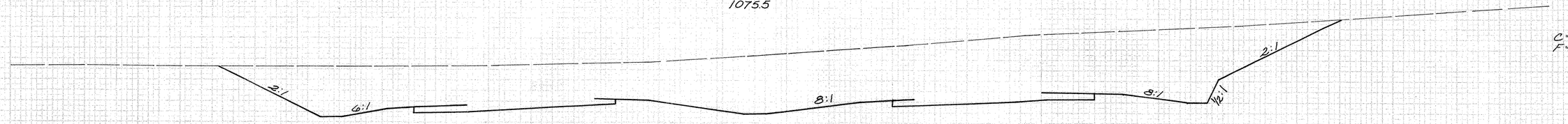


C-2691
F-0

C-8645
F-0

1063.48
1275+00
1075.5

237
1070
2550



C-1971
F-0

C-7830
F-0

222 Sta. 1273+00

1064.48
1274+00
1072.9

Sta. 1273+00 C-2230
F-0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS - STA 1274+00 TO STA 1277+00

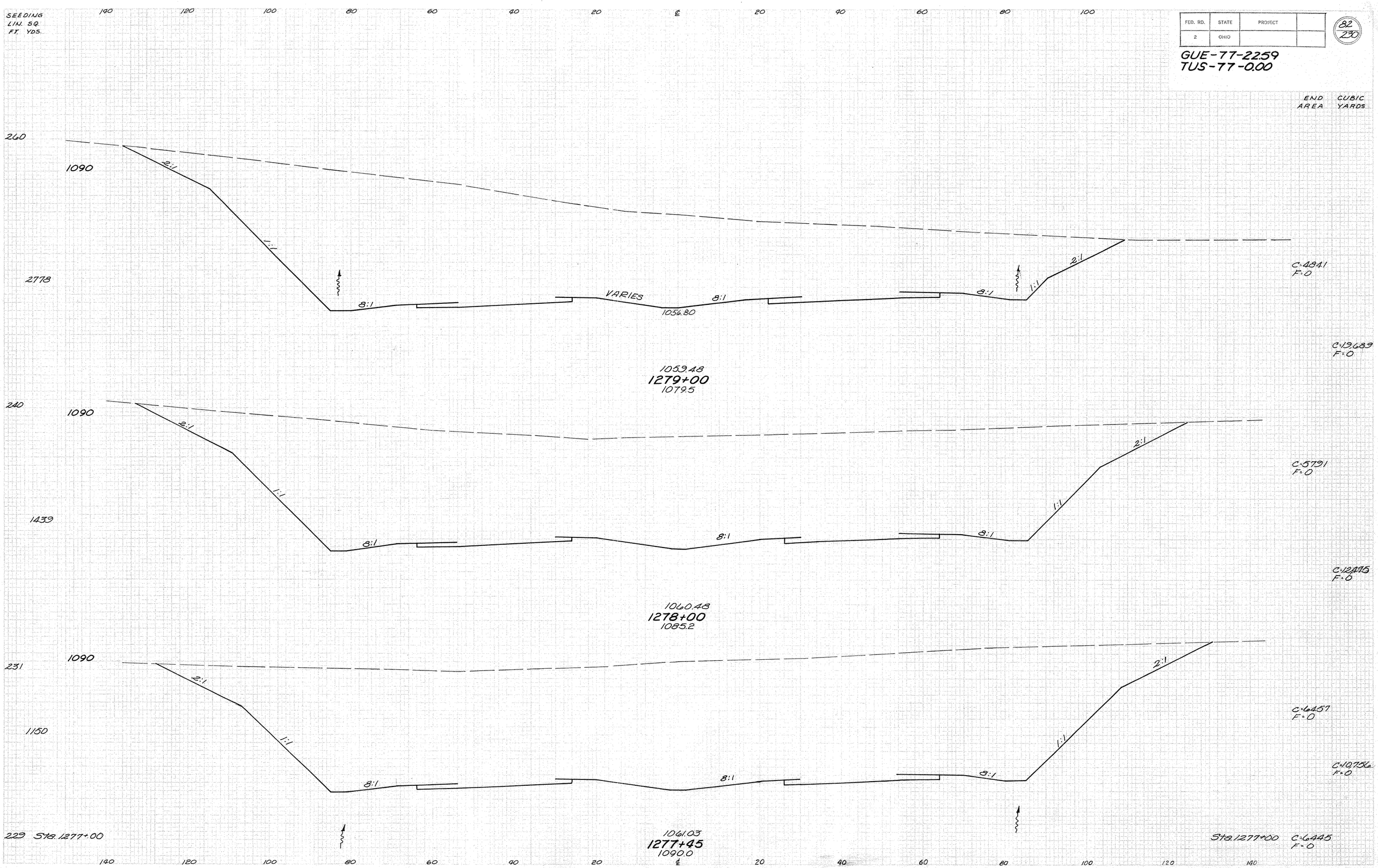
FED. RD.	STATE	PROJECT	
2	OHIO		

82
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS



X-SECTIONS ~ STA. 1277+45 TO STA. 1279+00

FED. RD.	STATE	PROJECT	
2	OHIO		

83
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

387
2122
4:1
4:1
12:1
2:1
10289
Varies
8:1
1054.73
2:1
1057.06
1+54
1017.6
Match Line "B"
C=21
F=8176

1010
Match Line "B"
2:1
140 160 180 200 220
C=49
F=12841

385
1050
4:1
4:1
12:1
2:1
1043.5
Varies
8:1
1055.38
1057.60
1+00
1034.1
1020
Match Line "A"
2:1
140 160 180
C=28
F=4665

3761
2:1
3:1
1050
1049.42
HW-E Endwall ℄ 1049.47
Begin 8'x1.5' Dumped Rock
Sta. 0+50
93'-15" C.I.B-1 Pipe @ 4.54%
Begin Guard Rail
Sta 0+50
1058.10
0+50
1050.0
No. 4 C.B. Sta. 0+11, 4.5' Lt.
℄ Grate 1055.63
℄ 15" Pipe 1053.52
Begin Guard Rail
Sta. 0+25
Match Line "A"
C=3569
F=8719

292
1080
2:1
1:1
1060
4:1
1058.49
0+11
1062.0

2699
8:1
1055.23
Varies
8:1
1056.10
6:1
C=1899
F=43

C=11043
F=20

1058.60
1279+88.48 Bk = 0+00 Ah
1065.0

260 Sta. 1279+00
Sta. 1279+00
C=4841
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 1279+88.48 Bk = STA. 0+00 Ah. TO STA. 1+54

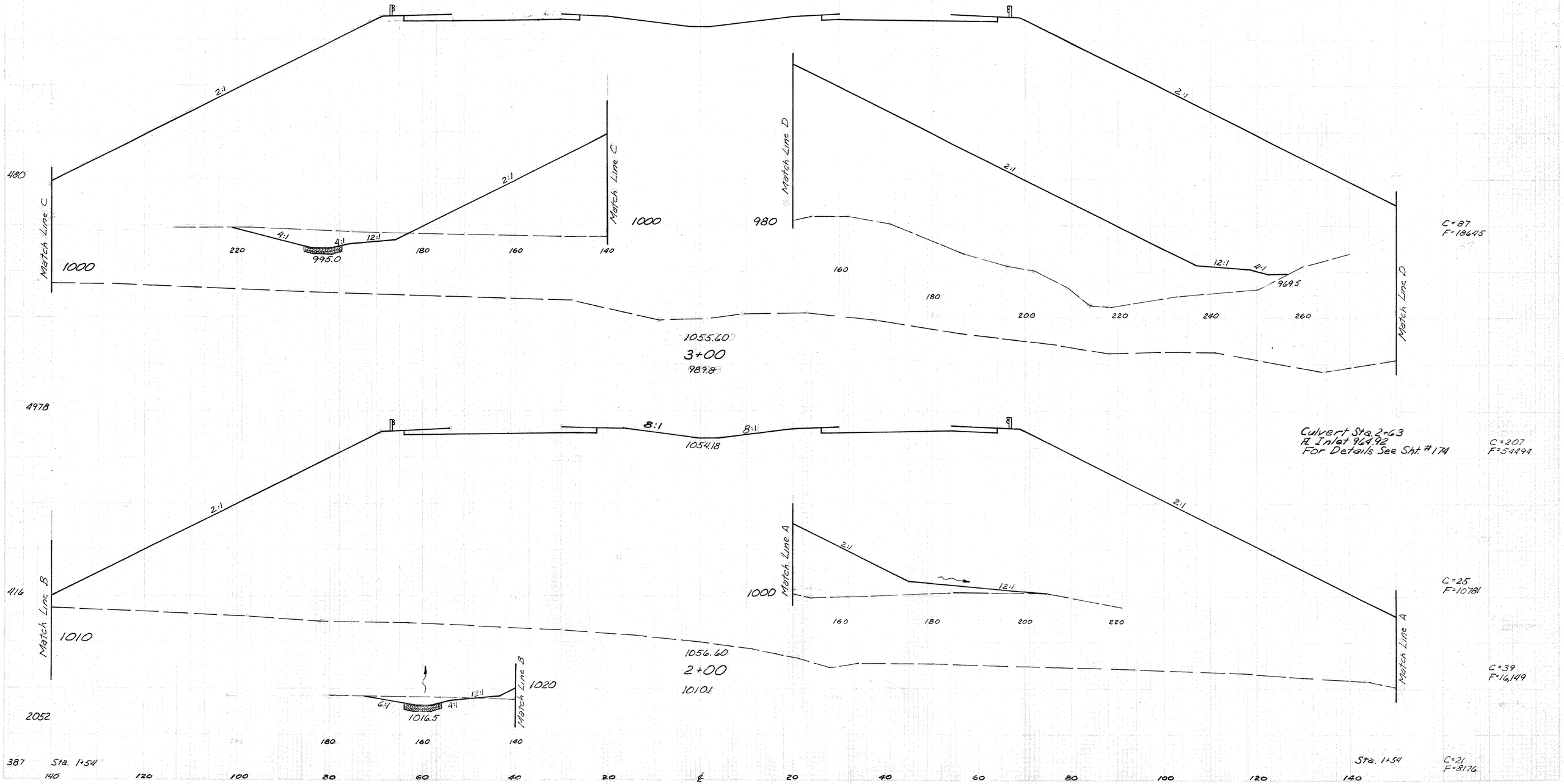
SEEDING
LIN SQ
FT. YDS

84
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120



X-SECTIONS ~ STA. 2+00 TO STA. 3+00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

85
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

Begin 8'x2.5' Dumped Rock
Sta. 4+63

End 8'x1.5' Dumped Rock
Sta. 4+40

Culvert Sta. 4+41
℄ Outlet 959.47
For Details See Sht #174

C=18
F=25976

535

2:1

Match Line A

980

2:1

12:1

4:1

976.5

960

Match Line B

180 200 220 240 260 280

10,54.60
4+00
975.3

2:1

Match Line B

C=194
F=82633

5639

2:1

Match Line A

980

4:1 4:1 12:1

973.5

480 Sta. 3+00

240 220 200 180 160 140

Sta 3+00 C=87
F=18645

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180

X-SECTION ~ STA. 4+00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

86
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

587

Match Line A

2:1

2:1

4:1 4:1 12:1

952.0

300 260 240 220 200 180 160 140

950

Match Line A

Match Line B

2:1

2:1

12:1 4:1 2:1

989.0

970

950

140 160 180 200 220

Match Line B

C=101
F=30272

1053.60
5+00
954.6

C=220
F=103165

5678

535 Sta. 4+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

Sta. 4+00

C=18
F=25976

X-SECTION ~ STA. 5+00

SEEDING
LIN. SQ.
FT. YDS.
87
230
GUE-77-22.59
TUS-77-0.00
END AREA
CUBIC YARDS
Begin Dumped Rock
Sta 6+03
2:1
2:1
2:1
Match Line A
Match Line A
Match Line B
Match Line B
Match Line C
Match Line C
615
940
940
990
C=156
F=30516
C=476
F=112575
1052.60
6+00
951.9
6678
12:1
4:1
2:1
2:1
999.4
End 8'x2.5' Dumped Rock
Sta. 5+80
587
Sta. 5+00
Sta 5+00
C=101
F=30272
X-SECTION ~ STA. 6+00

SEEDING
LIN. SQ
FT. YDS

88
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

469

1010 Match Line D

2:1

1050.60
8+00
1009.1

1020 Match Line D

4:1 12:1 4:1
1017.5

160 140

End Dumped Rock
Sta. 7+50

990 Match Line C

2:1 2:1 12:1 4:1
1000.0

BEGIN DUMPED ROCK
STA. 8+00

140 160 180 200

Match Line C

C=10
F=11940

5272

C=107
F=60692

480

970 Match Line A

2:1 2:1 4:1 4:1 12:1
980.0

220

980 Match Line A

200 180 160 140

990 Match Line B

2:1 12:1 4:1 2:1
999.7

140 160 180 200 220 240

Match Line B

C=48
F=20833

6083

1051.60
7+00
970.4

C=378
F=95093

615 Sta. 6+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

Sta. 6+00

C=156
F=30516

X-SECTIONS ~ STA. 7+00 TO STA. 8+00

SEEDING
LIN. SQ
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

89
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

2:1 ½:1 24:1 6:1 8:1 8:1 6:1 24:1 2:1 ½:1

284 1060

C:3602
F:0

1047.60
11+00
1092.7

3356

C:2731
F:0

320 1060

2:1 ½:1 24:1 6:1 8:1 8:1 2:1

No.4 C.B. Sta 9+85
Rt. Grate 1045.83
Rt. 15" Pipe 1043.72

C:5146
F:0

1048.60
10+00
1074.7

90'-15" Cl. B-1 Pipe @ 2.60%

1041.45

Dumped Rock 8.0'x4.0'x1.5'
HW-E. Endwall Rt. 1041.49

End Dumped Rock
Sta. 9+85

3222

C:10,363
F:2726

End Guard Rail
Sta. 9+00

End Guard Rail
Sta. 9+50

260 1050

3:1 6:1

1049.60
9+00
1040.2

1472

C:450
F:1472

2:1

4051

C:852
F:24838

12:1 4:1 4:1

463 Sta. 8+00

1013.0
Sta. 8+00

C:10
F:11,340

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 9+00 TO STA. 11+00

90
230

GUE-77-2259
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

END AREA | CUBIC YARDS

1100

2:1

½:1

24:1 6:1 8:1 8:1 6:1 24:1

211

2561

1045.60
13+00
1103.1

C:12,922
F:0

C:44,799
F:0

1100

2:1

½:1

24:1 6:1 8:1 8:1 6:1 24:1

250

2967

1046.60
12+00
1096.9

C:11,269
F:0

C:38,632
F:0

284 STA. 11+00

STA. 11+00

C:9602
F:0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 12+00 TO STA. 13+00

GUE-77-22.59
TUS-77-0.00

X-SECTIONS ~ STA. 14+00 TO STA. 15+00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

92
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

1090
Match Line "B"
2:1

140 160 180 200

Match Line "B"
2:1
½:1
8:1 6:1 24:1
2:1

C=3897
F=12

1060

Begin Guard Rail
Sta. 17+00

1041.60
17+00
1057.5

C=22,234
F=22

291
3106
1080
268
2822
240 Sta. 15+00

1100
Match Line "A"
2:1

140 160 180

Match Line "A"
2:1
½:1
8:1 6:1 24:1
2:1

C=8109
F=0

1042.60
16+00
1077.5

C=36,138
F=0

Sta 15+00 C=11,405
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 16+00 TO STA. 17+00

GUE-77-2259
TUS-77-0.00

SEEDING
LIN. SQ
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

End Dumped Rock
Sta. 20+50

END AREA | CUBIC YARDS

1010
298
Match Line B
2:1
3:1
4:1
12:1
2:1
1001.0
Match Line B
1000
200 180 160 140
1038.60
20+00
1014.6
4:1
2:1
1028.0
C=237
F=6808
C=1187
F=21134
C=404
F=460A

Culvert - Sta. 19+01
E. Outlet 975.00
For Details See Sht #175

3650
1020
Match Line A
2:1
359
1039.60
19+00
1018.4
4:1
2:1
1033.24
C=2241
F=10642

3683
990
Match Line A
2:1
4:1
12:1
2:1
975.0
C=806
F=1143

Note:
Fill Existing Channel to
Elev. 1037.3±
See P&P Sht #33

1040
Begin Dumped Rock
Sta. 19+00
200 180 160 140
8:1
2:1

304
3306
2:1
24:1
1:1
24:1
1:1
1040.60
18+00
1039.9
C=8709
F=2139

291 Sta. 17+00
Sta. 17+00
C=3897
F=12

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 18+00 TO STA. 20+00

GUE-77-2259
TUS-77-0.00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

SEEDING
LIN SQ.
FT. YDS

END AREA | CUBIC YARDS

324
Match Line A
1060
2:1
1:1
8:1
1034.83
23+00
1047.7
8:1
1:1
2:1
C=3587
F=0
3617
Ditch Break
Sta. 22+20±
Match Line A 1060
Begin Ditch
Sta. 22+40±
C=6699
F=3141

180 160 140

End Guard Rail
Sta. 22+00

No 4 C.B. Sta 22+00
IE Grate 1033.37
IE 15" Pipe 1031.28

End Guard Rail
Sta. 22+50

327
1030
2:1
4:1
99'-15" Cl. B-1 Pipe @ 3.32%
1028.0
HW-E Endwall IE 1028.07
Dumped Rock (9.0'x4.0'x1.5')
1036.31
22+00
1029.8
2:1
3722
C=30
F=16.96

End Dumped Rock
Sta. 21+86
Culvert Sta 21+86
IE Inlet 1004.00
For Details See Sht #175
C=502
F=14557

1030
2:1
4:1
2:1
1027.0
C=241
C=241.65
F=6165
343
2:1
12:1
4:1
1017.0
C=885
F=24025
Begin Dumped Rock
Sta. 21+00
3561
Begin Guard Rail
Sta. 21+00
1037.56
21+00
996.0
298 Sta. 20+00
Sta. 20+00 C=237
F=6808

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 21+00 TO STA. 23+00

SEEDING
LIN. SQ.
FT. YDS

95
230

GUE-77-2259
TUS-77-0.00

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

256

1100

2:1

1090

1:1

MATCH LINE C

180 160 140

2:1

1100

MATCH LINE C

2933

1030

8:1

1031.22
25+00
1096.4

140 160 180

2:1

1080

MATCH LINE D

2:1

1:1

MATCH LINE D

8:1

C = 15273
F = 0

C = 45,128
F = 0

2:1

1070

MATCH LINE A

1:1

180 160 140

2:1

1090

MATCH LINE A

272

5374

3611

3311

8:1

1033.14
24+00
1071.3

8:1

2:1

1:1

C = 9096
F = 0

C = 23488
F = 0

324 STA. 23+00

STA. 23+00 C = 3587
F = 0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 24+00 TO STA. 25+00

SEEDING
LIN SQ
FT. YDS

96
230

GUE-77-2259
TUS-77-0.00

END AREA | CUBIC YARDS

238

C=20370
F=0

C=66007
F=0

2495

256 STA. 25+00

STA. 25+00 C=15273
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTION ~ STA. 26+00

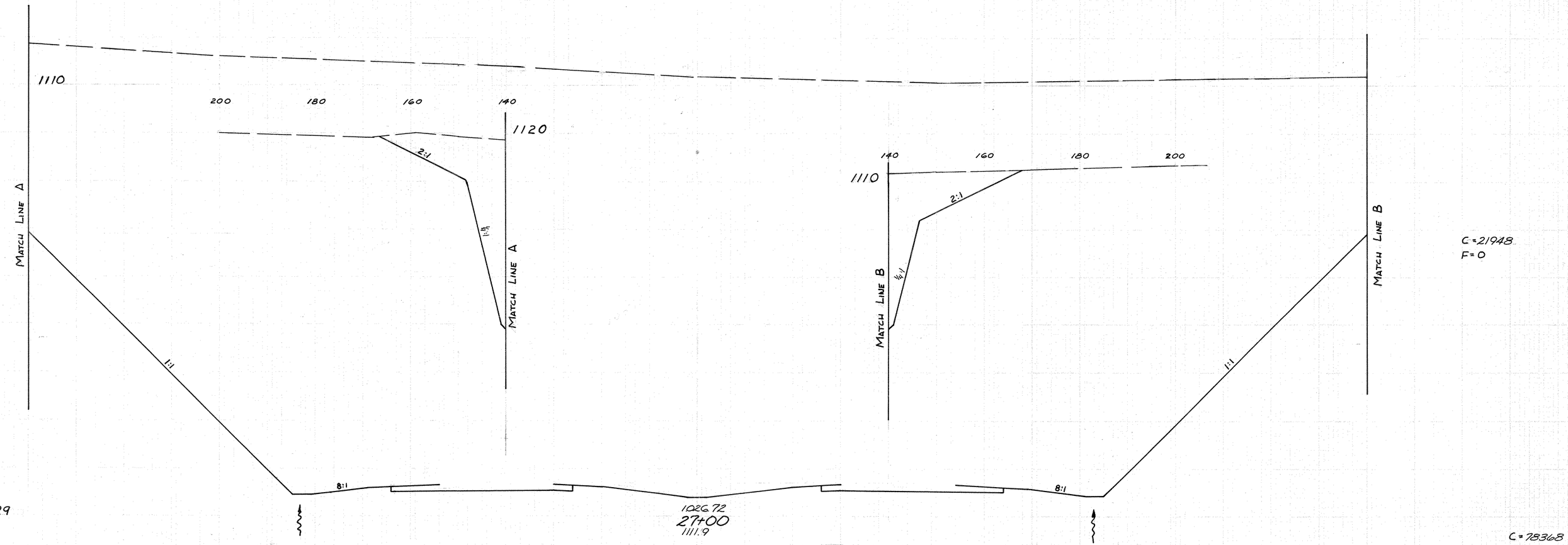
SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

97
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS



C=21948
F=0

229

C=78368
F=0

2594

238 STA. 26+00

STA. 26+00 C=20370
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTION ~ STA. 27+00

SEEDING
LIN. SQ
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

98
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

1110 200 180 160 140 1120

MATCH LINE A

2:1 1:1 1:1

MATCH LINE A

250

1:1

2661

8:1

1024.14
28+00
1113.4

8:1

1:1

229 STA. 27+00

1110 140 160 180 200

2:1 1:1

MATCH LINE B

MATCH LINE B

C = 24091
F = 0

C=85259
F=0

STA. 27+00

C=21948
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTION ~ STA. 28+00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

99
230

GUE-77-2259
TUS-77-000

END AREA | CUBIC YARDS

1110

200 180 160 140

2:1

1110

MATCH LINE A

1:1

1:1

MATCH LINE A

1:1

226

8:1

1021.33
29+00
1109.7

2644

140 160 180 200

1110

2:1

MATCH LINE B

1:1

1:1

MATCH LINE B

1:1

8:1

C=24110
F=0

C=89263
F=0

250 STA. 28+00

STA. 28+00 C=24091
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTION ~ STA. 29+00

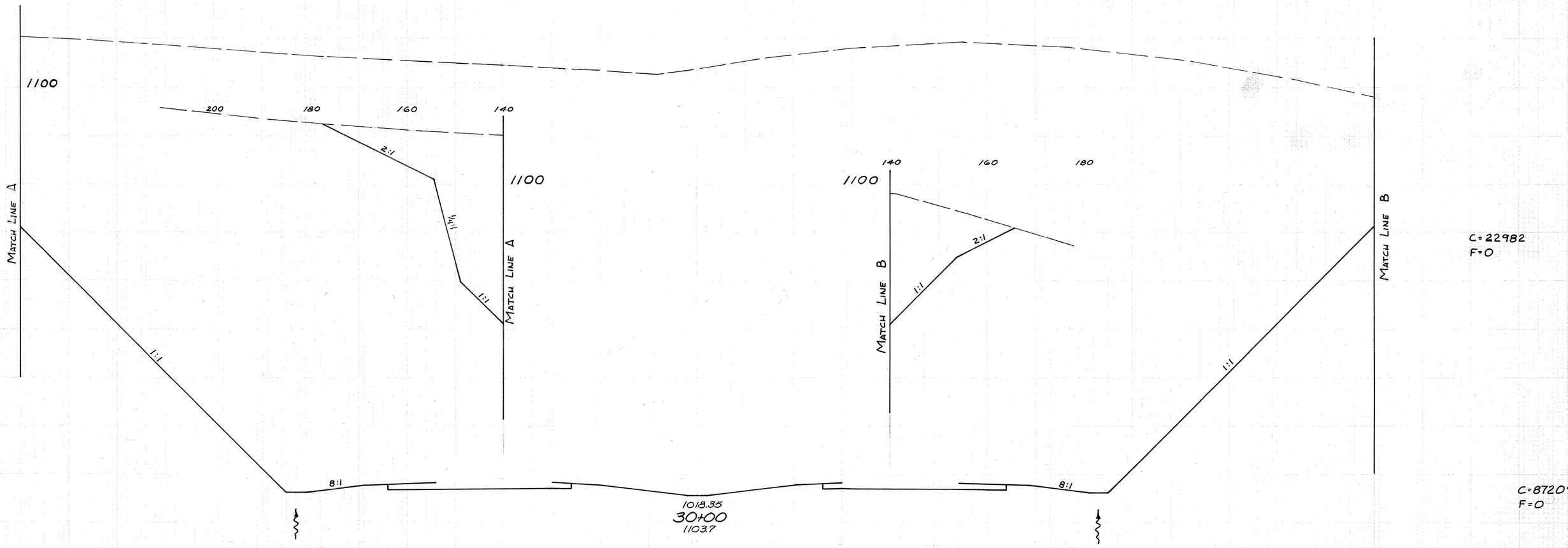
SEEDING
LIN. SQ.
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

100
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS



222

C=22982
F=0

C=87209
F=0

2489

226 STA. 29+00

STA. 29+00

C=24110
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTION ~ STA. 30+00

101
230

GUE-77-22.59
TUS-77-0.00

END AREA	CUBIC YARDS
C: 9313 F: 0	
	C: 46,916 F: 0
C: 16,021 F: 0	
	C: 72,230 F: 0
C: 22,982 F: 0	

X-SECTIONS ~ STA. 31+00 TO STA. 32+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

SEEDING
LIN SQ
FT. YDS.

102
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

280
1020
2500

2:1
1:1
8:1 8:1 8:1 8:1

1003.35
35+00
1017.6

C:3502
F:0

1005.15
34+40
1020.4
1010

No 4 C.B. Sta 34+40
IE Grate 1002.23
IE 15" Pipe 1000.12
IE 6" Pipe 1000.87

8:1
2:1

92'-15" Cl. B-1 Pipe @ 2.00%

Begin Guard Rail
Sta. 34+25

HW-E Endwall IE 998.33

270
1020
3106

2:1
1:1
8:1 8:1 5:1

1006.35
34+00
1022.3

C:13,472
F:0

C:3773
F:0

C:17,411
F:0

289 1040
3033

2:1
1:1
8:1 8:1 2:1 1:1

1009.35
33+00
1032.7

C:5629
F:0

C:27,670
F:0

257 Sta 32+00

Sta. 32+00

C:3313
F:0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 33+00 TO STA. 35+00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

103
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

Match Line "C"
24:1
250 1030
1:1
2:1
1:1
24:1
1050
Match Line "C"
296.1
180 160
140
8:1
8:1
2:1
C:7066
F:0
297.35
37+00
1026.3

Match Line "B"
2:1
283 1020
1:1
2:1
1050
Match Line "B"
End Guard Rail
Sta 36+50
181
8:1
8:1
C:4312
F:0
1000.35
36+00
1017.8

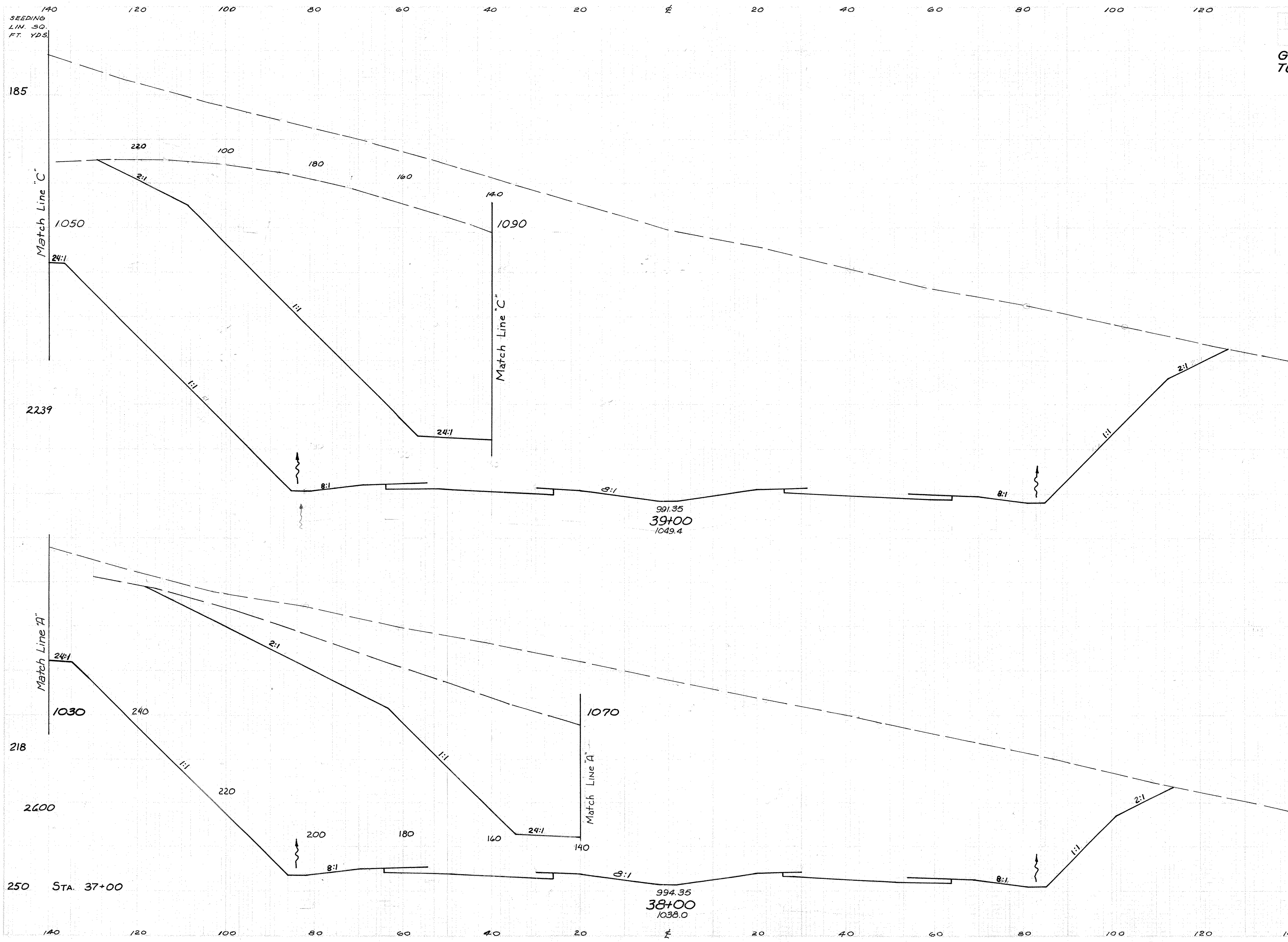
Match Line "A"
2:1
262 1020
1:1
2:1
1050
Match Line "A"
C:353
F:0
2830
8:1
8:1
C:4265
F:0
C:13,520
F:0
1000.43
35+94
1017.8
280 Sta. 35+00
Sta. 35+00 C:3502
F:0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 35+94 TO STA. 37+00

104
230

GUE-77-22.59
TUS-77-0.00



END AREA	CUBIC YARDS

C=17241
F=0

C=53746
F=0

C=11781
F=0

C=34903
F=0

STA. 37+00

C=7066
F=0

X-SECTIONS ~ STA. 38+00 TO STA. 39+00

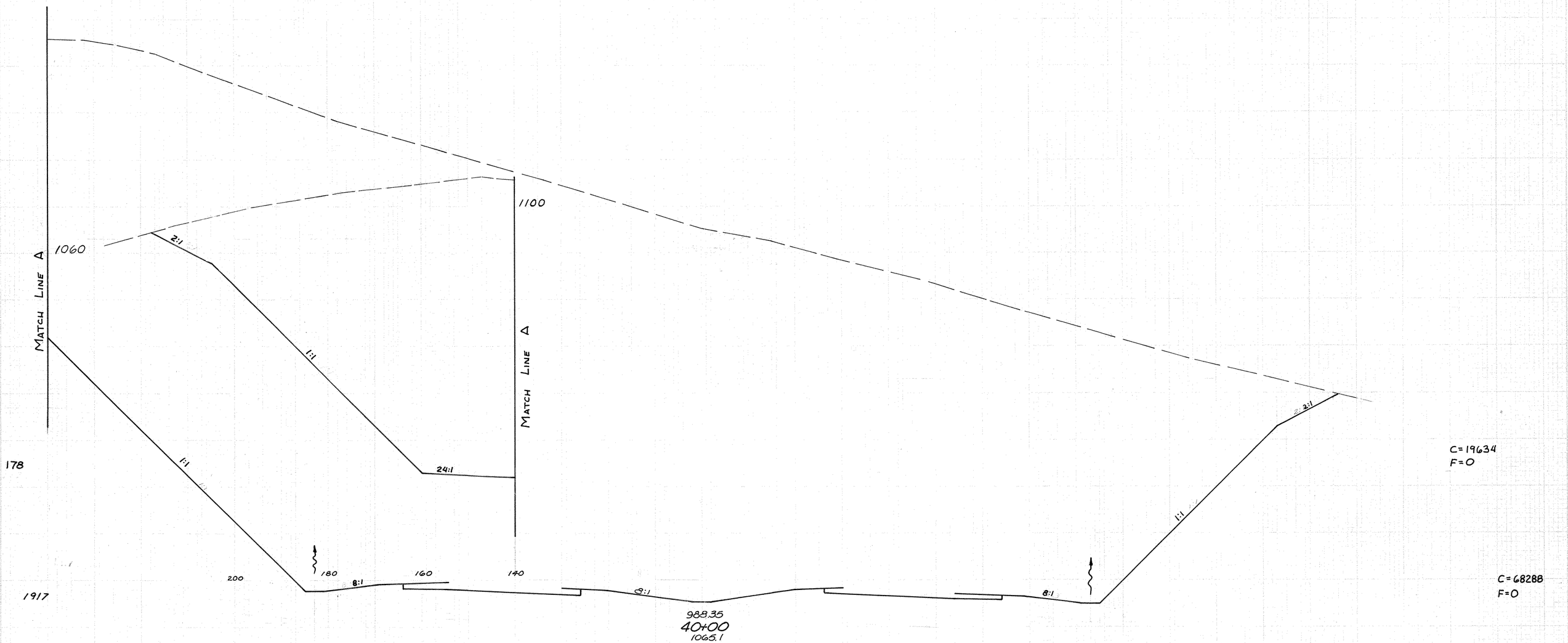
SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

105
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS



140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTION ~ STA. 40+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

SEEDING
LIN. SQ.
FT. YDS

106
230

GUE-77-22.59
TUS-77-0.00

END AREA	CUBIC YARDS

171

1939

C=26068
F=0

C=84,636
F=0

178 STA. 40+00

STA. 40+00

C=19634
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTION ~ STA. 41+00

SEEDING
LIN. SQ.
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

107
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

222

MATCH LINE C
1030
2:1
1:1
180 160 140
1040
2:1
MATCH LINE C
2:1
1:1
211
8:1
8:1
8:1
979.35
43+00
1032.2

C=13355
F=0

1060
MATCH LINE A
200 180 160 140
1070
2:1
1:1
24:1
1:1
MATCH LINE A
176
1:1
8:1
8:1
8:1
982.35
42+00
1056.8

140 160 180
1030
2:1
MATCH LINE B
2:1
MATCH LINE B
1:1

C=59,785
F=0

C=18928
F=0

C=83327
F=0

1928

171 STA. 41+00

STA. 41+00

C=26068
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 42+00 TO STA. 43+00

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

8:1 2:1 2:1 4:1 4:1 12:1

915.0

Match Line B 920

200 180 160 140

541

910

Culvert Sta. 47+78
℄ Inlet 879.00
For Details See Sht # 176

108
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

Match Line C 880

2:1 2:1 12:1 4:1 4:1 880.5

180 200 220 240 260 280 300

Top of OBT Cable
876.9± 280

C=51
F=15072

967.35
47+00
907.8

Match Line C

4464

8:1 2:1 2:1 4:1 4:1 12:1

940.0

930

Match Line A 920

2:1 2:1

140 160 180

C=117
F=43472

970.35
46+00
935.0

Match Line A

C=12
F=8402

Begin Guard Rail
Sta. 45+24

295

970

6:1 6:1 971.0

8:1

No. 4 C.B. Sta. 45+15
℄ Grate 969.92
℄ 15" Pipe 967.81
℄ 6" Pipe 968.56

96'-15" Cl. B-1 Pipe @ 1.56%

966.35

HW-E Endwall
℄ 966.35

Begin Dumped Rock
Sta 45+15

3122

973.35
45+00
968.2

C=80
F=17113

Begin Guard Rail
Sta. 44+54

C=31
F=839

267

1000

2:1 1:1 8:1 8:1 2:1 8:1

C=9876
F=15541

2717

C=5302
F=0

C=34557
F=0

222 Sta. 43+00

976.35
44+00
1000.8

Sta. 43+00

C=13355
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 44+00 TO STA. 47+00

SEEDING
LIN. SQ.
FT. YDS.

109
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

End Dumped Rock
Sta. 48+80

556

Match Line C

880

886.5

240 220 200 180 160 140

Match Line C

880

963.33
48+34
878.0

Match Line D

880

140 160 180 200 220 240

Match Line D

880.1

C=142
F=25014

Top of O.B.T. Cable
873.5±

2068

539

Match Line A

890

896.0

240 220 200 180 160 140

Match Line A

900

6000

964.35
48+00
889.6

Match Line B

880

140 160 180 200 220 240

Match Line B

879.2

C=137
F=28827

C=77
F=21839

C=237
F=68355

Top of O.B.T. Cable
874.6±

541 Sta. 47+00

Sta. 47+00 C=51 F=15072

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 48+00 TO STA. 48+34

SEEDING
LIN SQ.
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

No. 4 C.B Sta. 49+13
IE Grate 957.98
IE 12" Pipe 956.19

110
290

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

8:1 2:1 2:1 2:1 2:1

Match Line C | Match Line D | Match Line CP-3 | Match Line D

488

880

870

140 160 180 200 220 Match 240

Top of O.B.T. Cable
□ 865.5±

240 220 200 180 160 140

C=0
F=26,145

870

961.35
49+00

18" Rock Emb.

872.3

810

8:1 2:1 2:1 2:1 2:1

C=33
F=13,600

554

Match Line A | Match Line B | Match Line C.P. 3 | Match Line B

4:1 Δ 12:1 4:1 12:1

871.9

880

882.0

140 160 180 200 220 Match 240

3207

260 240 220 200 180 160 140

Top of O.B.T. Cable
□ 867.5±

C=126
F=26,312

C=258
F=49,426

870

961.77
48+86
875.6

18" Rock Emb.

556 Sta 48+34

Sta 48+34

C=142
F=25,014

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

BEGIN Rock Embankment - STA. 48+40
SEE GENERAL NOTE SHT. #8

X-SECTIONS ~ STA. 48+86 TO STA. 49+00

GUE-77-22.59
TUS-77-0.00


SEEDING
LIN. SQ.
FT. YDS.
END AREA
CUBIC YARDS
Culvert Sta. 50+07
IE Outlet 867.20
For Details See Sht. #176
Slope to Drain
Varies
8:1
2:1
956.6
Match Line C
Match Line D
Match Line CR-3
890
870
880
420
958.35
50+00
877.2
C=0
F=23640
END Rock Embankment -STA. 49+90
SEE GENERAL NOTE SHT. #8
529
Begin Guard Rail
Sta. 49+35
857.4
C=0
F=10601
373
Match Line A
Match Line B
C=0
F=24065
4209
C=0
F=81826
18"
958.71
49+88
873.7
870
488 Sta. 49+00
Sta. 49+00
C=0
F=26,145

Rock Embankment		
Station	End Area	Volume
49+90	395	29
49+88	395	1764
49+00	687	311
48+86	517	884
48+40	517	
Total		2988

X-SECTIONS ~ STA. 49+88 TO STA. 50+00

SEEDING
LIN. SQ
FT. YDS

END AREA | CUBIC YARDS

112
230

GUE-77-22.59
TUS-77-000

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

No. 2-2-B C.B. Sta 51+00
℄ Grate 952.22
℄ 12" Pipe 950.60
℄ 15" Pipe 950.35
℄ 6" Pipe 950.87

8:1 Varies

71'-15" Cl. B-1 Pipe @ 2.00 %

Concrete Collar

15"-25° Bend ℄ 948.95

2:1

60'-15" Cl. F-4 Pipe

15"-25° Bend ℄ 921.18
10'-15" F-4 Pipe @ 2.00 %
HW-E End Wall ℄ 920.98

318

8:1 2:1

2:1

Match Line C

890

Match Line C

900

240 220 200 180 160 140

955.35
51+00
839.5

Match Line CR-3

C=0
F=16261

3362

C=0
F=58941

8:1 Varies

9556

2:1

2:1

411

Match Line A

785

Match Line A

880

240 220 200 180 160 140

95784
50+17
884.5

Match Line A

870

Match Line B

2:1

Match Line CR-3

Match Line B

890 140 160 180 200 220

C=0
F=22085

C=0
F=14395

Sta. 50+00 C=0
F=23640

420 Sta. 50+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 50+17 TO STA. 51+00

SEEDING
LIN. SQ.
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

113
230

GUE-77-22.59
TUS-77-0.00

End Guard Rail
Sta. 51+86.5

End Guard Rail
Sta. 51+47.5

End Guard Rail
Sta. 51+29

8:1 8:1

952.8

2:1 2:1

Match Line "B"

900

Match Line C.R.3 Ahead

2:1

Match Line C.R.3 Back
Fill Section Back

343

200 180 160 140

Match Line "B"

900

954.54
51+27
901.6

END AREA | CUBIC YARDS

C=0 Ah.
F=10163 Ah

C=0 Bk.
F=11415 Bk

702

C=0
F=12322

8:1 8:1

952.4

2:1 2:1

Match Line "A"

890

Match Line C.R.3

Match

359

220 200 180 160 140

Match Line "A"

900

955.08
51+09
902.0

C=0
F=13229

C=0
F=4915

338

318 Sta. 51+00

Sta. 51+00

C=0
F=16261

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 51+09 TO STA. 51+27

SEEDING
LIN SQ.
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

114
230

GUE-77-22.59
TUS-77-000

960
210
2:1
8:1
Begin Ditch
Sta. 53+35
948.30
53+35
974.2
8:1
2:1

END AREA CUBIC YARDS

Sta. 53+35 C=4825
F=0

C=5016
F=0

947
960
277
C.R.3
Match Line
Begin Guard Rail
Sta. 53+08
Normal 2:1
8:1
8:1
949.35
Begin Guard Rail
Sta. 52+90.5
53+00
969.8
8:1
2:1
End Guard Rail
Sta 52+77
Begin Guard Rail
Sta. 52+52

C=2915
F=0

C=22289
F=0

Zero Cut Sta. 52+52 C=0

2533
END FILL STA. 52+14

ZERO FILL STA. 52+14
F=0

940
179
Varies
C.R.3
Match Line
52+00
941.7
(STRUCTURE)

C=0
F=106

C=0
F=410

C=0
F=378

401
930
201
2:1
Normal 2:1
Match Line C.R.3
51+89 (STRUCTURE)
936.8

C=0
F=1445

1778
MATCH LINE A
2:1
MATCH LINE A
910

C=0
F=13328

343
STA. 51+17
180 160 140

STA. 51+27 C=0 Ah
F=10163 Ah

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 51+89 TO STA. 53+35

115
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.
END AREA
CUBIC YARDS
MATCH LINE Δ
970
C=6523
F=0
140
160
180
End Guard Rail-Sta.55+13
C=12278
F=0
230
2:1
8:1
941.9
VARIES
941.4
6:1
24:1
943.35
55+00
972.3
970
C=6736
F=0
1228
End Guard Rail
Sta. 54+58
Varies
943.8
943.4
C=12178
F=0
212
944.85
54+50
976.5
980
C=6415
F=0
1297
C=13526
F=0
219
Slope to Drain
Varies 944.0
1549
946.35
54+00
978.8
210
STA. 53+35
STA. 53+35
C=4825
F=0
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 54+00 TO STA. 55+00

116
230

GUE-77-22.59
TUS-77-0.00

X-SECTIONS ~ STA. 56+00 TO STA. 57+00

GUE-77-2259
TUS-77-000

SEEDING
LIN. SQ.
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

Match Line C

880

No 4 C.B. Sta 60+25
℄ Grate 924.69
℄ 15" Pipe 922.58

Begin Dumped Rock
Sta 60+25

END AREA | CUBIC YARDS

91'-15" Cl. B-1 Pipe @ 2.28%

923.0

920.5

H.W.E Endwall ℄ 920.53

372 910 4028 920 353 3717 930 316 3317 281

2:1 24:1 1:1 4:1 3:1 8:1 6:1 ½:1

200 180 160 140

928.35
60+00
908.2

931.35
59+00
918.9

934.35
58+00
928.2

Match Line B

890

Sta. 57+00

C=578
F=5492

C=2346
F=15828

C=689
F=3055

C=4934
F=9107

C=1975
F=1863

C=10316
F=4882

C=3596
F=773

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 58+00 TO STA. 60+00

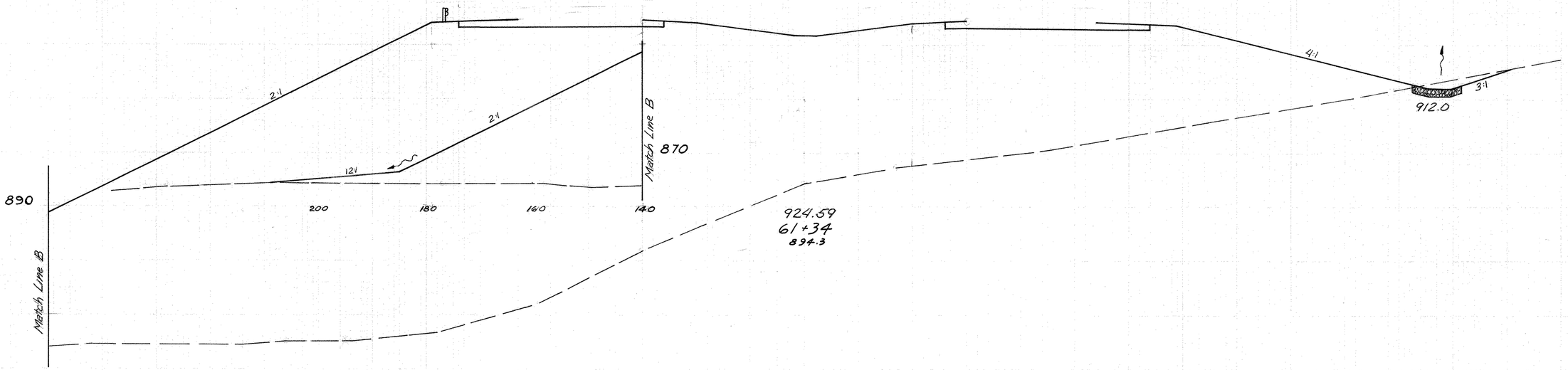
SEEDING
LIN. SQ.
FT. YDS

118
230

GUE-77-22.59
TUS-77-0.00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

END AREA | CUBIC YARDS

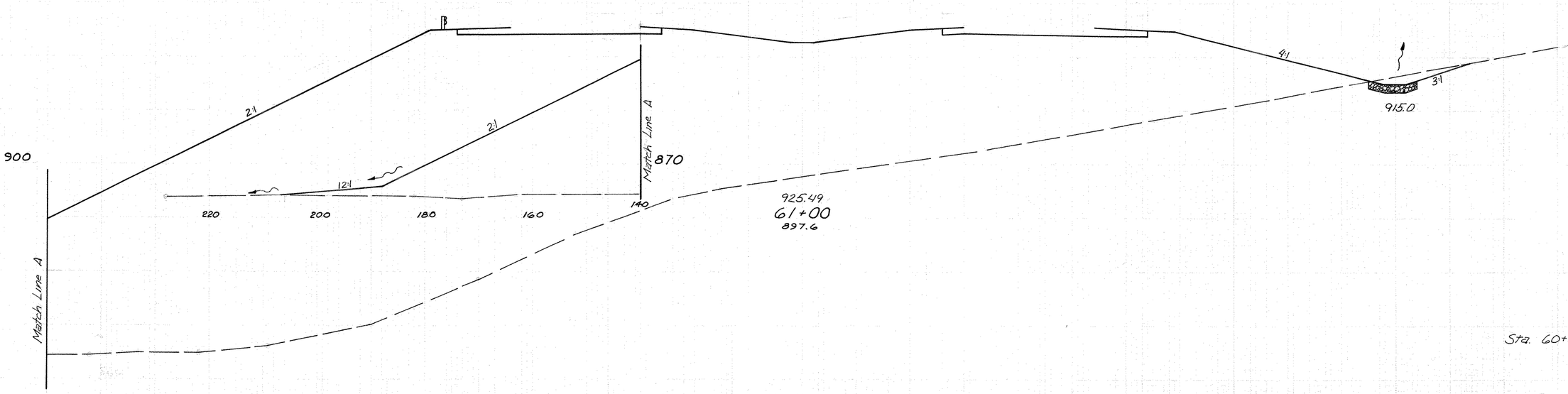


393

C=19
F=8705

C=26
F=10404

1490



C=22
F=7819

396

C=1111
F=24651

4267

Sta. 60+00 C=578
F=5492

372 Sta. 60+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 61+00 TO STA. 61+34

SEEDING
LIN. SQ.
FT. YDS

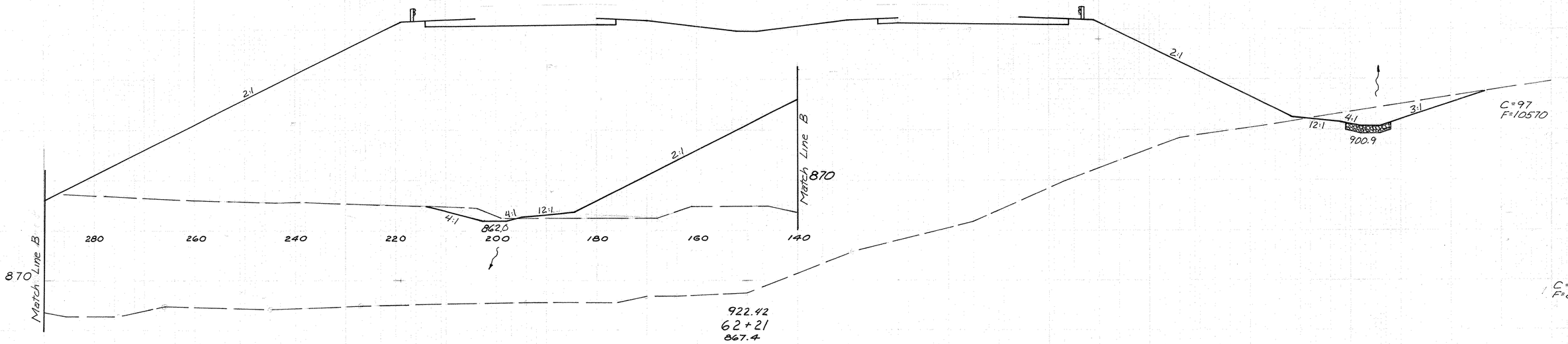
119
230

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

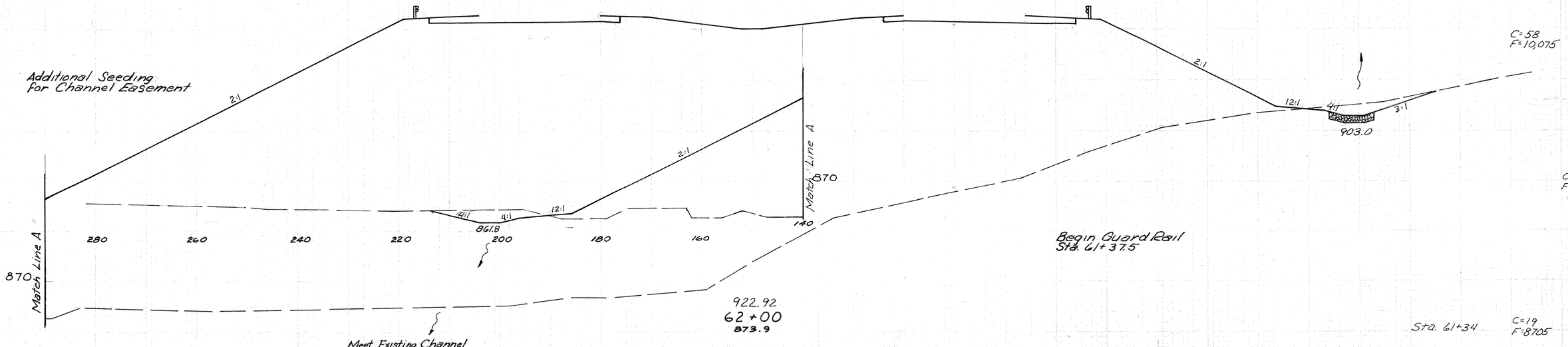
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

409



952

415 Additional Seeding for Channel Easement



407

2933 870

393 Sta 61+34

Meet Existing Channel
Sta. 61+85±

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 62+00 TO STA. 62+21

SEEDING
LIN. SQ.
FT. YDS.

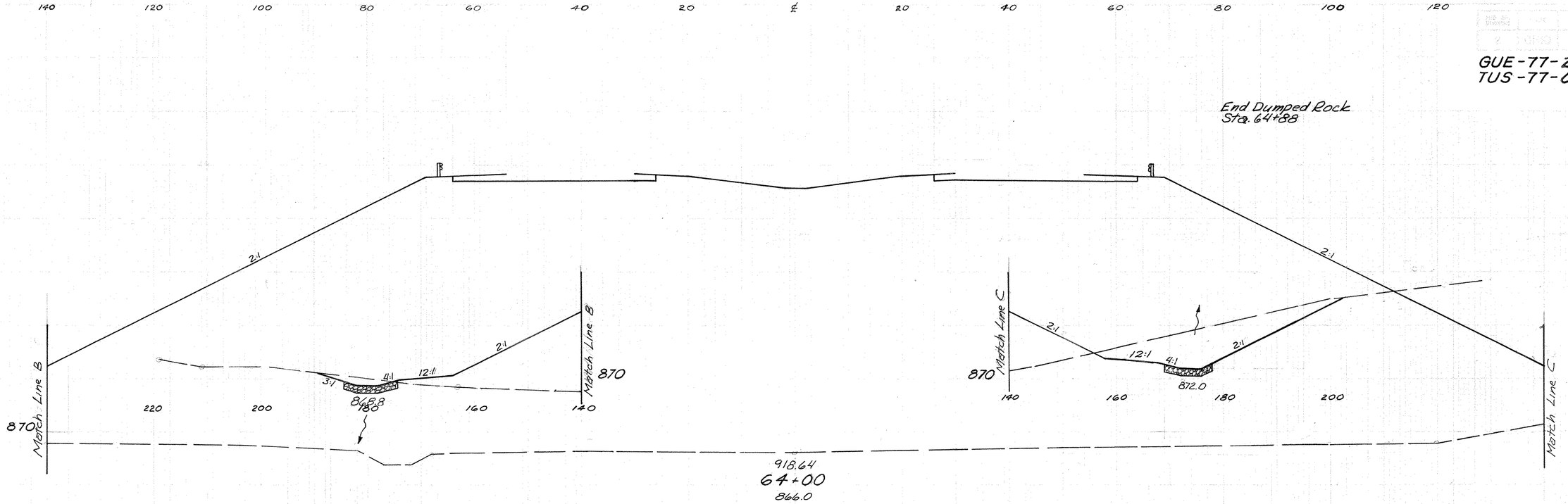
120
230

GUE-77-22.59
TUS-77-0.00

End Dumped Rock
Sta. 64+88

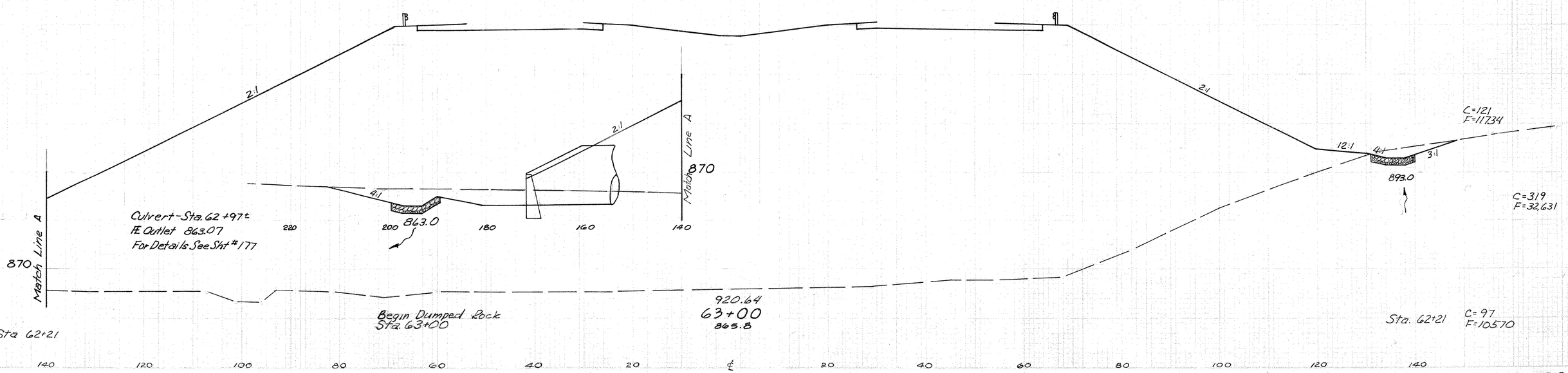
END AREA | CUBIC YARDS

411



4572

412



409 Sta 62+21

X-SECTIONS ~ STA. 63+00 TO STA. 64+00

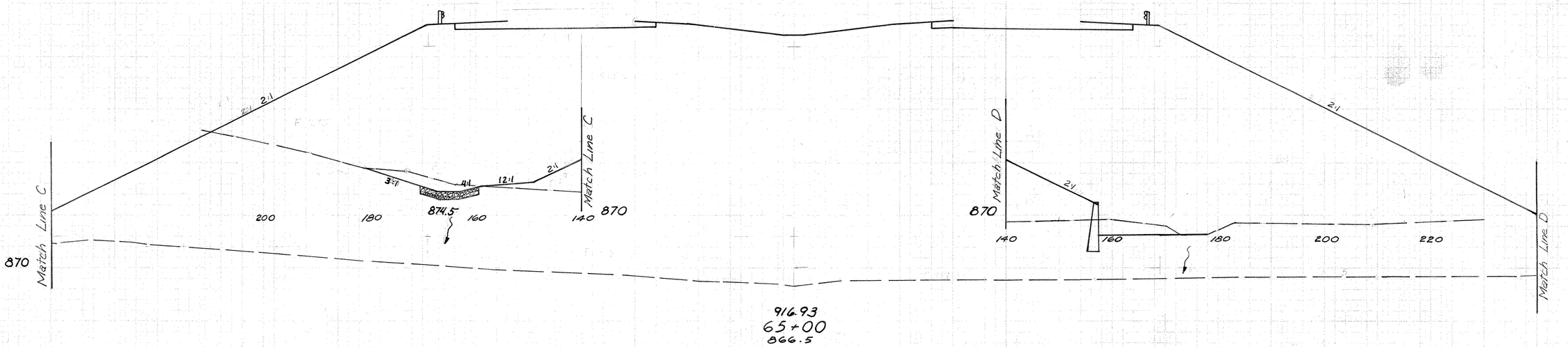
SEEDING
LIN. SQ.
FT. YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

121
23D

GUE-77-22.59
TUS-77-0.00

END AREA | CUBIC YARDS

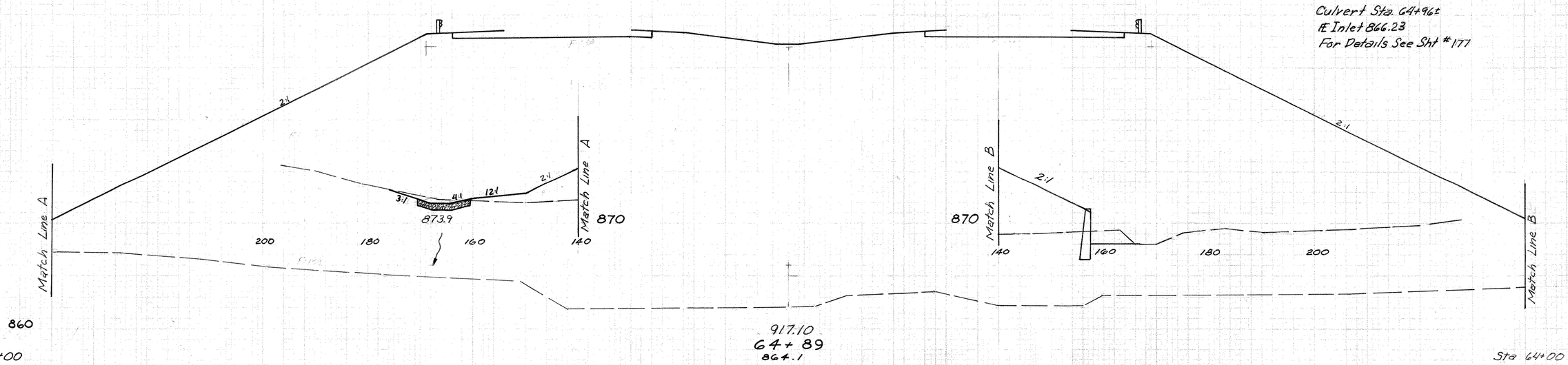


C=30
F=10610

C=19
F=4463

Culvert Sta. 64+96±
℄ Inlet 866.23
For Details See Sht #177

C=63
F=11,299



C=437
F=38242

C=202
F=11903

408
491
395
3985
411 Sta 64+00
Sta 64+00

X-SECTIONS ~ STA. 64+89 TO STA. 65+00

FED. RD.	STATE	PROJECT	
2	OHIO		

122
230

GUE-77-22.59
TUS-77-0.00

X-SECTIONS ~ STA. 66+00 TO STA. 68+00

FED. RD.	STATE	PROJECT	
2	OHIO		

123
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. FT.
SQ. YDS
END AREA
CUBIC YARDS
Match Line B
Match Line A
307
3353
920
329
4072
404
Sta 68+00
970
960
140
180
160
2:1
1:1
6:1
24:1
VARIES
910.0
910.63
912.64
70+00
923.0
909.7
912.74
69+50
919.2
912.93
69+00
915.4
No 4 C.B. Sta 69+50
Omit Longitudinal Slope & Dike
IE Grate 909.82
IE 15" Pipe 907.71
Concrete Collar
72'-15" Cl. B-1 Pipe @ 2.0%
15"-25° Bend IE 906.32
36'-15" Cl. F-4 Pipe
Dumped Rock (7.0'x4.0'x1.5')
15"-25° Bend IE 890.18
10'-15" Cl. F-4 Pipe @ 2.0%
HW-E Endwall IE 889.98
C=5182
F=611
C=15391
F=1937
C=3129
F=435
C=8318
F=4610
C=1363
F=2054
Sta 68+00

X-SECTIONS ~ STA. 69+00 TO STA. 70+00

FED. RD.	STATE	PROJECT	
2	OHIO		

124
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS
END AREA
CUBIC YARDS
Match Line B
Match Line A
296
3350
910
307
3372
920
307 Sta. 70+00
980
2:1
1:1
8:1
24:1
912.93
72+00
917.3
C: 3584
F: 671
No 4 C.B. Sta. 71+50
Omit Longitudinal Slope & Dike
I.E. Grate 909.82
I.E. 15" Pipe 907.71
Concrete Collar
72'-15" Cl. B-1 Pipe @ 2.0%
912.74
71+50
920.2
15"-25° Bend I.E. 904.32
56'-15" Cl. F-4 Pipe
Dumped Rock
(6.0'x4.0'x1.5')
HW-E Endwall I.E. 880.62
10'-15" Cl. F-4 Pipe @ 2.0%
15"-25° Bend I.E. 880.82
C: 16184
F: 2515
Varies
910.5
910.63
912.64
71+00
923.1
C: 5155
F: 687
C: 19143
F: 2404
Sta. 70+00
C: 5182
F: 611
140
120
100
80
60
40
20
℄

X-SECTIONS ~ STA. 71+00 TO STA. 72+00

FED. RD.	STATE	PROJECT	
2	OHIO		

125
230

GUE-77-22.59
TUS-77-0.00

X-SECTIONS ~ STA. 73+00 TO STA. 75+00

FED. RD.	STATE	PROJECT	
2	OHIO		

126
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS

350
3889
890
Begin Sod
Sta. 78+00
4:1
8:1
150 160 180 200
Match Line "D"
890
2:1
2:1
918.35
78+00
887.0
120
END AREA
CUBIC YARDS
2:1
12:1
4:1
886.3
Match Line D
C=405
F=5503
Begin Dumped Rock Sta. 77+80

364
2101
890
2:1
4:1
910.0
8:1
Culvert Sta. 77+86
Outlet El. = 882.39
For Details See Sht #179
C=896
F=19028
Match Line C
890
2:1
150 160 180 200 220
917.35
77+00
886.7
2:1
12:1
2:1
882.1
Match Line B
C=79
F=4772

327
1288
890
2:1
4:1
911.0
8:1
8:1
916.73
76+38
892.6
Match Line B
880
150 160 180 200
881.8
C=134
F=10,090
2:1
12:1
C=38
F=4016

364
3778
900
2:1
4:1
911.6
890
Match Line A
2:1
12:1
2:1
880.5
150 160 180 200
2:1
12:1
916.35
76+00
897.0
C=309
F=3598
Match Line A
C=1231
F=11507
316 Sta. 75+00
Sta. 75+00
C=356
F=2616

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 76+00 TO STA. 78+00

SEEDING
LIN. SQ.
FT. YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

127
230

GUE-77-22.59
TUS-77-0.00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

END AREA | CUBIC YARDS

Meet Exist. Channel
Sta. 82+35 ±

Match Line B

298 3389

4:1 4:1 890.0 180 160 140

2:1 12:1 4:1 890 Match Line B

8:1 4:1 2:1 915.5

C=116
F=3978

C=396
F=16961

922.35
82+00
895.6

Match Line A

2:1 4:1 888.7 180 160 140

312 3544

2:1 12:1 4:1 890 Match Line A

8:1 4:1 913.2

C=71
F=5181

C=296
F=19888

921.35
81+00
890.5

Culvert @ Sta. 80+49
Inv. El. = 887.20
For Details See Sht. #179

326 3622

End Dumped Rock
Sta. 80+46

2:1 12:1 2:1 900

8:1 4:1 909.7

C=89
F=5358

C=246
F=17210

894.4
End Sod - Begin Dumped Rock
Sta. 80+00
Begin Guard Rail Sta. 79+50

End Guard Rail
Sta. 79+00

920.35
80+00
889.1

326 3756

2:1 4:1 899.0

8:1 4:1 907.7

Begin Sod Sta. 79+00
End Dumped Rock
Sta. 79+00

C=44
F=3735

C=832
F=17108

919.35
79+00
887.6

890

350 Sta. 78+00

Sta 78+00

C=405
F=5503

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 79+00 TO STA. 82+00

FED. RD.	STATE	PROJECT	
2	OHIO		

128
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS

970 Match Line D 1½:1 1½:1

120 1½:1 1½:1 Match Line D

C=2909
F=1614

900 Match Line B

250 160 140

C=7738
F=7248

920 B 2:1 8:1 8:1 1:1

925.35
85+00
924.7

C=1270
F=2300

Match Line B 3039

No. 4 C.B Sta. 83+50
℄ Grate 920.93
℄ 15" Pipe 918.82
℄ 6" Pipe 919.57

C=3126
F=10,185

Match Line A 900 12:1 2:1 Match Line A

910 180 160 140

71'± 15" Cl. B-1 Pipe @ 2.0%

Concrete Collar
15"-25° Bend ℄ 917.45

AA 15" Cl. F-1 Pipe

924.35
84+00
914.3

C=418
F=3200

297 12:1 12:1 Match Line A

15"-25° Bend ℄ 896.95
10'-15" Cl. F-1 Pipe @ 20.0%
Hw ℄ Endwall ℄ 896.75

Dumped Rock (30'x4'x1.5')

3211 281 2:1 8:1 8:1 1½:1 1½:1

End Sod Sta 82+50

C=989
F=13293

900 3217 12:1

923.35
83+00
904.4

Sta. 82+00 C=116 F=3978

298 Sta. 82+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 83+00 TO STA. 85+00

FED. RD.	STATE	PROJECT	
2	OHIO		

129
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ
FT. YDS

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

940
277
2972
940
258
2839
920
253 Sta 86+00
2795
250 Sta 85+00

2:1
8:1
1:1
1½:1
12:1

927.35
88+00
937.2

927.35
87+00
938.1

926.35
86+00
933.6

Match Line A

C=2563
F=883

C=11181
F=3526

C=3475
F=1021

C=13283
F=4080

C=3698
F=1182

C=12236
F=5178

Sta. 85+00 C=2909 F=1614

X-SECTIONS ~ STA 86+00 TO STA 88+00

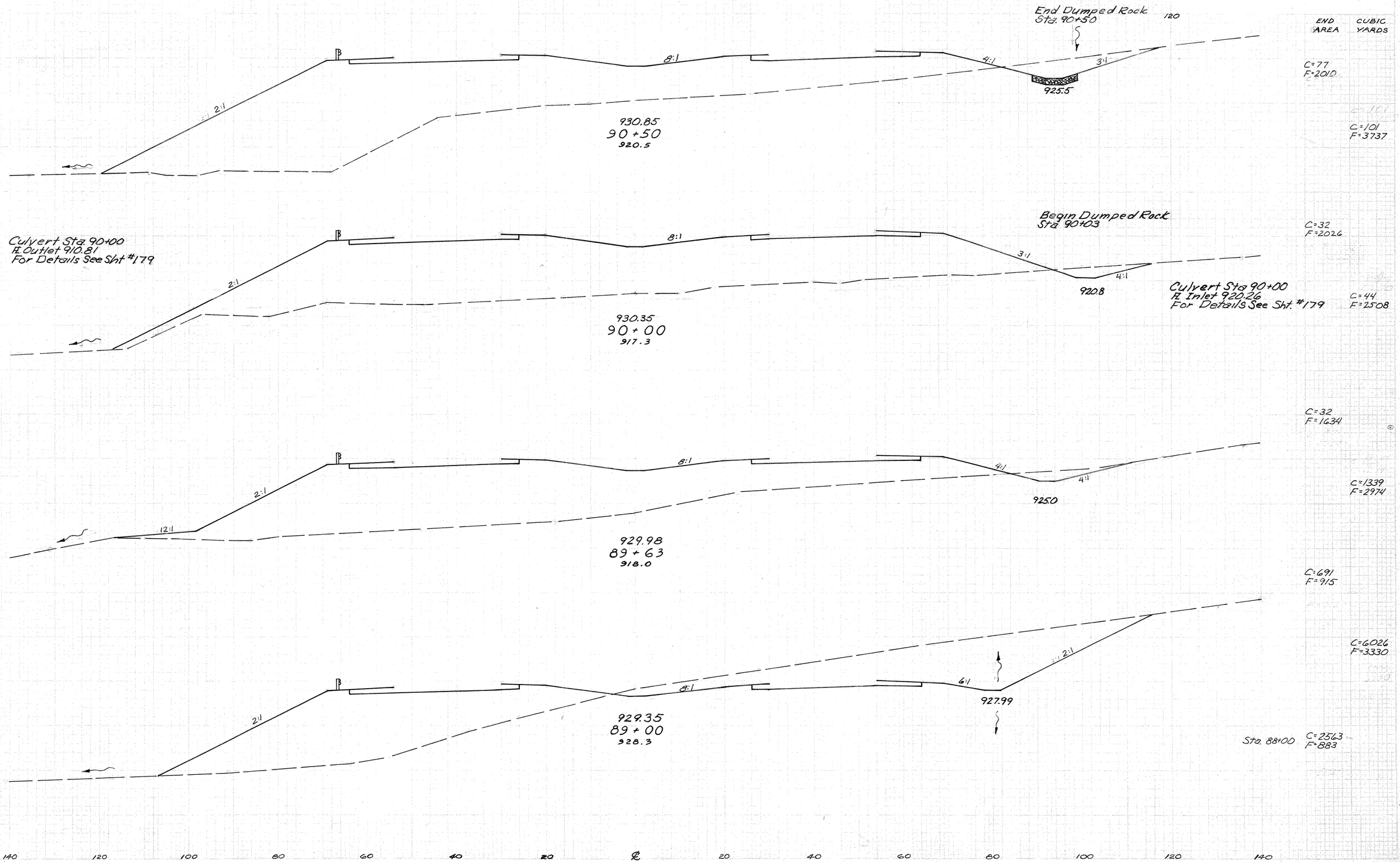
FED. RD.	STATE	PROJECT	
2	OHIO		

130
230

GUE-77-2259
TUS-77-000

SEEDING
LIN. SQ.
FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140



	END AREA	CUBIC YARDS
288	C=77 F=2010	
1407	C=101 F=3737	
	C=32 F=2026	
1057	C=32 F=1634	
247	C=1339 F=2974	
1834	C=691 F=915	
277	C=6026 F=3330	
2808	Sta. 88+00 C=2563 F=883	
277		

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 89+00 TO STA. 90+50

FED. RD.	STATE	PROJECT	
2	OHIO		

131/230

GUE-77-22.59
TUS-77-0.00

X-SECTIONS ~ STA. 91+00 TO STA. 93+00

SEEDING
LIN SQ
FT. YDS

FED. RD.	STATE	PROJECT	
2	OHIO		

132
230

GUE-77-22.59
TUS-77-0.00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

END AREA | CUBIC YARDS

291 920

2:1 8:1 6:1 4:1

937.77

C=37
F=2207

939.43
97+00
926.2

C=243
F=8531

C=94
F=2400

3300

Note:
Realign Existing Channel
Between Sta 96+10 & Sta 96+70
Fill Existing Channel & Slope
to Drain

12:1 2:1

303 909.8 910

96+40 ℄ Fill Cross Hatched
Area & Slope to Drain

12:1

8:1 6:1 3:1

936.4

C=16.00
F=8981

937.68
96+00
922.6

C=770
F=2450

No. 4 C.B. Sta. 95+50
℄ Grate 933.95
℄ 15" Pipe 931.84
℄ 6" Pipe 931.84

3311 920

2:1 8:1 6:1

71'-15" Cl. B-1 Pipe @ 2.0%

Concrete Collar
15"-25° Bend ℄ 930.47

Dumped Rock (11.0'x4.0'x1.5')

42'-15" Cl. F-A Pipe

293

936.10
95+00
919.8

C=3723
F=9188

15"-25° Bend ℄ 911.47
8'-15" Cl. F-A Pipe @ 2.0%
HW-E Endwall ℄ 911.31

Meet Exist. Channel
Sta. 95+00

Match Line B

3444 910

4:1

Match Line A

160 140

8:1 8:1

1½:1

C=1246
F=2512

920

2:1

C=5989
F=9100

970

Match Line B

1½:1

140 160 180

327

934.68
94+00
919.0

3556

4:1 12:1

905.6

Match Line A

Sta 93+00 C=1994
F=2402

313 Sta. 93+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 94+00 TO STA. 97+00

FED. RD.	STATE	PROJECT	
2	OHIO		

133
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS.

*** Additional Excavation and Embankment for Realigning Existing Channel**

Station	Excavation Area	Excavation Volume	Embankment Area	Embankment Volume
96+10	0		0	
		12		32
96+40	22		57	
		12		32
96+70	0		0	
		—		—
97+35	0		0	
		5		2
97+45	29		11	
		13		5
97+70	0		0	
		—		—
98+00	0		0	
		39		9
98+50	42		5	
		39		9
99+00	0		0	
TOTAL		120		89

E-3 CHANNEL EXC.

Station	End Area	Vol.
0+00	C=0	
		2
0+25	C=4	
		5
0+50	C=6	
		7
0+75	C=9	
		4
1+00	C=0	
TOTAL		18

140 120 100 80 60 40 20 ℄ 20 40 60 80 100
END AREA
CUBIC YARDS
*C=120
*F=89
C=576
F=2598
C=1154
F=8653
C=48
F=2075
C=17
F=1499
F=255
C=0
F=2183
C=47
F=6239
C=34
F=2370
C=9
F=593
C=37
F=2207
291
3195
284
696
375
2496
297
229
291 Sta 97+00
930
2:1
6:1
4:1
12:1
8:1
120
943.43
99+00
928.4
941.35
98+00
930.2
940.97
97+81
930.5
939.56
97+07
925.3
Note:
Realign Existing Channel
Between Sta. 98+00 & Sta. 99+00
Fill Existing Channel & Slope to Drain
913.0
98+50
Fill Cross Hatched Area & Slope to Drain
Note:
Realign Existing Channel
Between Sta. 97+35 & Sta. 97+70
Fill Existing Channel & Slope to Drain
911.0
97+45
Fill Cross Hatched Area & Slope to Drain
℄ Rdwy Ditch
Additional Fill For Swale Rt Sta 97+81±
938.06
0+75
Relocated Channel
Match Line For Earthwork
Note:
Fill to Elev. 940.0 & Slope to Drain
Fill to Elev 940.0±
938.24
0+50
Relocated Channel
937.88
Fill to Elev. 940.0±
938.42
0+25
Relocated Channel
Sta. 97+00

X-SECTIONS ~ STA. 97+07 TO STA. 99+00

FED. RD.	STATE	PROJECT	
2	OHIO		

134/230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS
140 120 100 80 60 40 20 ℄ 20 40 60 80 100
END AREA
CUBIC YARDS
120
End Dumped Rock
Sta. 103+88
4:1
943.8
2:1
317
4:1
4:1
12:1
929.0
C=14
F=5139
Begin Dumped Rock
Sta. 103+00
Begin Guard Rail
Sta. 103+00
C=194
F=17615
920
953.43
103+00
922.4
Begin Dumped Rock
Sta. 102+05
Match Line C
3:1
919.5
3353
C=91
F=4373
2:1
4:1
2:1
944.8
C=291
F=13770
Culvert - Sta. 102+12
IE Outlet - 920.00
For Details See Sht. #180
Match Line C
4:1
12:1
319
920
950.68
102+00
921.6
C=66
F=3063
Match Line B
3567
4:1
917.7
2:1
6:1
945.97
4:1
C=576
F=10592
930
323
Match Line B
4:1
12:1
948.10
101+00
930.4
C=245
F=2657
3594
Match Line A
4:1
915.9
2:1
6:1
2:1
C=1519
F=9731
930
Match Line A
324
945.68
100+00
931.0
3417
4:1
12:1
291 Sta 99+00
Sta 99+00
C=575
F=2598
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 100+00 TO STA. 103+00

FED. RD.	STATE	PROJECT	
2	OHIO		

135
280

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN SQ
FT. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

END AREA CUBIC YARDS

315
970
3622
Match Line B
2:1
1:1
2:1
Match Line B
1000
8:1
962.35
106+00
967.8
180 160 140
2:1
C=2897
F=929

337
End Guard Rail
Sta. 105+00
2:1
8:1
959.35
105+00
942.0
Meet Existing Channel
Sta. 105+85±
2:1
C=275
F=3072
12:1
2:1
2:1
200 926.3
3867 940
150 160 180
940
Match Line A
2:1
C=1178
F=14911

359
End Dumped Rock
Sta. 104+75
2:1
2:1
4:1
12:1
940.0
3756
956.35
104+00
925.5
2:1
C=361
F=4980
940
12:1
4:1
2:1
926.0
Match Line A
C=694
F=18739
Culvert Sta. 103+86
℄ Inlet 925.50
For Details See Sht 180
Sta 103+00
C=144
F=5139
920
317 Sta. 103+00
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 104+00 TO STA. 106+00

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

136
230

SEEDING
LIN. SQ.
FT. YDS.

END AREA | CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

MATCH LINE C

289

990

2:1

2:1

1:1

MATCH LINE C 1010

1572

160 140

C= 5709
F= 0

8:1

968.35
108+00
992.9

MATCH LINE B

277

990

2:1

2:1

1:1

MATCH LINE B 1020

180 160 140

C= 11,130
F= 0

1475

MATCH LINE A

990

2:1

2:1

1:1

MATCH LINE A 1000

200 180 160 140

8:1

966.85
107+50
992.7

C= 6311
F= 0

Match Line "D"

930

140 160 180 200

C= 11,260
F= 0

254

No 4 C.B. Sta. 107+00
IE Grate 962.43
IE 15 Pipe 960.32

C= 5850
F= 0

3161

8:1

965.35
107+00
988.3

98'-15" Cl. B-1 Pipe @ 2.0%

Dumped Rock 10'x4'x1.5'

HW-E Endwall IE 958.39

Match Line "D"

C= 16198
F= 1720

315 STA. 106+00

Sta 106+00 C= 2897 F= 929

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 107+00 TO STA. 108+00

FED. RD.	STATE	PROJECT	
2	OHIO		

137
250

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ. FT. YDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

END AREA | CUBIC YARDS

990
377
2:1
8:1
977.35
111+00
961.2
1:1
24:1
2:1
12:1
2:1
2:1
C=1045
F=3210
938.5
To Existing Channel

4111
1010
Match Line A
2:1
180
160
140
1010
Match Line A
2:1
1:1
8:1

363
3872
1010
Match Line B
974.35
110+00
970.1
1:1
24:1
1:1
24:1
1:1
24:1
2:1
C=6604
F=9496
C=2521
F=1918

334
3461
2:1
1:1
8:1
1010
Match Line B
971.35
109+00
980.9
1:1
24:1
1:1
24:1
2:1
C=11757
F=4608
C=3828
F=570
C=1766
F=1056

289 Sta. 108+00
Sta. 108+00
C=5709
F=0

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 109+00 TO STA. 111+00

FED. RD.	STATE	PROJECT	
2	OHIO		

138
230

GUE-77-22.59
TUS-77-0.00

SEEDING
LIN. SQ.
FT. YDS

END AREA CUBIC YARDS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

End Guard Rail
Sta. 114+50

END PROJECT STA. 114+50

End Guard Rail
Sta. 114+50

389 Sta 114+50

2036

344

950

2028

3:1 4:1 12:1 2:1

965.2

2:1

End Dumped Rock
Sta 114+50
C=74
F=6156

12:1 4:1 4:1

951.0

986.35
114+00
951.5

Begin Guard Rail
Sta. 113+50

358

4:1

973.8

2:1

C=104
F=1131.4

1875

950

C=34
F=5593

4:1 4:1

949.2

984.79
113+48
950.2

Begin Dumped Rock
Sta. 113+45

Culvert Sta. 113+48
E Outlet 949.0
For Details See Sht. #180

Begin Sod
Sta. 113+25

345

4:1

975.8

C=56
F=8892

950

Match Line B

2:1 12:1 2:1 2:1

947.1

130 150 170

960

3978

983.35
113+00
960.9

C=29
F=4910

Match Line B

371

2:1 8:1

C=322
F=15232

140 160 180

950

Match Line A

2:1 12:1 2:1 2:1

942.8

C=145
F=3815

960

4156

980.35
112+00
960.0

C=2204
F=13009

377 Sta 111+00

Sta 111+00

Match Line A

C=1045
F=3210

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 112+00 TO STA. 114+00

FED. RD.	STATE	PROJECT	
2	OHIO		

139
230

GUE-77 22.59
TUS-77 0.00

SEEDING
LIN. SQ.
F.T. YDS.

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

END AREA CUBIC YARDS

990

2:1

992.35
116+00
990.1

8:1

2:1

END WORK STA. 115+70

Sta. 115+70 C=0 F=0

Embankment to be Completed by Others

C=11 F=2269

980

4:1

4:1
985.0

C=13 F=2723

2:1

990.10
115+25
972.9

C=10 F=2998

Embankment to be Completed by Others

960

3:1

4:1

977.0

C=15 F=3818

12:1

4:1

4:1

958.0

989.35
115+00
967.1

End Sod
Sta. 114+75
Culvert Sta 114+72
℄ Inlet 955.31
For Details See Sht #180

Embankment to be Completed by Others

C=21 F=5666

2:1

2:1

12:1

4:1

4:1

965.0

C=20 F=5453

3:1

4:1

12:1

955.5

950

988.36
114+67
953.5

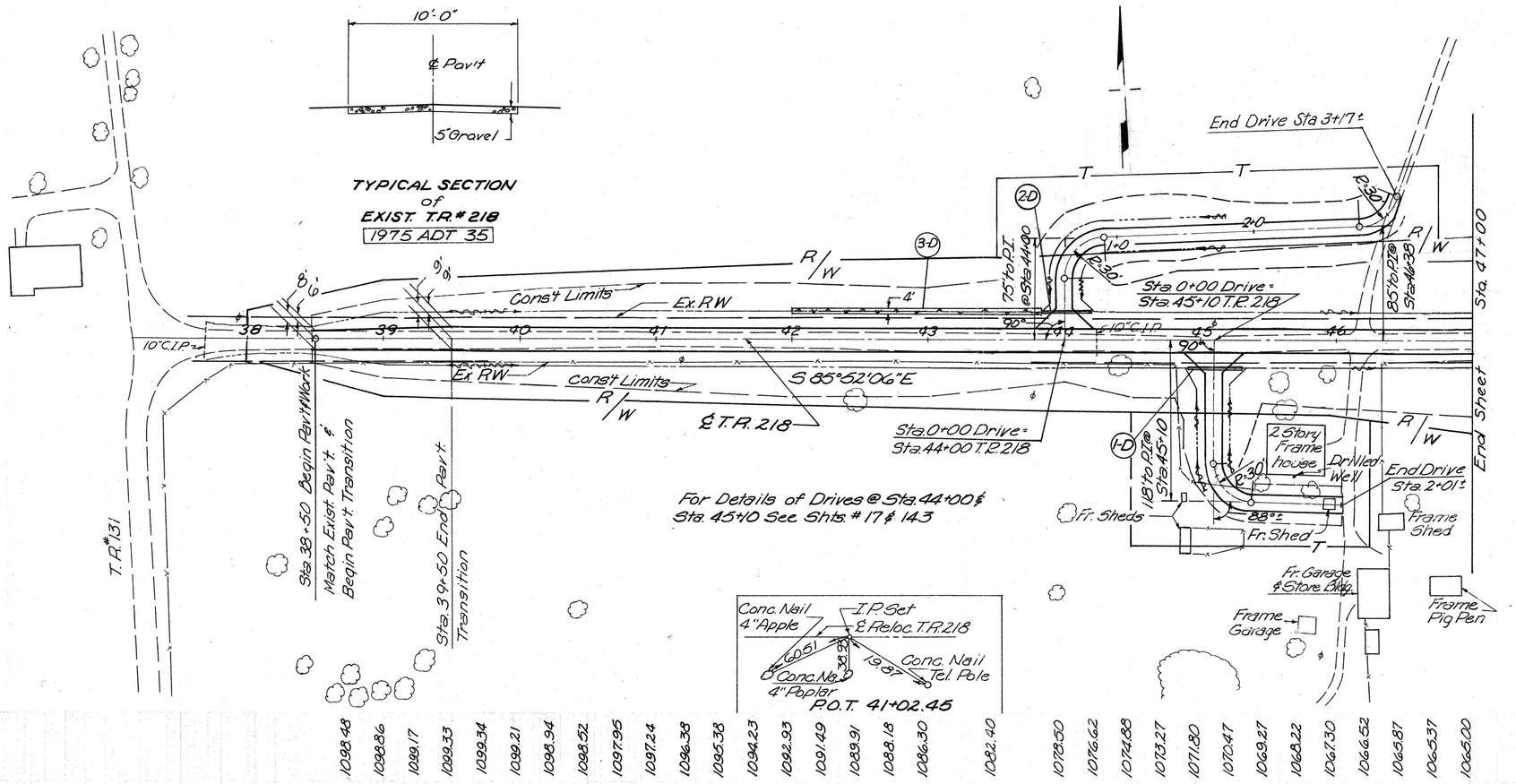
C=17 F=14405

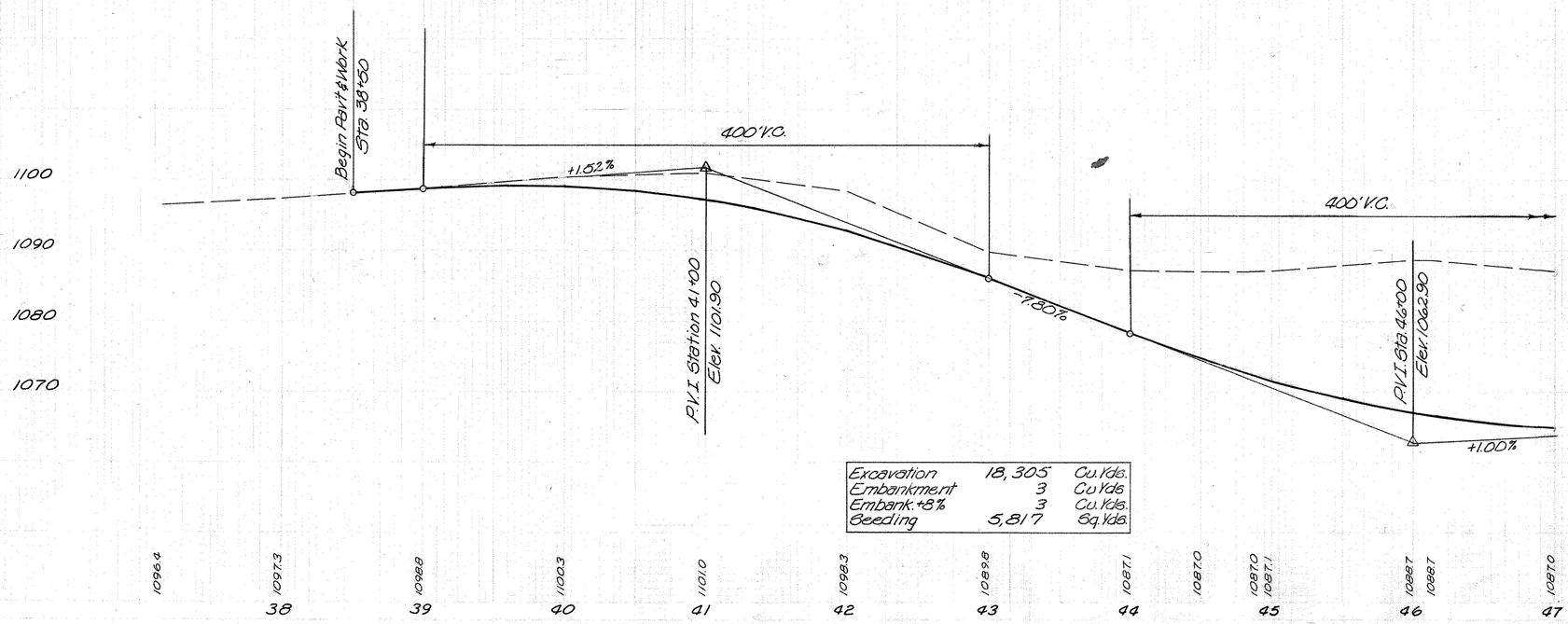
Sta. 114+00 C=74 F=6156

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

X-SECTIONS ~ STA. 114+67 TO STA. 116+00

GUE-77-22.59
TUS-77-0.00





Excavation	18,305	Cu. Yds.
Embankment	3	Cu. Yds.
Embank. +8%	3	Cu. Yds.
Seeding	5,817	Sq. Yds.

*ESTIMATED QUANTITIES

Item	Description	Quantity	Unit
T-35	1½" Asphaltic Concrete Surface Course Type "A"	98.4	Cu. Yd.
T-30	Bituminous Prime Coat (0.4 Gal./Sq. Yd.)	996	Gal.
B-19	8" Aggregate Base Course	554	Cu. Yd.
I-22	6" Subbase (Over Rock Subgrade)	214	Cu. Yd.
E-1	Compacted Subgrade	1672	Sq. Yd.

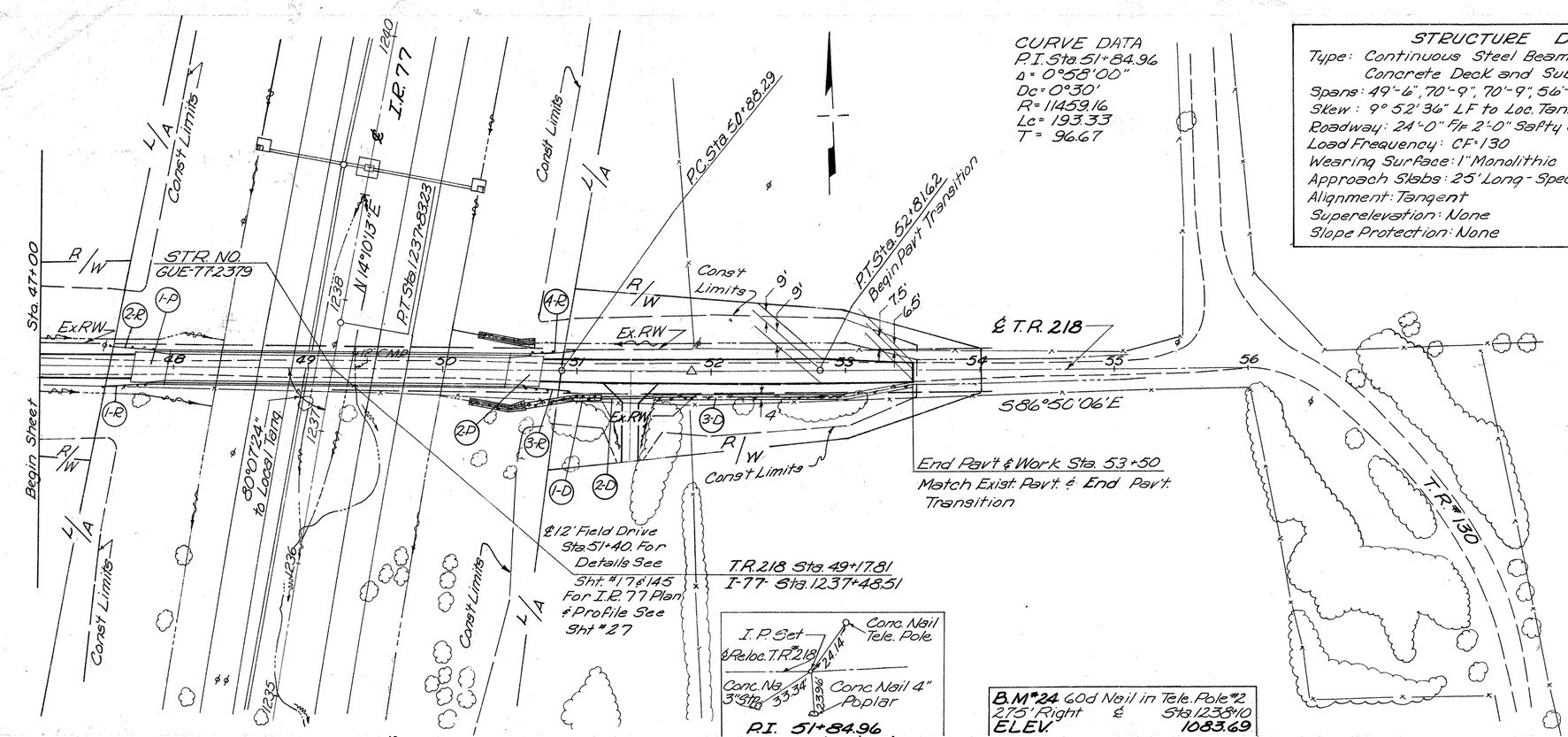
For Driveway Quantities See Sht. #17
*Pavement Items For Sheets No. 140 & 141
I-9 Stone Underdrains No. 2 297 Lin. Ft.

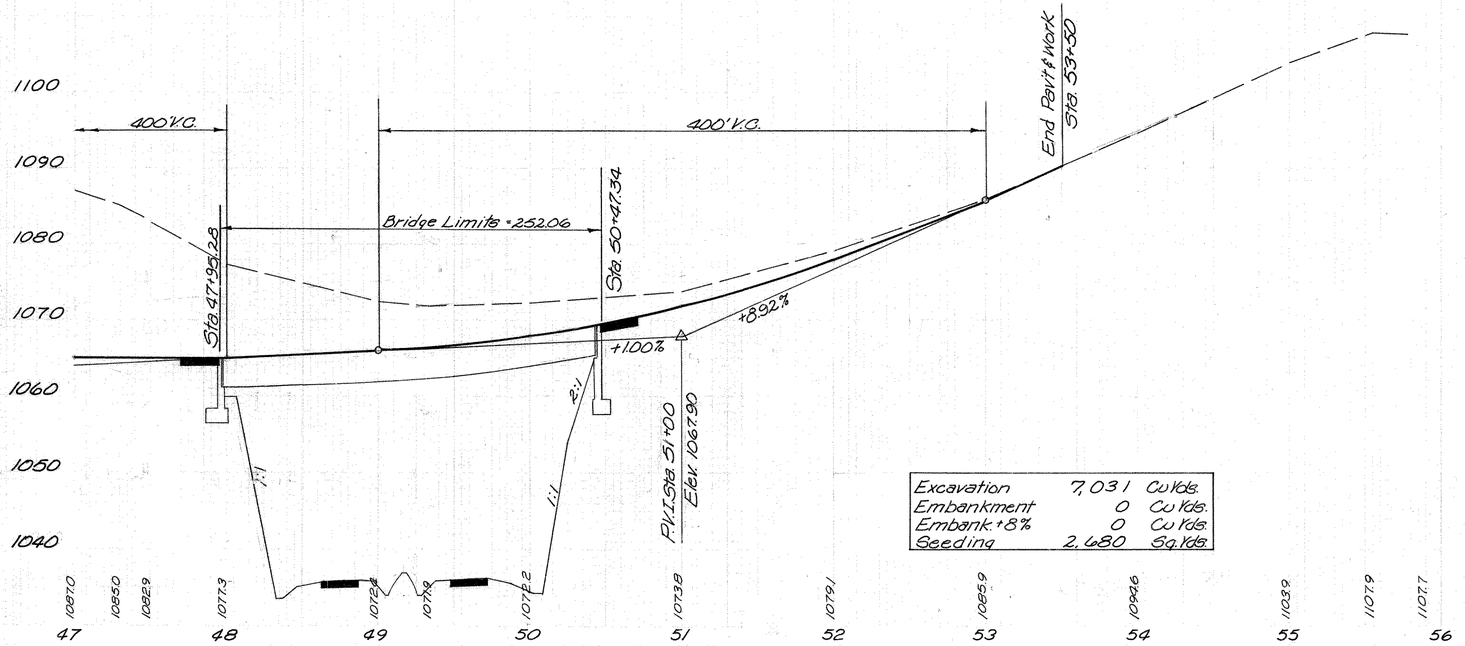
ESTIMATED QUANITIES

REF NO	STATION TO STATION	SIDE	I-1 C.I.C.-4 "2" Pipe Lin. Ft.	L-10 Sodding Sq. Yds.	TOTAL
1-D	44+91	Rt.			
	45+31	Lt.	40		77
2-D	43+83	Rt.			
	44+20	Lt.	37		
3-D	42+00	Rt.			
	43+83	Lt.		81	81

T.R. # 218 Sta. 37+15 to Sta. 47+00

GUE-77-22.59
TUS-77-0.00





Excavation	7,031	Cu Yds.
Embankment	0	Cu Yds.
Embank. +8%	0	Cu Yds.
Seeding	2,680	Sq. Yds.

I-9 Stone Underdrains No. 2 143 Lin. Ft.

ESTIMATED QUANITIES

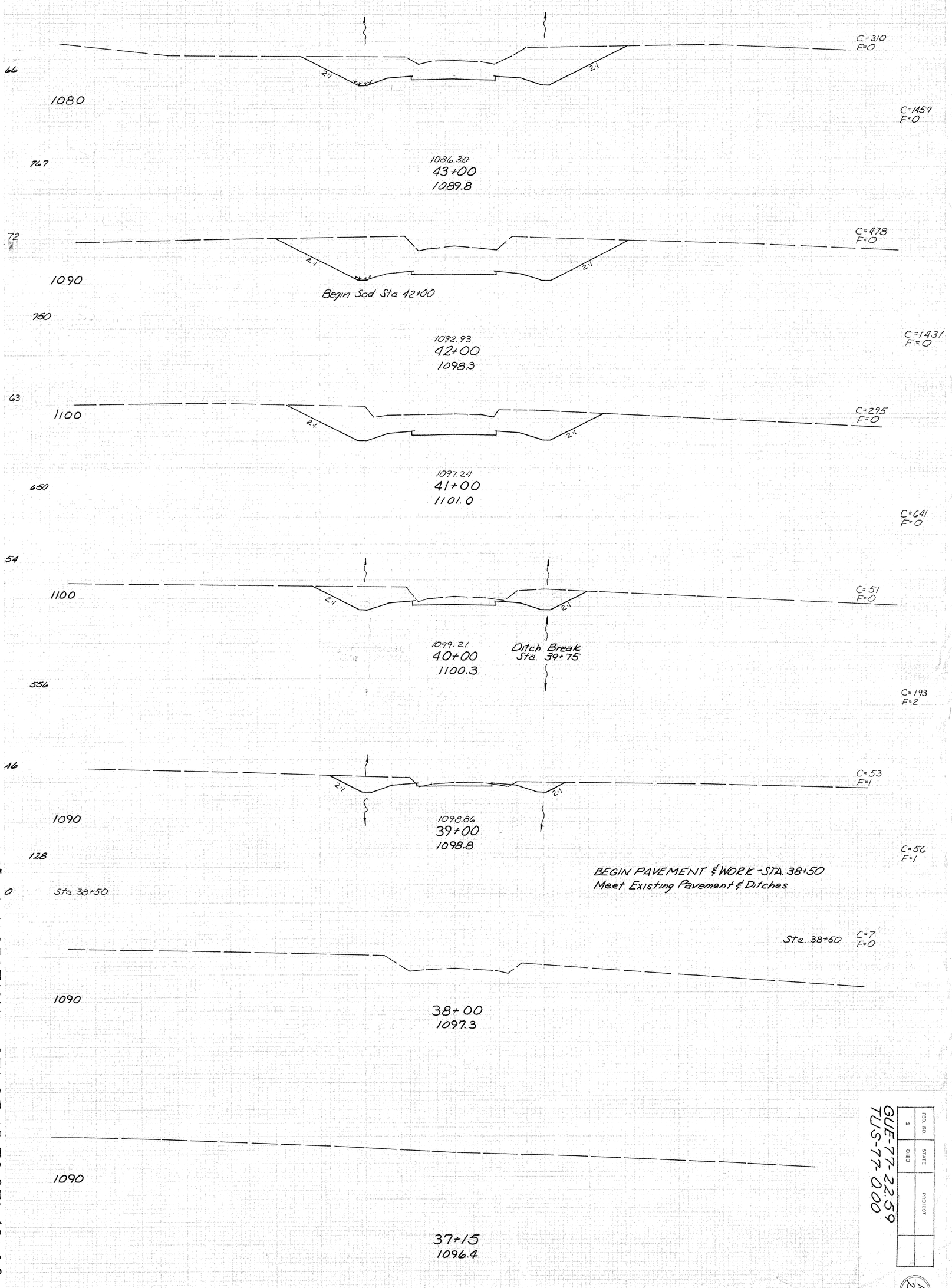
REF NO	STATION TO STATION	SIDE	I-1 CI. C 4 12" Pipe	I-7 Reinf. Conc. Approach Slab (T=13")	I-15 Guardrail St. Beam Std Type (Deep)	L-10 Seeding	
			Lin. Ft.	Sq. Yds.	Lin. Ft.	Sq. Yds.	
1-D	50+61 — 51+19	Et.				26	
2-D	51+19 — 51+57	Et.	38				
3-D	51+57 — 53+50	Et.				86	
1-R	47+54 — 47+79	Et.			25		
2-R	47+89 — 47+84	Lt.			25		
3-R	50+61 — 50+86	Et.			25		
4-R	50+46 — 50+91	Lt.					
1-P	47+70.28 — 47+95.28	℄		7.1			
2-P	50+47.34 — 50+72.34	℄		7.1			
TOTAL			38	14.2.2	100	112	

T.R. #218 Sta. 47+00 to Sta. 56+00

SEEDING LIN. SQ. FT. YDS.

80 60 40 20 ℄ 20 40 60 80 100

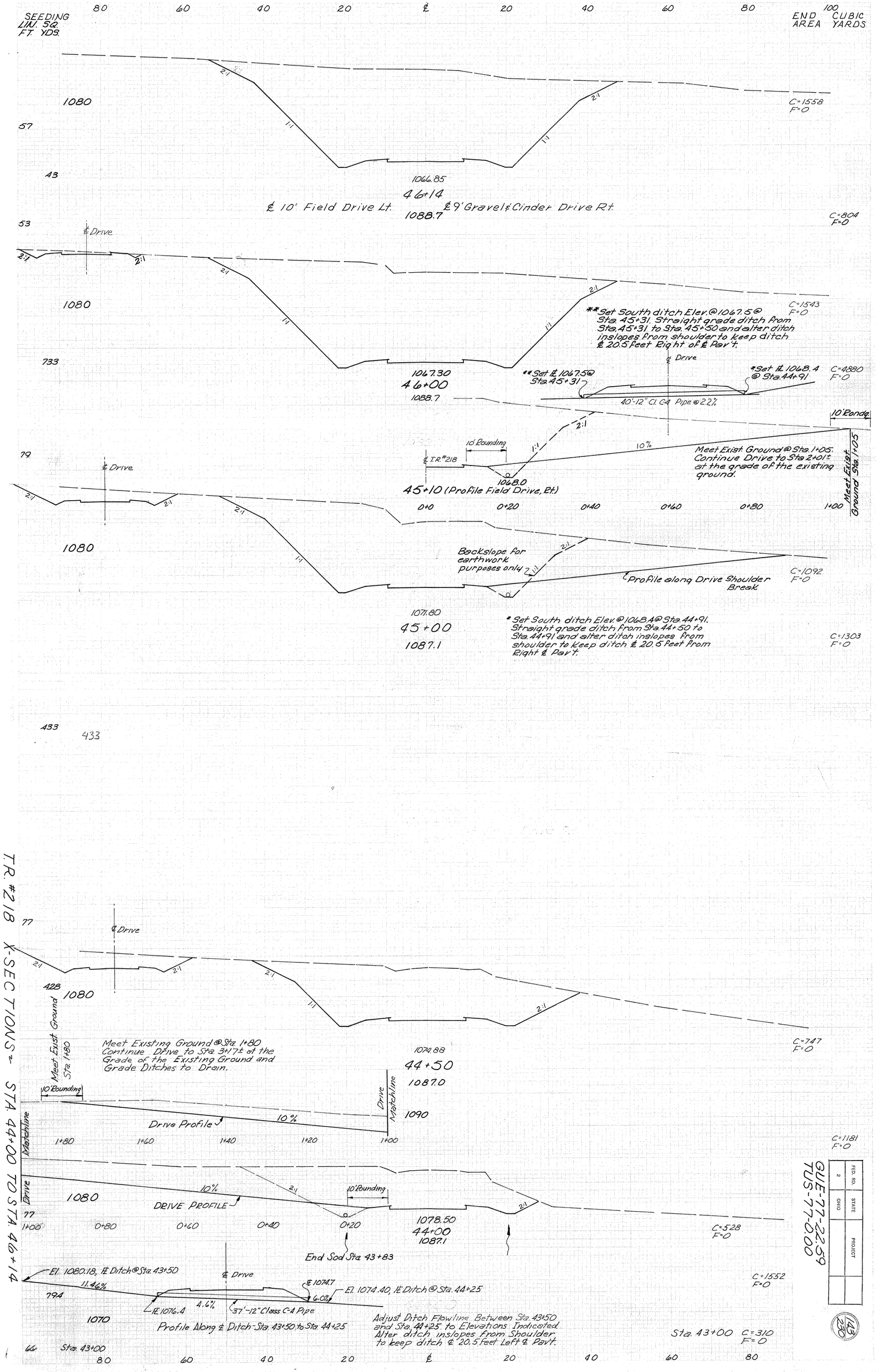
END AREA CUBIC YARDS



80 60 40 20 ℄ 20 40 60 80

T.R. #218 X-SECTIONS - STA. 37+15 TO STA. 43+00

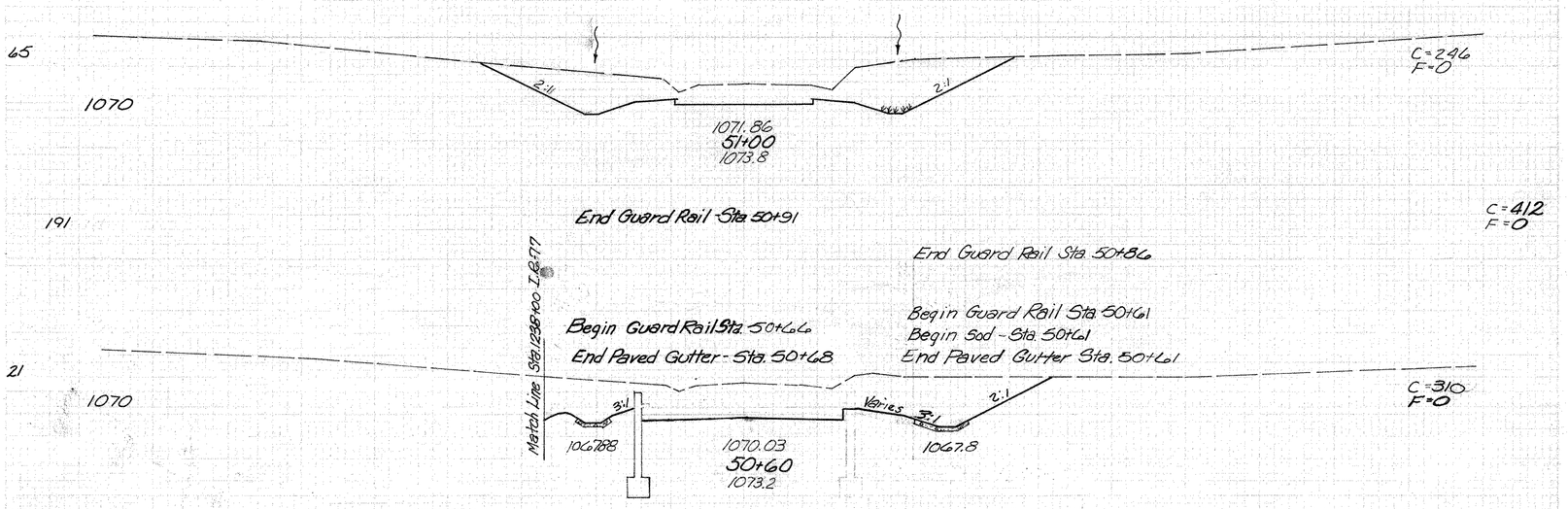
FED. RD.	STATE	PROJECT
2	OHIO	QUE-77-22.59 TUS-77-000


SEEDING LIN. SQ. FT YDS.
END AREA CUBIC YARDS
80 60 40 20 ℄ 20 40 60 80 100
1080
57
43
2:1
1:1
1066.85
46+14
℄ 10' Field Drive Lt.
℄ 9' Gravel & Cinder Drive Rt.
1088.7
C=1558
F=0
53
℄ Drive
733
1067.30
46+00
**Set South ditch Elev. @ 1067.5 @ Sta. 45+31. Straight grade ditch from Sta. 45+31 to Sta. 45+50 and alter ditch inslopes from shoulder to keep ditch ℄ 20.5 feet Right of ℄ Pav't.
**Set ℄ 1067.5 @ Sta. 45+31
*Set ℄ 1068.4 @ Sta. 44+91
40'-12" Cl. C4 Pipe @ 2.2%
10' Rounding
10%
Meet Exist. Ground @ Sta. 1+05. Continue Drive to Sta. 2+01 ± at the grade of the existing ground.
Meet Exist. Ground Sta. 1+05
C=804
F=0
C=1543
F=0
C=4880
F=0
79
℄ T.R. #218
1068.0
45+10 (Profile Field Drive, Rt)
0+0 0+20 0+40 0+60 0+80 1+00
Backslope for earthwork purposes only
Profile along Drive Shoulder Break
1071.80
45+00
1087.1
* Set South ditch Elev. @ 1068.4 @ Sta. 44+91. Straight grade ditch from Sta. 44+50 to Sta. 44+91 and alter ditch inslopes from shoulder to keep ditch ℄ 20.5 feet from Right ℄ Pav't.
C=1092
F=0
C=1303
F=0
433
433
77
℄ Drive
428
Meet Exist. Ground Sta. 1+80
Meet Existing Ground @ Sta. 1+80. Continue Drive to Sta. 3+17 ± at the Grade of the Existing Ground and Grade Ditches to Drain.
1074.88
44+50
1087.0
10' Rounding
Drive Matchline
Drive Profile
10%
1090
1+80 1+60 1+40 1+20 1+00
C=747
F=0
C=1181
F=0
Matchline
Drive
1080
77
DRIVE PROFILE
10%
2:1
10' Rounding
1+00 0+80 0+60 0+40 0+20
1078.50
44+00
1087.1
End Sod Sta. 43+83
C=528
F=0
℄ Drive
El. 1080.18, IE Ditch @ Sta. 43+50
11.46%
794
IE 1076.4
4.6%
37'-12" Class C-A Pipe
IE 1074.7
6.0%
El. 1074.40, IE Ditch @ Sta. 44+25
1070
Profile Along ℄ Ditch - Sta. 43+50 to Sta. 44+25
Adjust Ditch Flowline Between Sta. 43+50 and Sta. 44+25 to Elevations Indicated. Alter ditch inslopes from Shoulder to keep ditch ℄ 20.5 Feet Left ℄ Pav't.
C=1552
F=0
66
Sta. 43+00
Sta. 43+00
C=310
F=0
80 60 40 20 ℄ 20 40 60 80
TR. #218 X-SECTIONS - STA. 44+00 TO STA. 46+14
FED. RD. 2
STATE OHIO
PROJECT
GUE-77-22.59
TUS-77-0.00
143
330

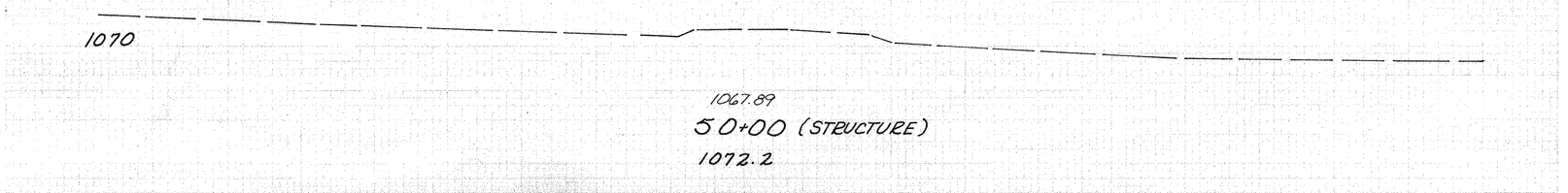
SEEDING LIN. SQ. FT. YDS.

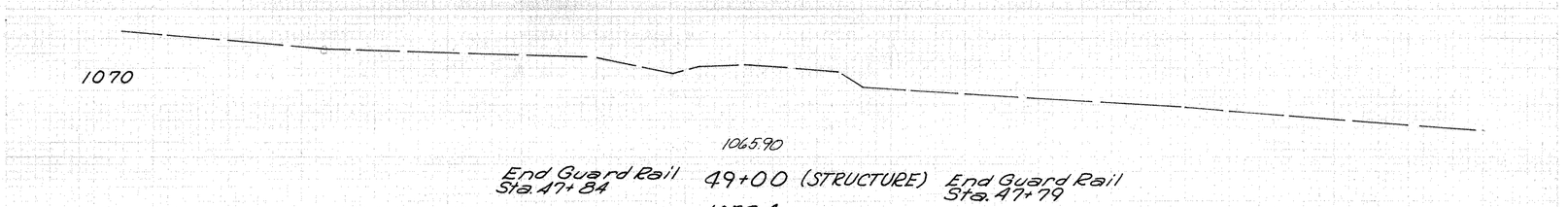
80 60 40 20 ℄ 20 40 60 80 100

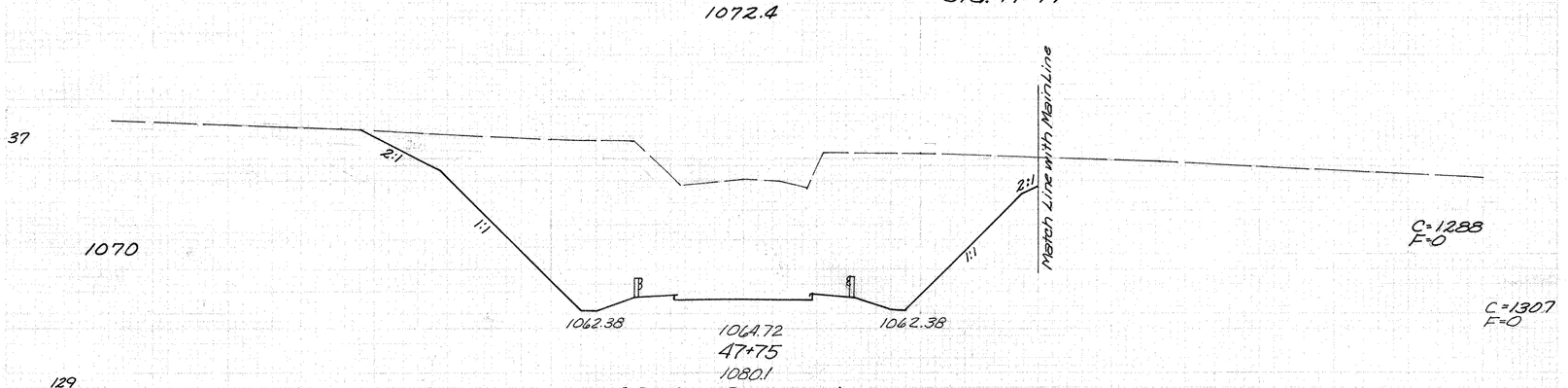
END AREA CUBIC YARDS



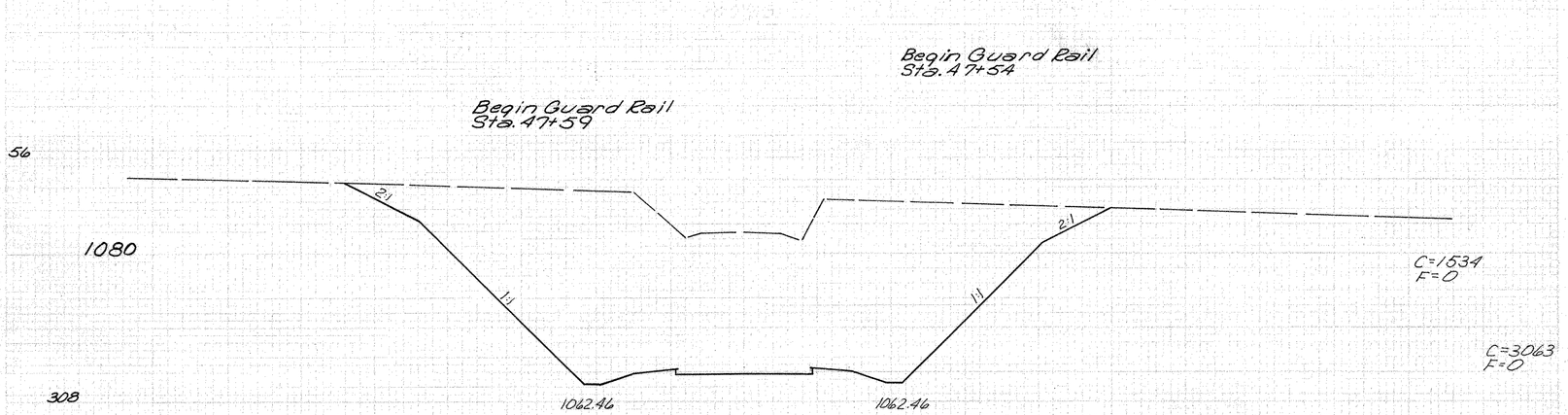
(Section Ahead Only)

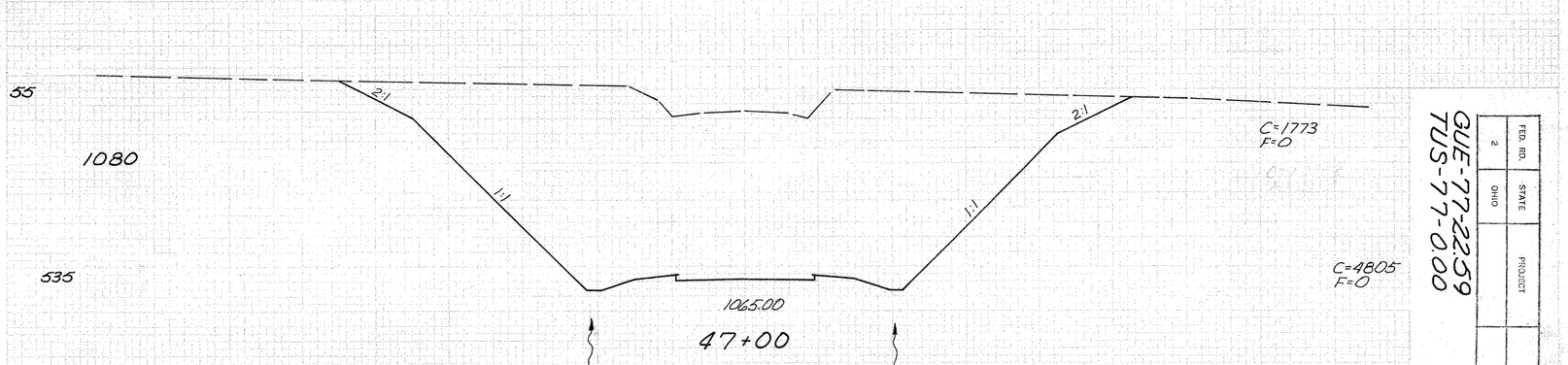






(Section Back Only)





T.R. #218 X-SECTIONS - STA. 47+00 TO STA. 51+00

FED. RD.	STATE	PROJECT
2	OHIO	QUE-77-22.59
		TUS-77-0.00

57

80 60 40 40 20 ℄ 20 40 60 80

FED. RD.	STATE	PROJECT	
2	OHIO		

145
230

GUE-77-22.59
TUS-77-0.00

END AREA 100 CUBIC YARDS

SEEDING LIN. SQ. FT. YDS

END PAVEMENT & WORK STA. 53+50
Meet Existing Pavement & Ditches

End Sod Sta 53+50

Sta 53+52 C=7 F=0

C=238 F=0

C=250 F=0

C=1009 F=0

C=1002 F=0

C=295 F=0

End Drive @ Rt 688 Rt of Sta 51+40

C=246 F=0

Sta 51+00

10' Boundary

59.8'

2:1

1.63% Grade

Begin Drive 9.8Rt of Sta 51+40

℄ T.R.#218

55+78.66
1107.7

55+00
1103.9

54+00
1094.6

53+00
1085.9

52+00
1079.1

51+40
1075.6

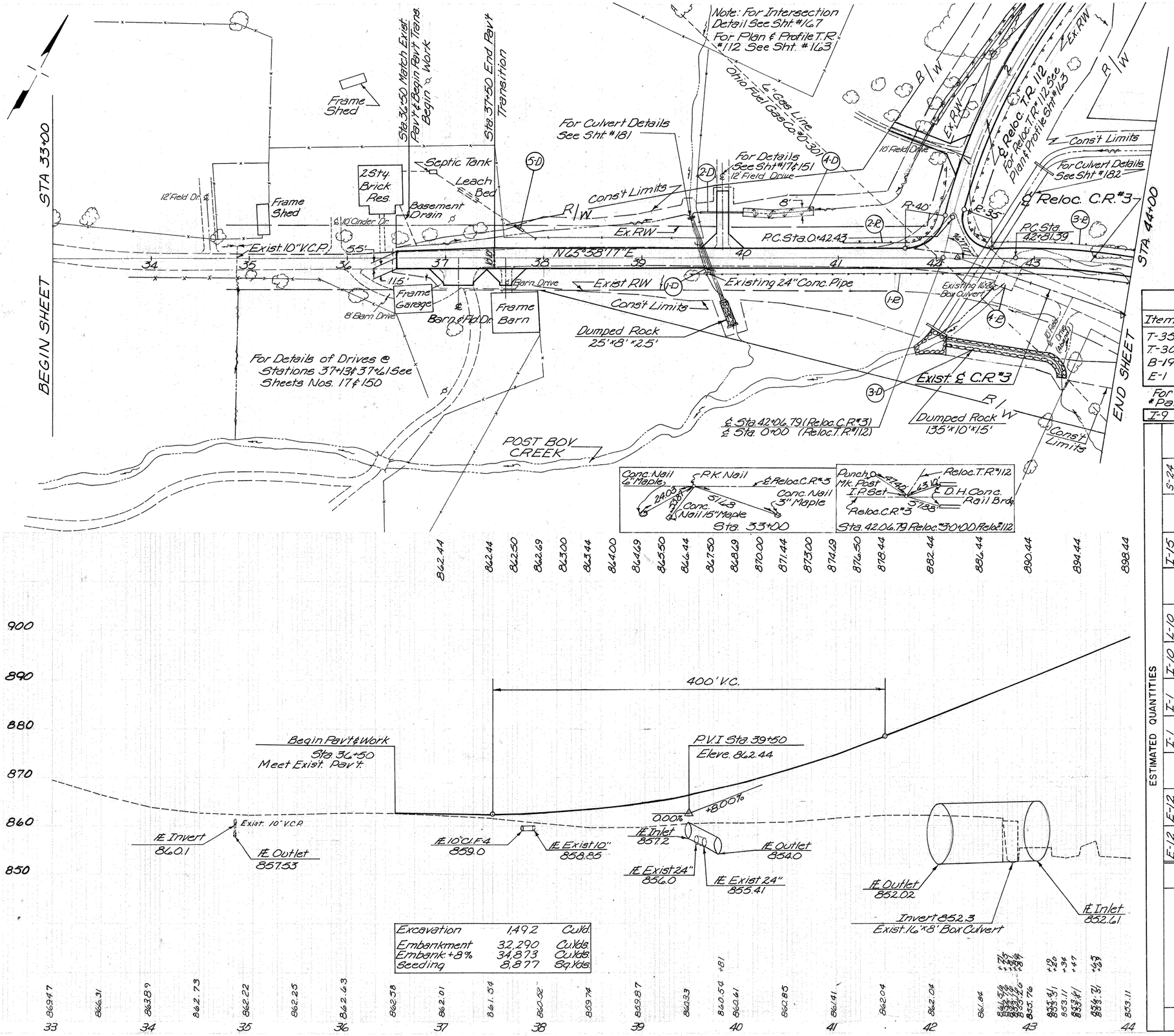
Sta. 53+52

Sta. 51+00

38" Cl. C-A Pipe

Drive Section @ ℄ T.R. #218 Ditch

T.R. #218 X-SECTIONS - STA. 52+00 TO STA. 55+78.66



GUE-77-22.59
TUS-77-0.00

Excavation	1,492	Cu.Yd.
Embankment	32,290	Cu.Yds.
Embank.+8%	34,873	Cu.Yds.
Seeding	8,877	Sq.Yds.

TYPICAL SECTION OF EXIST. C.R.#3

Scale: ¼" = 1'-0"

1975 ADT 190

*ESTIMATED QUANTITIES

Item	Description	Quantity	Unit
T-35	1½" Asphaltic Concrete Surface Course, Type A	248.8	Cu.Yd.
T-30	Bituminous Prime Coat (0.4 Gal./Sq.Yd.)	2504	Gal.
B-19	8" Aggregate Base Course	1391	Cu.Yd.
E-1	Compacted Subgrade	5972	Sq.Yd.

For Driveway Quantities See Sht.#17
*Pavement Items For Sheet Nos. 146, 147 & 148

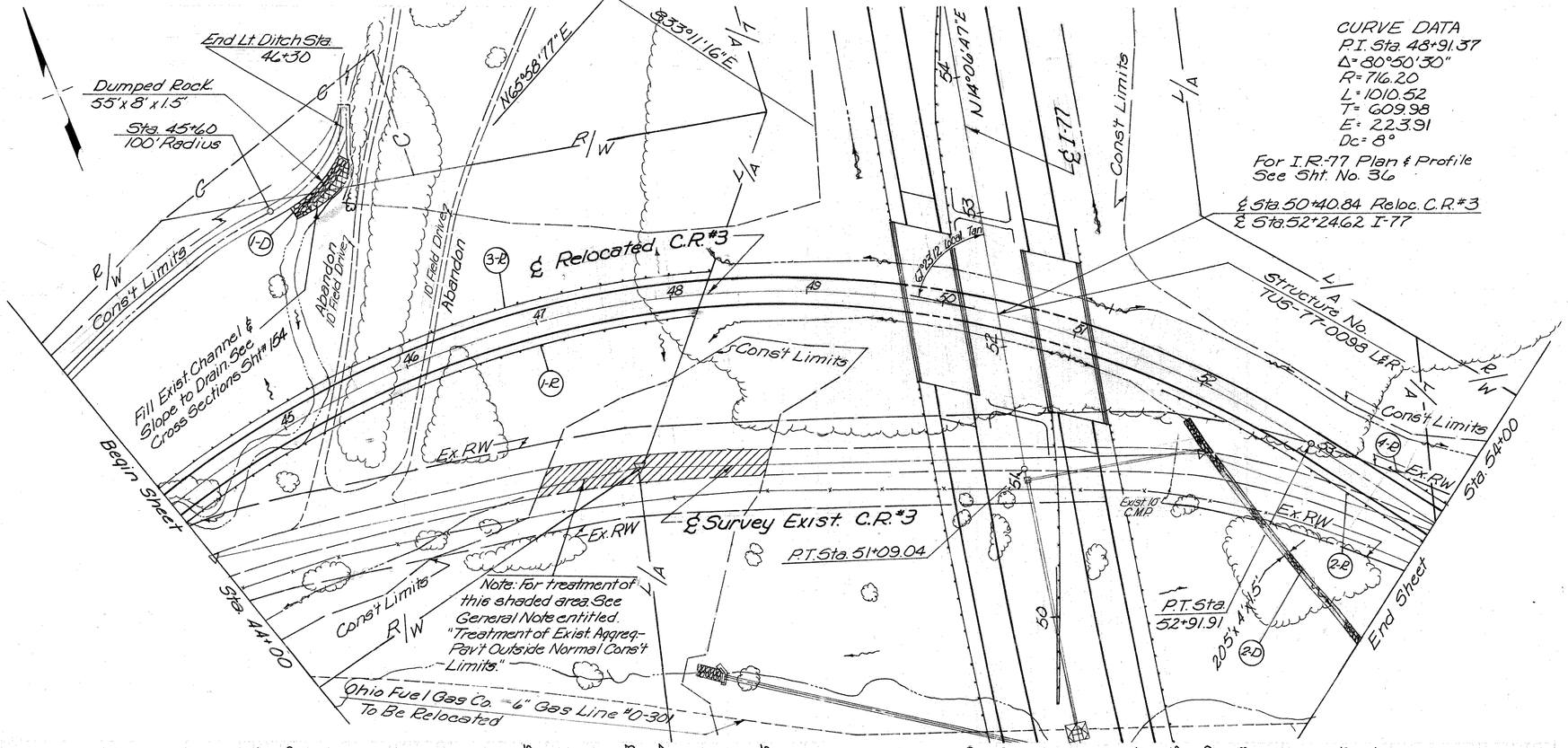
I-9 Stone Underdrains No. 2 352 Lin.Ft.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	E-12 Pipe Removed 15" & Under	E-12 Pipe Removed Over 15"	I-1 24" Pipe Cl. C-4	I-1 10" Pipe Cl. F-4	I-10 Dumped Rock	L-10 Sod	I-15 Guardrail Wire Cable Type 3 Cables	S-24 Removal of Exist. Structure
				Lin.Ft.	Lin.Ft.	Lin.Ft.	Lin.Ft.	Cu.Yds.	Sq.Yds.	Lin.Ft.	Lump
1-D	39+60		℄		30						
2-D	39+59	40+01	Lt.			42					
3-D	42+06	43+35	Rt.					75.3			
4-D	40+01	40+75	Lt.						64		
5-D	37+70	37+80	Lt.	25			10				
1-R	39+50	44+00	Rt.							450	
2-R	41+05	41+69	Lt.							64	
3-R	42+56	44+00	Lt.							144	
4-R	42+67 Exist.	42+86 Exist.	℄ Sur.								Lump
TOTAL				25	30	42	10	75.3	64	658	Lump

Relocated C.R.#3 Sta. 33+00 TO 44+00

GUE-77-22.59
TUS-77-0.00

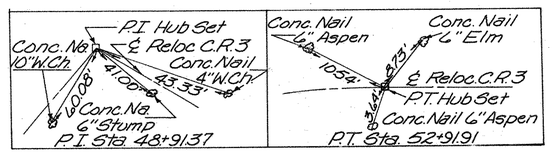


CURVE DATA
P.I. Sta 48+91.37
Δ = 80°50'30"
R = 716.20
L = 1010.52
T = 609.98
E = 223.91
Dc = 8°

For I-R-77 Plan & Profile See Sht. No. 36

℄ Sta. 50+40.84 Reloc. C.R.#3
℄ Sta. 52+24.62 I-77

STRUCTURE DATA
Type: Continuous Steel Beam with Reinforced Concrete Deck and Substructure
Spans: 36'-6", 45'-6", 32'-0" ℄ Brgs.
Skew: 22° 36' 48" L.F.
Roadway: 40'-0" F/F Parapets L & R
Load Frequency: CF=2000 Adequate for A.A.S.H.O Alternate Loading
Wearing Surface: 1" Monolithic
Approach Slabs: 25' Long (AS-1-54)
Alignment: Tangent
Superelevation: I-77 Transition, C.R.#3 .064' I/Ft.
Slope Protection: Crushed Aggregate



I-9 Stone Underdrains No. 2 319 Lin. Ft.

ESTIMATED QUANTITIES

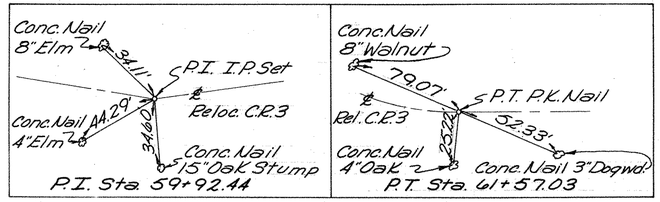
REF. NO.	STATION TO STATION	SIDE	I-10 Dumped Rock (Cu. Yds.)	I-15 Guardrail, Wire Rope Type 3 Cables (Lin. Ft.)
I-D	45+67	Lt.	24	
2-D	52+00	Lt.	45.5	
I-2	44+00	Rt.		130
2-2	51+75	Rt.		225
3-2	44+00	Lt.		432
4-2	53+50	Lt.		50
TOTAL			69.5	1137

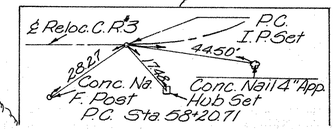
Relocated C.R.#3 ~ Sta. 44+00 To Sta. 54+00

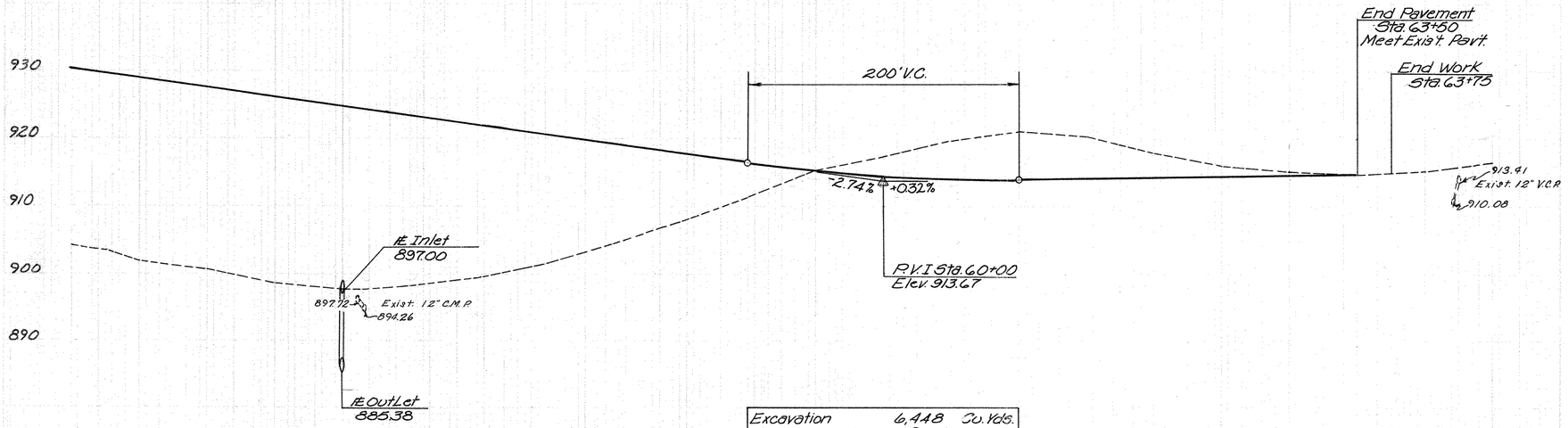
GUE-77-22.59
TUS-77-0.00

CURVE DATA
P.I. Sta. 59+92.44
Δ = 28°35'12"
R = 674.07
Dc = 8°30'
T = 171.73
L = 336.32
E = 21.51

Sta 54+00
Begin Sheet
Const Limits
Ex. RW
℄ Relocated C.R. #3
S 33°11'16" E
Dumped Rock 6'×1.5'
I-10 Rip Rap
Dumped Rock 6'×1.5'
R/W
Exist. 12" C.M.P.
Ohio Fuel Gas Co. #0-301 6" Gas Line To Be Relocated
P.T. Sta. 61+57.03 ℄ Reloc. C.R. #3
P.C. Sta. 58+20.71 ℄ Reloc. C.R. #3
STA. 62+50 Begin Pav't Transition to Match Existing Pav't @ STA. 63+50
End Pavement Sta. 63+50
End Work Sta. 63+75
Sta 65+00
End Sheet
12" V.C.P.
N 61°46'28" W
18' Drive
℄ Survey Exist. C.R. #3
Dumped Rock 4'×15'×25'
For Culvert Details See Sht # 183
Ohio Bell Telephone Co. Cable Crossing 2-4" V.S.P. Encasements (DO NOT DISTURB)







Excavation	6,448	Cu. Yds.
Embankment	37,905	Cu. Yds.
Embank. +8%	40,937	Cu. Yds.
Seeding	12,819	Sq. Yds.

I-9 Stone Underdrains No. 2 429 Lin. Ft.

ESTIMATED QUANTITIES

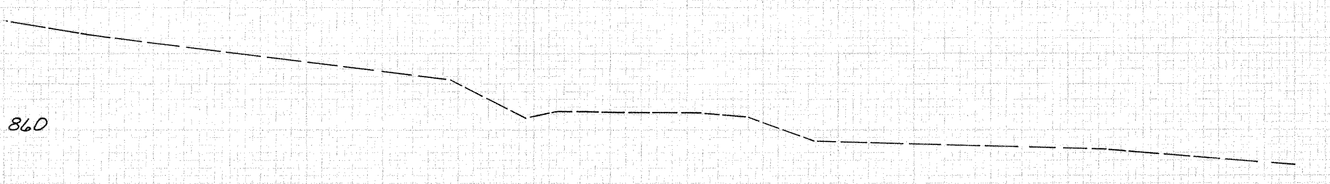
REF. NO.	STATION TO STATION	SIDE	I-10 Dumped Rock Cu. Yds.	I-15 Guardrail Wreckable Type 3 Cables Lin. Ft.
1-D	55+30 to 55+95	Lt.	15.0	
2-D	54+00 to 54+25	Rt.	4.0	
3-D	56+05 to 56+30	Lt.	15.0	
1-E	54+00 to 62+47	Rt.		847
2-E	54+00 to 57+50	Lt.		350
TOTAL			34	1197

Reloc. C.R. #3 Sta. 54+00 To Sta. 65+00

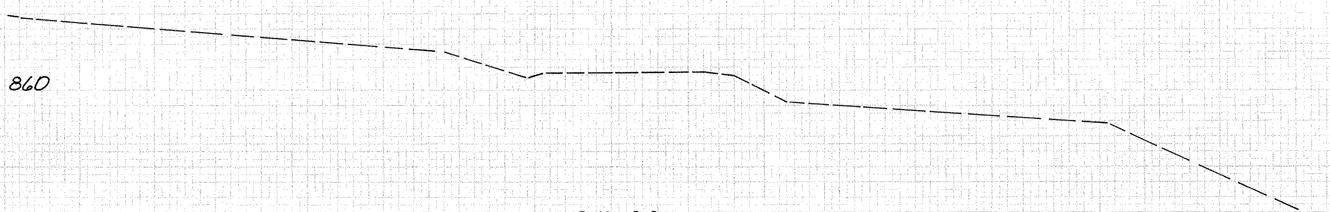
SEEDING
LIN. FT. SQ. YDS.

80 60 40 20 ℄ 20 40 60 80 100

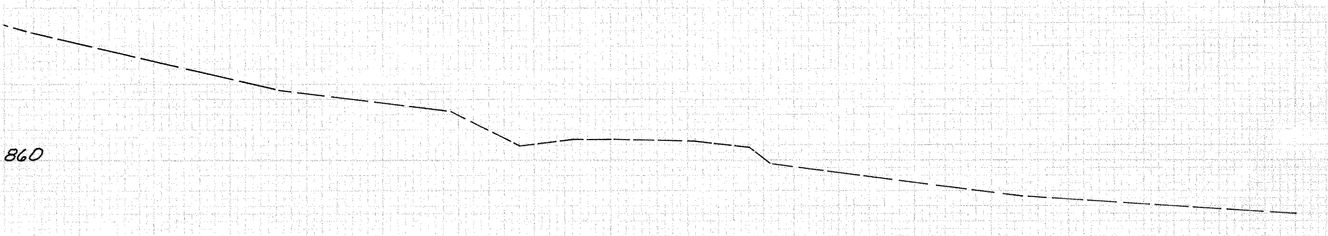
END AREA CUBIC YARDS



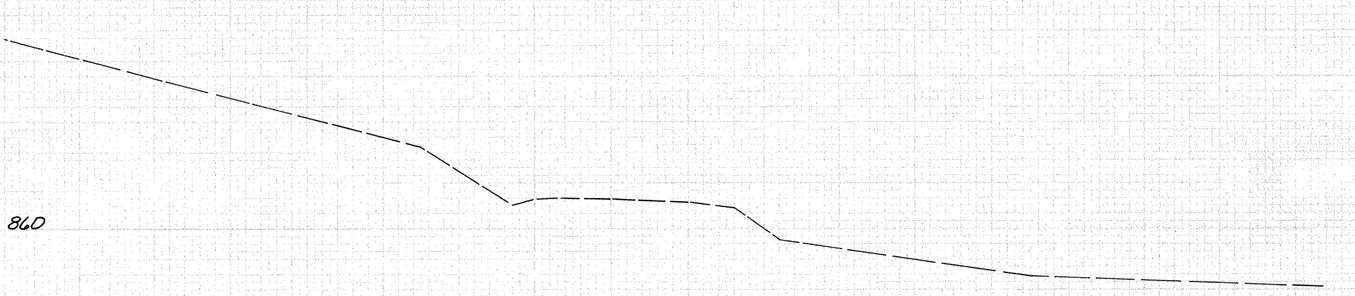
35+50
862.3



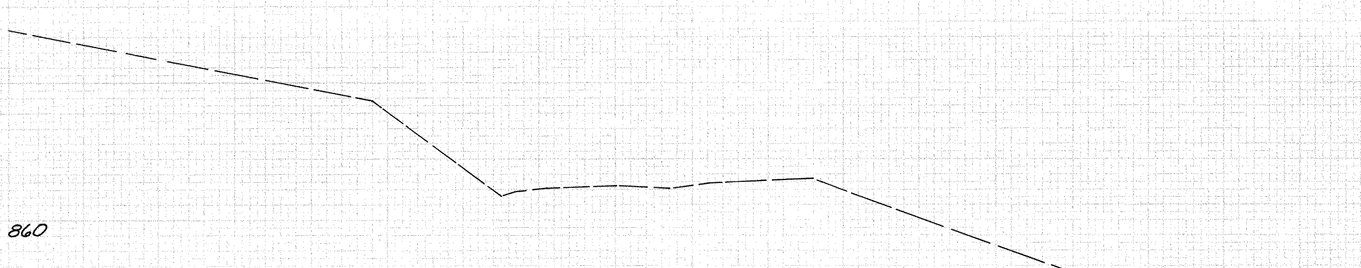
35+00
862.2



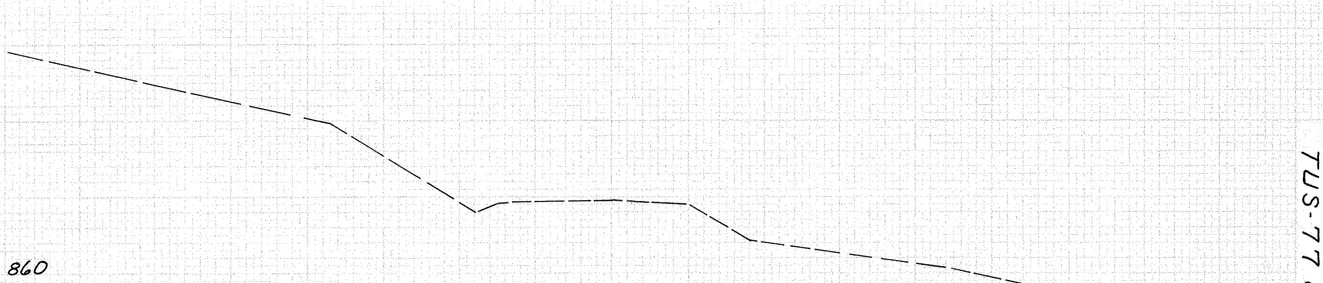
34+50
862.7



34+00
863.9



33+50
866.3



33+00
869.5

80 60 40 20 ℄ 20 40 60 80

RELOC. C.R.#3 X-SECTIONS - STA. 33+00 TO STA. 35+50

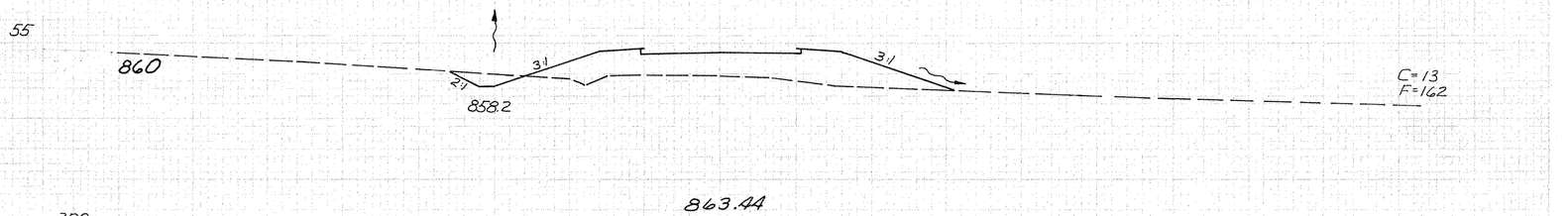
FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77 22.59
TUS-77 0.00

SEEDING
LIN. FT. | SQ. YDS.

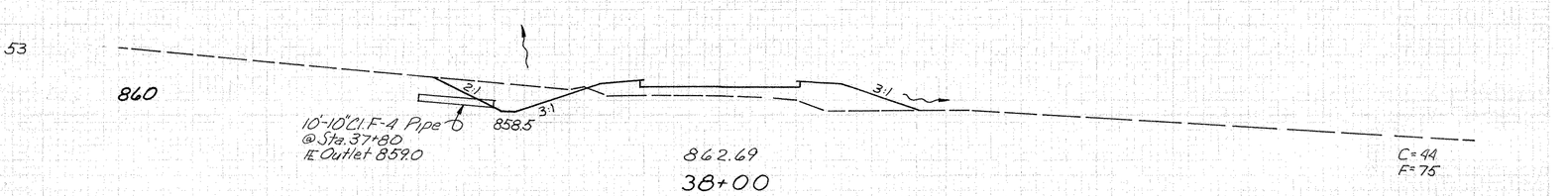
80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS



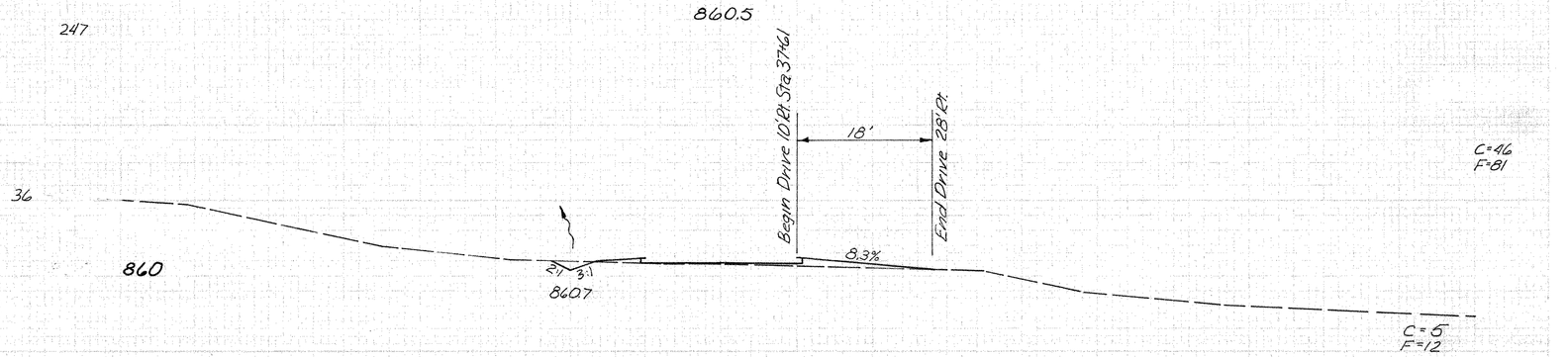
863.44
38+50
859.7

300



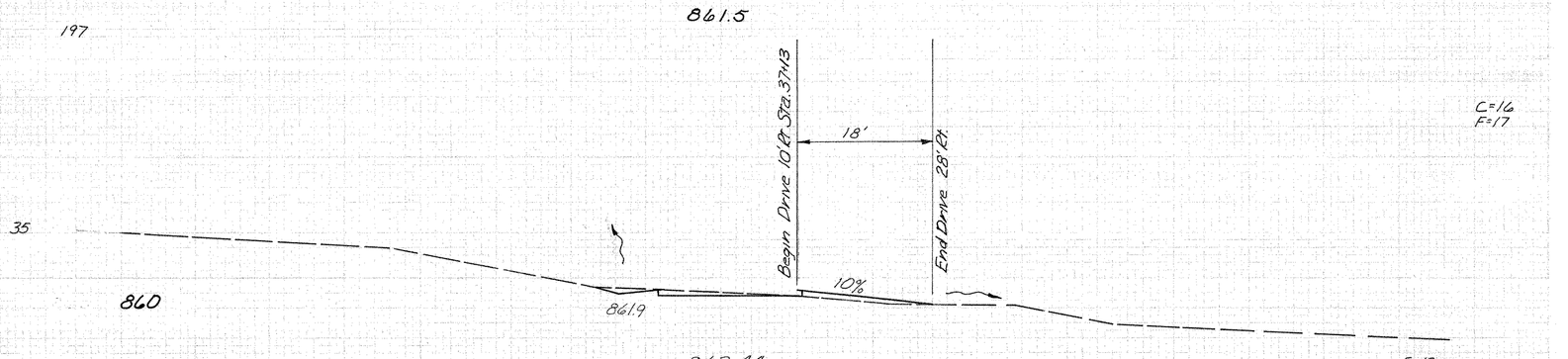
862.69
38+00
860.5

247



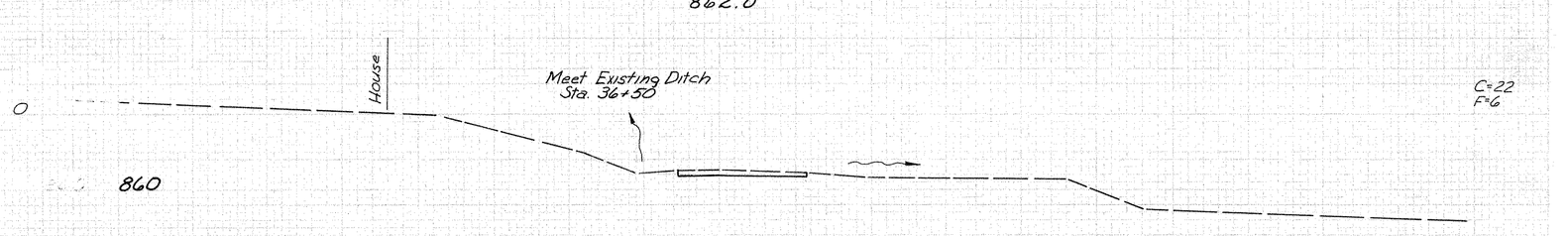
862.44
37+50
861.5

197



862.44
37+00
862.0

97



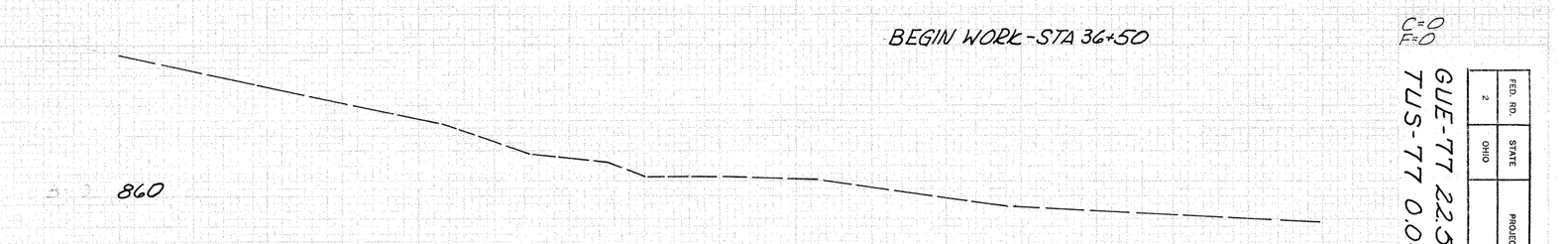
36+50
862.6

BEGIN PAVT STA. 36+50
MEET EXISTING PAVT

C=10
F=0

BEGIN WORK-STA 36+50

C=0
F=0



36+00
862.6

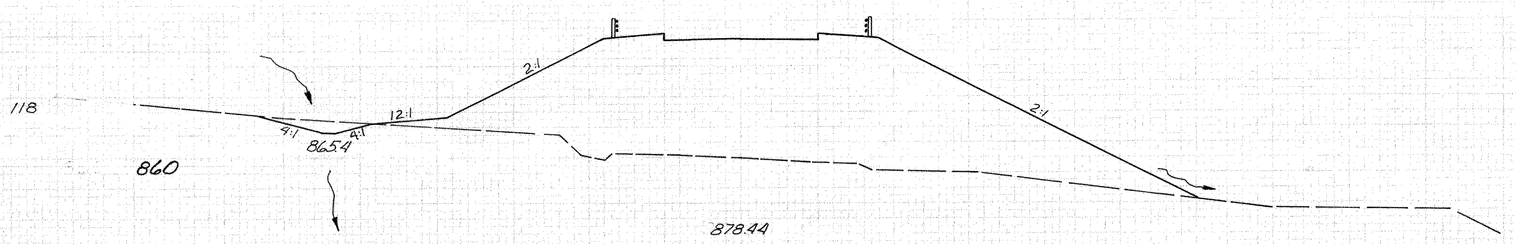
80 60 40 20 ℄ 20 40 60 80

RELOC. C.R. # 3 X-SECTIONS - STA. 36+00 TO STA. 38+50

FED. RD.	STATE
2	OHIO
PROJECT	
GUE-77 22.59	
TUS-77 0.00	

SEEDING LIN. FT. | SEEDING SQ. YDS. | 80 | 60 | 40 | 20 | ℄ | 20 | 40 | 60 | 80 | 100 | END AREA | CUBIC YARDS

End Guard Rail
C.R.#3-Sta. 41+69
For Continuation of Guard
Rail See T.R.#112 X-Sections

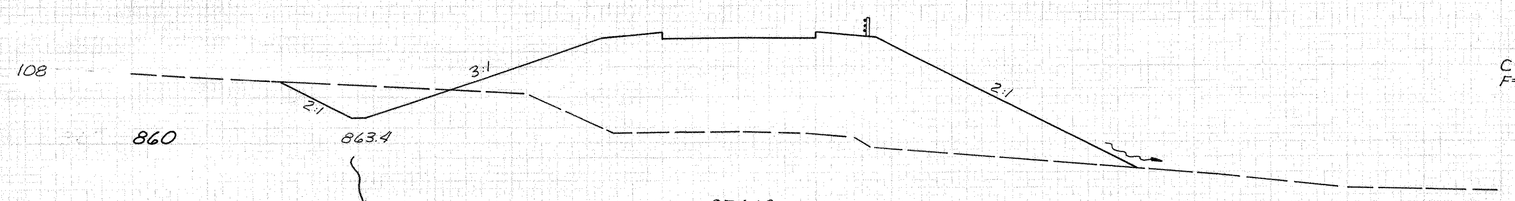


878.44
41+50
862.0

C=14
F=1086

628

Begin Guard Rail
Sta. 41+05



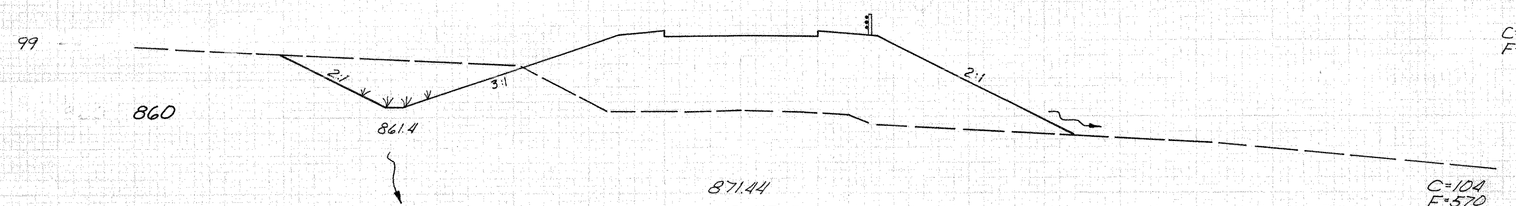
C=58
F=1768

874.69
41+00
861.4

C=48
F=823

End Sod
Sta. 40+75

575



C=141
F=1290

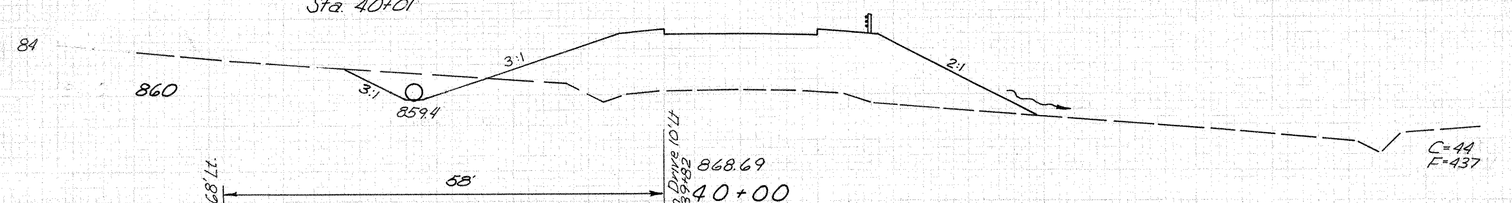
871.44
40+50
860.9

C=104
F=570

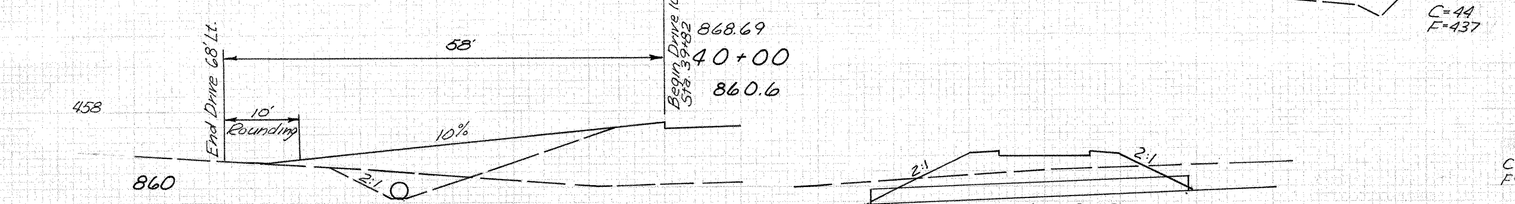
508

Begin Sod
Sta. 40+01

C=137
F=932



C=44
F=437



868.69
40+00
860.6

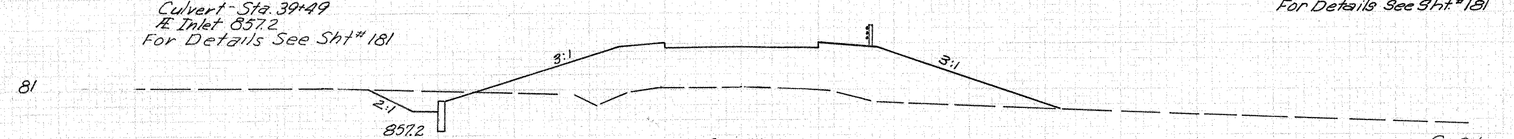
C=65
F=732

42 L.F. 24" Class C-4 Pipe

39+82
Field Drive

Culvert Sta. 39+83
At Outlet 854.0
For Details See Sht.# 181

Culvert - Sta. 39+49
At Inlet 857.2
For Details See Sht.# 181



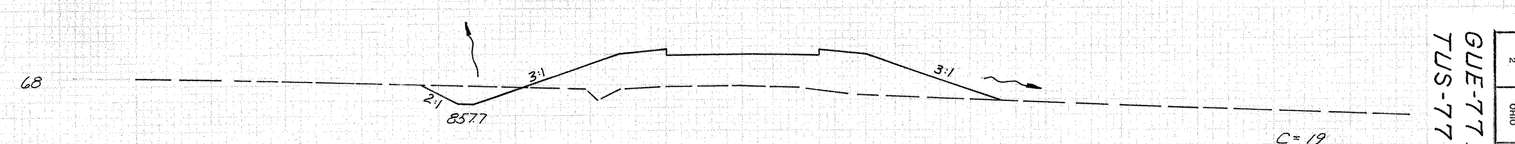
866.44
39+50
860.3

C=26
F=354

Begin Guard Rail
Sta. 39+50

C=43
F=542

414



C=19
F=231

864.69
39+00
859.9

C=30
F=364

342

Sta. 38+50 C=13 F=162

55 Sta 38+50

RELOC. C.R. #3 X-SECTIONS, STA. 39+00 TO STA. 41+50

FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59 TUS-77 000

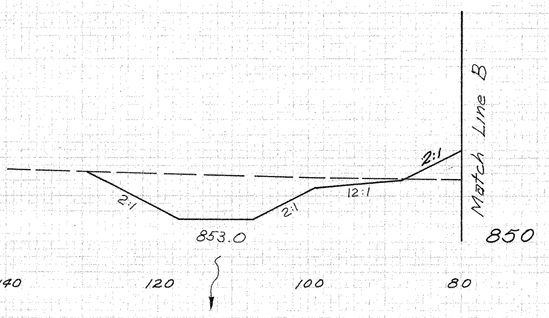
151
239

80 | 60 | 40 | 20 | ℄ | 20 | 40 | 60 | 80

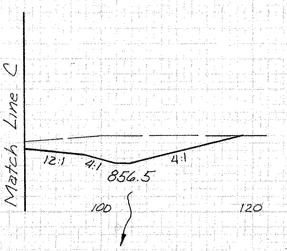
SEEDING
LIN. FT. | SQ. YDS.

80 60 40 20 ℄ 20 40 60 80 100

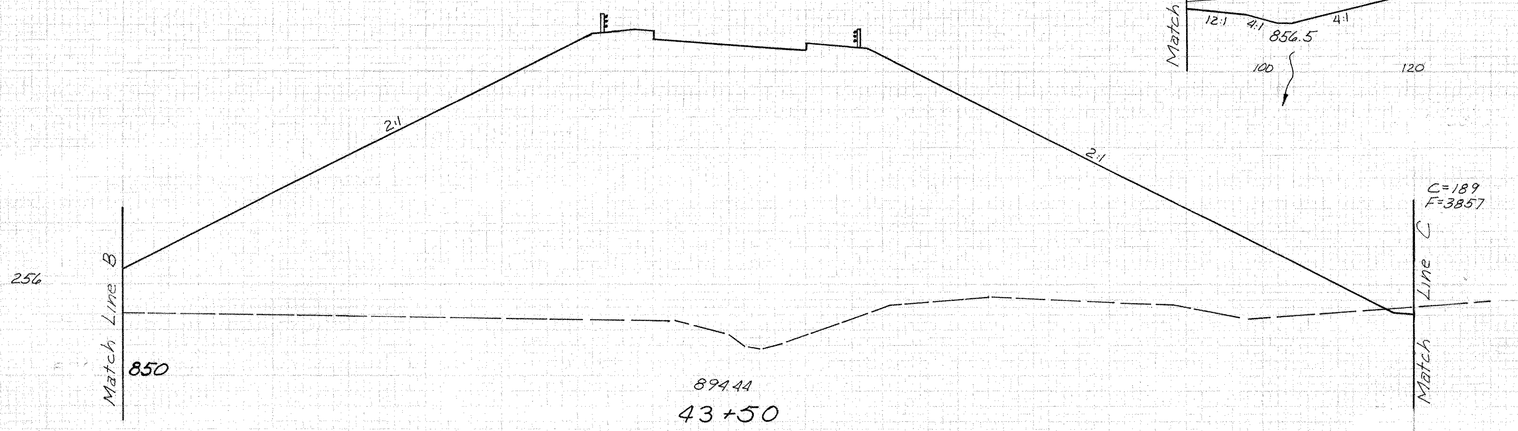
END AREA | CUBIC YARDS



140 120 100 80



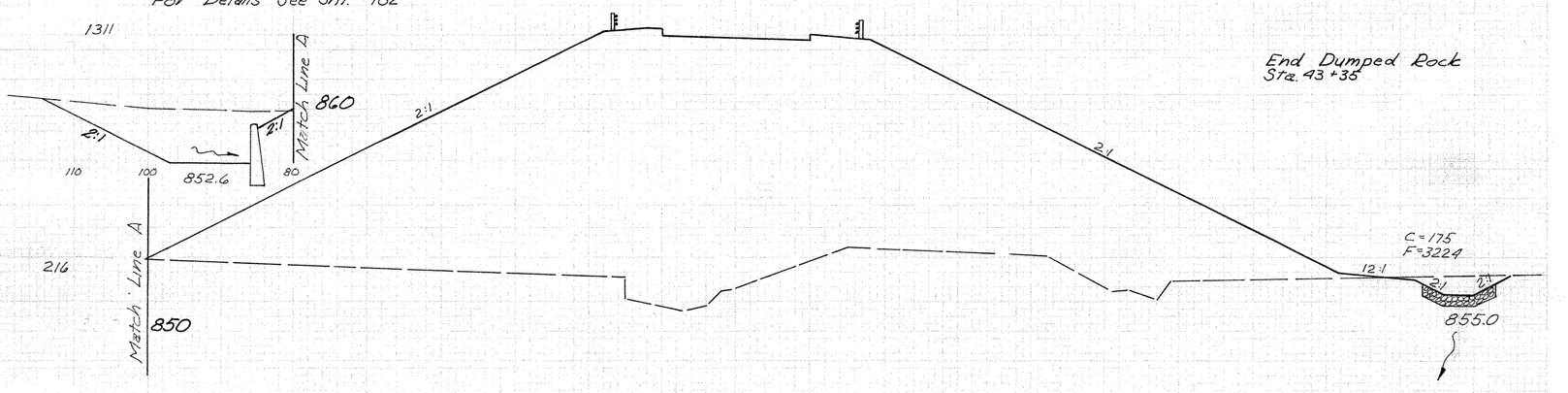
100 120



894.44
43+50
855.4

Culvert Sta. 43+10
℄ Inlet 852.61
For Details See Sht. #182

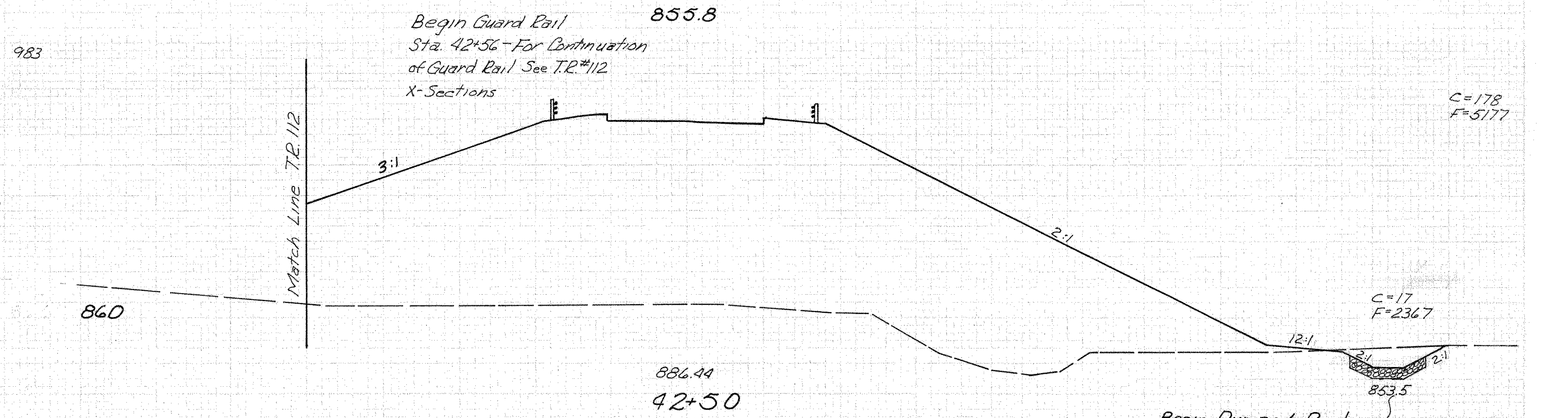
C=337
F=6556



End Dumped Rock
Sta. 43+35

890.44
43+00
855.8

Begin Guard Rail
Sta. 42+56 - For Continuation
of Guard Rail See T.P.#112
X-Sections

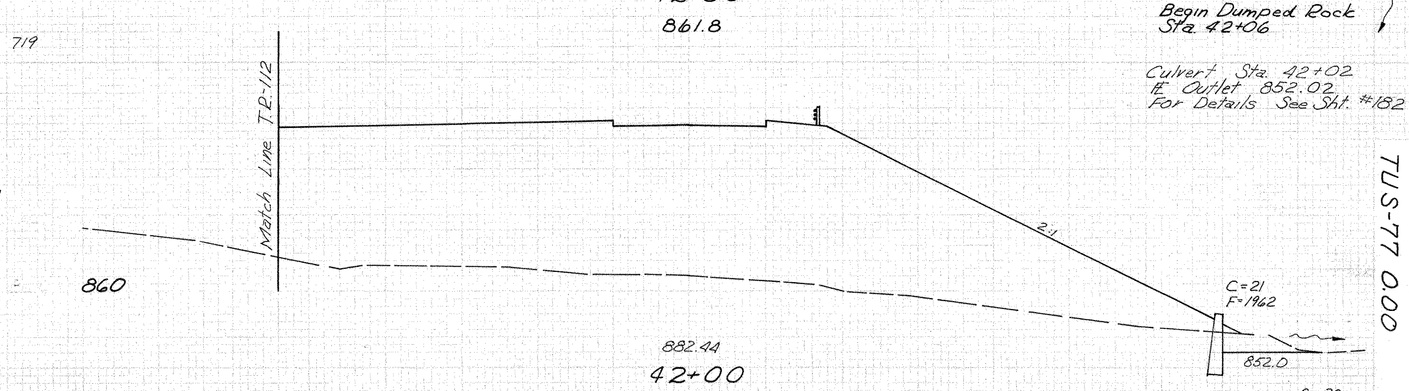


886.44
42+50
861.8

Begin Dumped Rock
Sta. 42+06

Culvert Sta. 42+02
℄ Outlet 852.02
For Details See Sht. #182

C=35
F=4008



882.44
42+00
862.0

C=32
F=2822

66A

C=14
F=1086

Sta. 41+50

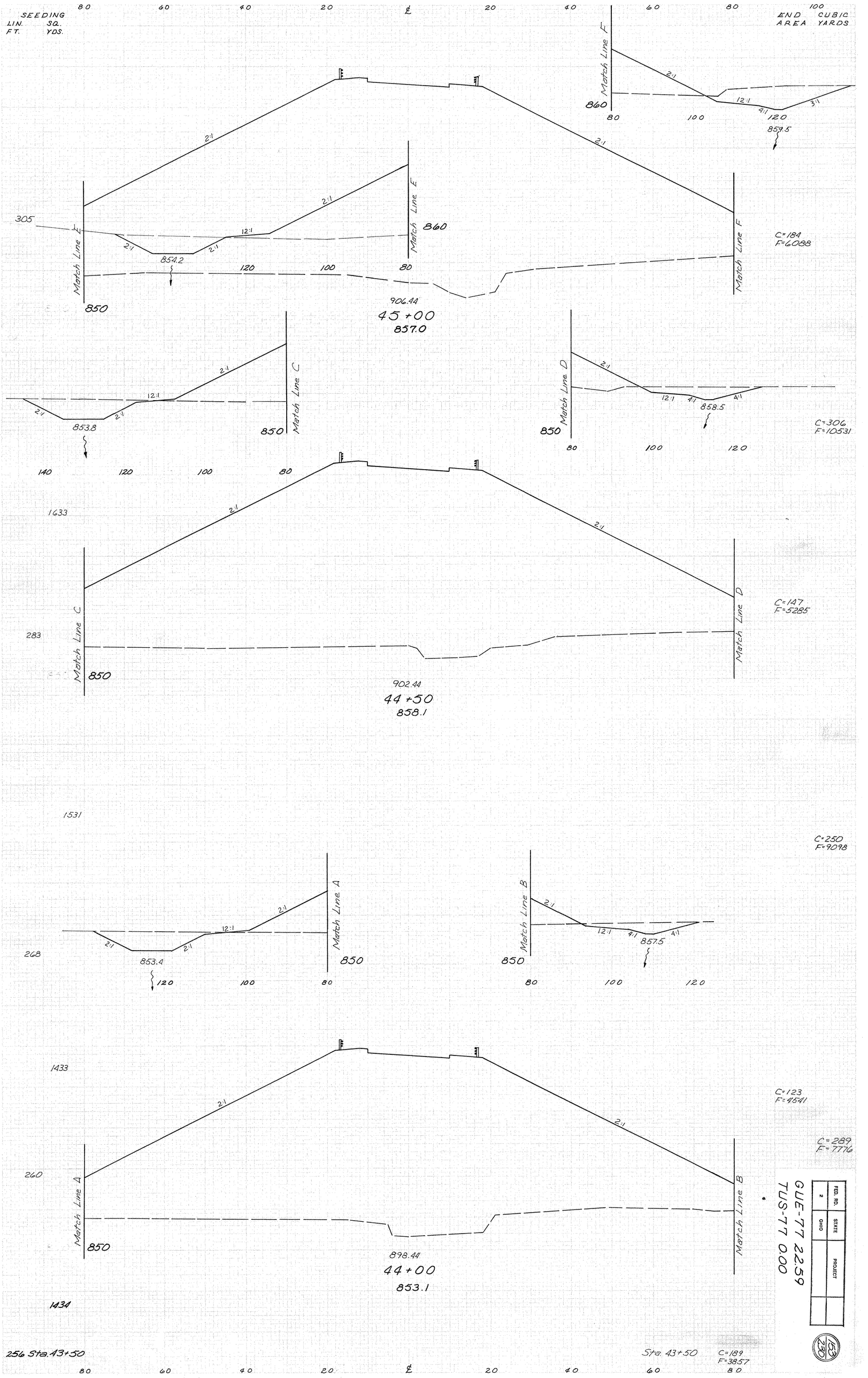
118 Sta. 41+50

80 60 40 20 ℄ 20 40 60 80

RELOC. C.R. #3 X-SECTIONS - STA. 42+00 TO STA. 43+50

GUE-77 22.59
TUS-77 0.00

FED. RD.	STATE	PROJECT
2	OHIO	



RELOC. C.R. #3 X-SECTIONS ~ STA. 44+00 TO STA. 45+00

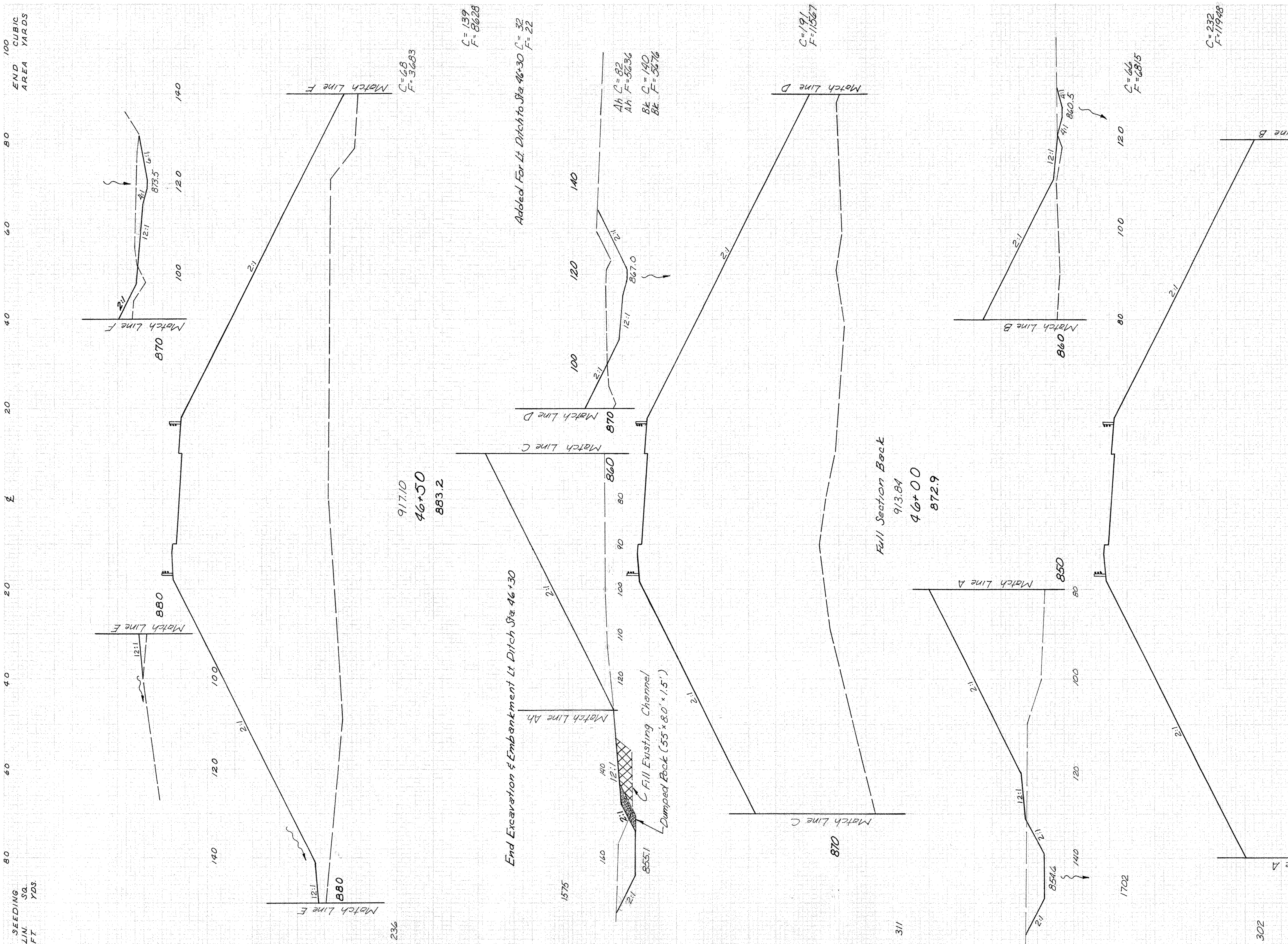
FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59
		TUS-77 000

153
330

FED. RD.	STATE	PROJECT		
2	OHIO			

154/230

GUE-77 22.59
TUS-77 0.00



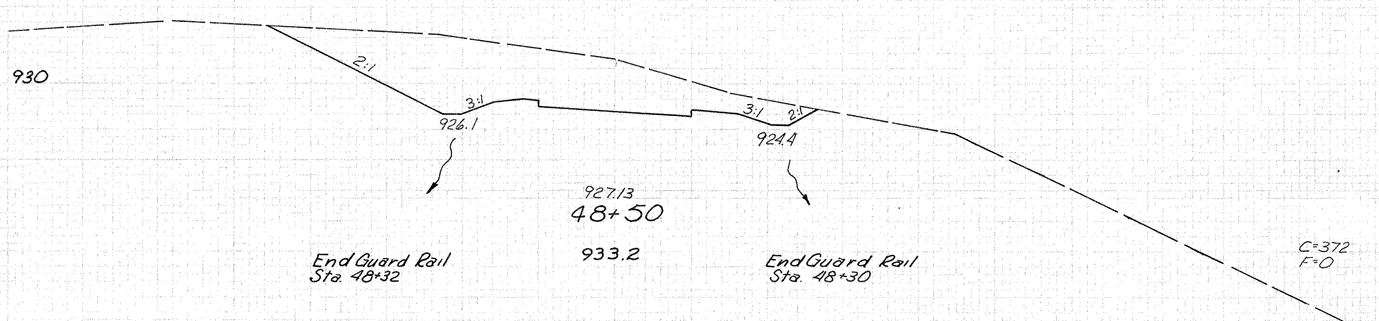
END AREA
100 CUBIC YARDS
SEEDING LIN. FT
SQ. YDS.
Match Line F
Match Line E
C=68
F=3683
917.10
46+50
883.2
236
C=139
F=8628
Added For Lt. Ditch to Sta. 46+30
C=32
F=22
Ah. C=82
Ah. F=5636
Bk. C=140
Bk. F=5476
Match Line D
Match Line C
Match Line Ah.
End Excavation & Embankment Lt. Ditch Sta. 46+30
C Fill Existing Channel
Dumped Rock (55'x8.0'x1.5')
867.0
855.1
1575
C=191
F=11567
Full Section Back
913.84
46+00
872.9
311
C=66
F=6815
Match Line B
Match Line A
860.5
854.6
1702
C=232
F=11948
C=184
F=6088
Sta. 45+00
910.29
45+50
860.7
302
1686
305 Sta. 45+00

RELOC. C.R. #3 X-SECTIONS - STA. 45+50 TO STA. 46+50

SEEDING
LIN. FT. | SQ. YDS.

80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS



63

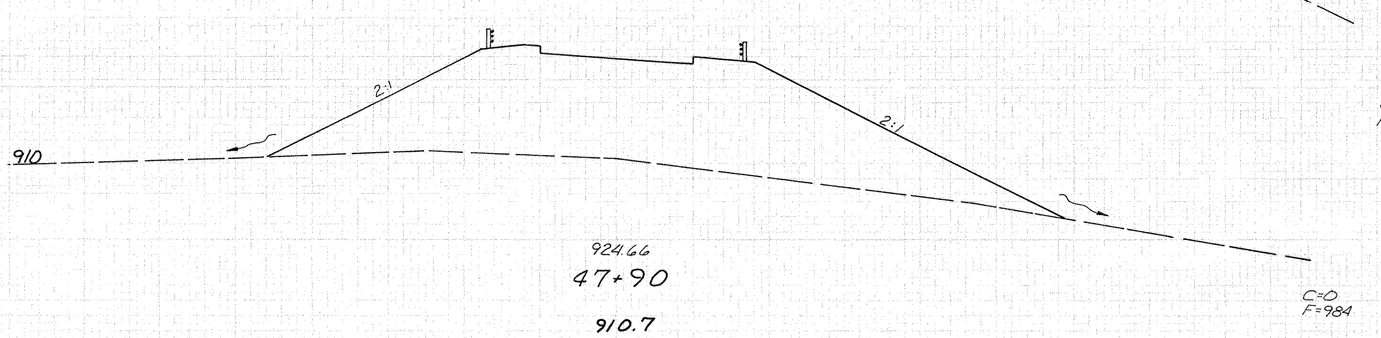
927.13
48+50
933.2

End Guard Rail
Sta. 48+32

End Guard Rail
Sta. 48+30

C=372
F=0

456



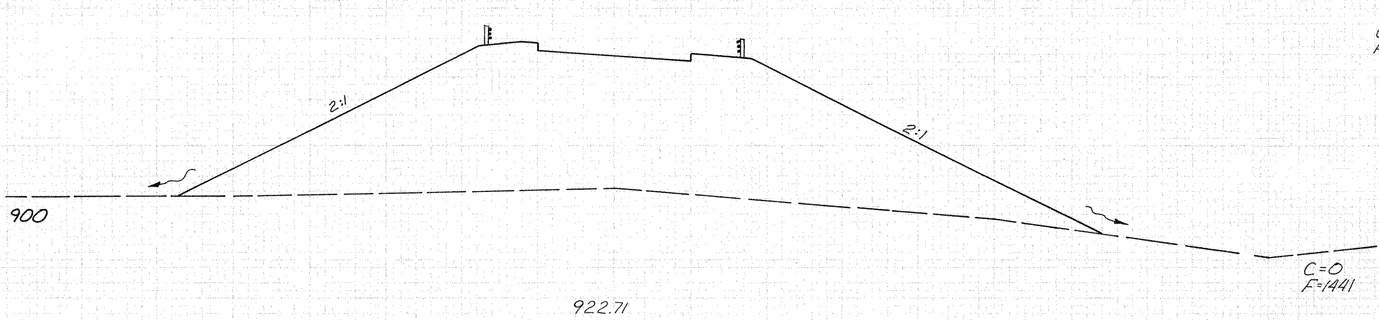
C=413
F=1093

101

924.66
47+90
910.7

C=0
F=984

611



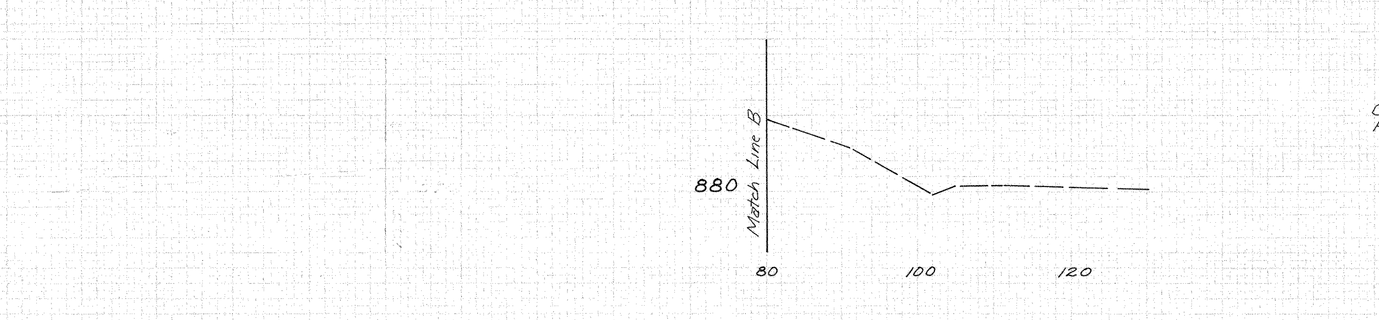
C=0
F=1796

119

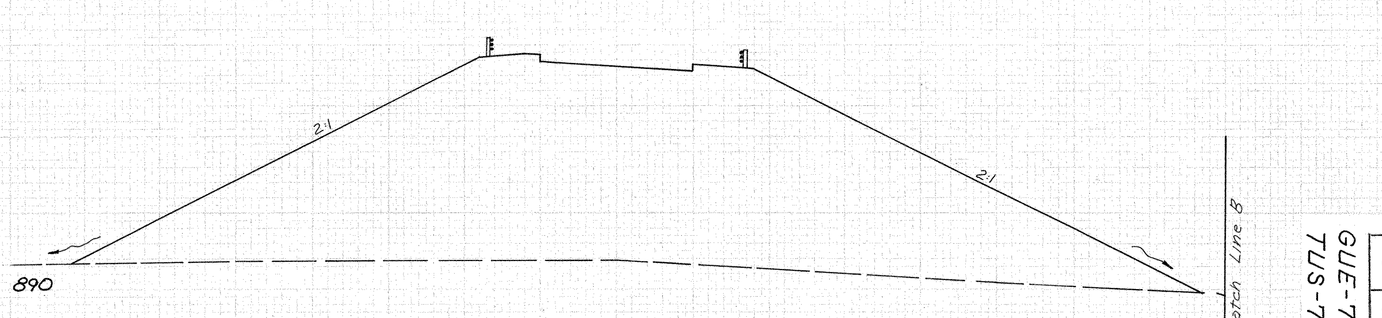
922.71
47+50
904.2

C=0
F=1441

747



C=0
F=3596



C=0
F=2442

150

920.05
47+00
893.9

1072

C=13
F=5671

Sta. 46+50 C=68
F=3683

RELOC. C.R. #3 X-SECTIONS - STA. 47+00 TO STA. 48+50

236 Sta. 46+50

80 60 40 20 ℄ 20 40 60 80

FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59 TUS-77 0.00

FED. RD.	STATE	PROJECT	
2	OHIO		

156/230

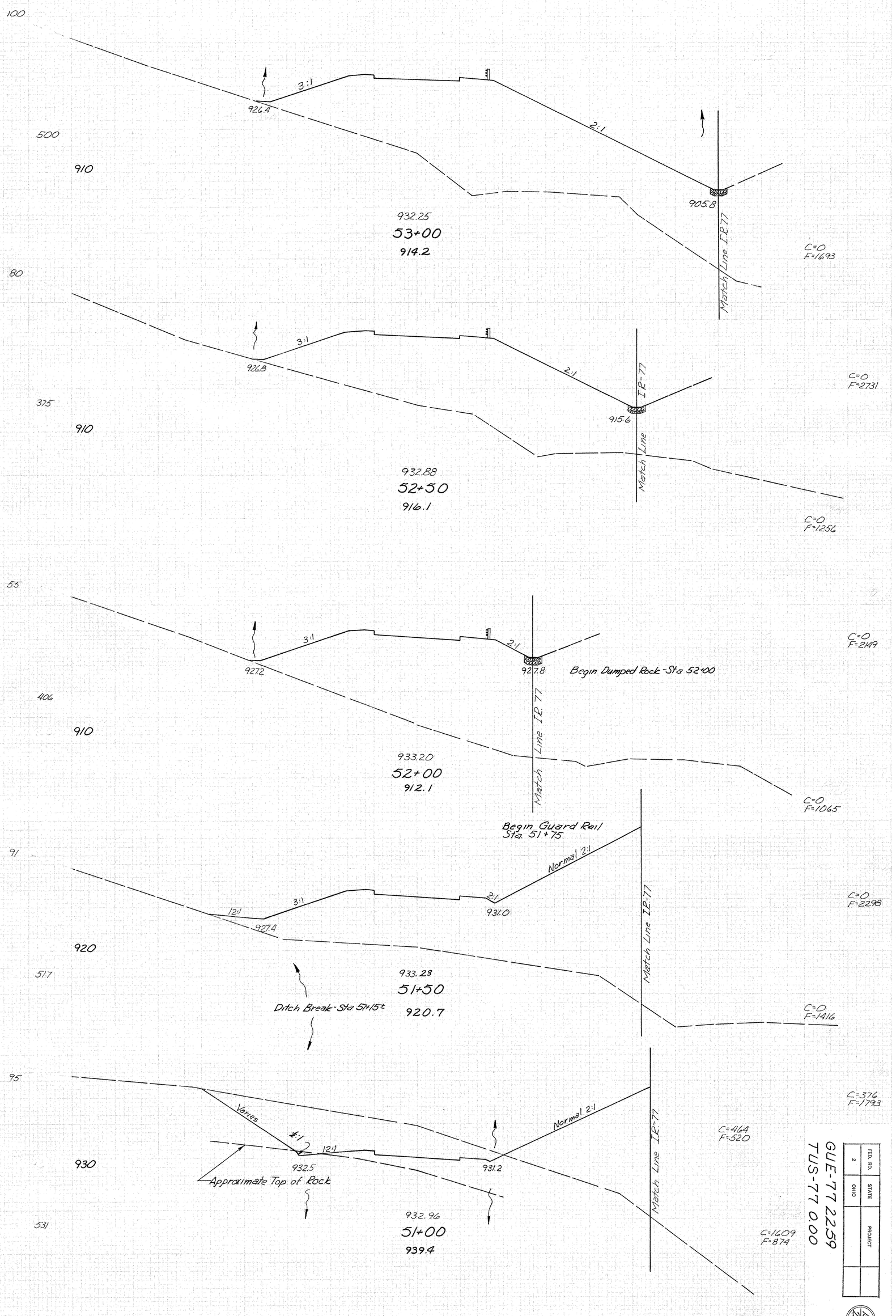
GUE-77 22.59
TUS-77 0.00

RELOC. C.R. #3 X-SECTIONS-STA. 49+00 TO STA. 50+50

SEEDING
LIN. FT. | SQ. YDS.

80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS



RELOC. C.R. #3 X-SECTIONS - STA. 51+00 TO STA. 53+00

96 Sta. 50+50

80 60 40 20 ℄ 20 40 60 80

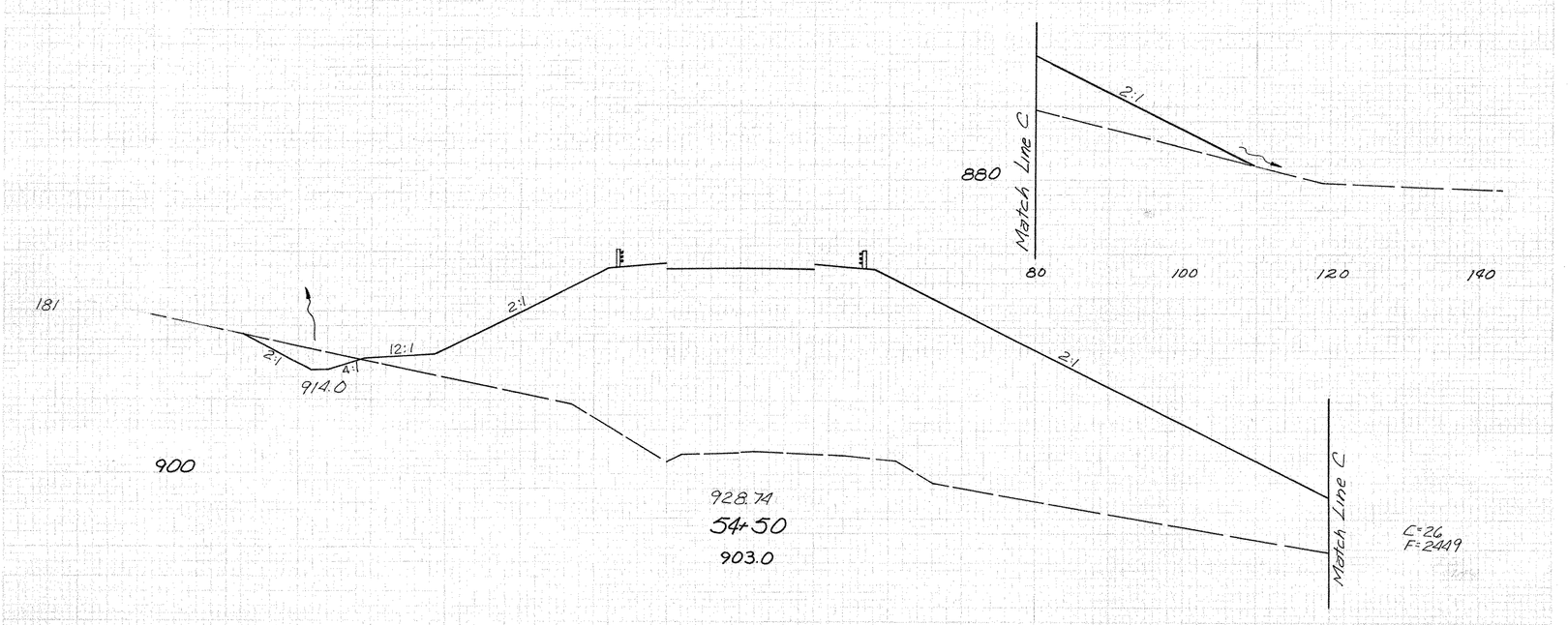
FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59 TUS-77 0.00

157
230

SEEDING
LIN. FT. | SQ. YDS.

80 60 40 20 ℄ 20 40 60 80 100

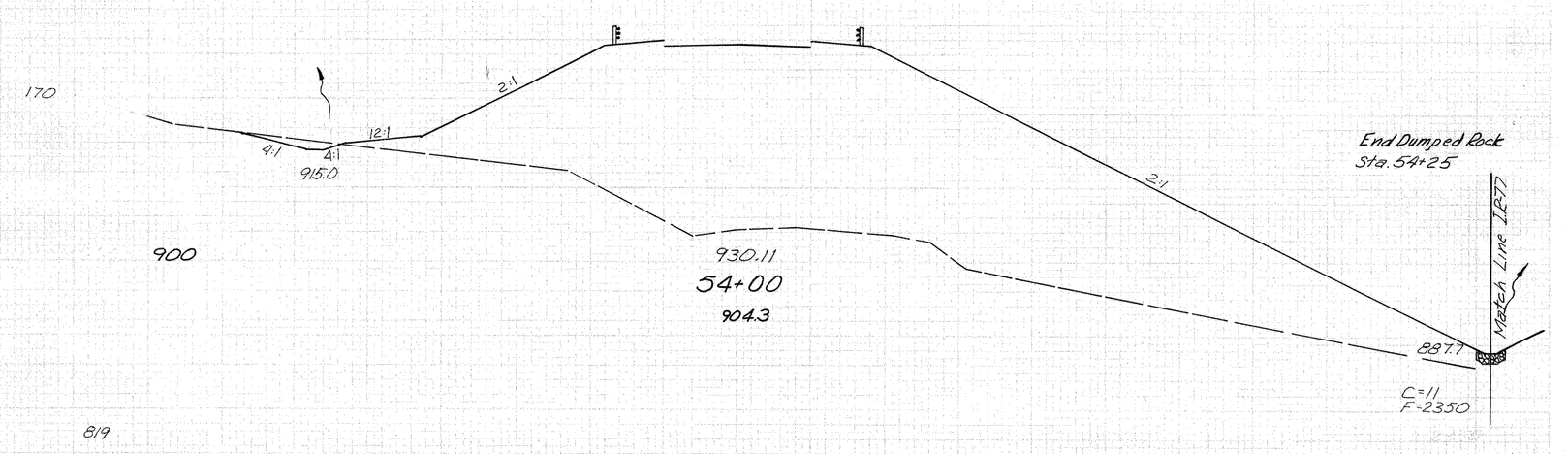
END AREA | CUBIC YARDS



C=26
F=2449

975

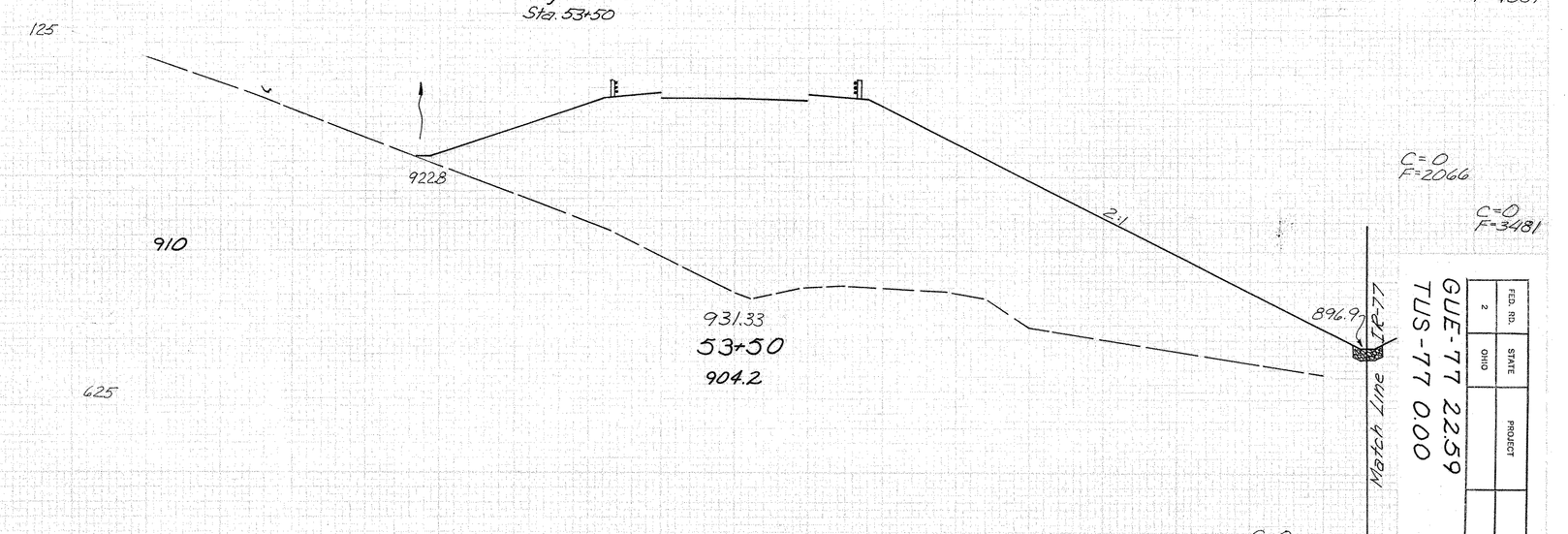
C=35
F=4507



C=11
F=2350

819

C=10
F=4089



C=0
F=2066

C=0
F=3481

Sta. 53+00 C=0 F=1623

RELOC. C.R. #3 X-SECTIONS - STA. 53+50 TO STA. 54+50

100 Sta. 53+00

80 60 40 20 ℄ 20 40 60 80

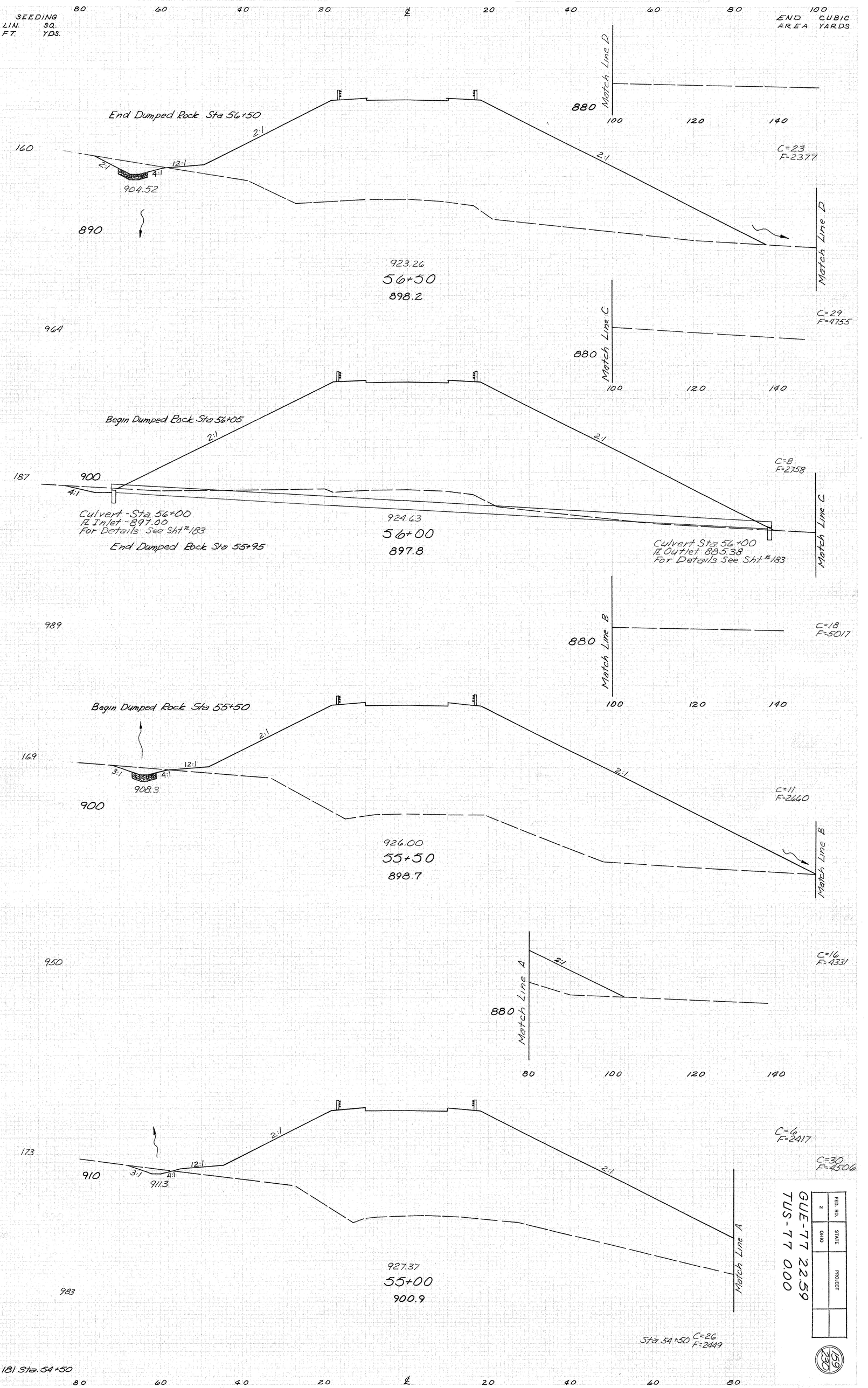
FED. RD.	STATE
2	OHIO

PROJECT

GUE-77 22.59
TUS-77 0.00

SEEDING
LIN. FT. | SQ. YDS.

END AREA | CUBIC YARDS

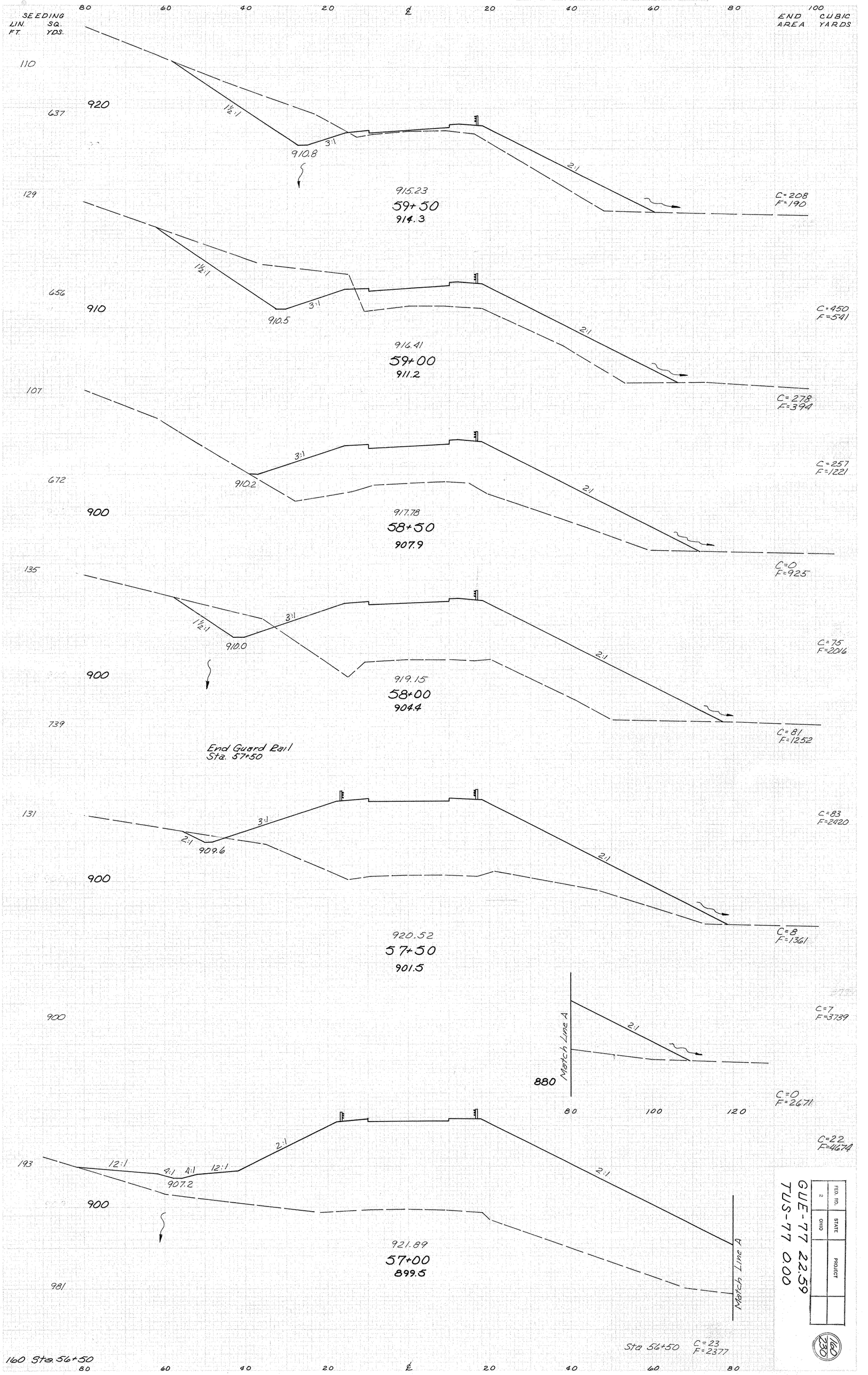


REL OC. C. R. # 3 X-SECTIONS - STA. 55+00 TO STA. 56+50

181 Sta. 54+50

FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59 TUS-77 0.00

159
230

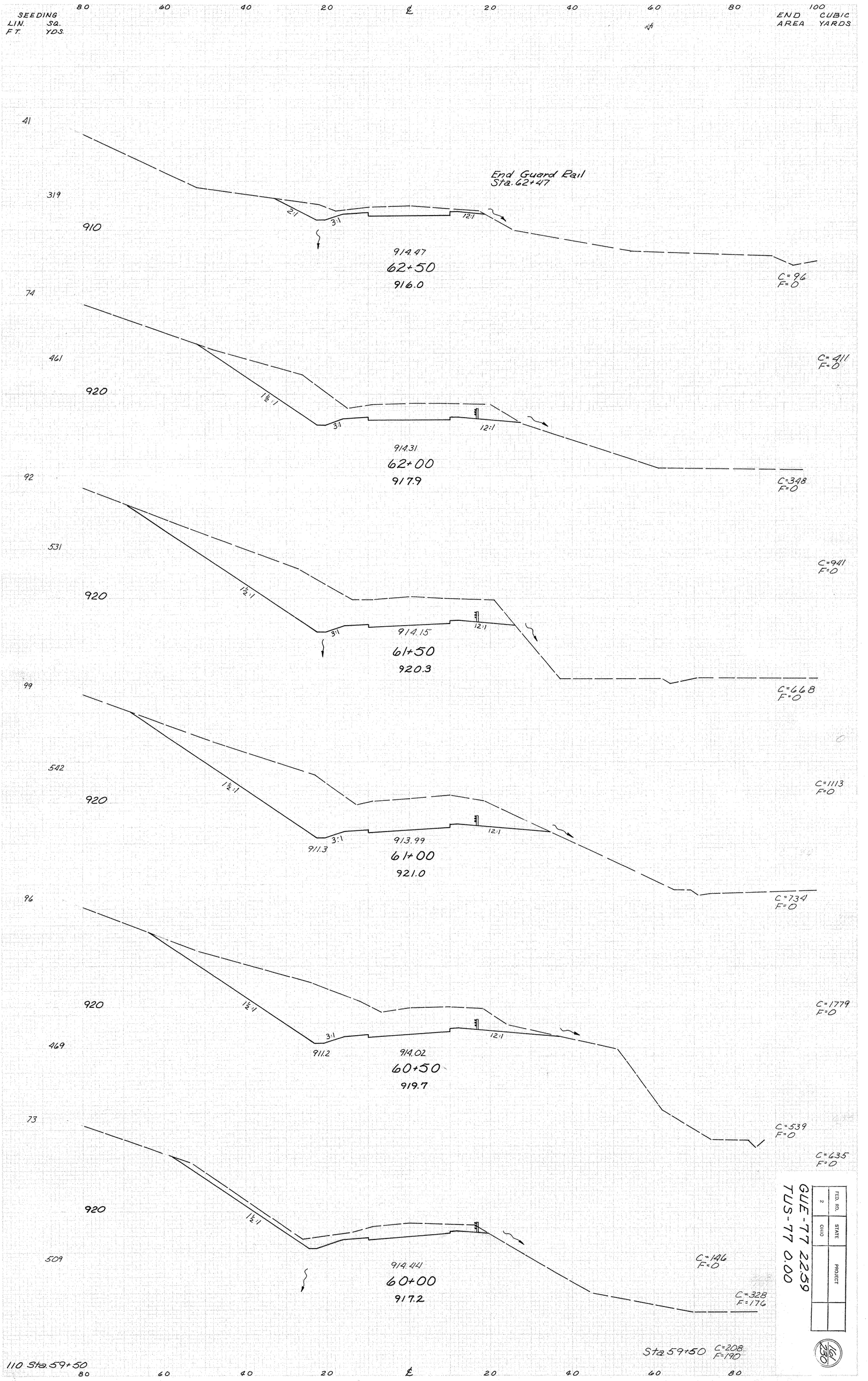


RELOC. C.R. #3 X-SECTIONS - STA. 57+00 TO STA. 59+50

160 Sta. 56+50

FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59 TUS-77 0.00

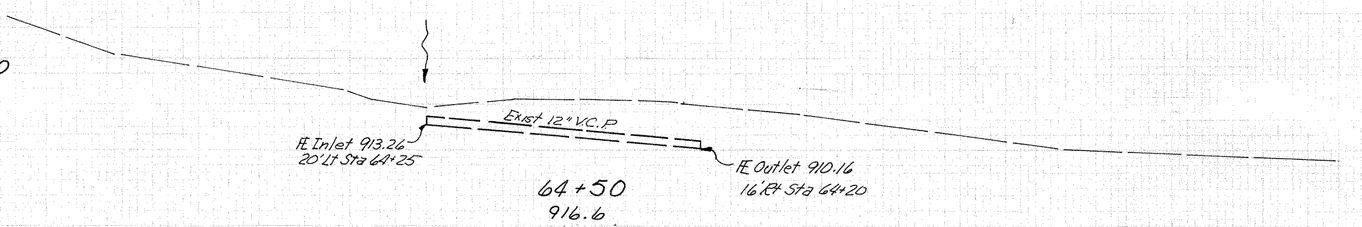
160
230


SEEDING
L.IN. FT.
SQ. YDS.
80
60
40
20
℄
20
40
60
80
100
END AREA
CUBIC YARDS
41
319
910
End Guard Rail
Sta. 62+47
2:1
3:1
12:1
914.47
62+50
916.0
C=96
F=0
74
461
920
1½:1
3:1
12:1
914.31
62+00
917.9
C=411
F=0
92
531
920
1½:1
3:1
12:1
914.15
61+50
920.3
C=348
F=0
99
542
920
1½:1
3:1
12:1
911.3
913.99
61+00
921.0
C=941
F=0
96
469
920
1½:1
3:1
12:1
911.2
914.02
60+50
919.7
C=668
F=0
73
509
920
1½:1
914.44
60+00
917.2
C=1113
F=0
C=734
F=0
C=1779
F=0
C=539
F=0
C=635
F=0
C=146
F=0
C=328
F=176
Sta. 59+50
C=208
F=190
110 Sta. 59+50
80
60
40
20
℄
20
40
60
80
RELOC. C.R. #3 X-SECTIONS - STA. 60+00 TO STA. 62+50
FED. RD.
2
STATE
OHIO
PROJECT
GUE-77 2259
TUS-77 0.00
164
330

SEEDING
LIN. FT. | SQ. YDS.

80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS



64+50
916.6

64+00
915.2

Sta 63+75 C=0 F=0

0 Sta 63+75

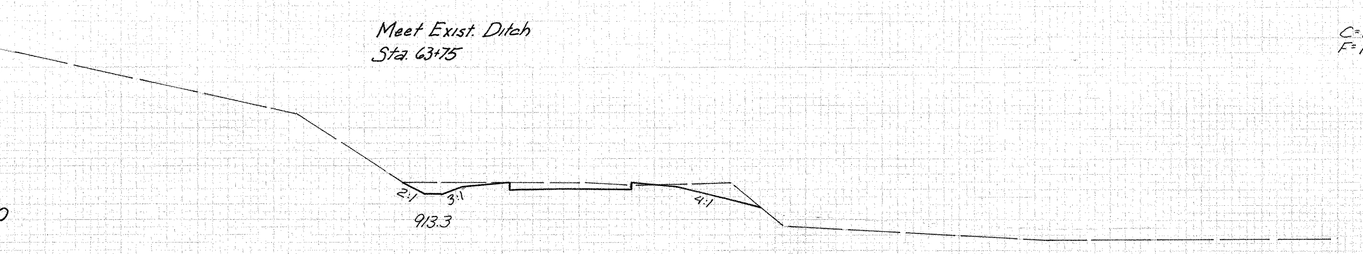
56

END WORK STA 63+75

40

Meet Exist. Ditch
Sta 63+75

C=14
F=1



C=31
F=1

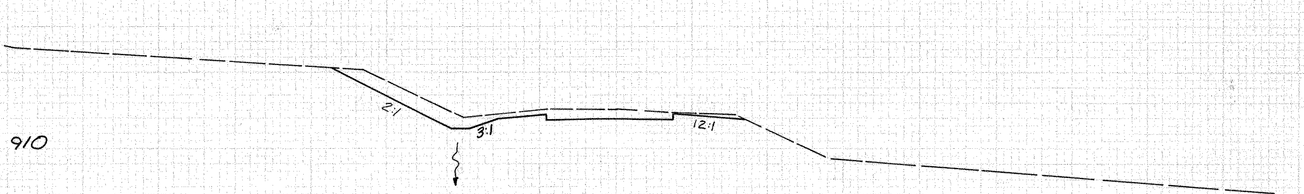
63+50
914.8

END PAV'T - STA 63+50
Meet Existing Pav't

244

C=72
F=1

48



914.63
63+00
915.1

C=47
F=0

242

C=133
F=0

Sta 62+50 C=96
F=0

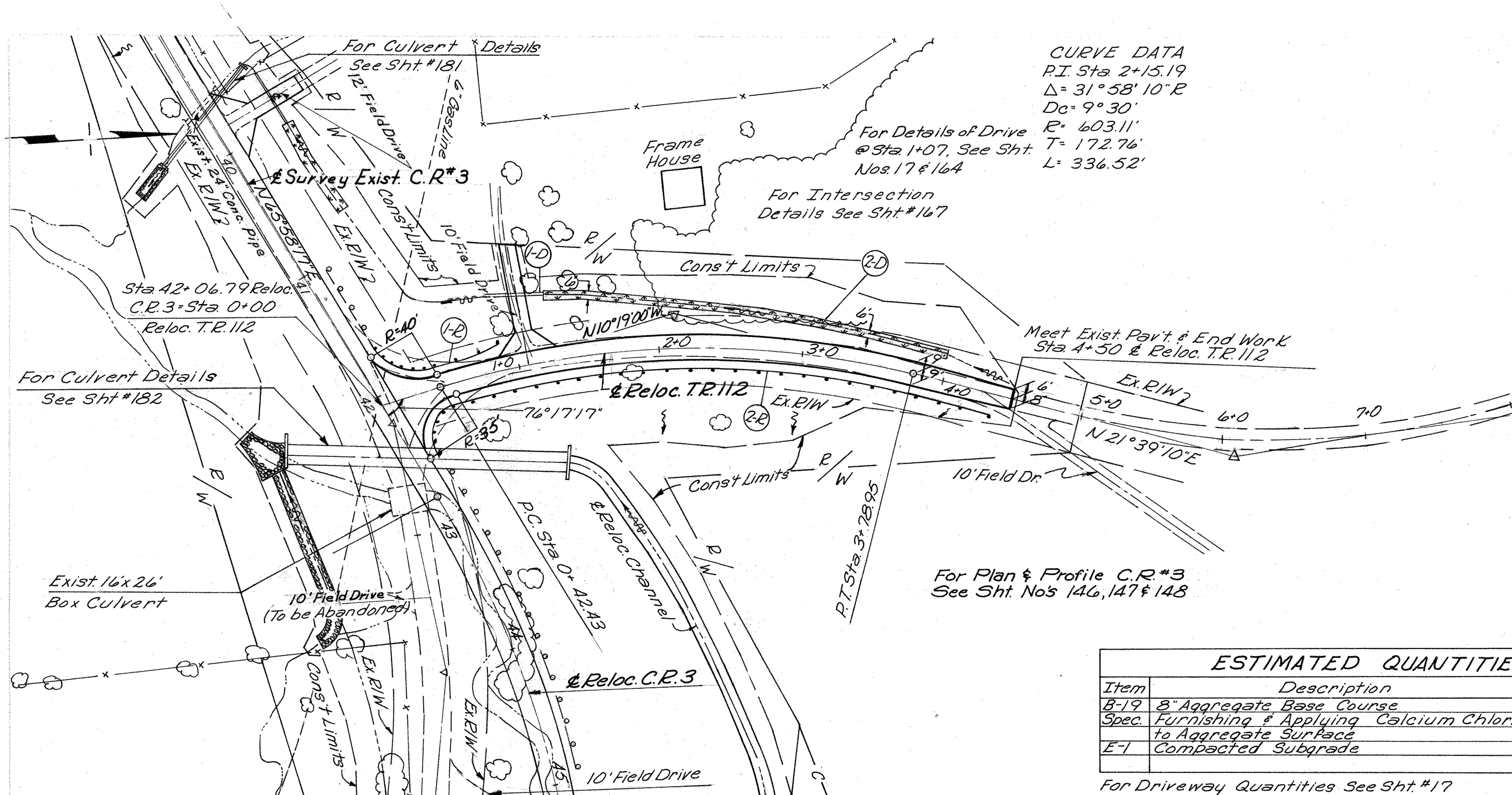
41 Sta 62+50

80 60 40 20 ℄ 20 40 60 80

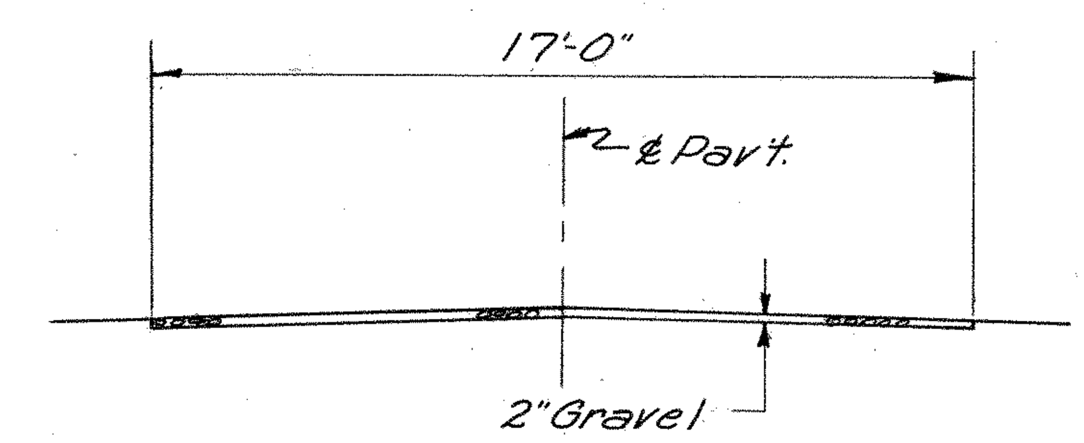
RELOC. C.R. #3 X-SECTIONS - STA. 63+00 TO STA. 64+50

FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59
		TUS-77 0.00

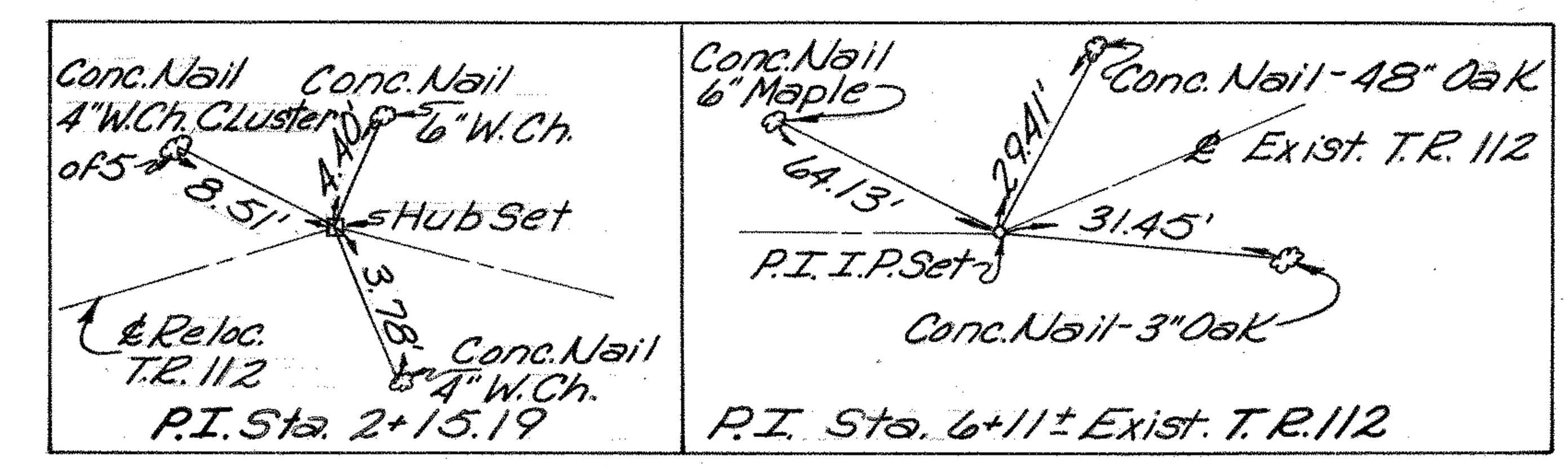
62
330


For Culvert Details
See Sht #181
£ Survey Exist. C.R. #3
Frame House
For Details of Drive @ Sta. 1+07, See Sht. Nos. 17 & 164
For Intersection Details See Sht. #167
Sta. 42+06.79 Reloc. C.R. 3 = Sta. 0+00 Reloc. T.R. 112
For Culvert Details
See Sht #182
Const Limits
£ Reloc. T.R. 112
N10°19'00"W
76°17'17"
Meet Exist. Pav't. & End Work Sta. 4+50 £ Reloc. T.R. 112
N 21°39'10"E
10' Field Dr.
Exist. 16'x 26' Box Culvert
10' Field Drive (To be Abandoned)
P.C. Sta. 0+42.43
£ Reloc. Channel
P.T. Sta. 3+78.95
£ Reloc. C.R. 3
10' Field Drive
For Plan & Profile C.R. #3
See Sht. No's 146, 147 & 148

CURVE DATA
P.I. Sta. 2+15.19
Δ = 31°58' 10" R
Dc = 9°30'
R = 603.11'
T = 172.76'
L = 336.52'



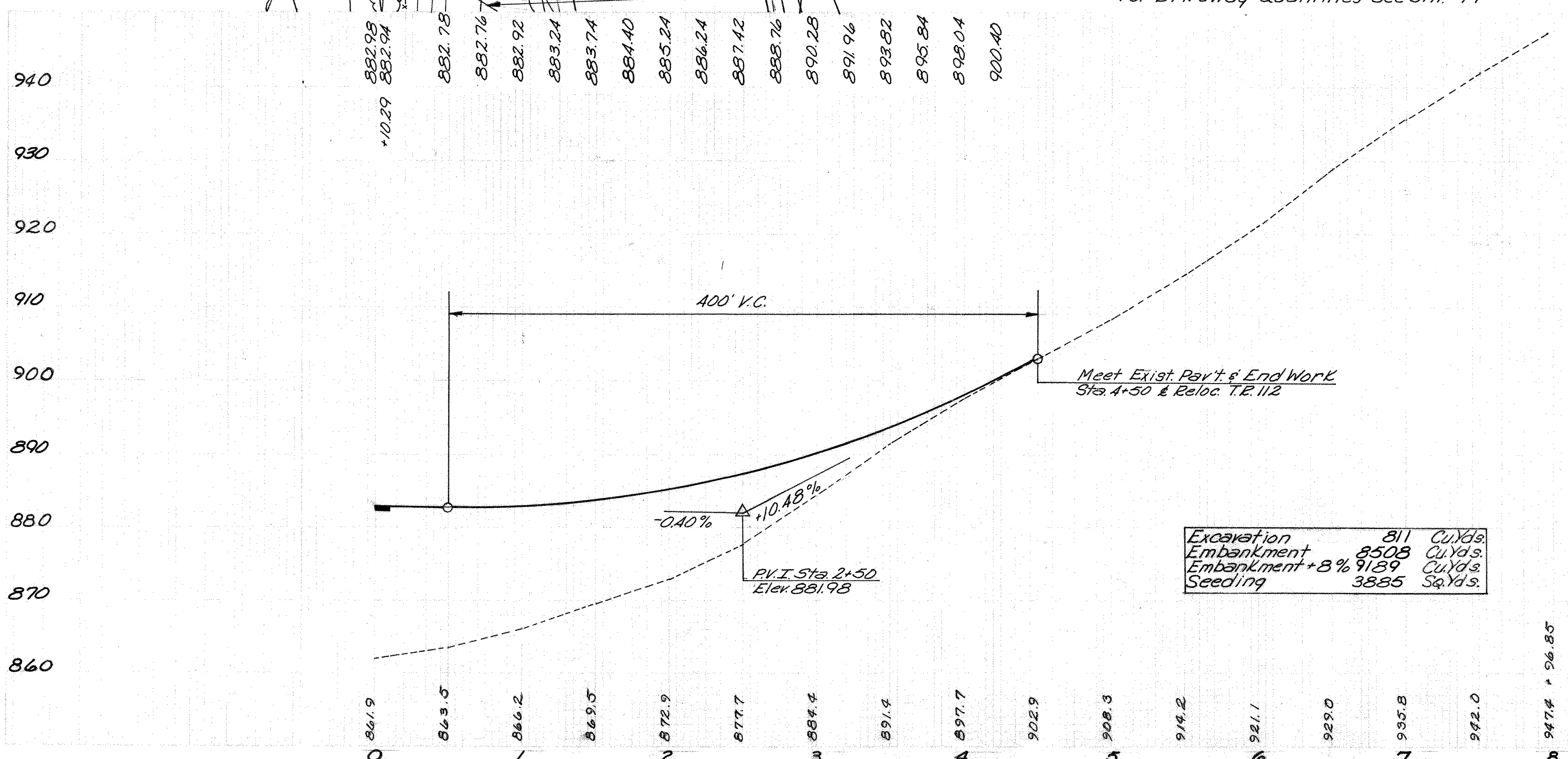
TYPICAL SECTION
of
EXIST. T.R. 112
Scale: 1/4" = 1'-0"



I-9 Stone Underdrains No. 2 187 Lin. Ft.

ESTIMATED QUANTITIES			
Item	Description	Quantity	Unit
B-19	8" Aggregate Base Course	210	Cu. Yd.
Spec.	Furnishing & Applying Calcium Chloride to Aggregate Surface	938	Sq. Yds.
E-1	Compacted Subgrade	938	Sq. Yds.

For Driveway Quantities See Sht. #17



ESTIMATED QUANTITIES

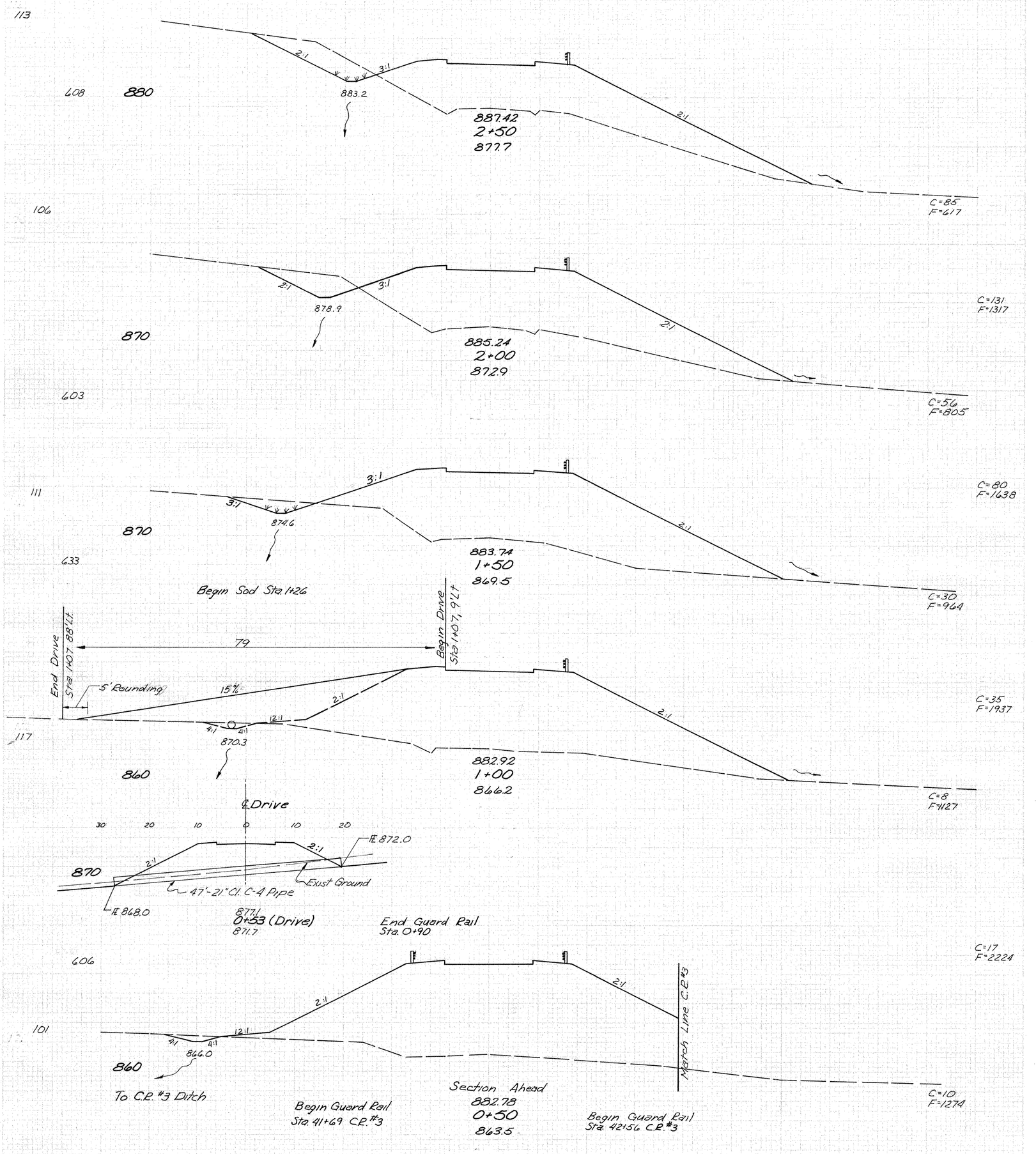
REF. NO.	STATION	TO STATION	SIDE	I-1 2" Pipe Cl. C-4 (Lin. Ft.)	L-10 Sod (Sq. Yds.)	I-15 Guard Rail Wire Cable Type 3 Cables (Lin. Ft.)
1-D	0+84	1+26	Lt.	42		
2-D	1+26	4+00	Lt.		183	
1-R	41+69 C.R. 3	0+90 T.R. 112	Lt.			96
2-R	42+56 C.R. 3	4+37 T.R. 112	Rt.			424
TOTAL				42	183	520

RELOC. T.R. #112 STA. 0+00 TO STA. 4+50

SEEDING
LIN. FT. | SQ. YDS.

80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS



RELOC. T.R. #112 X-SECTIONS - STA. 0+00 TO STA. 2+50

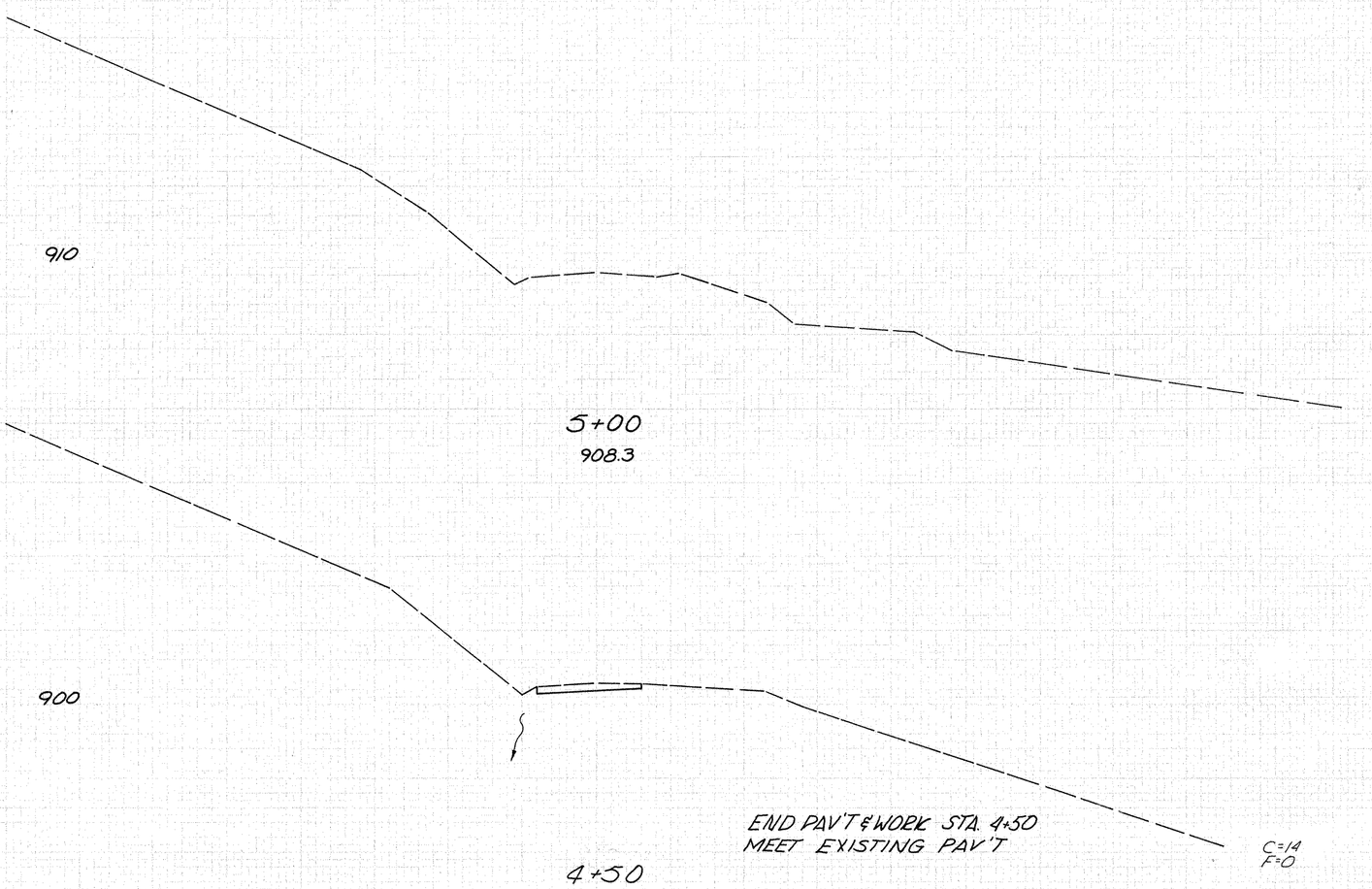
FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59
		TUS-77 0.00

80 60 40 20 ℄ 20 40 60 80

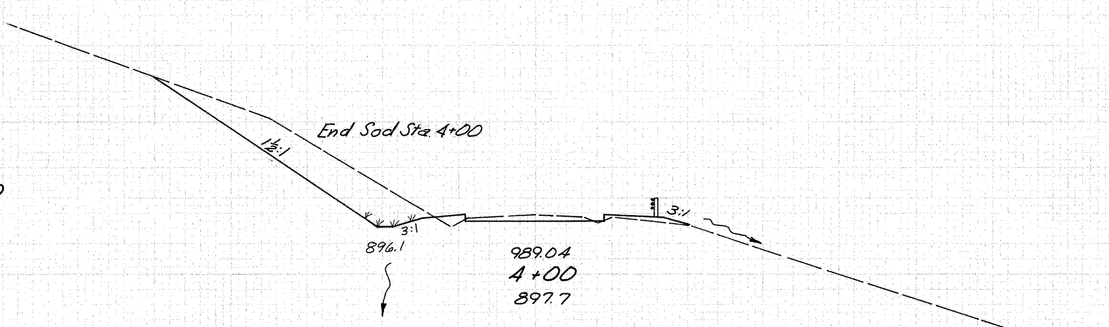
SEEDING
LIN. FT. | SQ. YDS.

80 60 40 20 ℄ 20 40 60 80 100

END AREA | CUBIC YARDS



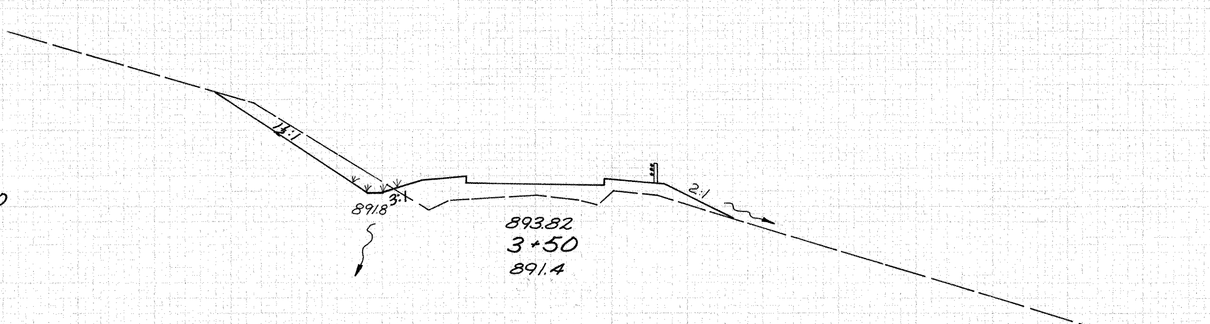
66 C=14 F=0



358 C=150 F=10

C=198 F=11

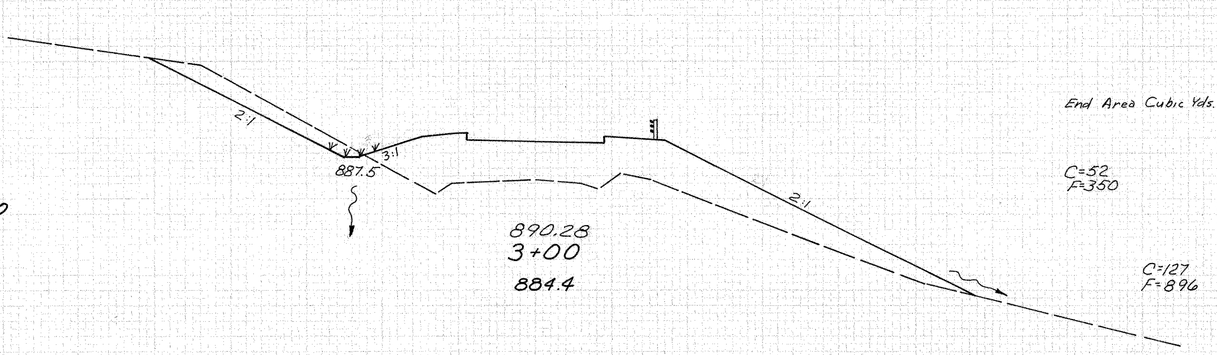
63



469 C=180 F=86

C=96 F=82

106



608 C=91 F=400

End Area Cubic Yds.

C=52 F=350

C=127 F=896

Sta. 2+50 C=85 F=617

113 Stas. 2+50

80 60 40 20 ℄ 20 40 60 80

RELOC. T.R. #112 X-SECTIONS - STA. 3+00 TO STA. 5+00

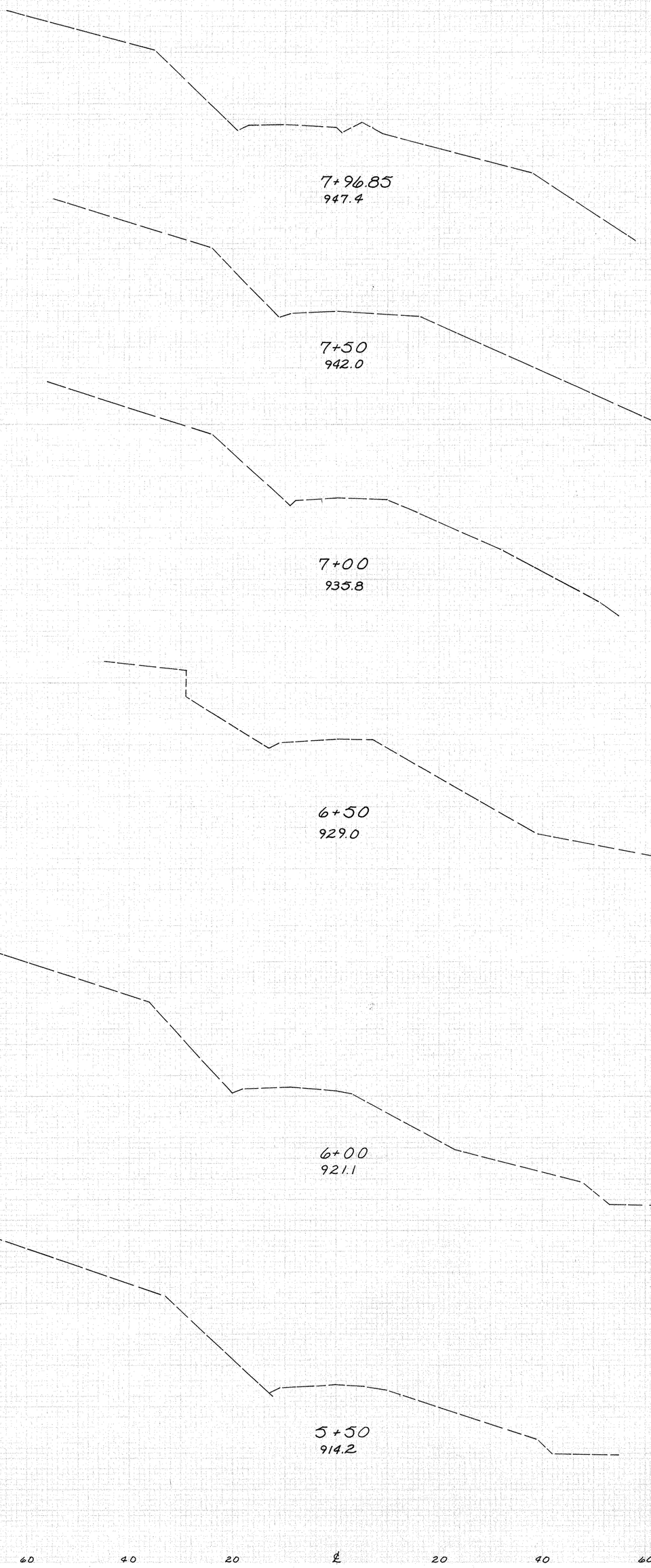
FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 2259
		TUS-77 0.00

330

SEEDING
LIN. FT. | SQ. YDS.

END AREA | CUBIC YARDS

80 60 40 20 ℄ 20 40 60 80 100



RELOC. T.R. #112 X-SECTIONS STA. 5+50 TO STA. 7+96.8

80 60 40 20 ℄ 20 40 60 80

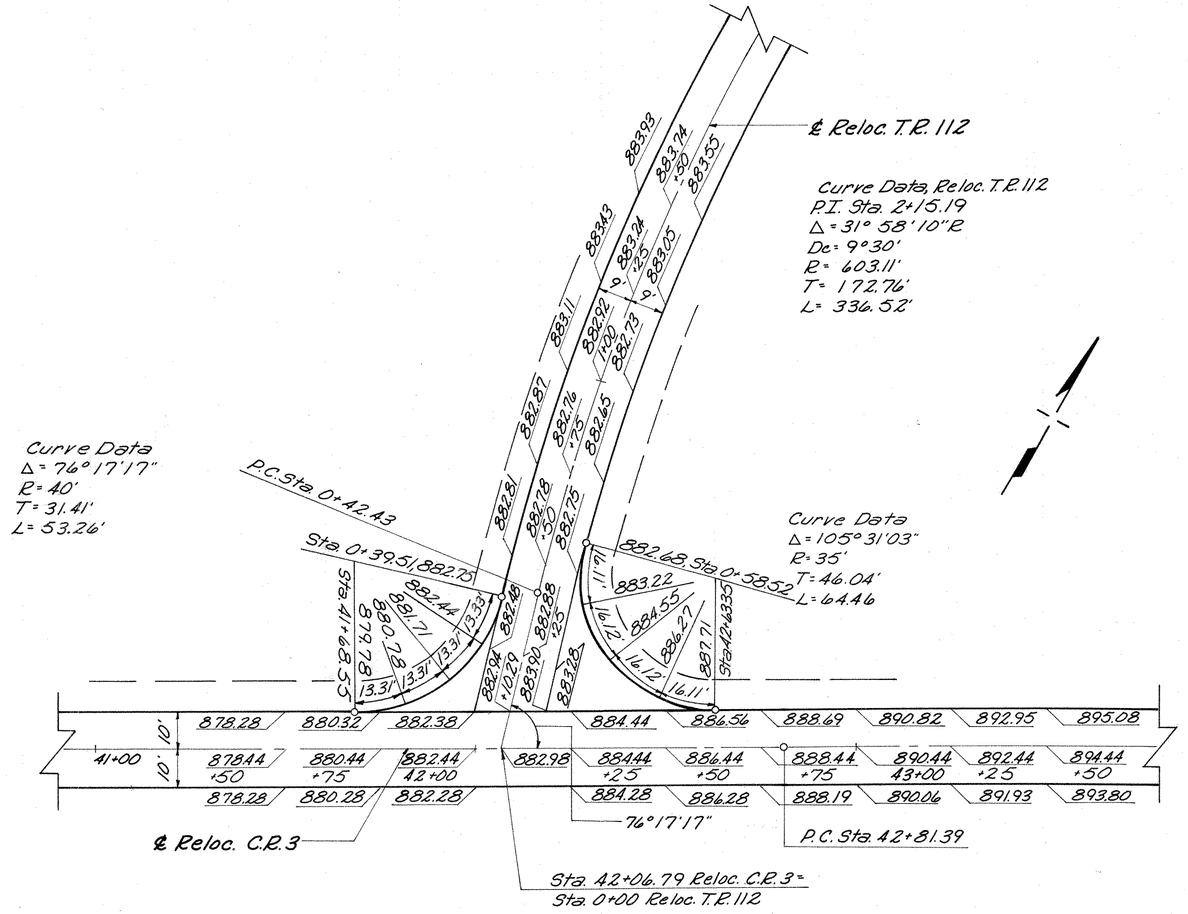
FED. RD.	STATE	PROJECT
2	OHIO	GUE-77 22.59 TUS-77 000

1660
230

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

167
230



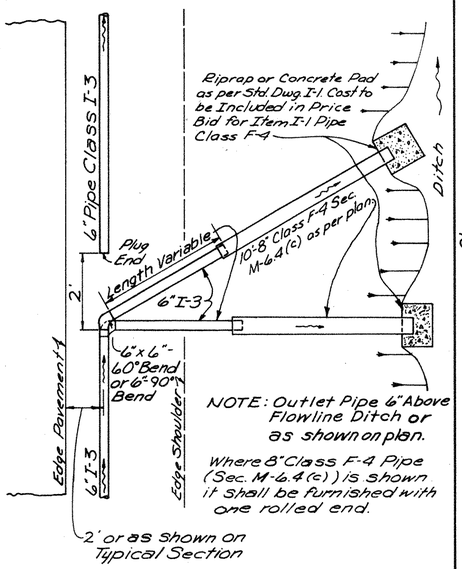
INTERSECTION DETAILS

SPECIAL CONSTRUCTION DETAILS

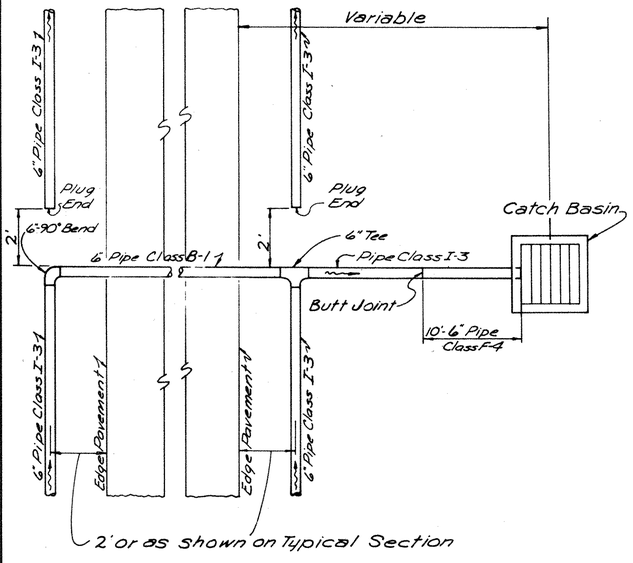
FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77- 0.00

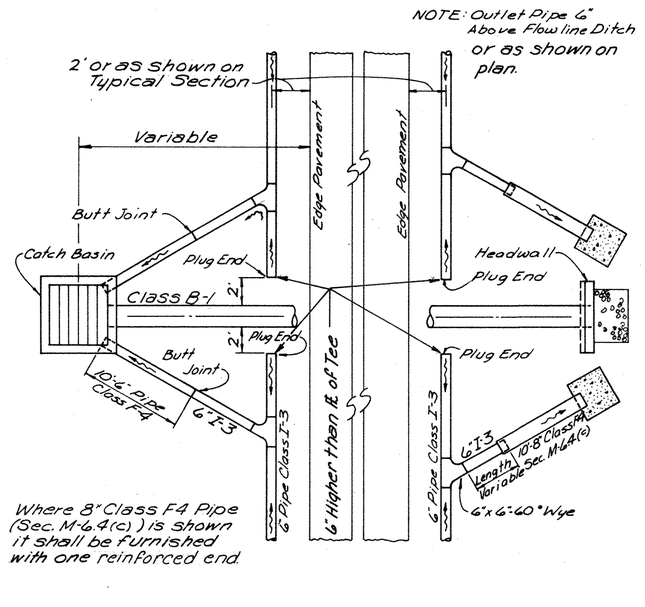
168
230



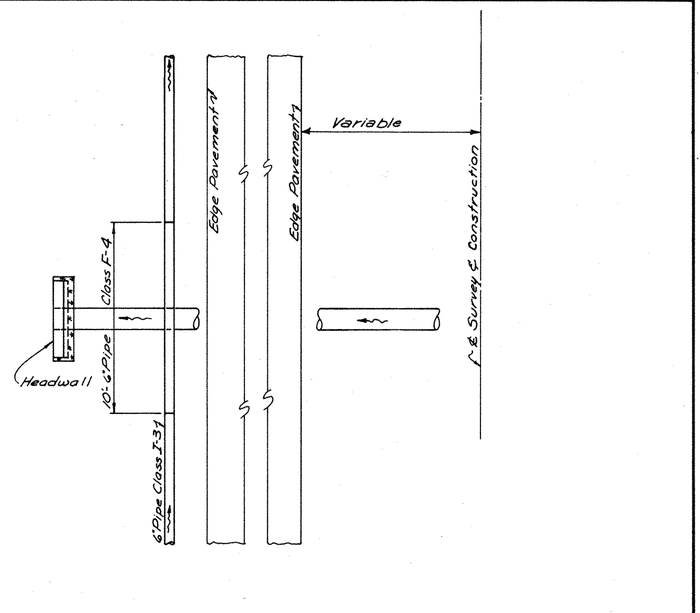
DETAIL
UNDERDRAIN OUTLET



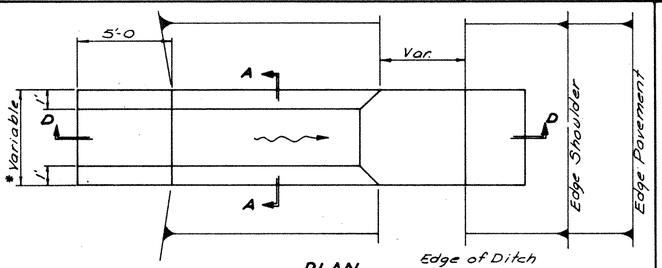
DETAIL
UNDERDRAIN OUTLET

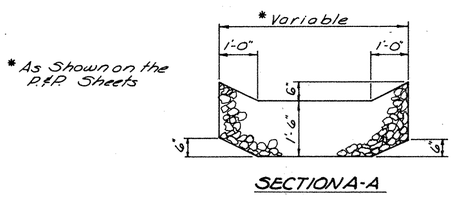


DETAIL
UNDERDRAIN OUTLET



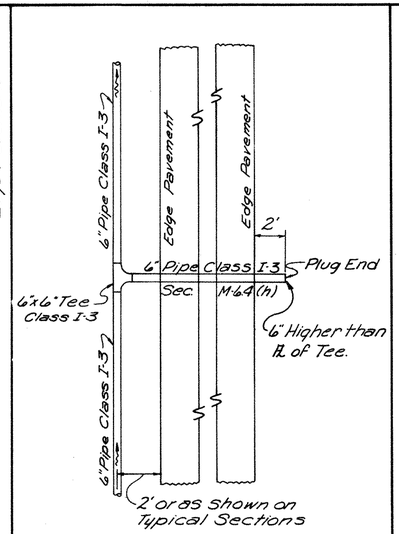
UNDERDRAIN DETAIL





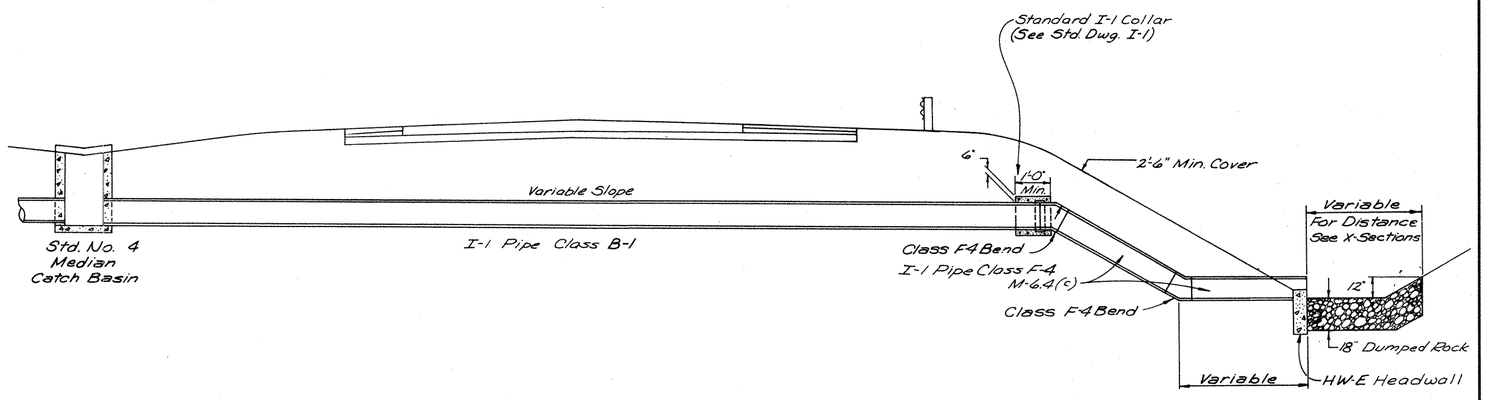
* As Shown on the P.&P. Sheets

EROSION CONTROL AT SWALES



Note: Drains shall be located where subgrade changes from cut to fill. The location of these pipes as shown on plan and profile sheets are approximate and shall be adjusted by engineer in field.

DETAIL
TRANSVERSE DRAIN



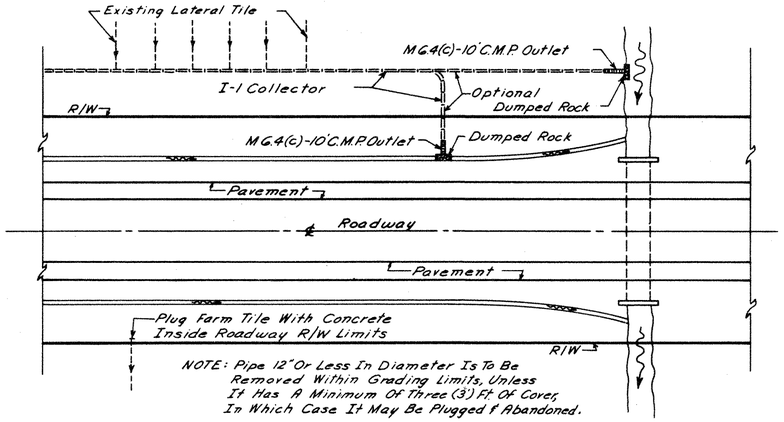
MEDIAN OUTLET DETAIL IN HIGH FILL

SPECIAL CONSTRUCTION DETAILS

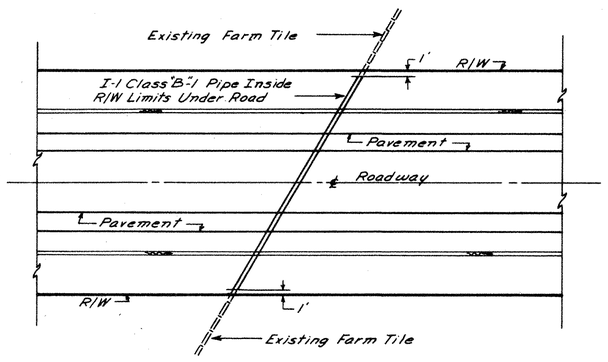
FED. RD.	STATE	PROJECT	
2	OHIO		

169/230

GUE-77-22.59
TUS-77-0.00



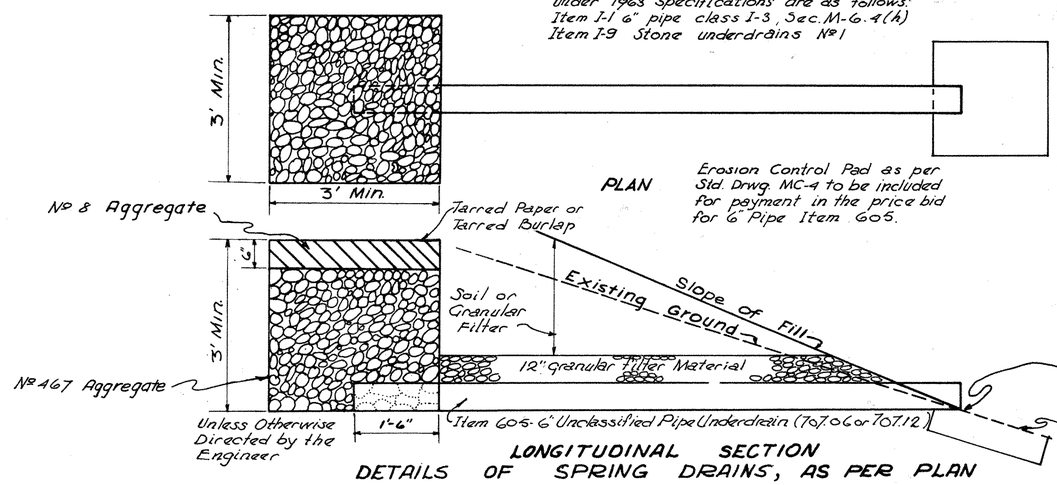
FARM TILE ENCOUNTERED ABOVE ROADWAY DITCH ELEVATION



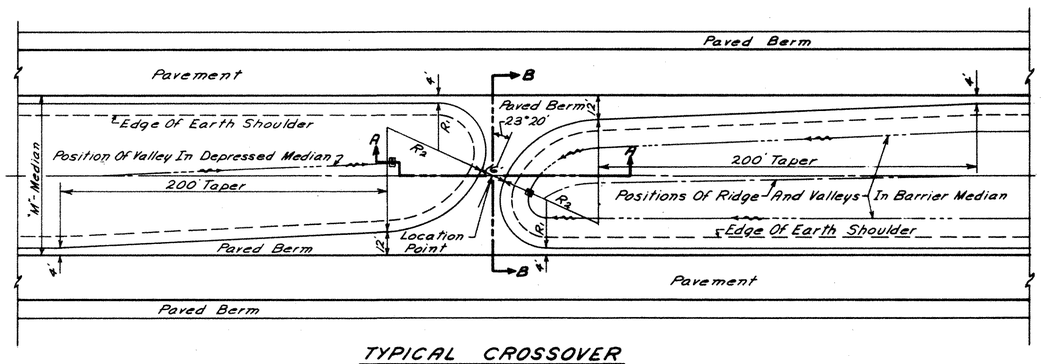
FARM TILE ENCOUNTERED BELOW ROADWAY DITCH ELEVATION

Note: The respective pay items for Spring Drains under 1963 specifications are as follows:
Item I-1 6" pipe class I-3, Sec. M-6.4(A)
Item I-9 Stone underdrains No 1

Note: Aggregates, tarred paper or tarred burlap and necessary excavation for spring drains shall be included for payment in the unit price bid per Lin. Ft for "Item 605 Aggregate Drains for Springs, as per plan."
The 6" pipe 707.06 or 707.12 shall be covered with granular filter material [605.03(C)] to a height of one (1) foot above the top of the pipe. The remainder of the backfill for this item shall be soil or granular filter backfill placed in accordance with 603.08.
Spring drains shall be built in reasonably close conformity with the detail shown. The lengths and exact locations of the drains shall be determined by the Engineer.
See note on Sheet No 9

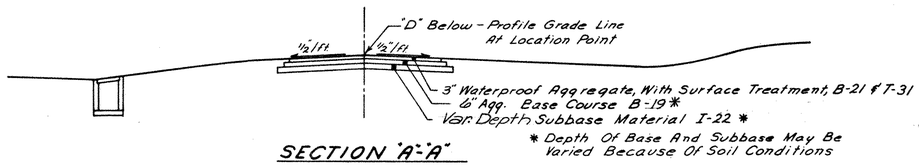


DETAILS OF SPRING DRAINS, AS PER PLAN

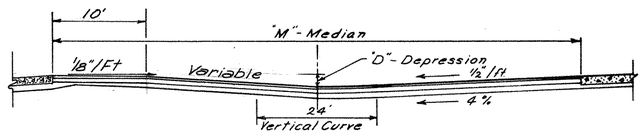


TYPICAL CROSSOVER

DIMENSIONS APPLICABLE TO VARYING MEDIAN WIDTHS			
M	D	R1	R2
84'	18"	25.0'	55.0'
60'	12"	16.2'	35.6'
50'	9.5"	12.5'	27.5'
40'	7"	8.8'	19.4'



SECTION "A"-"A"

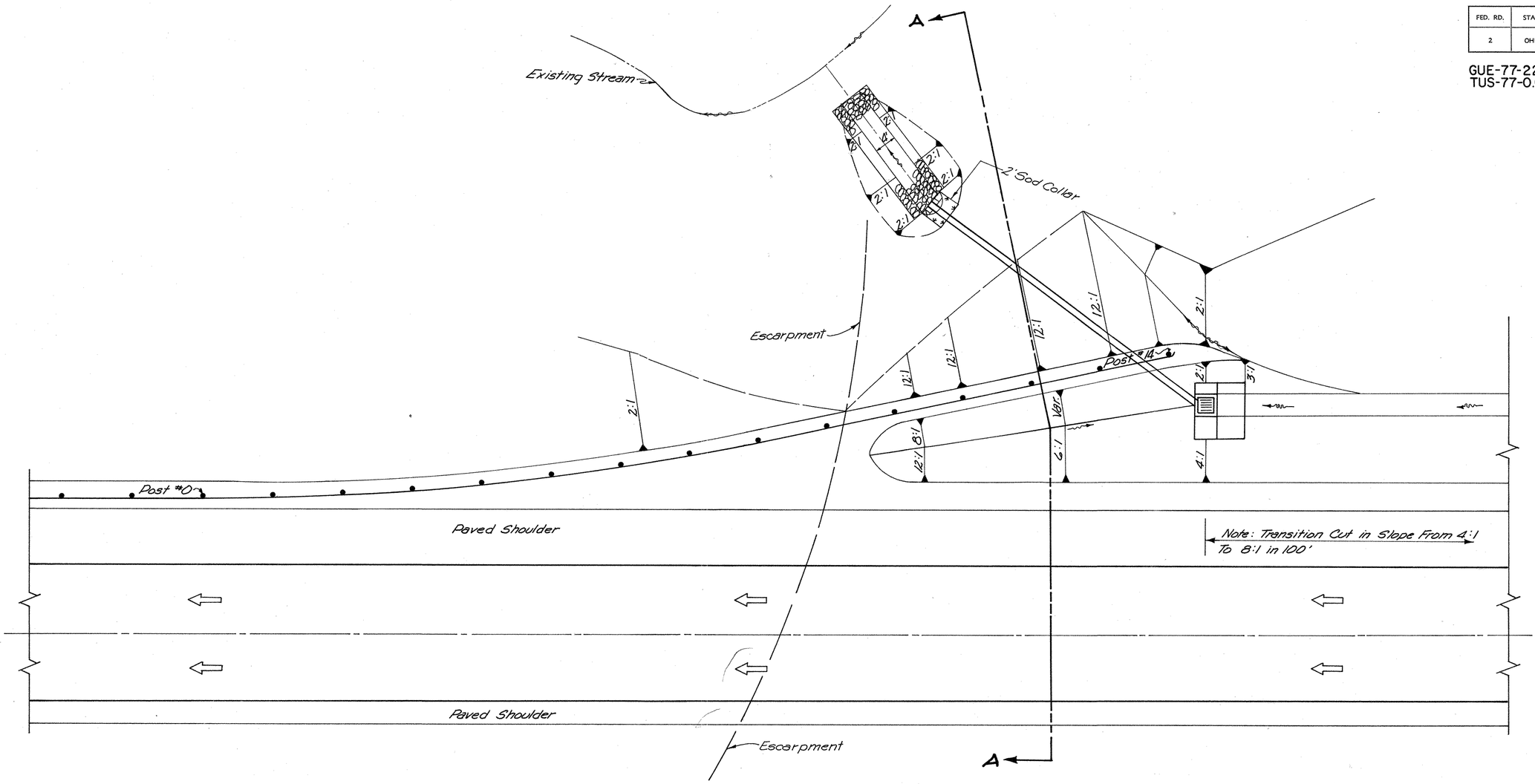


SECTION "B"-"B"

FED. RD.	STATE	PROJECT	
2	OHIO		

170
230

GUE-77-22.59
TUS-77-0.00



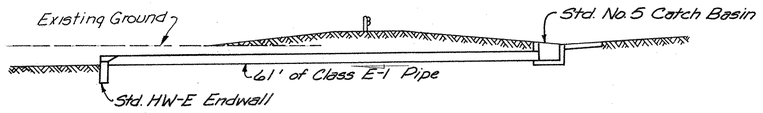
Distance between Edge of Pavement and face of Guard Rail	
Post No.	Offset (feet)
0	12.00
1	12.16
2	12.64
3	13.44
4	14.57
5	16.01
6	17.77
7	19.84
8	22.23
9	24.78
10	27.33
11	29.87
12	32.42
13	34.97
14	37.52

GUARD RAIL NOTES

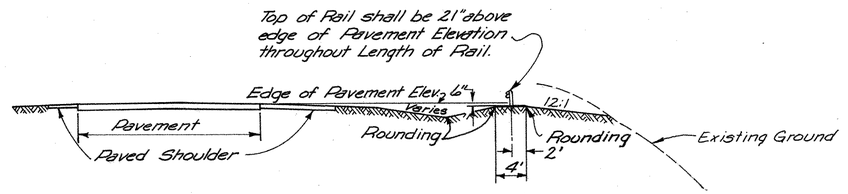
Design details shown shall govern the construction of Guard Rail at hazardous cut to fill areas unless otherwise shown on plans.
Storm Sewer and Catch Basin shall be constructed at locations shown on the plan & profile sheets.

SPECIAL GUARD RAIL PROTECTION
CUT To FILL AREAS

Scale in Feet
0 10 20



STORM SEWER PROFILE



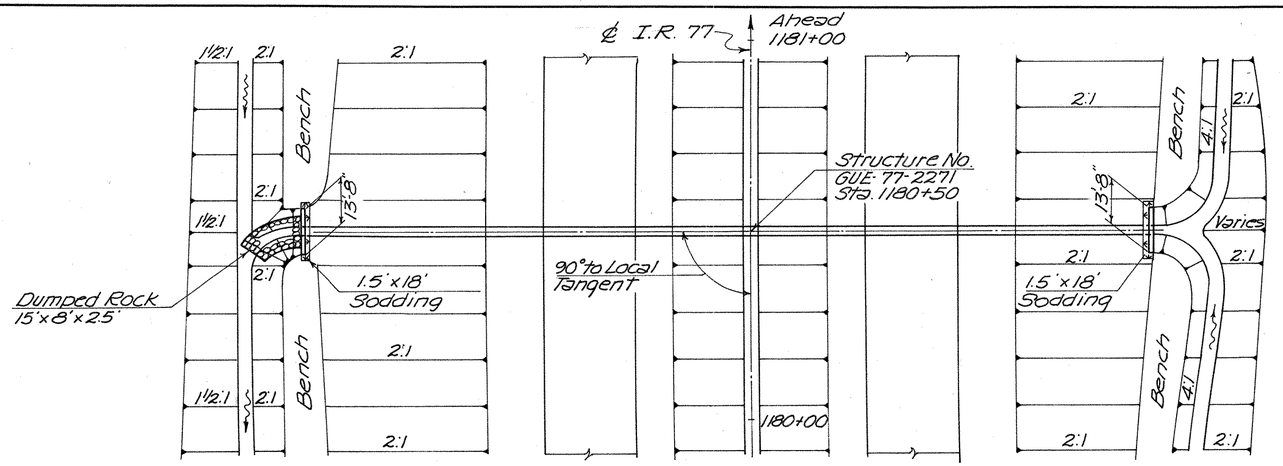
SECTION A-A

SPECIAL GUARD RAIL PROTECTION

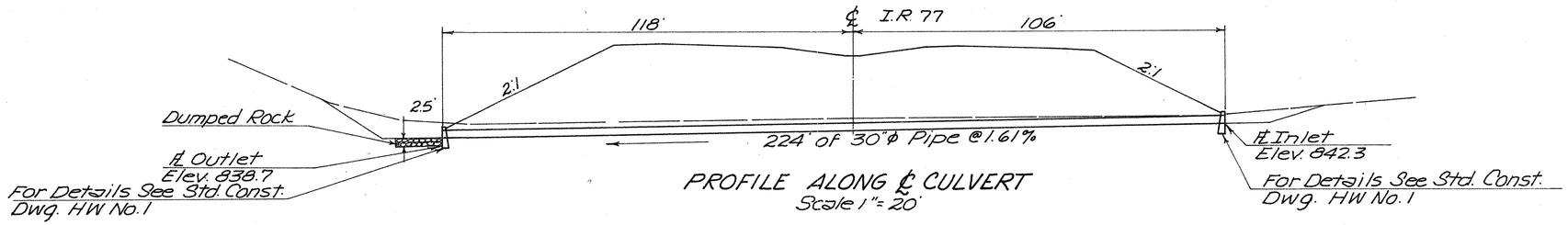
FED. RD.	STATE	PROJECT	
2	OHIO		

171/230

GUE-77-22.59
TUS-77-0.00



PLAN
Scale 1"=20'



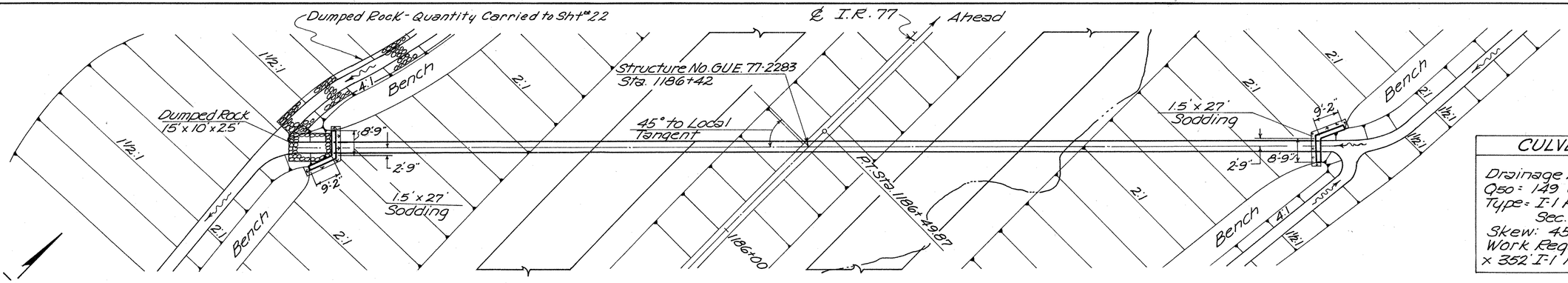
PROFILE ALONG ℄ CULVERT
Scale 1"=20'

CULVERT DATA

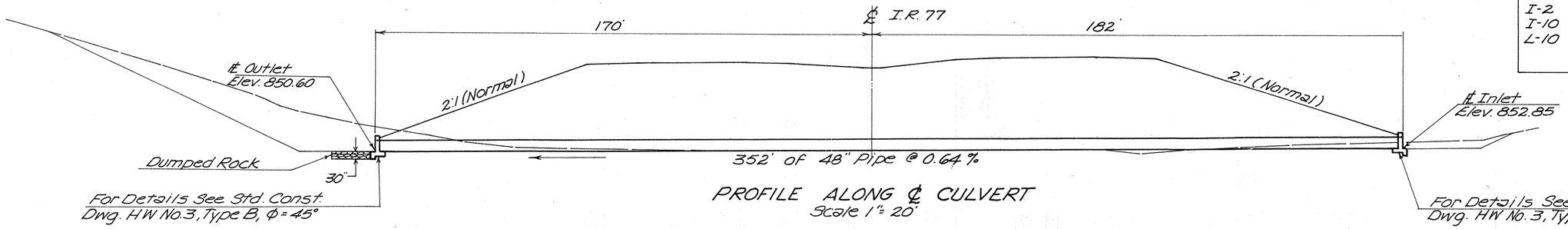
Drainage Area 37 Ac.
Q50: 39 cfs
Type: I-1 Pipe Culvert Class A-1 Sec. M-6.6(d)
Size: 30"x 224'
Skew: 0°
Work Required: Build New 30" x 224' I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quantity
I-1	30" Pipe, Class A-1, Sec. M-6.6 (d)	224 L.F.
I-2	Masonry	9.4 C.Y.
L-10	Sodding	6 S.Y.
I-10	Dumped Rock Channel Protn	11 C.Y.



PLAN
Scale 1"=20'



PROFILE ALONG ℄ CULVERT
Scale 1"=20'

CULVERT DATA

Drainage Area = 292 Ac
Q50 = 149 c.f.s.
Type = I-1 Pipe Culvert; Class A-1, Sec. M-6.6 (d)
Skew: 45° R.F.
Work Required: Build New 48" x 352' I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

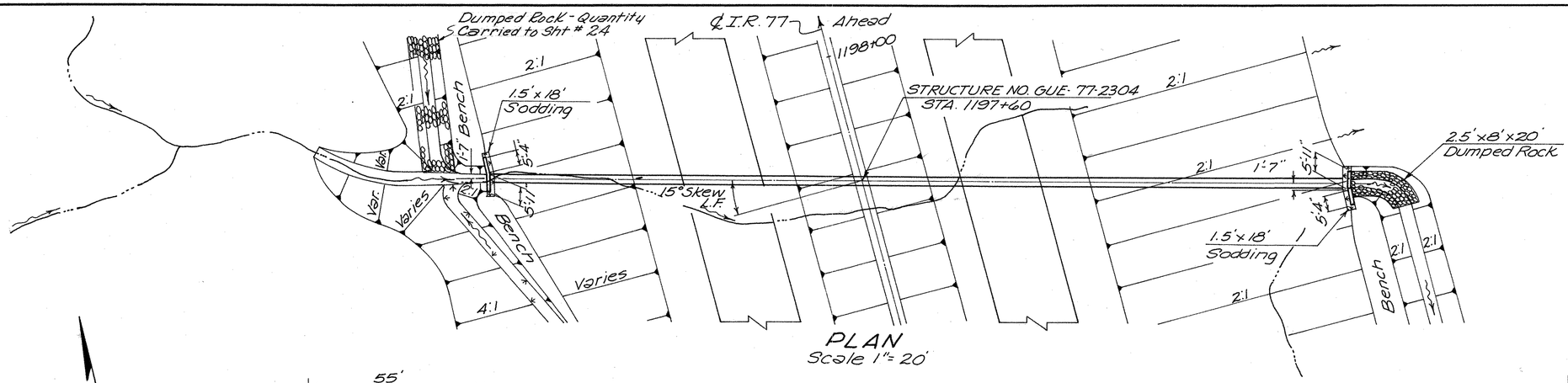
Item No.	Description	Quantity
I-1	48" Pipe, Class A-1, Sec. M-6.6 (d)	352 L.F.
I-2	Masonry	20.6 C.Y.
I-10	Dumped Rock Channel Protn	14 C.Y.
L-10	Sodding	9 S.Y.

CULVERT DETAILS STA. 1180+50 & STA. 1186+42

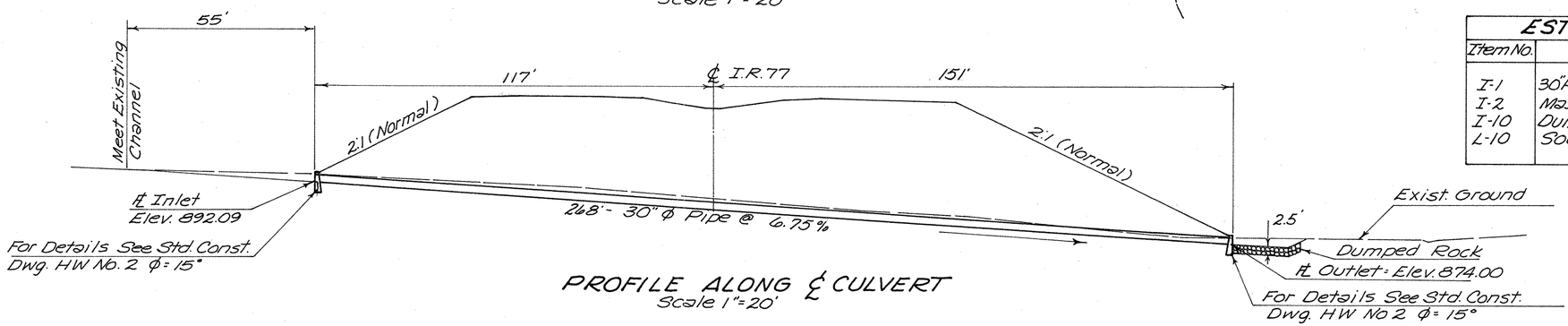
FED. RD.	STATE	PROJECT	
2	OHIO		

172/230

GUE-77-22.59
TUS-77-0.00



PLAN
Scale 1"= 20'



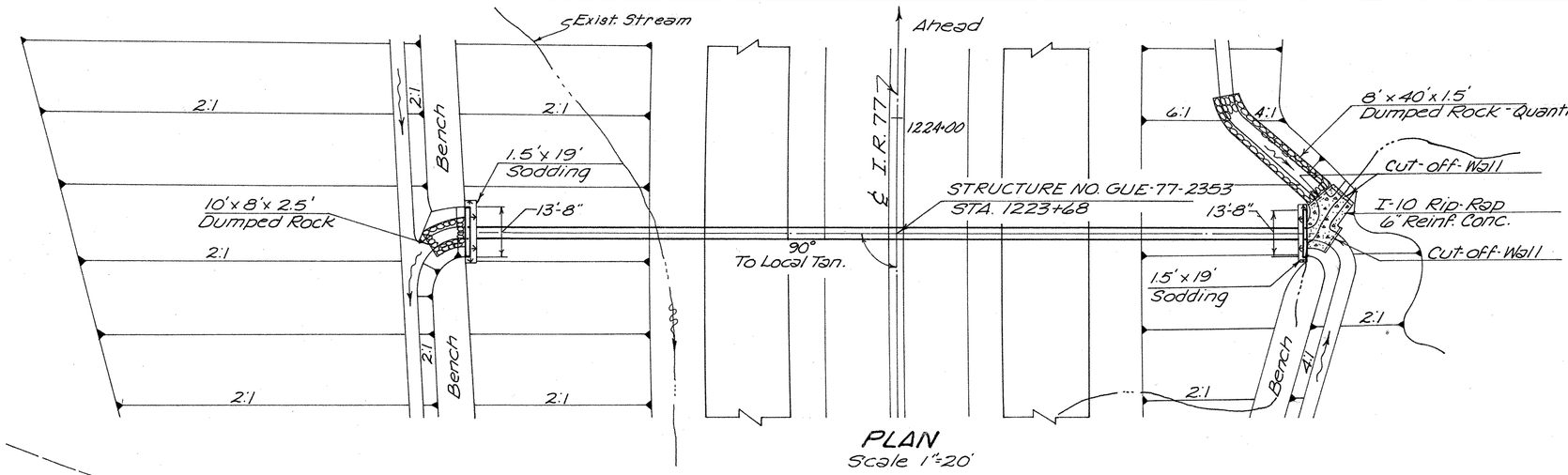
PROFILE ALONG ℄ CULVERT
Scale 1"=20'

CULVERT DATA

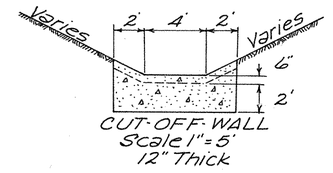
Drainage Area: 28 Ac.
Q50: 31 cfs
Type: I-1 Pipe Culvert, Class A-1
Sec. M-6.4 (d), 12 Gage
Size: 30"x 268'
Skew: 15° L.F.
Work Required: Build New 30"x 268'
I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quant.
I-1	30" Pipe, Class A-1 Sec. M 6.4 (d) 12 Gage	268 L.F.
I-2	Masonry	7.6 C.Y.
I-10	Dumped Rock Channel Protn	15 C.Y.
L-10	Sodding	6 S.Y.



PLAN
Scale 1"=20'



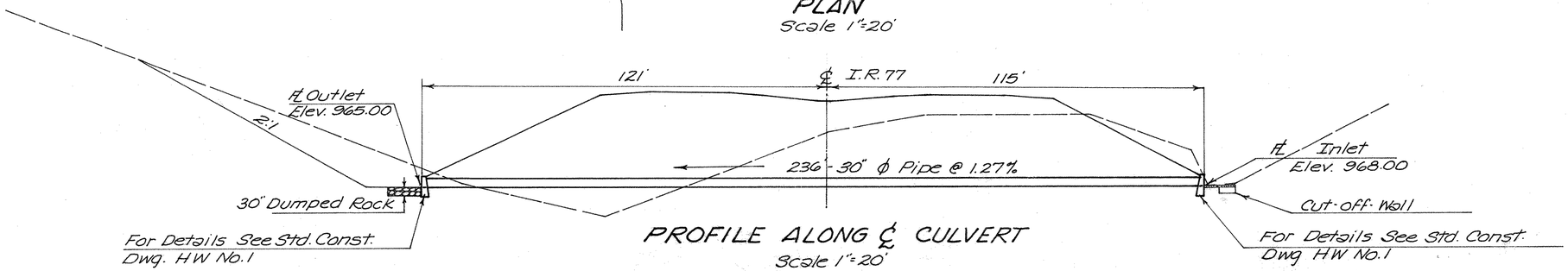
CUT-OFF-WALL
Scale 1"= 5'
12" Thick

CULVERT DATA

Drainage Area: 53 Ac.
Q50: 49 cfs
Type: I-1 Pipe Culvert, Class A-1, Sec. M-6.6 (d)
Size: 30" x 236'
Skew: 0°
Work Required: Build New 30"x 236' I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quant.
I-1	30" Pipe, Class A-1, Sec. M-6.6 (d)	236 L.F.
I-2	Masonry	9.4 C.Y.
I-10	Dumped Rock Channel Prot'n	7 C.Y.
I-10	Rip-Rap 6" Reinf. Concrete	16 S.Y.
L-10	Sodding	6 S.Y.



PROFILE ALONG ℄ CULVERT
Scale 1"=20'

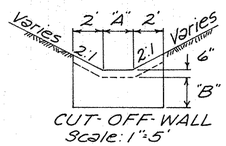
K & E

CULVERT DETAILS - STA. 1197+60 & STA. 1223+68

FED. RD.	STATE	PROJECT	
2	OHIO		

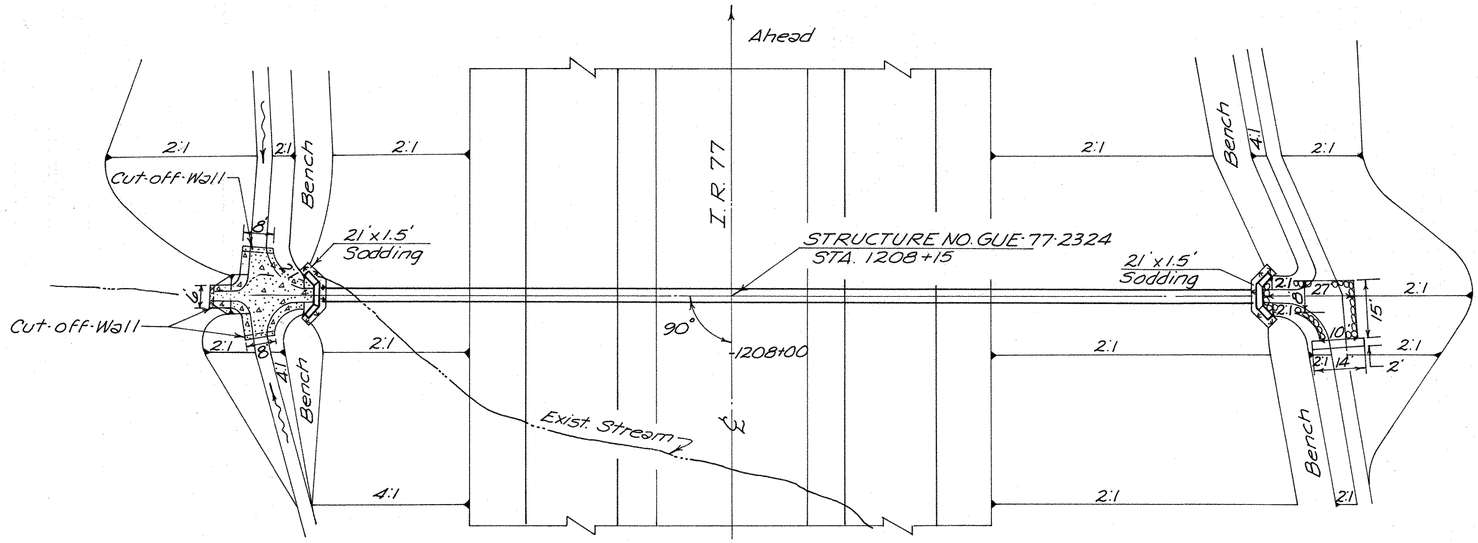
173/230

GUE-77-22.59
TUS-77-0.00

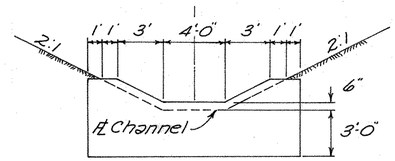


CUT-OFF-WALL
Scale: 1"=5'

	"A"	"B"
6' Wall	2'	2'
8' Wall	4'	1'



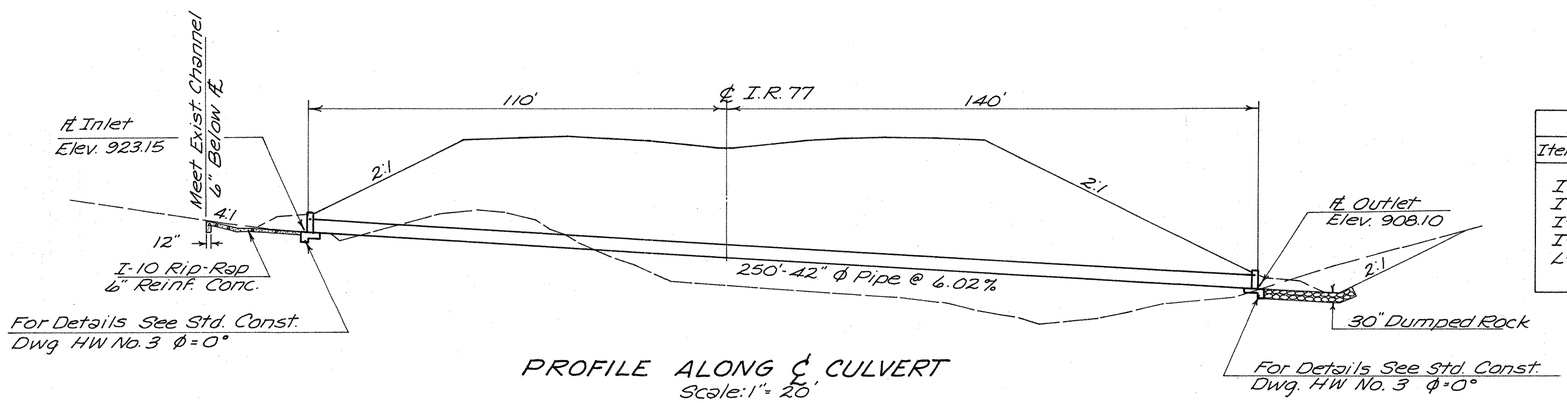
PLAN
Scale: 1"=20'



END SILL
Scale 1"=5'

CULVERT DATA

Drainage Area: 135 A^{c}
Q50: 91 cfs
Type: I-1 Pipe Culvert Class A-1 Sec. M6.4(d) 10 Gage
Size: 42" x 250'
Skew: 0°
Work Required: Build New 42" x 250' I-1 Pipe Culvert as shown.



PROFILE ALONG ℄ CULVERT
Scale: 1"=20'

ESTIMATED QUANTITIES

Item No.	Description	Quant.
I-1	42" Pipe, Class A-1, Sec. M6.4(d)	250 L.F.
I-2	Masonry (10 Gage)	18.4 C.Y.
I-10	Dumped Rock Channel Protn.	26 C.Y.
I-10	Rip-Rap, 6" Reinf. Concrete	40 S.Y.
L-10	Sodding	7 S.Y.

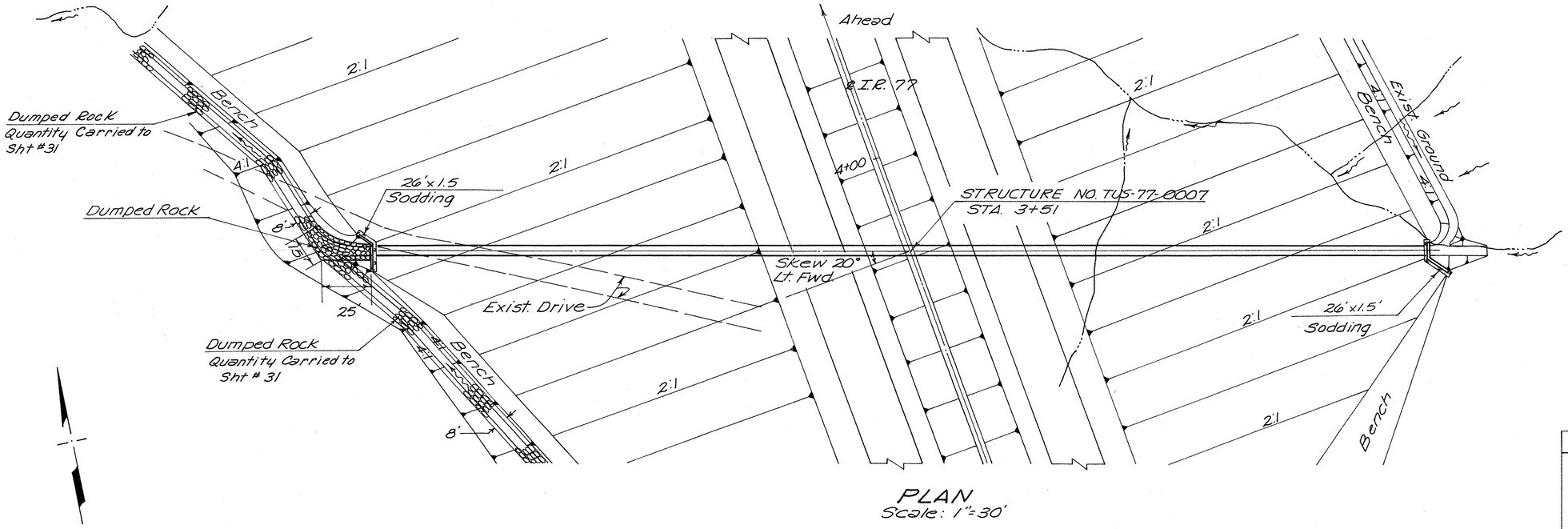
K. & E.

CULVERT DETAILS - STA. 1208+15

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

174
230



PLAN
Scale: 1"=30'

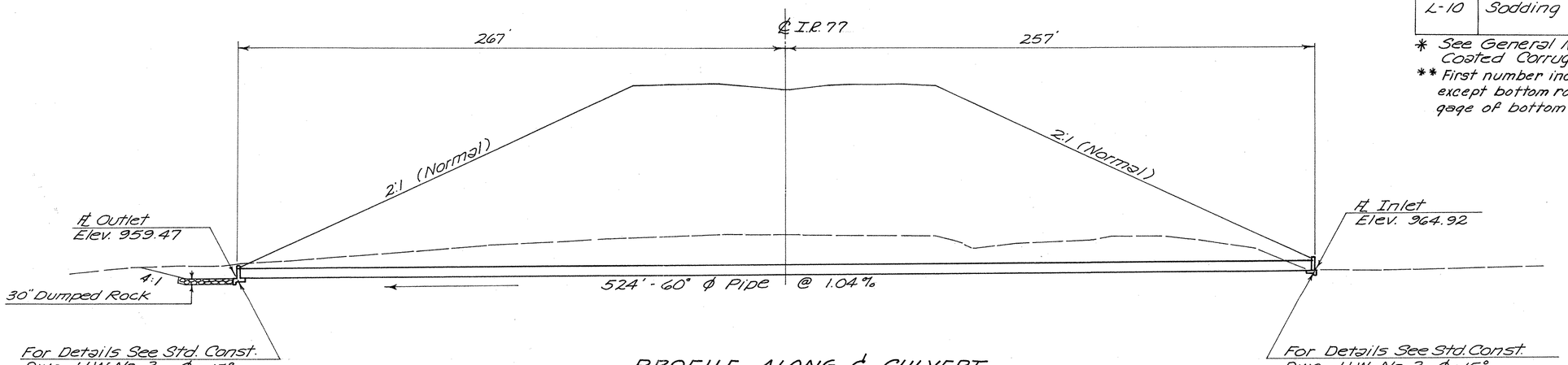
CULVERT DATA

Drainage Area: 62 Ac
Q50: 55 cfs
Type: I-1 Pipe Culvert, Class A-1 Sec. M-6.4(g)(c) Gage 5-3
Size: 60" x 524'
Skew: 20° Lt. Fwd.
Work Required: Build New 60" x 524' I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quant.
*I-1	60" Pipe Class A-1, Sec. M-6.4(g)(c) **Ga. 5-3	524 L.F.
I-2	Masonry	25.8 C.Y.
I-10	Dumped Rock Channel Prot'n	33 C.Y.
L-10	Sodding	9 S.Y.

* See General Note "Bituminous Coated Corrugated Metal Structure"
** First number indicates gage of plates, except bottom row. Second number indicates gage of bottom plates.



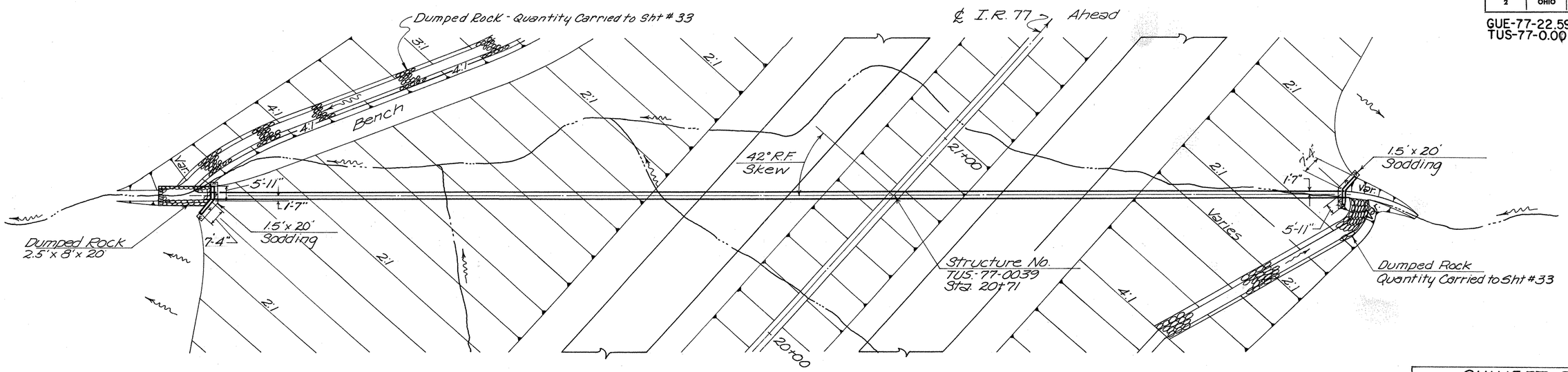
PROFILE ALONG ℄ CULVERT
Scale 1"=30'

CULVERT DETAILS - STA. 3+51

FED. RD.	STATE	PROJECT	
2	OHIO		

175/230

GUE-77-22.59
TUS-77-0.00



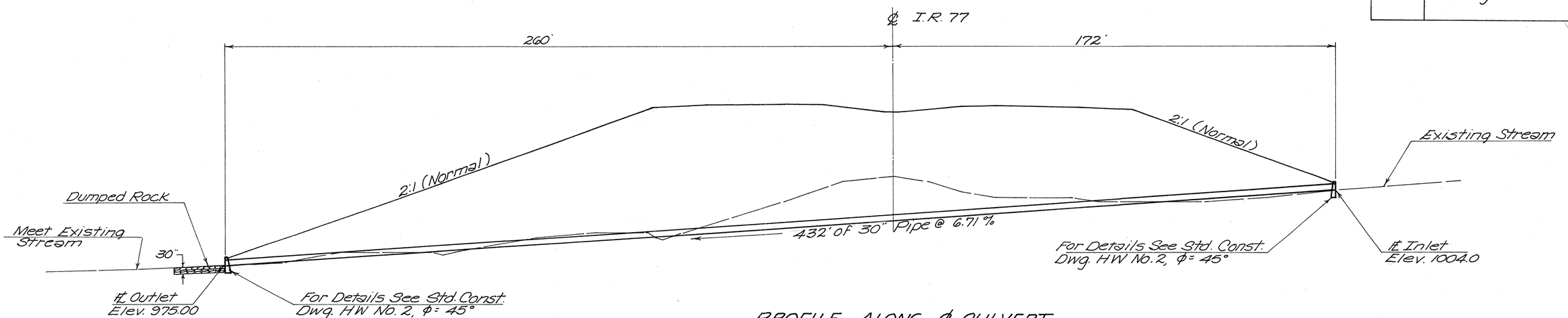
PLAN
Scale 1" = 20'

CULVERT DATA

Drainage Area: 25 Ac.
Q50: 30 cfs
Type: I-1 Pipe Culvert, Class A-1
Sec. M-6.4(d) 10 Gage
Size: 30" x 432'
Skew: 42° R.F.
Work Required: Build New 30" x 432'
I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quantity
I-1	30" Pipe, Class A-1 Sec M-6.4(d) Gage 10	432 L.F.
I-2	Masonry	9.6 C.Y.
I-10	Dumped Rock Channel Protn	15 C.Y.
L-10	Sodding	7 S.Y.



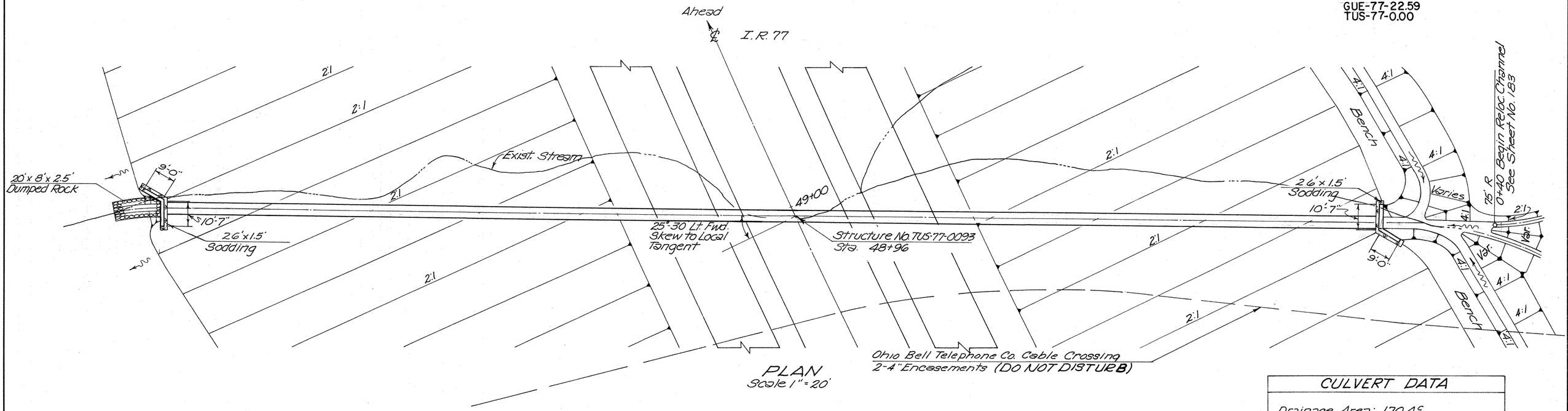
PROFILE ALONG ℄ CULVERT
Scale 1" = 20'

CULVERT DETAILS STA. 20+71

FED. RD.	STATE	PROJECT	
2	OHIO		

176/230

GUE-77-22.59
TUS-77-0.00



PLAN
Scale 1" = 20'

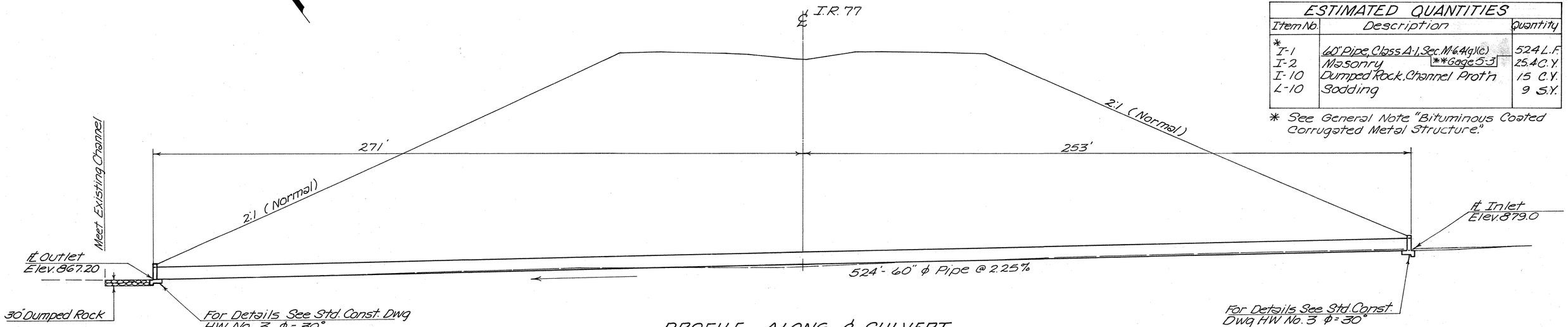
CULVERT DATA

Drainage Area: 170 A^s.
Q50: 102 c.f.s.
Type: I-1 Pipe Culvert, Class A-1,
Sec. M-64(g)(c) Gage 5-3
Size: 60" x 524'
Skew: 25°-30' Lt. Fwd. to Local Tan
Work Required: Build New 60" x 524'
I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quantity
* I-1	60" Pipe, Class A-1, Sec. M-64(g)(c)	524 L.F.
I-2	Masonry **Gage 5-3	25.4 C.Y.
I-10	Dumped Rock, Channel Protn	15 C.Y.
L-10	Sodding	9 S.Y.

* See General Note "Bituminous Coated Corrugated Metal Structure."



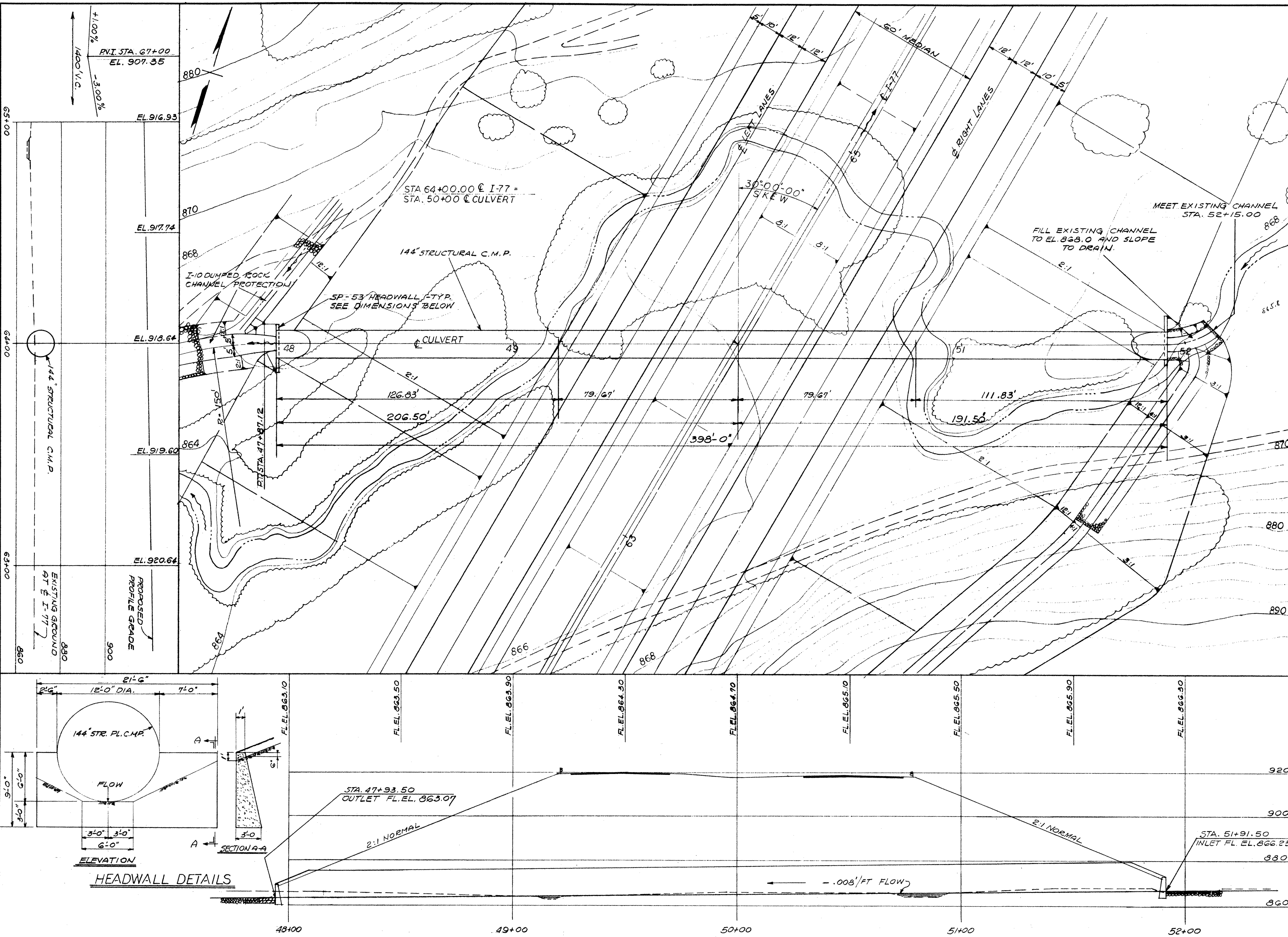
PROFILE ALONG ℄ CULVERT
Scale 1" = 20'

** First number indicates gage of plates, except bottom row. Second number indicates gage of bottom row of plates.

CULVERT DETAILS STA. 48+96

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00


P.V.I. STA. 67+00
EL. 907.35
+1.00%
-3.00%
1400' V.C.
EL. 916.93
EL. 917.74
EL. 918.64
EL. 919.60
EL. 920.64
65+00
64+00
63+00
144" STRUCTURAL C.M.P.
EXISTING GROUND AT ℄ I-77
PROPOSED PROFILE GRADE
860
880
900
60' MEDIAN
℄ I-77
℄ LEFT LANES
℄ RIGHT LANES
STA 64+00.00 ℄ I-77 = STA. 50+00 ℄ CULVERT
30°-00'-00" SKEW
144" STRUCTURAL C.M.P.
I-10 DUMPED ROCK CHANNEL PROTECTION
SP-53 HEADWALL - TYP. SEE DIMENSIONS BELOW
℄ CULVERT
MEET EXISTING CHANNEL STA. 52+15.00
FILL EXISTING CHANNEL TO EL. 868.0 AND SLOPE TO DRAIN.
P.T. STA. 47+87.12
R=150'
126.83'
79.67'
79.67'
111.83'
206.50'
191.50'
398'-0"
21'-6"
2'-6"
12'-0" DIA.
7'-0"
144" STR. PL. C.M.P.
FLOW
9'-0"
6'-0"
3'-0"
3'-0"
3'-0"
6'-0"
ELEVATION
SECTION A-A
HEADWALL DETAILS
FL. EL. 863.10
FL. EL. 863.50
FL. EL. 863.90
FL. EL. 864.30
FL. EL. 864.70
FL. EL. 865.10
FL. EL. 865.50
FL. EL. 865.90
FL. EL. 866.30
STA. 47+93.50
OUTLET FL. EL. 863.07
STA. 51+91.50
INLET FL. EL. 866.23
2:1 NORMAL
2:1 NORMAL
-.008'/FT FLOW
920
900
880
860
48+00
49+00
50+00
51+00
52+00

PROPOSED STRUCTURE

TYPE: 144" STRUCTURAL PLATE C.M.P.
LENGTH: 398'-0"
SPAN: 12'-0" DIA.
SKEW: 30°-00'-00"
HEIGHT OF COVER: 42'
SLOPE: 0.80%
DRAINAGE AREA: 1246 ACRES OR 1.95 SQ. MI.
50 YR. FREQUENCY: 1325 c.f.s.

FOR ESTIMATED QUANTITIES & RELOCATED CHANNEL DETAILS SEE SHEET No. 178

NOTE: SEE GENERAL NOTE "BITUMINOUS COATED CORRUGATED METAL STRUCTURE" SHEET NO. 9.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

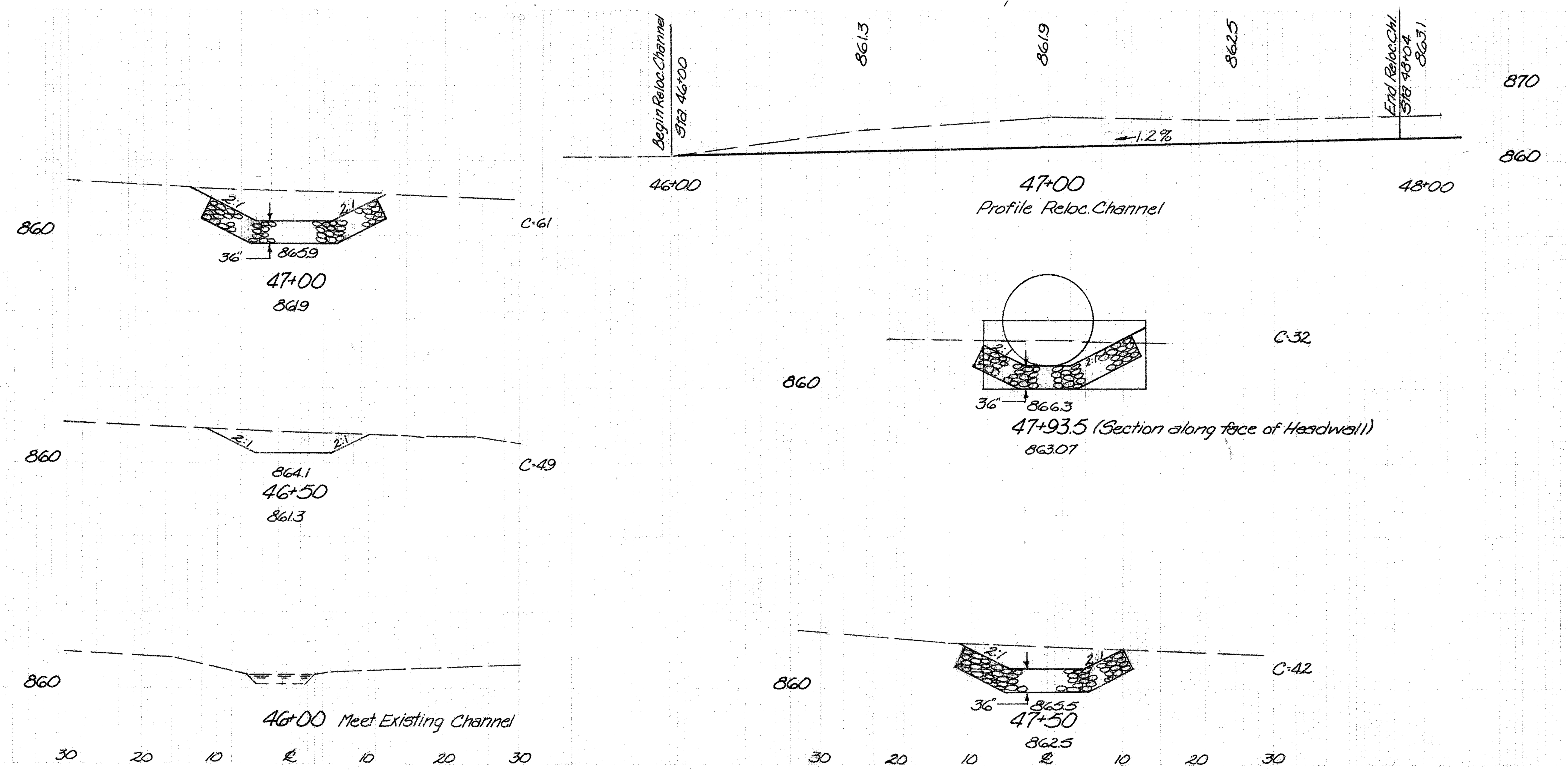
BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

144" STRUCTURAL PL. C.M.P. CULVERT

STRUCTURE NO. TUS-77-0121
STA 64+00.00

UNDER I-77

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	KENESSY					



ESTIMATED QUANTITIES		
Item No.	Description	Quantity
*I-1	144" Pipe, Cl. A-1, Sec. M-6.4 (g)(c) ga. 1	398 L.F.
I-2	Masonry	21.7 C.Y.
I-10	Dumped Rock, Channel Prot'n	302 C.Y.
E-3	Channel Excavation	302 C.Y.

*Note: See General Note "Bituminous Coated Corrugated Metal Structure" Sheet #9

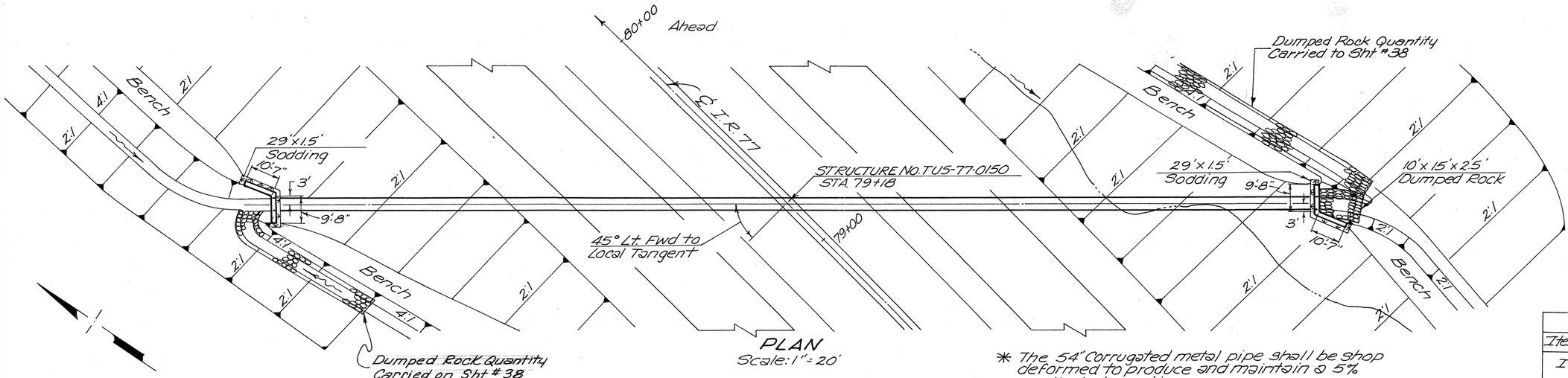
E-3 Channel Excavation		
Station	End Area Sq. Ft.	Volume Cu. Yds.
46+00	0	
		45
46+50	49	
		102
47+00	61	
		95
47+50	42	
		60
47+93.5	32	
Total		302

Reloc. Channel Details & X-Sections ≥ Sta. 64+00

FED. RD.	STATE	PROJECT	
2	OHIO		

179/230

GUE-77-22.59
TUS-77-0.00



PLAN
Scale: 1" = 20'

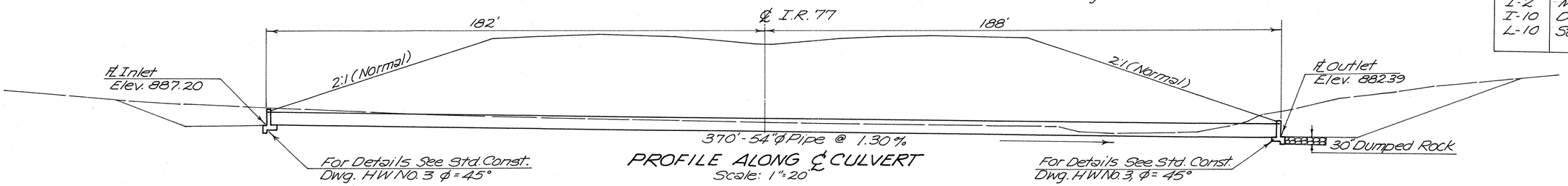
* The 54" Corrugated metal pipe shall be shop deformed to produce and maintain a 5% vertical elongation.

CULVERT DATA

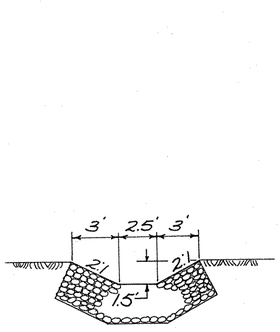
Drainage Area: 314 A$_s$
Q50: 157 CFS
Type: I-1 Pipe Culvert, Class A-1, Sec. M-6.4(d) Gage 8
Size: 54" x 370'
Skew: 45° Lt. Fwd. to Local Tang.
Work Required: Build New 54" x 370' I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

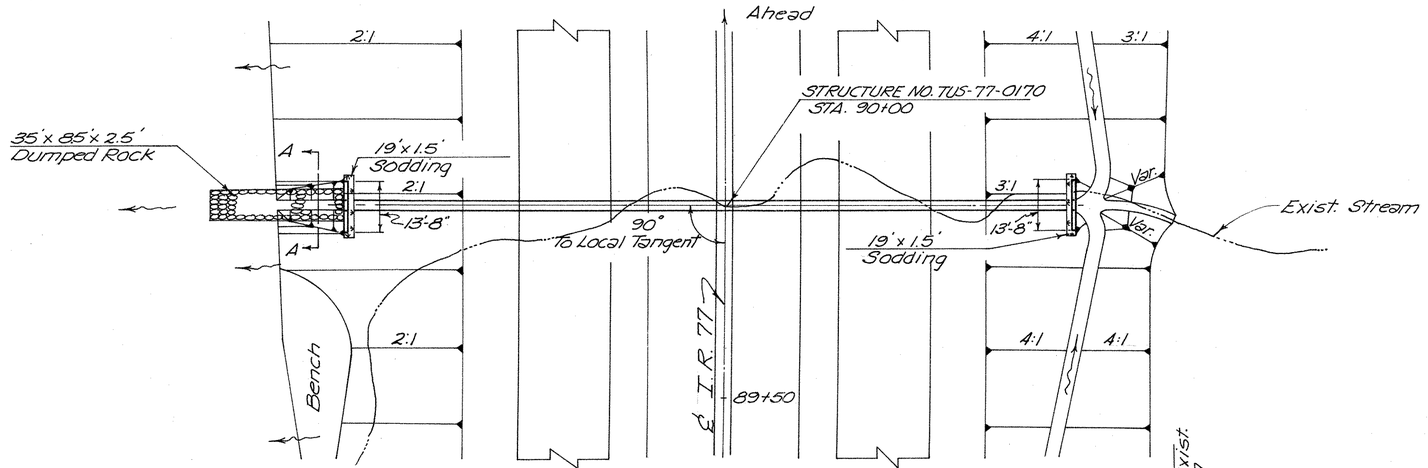
Item No.	Description	Quant.
I-1	54" Pipe, Class A-1, Sec. M-6.4(d) Gage 8 *	370 L.F.
I-2	Masonry	25.2 C.Y.
I-10	Dumped Rock Channel Protn	14 C.Y.
L-10	Sodding	10 S.Y.



PROFILE ALONG ℄ CULVERT
Scale: 1" = 20'



SECTION A-A
Scale: 1" = 5'



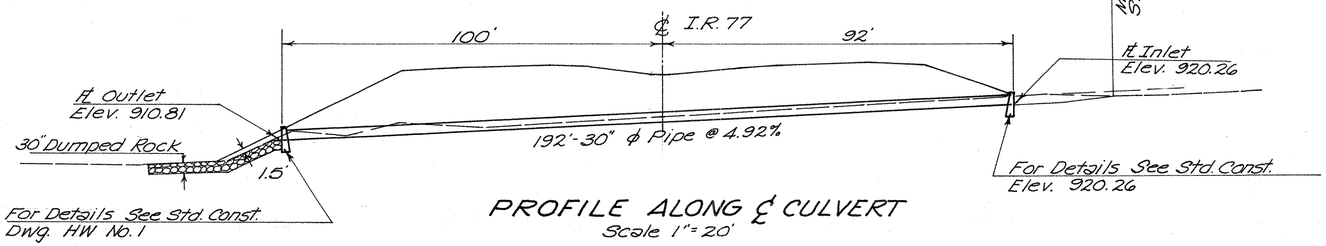
PLAN
Scale: 1" = 20'

CULVERT DATA

Drainage Area: 42 A$_s$
Q50: 41 cfs
Type: I-1 Pipe Culvert, Class A-1 Sec. M6.6 (b)
Size: 30" x 192'
Skew: None
Work Required: Build New 30" x 192' I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quant.
I-1	30" Pipe, Class A-1 Sec. M-6.6 (b) or M-6.8(b)	192 L.F.
I-2	Masonry	9.4 C.Y.
I-10	Dumped Rock Channel Protn	28 C.Y.
L-10	Sodding	6 S.Y.



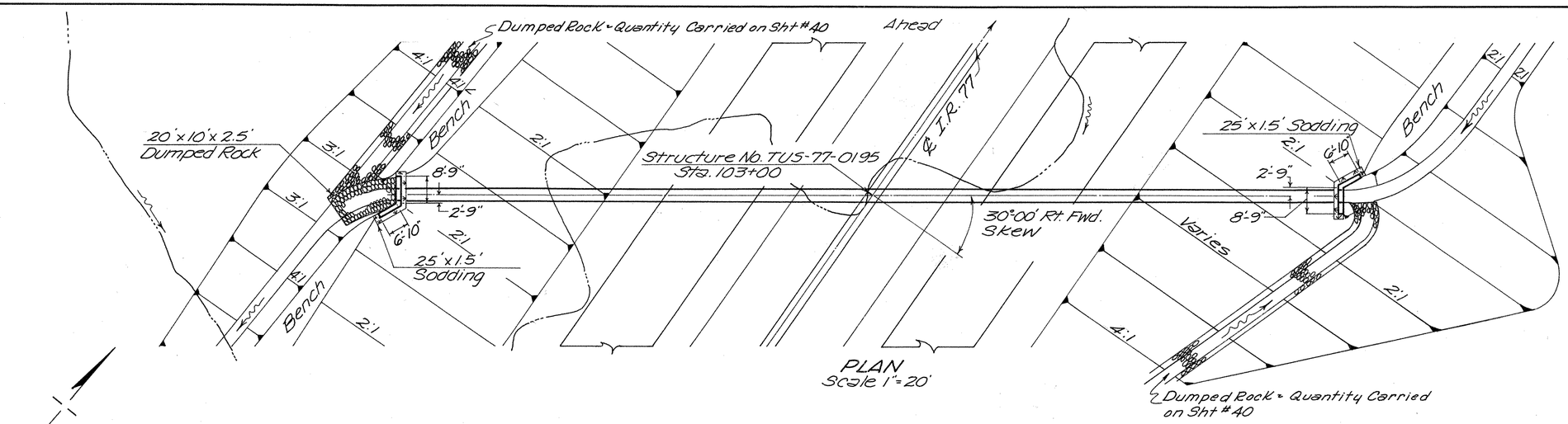
PROFILE ALONG ℄ CULVERT
Scale 1" = 20'

CULVERT DETAILS - STA. 79+18 & STA. 90+00

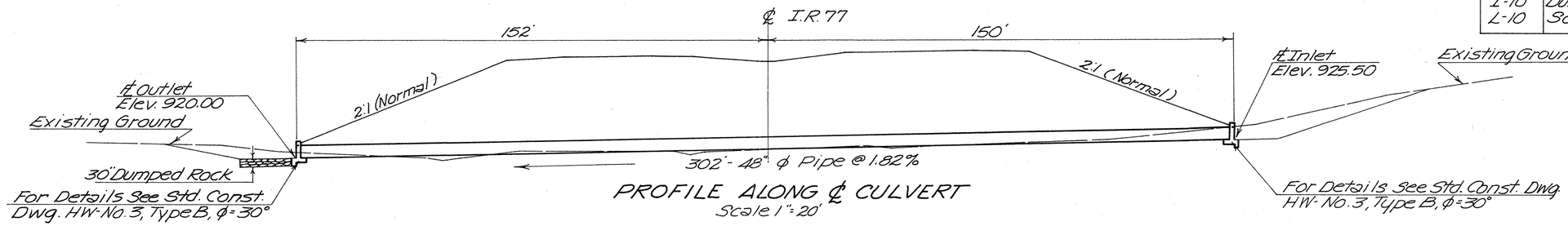
FED. RD.	STATE	PROJECT	
2	OHIO		

180
230

GUE-77-22.59
TUS-77-0.00



PLAN
Scale 1"=20'



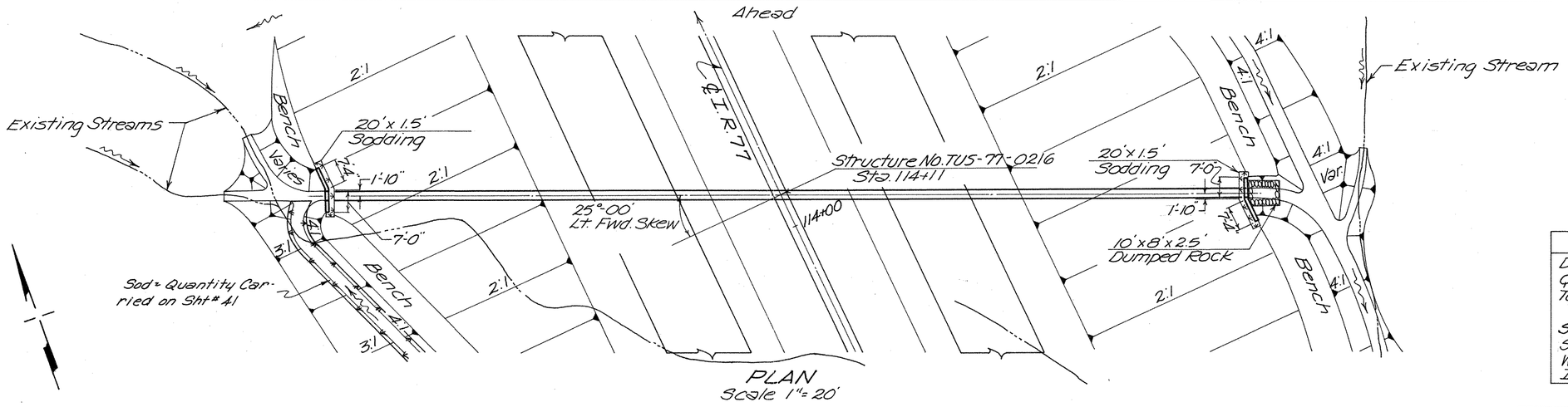
PROFILE ALONG ℄ CULVERT
Scale 1"=20'

CULVERT DATA

Drainage Area: 190 Ac
Q50: 116 C.F.S.
Type: I-1 Pipe Culvert, Class A-1 Sec. M-6.6(d) or M-6.4(d) Gage 8
Size: 48" x 302'
Skew: 30° 00' Rt. Fwd.
Work Required: Build New 48" x 302' I-1 Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quantity
I-1	48" Pipe: Class A-1, Sec. M-6.6 (d) or M-6.4(d) Gage 8	302 L.F.
I-2	Masonry	17.6 C.Y.
I-10	Dumped Rock Channel Protn	19 C.Y.
L-10	Sodding	8 S.Y.



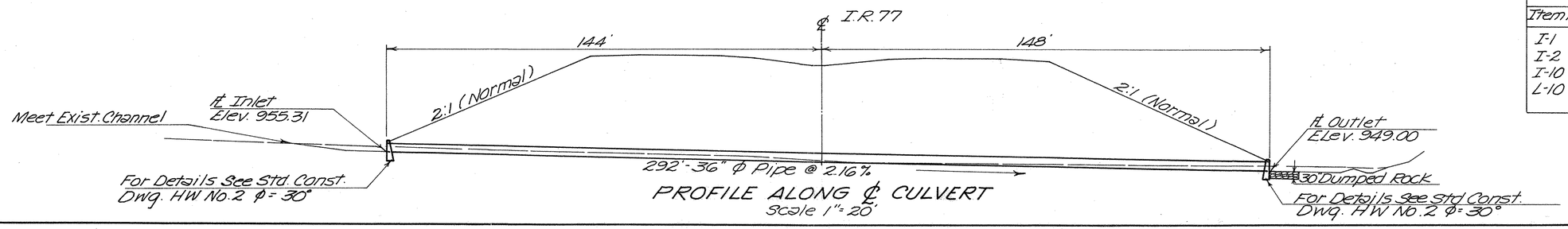
PLAN
Scale 1"=20'

CULVERT DATA

Drainage Area: 60 Ac
Q50: 51 cfs
Type: I-1 Pipe Culvert, Class A-1 Sec M-6.4(d) Gage 10'
Size: 36" x 292'
Skew: 25°00' Lt. Fwd.
Work Required: Build New 36" x 292' I-1, Pipe Culvert As Shown.

ESTIMATED QUANTITIES

Item No.	Description	Quantity
I-1	36" Pipe, Class A-1 Sec. M-6.4(d) Gage 10	292 L.F.
I-2	Masonry	11.6 C.Y.
I-10	Dumped Rock Channel Protn	7 C.Y.
L-10	Sodding	7 S.Y.



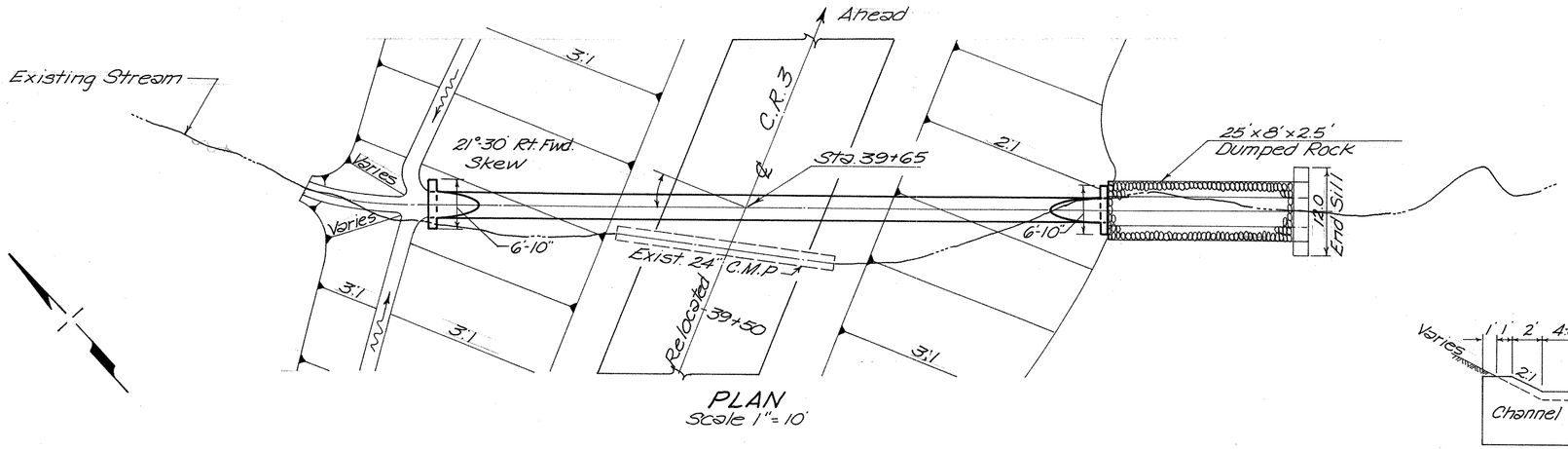
PROFILE ALONG ℄ CULVERT
Scale 1"=20'

CULVERT DETAILS - STA. 103+00 & STA. 114+11

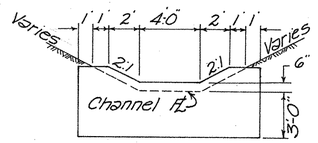
FED. RD.	STATE	PROJECT	
2	OHIO		

181/230

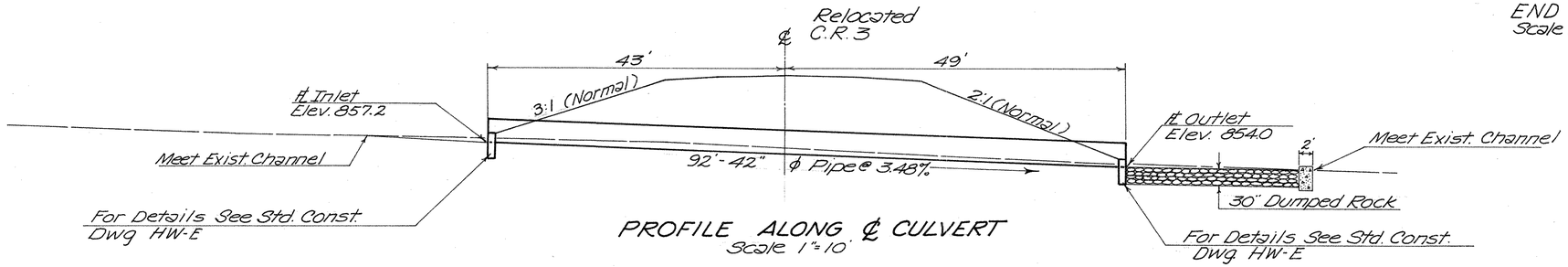
GUE-77-22.59
TUS-77-0.00



PLAN
Scale 1"=10'



END SILL
Scale 1"=5'



PROFILE ALONG ℄ CULVERT
Scale 1"=10'

CULVERT DATA

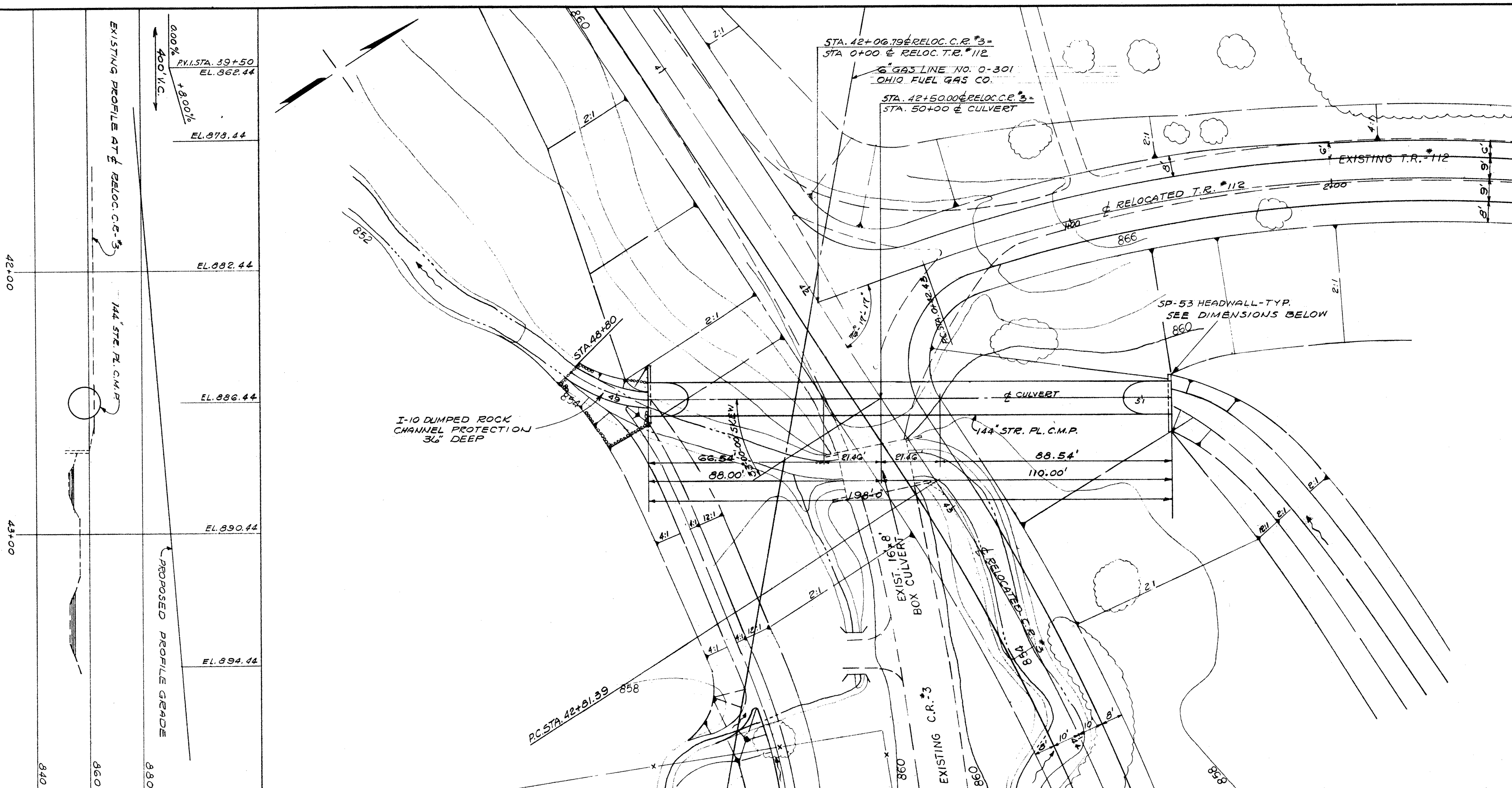
Drainage Area: 1.10 Ac.
Q.10 = 5.6 C.F.S.
Type: I-1 Pipe Culvert Class A-1
Sec. M.6.6(a) or M.6.4(d) Gage 12
Size: 42"x 92"
Skew: 21°30' Rt. Fwd.
Work Required: Build New 42"x 92"
I-1 Pipe Culvert As Shown.

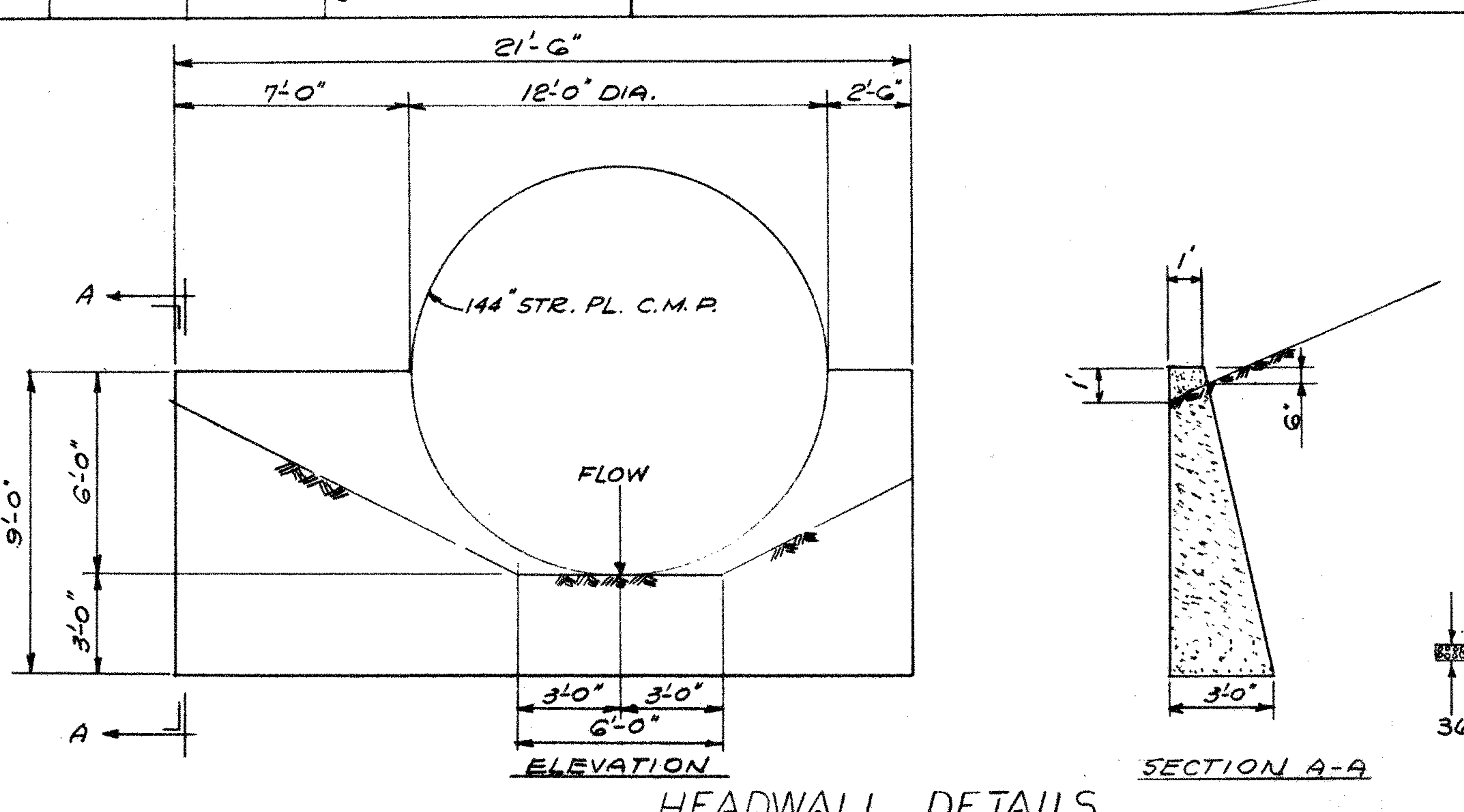
ESTIMATED QUANTITIES

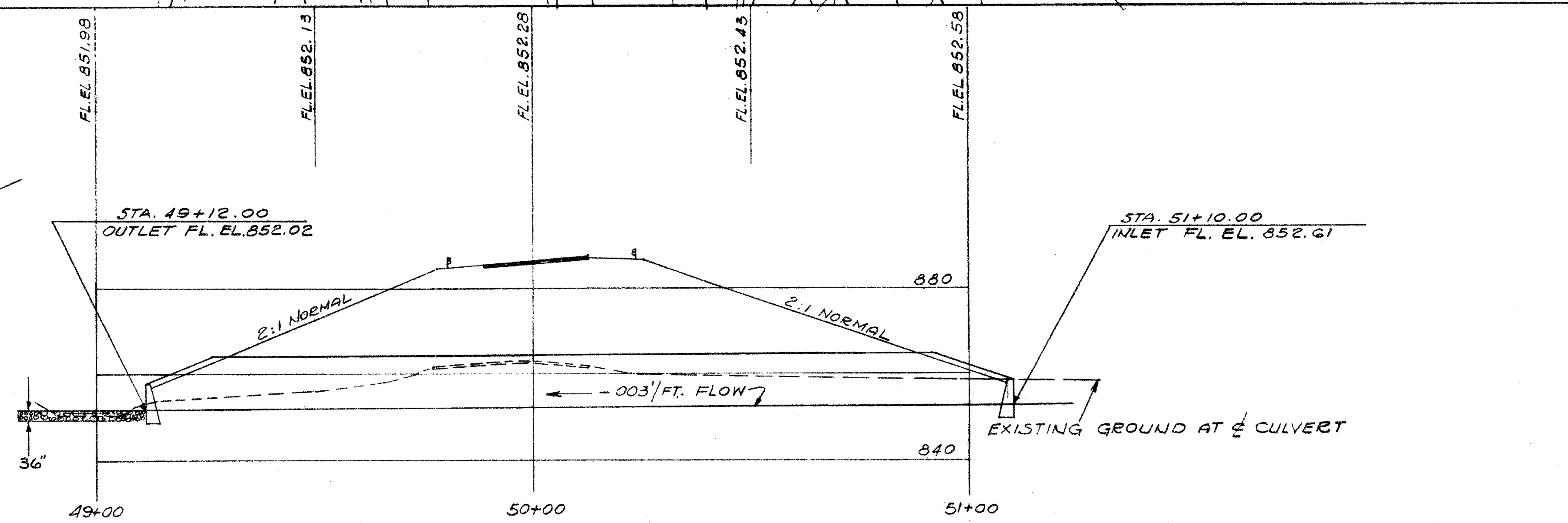
Item No.	Description	Quantity
I-1	42" Pipe, Class A-1 Sec. M.6.6(a)-M.6.4(d) Gage 12	92 L.F.
I-2	Masonry	5.1 C.Y.
I-10	Dumped Rock Channel Prot'n.	19 C.Y.

RELOCATED C.R. #3 CULVERT DETAILS STA. 39+65

FED. RD.	STATE	PROJECT		
2	OHIO			







GUE-77-22.59
TUS-77-0.00

CURVE DATA

℄ RELOCATED C.R. #3

Δ = 80°-50'-30" RT.
R = 716.20'
Dc = 8°-00'-00"
T = 609.98'
L = 1010.52
P.I. STA. 48+91.37

℄ RELOCATED T.R. #112

Δ = 31°-58'-10" RT.
R = 603.11'
Dc = 9°-30'-00"
T = 172.76'
L = 336.52'
P.I. STA. 2+15.19.

ESTIMATED QUANTITIES

I-1	144" PIPE, CLASS A-1, SEC. M-6.4(g)(C) GAGE 5-3	= 198 LIN. FT.
I-2	MASONRY	= 21.7 CU. YDS.
I-10	DUMPED ROCK CHANNEL PROTECTION.	= 74 CU. YDS.

PROPOSED STRUCTURE

TYPE: 144" STRUCTURAL PLATE C.M.P.
LENGTH: 198'-0"
SPAN: 12'-0" DIA.
SKEW: 33°-00'-00"
HEIGHT OF COVER: 22'
SLOPE: 0.30%
DRAINAGE AREA: 1466 ACRES OR 2.29 SQ. MI.
25 YR. FREQUENCY: 1350 c.f.s.

NOTE: SEE GENERAL NOTE "BITUMINOUS COATED CORRUGATED METAL STRUCTURE" SHEET NO. 9

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

144" STRUCTURAL PL. C.M.P. CULVERT

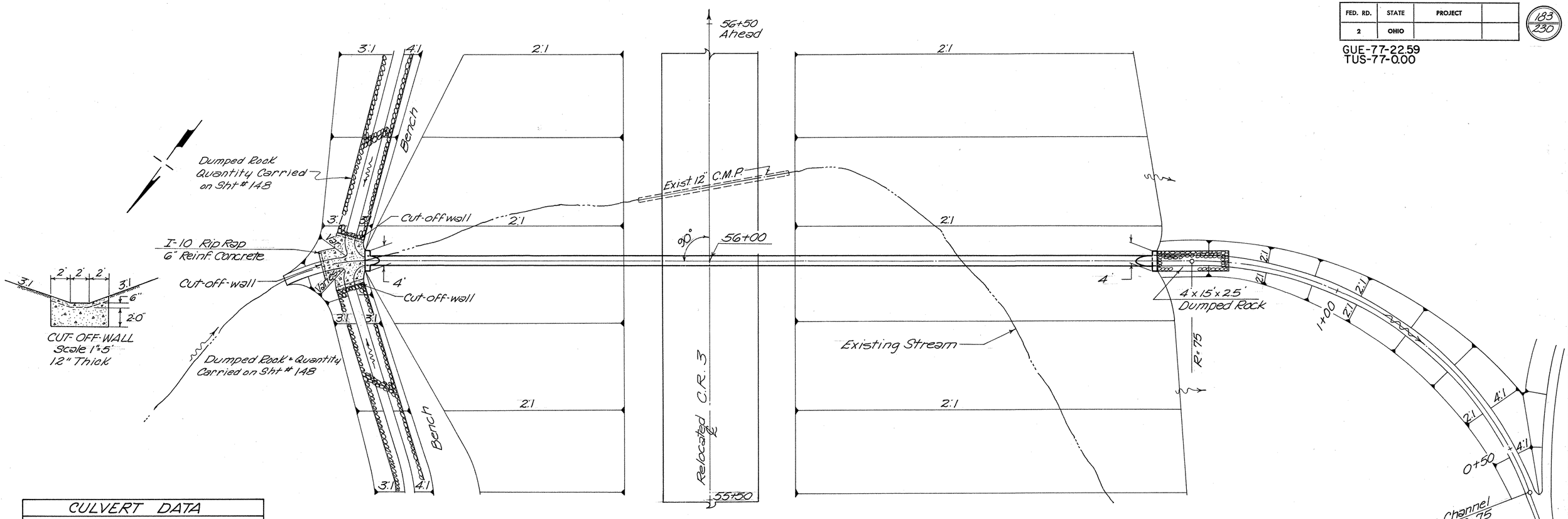
STA. 42+50.00
UNDER RELOCATED C.R. #3

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	KENESSY					

FED. RD.	STATE	PROJECT	
2	OHIO		

183/230

GUE-77-22.59
TUS-77-0.00



PLAN
Scale 1"=10'

CULVERT DATA

Drainage Area: 16 Ac.
Q10: 15 c.f.s
Type: I-1 Pipe Culvert, Class A-1
Sec. M-6.4(d) Gage 14
Size: 24"x166'
Skew: None
Work Required: Build New 24"x166'
I-1 Pipe Culvert As Shown.

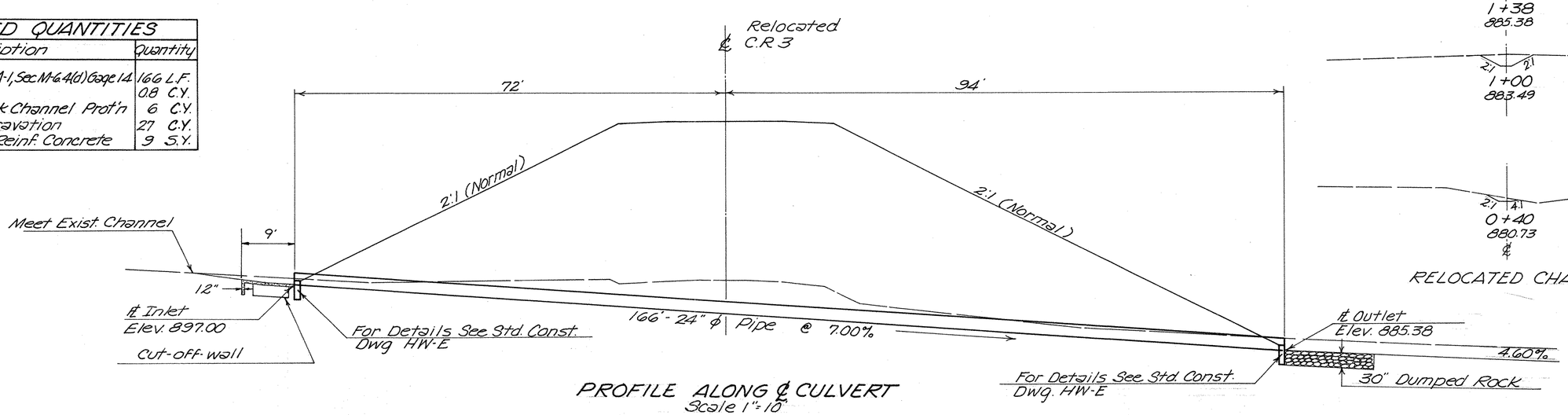
ESTIMATED QUANTITIES

Item No.	Description	Quantity
I-1	24" Pipe, Class A-1, Sec. M-6.4(d) Gage 14	166 L.F.
I-2	Masonry	0.8 C.Y.
I-10	Dumped Rock Channel Prot'n	6 C.Y.
E-3	Channel Excavation	27 C.Y.
I-10	Rip Rap 6" Reinf. Concrete	9 S.Y.

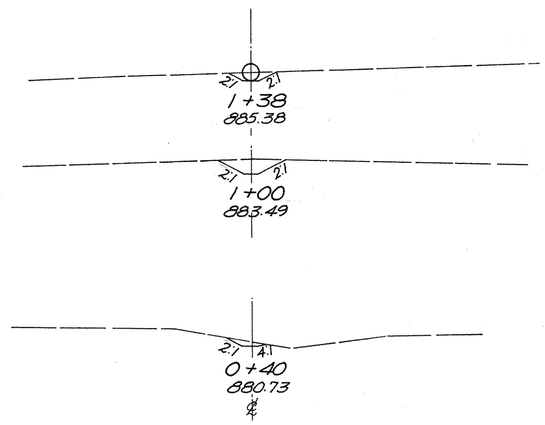
E-3 CHANNEL EXCAVATION

Sta.	End Area	Volume
1+38	5	11
1+00	11	16
0+40	3	

Total 27 C.Y.



PROFILE ALONG ℄ CULVERT
Scale 1"=10'



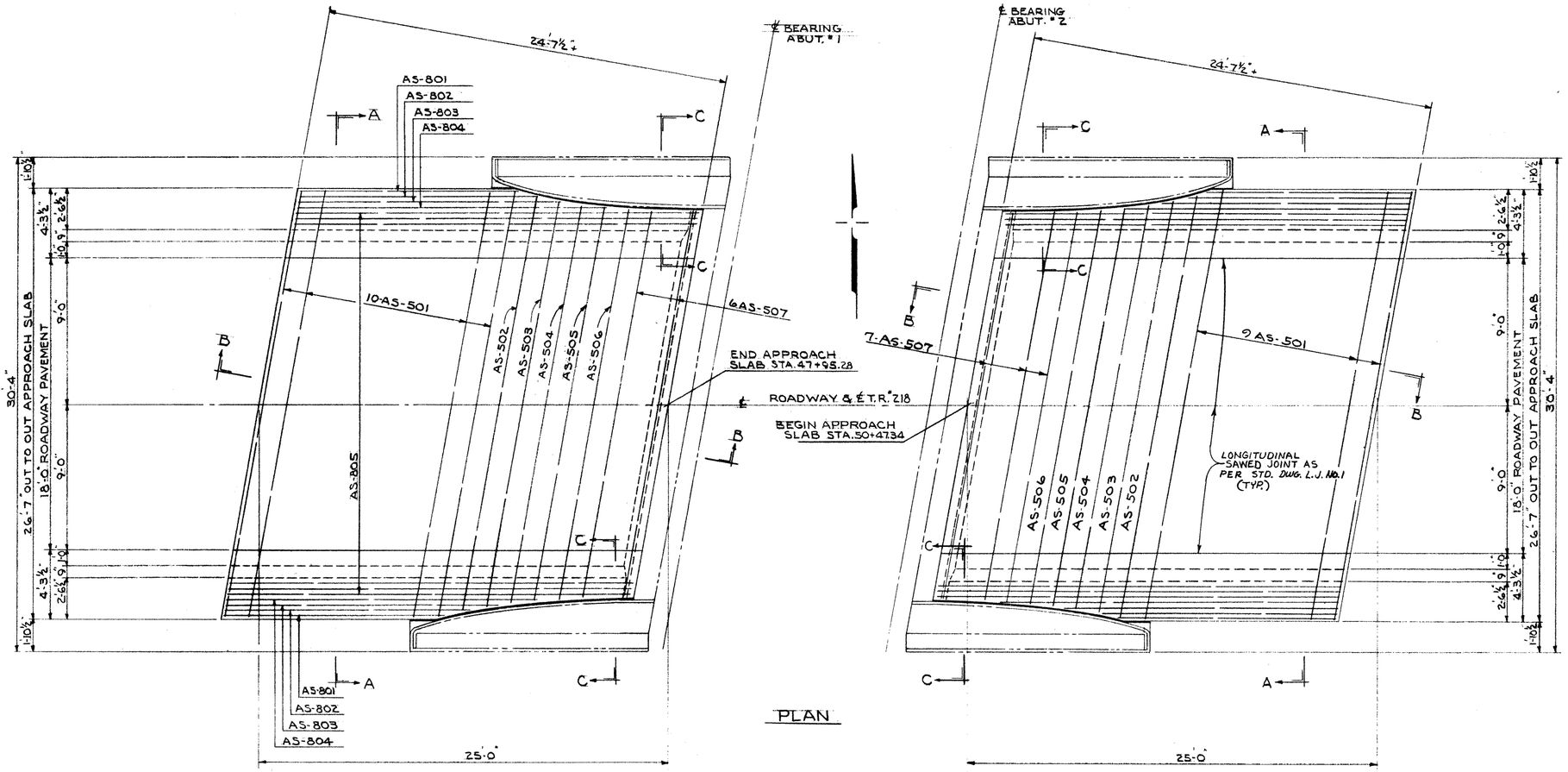
RELOCATED CHANNEL

RELOCATED C.R#3 CULVERT DETAILS STA. 56+00

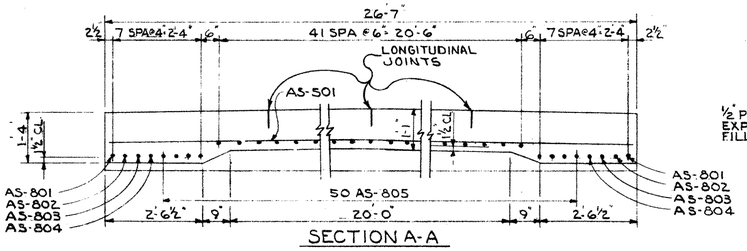
FED. RD.	STATE	PROJECT	
2	OHIO		

184
230

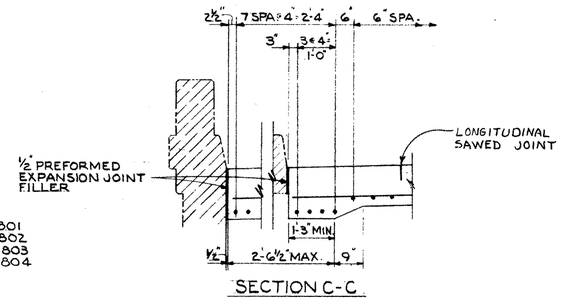
GUE-77-22.59
TUS-77-0.00



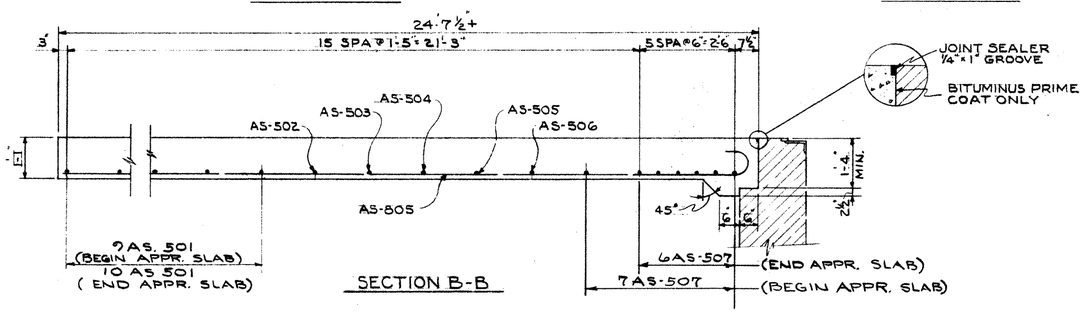
PLAN



SECTION A-A



SECTION C-C



SECTION B-B

REINFORCING STEEL LIST

MARK	No REQD	LENGTH	SHP	A	B	WEIGHT
AS-501	19	26'-6"	ST			525
AS-502	2	25'-9"	ST			54
AS-503	2	25'-2"	ST			53
AS-504	2	24'-10"	ST			52
AS-505	2	24'-6"	ST			51
AS-506	2	24'-2"	ST			51
AS-507	13	23'-10"	ST			323
AS-801	4	12'-9"	ST			136
AS-802	4	14'-0"	ST			150
AS-803	4	16'-0"	ST			171
AS-804	4	18'-6"	ST			198
AS-805	100	25'-7"	BT	24'-6"	1'-1"	6831
TOTAL (2 APPROACH SLABS) 8595 LBS						

A B

CONCRETE SHALL BE CLASS "C"

PREFORMED EXPANSION JOINT FILLER & CONSTRUCTION JOINTS ARE INCLUDED FOR PAYMENT IN THE UNIT PRICE FOR APPROACH SLABS.

ITEM I-7 REINFORCED CONCRETE APPROACH SLABS - 138 SQ. YDS. (SHOWN WITH ROADWAY ITEM SUMMARY)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

APPROACH SLAB DETAILS

BRIDGE No GUE-77-2379
UNDER T.R. "218
GUERNSEY COUNTY
STA. 1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	JLH		HGH	RDH	6-29-65	

STRUCTURAL GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

GUE-77-22.59
TUS-77-0.00

185
230

1. **DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF " DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES " OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9/1/57. TOGETHER WITH CURRENT REVISIONS THEREOF

2. **DESIGN LOADING** - SEE SITE PLANS

CONCRETE CLASS C - BASIC UNIT STRESS 1,933 p.s.i.
CONCRETE CLASS E - BASIC UNIT STRESS 1,133 p.s.i.

STRUCTURAL STEEL - ALL STRUCTURAL SHALL BE A S T M A 36
ASTM A36 - BASIC UNIT STRESS 20,000 p.s.i.

REINFORCING STEEL- ASTM A15, A16, A160, DEFORMED, INTERMEDIATE OR HARD GRADE. BASIC UNIT STRESS 20,000p.s.i. EXCEPT, SPIRAL REINFORCEMENT MAY BE PLAIN, STRUCTURAL GRADE WITH BASIC UNIT STRESS OF 18,000 p.s.i.

3. REFERENCE

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

BR - 1 - 65	SHEET 1 DATED	2-1-65
FBS - 1 - 62	REVISED	1-15-63
SD - 2 - 64	DATED	11-25-64
SD - 1 - 63	SHEETS 2,3,& 4 Dated	11-12-63
AS - 1 - 54	REVISED	8-10-65
808	SUPPLEMENTAL SPECIFICATION DATED 7-14-65	
811	SUPPLEMENTAL SPECIFICATION DATED 3-29-65	

4. FOOTINGS INTO ROCK

FOOTINGS SHALL EXTEND A MINIMUM OF 3" INTO UNDISTURBED ROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

5. FOUNDATION BEARING PRESSURE

FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF "A" TONS PER SQ. FT.

BRIDGE No.	SUBSTRUCTURE UNIT	A
GUE 77 - 2379	ABUTS.	2
	PIERS	5.8
TUS 77 - 0098 L&R	PIERS	9.9
	FORWARD ABUT.	2

6. WELDING

WELDING OF STRUCTURAL STEEL SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN. WELDS SHOWN AS FIELD WELDS MAY, AT THE OPTION OF THE CONTRACTOR, BE MADE IN THE SHOP. CLASS "B" WELDS ARE SHOWN THUS (B)

7. INTERMEDIATE CROSSFRAME ANGLES

INTERMEDIATE CROSS FRAME ANGLES, 3 x 3 x 5/16 WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO BEAM WITH 1/4" CONTINUOUS FILLET WELD.

8. SLAB THICKNESS

SLAB THICKNESS SHOWN INCLUDES 1" FOR MONOLITHIC WEARING SURFACE.

9. SLAB DEPTH OVER BEAMS OR GIRDERS

THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO THE TOP FLANGE OF THE GIRDER OR BEAM IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER OR BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES, AS PER ITEM 511.19 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS

10. DECK SLAB HAUNCH

A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" and 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

11. CONCRETE DECK PLACING

IN ORDER TO FACILITATE WATER CURING OF THE CONCRETE OF THE DECK SLAB, THE PLACING OF CONCRETE SHALL PROGRESS UPGRADE. THIS SLAB MAY BE PLACED IN SECTIONS, BETWEEN TRANSVERSE CONSTRUCTION JOINTS WHICH ARE PARALLEL TO TRANSVERSE REINFORCING STEEL AND ARE LOCATED NEAR THE CENTER OF ANY SPAN.

12. MACHINE FINISH

THE CONCRETE DECK SHALL BE FINISHED BY THE USE OF A FINISHING MACHINE.

13. ABUTMENT BACKWALL

THE CONCRETE IN THE ABUTMENT BACKWALL SHALL NOT BE PLACED UNTIL AFTER THE STEEL WORK IS ERECTED, BUT SHALL BE PLACED BEFORE THE DECK SLAB IS POURED.

14. POROUS BACKFILL

POROUS BACKFILL 1'-6" THICK, FULL LENGTH OF ABUTMENTS, SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB, OR TO THE FINISHED GROUND SURFACE UNLESS OTHERWISE SHOWN. EXCAVATION THEREFORE, IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION OF THE ABUTMENT, SHALL BE CONSIDERED AS PAID FOR IN THE BID PRICE PER CU YD PAID FOR POROUS BACKFILL

15. BRIDGE SEAT REINFORCING

SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

16. HIGH-STRENGTH STEEL BOLTS, NUTS AND WASHERS

UNDER ITEM S-7.10, PARAGRAPH TWO (2), SHALL BE COMPLETELY REVISED AND THE LAST SENTENCE OF PARAGRAPH FOUR (4) REVISED TO READ AS FOLLOWS:

"IN THE FINAL ASSEMBLY OF THE PARTS TO BE BOLTED, DRIFT PINS SHALL BE PLACED IN A SUFFICIENT NUMBER OF HOLES (NOT LESS THAN 25 PER CENT FOR FIELD ERECTION) TO PROVIDE AND MAINTAIN ACCURATE ALIGNMENT OF HOLES AND PARTS, AND SUFFICIENT BOLTS SHALL BE INSTALLED AND BROUGHT TO A SNUG TIGHT CONDITION TO BRING THE PARTS INTO COMPLETE CONTACT. BOLTS SHALL THEN BE INSTALLED IN ANY REMAINING OPEN HOLES AND TIGHTENED TO A SNUG TIGHT FIT, AFTER WHICH ALL BOLTS SHALL BE TIGHTENED COMPLETELY BY CALIBRATED WRENCHES OR BY THE TURN-OF-NUT METHOD. DRIFT PINS SHALL THEN BE REPLACED WITH BOLTS, TIGHTENED IN THE SAME MANNER. "BOLT LENGTHS DETERMINED BY THE USE OF TABLE No. 1 SHALL BE ADJUSTED TO THE NEXT 1/4-INCH LENGTH INCREMENT."

ALL BOLT CONNECTIONS SHALL BE MADE WITH 1" DIAMETER HIGH STRENGTH STEEL BOLTS, UNLESS NOTED.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

STRUCTURAL GENERAL NOTES
PROJECT GUE - 77-22.59
TUS - 77-0.00
GUERNSEY & TUSCARAWAS COUNTIES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
				RDH	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

186
230

GUE.77-22.59
TUS.77- 0.00

CURVE DATA

℄ I-77

Δ = 12°-06'-29"
D = 0°-28'-00"
R = 12277.67'
T = 1302.14
L = 2594.58
E = 68.86

P.C. STA. 1211 +88.65
P.I. STA. 1224+90.79
P.T. STA. 1237+83.23

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 49'-6"-70'-9"-70'-9"-56'-6" ℄ BRGS.
SKEW: 9°-52'-36" L.F. TO LOC. TAN.
ROADWAY: 24'-0" ℄ 2'-0" SAFETY CURBS.
LOAD FREQUENCY: CF = 130

WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG - SPECIAL
ALIGNMENT: TANGENT
SUPERELEVATION: NONE.
SLOPE PROTECTION: NONE. AT ABUT. Nº 1
CRUSHED AGG. AT ABUT. Nº 2.

TRAFFIC: T.R.*218 -35 A.D.T. - 1975.
I-77 - 7630 A.D.T. - 1975.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

SITE PLAN

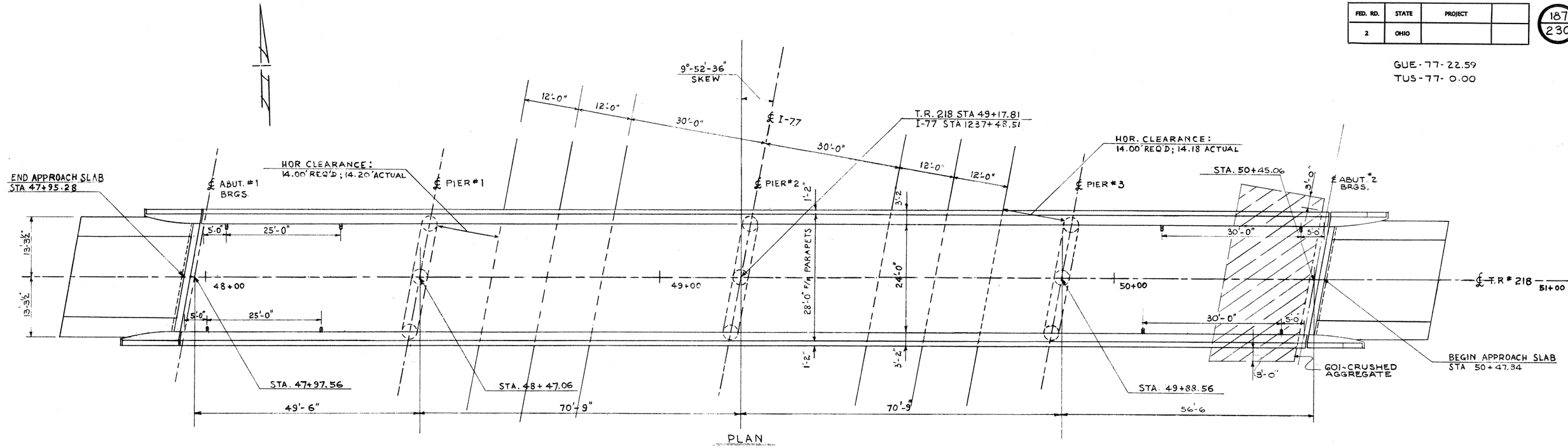
BRIDGE Nº GUE-77-2379
UNDER T.R.*218
GUERNSEY COUNTY
STA. 1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	JFP		HGH	EBH	6-29-65	

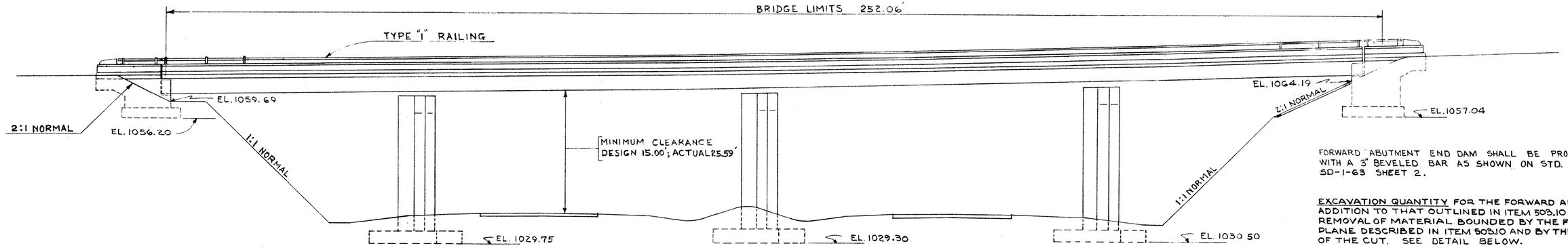
FED. RD.	STATE	PROJECT	
2	OHIO		

187
230

GUE-77-22.59
TUS-77-0.00



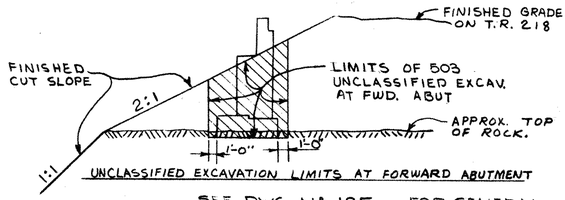
PLAN



ELEVATION

FORWARD ABUTMENT END DAM SHALL BE PROVIDED WITH A 3" BEVELED BAR AS SHOWN ON STD. DWG. SD-1-63 SHEET 2.

EXCAVATION QUANTITY FOR THE FORWARD ABUTMENT, IN ADDITION TO THAT OUTLINED IN ITEM 503.10, INCLUDES THE REMOVAL OF MATERIAL BOUNDED BY THE FRONT VERTICAL PLANE DESCRIBED IN ITEM 503.10 AND BY THE FINISHED SLOPE OF THE CUT. SEE DETAIL BELOW.



UNCLASSIFIED EXCAVATION LIMITS AT FORWARD ABUTMENT

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS	PIERS	GEN.
503	109	CU.YDS.	EXCAVATION FOR STRUCTURES (UNCLASSIFIED)		109		
503	174	CU.YDS.	EXCAVATION FOR STRUCTURES (ROCK)		48	126	
511	233	CU.YDS.	CLASS "C" CONC. SUPERSTRUCTURE	233			
511	73	CU.YDS.	CLASS "E" CONC. ABUT. ABOVE FOOTINGS		73		
511	93	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS			93	
511	101	CU.YDS.	CLASS "E" CONC. PIERS & ABUT. FOOTINGS		37	64	
509	103,812	LBS	REINFORCING STEEL	58,394	7,292	38,126	
513	174,822	LBS	STRUCTURAL STEEL	174,822			
514	174,822	LBS	FIELD PAINTING OF STRUCTURAL STEEL	174,822			
517	548.73	LIN. FT.	BRIDGE RAILING TYPE 1	497.90	50.83		
518	19	CU.YDS.	POROUS BACKFILL		19		
518	46	LIN. FT.	6" PERFORATED HELICAL C.M.P. 707.06 INCLUDING SPECIALS		46		
518	66	LIN. FT.	6" HELICAL C.M.P. 707.06 NON-PERFORATED		66		
518	8	EACH	SCUPPERS INCLUDING SUPPORTS	8			
601	77	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		77		
808	233	EACH	WATER REDUCING SET RETARDING ADMIXTURE	233			

SEE DWG. Nº 185 FOR GENERAL NOTES # 1 THRU # 16

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

GENERAL PLAN AND ELEVATION

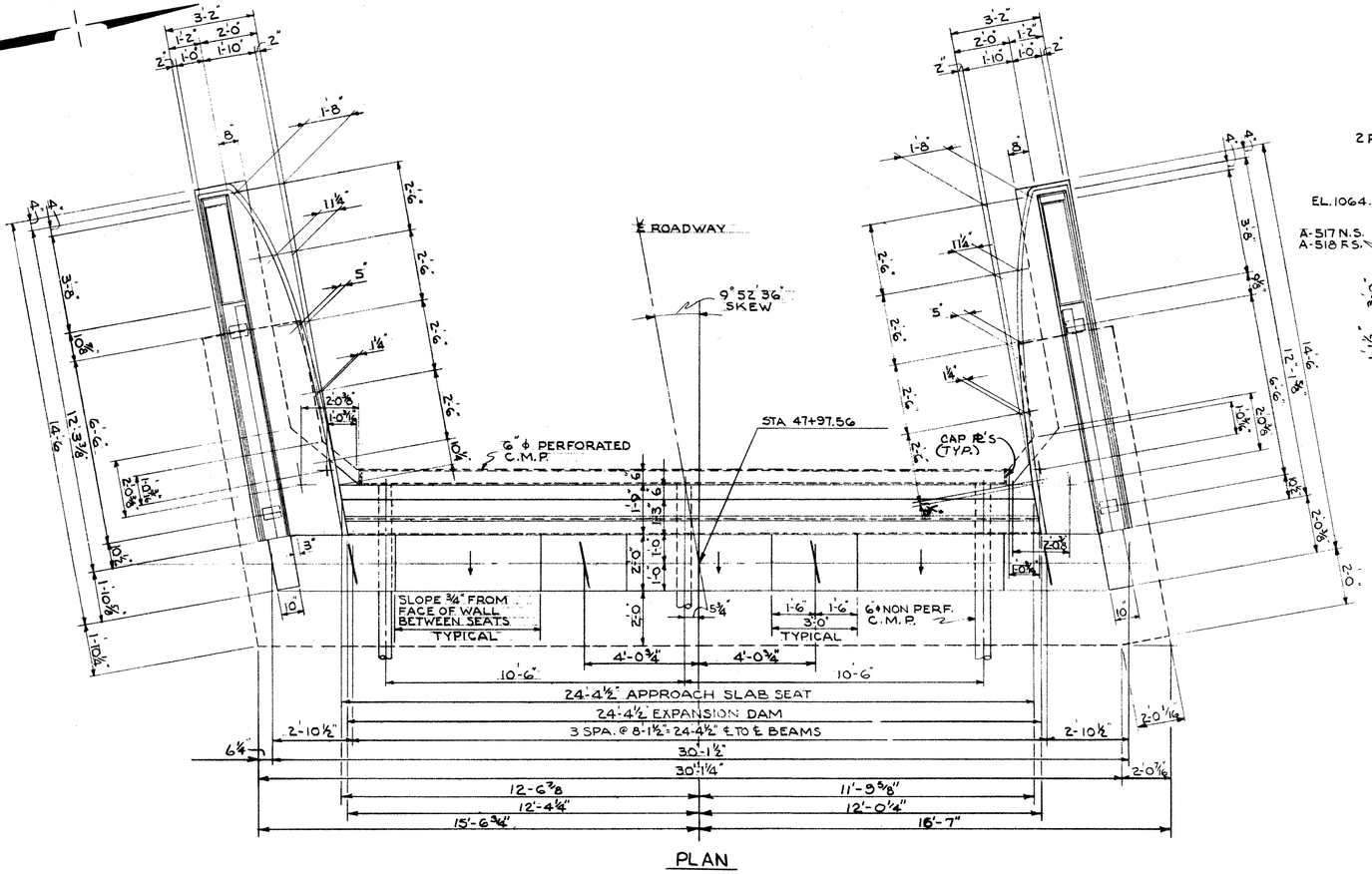
BRIDGE Nº GUE-77-2379
UNDER T. R. # 218
GUERNSEY COUNTY
STA. 1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISE
KSJ	KSJ		HGH	EDN	6-29-65	

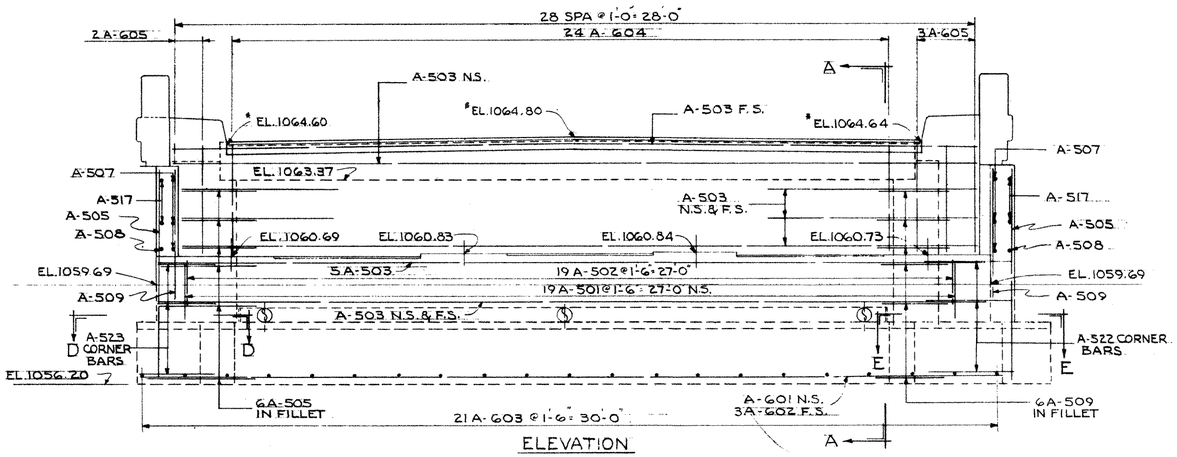
GUE.-77-22.59
TUS.-77-0.00

FED. RD.	STATE	PROJECT	
2	OHIO		

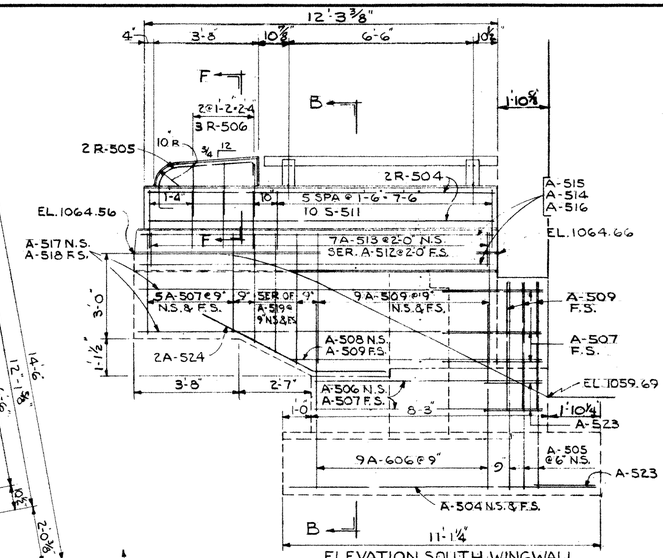
188
230



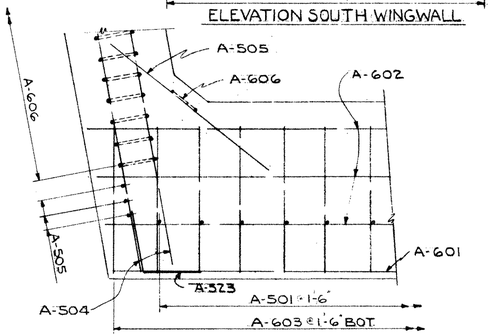
PLAN



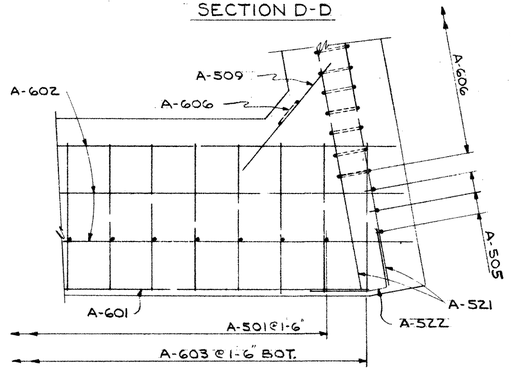
ELEVATION



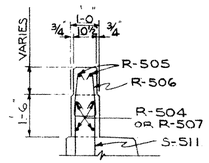
ELEVATION SOUTH WINGWALL



SECTION D-D



SECTION E-E



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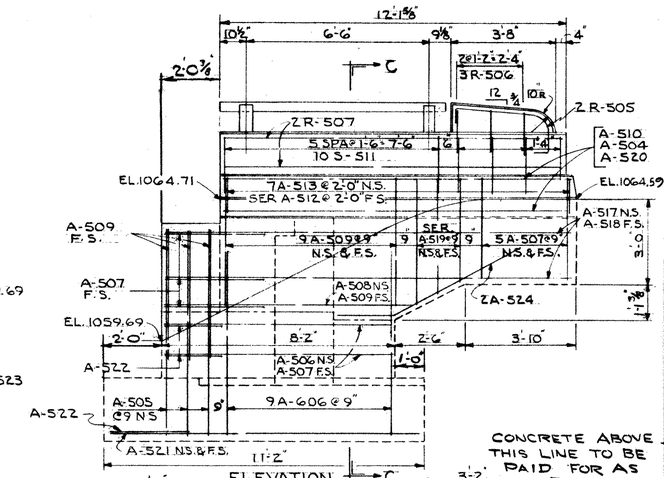
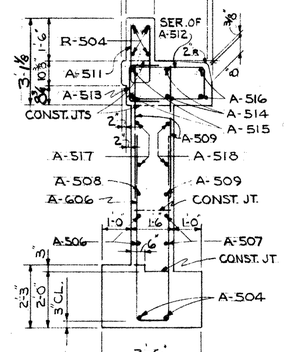
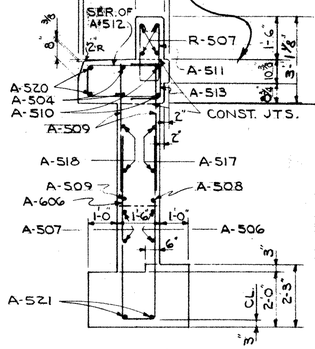


ELEVATION NORTH WINGWALL

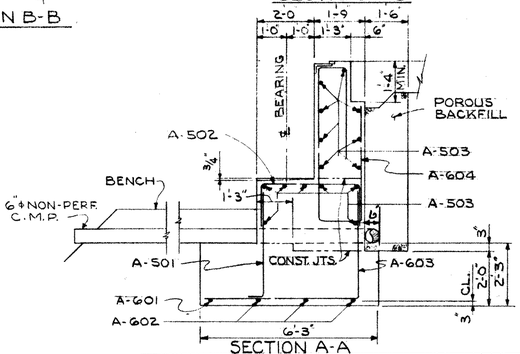
CONCRETE ABOVE THIS LINE TO BE PAID FOR AS PART OF ITEM S-14 (RAILING)



SECTION B-B



SECTION C-C



SECTION A-A

* INDICATES ELEVATION GIVEN TO HEEL OF ANGLE

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT Nº1

BRIDGE Nº GUE-77-2379
UNDER T. R. "218
GUERNSEY COUNTY
STA-1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	JLH		HGH	RDH	6-29-65	

GUE-77-22.59
TUS-77-0.00

FED. RD.	STATE	PROJECT	
2	OHIO		

189
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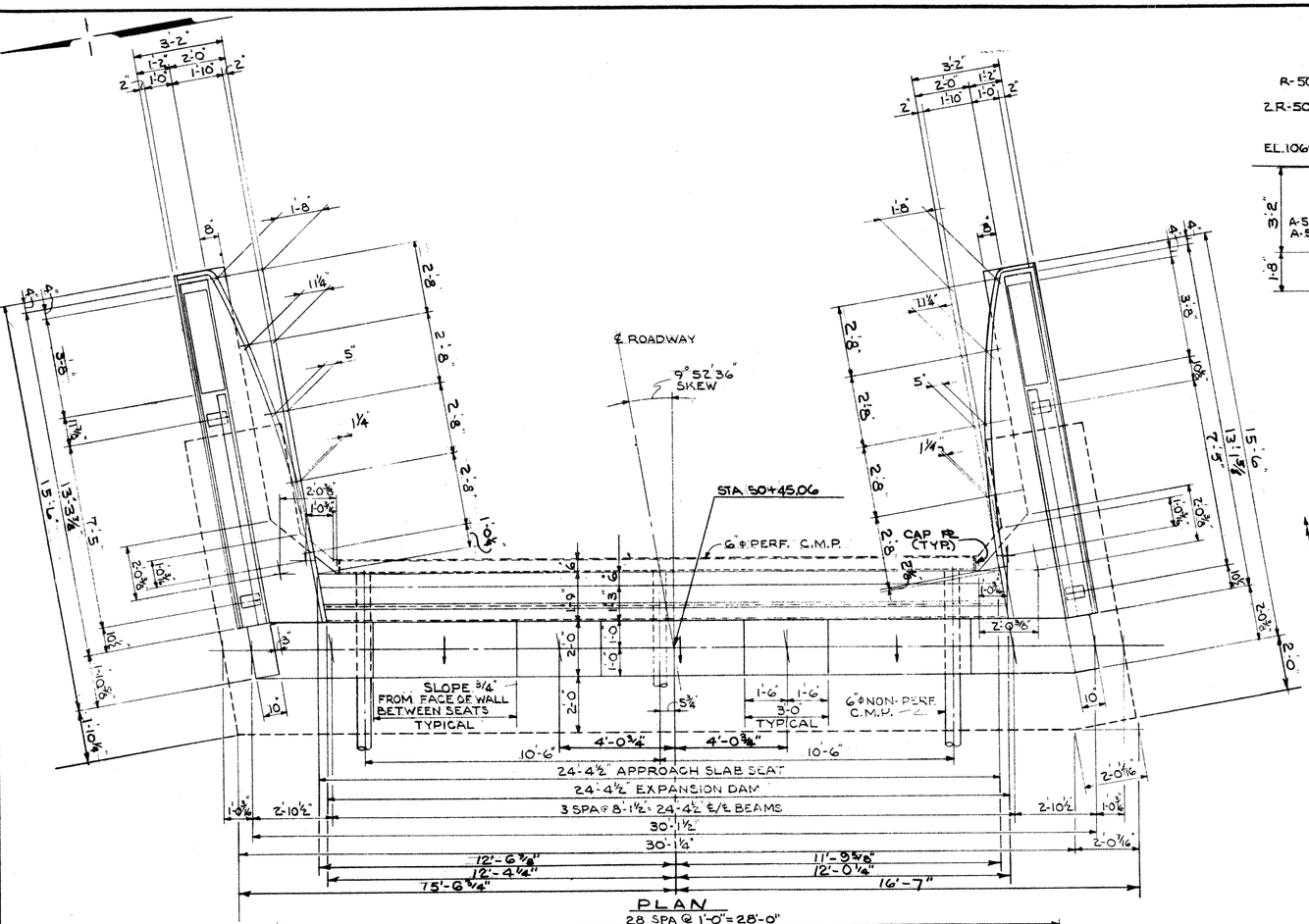

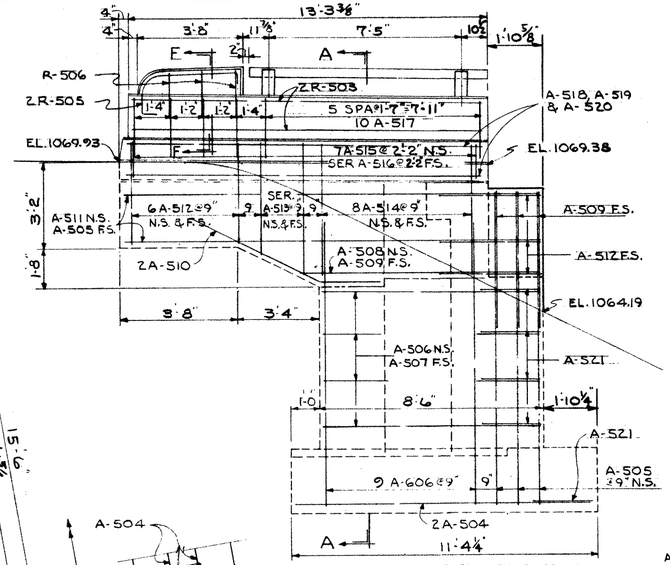

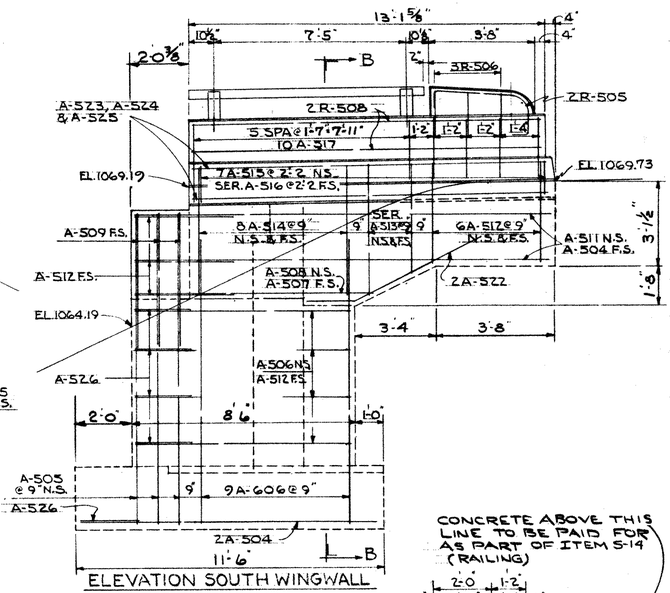

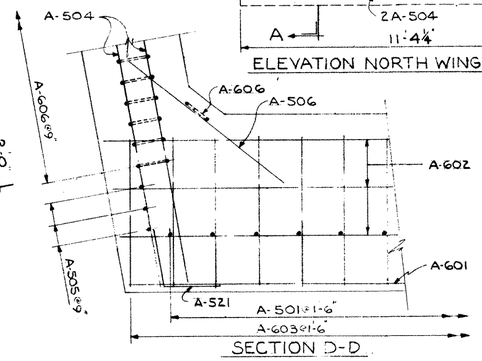

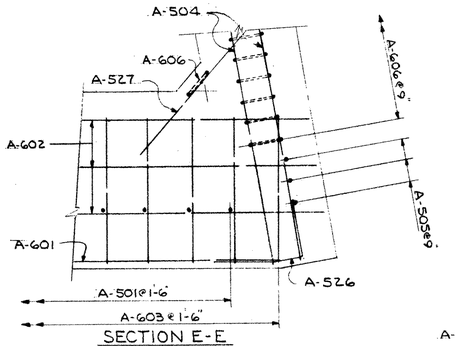

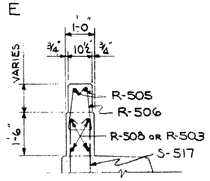

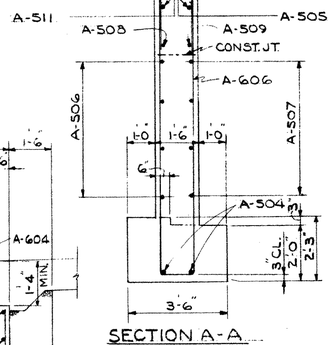

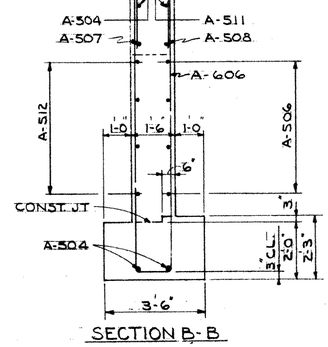

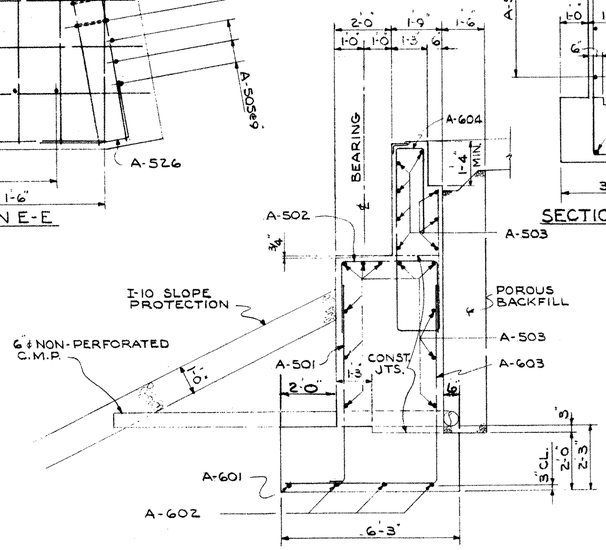

* INDICATES ELEVATIONS GIVEN TO HEEL OF ANGLE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT Nº 2

BRIDGE Nº GUE-77-2379
UNDER T. R. "218
GUERNSEY COUNTY
STA. 1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	JLH		HGH	RBH	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

190
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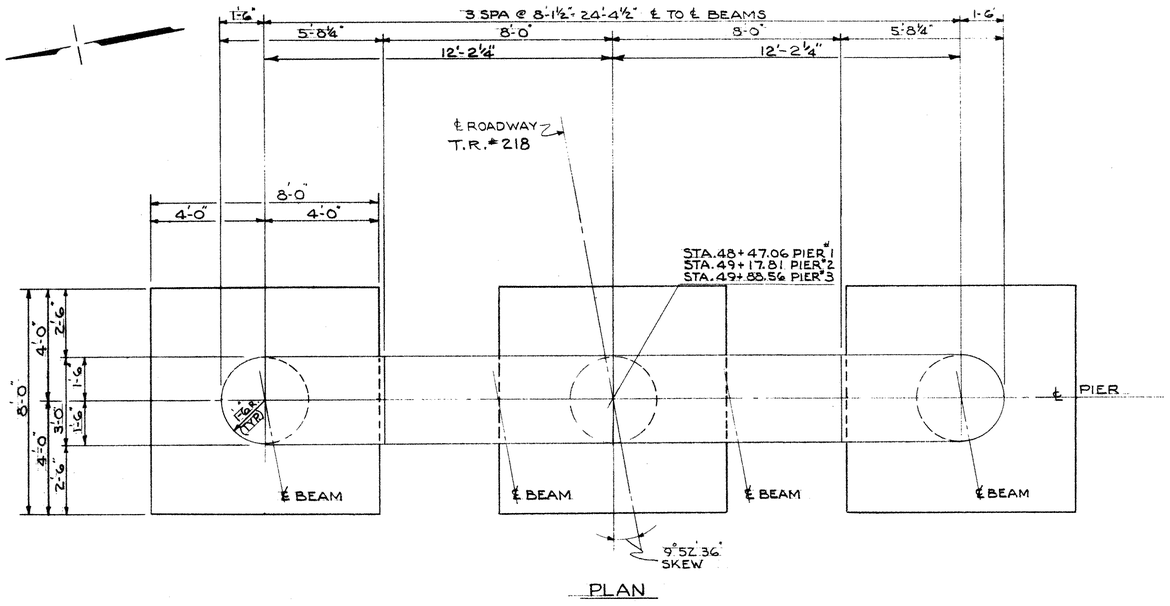
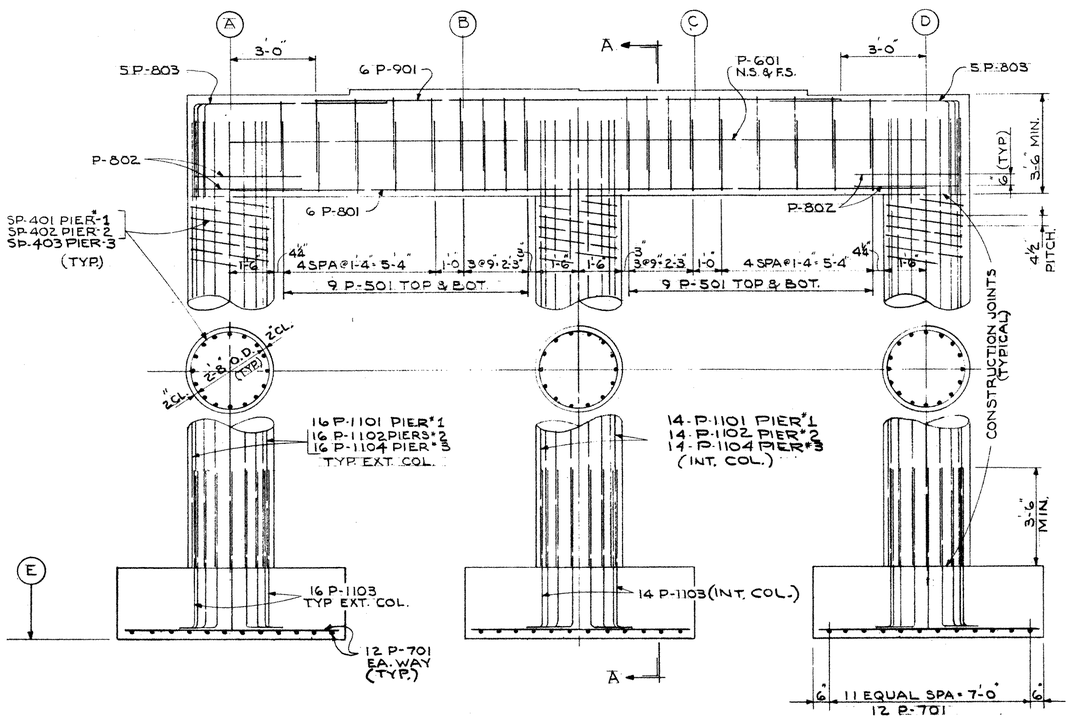
GUE-77-22.59
TUS-77-0.00

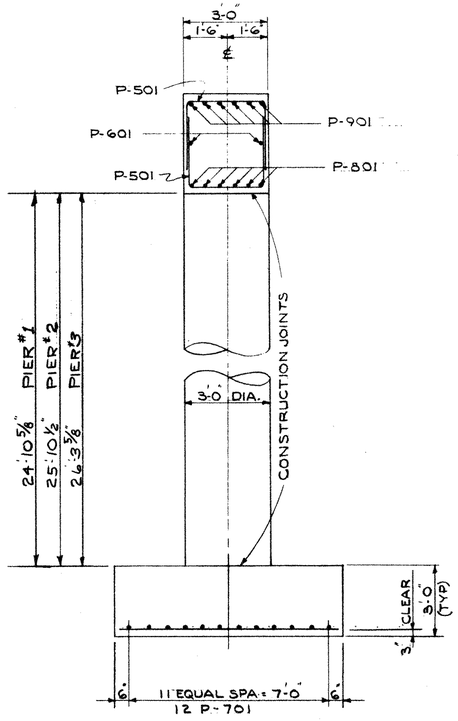


PLAN

ELEVATIONS					
PIER Nº	A	B	C	D	E
1	1061.18	1061.29	1061.28	1061.14	1029.75
2	1061.72	1061.83	1061.81	1061.67	1029.30
3	1063.41	1063.50	1063.46	1063.30	1030.50



ELEVATION



SECTION A-A

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIERS

BRIDGE Nº GUE-77-2379
UNDER T. R. # 218
GUERNSEY COUNTY
STA. 1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	JLH		H.G.H.	RBH	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

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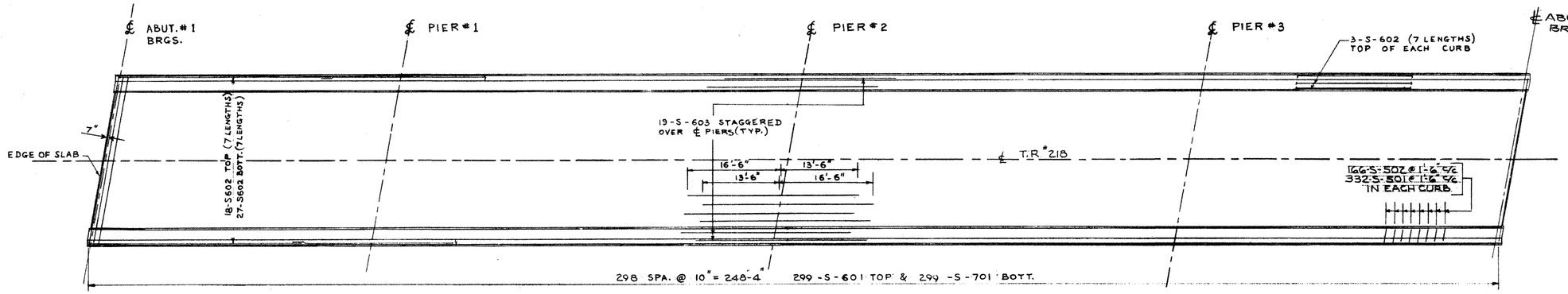
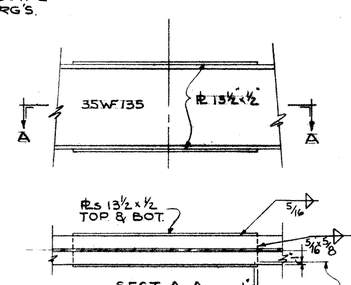
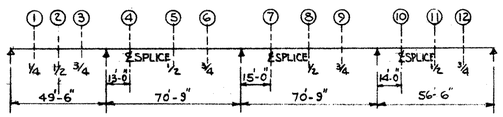
GUE.-77-22.59
TUS.-77-0.00





MOMENT PLATE WELDING DETAILS

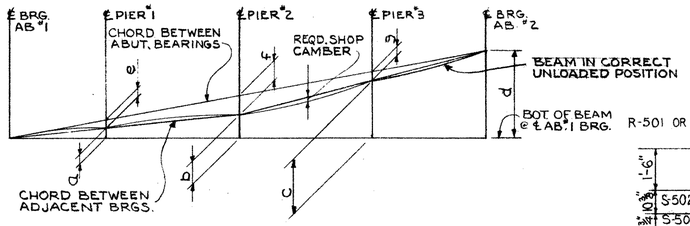


DEFLECTION AND CAMBER

LOCATION	1	2	3	4	5	6	7	8	9	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.035	.037	.010	.050	.126	.071	.047	.109	.062	.041	.089	.074
DEFLECTION DUE TO REMAINING DEAD LOAD	.138	.148	.041	.202	.504	.282	.186	.437	.250	.162	.357	.296
CONVEXITY REQUIRED FOR VERTICAL CURVE	0	0	0	0	0	0	-1.000	-1.480	-1.110	-0.700	-0.940	-0.704
SUM OF CONVEXITY AND DEFLECTION	.173	.185	.051	.252	.630	.353	-.767	-.934	-.798	-.497	-.494	-.334
REQUIRED CAMBER	① 3/16"	① 3/16"	① 1/16"	① 1/4"	① 5/8"	① 3/8"	② -3/4"	② -7/8"	② -3/4"	② -1/2"	② -1/2"	② -5/16"

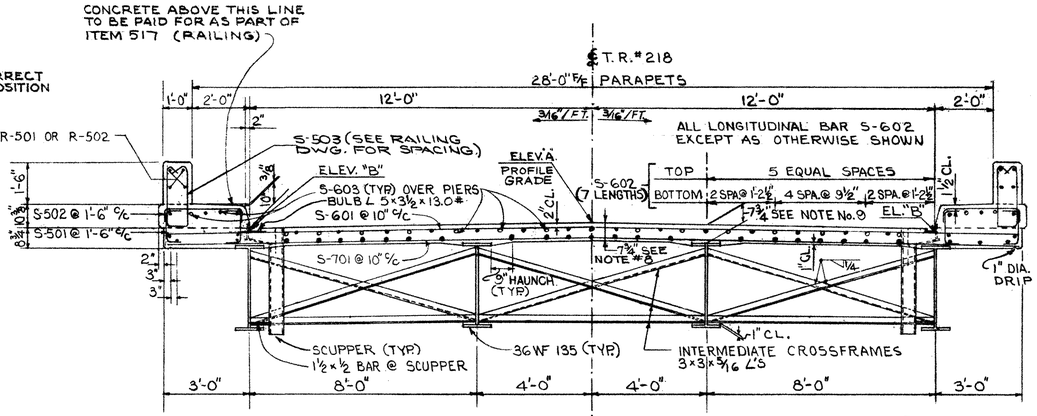
①ERECT WITH CAMBER UP
②ERECT WITH CAMBER DOWN

SLAB REINFORCING PLAN

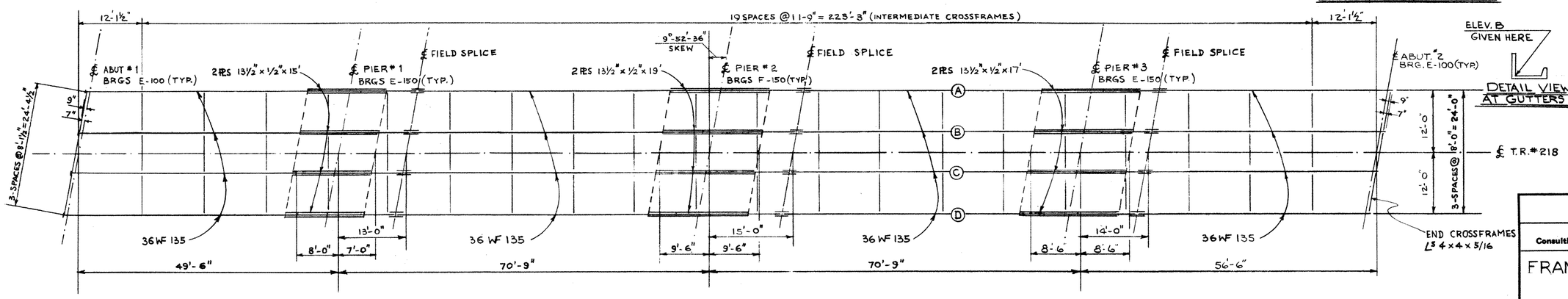


LAYOUT DIAGRAM

BEAM	a	b	c	d	e	f	g
A	5⅞"	1'-2⅞"	2'-8 11/16"	4'-7 13/16"	5 3/16"	1'-0 1/16"	10⅛"
B	5⅞"	1'-2⅞"	2'-8 7/16"	4'-6 15/16"	5 1/16"	11 3/16"	10"
C	5⅞"	1'-2¾"	2'-8 1/16"	4'-6 1/2"	5"	11 1/16"	10"
D	5⅞"	1'-2¾"	2'-7 13/16"	4'-6"	4⅞"	11½"	9⅞"



TRANSVERSE SECTION



FRAMING PLAN

SEE STD. DWG. SD-2-64 FOR FIELD SPLICE DETAILS

— ELEVATION TABLE —

PROFILE GRADE ON ℄ TR 218.

STATION	PROFILE GRADE	ELEV. "A"	ELEV. "B"
48+00	1064.90	1064.90	1064.62
+25	1065.15	1065.16	1064.88
+50	1065.40	1065.40	1065.12
+75	1065.65	1065.70	1065.42
49+00	1065.90	1065.93	1065.66
+25	1066.21	1066.21	1065.94
+50	1066.65	1066.69	1066.42
+75	1067.21	1067.23	1066.96
50+00	1067.89	1067.91	1067.62
+25	1068.70	1068.72	1068.44

ELEVATIONS "A" AND "B" ARE ELEVATION AT CROWN AND BULB ANGLE RESPECTIVELY BEFORE CONCRETE IS PLACED.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

FRAMING PLAN & SLAB DETAILS

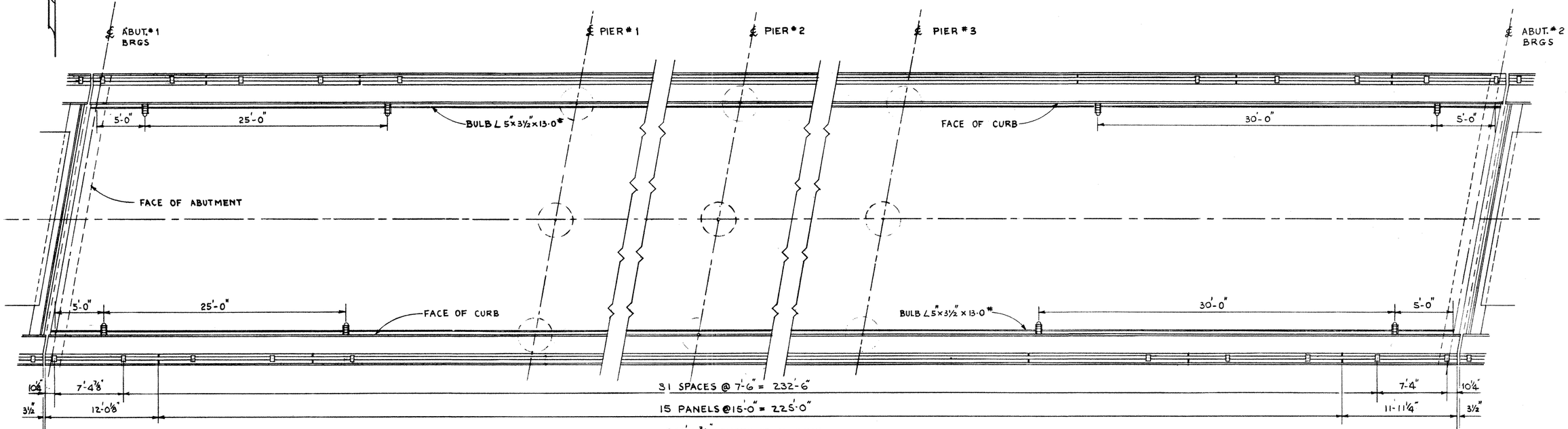
BRIDGE Nº GUE-77-2379
UNDER T. R. # 218
GUERNSEY COUNTY
STA. 1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	KSJ		HGH	RBA	6-29-65	

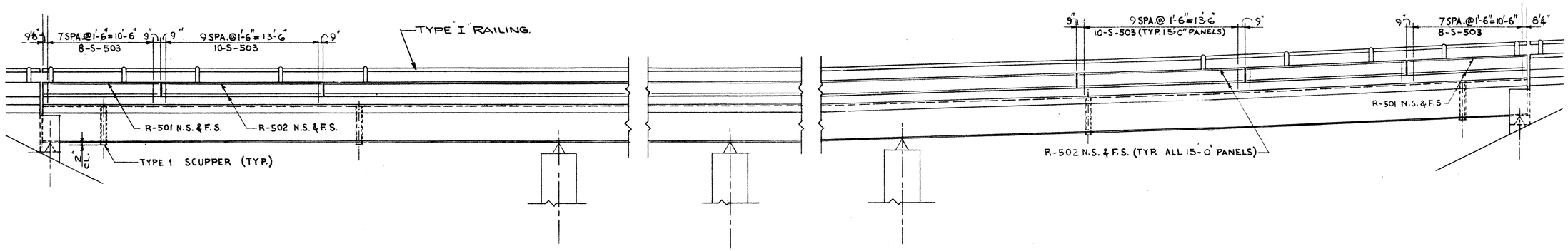
FED. RD.	STATE	PROJECT	
2	OHIO		

192
230

GUE-77-22.59
TUS-77- 0.00



PARTIAL DECK PLAN



ELEVATION - SOUTH PARAPET SHOWN
NORTH PARAPET SIMILAR

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAILING & DRAINAGE DETAILS

BRIDGE Nº GUE-77-2379
UNDER T.R. "218
GUERNSEY COUNTY
STA 1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	KSJ		HGH	EBH	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

193
230

GUE.-77-22.59
TUS.-77-0.00

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
ABUTMENT #1									
A-501	19	4'-5"	1	6"	4'-0"				88
A-502	19	6'-2"	3	3'-5"	1'-6"				122
A-503	15	29'-0"	ST						454
A-504	4	11'-0"	ST						46
A-505	12	7'-1"	ST						89
A-506	4	7'-10"	ST						33
A-507	30	3'-6"	ST						110
A-508	2	5'-9"	ST						18
A-509	50	4'-6"	ST						235
A-510	2	12'-0"	ST						25
A-511	20	5'-7"	5	8"	2'-2"	5"			117
SERIES OF A-512	2 SETS OF 7 = 14 BARS	VARIES 6'-1" TO 2'-9"	19	1'-2"	VARIES 2'-8" TO 1'-0" ℄			3¼" +	65
A-513	14	2'-11"	3	1'-2"	1'-0"				43
A-514	2	11'-6"	ST						24
A-515	2	12'-4"	ST						26
A-516	2	12'-6"	17	2'-6	10'-0"	2'-6"			26
A-517	4	14'-2"	ST						59
A-518	4	10'-2"	ST						42
SERIES OF A-519	4 SETS OF 3 = 12 BARS	VARIES 4'-5" TO 3'-9" ℄	ST					4"	51
A-520	2	11'-8"	17	1'-8"	10'-0"	2'-6"			24
A-521	2	10'-10"	ST						23
A-522	3	4'-6"	18	2'-0"	8"	2'-0"	4 3/16"		14
A-523	3	3'-11"	20	2'-0"	2'-0"	4 3/16"			12
A-524	4	7'-0"	12	5'-0"	2'-0"	10¾"			29
A-601	1	29'-10"	ST						45
A-602	3	31'-9"	ST						143
A-603	21	9'-4"	1	5'-5"	4'-0"				294
A-604	24	14'-0"	7	3'-10"	1'-5"	5'-4"	11"		505
A-605	5	11'-10"	3	1'-5"	5'-4"				89
A-606	20	13'-11"	3	1'-2"	6'-6"				418
TOTAL ABUTMENT №1 =									3269#
ABUTMENT #2									
A-501	19	7'-11"	1	6"	7'-6"				157
A-502	19	6'-2"	3	3'-5"	1'-6"				122
A-503	19	29'-0"	ST						575
A-504	6	11'-0"	ST						69
A-505	8	10'-11"	ST						91
A-506	16	8'-2"	ST						136
A-507	5	4'-0"	ST						21
A-508	2	9'-0"	ST						19
A-509	7	4'-9"	ST						35
A-510	2	7'-0"	12	5'-0"	2'-0"	10¾"			15
A-511	4	15'-2"	ST						63
A-512	34	3'-6	ST						124
SERIES OF A-513	4 SETS OF 3 = 12 BARS	VARIES 4'-7" TO 3'-10" ℄	ST					4½"	53
A-514	32	4'-6"	ST						150
A-515	14	2'-11"	3	1'-2"	1'-0"				43
SERIES OF A-516	2 SETS OF 7 = 14 BARS	VARIES 6'-1" TO 2'-9"	19	1'-2"	VARIES 2'-8" TO 1'-0" ℄			3¼" +	65
A-517	20	5'-7"	5	8"	2'-2"	5"			117
A-518	2	13'-4"	ST						28
A-519	2	12'-6"	ST						26
A-520	2	13'-3"	17	2'-7"	10'-8"	2'-8"			28
A-521	5	3'-11"	20	2'-0"	2'-0"	4 3/16"			20
A-522	2	6'-8"	12	5'-0"	1'-8"	9"			14
A-523	2	12'-9"	ST						27
A-524	2	12'-0"	ST						25
A-525	2	12'-5"	17	1'-9"	10'-8"	2'-8"			26
A-526	5	4'-6"	18	2'-0"	8"	2'-0"	4 3/16"		23
A-527	8	6'-0"	ST						50

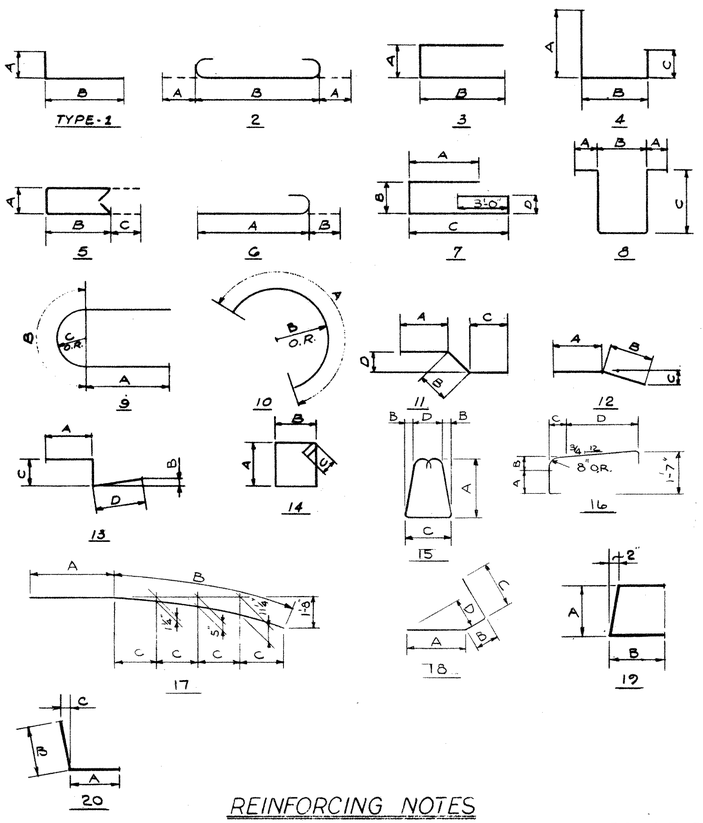
MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
ABUTMENT #2 (CONT.)									
A-601	1	29'-10"	ST						45
A-602	3	31'-9"	ST						143
A-603	21	12'-4"	1	5'-5"	7'-0"				389
A-604	24	16'-4"	7	3'-0"	1'-5"	6'-6"	11"		589
A-605	5	14'-2"	3	1'-5"	6'-6"				106
A-606	20	20'-11"	3	1'-2"	10'-0"				629
TOTAL ABUTMENT №2 =									4023#
TOTAL ABUTMENTS №1 & №2 =									7292#
PIERS									
P-501	108	7'-5"	3	2'-8"	2'-6"				835
P-601	6	24'-5"	ST						220
P-701	216	7'-6"	ST						3311
P-801	18	24'-5"	ST						1173
P-802	12	9'-10"	9	3'-0"	3'-9 7/16"	1'-2 3/8"			315
P-803	30	9'-10"	1	3'-3"	6'-9"				188
P-901	18	18'-5"	ST						1127
SPIRALS =									4165#.
TOTAL PIERS =									38,126#
SLAB									
S-501	664	2'-0"	3	1'-3"	6"				1385
S-502	332	3'-3"	3	2'-6"	6"				1125
S-503	332	5'-7"	5	8"	2'-2"	5"			1933
P-1101	46	28'-0"	ST						6843
P-1102	46	29'-0"	ST						7088
P-1103	138	6'-11"	1	1'-0"	6'-2"				5071
P-1104	46	29'-5"	ST						7190

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
SLAB (CONT.)									
S-601	299	29'-8"	ST						13,323
S-602	357	37'-2"	ST						19,929
S-603	57	30'-0"	ST						2,568
S-701	299	29'-8"	ST						18,131
TOTAL SLAB =									58,394#
RAILING®									
R-501	16	11'-7	ST						
R-502	120	14'-8"	ST						
R-503	4	12'-11"	ST						
R-504	4	11'-11"	ST						
R-505	8	5'-4"	16	9"	7 5/8"	7½"	2 8½"		
R-506	12	4'-2	15	1'-6"	¾"	8"	6½"		
R-507	4	11'-9"	ST						
R-508	4	12'-9"	ST						
REPLACEMENT BARS									
RE-401	1	5'-3"	10	5'-3"	1'-4"				
RE-501	1	5'-6"	ST						
RE-601	2	6'-0"	ST						
RE-701	2	6'-3"	ST						
RE-801	1	6'-6"	ST						
RE-901	1	6'-10"	ST						
RE-1001	—	7'-3"	—						
RE-1101	2	7'-9"	ST						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	3	2'-8"	24'-10⅞"	4½"	69	1140
SP-402	3	2'-8	25'-10½"	4½	72	1190
SP-403	3	2'-8"	26'-3⅜"	4½	73	1206
SPACERS						629
TOTAL SPIRALS						4,165#

GRAND TOTAL 103,812 LBS



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509

ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.98 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.98 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

® RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

REINFORCING SCHEDULE

BRIDGE № GUE-77-2379
UNDER T. R. #218
GUERNSEY COUNTY
STA. 1237+48.51

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	JLH		HGH	RBN	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

194
230

GUE-77-22.59

TUS-77-0.00.

CURVE DATA

℄ RELOCATED C.R.*3

Δ = 80°-50'-30"
D_c = 8°-00'-00"
R = 716.20'
T = 609.98'
L_c = 1010.52'
E = 223.91'

P.C. STA. 42+81.39
P.I. STA. 48+91.37
P.T. STA. 52+91.91

℄ I-77

P.I. STA. 43+61.53
Δ = 22°-12'-34"
D_c = 1°-28'-00"
R = 3906.53'
T = 766.77'
L = 1514.28'
E = 74.54'

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 36'-6" - 45'-6" - 32'-0" c/c BRGS.
SKEW: 22°-36'-48" LF.
ROADWAY: 40'-0" f/f PARAPETS L & R.
LOAD FREQUENCY: CF = 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: I-77 TRANSITION; C.R.*3 -.064'/FT
SLOPE PROTECTION: CRUSHED AGGREGATE
TRAFFIC: C.R.*3 - 190 - A.D.T. - 1975
I-77 - 7630 - A.D.T. - 1975

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

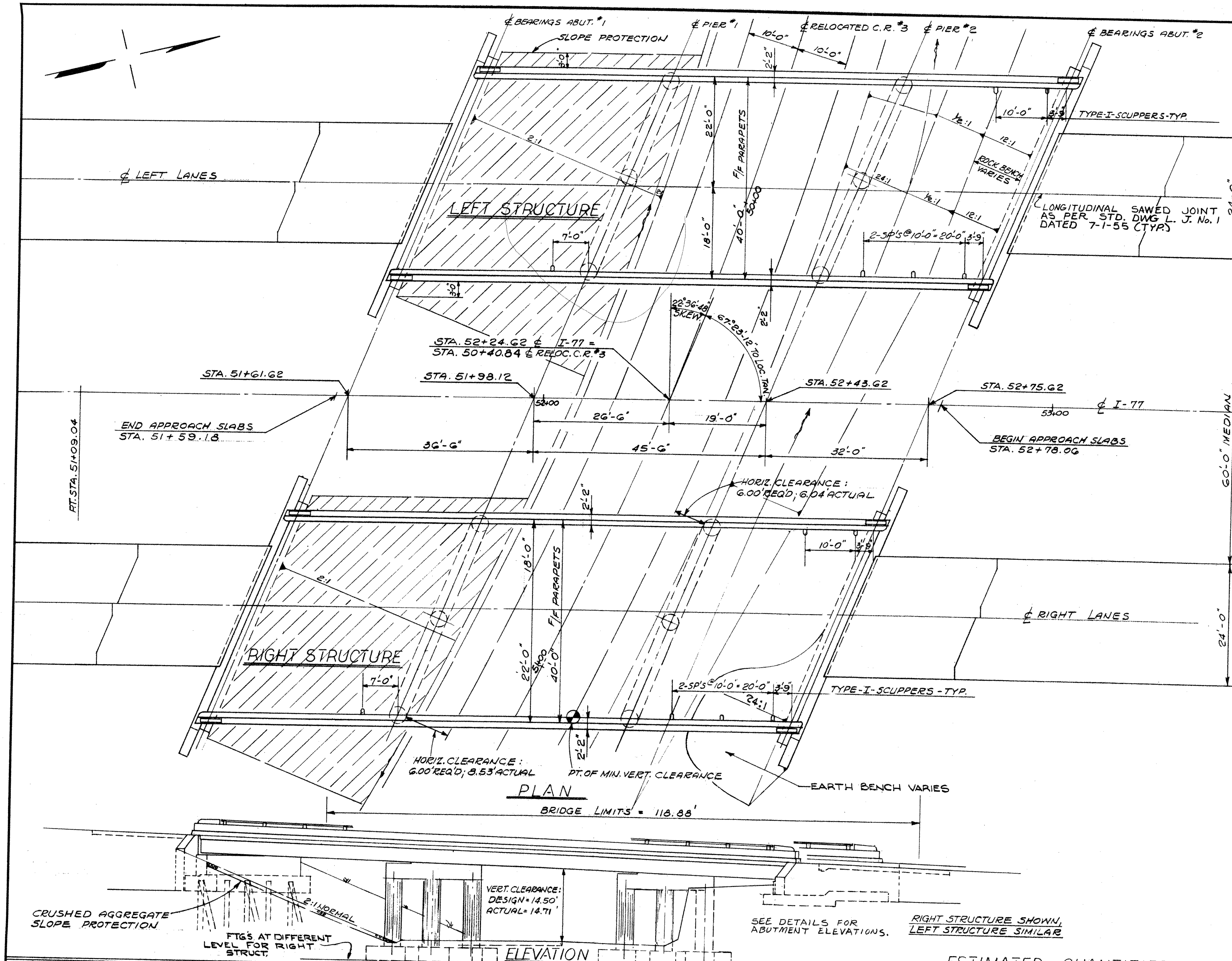
BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

SITE PLAN

BRIDGE NO. TUS 77 0098 L & R
OVER RELOCATED C.R.*3
TUSCARAWAS COUNTY
STA. 51+59.18 TO STA. 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.M.S.H.	JFP		CLS	RWH	6-29-65	

GUE-77-22.59
TUS-77-0.00



SEE DETAILS FOR ABUTMENT ELEVATIONS.

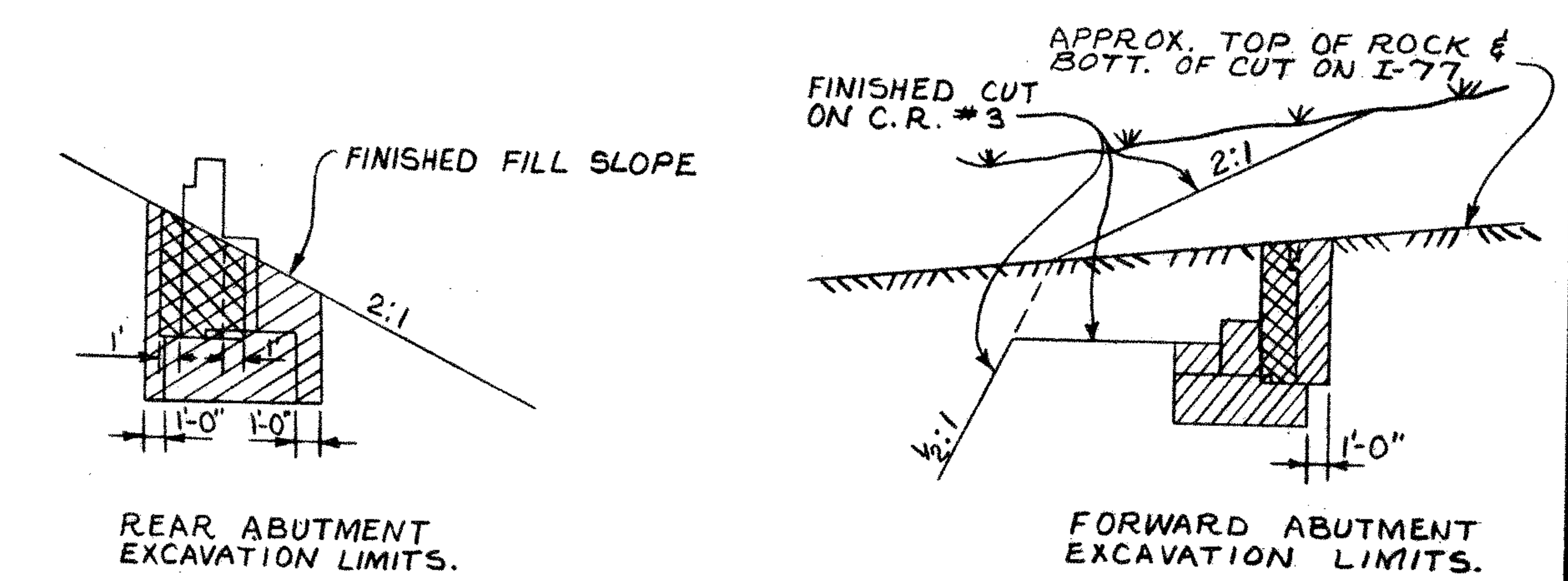
RIGHT STRUCTURE SHOWN, LEFT STRUCTURE SIMILAR

EXCAVATION QUANTITIES FOR ABUT. Nº 1 L&R INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE ABUTMENTS. SEE DETAIL BELOW.

EXCAVATION QUANTITY FOR ABUT Nº 2 L&R IN ADDITION TO THAT OUTLINED IN ITEM 503.10 INCLUDES THE REMOVAL OF MATERIAL BOUNDED BY THE PROPOSED BENCH, BY THE FRONT VERTICAL PLANE DESCRIBED IN ITEM 503.10 AND BY THE FINISHED SLOPE OF THE CUT. SEE DETAIL BELOW.

PILES FOR ABUT. Nº 1 L&R SHALL BE DRIVEN WITH A HAMMER OF NOT LESS THAN 11,000 FT. LBS. PER BLOW TO FIRM CONTACT WITH ROCK. IF THE LENGTH OF PENETRATION IS APPROXIMATELY EQUAL TO THE DEPTH TO ROCK ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT, THE FIRM CONTACT SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN ITEM 507.05 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING:
37 TONS PER PILE USING A 11,000 FT. LB. HAMMER
45 TONS PER PILE USING A 15,000 FT. LB. HAMMER
IF THE ENERGY RATING OF THIS HAMMER IS BETWEEN THE RATINGS AS SHOWN ABOVE, THE REQUIRED FORMULA CAPACITY SHALL BE DETERMINED BY INTERPOLATION.
THE DESIGN LOAD IS 35 TONS PER PILE.

SEE SHT. Nº 185 FOR STRUCTURAL GENERAL NOTES



EXCAVATION LIMITS FOR TOTAL LENGTH OF ABUTMENT FOOTINGS.

EXCAVATION LIMITS FOR WINGWALLS BEYOND ABUTMENT FOOTINGS.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S	PIERS	GEN.
503	297	CU.YDS.	EXCAVATION FOR STRUCTURES (UNCLASSIFIED)		227	70	
503	402	CU.YDS.	EXCAVATION FOR STRUCTURES (ROCK)		206	196	
511	302	CU.YDS.	CLASS "C" CONCRETE SUPERSTRUCTURE.	302			
511	176	CU.YDS.	CLASS "E" CONCRETE ABUT'S ABOVE FOOTINGS.		176		
511	116	CU.YDS.	CLASS "C" CONCRETE PIERS ABOVE FOOTINGS.			116	
511	220	CU.YDS.	CLASS "E" CONCRETE PIER & ABUT FOOTINGS.		114	106	
509	147,823	LBS.	REINFORCING STEEL.	86,512	16,896	44,415	

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S	PIERS	GEN.
513	186,540	LBS.	STRUCTURAL STEEL.	186,540			
514	186,540	LBS.	FIELD PAINTING OF STRUCTURAL STEEL.	186,540			
517	476.00	LIN.FT.	BRIDGE RAILING TYPE 1	476.00			
505	LUMP	SUM	FIRST TEST PILE				LUMP
507	600	LIN.FT.	10 BP 42 STEEL "H" PILES		600		
518	73	CU.YDS.	POROUS BACKFILL		73		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT'S	PIERS	GEN.
518	12	EACH	SCUPPERS INCLUDING SUPPORTS.	12			
518	177	LIN.FT.	6" PERFORATED HELICAL C.M.P. 707.06 INCLUDING SPECIALS.		177		
518	222	LIN.FT.	6" HELICAL C.M.P. 707.06 NON PERFORATED		222		
601	580	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		580		
808	302	EACH	WATER REDUCING, SET RETARDING ADMIXTURE	302			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

GENERAL PLAN AND ELEVATION

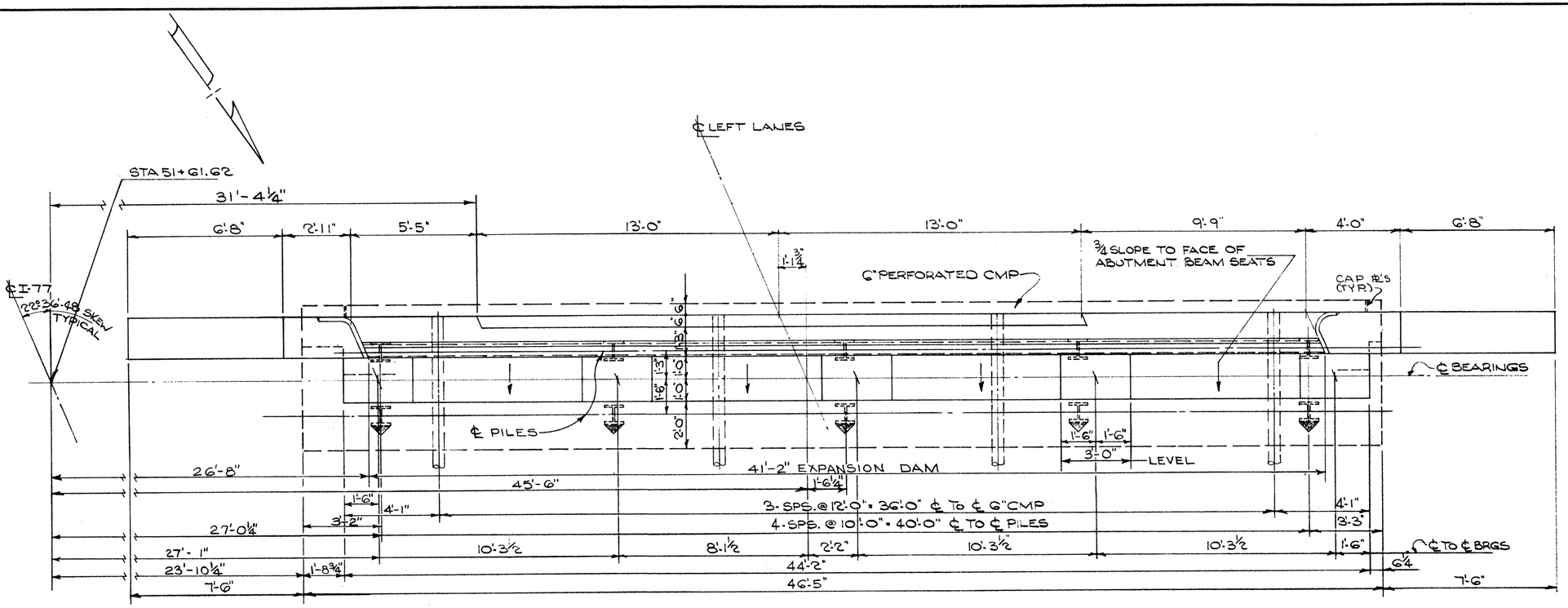
BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R. #3
TUSCARAWAS COUNTY
STA. 51+59.18 TO STA. 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.M.H.	JK		CLS			

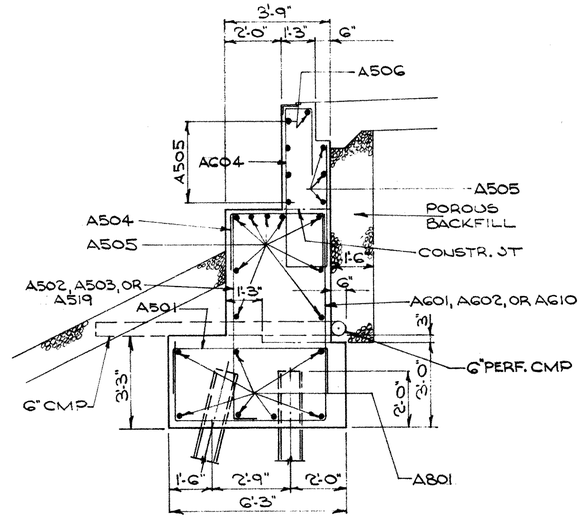
FED. RD.	STATE	PROJECT	
2	OHIO		

196
230

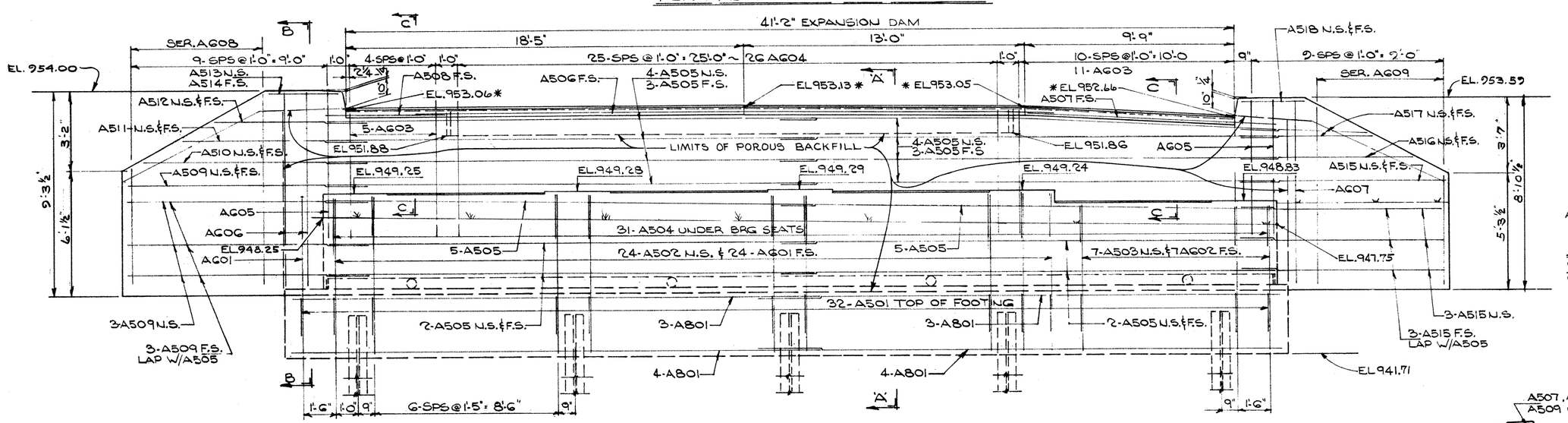
GLE.-77-22.59
TUS.-77-0.00



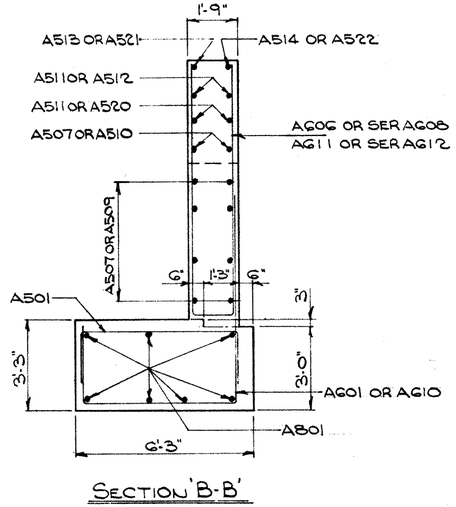
PLAN ABUTMENT #1 - LEFT STRUCTURE



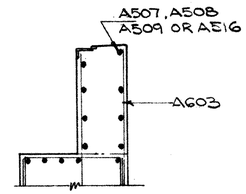
SECTION A-A



ELEVATION ABUTMENT #1 - LEFT STRUCTURE



SECTION 'B-B'



SECTION 'C-C'

*INDICATES ELEVATIONS GIVEN TO HEEL OF ANGLE

EMBANKMENT PROCEDURE: THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 Ft. BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS AND THE PILES DRIVEN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 1 LEFT STRUCTURE

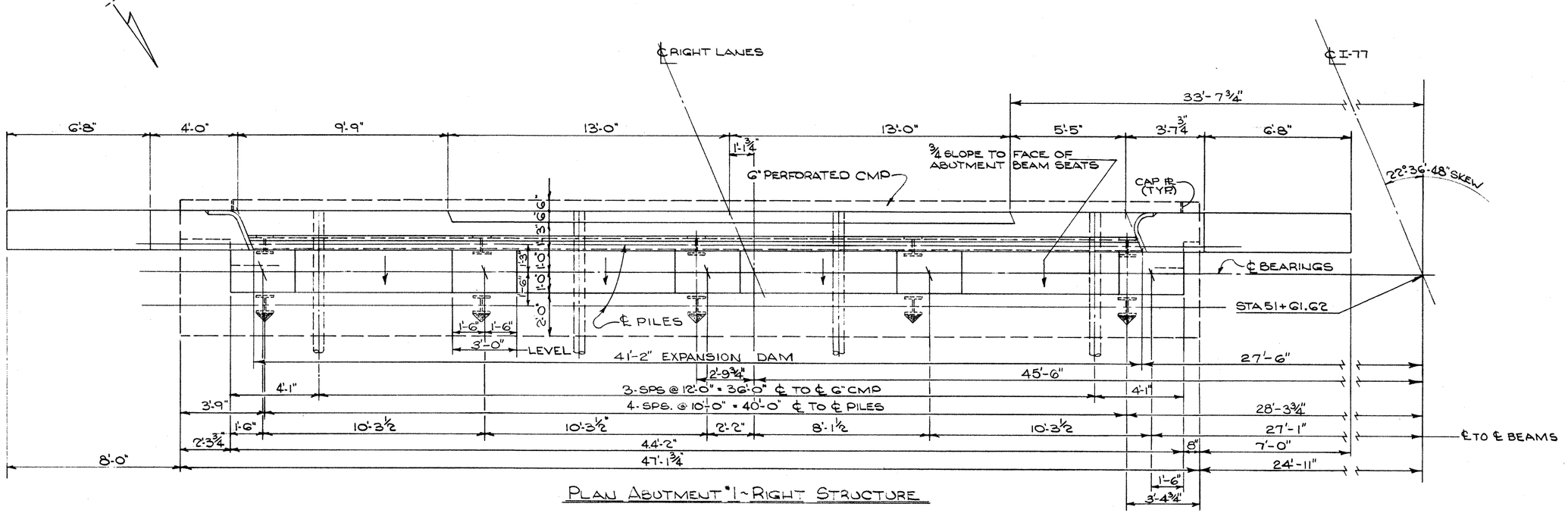
BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R. 3
TUSCARAWAS COUNTY
STA 51+59.18 TO STA 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.M.H.	J.W.W.		C.L.S.	R.O.H.	6-29-65	

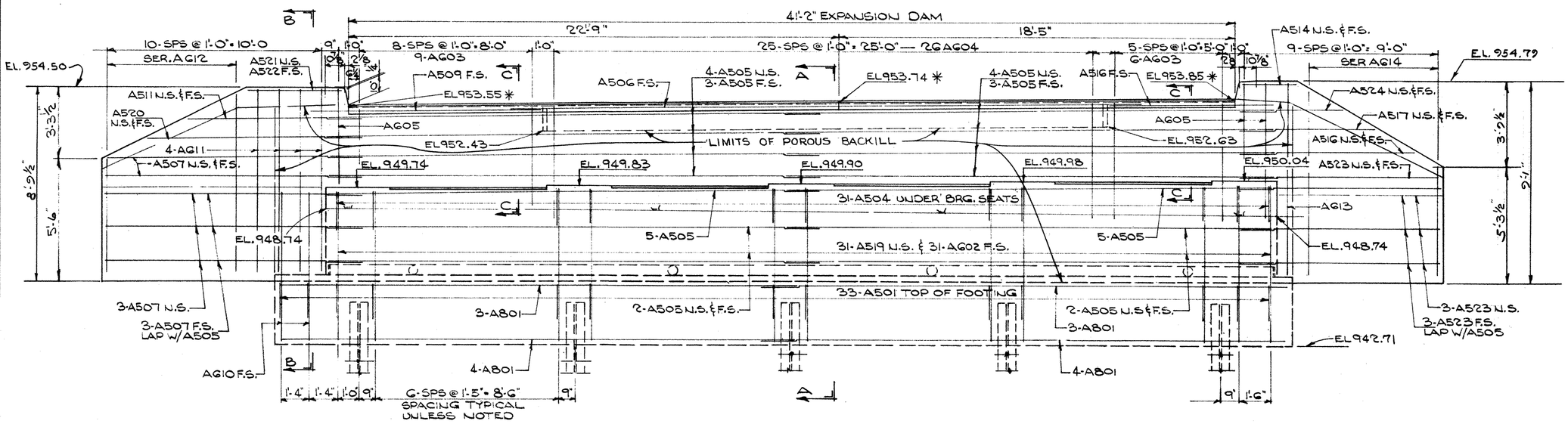
FED. RD.	STATE	PROJECT	
2	OHIO		

197
230

GUE-77-22.59
TUS-77- 0.00



PLAN ABUTMENT "1" - RIGHT STRUCTURE



ELEVATION ABUTMENT "1" - RIGHT STRUCTURE

* INDICATES ELEVATIONS GIVEN TO HEEL OF ANGLE

FOR SECTIONS 'A-A' 'B-B' & 'C-C' SEE SHT. 196

SEE SHEET NO. 196 FOR EMBANKMENT PROCEDURE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

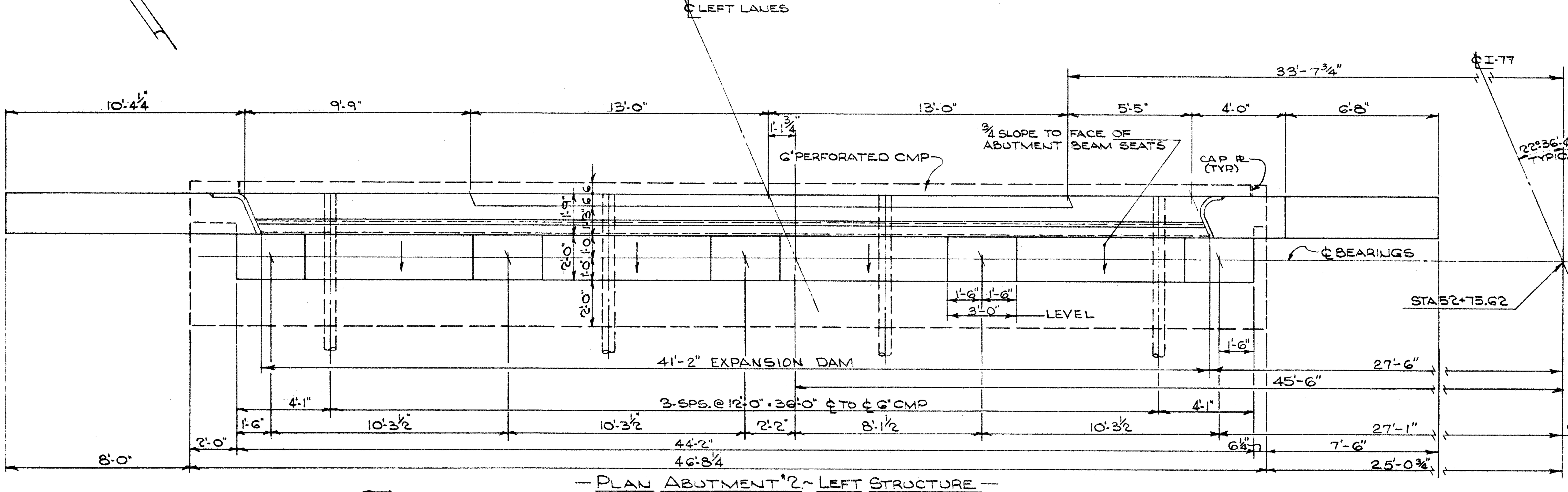
BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 1 RIGHT STRUCTURE

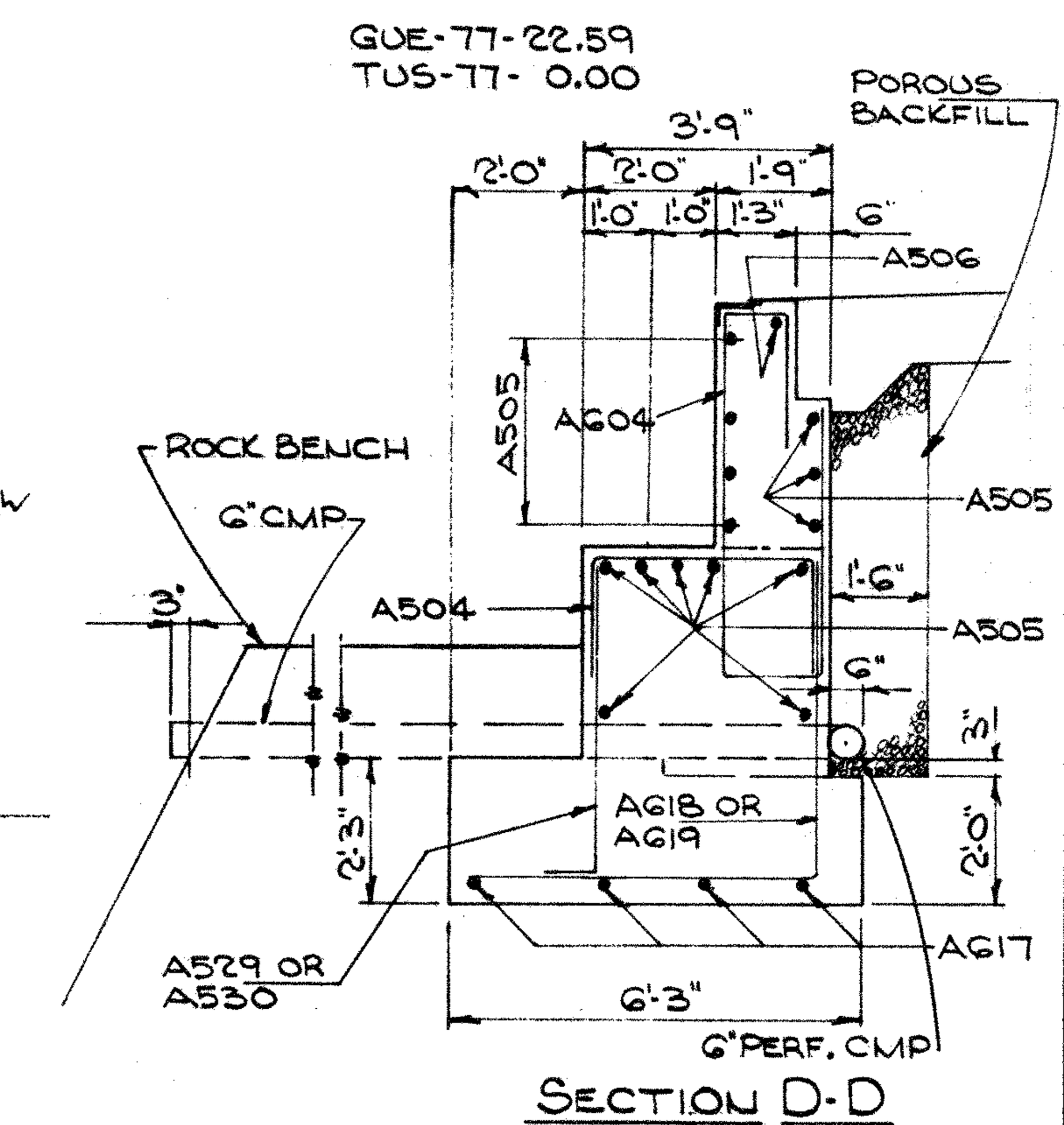
BRIDGE Nº TUS 77 0098 L & P
OVER RELOCATED C R 3
TUSCARAWAS COUNTY
STA 51+59.18 TO STA 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
B.H.&A.	JWW		CLS	BHA	6-29-65

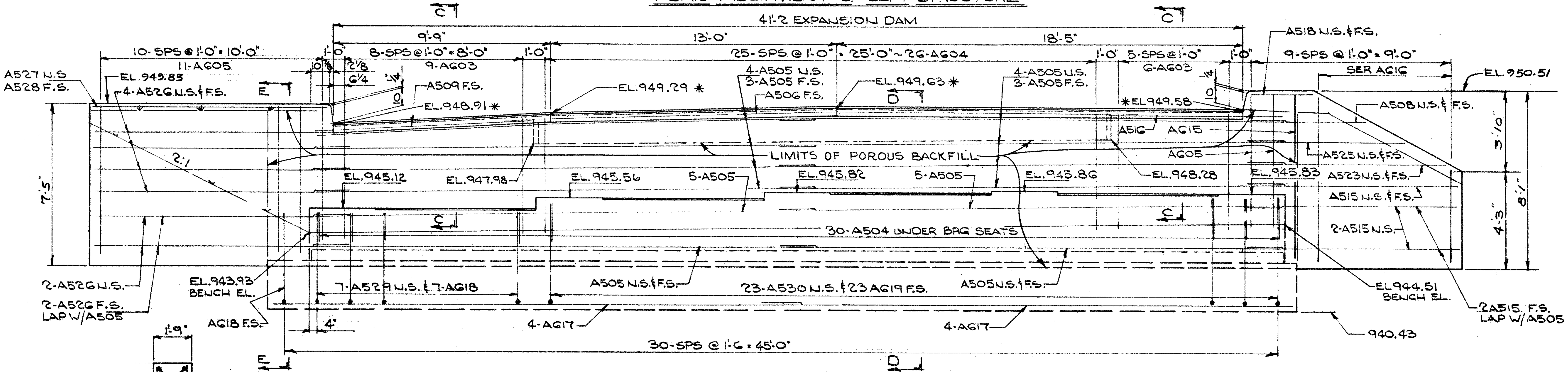
GUE-77-22.59
TUS-77- 0.00



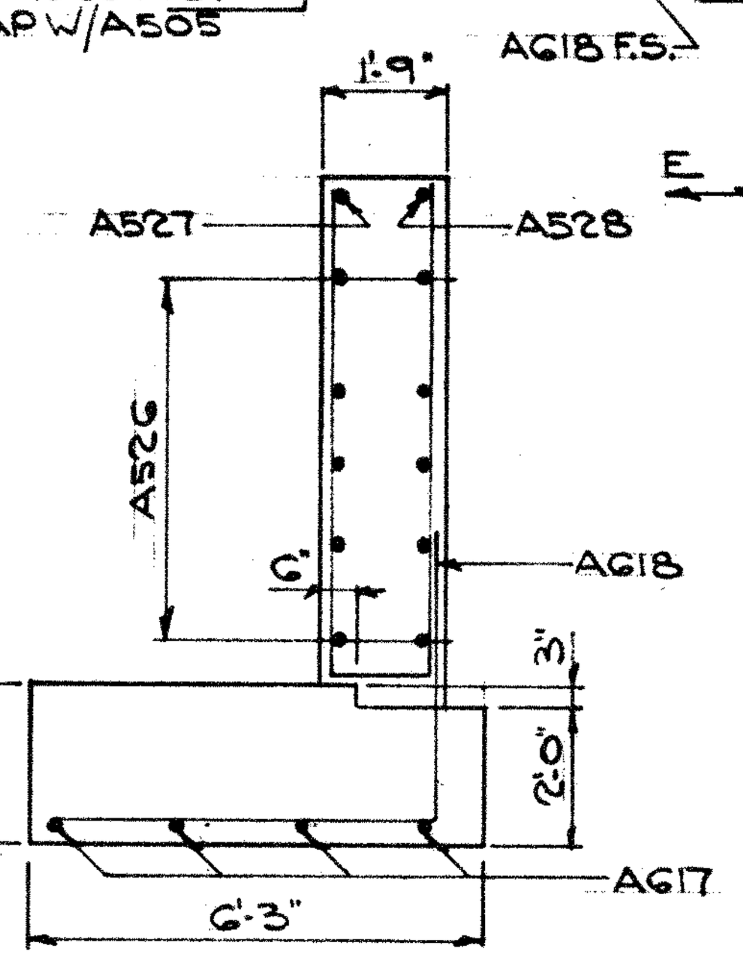
— PLAN ABUTMENT #2 ~ LEFT STRUCTURE —



SECTION D-D



ELEVATION ABUTMENT #2 ~ LEFT STRUCTURE



SECTION 'E-E'

* INDICATES ELEVATIONS GIVEN TO HEEL OF ANGLE

FOR SECTION 'C-C' SEE SHT # 196

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

ABUTMENT 2 LEFT STRUCTURE
BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R. 3
TUSCARAWAS COUNTY
STA 51+59.18 TO STA 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.M.M.	JWW		CES	RDH	6-29-65	

*INDICATES ELEVATIONS GIVEN TO HEEL OF ANGLE

FOR SECTIONS 'C-C' SEE SHT. #196

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers Akron, Ohio

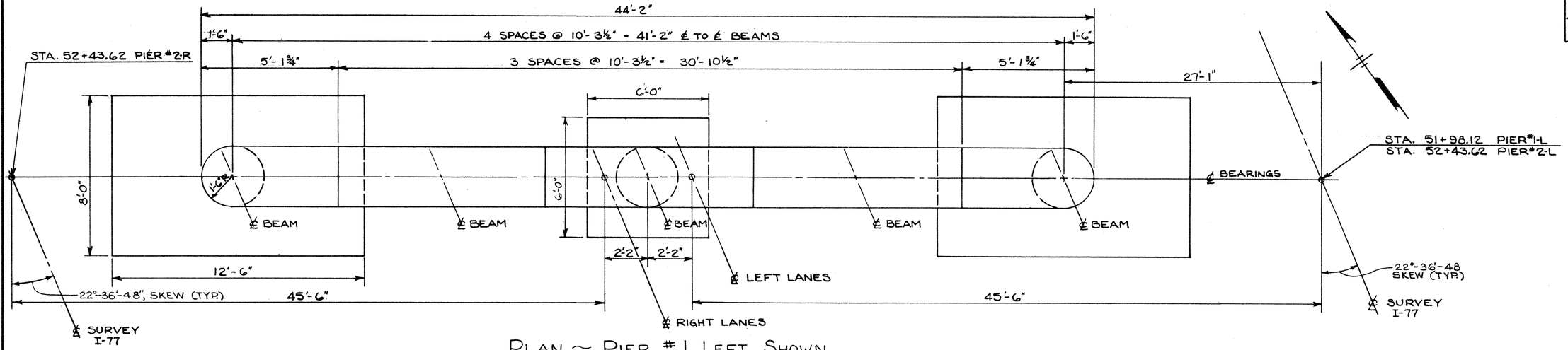
ABUTMENT 2 RIGHT STRUCTURE
BRIDGE No TUS-77-0098 L&R
OVER RELOCATED C.R. #3
TUSCARAWAS COUNTY
STA 51-59.18 TO STA 52-78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BAM	JWW		CES	RDH	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

200
230

GUE-77-22.59
TUS-77-0.00

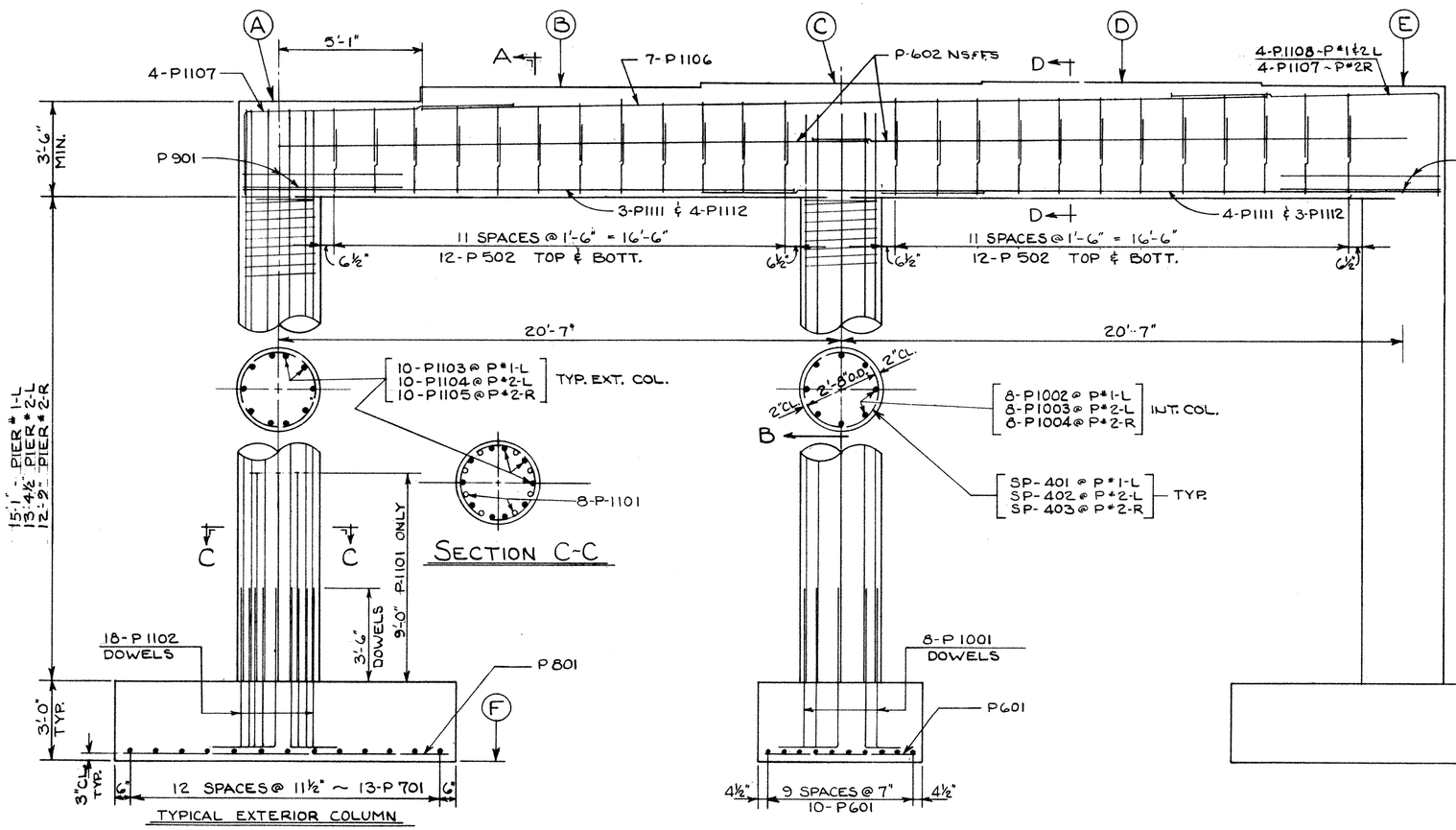


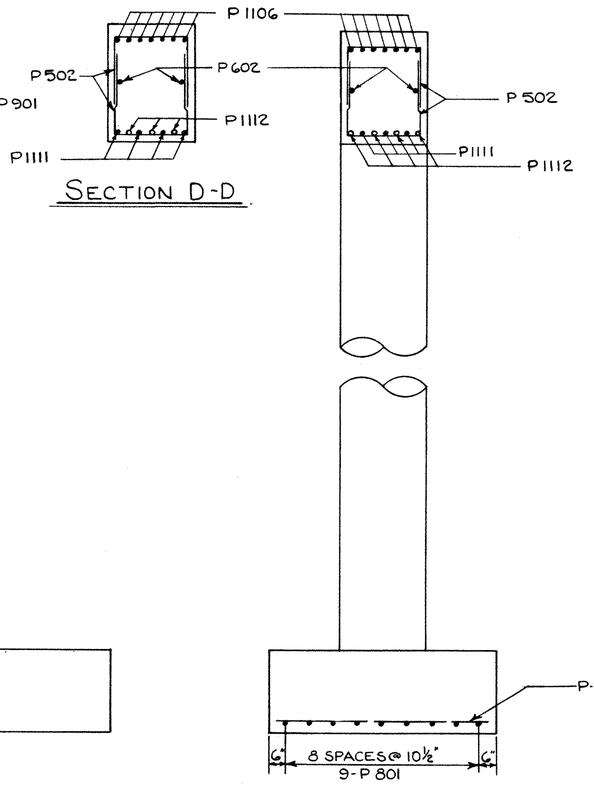
PLAN ~ PIER #1 LEFT SHOWN

PIER #2 LEFT & PIER #2 RIGHT SIMILAR EXCEPT AS SHOWN OR NOTED

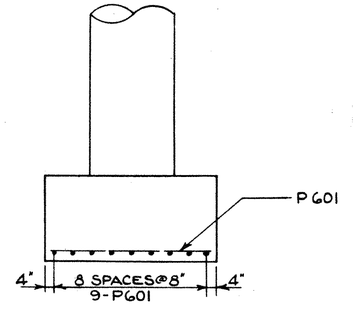
ELEVATION TABLE

	PIER #1-L	PIER #2-L	PIER #2-R
A	947.58	945.88	947.24
B	948.01	946.33	947.43
C	948.17	946.58	947.55
D	948.18	946.61	947.51
E	948.15	946.58	947.47
F	926.00	926.00	927.99





SECTION A-A



SECTION B-B

ELEVATION ~ PIER #1 LEFT SHOWN

PIER #2 LEFT & PIER #2 RIGHT SIMILAR EXCEPT AS SHOWN OR NOTED

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIERS Nº1L, Nº2L & Nº2R

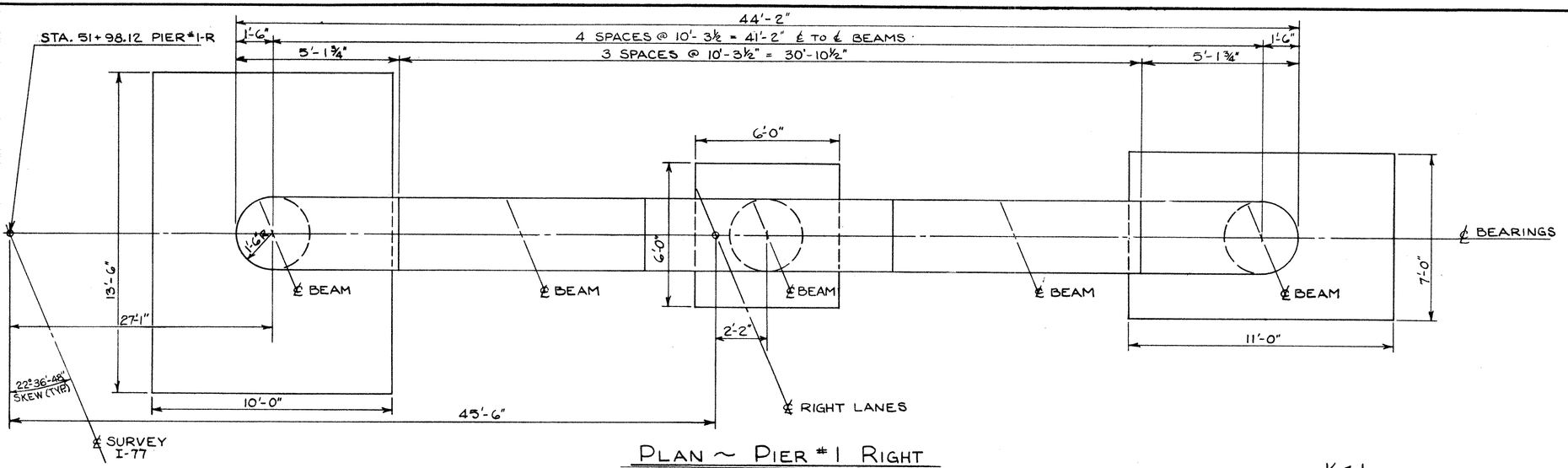
BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R.#3
TUSCARAWAS COUNTY
STA. 51+59.18 TO STA. 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.M.W.	JFP		CDA	RSH	6-29-65	

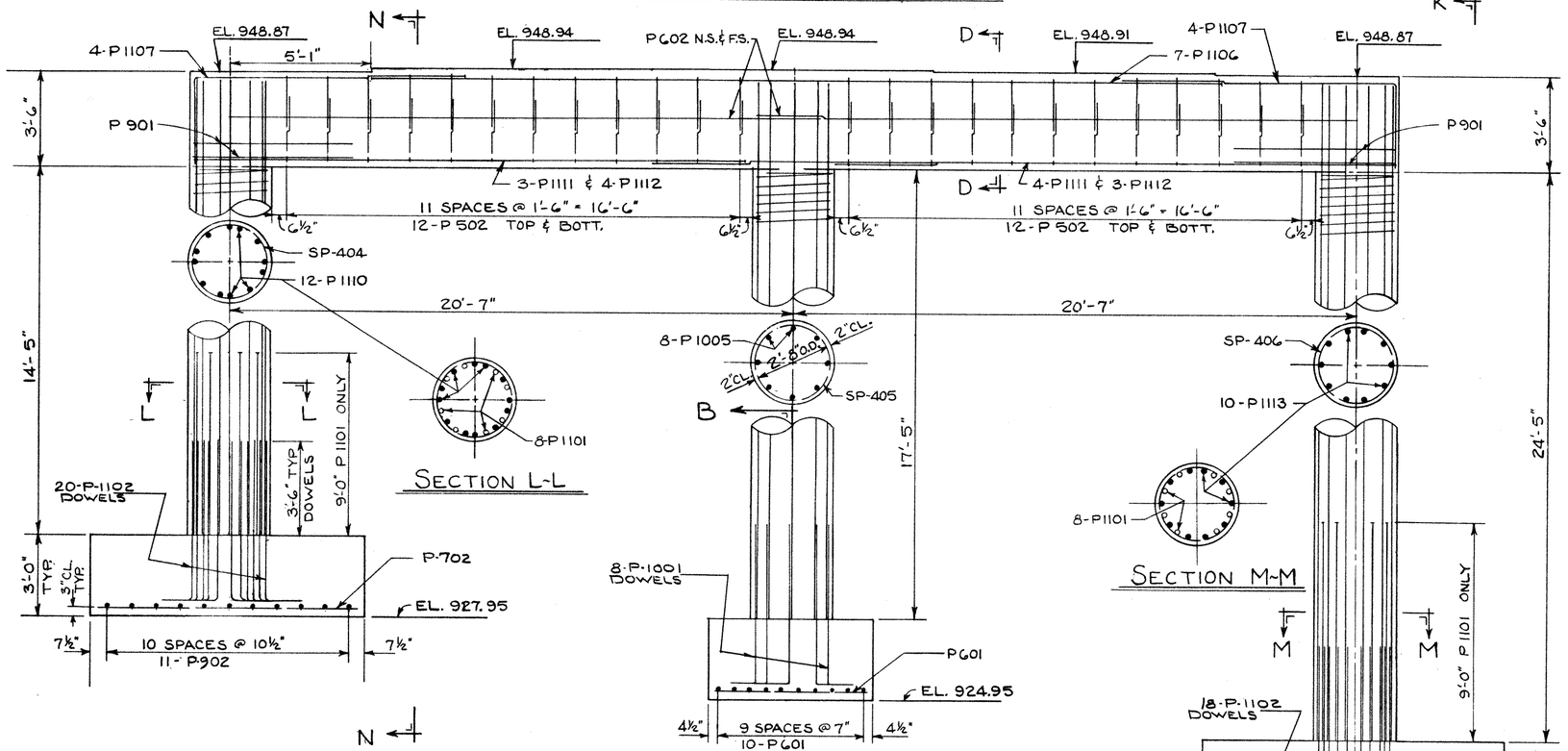
FED. RD.	STATE	PROJECT	
2	OHIO		

201
230

GUE-77-22.59
TUS-77- 0.00



PLAN ~ PIER #1 RIGHT



ELEVATION ~ PIER #1 RIGHT

For Section B-B and Section D-D
Refer to Sheet No. 200

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

PIER Nº 1R

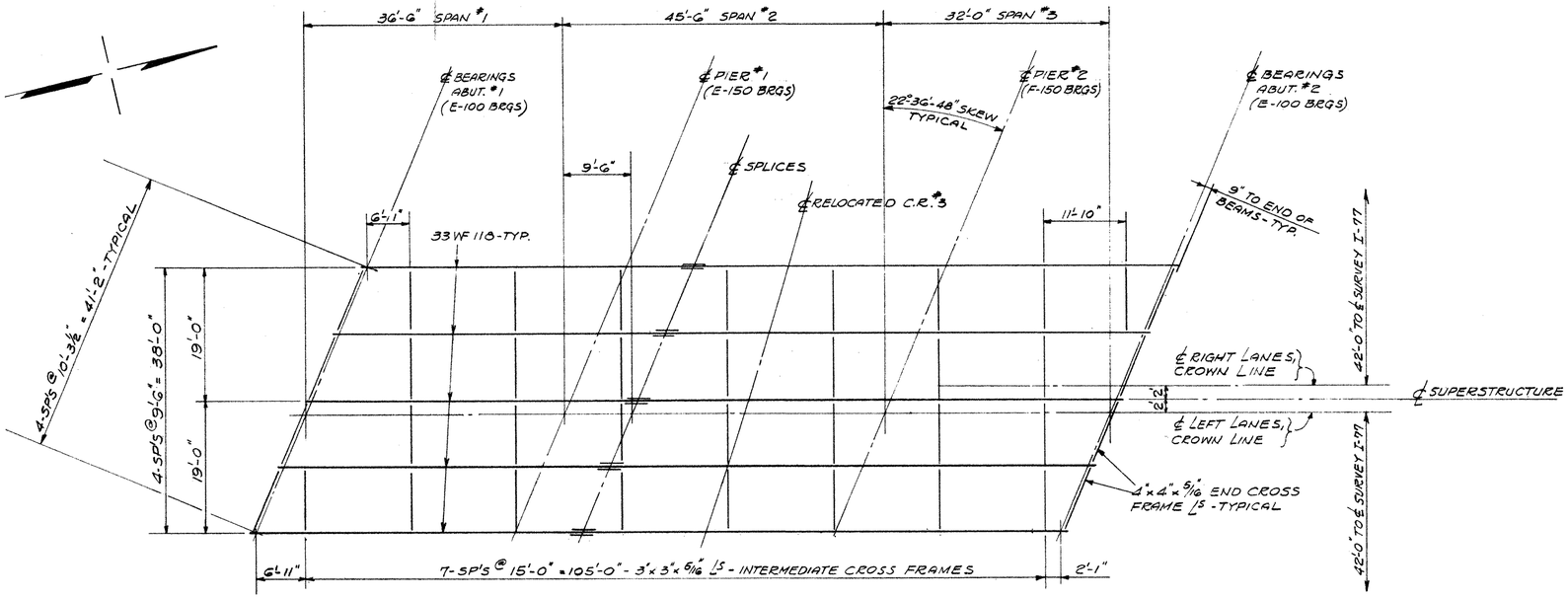
BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R.Nº 3
TUSCARAWAS COUNTY
STA. 51+59.18 TO STA. 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.M.K.N.	JFP		CLS	RDA	6-29-65	

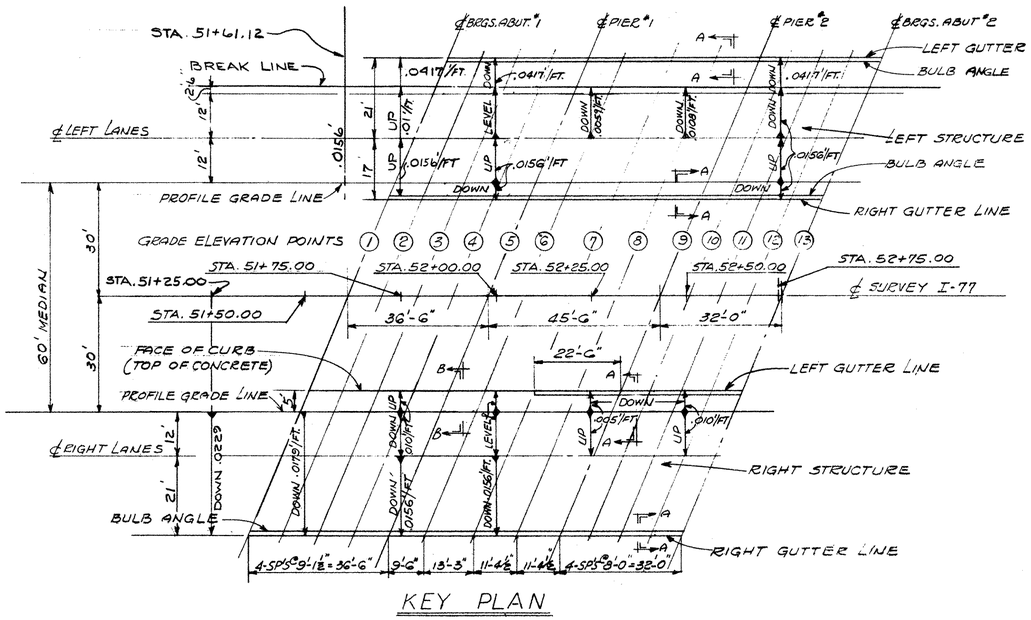
FED. RD.	STATE	PROJECT	
2	OHIO		

202
230

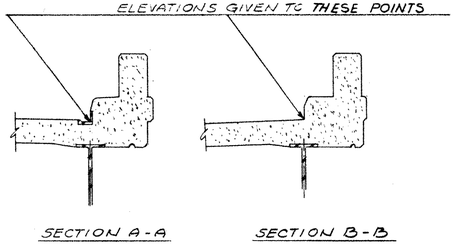
GUE-77-22.59
TUS-77-0.00



FRAMING PLAN - LEFT STRUCTURE SHOWN
RIGHT STRUCTURE SIMILAR



KEY PLAN



SECTION A-A

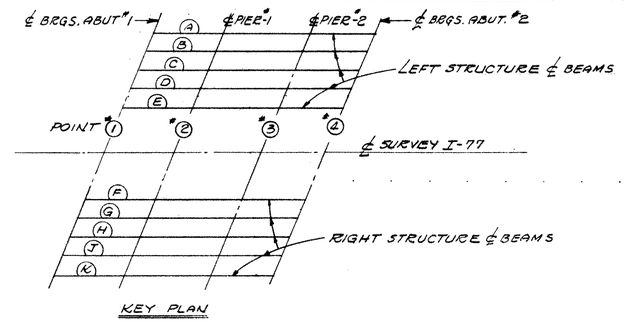
SECTION B-B

ELEVATION TABLE

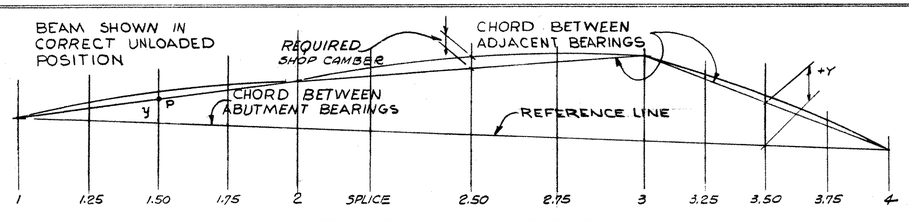
GRADE ELEVATION POINTS		1	2	3	4	5	6	7	8	9	10	11	12	13
LEFT STRUCTURE	LEFT GUTTER LINE	952.61	952.28	951.97	951.67	951.36	951.05	950.61	950.24	949.87	949.61	949.37	949.13	948.90
	RIGHT GUTTER LINE	953.02	952.75	952.47	952.20	951.92	951.64	951.25	950.90	950.56	950.32	950.08	949.84	949.60
RIGHT STRUCTURE	LEFT GUTTER LINE	953.90	953.62	953.34	953.04	952.74	952.44	952.04	951.59	951.23	950.98	950.73	950.49	950.24
	RIGHT GUTTER LINE	953.51	953.30	953.08	952.86	952.63	952.40	952.07	951.77	951.45	951.23	951.01	950.79	950.56

NOTE: ELEVATIONS SHOWN ARE ELEVATIONS AT TOP OF SLAB OR BULB ANGLE, BEFORE CONCRETE IS PLACED.

DEFLECTION AND CAMBER LEFT AND RIGHT STRUCTURE



KEY PLAN



VERTICAL OFFSET AND CAMBER DIAGRAM

BEAM	SPAN	NO. 1			NO. 2				NO. 3				
	POINT	1.	1.25	1.50	1.75	2	SPLICE	2.50	2.75	3	3.25	3.50	3.75	4
EXTERIOR A,E,F & K	DEFLECTION DUE TO WEIGHT OF STEEL.		.010	.012	.005		.009	.018	.011		.002	.005	.005	
	DEFLECTION DUE TO REMAINING DEAD LOAD.		.068	.078	.035		.057	.120	.076		.011	.036	.033	
	ADJUSTMENT FOR VERTICAL CURVE.													
	REQUIRED SHOP CAMBER.		1/16"	1/8"	1/16"		1/16"	1/8"	1/16"		0	1/16"	0	
INTERIOR B,C,D,G,H,J	DEFLECTION DUE TO WEIGHT OF STEEL.		.010	.012	.005		.009	.018	.011		.002	.005	.005	
	DEFLECTION DUE TO REMAINING DEAD LOAD.		.080	.092	.040		.067	.141	.089		.013	.046	.039	
	ADJUSTMENT FOR VERTICAL CURVE.													
	REQUIRED SHOP CAMBER.		1/8"	1/8"	1/16"		1/16"	3/16"	1/8"		0	1/16"	1/16"	
		VERTICAL OFFSETS (Y)												
A	NOTE: + SIGN INDICATES POINT	0	-3/16"	-3/8"	-9/16"	-3/4"	-3/4"	-13/16"	-13/16"	-7/8"	-5/8"	-7/16"	-1/4"	0
B	"P" IS ABOVE THE REFERENCE	0	-1/8"	-1/4"	-3/8"	-9/16"	-9/16"	-9/16"	-5/8"	-5/8"	-1/2"	-5/16"	-3/16"	0
C	LINE (- SIGN, IT IS BELOW)	0	0	0	0	-1/16"	-1/16"	-1/16"	-1/8"	-1/8"	-1/16"	-1/16"	0	0
D		0	0	0	0	0	0	0	0	0	0	0	0	0
E		0	0	0	0	0	0	0	0	0	0	0	0	0
F		0	0	-1/16"	-1/8"	-3/16"	-3/16"	-3/16"	-3/16"	-3/16"	-1/8"	-1/16"	0	0
G		0	0	+1/16"	+1/16"	+1/8"	+1/8"	1/8"	+1/8"	+1/8"	+1/16"	+1/16"	0	0
H		0	+1/16"	+1/8"	+3/16"	+1/4"	+1/4"	+1/4"	+3/16"	+5/16"	+1/4"	+3/16"	+1/16"	0
J		0	+1/8"	+1/4"	+3/8"	+7/16"	+7/16"	+7/16"	+7/16"	+7/16"	+3/8"	+1/4"	+1/8"	0
K		0	+3/16"	+3/8"	+5/8"	+13/16"	+3/4"	+3/4"	+3/4"	+1/16"	+1/2"	+3/8"	+3/16"	0

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

FRAMING PLAN

BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R. #3
TUSCARAWAS COUNTY
STA. 51+59.18 TO STA. 52+78.06

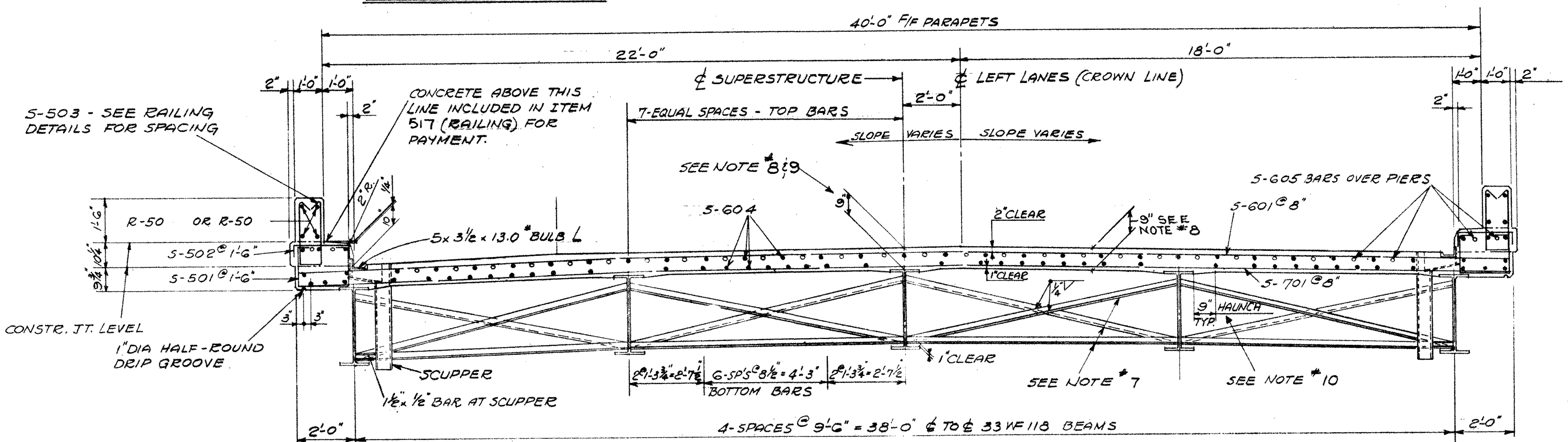
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.M.S.N.	JK		CLS	EBH	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

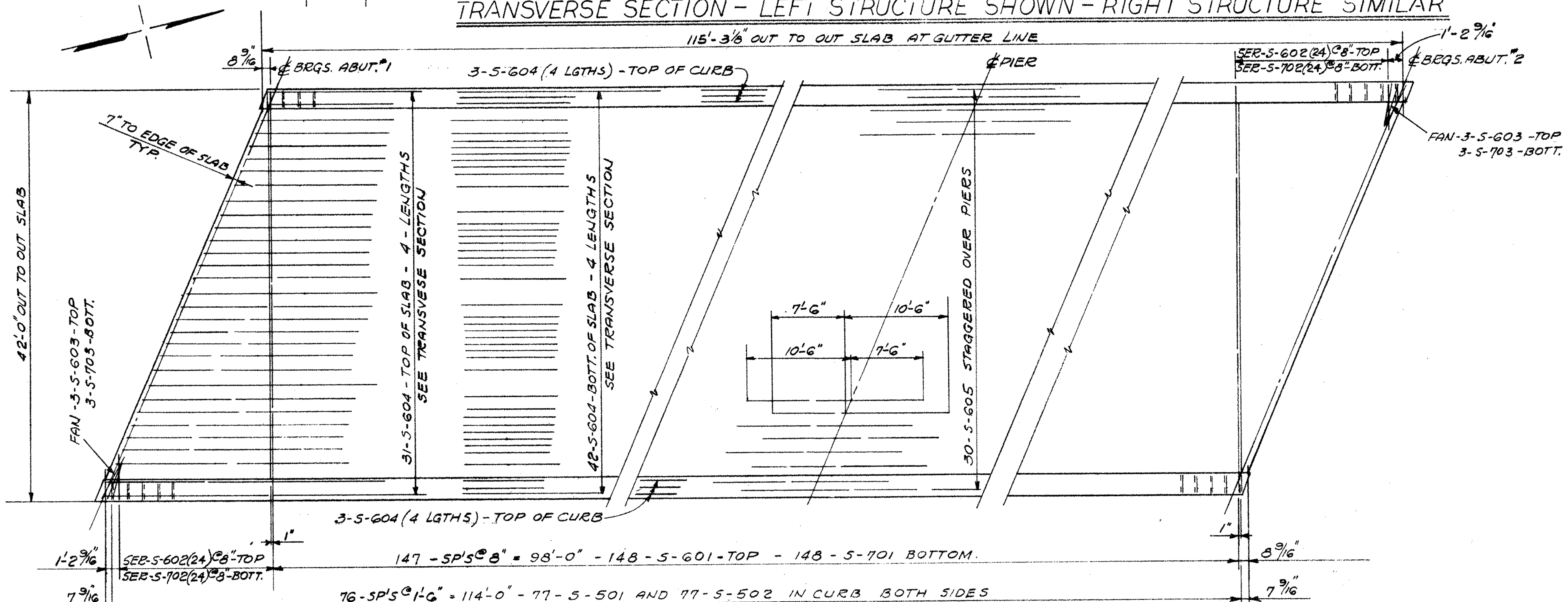
GUE-77-22.59
TUS-77-0.00

LEFT STRUCTURE

RIGHT STRUCTURE



TRANSVERSE SECTION - LEFT STRUCTURE SHOWN - RIGHT STRUCTURE SIMILAR



PARTIAL SLAB REINFORCING PLAN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

SLAB DETAILS

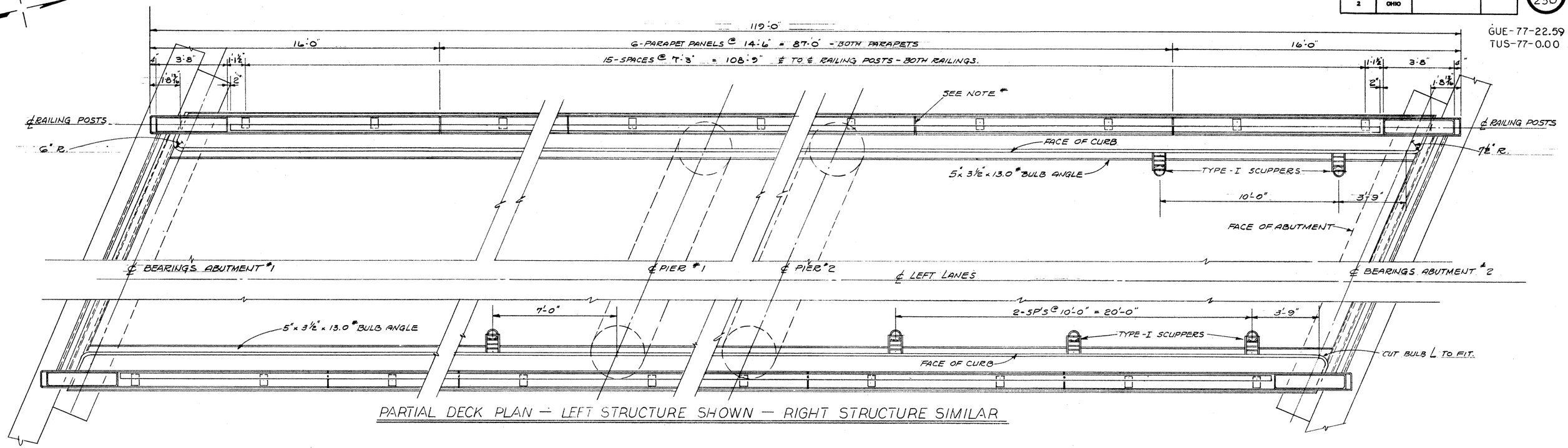
BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R. #3
TUSCARAWAS COUNTY
STA. 51+59.18 TO STA. 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.M.W.	JK		CES	RBH	6-29-65	

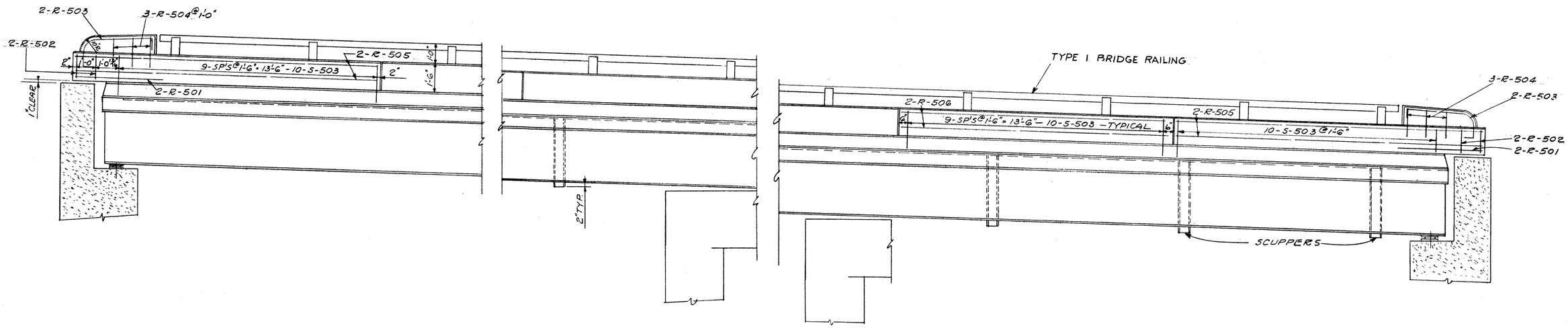
FED. RD.	STATE	PROJECT	
2	OHIO		

204
230

GUE-77-22.59
TUS-77-0.00



PARTIAL DECK PLAN — LEFT STRUCTURE SHOWN — RIGHT STRUCTURE SIMILAR



ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER, HOCH & ARNOLD
Consulting Engineers — Akron, Ohio

RAILING AND DRAINAGE DETAILS

BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R.3
TUSCARAWAS COUNTY
STA. 51+59.18 TO STA. 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.M.S.W.	JK		CLS	RBH	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO		

205
230

GUE-77-22.59
TUS-77- 0.00

ABUTMENTS

MARK	Nº REQD. EA. ABUT. 1-L	1-R	2-L	2-R	LENGTH	TYPE	DIMENSIONS A	B	C	D	TOTAL REQD. 4 ABUTS.	WEIGHT LBS.
A-501	32	33			9'-1"	3	5'-4"	2'-0"			65	615
A-502	24				8'-1"	1	1'-0"	7'-2"			24	202
A-503	7				7'-7"	1	1'-0"	6'-8"			7	55
A-504	31	31	30	30	7'-2"	3	3'-5"	2'-0"			122	911
A-505	32	32	32		22'-9"	ST					96	2278
A-506	1	1	1	1	28'-0"	ST					4	117
A-507	1	10			12'-3"	ST					11	141
A-508	1		2	3	5'-8"	ST					6	35
A-509	8	1	1	6	11'-0"	ST					16	184
A-510	2				10'-9"	ST					2	22
A-511	2	2		2	9'-0"	ST					6	56
A-512	2			2	6'-9"	ST					4	28
A-513	1			1	3'-3"	ST					2	7
A-514	1	2		1	2'-6"	ST					4	10
A-515	8		6		9'-7"	ST					14	140
A-516	2	3	1		8'-0"	ST					6	50
A-517	4	2			6'-2"	ST					6	39
A-518	2		2	2	2'-10"	ST					6	18
A-519		31			7'-5"	1	1'-0"	6'-7"			31	240
A-520		2		2	10'-0"	ST					4	42
A-521		1			4'-4"	ST					1	5
A-522		1			3'-7"	ST					1	4
A-523		8	2	12	9'-3"	ST					22	212
A-524		2			4'-10"	ST					2	10
A-525			2	2	7'-4	ST					4	31
A-526			12		11'-7"	ST					12	145
A-527			1		10'-7"	ST					1	11
A-528			1	19	9'-11"	ST					20	207
A-529			7		5'-1"	1	1-0	4'-2"			7	37
A-530			23		5'-7"	1	1-0	4'-8			23	134
A-531				23	4'-11"	1	1-0	4'-0			23	118
A-532				7	8'-11"	1	1-0	8'-0			7	65
A-533				14	33'-5	ST					14	488
A-601	25				15'-0"	4	7'-2"	5'-4"	2'-9"		25	563
A-602	7	33			14'-6"	4	6'-8"	5'-4"	2'-9"		40	871
A-603	16	15	15	14	13'-4"	3	1'-5"	6'-1"			40	1202
A-604	26	26	26	26	15'-4"	7	4'-9"	1'-5"	6'-1"	11"	104	2395
A-605	3	3	13	5	15'-0"	3	1'-5"	6'-11"			24	541
A-606	2				19'-0"	3	1'-5"	8'-11"			2	57
A-607	1				18'-0"	3	1'-5"	8'-5"			1	29
SERIES OF A-608	1 SET OF 7				VARIES 12'-10 TO 18'-10"	3	1'-5"	VARIES 5'-10 TO 8'-10 @ 6			1 SET OF 7 BARS	167
SERIES OF A-609	1 SET OF 7				VARIES 11'-6" TO 17'-6"	3	1'-5"	VARIES 5'-2 TO 8'-2 @ 6			1 SET OF 7 BARS	152
A-610	O P E N										—	—
A-611		4			18'-0"	3	1'-5"	8'-5"			4	110
SERIES OF A-612		1 SET OF 7			VARIES 11'-10 TO 17'-10	3	1'-5"	VARIES 5'-4 TO 8'-4 @ 6"			1 SET OF 7 BARS	156
A-613		1			19'-2"	3	1'-5"	9'-0"			1	29
SERIES OF A-614		1 SET OF 7			VARIES 11'-0" TO 18'-0"	3	1'-5"	VARIES 4'-11 TO 8'-5 @ 7			1 SET OF 7 BARS	152
A-615			1		16'-2"	3	1'-5"	7'-6"			1	24
SERIES OF A616			1 SET OF 7		VARIES 9'-4 TO 16'-4"	3	1'-5"	VARIES 4'-1 TO 7'-7 @ 7			1 SET OF 7 BARS	136
A617			8		24'-2"	ST					8	290
A618			8	24	9'-3"	1	5'-4	4'-0"			32	445
A619			23		9'-5	1	5'-4	4'-2			23	326
A620				7	13'-3"	1	5'-4"	8'-0"			7	139
SERIES OF A621				1 SET OF 7	VARIES 8'-4 TO 14'-10	3	1'-5"	VARIES 3'-7 TO 6'-10 @ 6½			1 SET OF 7 BARS	122
A622				1	22'-6"	3	1'-5"	10'-8"			1	34
SERIES OF A623				1 SET OF 6	VARIES 16'-8 TO 22'-6"	3	1'-5"	VARIES 7'-9 TO 10'-8 @ 7			1 SET OF 6 BARS	176
A624				4	35'-2"	ST					4	211
A625				4	10'-5"	ST					4	63
A801	14	14			24'-7"	ST					28	1838
TOTAL ABUTMENTS =												16,896

PIERS

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	WEIGHT LBS.
P-501	O P E N							—
P-502	192	7'-9"	3	2'-8"	2'-8"			1552
P-601	76	5'-6"	ST					628
P-602	16	21'-7"	ST					519
P-603	9	6'-6	ST					88
P-701	78	7'-6"	ST					1196
P-702	11	9'-6"	ST					213
P-801	54	12'-0"	ST					1730
P-802	O P E N							—
P-803	8	10'-6"	ST					224
P-901	16	12'-8"	9	4'-6"	3'-8"	1'-1⅞"		689
P-902	11	13'-0"	ST					486
P-1001	32	6'-11"	1	1'-0"	6'-2"			952
P-1002	8	18'-3"	ST					628
P-1003	8	16'-7"	ST					571
P-1004	8	16'-0"	ST					551
P-1005	8	20'-8"	ST					711
P-1101	64	9'-0"	ST					3060
P-1102	146	6'-11"	1	1'-0"	6'-2"			5368
P-1103	20	18'-3"	ST					1939
P-1104	20	16'-7"	ST					1762
P-1105	20	16'-0"	ST					1700
P-1106	28	31'-0"	ST					4612
P-1107	24	13'-0"	1	3'-3"	10'-0"			1658
P-1108	8	13'-8"	1	3'-11"	10'-0"			581
P-1109	O P E N							—
P-1110	12	17'-8"	ST					1126
P-1111	28	27'-0"	ST					4016
P-1112	28	20'-7"	ST					3062
P-1113	10	27'-8"	ST					1470
TOTAL SPIRALS =								3323
TOTAL PIERS =								44,45

SLAB

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	INC.	WEIGHT LBS.
S-501	308	4'-8"	15	1'-6"	1'-4"	6"			1499
S-502	308	2'-3"	5	1'-6"	6"				723
S-503	320	5'-4"	5	8"	2'-2"	5"			1779
S-601	296	41'-8"	ST						18,526
SERIES OF S-602	4 SETS OF 24= 96 BARS	VARIES 4'-3 TO 40'-8	ST					1:7"	3238
S-603	12	4'-0"	ST						72
S-604	632	30'-3"	ST						28,715
S-605	120	18'-0"	ST						3,244
S-701	296	41'-8"	ST						25,211
SERIES OF S-702	4 SETS OF 24= 96 BARS	VARIES 4'-3 TO 40'-8	ST					1:7"	4407
S-703	12	4'-0"	ST						98
TOTAL SLAB =									86,512

RAILING ⊛

R-501	16	3'-9"	ST						
R-502	16	3'-5"	5	8"	1'-1"	5"			
R-503	16	5'-4"	16						
R-504	24	4'-2"	18	8"	1'-6"	.5"			
R-505	32	15'-7"	ST						
R-506	96	14'-1"	ST						

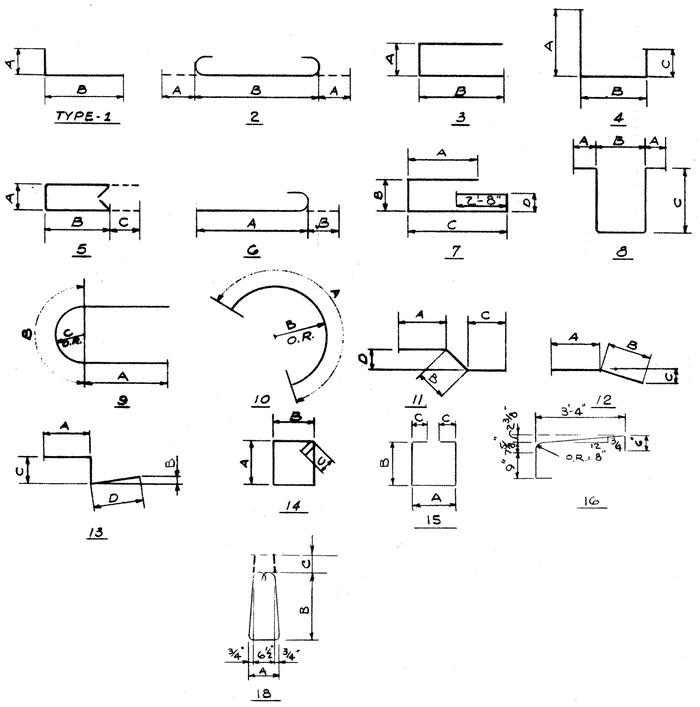
REPLACEMENT BARS

RE-401	1	5'-3"	10	5'-3"	1'-4"	
RE-501	1	5'-6"				
RE-601	4	6'-0"				
RE-701	2	6'-3"				
RE-801	1	6'-6"				
RE-901	1	6'-10"				
RE-1001	1	7'-3"				
RE-1101	2	7'-6"				

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	3	2'-8"	15'-0"	4½"	43	710
SP-402	3	2'-8"	13'-4"	4½"	39	644
SP-403	3	2'-8"	12'-9"	4½"	37	611
SP-404	1	2'-8"	14'-5"	4½"	41	226
SP-405	1	2'-8"	17'-5"	4½"	49	270
SP-406	1	2'-8"	24'-5"	4½"	68	374
SPACERS						488
TOTAL SPIRALS						3323 #

GRAND TOTAL 147,823 LBS



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509

ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊛ RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BEISWENGER & HOCH, Consulting Engineers
AKRON, OHIO

REINFORCING SCHEDULE

BRIDGE Nº TUS-77-0098 L&R
OVER RELOCATED C.R.3
TUSCARAWAS COUNTY
STA 51+59.18 TO STA. 52+78.06

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.M.H.	JLH		CLS	RDH	6-29-65	

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

206
230

GUE-77-22.59
TUS-77- 0.00

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
GUE-77-22.59
TUS-77- 0.00
WHEELING TWP. GUERNSEY CO. AND
OXFORD TWP. TUSCARAWAS CO. OHIO

- LIMITED ACCESS -

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH PROVISIONS OF SECTION 5511.02 REVISED CODE OF OHIO.

I-77- 2(8)58
1963 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

THE RIGHT OF WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

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

APPROVED _____
DATE _____ DIVISION DEPUTY DIRECTOR

APPROVED _____
DATE _____ ENGINEER OF BRIDGES

APPROVED _____
DATE _____ ENGINEER OF LOCATION AND DESIGN

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF RIGHT OF WAY

APPROVED _____
DATE _____ DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING

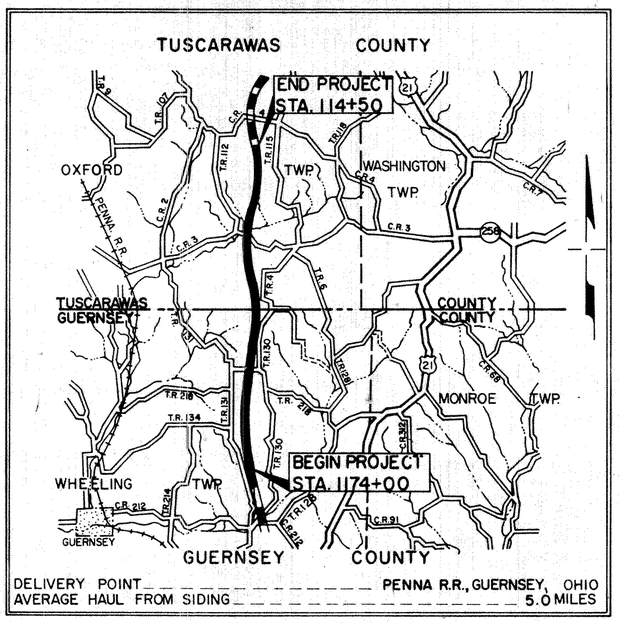
APPROVED _____
DATE _____ FIRST ASSISTANT DIRECTOR

APPROVED _____
DATE _____ DIRECTOR OF HIGHWAYS

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Center Line
Corporation Line
Fence Line
Guard Rail (existing)
Guard Rail (proposed)
Railroad
Power Poles
Telephone Poles
Power or Telephone Poles with guys
Tower Line
Trees or Stumps (existing)
Limited Access
Right of Way
Existing Right of Way

INDEX OF SHEETS



DELIVERY POINT _____ PENNA R.R., GUERNSEY, OHIO
AVERAGE HAUL FROM SIDING _____ 5.0 MILES

LOCATION MAP

SCALE OF MILES 0 1 2

PORTION TO BE IMPROVED
STATE ROADS
OTHER ROADS

PLAN
PROFILE: HORIZONTAL 0 50 100
PROFILE: VERTICAL
CROSS SECTIONS: HORIZONTAL & VERTICAL 0 10 20

STA. 1279+88.48 Bk. = STA. 0+00 Ah.

LINE DATA

Begin Project	Sta. 1174+00
End Project	Sta. 114+50
# Length of Project	22,038.48 Lin. Ft. or 4.174 Miles
# Add for Sideroads & Approaches	4984.71 Lin. Ft. or 0.944 Miles
Length of Work	27,023.19 Lin. Ft. or 5.118 Miles

See Sht. # 14 For Computations

FILE NO.	GUERNSEY COUNTY	GUE-77-22.59
	TUSCARAWAS COUNTY	TUS-77- 0.00
	DATE OF LETTING _____	196
	CONTRACT NO. _____	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

B-T-70-71	11-15-60	HW N°3	8-1-63	T-15 N°5-B	2-1-63	BR-1-65(1)	2-1-65
B-T-71-R	5-2-63	HW E	2-1-63	L-1	4-1-50	RSB-1-62	R-1-15-63
CR-1	1-3-55	I-1	11-15-60	L-3	4-1-50	SD-2-64	11-25-64
F-1	2-1-63	I-3CD #1-2AB	2-1-63	L-3A	4-1-50	SD-1-63(2,3,4)	11-12-63
F-2	2-1-63	I-3CD #4	2-1-63	L-11 N°1	7-1-55	RS-1-54	R-7-5-62
F-3	2-1-63	I-3CD #5	2-1-63	R-1-1	9-1-64		
F-4	9-1-64	I-3MH #1	2-1-63	T-35	1-2-56		
G-707	4-1-64	I-15 N°1	11-15-60	T-1	9-12-60		
HW N°1	8-1-63	I-15 N°2	11-15-60	SP-33	6-30-61		
HW N°2	8-1-63	I-15 N°2A	8-17-60	I-140	1-22-52		

SUPPLEMENTAL SPECIFICATIONS

CE-101.04	5-22-56
T-125	R-6-28-61
T-127	R-1-15-62
L-120	R-1-2-62
M-107.18	R-4-3-61
M-109.15	7-25-62
M-109.28	R-8-12-59
T-335	10-28-63
S-101	7-12-62
S-307	R-10-1-64

PREPARED AND RECOMMENDED BY
BEISWENGER, HOCH & ARNOLD, CONSULTING ENGINEERS
AKRON OHIO CLEVELAND

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

_____ DIVISION ENGINEER

_____ DATE

TITLE SHEET

This Improvement has been declared a LIMITED ACCESS HIGHWAY From station 1174+00 to station 1279+88.48 by action of the DIRECTOR of HIGHWAYS and Recorded in Volume 46, Page 1165, of the DIRECTORS JOURNAL PURSUANT TO LAW.

CENTER LINE SURVEY PLAT

GUE-77-22.59 & TUS-77-0.00

GUERNSEY COUNTY, OHIO

WHEELING TWP., T4N-R3W-SECTIONS 2, 9 & 12 (U.S.M.L.)

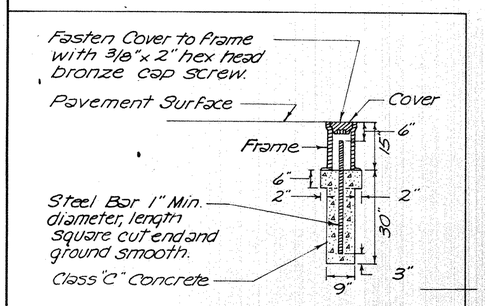
FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

207/230

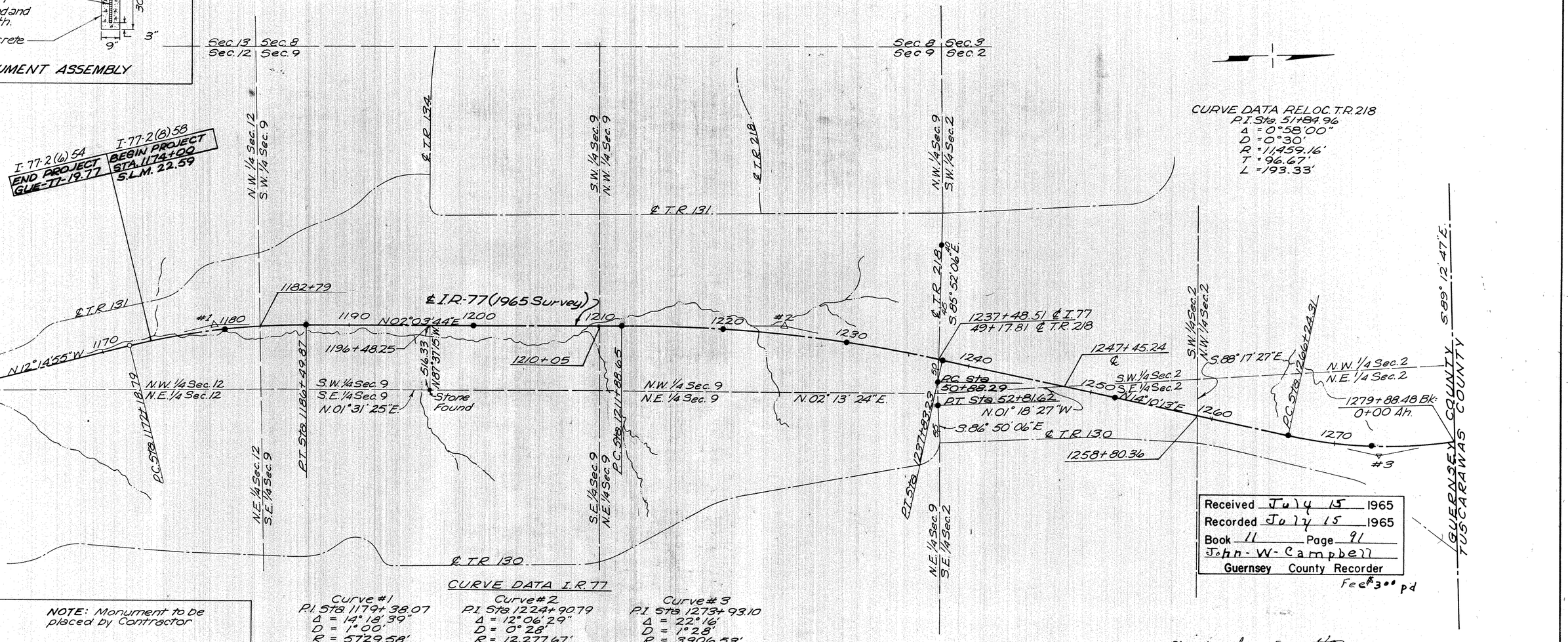
1/24

GUE-77-22.59
TUS-77-0.00
LIMITED ACCESS

0 400 800 1200
SCALE IN FEET



I-8 MONUMENT ASSEMBLY



CURVE DATA RELOC. T.R. 218
P.I. Sta. 51+84.96
Δ = 0°58'00"
D = 0°30'
R = 11,459.16'
T = 96.67'
L = 193.33'

CURVE DATA I.R. 77

Curve #1
P.I. Sta. 1179+38.07
Δ = 14°18'39"
D = 1°00'
R = 5729.58'
T = 719.28'
L = 1431.08'
E = 44.97'

Curve #2
P.I. Sta. 1224+90.79
Δ = 12°06'29"
D = 0°28'
R = 12,277.67'
T = 1302.14'
L = 2594.58'
E = 68.86'

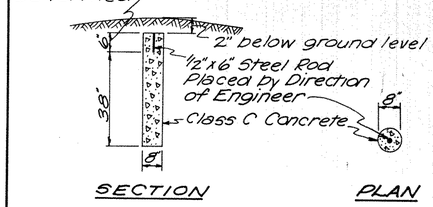
Curve #3
P.I. Sta. 1273+93.10
Δ = 22°16'
D = 1°28'
R = 3906.53'
T = 768.79'
L = 1518.18'
E = 74.93'

Received	July 15	1965
Recorded	July 15	1965
Book	11	Page 91

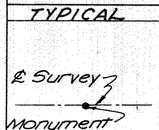
John W. Campbell
Guernsey County Recorder
Fee $3.00 pd

Signed _____
JAMES T. HOLDEN
Date 7-12-65 Division Deputy Director

NOTE: Monument to be placed by Contractor



DETAIL OF CENTERLINE REFERENCE MONUMENT



TYPICAL ℄ REFERENCE MONUMENT STA.		
P.O.C. STA. 1180+00	P.O.T. STA. 1252+00	
P.T. STA. 1186+49.87	P.C. STA. 1266+24.31	
P.O.T. STA. 1200+00	P.O.C. STA. 1273+00	
P.C. STA. 1211+88.65		
P.O.C. STA. 1220+00		
P.O.C. STA. 1230+00		
P.T. STA. 1237+83.23		
	TOTAL 10, EACH	

I-8 MONUMENT ASSEMBLIES STATIONING		
LOCATION	QUANT.	UNIT
P.O.T. STA 40+00 ℄ RELOC. T.R. 218	1	EACH
P.C. STA. 50+88.29 ℄ RELOC. T.R. 218	1	EACH
P.T. STA. 52+81.62 ℄ RELOC. T.R. 218	1	EACH
TOTAL	3	EACH

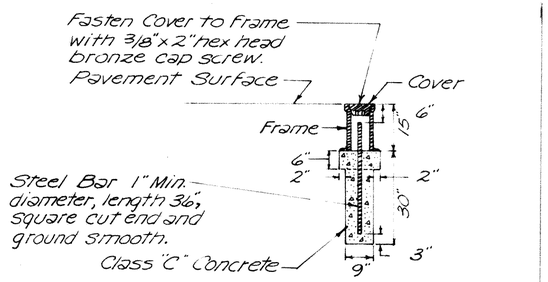
I hereby certify that this plat is a true delineation of a survey made for the OHIO DEPARTMENT OF HIGHWAYS by BEISWENGER, HOCH, & ARNOLD

Bryan E. McCoy Date 6-22-65

BRYAN E. McCOY
Reg. Surveyor No. 4936

STATE OF OHIO BRYAN EARL McCOY 4936 REGISTERED SURVEYOR

This Improvement has been declared a LIMITED ACCESS HIGHWAY From station 0+00 to station 114+50 by action of the DIRECTOR of HIGHWAYS and Recorded in Volume 46, Page 1165, of the DIRECTORS JOURNAL PURSUANT TO LAW.



I-8 MONUMENT ASSEMBLY

CENTER LINE SURVEY PLAT

GUE-77-22.59 & TUS-77-0.00

TUSCARAWAS COUNTY, OHIO

OXFORD TWP., T5N-R3W-SECTIONS 12,19, & 22 (U.S.M.L.)

0 400 800 1200

SCALE IN FEET

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

208 / 230

2 / 24

GUE-77-22.59
TUS-77-0.00
LIMITED ACCESS

CURVE DATA RELOC. C.R. 3

P.I. Sta. 48+91.37
Δ = 80°50'30"
D = 8°
R = 716.20'
L = 1010.52'
T = 609.98'
E = 223.91'

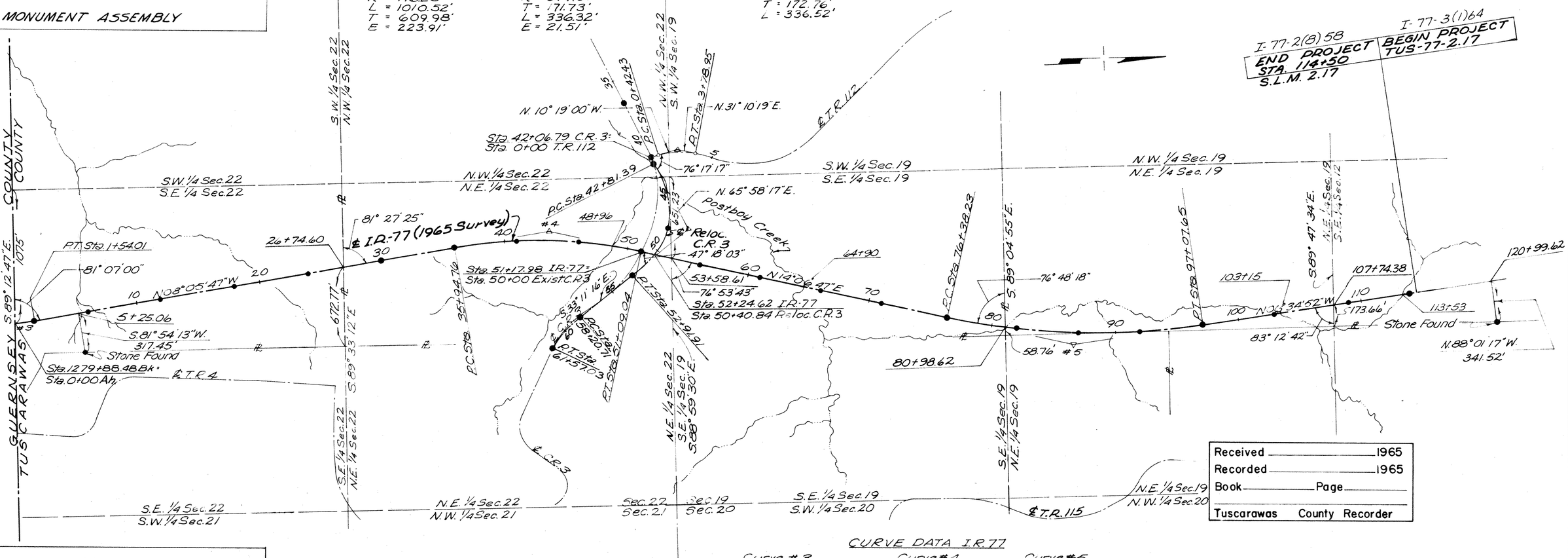
P.I. Sta. 59+92.44
Δ = 28°35'12"
D = 8°30'
R = 674.07'
T = 171.73'
L = 336.32'
E = 21.51'

CURVE DATA RELOC. T.R 112

P.I. Sta. 2+15.19
Δ = 31°58'10"
D = 9°30'
R = 603.11'
T = 172.76'
L = 336.52'

I-77-2(8)58 END PROJECT STA. 114+50 S.L.M. 2.17

I-77-3(1)64 BEGIN PROJECT TUS-77-2.17



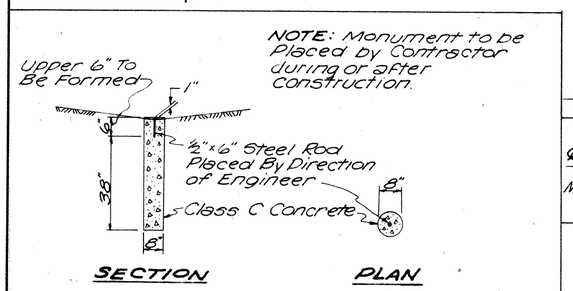
Received	1965
Recorded	1965
Book	Page
Tuscarawas	County Recorder

CURVE DATA I.R.77

Curve # 3
P.I. Sta. 1273+93.10
Δ = 22°16'
D = 1°28'
R = 3906.53'
T = 768.79'
L = 1518.18'
E = 74.93'

Curve #4
P.I. Sta. 43+61.53
Δ = 22°12'34"
D = 1°28'
R = 3906.53'
T = 766.77'
L = 1514.28'
E = 74.54'

Curve #5
P.I. Sta. 86+84.34
Δ = 20°41'39"
D = 1°00'
R = 5729.58'
T = 1046.11'
L = 2069.42'
E = 94.72'



DETAIL OF CENTERLINE REFERENCE MONUMENT

TYPICAL	℄ REFERENCE MONUMENT STA.			
℄ Survey	P.T. STA.	1+54.01	P.O.T. STA.	61+00
Monument	P.O.T. STA.	6+00		66+00
		12+00		71+00
		18+00	P.C. STA.	76+38.23
		24+00	P.O.C. STA.	82+00
		30+00		87+00
	P.C. STA.	35+94.76		92+00
	P.O.C. STA.	41+00	P.T. STA.	97+07.65
		46+00	P.O.T. STA.	103+00
	P.T. STA.	51+09.04		109+00
	P.O.T. STA.	56+00		114+00
			TOTAL	22 EACH

I-8 MONUMENT ASSEMBLIES			STATIONING SCHEDULE		
P.O.T. STA. 37+00 ℄ RELOC. C.R 3	1	EACH	P.T. STA. 61+57.03 ℄ RELOC. C.R 3	1	EACH
P.O.T. STA. 42+06.79 ℄ RELOC. C.R 3=					
P.O.T. STA. 0+00 ℄ RELOC. T.R. 112	1	EACH			
P.C. STA. 42+81.39 ℄ RELOC. C.R. 3	1	EACH			
P.O.C. STA. 48+00 ℄ RELOC. C.R. 3	1	EACH			
P.T. STA. 52+91.91 ℄ RELOC. C.R. 3	1	EACH			
P.C. STA 58+20.71 ℄ RELOC. C.R. 3	1	EACH			
			TOTAL	7	EACH

Signed _____
EARL W. NELSON
Date _____ Division Deputy Director

I hereby certify that this plat is a true delineation of a survey made for the OHIO DEPARTMENT OF HIGHWAYS by BEISWENGER, HOCH, & ARNOLD

Date _____

BRYAN E. McCOY
Reg. Surveyor No. 4936

SUMMARY OF ADDITIONAL R/W REQUIRED

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)59	

GUE-77-22.59
TUS-77-0.00
LIMITED ACCESS

209/230

3/24

TOTAL NUMBER OF OWNERS = 16

	PARCEL NO.	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA	TO BE ACQUIRED LAND	TO BE ACQUIRED BLDGS	RESIDUE LEFT	RESIDUE RIGHT	TOTAL P.R.O.	SHEET NO.	REMARKS
**	212 WL	Mary A. Powell & C.E. Powell	200	62	189.75	28.52	—	127	(L) 29	5.3	6,7	**Acquired By Proj GUE-77-19.77
	216	Paul H. Boyce & Eileen Boyce	257	599 & 600	207.50	—	—	—	—	—	7	Not Required
*	217 WL	Howard Ross & Mary Ann Ross	224	235	193.00	19.49	—	86	82	4.8	7,8,9	
*	217 WD					.15	—	—	—	—	10,22	
*	218 WL	Ray C. Booth et al.	170	263	130.00	25.50	—	91	12	2.0	9,10,11,22	
*	218 WD					1.61	—	—	—	—	10,22	
*	218 AWD					.21	—	—	—	—	10,22	
*	218 T					.38	—	—	—	—	10,22	
*	218 T1					.43	—	—	—	—	10,22	
*	219 WL	John L. Tennant & Betty F. Tennant	213	379 & 380	70.25	8.26	—	(L) .9	59	1.7	10,11,22	
*	219 WD					.13	—	—	—	—	10,22	
*	220 WL	Lawrence G. Miller	183	17 & 18	35.19	.12	—	(L) 35	.01	None	11	
*	221 WL	Wilford L. Edwards	241	287	122.32	13.33	—	(L) 20	87	1.7	11,12,13	

	PARCEL NO.	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA	TO BE ACQUIRED LAND, (INCL. P.R.O) PER SEC	TO BE ACQUIRED LAND, (INCL. P.R.O) TOTAL	TO BE ACQUIRED BLDGS	RESIDUE LEFT	RESIDUE RIGHT	SHEET NO.	REMARKS
*	1-WL	Chester Illitch	340	139	121.32	15.21	15.21	—	(L) 103	13,(L)1.7	13, 14	Sec. 22
			221	291	67.50	—	—	—	(L) 67.50	—		Gue. County
*	2-X	George Stage & Hilda Stage	382	284	22.00	.02	.02	—	—	22	13	Sec. 22
*	3-WL	Robert Eggleston & Donna Eggleston	371	61	40.00	12.71	12.71	—	(L) 16	11	14, 15	Sec. 22
*	4-WL	Ella Couts Fenstermaker	372	54	69.00	24.64	24.64	—	17	27	14,15,16,23,24	Sec. 22
*	4-WD					.50	.50	—	—	—	16, 23	Sec. 22
*	4-AWD					1.64	1.64	—	—	—	16, 24	Sec. 22
*	5-WD	James H. Brandon & Juanita Brandon	381	554	160.00	2.33	2.33	—	158	—	23	Sec. 22
*	6-WD	Lester Little	275	219	100.00	.71	.71	—	99	—	23	Sec. 19
	7	Edwin McKean et al.	260	524	242.00	—	—	—	80	—	13, 14	80 Ac Res. L.L. by loss of access easement.
*	8-WD	Vernon Durbin & Kathleen Durbin	340	485	33.13	.35	.35	—	—	33	24	Sec. 22
*	9-WL	Thomas M. Armstrong & Lois L. Armstrong	391	370,371 / 372	1.00 / 100.0 / 111.0	2.94	27.97	—	—	8	16,17,18	Sec. 22
*	9-WD					25.03		—	65	11	23,24	Sec. 19
*	9AWD					1.00	3.25	—	—	—	16, 23	Sec. 22
*	9X					2.25		—	—	—		Sec. 19
*	9Y					1.94	1.94	—	—	—	16, 24	Sec. 22
						.21	.21	—	—	—	23	Sec. 19
						.20	.20	—	—	—	17	Sec. 19
*	10 WL	Frank Bliss et al.	318	416	40.00	6.63	6.63	—	—	33	18, 19	Sec. 19
*	11 WL	Harry E. Mitchell	159	498	80.0 / 40.0 / 120.0	13.07	24.75	—	67	—	18, 19	Sec. 19
						11.78		—	27	(L) 1.4	20, 21	Sec. 12
*	12 WL	Ernest Couts	310	330,331	58.90	3.45	3.45	—	—	55	19, 20	Sec. 19
	13	Charles Welch	221	370	84.00	—	—	—	—	—	20, 21	Not Required

REVISION BLOCK

Rev. No.	Date	Description

NOTE (L) Indicates Landlocked Residue; * Indicates Type F Funds ** Indicates Parcel to be Acquired Under Project GUE-77-19.77

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

210/230

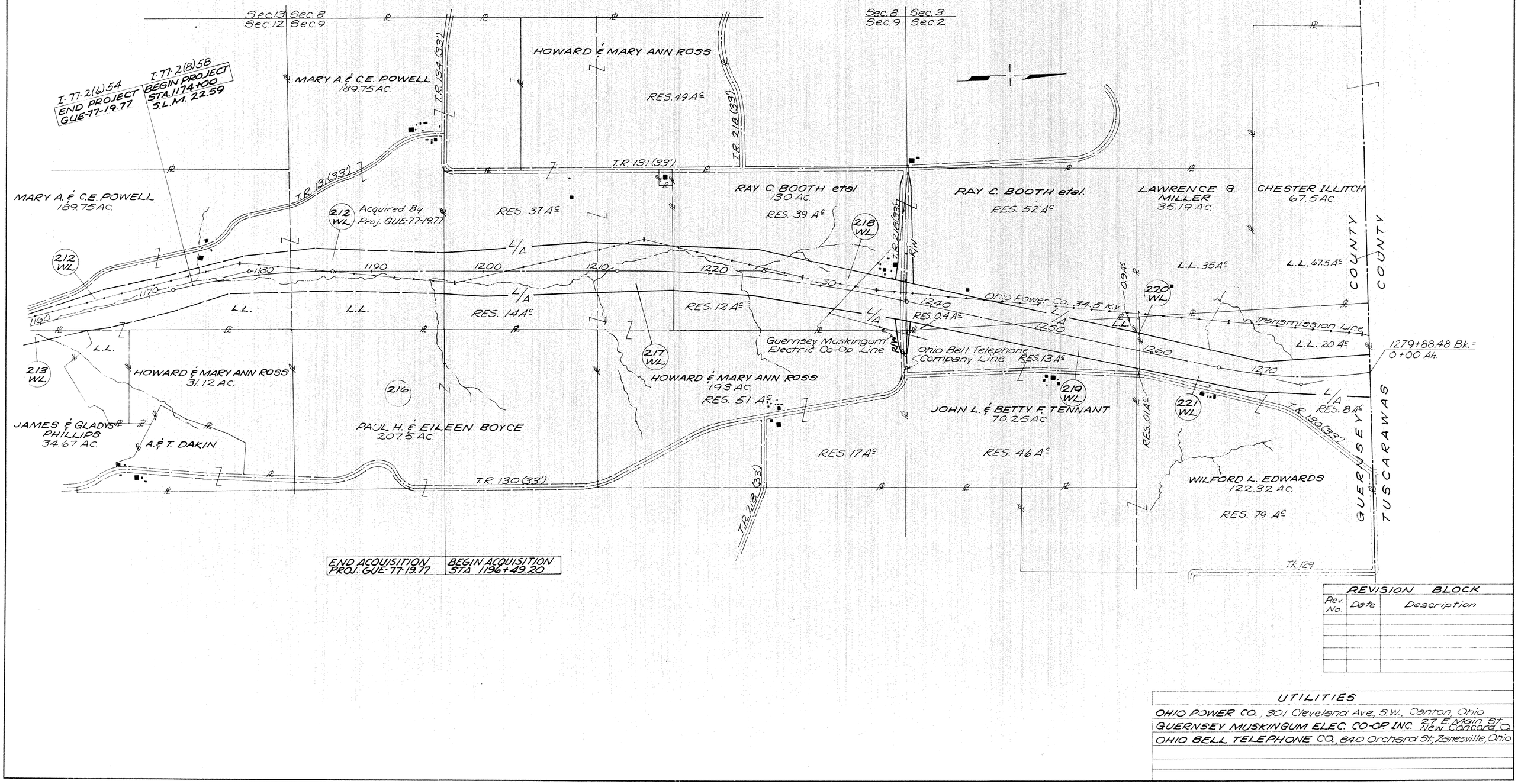
4/24

GUE-77-22.59
TUS-77-0.00
LIMITED ACCESS

PROPERTY MAP
GUERNSEY COUNTY, OHIO

WHEELING TWP, T4N-R3W-SECTIONS 2,9,&12 (U.S.M.L.)

0 400 800 1200
SCALE IN FEET



END ACQUISITION PROJ. GUE-77-19.77	BEGIN ACQUISITION STA 1196+49.20

REVISION BLOCK

Rev. No.	Date	Description

UTILITIES

OHIO POWER CO., 301 Cleveland Ave, S.W., Canton, Ohio
GUERNSEY MUSKINGUM ELEC. CO-OP INC. 27 E Main St. New Concord, O.
OHIO BELL TELEPHONE CO, 840 Orchard St, Zanesville, Ohio

FED. RD	STATE	PROJECT
2	OHIO	I-77-2(8)58

211/230

GUE-77-22.59
TUS-77- 0.00

LIMITED ACCESS

5/24

PROPERTY MAP
TUSCARAWAS COUNTY, OHIO
OXFORD TWP., T5N-R3W- SECTIONS 12,19,&22 (U.S.M.L.)

0 400 800 1200
SCALE IN FEET

CHESTER ILLITCH
121.32 AC.
EDWIN McKEAN et al
80.00 AC.
L.L. 103 A.
L.L. 80 A.
JAMES H. & JUANITA BRANDON
160.00 AC.
RES. 129 A.
5 WD
6 WD
LESTER LITTLE
RES. 99 A.
RES. 29 A.
6" Gas Line No. 0.30
Ohio Fuel Gas Co.
T.R. 112 (50')
6" Pipe Line Allegheny Pipe Line Co.
I-77-2(8)58
END PROJECT
STA. 114+50
S.L.M. 2.17
I-77-3(1)64
BEGIN PROJECT
TUS-77-2.17
Access Drive
Ohio Bell Telephone Co. Underground Cable
Acess Easement
ROBERT & DONNA EGGLESTON
40.0 AC.
ELLA C. FENSTERMAKER
69.00 AC.
RES. 17 A.
THOMAS M. & LOIS L. ARMSTRONG
111.00 AC.
RES. 65 A.
HARRY E. MITCHELL
120.00 AC.
ARTHUR M. & ALICE WELCH
55.00 AC.
RES. 27 A.
14 WL
Postboy Creek
Reloc. C.R. 3
Access Drive
1 WL
3 WL
4 WL
L.L. 16 A.
Guernsey Muskingum Electric Co-op. Line
9 WL
11 WL
Ohio Power Co. 345 K.V. Transmission Line
RES. 11 A.
RES. 27 A.
RES. 8 A.
RES. 11 A.
Guernsey Muskingum Electric Co-op. Line
Ohio Bell Telephone Line
L.L.
1.7 A.
Private Road
IRWIN & CHARLOTTIE ADDY
132.89 AC.
FRANK BLISS et al
40.00 AC.
RES. 33 A.
10 WL
12 WL
13
CHARLES R. WELCH
84.00 AC.
1.4 A.
END ACQUISITION
STA. 121+20.69
RES. 1.3 A.
T.R. 4 (50')
2
VERNON & KATHLEEN DURBEN
33.13 AC.
RES. 33 A.
RES. 55 A.
ERNEST COUTS
58.9 AC.
EDWIN McKEAN et al
162.00 AC.
7
8 WD
GEORGE D. & HILDA A. STAGE
22.0 AC.
T.R. 115 (50')
Sec. 22 Sec. 19
Sec. 21 Sec. 20
Sec. 19 Sec. 12
Sec. 20 Sec. 11
1279+88.48 Bk.
C+00 Ah.
COUNTY
COUNTY
GUERNSEY
TUSCARAWAS

REVISION BLOCK

Rev. No.	Date	Description

UTILITIES

OHIO POWER CO.,	30 Cleveland Ave. S.W., Canton, Ohio
GUERNSEY MUSKINGUM ELECTRIC CO-OP., INC.,	27 E. Main St. New Concord, Ohio
OHIO BELL TELEPHONE CO.,	840 Orchard St., Zanesville, Ohio
OHIO FUEL GAS CO.	99 N. Front St., Columbus, Ohio
ALLEGHENY PIPE LINE CO.	Mechanicsburg, Pennsylvania

GUERNSEY CO., WHEELING TWP, T4N-R3W, N.W.¼ Sec. 12 (U.S.M.L.)

GUERNSEY CO., WHEELING TWP, T4N-R3W, N.W.¼ Sec. 12 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

212/230

6/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

CURVE DATA ℄ SURVEY
P.I. Sta. 1179+38.07
Δ = 14° 13' 39"
D = 1° 00'
R = 5729.58'
T = 719.28'
L = 1431.08'
E = 44.97'

MARY A. POWELL & C.E. POWELL
212 WL *

I-77-2(6)54 END PROJECT GUE-77-19.77

I-77-2(8)58 BEGIN PROJECT STA. 1174+00
S.L.M. 22.59

Frame Barn
80'

1172+18.79
140'

1179+00
180'

℄ A

Const. Limits

E.P.A.
110'

1178+00
110

Type 47 Fence

1180+00
118'

E.P.A.

P.I. Sta 1179+38.07

℄ SURVEY I.R. 77
(1965 Survey)

N 12° 14' 55" W

N 02° 03' 44" E

212 WL *

Pavement By Others

1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182

STR. NO. GUE-77-2271
STA. 1180+50 (27"x224')

1182+79

Begin Sheet Sta. 1168+00

End Sheet Sta. 1193+00

PC Sta 1172+18.79

212 WL *
MARY A. POWELL & C.E. POWELL

Fence Terminal

I.A.P.A.

Const. Limits

1177+00
130'

1-D

C.P.A.

1172+18.79
180'

Crossing Type 2
Dumped Rock 10'x 6'x 2.5'

L.L.

MARY A. POWELL & C. E. POWELL
212 WL *

N.W.¼ Sec. 12
N.E.¼ Sec. 12

N.W.¼ Sec. 12
S.W.¼ Sec. 12

Ref. No.	Station	Side	Description	Quantity	Unit
1-D	1182+00	RT.	I-10 Dumped Rock	5.6	C.Y.

HOWARD ROSS & MARY ANN ROSS

RIGHT OF WAY FENCE
I-25 Type 47

Length	Corner Post Assy.	End Post Assy.	Interm. Anchor Post Assy.
Lin. Ft.	Each		
1550	2	1	1

UTILITIES
Ohio Power Co.

Location Plan - Bk. 11, Pg. 91
Guernsey Co. Plat Records

*To Be Acquired By Project GUE-77-19.77

TYPE "F" FUNDS

REVISION BLOCK

Rev. No.	Date	Description

GUERNSEY CO., WHEELING TWP, T4N-R3W, N.E.¼ Sec. 12 (U.S.M.L.)

GUERNSEY CO., WHEELING TWP, T4N-R3W, N.E.¼ Sec. 12 (U.S.M.L.)

Right of Way Sta. 1168+00 to Sta. 1183+00

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.W.¼ Sec. 9(U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

213/230

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

7/24

CURVE DATA & SURVEY
P.I. Sta. 11794+38.07
Δ = 14° 12' 39"
D = 1° 00'
R = 5729.58'
T = 719.22'
L = 1431.09'
E = 44.97'

MARY A. POWELL & C.E. POWELL

END ACQUISITION PROJ. GUE-77-19.77 | BEGIN ACQUISITION STA. 1196+49.20

11185+00
215'

11196+49.2
170'

L/A

Const. Limits

212 WL *

217 WL

Begin Sheet Sta. 1183+00

End Sheet Sta. 1199+00

11184 11185 11186 11187 11188 11189 11190 11191 11192 11193 11194 11195 11196 11197 11198

STR. NO. GUE-77-2283
STA. 1186+42 (48" x 352')

N 02° 03' 44" E

℄ SURVEY I.R. 77
(1965 Survey)

11196+48.25
℄

STR. NO. GUE 77-2306
STA. 1197+60
27" x 270'

Ret. Sta. 1186+49.87

11186+49.87
170'

11196+47.15
200'

N. 87° 37' 16" W.
516.33'

L.L.
MARY A. POWELL & C.E. POWELL
212 WL *

HOWARD ROSS & MARY ANN ROSS
217 WL

*To Be Acquired By Project GUE-77-19.77

CONT. 19.49 Ac
P.R.O. —
TOTAL 19.49 Ac
TYPE "F" FUNDS

UTILITIES
Ohio Power Company

Location Plan - Bk. 11, Pg. 91
Guernsey Co. Plat Records

N. 01° 31' 25" E.

S.W.¼ Sec. 9
S.E.¼ Sec. 9

Stone Fence

PAUL H. BOYCE & EILEEN BOYCE
216 WL

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.E. ¼ Sec. 9(U.S.M.L.)

REVISION BLOCK

Rev No.	Date	Description

Right of Way Sta. 1183+00 to Sta. 1199+00

7

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.W. ¼ Sec. 9 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

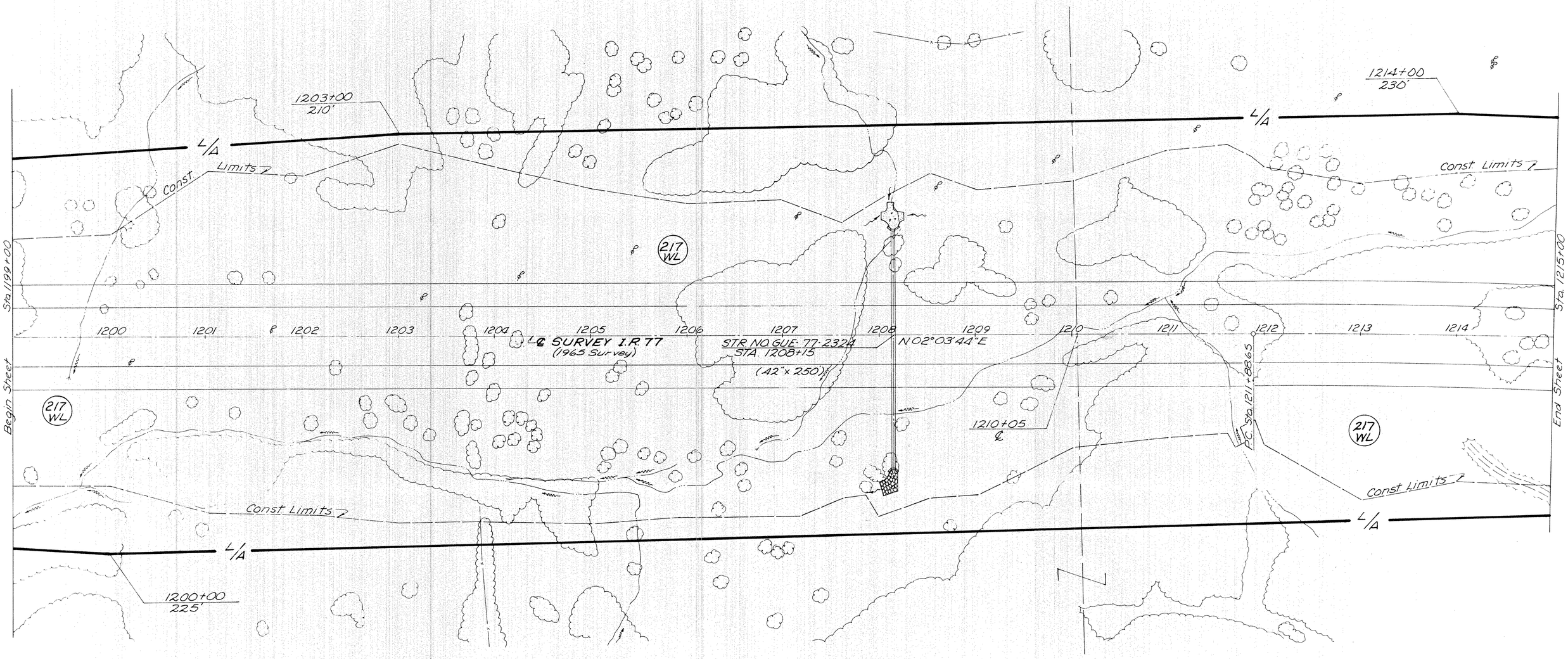
214/230

8/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

CURVE DATA ℄ SURVEY
P.I. Sta. 1224+90.79
Δ = 12° 06' 29"
D = 0° 28'
R = 12,277.67'
T = 1302.14'
L = 2594.58'
E = 68.86'

HOWARD ROSS & MARY ANN ROSS



HOWARD ROSS & MARY ANN ROSS

217 WL

CONT. 19.49 Ac
P.R.O. ———
TOTAL 19.49 Ac

TYPE "F" FUNDS

UTILITIES
Ohio Power Co.

REVISION BLOCK		
Rev. NO.	Date	Description

Location Plan ~ Bk. 11, Pg. 91
Guernsey Co. Plat Records

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.W. ¼ Sec. 9 (U.S.M.L.)

Right of Way Sta. 1199+00 to Sta. 1215+00

GUERNSEY CO., WHEELING TWP., T4N-R3W, N.W.¼ Sec. 9(U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

215/230

9/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

RAY C. BOOTH etal

1224+00
250'

1216+87.98
227.24'

L/A

Const Limits

Sta 1215+00

Sta 1230+00

218 WL

N02°03'44"E

N 14°10'13"E

P.I. Sta. 1224+90.79

1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229

℄ SURVEY I.R. 77
(1965 Survey)

STR. NO. GUE-77-2253
STA. 1223+68 (30"x236')

1216+89.9
℄

217 WL

218 WL

Begin Sheet

End Sheet

RAY C. BOOTH etal

Const Limits

L/A

1224+00
165'

1216+90.25
175'

N 85°47'30" W

RAY C. BOOTH etal.

218 WL

CONT. 25.50 Ac
P.R.O. .25 Ac
TOTAL 25.75 Ac

HOWARD ROSS & MARY ANN ROSS
217 WL

Location Plan ~ Bk. 11, Pg. 91
Guernsey Co. Plat Records

N.W.¼ Sec. 9
N.E.¼ Sec. 9

N.02° 13' 24" E.

HOWARD ROSS & MARY ANN ROSS
217 WL

GUERNSEY CO., WHEELING TWP., T4N-R3W, N.E.¼ Sec. 9(U.S.M.L.)

CURVE DATA ℄ SURVEY

P.I. = Sta.1224+90.79
Δ = 12° 06' 29"
D_c = 0° 28'
R = 12,277.67'
T = 1302.14'
L = 2594.58'
E = 68.86'

TYPE "F" FUNDS

UTILITIES
Ohio Power Co.

REVISION BLOCK		
Rev. No.	Date	Description

Right of Way Sta. 1215+00 to Sta. 1230+00

GUERNSEY CO., WHEELING TWP., T4N-R3W, N.W.¼ SEC. 9 (U.S.M.L.)

See R/W Sheet 22 of 24

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.W.¼ Sec. 2 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(183)58	

216 / 230

10 / 24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

CURVE DATA & SURVEY
P.I. Sta. 1224+90.79
Δ = 12°06'29"
D = 0°28'
R = 12,277.6'
T = 1302.14'
L = 2594.58'
E = 68.86'

RAY C. BOOTH et al

218 WL	218 WD	218 AWD
CONT. 25.50 Ac	CONT 1.61 Ac	CONT. 0.21 Ac
P.R.O. .25 Ac	P.R.O. .72 Ac	P.R.O. 0.07 Ac
TOTAL 25.75 Ac	TOTAL 2.33 Ac	TOTAL 0.28 Ac

S85°52'06"E 45.00' (Sta. 1237+83.23 Ex. R/W 33' Sec. 2 & Ex. R/W 33' Sec. 9)

Ex R/W 66'

R/W

Drilled Well
46+00
55'

2 Sty. Frame House

Frame Shed
Frame Garage

Shed

Frame Barn

Pig Pen

1236+50 @ 166.21'
47+37.34 @ 69.88'

1238+00 @ 164.81'
47+64.45 @ 79.43'

Frame Barn

Const Limits

RAY C. BOOTH et al

1237+20.1 @ 165.36'
47+50 @ ℄

1237+48.51 ℄ I.R. 77
49+17.81 ℄ T.R. 218
Structure No. GUE-77-2344

Sta. 1230+00

Sta. 1245+00

1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244

℄ SURVEY I.R. 77
(1965 Survey)
N 14°10'13" E

Begin Sheet

End Sheet

1237+79.40 @ 167.92'
50+88.29 @ ℄

P.C. Sta. 50+88.29

RAY C. BOOTH et al

Const. Limits

S.W.¼ Sec. 2
S.E.¼ Sec. 2

1238+40 @ 167.47'
50+98.61 @ 60.91'
RES. 0.4 Ac

N. 01° 18' 27" W.

1241+48.67
165.2'

1237+00 @ 171.83'
50+78.1 @ 76.56'

51+84.92 ℄ T.R. 218 =
1237+96.71 @ 262.98 I.R. 77

℄ T.R. 218

51+80.13
54.90'

51+86.49
63.04'

P.T. Sta. 52+81.62

JOHN L. TENNANT & BETTY F. TENNANT

219 WL	219 WD
Reloc. T.R. 218 CURVE DATA CONT. 8.26 Ac	CONT. 0.13 Ac
P.I. Sta. 51+84.96	P.R.O. 0.08 Ac
Δ = 0°58'00"	TOTAL 0.21 Ac
D = 0° 30'	
R = 11,459.16'	
T = 96.67	
L = 193.33	

N.W.¼ Sec. 9
N.E.¼ Sec. 9

N. 02° 13' 24" E.

HOWARD ROSS & MARY ANN ROSS

217 WL	217 WD
CONT. 19.49 Ac	CONT. 0.15 Ac
	P.R.O. 0.08 Ac
	TOTAL 0.23 Ac

53+00
50'

53+00
45'

54+00
16.5'

54+00
16.5'

℄ 54+00

S.E.¼ Sec. 9
N.E.¼ Sec. 9

33' Sec. 2 & 33' Sec. 9

S85°52'06"E

Ex. R/W 33'

TYPE "F" FUNDS

UTILITIES
Ohio Power Co.
Guernsey-Muskingum Elec. Coop.
Ohio Bell Telephone Co.

REVISION BLOCK		
Rev. No.	Date	Description

See R/W Sheet 22 of 24

Location Plan - Bk. 11, Pg. 91
Guernsey Co. Plat Records

GUERNSEY CO., WHEELING TWP., T4N-R3W, N.E.¼ Sec. 9 (U.S.M.L.)

Right of Way Sta. 1230+00 to Sta. 1245+00

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.W. ¼ Sec. 2 (U.S. M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(18)58	

217 / 230

11 / 24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

4 W ¼ Sec 2
S W ¼ Sec 2

LAWRENCE G. MILLER
220 WL
CONT. 0.12 Ac
L.L. 35 Ac

RAY C. BOOTH etal
218 WL

L.L. 0.9 Ac
L.L. 20 Ac

1253+14.42
157.61'

S.W. ¼ Sec 2
S.E. ¼ Sec 2

1258+46.09
155.08'

1258+63.01
155'

℄ A

Const Limits

S 88° 17' E.

RAY C. BOOTH etal
218 WL

N. 01° 18' 27" W.

219 WL

220 WL

WILFORD L. EDWARDS

Sta 1245+00

1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260

Sta 1261+00

1247+45.24 ℄

℄ SURVEY I.R. 77
(1965 Survey)

N 14° 10' 13" E

1258+80.36 ℄

1258+97.26 ℄

Begin Sheet

End Sheet

219 WL

221 WL

Fence Terminal

Const Limits

1259+14
152.22'

1259+30.87
152.03'

℄ A

Type 47 Fence

C.R.A.

JOHN L. TENNANT & BETTY F. TENNANT
219 WL
Cont. 8.26 Ac ±

Exist. R/W

℄ T.R. 130 (33')

Exist. R/W

WILFORD L. EDWARDS
221 WL
CONT. 13.33 Ac

NE ¼ SE ¼ Sec 2

TYPE "F" FUNDS

RIGHT OF WAY FENCE I-25 Type 47			
Length	Corner Post Ass'y	End Post Ass'y	Interm. Anchor Post Ass'y
Lin. Ft.	Each		
232	1	0	0

UTILITIES
Ohio Power Co.

REVISION BLOCK		
Rev. No.	Date	Description

Location Plan ~ Bk. 11, Pg. 91
Guernsey Co. Plat Records

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.E. ¼ Sec. 2 (U.S.M.L.)

Right of Way Sta. 1245+00 to Sta. 1261+00

11

GUERNSEY CO., WHEELING TWP., T4N-R3W, N.E. ¼ Sec. 2 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

218/230

12/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

CURVE DATA ℄ SURVEY

P.I = Sta. 1273+93.10
Δ = 22° 16' 00"
D = 1° 28'
R = 3906.53'
T = 768.79'
L = 1518.18'
E = 74.93' ℘

WILFORD L. EDWARDS

221/WL Cont. 13.33 Ac. ±

L.L.
1264+00
200'
L/A
Const. Limits
Frame Shed
1270+00
120'
L.L.
20 Ac.
L/A
Const. Limits
Sta. 1261+00
Sta. 1266+24.31 P.C.
Sta. 1276+00
Begin Sheet
End Sheet
1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275
N 14° 10' 13" E
℄ SURVEY I.R. 77
(1965 Survey)
221/WL
221/WL
221/WL
Const. Limits
N 14° 10' 13" E
N 08° 05' 47" W
P.I. Sta. 1273+93.10
Const. Limits
WILFORD L. EDWARDS
I.A.P.A.
Type 47 Fence
Fence Terminal
C.P.A.
L/A
L/A
Exist. R/W
℄ T.R.-130 (33')
L Exist. R/W
Frame Garage
25'
1269+00
155'
Frame Barn
Corn Crib
2 Sty. Frame House
Well
Frame Carport & Storage

WILFORD L. EDWARDS

Location Plan - Bk. 11, Pg. 91
Guernsey Co. Plat Records

RIGHT OF WAY FENCE I-25 Type 47			
Length	Corner Post Ass'y	End Post Ass'y	Interm. Anchor Post Ass'y
Lin. Ft.	Each		
850	1	0	1

UTILITIES
Ohio Power Company

TYPE "F" FUNDS

REVISION BLOCK		
Rev. No.	Date	Description

GUERNSEY CO., WHEELING TWP., T4N-R3W, N.E. ¼ Sec. 2 (U.S.M.L.)

Right of Way Sta. 1261+00 to Sta. 1276+00

GUERNSEY CO., WHEELING TWP. T4N-R3W, N.E. ¼ Sec. 2 (U.S.M.L.)

TUSCARAWAS CO., OXFORD TWP. T5N-R3W, S.E. ¼ Sec. 22 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(18)58	

219
230

13
24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

CURVE DATA ℄ SURVEY

P.I. = Sta. 1273+93.10
Δ = 22° 16' 00"
D = 1° 28'
R = 3906.53
T = 768.79
L = 1518.18
E = 74.93

6+00
370'

CHESTER ILLITCH

1 WL

N. 28° 12' 47" W.
617.83'

S. 89° 12' 47" E.
107.5'

N. 29° 22' 43" E.
378.02'

L.L.
20 Ac

1280+02.79
155.46'

0+14.31
155.46'

L.L.
103 Ac

9+00
140'

L/A

N. 8° 05' 47" W.
453.31'

Const Limits

Sta. 1276+00

GUERNSEY CO.

TUSCARAWAS CO.

Access Road to Illitch Farm
(To Be Abandoned)

Sta. 11+00

221 WL

1 WL

P.T. Sta. 1+540'

STR. NO GUE-77-0007
STA. 3+51 (60"x524')

℄ SURVEY I.R. 77
(1965 Survey)

1277 1278 1279

373.12'

1 2 3 4 5 6 7 8 9 10

5+25.06

N08°05'47"W

WILFORD L. EDWARDS

CHESTER ILLITCH

1 WL

Sta. 1279+88.48 Bk. =
Sta. 0+00 Ah.

Const Limits

Begin Sheet

L/A

WHEELING TWP.

OXFORD TWP.

317.45'
S. 81° 54' 13" W.

End Sheet

2X

N. 02° 39' 08" E.
50.90'

2+75
269.96'

Const Limits

2+25
260.48'

S. 81° 54' 13" W.
24.52'

N. 81° 54' 13" E.
15.03'

746.58'
S. 02° 39' 08" W.

5+25.06
317.45'

℄ Stone Found

622.45'

S. 23° 31' 50" W.

L/A

WILFORD L. EDWARDS

221 WL

Sec. 2
Sec. 22

T. 4
T. 5

1279+64.76
215.69'

C C
50.00'
S. 08° 05' 47" E

2+25
285'

2+75
285'

L.L.
1.7 Ac

Location Plan - Bk. 11, Pg. 91
Guernsey Co. Plat Records

CHESTER ILLITCH

1 WL

CONT. 15.21 Ac

GEORGE D. STAGE & HILDA A. STAGE

2X Channel Reloc.

CONT. .02 Ac

7+00
350.66'

EDWIN McKEAN et al

TYPE "F" FUNDS

7

UTILITIES
Ohio Power Company
Guernsey-Muskingum Elec. Co-op.
Ohio Bell Telephone Company

REVISION BLOCK		
Rev. No.	Date	Description

GUERNSEY CO., WHEELING TWP. T4N-R3W, N.E. ¼ Sec. 2 (U.S.M.L.)

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, S.E. ¼ Sec. 22 (U.S.M.L.)

Right of Way Sta. 1276+00 to Sta. 11+00

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, S.E. ¼ SEC. 22 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

220
230

14
24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

CHESTER ILLITCH
1 WL

NEALE R. FRENTON & EVELYN J. FRENTON

L.L. 103 Ac

13+53.31
140'

L.L. 16 Ac

18+75
240'

N. 18° 56' 50" W.
531.19'

N. 8° 18' 02" W.
836.11'

℄

26+80.74
242.87

N. 8° 05' 47" W.
453.31'

℄

Const. Limits

Field Drive (To Be Abandoned)

Access Easement to Edwin McKean et al (No Width Specified)
Field Drive (To Be Abandoned)

Const. Limits

Sta 11+00

CHESTER ILLITCH

329.35'

3 WL

Sta 27+00

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

13+30.35
℄

N 08° 05' 47" W

℄ SURVEY I.R. 77
(1965 Survey)

STR. NO. TUS-77-0039
STA. 20+71 (30" x 432')

℄
26+44.26

26+74.60
℄

1 WL

3 WL

3 WL

4 WL

Begin Sheet

End Sheet

Const. Limits

Const. Limits

1345.65'
S. 07° 45' 35" E.

℄

622.45'
S. 23° 31' 50" E.

℄

13+00
185.01

N 89° 33' 12" W.

26+15.31
192.74

26+45.63
192.92'

ELLA COUTS
FENSTERMAKER
4 WL
CONT. 24.17 Ac
P.R.O. 0.47 Ac
TOTAL 24.64 Ac

NEALE R. FRENTON & EVELYN J. FRENTON
3 WL
CONT. 12.71 Ac

L.L. 1.7 Ac

S. 86° 47' 53" E.

℄

S. 01° 28' 02" W.

EDWIN McKEAN et al
7 WL

SE ¼ Sec. 22
NE ¼ Sec. 22

TYPE "F" FUNDS

UTILITIES
Ohio Power Company
Ohio Bell Telephone Company

REVISION BLOCK		
Rev. NO.	Date	Description
	8-5-65	Rev. Owner on Parcel No. 3 WL
	8-18-65	Added plusses on Access Easement for McKean

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, S.E. ¼ SEC. 22 (U.S.M.L.)

Right of Way Sta. 11+00 to Sta. 27+00

14

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, N.E. ¼ SEC. 22 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

221
230

15
24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

CURVE DATA ℄ SURVEY
P.I. Sta. 43+61.53
Δ = 22° 12' 34"
D = 1° 28'
R = 3906.53'
T = 766.77'
L = 1514.28'
E = 74.54'

N

N 89° 33' 12" W.

27+11.1
242.98'

℄/A

N. 08° 18' 01" W.
1208.89'

39+00
260'

N. 06° 09' 53" E.

℄/A

637.51'

3 WL

Const Limits

Field Drive
(To be Abandoned)

Const Limits

Sta. 27+00

4 WL

ELLA COUTS FENSTERMAKER

4 WL

Sta. 42+00

28 29 30 31 32 33 34 35 36 37 38 39 40 41

N08°05'47"W

℄ SURVEY I.R. 77
(1965 Survey)

P.I. Sta. 35+94.76

4 WL

Begin Sheet

Const Limits

598.30'
S. 14° 20' 00" E.

Const Limits

889.41'
S. 0° 36' 31" W.

354.38'
S. 37° 45' 34" E.

℄/A

℄/A

End Sheet

30+00
195'

35+94.76
120'

ELLA COUTS FENSTERMAKER

4 WL

CONT. 24.17 A℄
P.R.O. .47 A℄
TOTAL 24.64 A℄

TYPE "F" FUNDS

UTILITIES	REVISION BLOCK		
	Rev. No.	Date	Description

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, N.E. ¼ SEC. 22 (U.S.M.L.)

Right of Way Sta. 27+00 to Sta. 42+00

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, N.E. ¼ SEC. 22 (U.S.M.L.)

See R/W Sheet 23 of 24

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

222/230

16/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

CURVE DATA ℄ SURVEY

P.I. = Sta. 43+61.53
Δ = 22° 12' 34"
D = 1° 28'
R. = 3906.53'
T = 766.77'
L = 1514.28'
E = 74.54'

CURVE DATA RELOC. C.R. 3

P.I. Sta. 48+91.37
Δ = 80°50'30"
D = 8°
R = 716.20'
T = 609.98'
L = 1010.52'
E = 223.91'

ELLA COUTS FENSTERMAKER

4 WL | 4 WD | 4 AWD

CONT. 24.17 A℄
P.R.O. .47 A℄
TOTAL 24.64 A℄

49+00 / 300'

N. 17° 30' 30" E. 277.07'

45+00 / 200'

N. 05° 05' 51" W. 436.98'

N. 06° 09' 53" E. 637.51'

L/A

Const. Limits

ELLA COUTS FENSTERMAKER

4 WL

48+50 ℄

N 08° 05' 47" W

N 14° 06' 47" E

P.I. Sta. 43+61.53

STR. NO. TUS-77-0093
STA. 48+96 (60' x 524')

68° 15' to Loc. Tan.

49+16 ℄

50+97.87 @ 128.4' I.R. 77
52+21.38 @ 46.11 Reloc.
51+29.92 @ ℄ Exist.

P.I. Sta. 51+04.04

Ohio Fuel Gas Co. 8" Gas Line N'ly 0.30'

51+60.65 @ 277.57' I.R. 77
47+55.55 @ 119.03' Reloc.
47+19.17 @ ℄ Exist.

51+17.98 ℄ I-77 = 50+00 Exist. C.R. 3

410.75'
N 18° 02' 58" W
℄ Exist. C.R. 3 (66')

Ex. R/W

Const. Limits

R/W

Field Drive (To be Abandoned)

52+76.77 @ 210.83' I.R. 77
48+22.82 @ ℄ Reloc. C.R. 3

N 44° 00' 05" E. 376.07'

54+00 @ 140' I.R. 77
48+73.09 @ 131.2' C.R. 3

N. 05° 29' 08" E. 733.30'

L/A

STR. NO. TUS-77-0099

S 88° 59' 30" E

9 WD | 9 WL | 9 X

Sta. 42+00

Sta. 57+00

46 47 48 49 50 51 52 53 54 55 56

53+58.61

℄ SURVEY I.R. 77
(1965 Survey)

N 14° 06' 47" E

THOMAS M. ARMSTRONG & LOIS L. ARMSTRONG

52+24.62 ℄ I-77 = 50+40.84 ℄ Reloc. C.R. 3

STR. NO. TUS-77-0099-R

Const. Limits

End Sheet

Begin Sheet

Const. Limits

889.41'
S. 0° 36' 31" W.

45+20 / 160'

S. 48° 32' 01" W. 225.99'

Ohio Bell Telephone Co. 2.4 V.S.P. Encasements

To be relocated

℄ Reloc. C.R. 3

53+20.82 ℄

S 46° 59' 38" W

54

53

52

51

Const. Limits

182.82'
S. 34° 51' 44" E.

1332.40'
S. 17° 33' 18" W.

52+70 @ 160' I.R. 77
51+53.71 @ 113.7' C.R. 3

S.E. ¼ Sec. 19
N.E. ¼ Sec. 22

265.93'
S. 09° 45' 16" W.

152.13'
S. 09° 45' 16" W.

51+50 @ 297.93' I.R. 77
53+15.5 @ 103.64' C.R. 3

49+88.83 @ 307.78' I.R. 77
54+26.87 @ ℄ Reloc. C.R. 3
53+36.74 @ ℄ Exist. C.R. 3

47+00 @ 310' I.R. 77
56+21.54 @ 181.16' C.R. 3

4 AWD | 9 AWD

Ex. R/W

S 47° 38' 11" W

56

55

R/W

Const. Limits

THOMAS M. ARMSTRONG & LOIS L. ARMSTRONG

9 WL | 9 WD | 9 AWD | 9 X (Channel Reloc.)

CONT. 27.50 A℄
P.R.O. .47 A℄
TOTAL 27.97 A℄

TYPE "F" FUNDS

See R/W Sheet 24 of 24

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, N.E. ¼ SEC. 22 (U.S.M.L.)

UTILITIES
Guernsey-Muskingum Elec. Co-op.
Ohio Fuel Gas Co.
Ohio Bell Telephone Company

REVISION BLOCK		
Rev. No.	Date	Description

Right of Way Sta. 42+00 to Sta. 57+00

16

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, S.E. ¼ SEC. 19 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(161)58	

223/230

17/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

THOMAS M. ARMSTRONG & LOIS L. ARMSTRONG

9 WL — CONT. 27.50 Ac
PRO .47 Ac
TOTAL 27.97 Ac

9 Y Channel Reloc. — CONT. .20 Ac

Postboy Creek

9 Y

61+25
325'

63+00
270'

N. 31° 33' 36" E.
183.44'

N. 75° 53' 13" W.
75.00'

61+25
250'

S. 15° 43' 14" W.
175.07'

S. 75° 53' 13" E.
24.91'

63+00
245.09'

℄ A

N. 05° 29' 08" E.
733.30'

N. 15° 43' 14" E.
1932.31'

Const Limits

Field Drive (To Be Abandoned)

Sta. 57+00

Sta. 73+00

9 WL

STR. NO. TUS. 77-0121
STA. 64+00 (144" x 398")

℄ SURVEY I. R. 77
(1965 Survey)

58 59 60 61 62 63 64 65 66 67 68 69 70 71 72

N. 14° 06' 47" E

THOMAS M. ARMSTRONG & LOIS L. ARMSTRONG

9 WL

Begin Sheet

End Sheet

Const Limits

1332.40'
S. 17° 33' 18" W.

863.32'
S. 11° 24' 35" W.

66+00
240'

IRVIN ADDY & CHARLOTTIE ADDY

S. 0° 13' 23" W.

TYPE "F" FUNDS

UTILITIES
Ohio Power Company

REVISION BLOCK		
Rev. No.	Date	Description

Right of Way Sta. 57+00 to Sta. 73+00

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, S.E. ¼ SEC. 19 (U.S.M.L.)

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, S.E. ¼ SEC. 19 (U.S.M.L.)

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, N.E. ¼ SEC. 19 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)158	

224/230

18/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

THOMAS M. ARMSTRONG & LOIS L. ARMSTRONG

9 WL

CONT. 27.50 Ac
P.R.O. 47 Ac
TOTAL 27.97 Ac

Begin Sheet

Sta. 73+00

℄ A

N 15° 43' 14" E
1932.31'

Const Limits

P.C. Sta. 76+38.23

N 14° 06' 47" E

74 75 76 77 78 79 80 81 82 83 84 85 86 87

STR. NO. TUS-77-01.50
Sta. 79+18 (54' x 370')

79+33
74° to Local Tan.

80+98.62 ℄

℄ SURVEY I.R. 77
(1965 Survey)

668.74'
S. 0° 13' 23" W.

S 11° 24' 35" W
863.32'

74+62.36
199.28'

344.77'
S. 17° 59' 43" W.

Field Drive (To Be Abandoned)

78+00
225'

IRVIN ADDY & CHARLOTTIE ADDY

9 WL

6" Products Pipe Line
Allegheny Pipe Line Co.

S.E. ¼ Sec. 19
N.E. ¼ Sec. 19

80+70.52
180'

S 89° 04' 55" E.
240.90'

To be Relocated

S.E. ¼ Sec. 19
N.E. ¼ Sec. 19

HARRY E. MITCHELL

11 WL

CONT. 24.75 Ac

N. 07° 45' 32" E.
707.63'

88+00
160'

Const Limits

Sta. 88+00

HARRY E. MITCHELL

11 WL

86+75.71 ℄

1326.66' ℄ N. 0° 46' 27" E.

End Sheet

10 WL

FRANK BLISS et al

N 14° 06' 47" E

N 06° 34' 52" W

P.I. Sta. 86+84.34

81+07.32
58.14'

Const Limits

738.65'
S. 01° 28' 03" W.

931.93'
S. 05° 14' 09" W.

87+00
180'

FRANK BLISS et al

10 WL

CONT. 6.63 Ac

CURVE DATA ℄ SURVEY

P.I. = Sta. 86+84.34
Δ = 20° 41' 39"
D = 1° 00'
R = 5729.58'
T = 1096.11'
L = 2069.92'
E = 99.72'

TYPE "F" FUNDS

UTILITIES
Ohio Power Company
Allegheny Pipe Line Company

REVISION BLOCK		
Rev. No.	Date	Description

TUSCARAWAS CO. OXFORD TWP, T5N-R3W, S.E. ¼ SEC. 19 (U.S.M.L.)

Right of Way Sta. 73+00 to Sta. 88+00

18

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, N.E. ¼ SEC. 19 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

225/230

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

19/24

CURVE DATA ℄ SURVEY
P.I. Sta. 86+84.34
Δ = 20°41'39"
D = 1°00'
R = 5729.58
T = 1046.11'
L = 2069.42'
E = 94.72'

HARRY E. MITCHELL
11 WL
CONT. 24.75 Ac

88+00
160'
℄/A
N. 02° 41' 29" W.
880.64'
97+07.65
170'
N. 09° 01' 05" W.
1293.52'
℄/A
Const. Limits
Sta. 88+00
Sta. 103+00
Sta. 97+07.65
PT
11 WL
HARRY E. MITCHELL
N. 0° 46' 27" E.
1326.66'
92+68.49
℄
STR. NO. TUS.-77-0170
STA. 90+00 (30" x 192')
89
90
91
92
93
94
95
96
97
98
99
100
101
102
N 06° 34' 52" W
℄ SURVEY I.R. 77
(1965 Survey)
FRANK BLISS etal
10 WL
94+28.16
10.51'
189.95'
S. 89° 43' 21" E.
STR. NO. TUS-77-0195
STA. 103+00 (48" x 302')
1336.76'
N. 0° 33' 46" E.
11 WL
ERNEST COUTS
12 WL
Const. Limits
Begin Sheet
End Sheet
Const. Limits
℄/A
738.65'
S. 01° 28' 03" W.
995.08'
N. 05° 33' 36" W.
℄/A
94+15.16
200'
FRANK BLISS etal
10 WL
ERNEST COUTS
12 WL
CONT. 3.45 Ac

TYPE "F" FUNDS

UTILITIES
Ohio Power Company

REVISION BLOCK		
Rev NO.	Date	Description

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, N.E. ¼ SEC. 19 (U.S.M.L.)

Right of Way Sta. 88+00 to Sta. 103+00

TUSCARAWAS CO. OXFORD TWP. T5N-R3W, N.E.¼ SEC. 19 (U.S.M.L.)

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, S.E.¼ SEC. 12 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

226/230

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

20/24

I-77-2(8)58	I-77-3(1)64
END PROJECT	BEGIN PROJECT
STA. 114+50	TUS-77-2.17
S.L.M. 2.17	

HARRY E. MITCHELL
11 WL

N.E.¼ Sec. 19
S.E.¼ Sec. 12

110+00
225'

N. 09° 01' 05" W.
1293.52'

N. 02° 14' 37" W
1123.91'

℄/A

Const'l Limits

Sta. 103+00

Sta. 119+00

Future Const'l Limits

STR. NO. TUS-77-0216
Sta. 114+11 (36" x 292')

HARRY E. MITCHELL

11 WL

Future Pavement

104 105 106 107 108 109 110 111 112 113 114 115 116 117 118

107+74.38

℄ SURVEY I.R.77
(1965 Survey)

N06° 34' 52" W

11 WL

Begin Sheet

End Sheet

STR. NO. TUS-77-0195
Sta. 103+00 (48" x 302')

Const'l Limits

1736'

ERNEST COUTS

N. 0° 33' 46" E.
1336.76'

12 WL

247.42'
N. 0° 07' 34" W.

356.41'
S. 13° 02' 13" E.

995.08'
N. 05° 33' 36" W.

℄/A

1066.05'
S. 05° 16' 35" E.

Future Const'l Limits

104+00
210'

107+54.15
169.93'

110+00
200.73'

L.L.
1.4 Ac

N. 0° 07' 34" W.

CHARLES R. WELCH
13

ERNEST COUTS
12 WL

N.E.¼ Sec. 19
S.E.¼ Sec. 12
S. 89° 47' 34" E.

TYPE "F" FUNDS

UTILITIES
Ohio Power Company

REVISION BLOCK		
Rev. No.	Date	Description

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, N.E.¼ SEC. 19 (U.S.M.L.)

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, S.E.¼ SEC. 12 (U.S.M.L.)

Right of Way Sta. 103+00 to Sta. 119+00

20

FED. RD.	STATE	PROJECT
2	OHIO	I-77-2(8)58

227/230

21/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS


END ACQUISITION
STA. 121+20.69
N. 02° 14' 37" W.
1123.91'
Sta. 119+00
HARRY E. MITCHELL
11 WL
121+20.69
140'
Future Const. Limits
L/A
14 WL
Pavement By Others
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
N06° 34' 52" W
℄ SURVEY I.R. 77
(1965 Survey)
120+99.62
℄
ARTHUR M. WELCH & ALICE WELCH
Sta. 129+76.20 I.R. 77=
Sta. 51+10.46 Reloc. C.R. 4
T.S. Sta. 130+63.98
R/W P.C. Sta. 131+96.82
S.C. Sta. 134+63.98
Begin Sheet
End Sheet
Sta. 135+00
341.52'
N. 88° 01' 17" W. 369.11'
1066.05'
S. 05° 16' 35" E.
120+65.73
225'
L.L.
1.4 Ac
Stone Found
CHARLES R. WELCH
13
C.R. 4 (50')
Ex. R/W
Frame Barn
Well
Frame Sheds
Frame Shed
N11° 30' 17" W
46
47
48
49
50
51
52
53
54
55
56

TYPE "F" FUNDS

UTILITIES
Ohio Power Company
Guernsey-Muskingum Elec. Co-op
Ohio Bell Telephone Co.

REVISION BLOCK		
Rev. No.	Date	Description

Right of Way Sta. 119+00 to Sta. 135+00

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

228/230

22/24

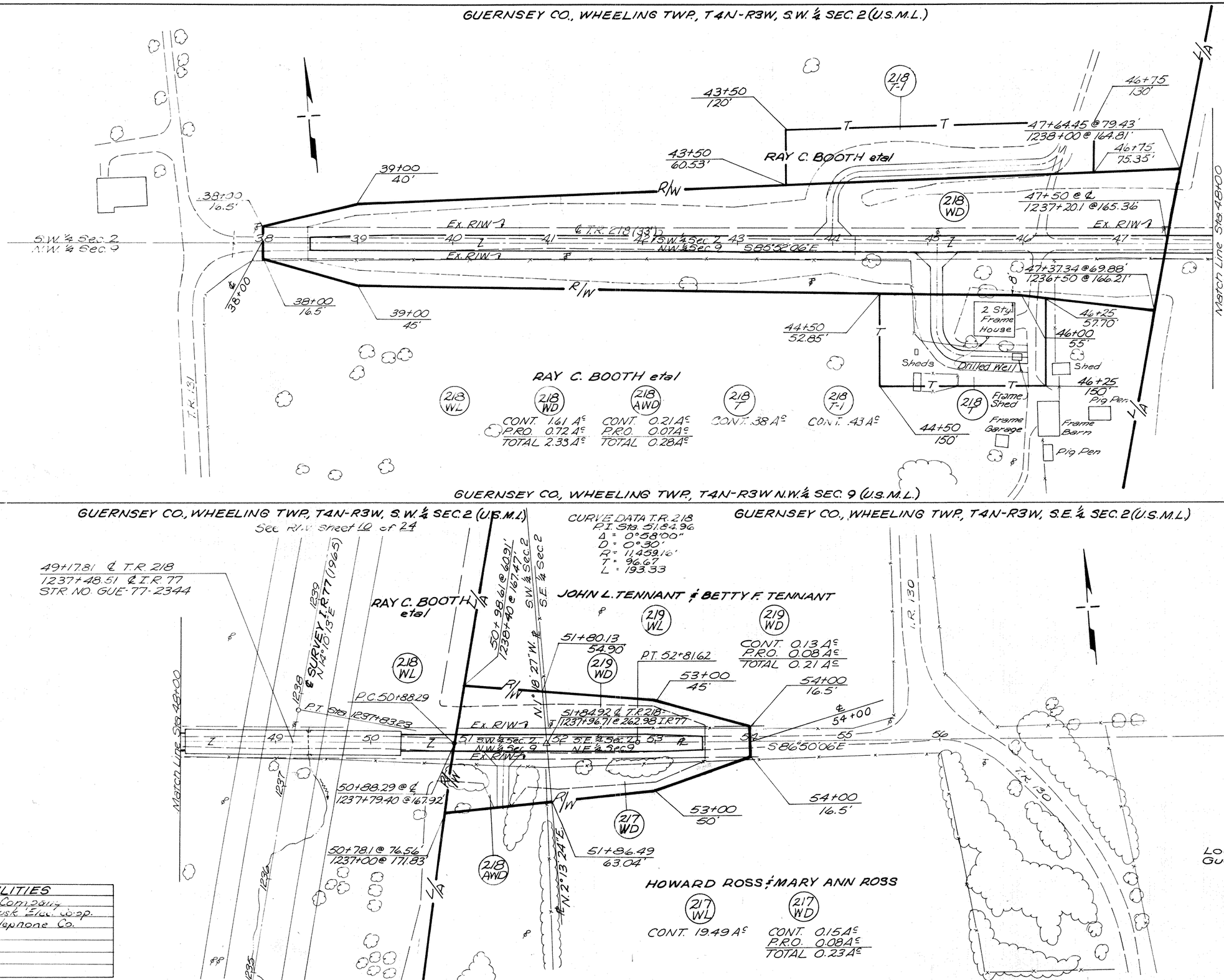
GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.W. ¼ SEC. 2 (U.S.M.L.)

GUERNSEY CO., WHEELING TWP., T4N-R3W N.W. ¼ SEC. 9 (U.S.M.L.)

GUERNSEY CO., WHEELING TWP., T4N-R3W, S.E. ¼ SEC. 2 (U.S.M.L.)

GUERNSEY CO., WHEELING TWP., T4N-R3W, N.E. ¼ SEC. 9 (U.S.M.L.)



Location Plan ~ Bk. 11, Pg 91
Guernsey Co. Plat Records

TYPE "F" FUNDS

UTILITIES
Ohio Power Company
Guernsey-Muskingum Elec. Coop.
Ohio Bell Telephone Co.

REVISION BLOCK		
Rev. No.	Date	Description

RIGHT OF WAY T.R. 218

22

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, S.W.¼ SEC. 19 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

229/230

23/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS

LESTER LITTLE
6 WD
CONT. 0.48 Ac
P.R.O. 0.23 Ac
TOTAL 0.71 Ac
JAMES H. BRANDON & JUANITA BRANDON
THOMAS M. ARMSTRONG & LOIS L. ARMSTRONG
9 WL
9 WD
9 X
CONT 2.76 Ac
P.R.O 0.49 Ac
TOTAL 3.25 Ac
CONT. 0.21 Ac
CURVE DATA RELOC. T.R. 112
P.I. Sta. 2+15.19
Δ=31° 58'10"
D= 9°30'
R= 603.11'
L= 336.52'
T= 172.76'
CURVE DATA RELOC. C.R. 3
P.I. Sta. 48+91.37
Δ = 80°50'30"
D = 8°
R = 716.20'
L = 1010.52'
T = 609.98'
E = 223.91'
6" Gas Line № 0301
Ohio Fuel Gas Co.
To be Relocated
S.W.¼ Sec.19
N.W.¼ Sec.22
Spring
Water Line
Frame Shed
2 Sty. Brick Res.
Septic Tank
Leech Bed
Basement Drain
Frame Garage
Frame Barn
Frame House
Begin Sheet Sta. 33+00
End Sheet Sta. 49+00
N. 24° 01' 43"W.
33.00'
37+60
33'
N. 54° 55' 05"E.
219.06'
39+75
75'
41+25 @ 90' C.R.3
0+64.37 @ 101.26' T.R.112
N.60° 15' 39"E.
150.75'
1+03.67
87.90
47.38
58.37
3+78.95
80'
N. 46° 05' 17"E.
132.96'
N. 09° 59' 45"E.
310.97'
5+00
25'
S. 68° 20' 50"E.
25.00'
N. 21° 39' 10"E.
121.05'
Exist. T.R. 112 (50')
10' Field Drive
P.T. Sta. 3+78.95
S. 03° 46' 42"E.
284.82
N. 10° 19' 00"W.
Reloc. T.R. 112
C. 281.14
N. 8° 10' 29"E.
Const. Limits
Ex. R/W
0+95.20
43+40.52 @ 147.46' C.R.3
2+00 @ 90' T.R.112
N. 69° 05' 26"E.
196.89'
45+00
175'
N. 74° 54' 25"E.
197.89'
187.26
46+50
225'
96.38
S.05° 37' 28"W.
46+50
128.42'
54+00 @ 140' I.R.77
48+73.09 @ 131.2' C.R.3
S. 76° 13' 04"E.
449.73'
42+50
144" x 198"
R. 184.44'
N. 88° 59' 30"W.
P.C. Sta. 0+42.43
Sta. 42+06.79 C.R.3 = Sta. 0+00 T.R.112
43+95.48
23.18'
43+88.96
N. 65° 58' 17"E.
76° 17' 17"
10" V.C.P.
42" x 92"
Ex. R/W
Exist. 24" R.C.P.
Exist. 16' x 26' Box Culvert
42+22.33
N. 84° 49' 05"E.
70.40
43+97.65 @ 48.27'
Reloc. C.R.3
21.38
38+00
33'
N. 24° 01' 43"W.
33.00'
S. 80° 00' 42"W.
533.15'
P.C. Sta. 42+81.39
123.42
43+75.17 @ 44.39' Reloc. C.R.3
320.25
Exist. C.R.3 (66')
S. 78° 02' 58"E.
Field Drives (To be Abandoned)
Reloc. C.R.3
52+76.77 @ 210.83' I.R.77
48+22.82 @ C.R.3
S.E.¼ Sec.19
N.E.¼ Sec.22
Field Drive (Abandon)
Postboy Creek
43+27.66
161.19'
S. 80° 00' 42"W.
341.48'
N. 0° 47' 15"E.
S. 44° 00' 05"W.
276.07
47+19.17 @ Exist.
47+55.55 @ 119.03' Reloc. C.R.3
51+60.65 @ 277.57' I.R.77
S. 67° 08' 53"E.
N.W.¼ Sec.22
N.E.¼ Sec.22
5 WD
4 WD
4 WL
ELLA COUTS FENSTERMAKER
CONT. 0.25 Ac
P.R.O. 0.25 Ac
TOTAL 0.50 Ac
JAMES H. BRANDON & JUANITA BRANDON
CONT. 1.39 Ac
P.R.O. 0.94 Ac
TOTAL 2.33 Ac
TYPE "F" FUNDS

UTILITIES
Guernsey-Muskingum Elec. Co-op.
Ohio Fuel Gas Co.

REVISION BLOCK

Rev. No.	Date	Description

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, N.W.¼ SEC. 22 (U.S.M.L.)

TUSCARAWAS CO., OXFORD TWP., T5N-R3W, N.E.¼ SEC. 22 (U.S.M.L.)

Right of Way - Reloc. C.R.-3 Sta. 33+00 to Sta. 49+00

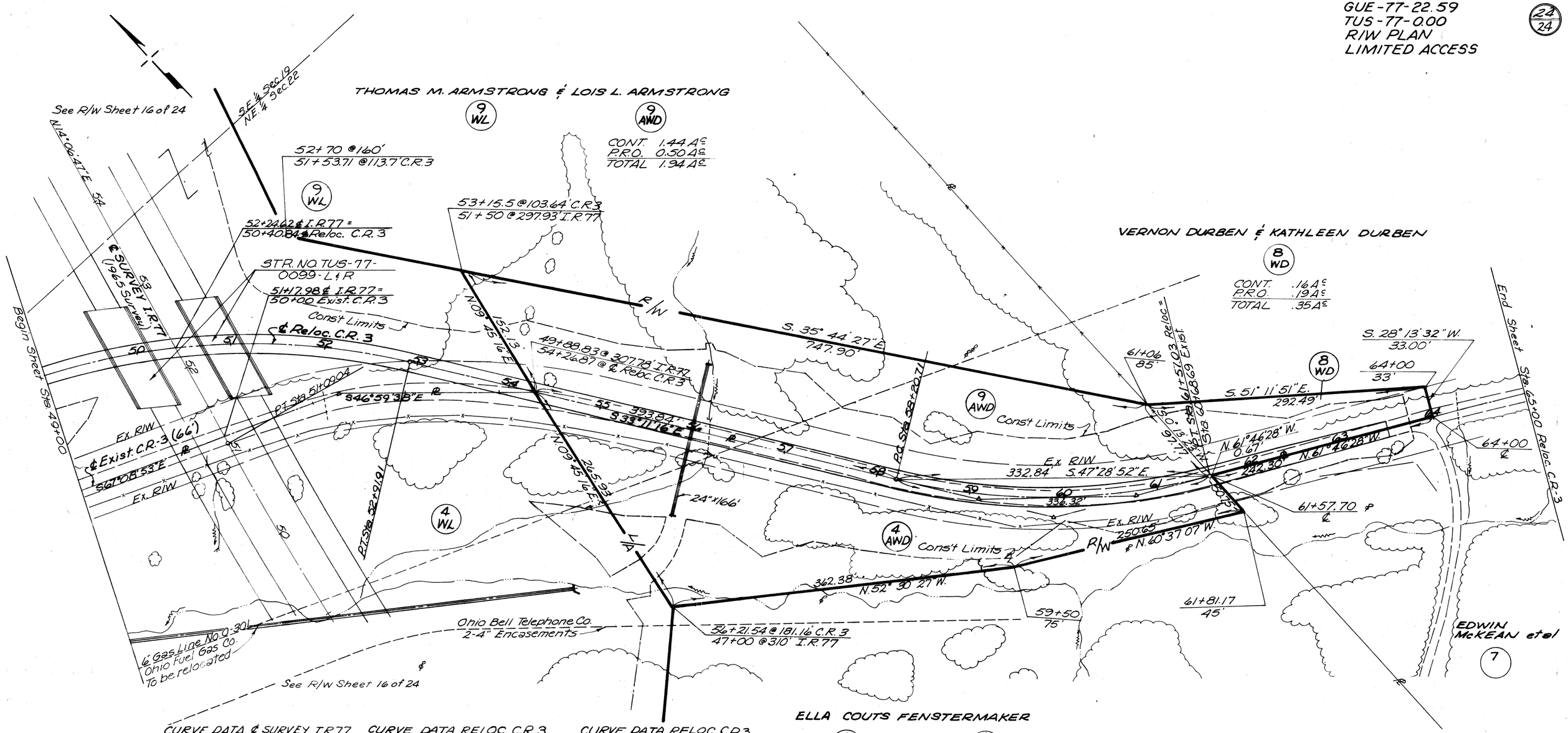
TUSCARAWAS CO., OXFORD TWP, T5N-R3W, N.E. ¼ SEC.22 (U.S.M.L.)

FED. RD.	STATE	PROJECT	
2	OHIO	I-77-2(8)58	

230/230

24/24

GUE-77-22.59
TUS-77-0.00
R/W PLAN
LIMITED ACCESS



ELLA COUTS FENSTERMAKER

4 WL

4 AWD

CONT. 1.14 Ac
P.R.O. 0.50 Ac
TOTAL 1.64 Ac

CURVE DATA ℄ SURVEY I.R.77
P.I. Sta. 43+61.53
Δ = 22° 12' 34"
D = 1° 28'
R = 3906.53'
T = 766.77'
L = 1514.28'
E = 74.54'

CURVE DATA RELOC. C.R. 3
P.I. Sta. 48+91.37
Δ = 80° 50' 30"
D = 8°
R = 716.20'
L = 1010.52'
T = 609.98'
E = 223.91'

CURVE DATA RELOC. C.R.3
P.I. Sta. 59+92.44
Δ = 28° 35' 12"
D = 8° 30'
R = 674.07'
T = 171.73'
L = 336.32'
E = 21.51'

TYPE "F" FUNDS

UTILITIES
Guernsey-Muskingum Elec. Co-op.
Ohio Fuel Gas Co.
Ohio Power Company
Ohio Bell Telephone Co.

REVISION BLOCK		
Rev. No.	Date	Description

TUSCARAWAS CO., OXFORD TWP, T5N-R3W, N.E. ¼ SEC.22 (U.S.M.L.)

Right of Way Reloc. C.R.-3 Sta. 49+00 to Sta. 65+00

GENERAL INFORMATION

INTRODUCTION

The project consists of the construction of 4.3 miles of IR 77, beginning 0.7 mile north of Twp. Rd. 130, 1.5 miles west of USR 21, extending northward, and terminating 2.2 miles north of the Guernsey-Tuscarawas County line, 2.5 miles west of USR 21. Included in this report are profiles of Co. Rd. 3 and Twp. Rds. 218 and 112.

Maximum proposed cuts and fill embankments are shown in the Project Index on this sheet.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

The alignment traverses a ruggedly dissected portion of the Allegheny Plateau, where shallow to moderately deep residual soils overlie coals, indurated clays, shales, and sandstones, of the Conemaugh and Allegheny series, Pennsylvanian age. Several areas of poor surface drainage were observed along the project, as well as rock exposures, which were measured.

EXPLORATION

Exploratory borings were made by means of truck-mounted mechanical soil auger, hand auger (in areas of difficult access), and rotary-type drill rig, between April and July, 1964. Also included in this report are the logs of borings made in conjunction with the structure foundation investigations on the project.

INVESTIGATIONAL FINDINGS

Materials occurring immediately below proposed grades consist predominantly of indurated clay, shale, and sandstone bedrock, with occasional silts and sandy silts (A-4a and A-4b) and silt clays (A-6a).

Bedrock is anticipated in the excavations in the following areas:

IR 77

Stations 1169+00 to 1172+75 - shale at right grade and in the right ditch and backslope.

Stations 1172+75 to 1175+00 - shale in the right ditch and lower portion of the right backslope.

Stations 1191+50 to 1192+80 - shale in the left ditch and lower portion of the left backslope.

Stations 1192+80 to 1195+75 - shale at left grade and in the left ditch and lower portion of the left backslope; shale indurated clay, sandstone and some limestone in the upper portion of the left backslope.

Stations 1195+75 to 1197+00 - shale in the left ditch and lower portion of the left backslope.

Stations 1200+30 to 1201+50 - shale in the left ditch and lower portion of the left backslope.

Stations 1201+50 to 1206+00 - shale at left grade and in the left and median ditches and left backslope.

Stations 1206+00 to 1206+80 - shale in the left ditch and lower portion of the left backslope.

Stations 1212+50 to 1214+00 - shale in the right ditch; shale and sandstone in the right backslope.

Stations 1214+00 to 1220+25 - shale at right grade and in the right ditch; shale and sandstone in the right backslope.

Stations 1220+25 to 1221+00 - shale in the right ditch and lower portion of the right backslope.

Stations 1224+25 to 1224+50 - sandstone and indurated clay in the right ditch and lower portion of the right backslope.

Stations 1224+50 to 1225+25 - sandstone and indurated clay at right grade and in the right ditch and backslope.

Stations 1225+25 to 1260+50 - sandstone and shale at both grades and in the ditches and backslopes.

Stations 1260+50 to 1261+25 - sandstone at left grade and in the left ditch and backslope.

Stations 1261+25 to 1261+50 - sandstone in the left ditch.

Stations 1266+50 to 1267+00 - sandstone at right grade and in the right ditch and lower portion of the right backslope.

Stations 1267+00 to 0+00 - sandstone at both grades and in the ditches and backslopes.

Stations 0+00 to 0+50 - sandstone at left grade and in the left ditch and lower portion of the left backslope.

Stations 8+80 to 9+25 - sandstone at right grade and in the right ditch and backslope.

Stations 9+25 to 17+00 - sandstone at both grades and in the ditches; sandstone with some shale and coal in the backslopes.

Stations 17+00 to 17+50 - sandstone at both grades and in the right ditch; sandstone with some shale and coal in the right backslope.

Stations 17+50 to 19+00 - sandstone at right grade and in the right ditch and the lower portion of the right backslope.

Stations 22+50 to 44+75 - shale at both grades and in the ditches; shale with some coal and indurated clay in the backslopes; sandstone in the upper portions of the backslopes (above elevation 1080 feet).

Stations 52+50 to 55+00 - sandstone and shale at both grades and in the ditches, with sandstone predominant in the backslopes.

Stations 55+00 to 55+50 - shale at both grades and in the right ditch; sandstone with some shale in the right backslope.

Stations 55+50 to 58+00 - shale at right grade and in the right ditch; shale and sandstone in the right backslope.

Stations 58+00 to 59+00 - shale in the right ditch; shale and sandstone in the right backslope.

Stations 68+00 to 68+50 - shale in the left ditch and lower portion of the left backslope.

Stations 68+50 to 73+80 - shale at left grade and in the left ditch and backslope.

Stations 73+80 to 76+00 - shale in the left ditch and backslope.

Stations 82+30 to 84+00 - shale in the right ditch and backslope.

Stations 84+00 to 89+00 - shale at right grade and in the right ditch and backslope.

Stations 89+00 to 89+50 - shale in the right ditch and lower portions of the right backslope.

Stations 90+75 to 91+50 - shale in the right ditch and backslope.

Stations 91+50 to 93+00 - shale at right grade and in the right ditch and backslope.

Stations 93+00 to 95+50 - shale in the right ditch and backslope.

Stations 98+00 to 99+00 - shale possibly in the right ditch.

Stations 105+00 to 105+75 - shale in the left ditch and backslope.

Stations 105+75 to 106+50 - shale at left grade and in the left ditch and backslope.

Stations 106+50 to 108+50 - shale at both grades and in the left ditch and backslope.

Stations 108+50 to 110+00 - shale at left grade and in the left ditch and backslope.

Stations 110+00 to 111+50 - shale in the left ditch and backslope.

Stations 115+50 to 115+80 - shale in the right ditch and backslope.

Stations 115+80 to 116+50 - shale at right grade and in the right ditch and backslope.

Stations 116+50 to 116+75 - shale at both grades and in the right ditch and backslope.

Stations 116+75 to 117+00 - shale at both grades and in the ditch and backslopes.

Proposed Twp. Rd. 218

Stations 42+00 to 49+20 - indurated clay and sandstone at grade, in the ditches, and backslopes.

Relocated Co. Rd. 3

Stations 48+50 to 50+75 - shale and indurated clay at grade, in the ditches, and lower portions of the backslopes; sandstone in the upper portion of the backslope.

Frost susceptible silts were encountered within three feet below proposed grades at Twp. Rd. 218 stations 39+00 and 49+86 and Co. Rd. 3 station 51+00.

In the embankment foundation areas, soils are predominantly comprised of sandy silts (A-4a) and silt clays (A-6a), having moisture contents generally in the lower portions of the plastic range, as well as some sandy gravels, silts, and clays.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 284 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel or stone fragments with sand	A-1-b(0)	A-1-b	65	3	10	13	9	25	3	18	6
Gravel or stone fragments with sand and silt	A-2-4(0)	A-2-4	54	5	12	17	12	27	5	18	14
Stone fragments with sand, silt and clay	A-2-6(0)	A-2-6	61	4	8	13	14	34	12	22	4
Sandy silt	A-4(3)	A-4a	20	5	23	30	22	26	5	20	59
Silt	A-4(8)	A-4b	4	2	8	56	30	29	6	23	20
Silt and clay	A-6(7)	A-6a	20	3	10	36	31	33	12	21	84
Silty clay	A-6(12)	A-6b	9	1	6	41	43	39	19	23	5
Elastic clay	A-7-5(13)	A-7-5	39	4	2	19	36	61	28	24	1
Clay	A-7-6(14)	A-7-6	10	3	5	32	50	47	22	25	29
Fire clay			VISUAL CLASSIFICATION								1
Coal			VISUAL CLASSIFICATION								-
Coal blossom			VISUAL CLASSIFICATION								-
Clay bedrock			VISUAL CLASSIFICATION								-
Indurated clay			VISUAL CLASSIFICATION								24
Weathered indurated clay			VISUAL CLASSIFICATION								2
Shale			VISUAL CLASSIFICATION								21
Weathered Shale			VISUAL CLASSIFICATION								14
Sandstone / Limestone			VISUAL CLASSIFICATION								-
Weathered sandstone			VISUAL CLASSIFICATION								
Various other materials			VISUAL CLASSIFICATION								

Sod and/or Topsoil=X'=Approximate depth

Berm material

Auger boring-plan view

Drive sample and/or core boring-plan view

Auger boring plotted to vertical scale only.

Drive sample and/or core boring plotted to vertical scale only.

Water content nearly equal to or greater than liquid limit.

Indicates a non-plastic material with a high water content.

W Free water.

Number of blows for "Standard Penetration" test.
X=number of blows for first 6 inches.
Y=number of blows for second 6 inches.

B Indicates broken rock interval.

NOTE: Figures beside borings indicate water content in percent. e.g. 15

SOIL PROFILE

GUERNSEY-TUSCARAWAS COS.

1/47

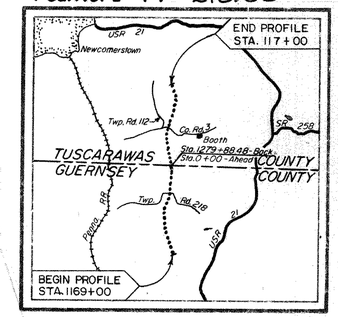
GUE—IR 77—22.59

TUS—IR 77—0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

Fed. No. I-77-2(8)58



LOCATION MAP

Recon-J.S.M.-3/2/64
Drilling-auger-B.D.L.-4/16 to 4/22/64
A.J.P.-4/15/64, 4/29 to 5/1/64
core-G.L.H.-5/19 to 5/23/64, 5/28/64
J.H.S.-7/2 to 7/7/64, 7/14 to 7/21/64
W.F.H.-5/27 to 6/2/64, 6/24 to 7/1/64, 7/7 to 7/10/64
W.L.T.-5/24/64
J.R.V.-7/3 to 7/7/64
H.D.P.-6/25 to 7/16/64
A.V.-6/30 to 7/7/64
Drafting-C.L.I., S.W., R.E.L., R.E.H.-9/29/64

PROJECT INDEX

STATIONS FROM - TO	PLAN VIEW SHEET	PROFILE SHEET	CUT MAX.	FILL EMB. MAX.
IR 77				
1169+00 - 1201+00	4	4	-	34'
1201+00 - 1233+00	5	5	44'	50'
1233+00 - 1265+00	6	6	48'	-
1265+00 - 17+00	7	8	65'	102'
17+00 - 36+00	9	9	100'	37'
36+00 - 55+00	10	10	97'	86'
55+00 - 87+00	11	11	28'	59'
87+00 - 117+00	12	12	33'	35'
PROPOSED TWP. RD. 218				
38+00 - 56+00	13	13	20'	-
CO. RD. 3				
36+00 - 63+00	14	15	25'	42'
PROPOSED TWP. RD. 112				
50+00 - 56+00	14	13	1'	22'

Wet soils, occasionally containing organic materials, were encountered at the following stations:

1171+00	1191+00	1222+00	66+00
1174+00	1199+00	1264+00	80+00
1183+00	1201+00	49+50	93+00
1188+00	1214+00	64+00	102+00
			114+00

It is noted that the embankment foundations comprise shallow soils overlying sloping bedrock surface throughout much of the project.

SOIL PROFILE
GUERNSEY-TUSCARAWAS COS.
GUE-IR77-22.59
TUS-IR77-0.00

2
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SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
					IR 77						
1171+00	40'Lt	0.5-4.0	0	5	55	21	19	NP	NP	25	A-1a
		4.0-10.0	0	3	28	37	32	24	5	18	A-4a
1173+80	36'Lt	0.5-4.0	0	1	12	59	28	31	7	32	A-4b
		4.0-5.5	0	0	41	32	27	NP	NP	31	A-4a
		5.5-10.0	0	5	40	28	27	23	5	16	A-4a
		10.0-15.0	0	0	3	40	57	39	15	15	A-6a
1178+00	CL	0.5-4.0	0	1	27	42	30	27	6	22	A-4a
		4.0-7.0	0	12	45	19	24	NP	NP	22	A-4a
		7.0-10.0	0	1	11	50	38	26	6	21	A-4b
		10.0-15.0	Gray Clay					45	21	24	A-7-6
1182+90	25'Lt	0.5-2.0	0	1	12	43	44	39	12	38	A-6a
		2.0-5.0	0	5	21	36	38	36	13	48	A-6a
		5.0-8.5	0	2	29	44	25	28	8	26	A-4a
		8.5-13.0	31	2	16	34	17	NP	NP	14	A-4a
1188+00	CL	0.3-3.0	2	4	31	33	30	25	7	27	A-4a
		3.0-8.0	0	5	43	23	29	NP	NP	22	A-4a
1188+00	75'Rt	0.3-3.0	7	1	21	42	29	24	6	22	A-4a
		3.0-5.0	0	1	6	47	46	40	17	35	A-6b
		5.0-7.0	35	10	23	22	10	NP	NP	21	A-2-4
		7.0-8.0	0	3	42	27	28	26	6	18	A-4a
1191+00	CL	0.3-5.0	0	9	3	49	39	33	11	17	A-6a
1191+00	75'Rt	0.3-3.0	0	8	15	46	31	28	12	22	A-6a
		3.0-5.0	11	2	39	28	20	26	9	24	A-4a
1194+00	CL	0.3-6.0	0	5	17	43	35	27	11	16	A-6a
1199+00	CL	0.3-5.0	0	13	34	27	26	24	5	13	A-4a
1199+00	100'Rt	0.3-4.0	7	3	10	52	28	29	11	26	A-6a
		4.0-5.0	0	9	43	22	26	24	6	26	A-4a
1200+00	CL	0.3-5.0	23	9	16	23	29	31	11	18	A-6a
1201+00	130'Lt	0.3-4.0	29	3	20	30	18	NP	NP	14	A-4a
1201+00	CL	0.3-4.0	19	3	4	25	49	47	21	27	A-7-6
		4.0-6.0	20	4	16	26	34	32	12	19	A-6a
1201+00	90'Rt	0.3-4.0	44	7	19	15	15	23	5	26	A-2-4
1202+50	CL	0.3-4.0	0	3	6	39	52	43	22	21	A-7-6 *
		4.0-6.0	0	2	3	38	57	41	18	21	A-7-6
1204+00	45'Rt	0.3-4.0	0	4	6	30	60	44	19	36	A-7-6 *
		4.0-5.0	0	1	2	32	65	52	27	31	A-7-6
1204+00	130'Rt	0.3-5.0	46	8	11	23	12	26	6	20	A-2-4
1205+65	CL	0.3-5.0	35	3	15	27	20	30	11	21	A-6a *
1209+00	CL	0.3-4.0	54	7	18	10	11	24	5	18	A-1-b
1212+00	85'Lt	0.3-4.0	26	10	25	25	14	23	5	19	A-4a
1212+00	CL	0.3-4.0	0	1	2	33	64	66	41	25	A-7-6
1214+00	100'Lt	0.3-4.0	17	10	22	30	21	23	3	20	A-4a
1214+00	CL	0.3-4.0	0	6	11	48	35	41	16	24	A-7-6
1218+00	96'Lt	0.3-5.0	0	6	6	38	50	45	21	26	A-7-6
1218+00	15'Lt	0.3-5.0	14	4	9	43	30	35	12	21	A-6a *
1218+00	120'Rt	0.3-4.0	48	7	10	20	15	33	12	23	A-2-6
1220+00	90'Lt	0.3-4.0	63	7	12	9	9	30	9	21	A-2-4
1220+00	CL	0.3-4.0	7	4	11	39	39	35	14	17	A-6a *
1220+00	95'Rt	0.3-4.0	12	5	16	34	33	36	14	18	A-6a
1222+00	80'Lt	0.3-2.0	0	3	24	44	29	28	7	22	A-1a
		2.0-6.0	4	1	8	56	31	28	5	21	A-4b
1222+00	CL	0.3-4.0	24	7	12	35	22	28	8	25	A-4a
1222+00	75'Rt	0.3-4.0	19	9	14	30	28	32	11	23	A-6a
1224+50	CL	0.3-3.0	0	2	7	50	41	35	12	25	A-6a *
		3.0-5.0	29	3	17	23	28	35	15	21	A-6a
1226+00	CL	0.3-5.0	13	8	11	19	49	51	23	28	A-7-6
		5.0-8.0	0	2	2	20	76	51	25	19	A-7-6
		8.0-15.0	Brown Weathered Indurated Clay							13	Visual
1226+00	110'Rt	0.3-4.0	21	7	20	27	25	28	9	18	A-4a
		4.0-6.0	Coal Blossom							-	Visual
		6.0-12.0	30	5	3	31	31	40	15	19	A-6a
1232+15	CL	0.3-6.0	38	4	8	30	20	29	11	24	A-6a
		6.0-11.0	43	5	3	17	32	44	16	22	A-7-6
		11.0-16.0	34	2	12	30	22	28	11	12	A-6a
1246+00	30'Rt	0.3-4.0	0	3	4	26	67	48	27	17	A-7-6
		4.0-6.0	0	1	0	29	70	45	25	17	A-7-6
		6.0-8.0	46	2	6	25	21	30	11	13	A-6a
1251+50	CL	0.3-4.0	0	1	1	54	44	49	24	29	A-7-6
		4.0-6.0	Brown Broken Clay Shale							15	Visual
1258+50	CL	0.3-6.0	0	2	4	57	37	33	7	22	A-4b
		6.0-10.0	Brown Broken Weathered Sandstone							13	Visual
1260+50	CL	0.3-5.0	Brown Broken Weathered Sandstone							15	Visual *
1264+00	130'Lt	0.3-4.0	44	4	13	23	16	28	7	30	A-4a
1264+00	50'Lt	0.3-3.0	7	3	10	42	38	37	14	22	A-6a
		3.0-8.0	37	2	12	28	21	30	11	12	A-6a
1264+00	CL	0.3-4.0	20	2	19	33	26	29	7	17	A-4a
		4.0-9.0	Brown Broken Weathered Sandstone							13	Visual
1264+00	60'Rt	0.3-8.0	38	1	11	28	22	33	11	14	A-6a
1266+50	CL	0.3-4.0	27	2	27	29	15	NP	NP	14	A-4a *
		4.0-10.0	Brown Broken Weathered Sandstone							10	Visual
1271+00	CL	0.3-2.0	13	6	6	36	39	41	16	26	A-7-6
		2.0-10.0	26	4	11	34	25	27	11	14	A-6a
1272+00	80'Lt	0.3-2.0	10	3	29	28	30	27	8	20	A-4a
		2.0-8.0	24	4	25	28	19	23	6	14	A-4a
1274+00	CL	0.3-3.0	22	4	8	49	17	33	13	21	A-6a
		3.0-9.0	50	4	11	20	15	26	7	15	A-2-4
1279+00	CL	0.3-5.0	27	8	9	31	26	34	12	22	A-6a
0+70	CL	0.0-3.0	70	2	5	14	9	NP	NP	12	A-1-b
2+75	120'Rt	0.0-5.0	66	3	11	9	11	28	10	15	A-2-4
		5.0-10.0	66	3	10	10	11	26	7	12	A-2-4
		10.0-12.0	35	5	8	30	22	27	6	15	A-4a
3+00	CL	0.0-2.0	28	3	10	30	29	27	11	13	A-6a
		2.0-6.0	23	2	3	32	40	35	11	15	A-6a
		6.0-10.0	Brown Broken Weathered Sandstone							7	Visual
3+35	130'Lt	0.0-4.0	0	1	6	53	40	34	13	23	A-6a
		4.0-8.0	38	3	14	28	17	22	5	15	A-4a
		8.0-13.0	65	1	1	22	11	28	7	13	A-2-4
5+00	50'Lt	0.0-4.0	50	8	3	24	15	28	9	22	A-4a
5+00	50'Rt	0.5-3.0	29	6	16	24	25	32	8	19	A-4a
8+00	CL	0.4-5.0	45	1	1	16	37	41	19	20	A-7-6
9+10	CL	0.4-2.5	Brown Broken Weathered Sandstone							10	Visual *
16+00	CL	0.0-2.0	65	2	10	14	9	NP	NP	14	A-1-b
18+20	CL	0.0-3.0	37	3	12	22	26	38	12	20	A-6a
		3.0-4.5	Brown Broken Weathered Shale							11	Visual *
18+55	CL	0.0-1.0	Brown Sandy Clayey Silt with Sandstone Fragments							-	Visual
21+85	CL	0.0-4.5	46	3	12	22	17	23	5	15	A-4a *
24+90	CL	0.0-1.5	47	3	19	19	12	NP	NP	15	A-2-4
25+20	CL	0.4-3.0	41	1	8	27	23	32	12	13	A-6a
		3.0-9.5	Brown Broken Weathered Sandstone							7	Visual
30+30	CL	0.4-2.5	Reddish-Brown Broken Weathered Sandstone							9	Visual
32+00	CL	0.4-3.5	70	2	5	11	12	27	6	15	A-1-b
35+00	CL	0.4-3.0	72	1	6	12	9	27	6	23	A-1-b
38+00	CL	0.4-3.5	47	2	8	22	21	30	11	21	A-6a
43+00	CL	0.5-4.0	16	8	21	20	35	32	11	20	A-6a
45+00	CL	0.5-4.5	Brown Broken Weathered Shale							13	Visual *
49+00	100'Rt	0.3-2.0	17	4	9	40	30	51	25	42	A-7-6
		2.0-7.0	56	5	15	15	9	21	2	17	A-1-b
		7.0-10.0	Light-Gray Fire Clay							9	Visual
49+50	100'Lt	0.3-5.0	9	3	28	32	28	27	5	24	A-4a
		5.0-9.0	0	1	3	53	43	32	9	18	A-4b
		9.0-12.0	Gray Weathered Indurated Clay							11	Visual
49+50	CL	0.3-4.0	0	5	31	33	31	32	10	29	A-4a
		4.0-8.0	17	3	17	36	27	26	8	20	A-4a
		8.0-10.0	22	1	22	34	21	26	6	21	A-4a
51+35	CL	0.0-4.0	28	4	4	22	42	48	17	29	A-7-6
		4.0-8.0	27	3	2	33	35	36	12	13	A-6a
		8.0-12.0	Brown Weathered Indurated Clay							9	Visual
52+25	CL	0.3-5.0	Brown Broken Weathered Sandstone							14	Visual *
		5.0-10.0	Brown Broken Weathered Clay Shale							10	Visual
		10.0-15.0	Brown Weathered Indurated Clay							9	Visual
57+80	100'Rt	0.3-3.0	13	3	12	38	34	31	11	20	A-6a
		3.0-10.0	Brown Broken Weathered Shale							-	Visual
58+00	100'Lt	0.3-5.0	0	2	4	64	30	35	13	25	A-6a
		5.0-8.0	0	5	6	51	38	33	9	16	A-4b
		8.0-11.0	0	5	6	46	43	36	14	15	A-6a
		11.0-16.0	0	2	2	51	45	35	12	14	A-6a
		16.0-21.5	Brown Weathered Indurated Clay							8	Visual
58+00	CL	0.3-5.0	0	1	6	58	35	34	13	23	A-6a
		5.0-10.0	35	2	4	32	27	32	11	17	A-6a
61+00	150'Lt	0.3-3.0	0	7	33	40	20	NP	NP	13	A-4a
		3.0-9.0	17	3	12	42	26	28	11	16	A-6a
61+00	CL	0.3-3.0	0	4	9	46	41	33	11	23	A-6a
		3.0-10.0	0	4	13	52	31	27	7	17	A-4b
64+00	65'Lt	0.3-3.0	55	4	9	18	14	28	8	24	A-2-4
		3.0-5.0	Gray Weathered Indurated Clay							14	Visual
		5.0-11.0	Gray Weathered Indurated Clay							13	Visual
64+00	CL	0.3-4.0	6	4	29	36	25	NP	NP	32	A-4a
		4.0-6.0	16	2	16	37	29	29	11	17	A-6a
		6.0-10.0	Gray Weathered Indurated Clay							8	Visual
64+00	100'Rt	0.3-3.0	0	1	18	53	28	35	10	36	A-4b
		3.0-8.0	24	2	17	29	28	24	6	15	A-4a
		8.0-13.0	54	2	6	25	13	NP	NP	12	A-4a
64+90	CL	0.3-2.0	0	2	12	36	50	37	11	26	A-6a
		2.0-8.0	25	5	20	26	24	27	9	25	A-4a
		8.0-14.0	Gray Weathered Indurated Clay							11	Visual
		14.0-16.0	Gray Clay Bedrock							-	Visual
66+00	100'Rt	0.3-5.0	42	7	17	20	14	NP	NP	16	A-2-4
		5.0-11.0	Gray Weathered Indurated Clay							9	Visual
70+00	25'Rt	0.0-3.0	22	2	9	37	30	35	13	23	A-6a *
		3.0-12.0	Brown Weathered Indurated Clay							14	Visual *
		12.0-15.0	Black Coal							-	Visual
		15.0-17.0	Gray Weathered Indurated Clay							9	Visual
70+00	130'Rt	0.3-3.0	10	2	15	40	33	32	11	20	A-6a
		3.0-6.0	Brown Broken Weathered Sandstone							6	Visual

SOIL PROFILE
GUERNSEY-TUSCARAWAS COS.
GUE-IR77-22.59
TUS-IR77-0.00
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23, OHIO

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SUMMARY OF SOIL TEST DATA (Cont'd)

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicate that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
73+25	CL	0.3-6.0	19	1	5	46	29	37	14	25	A-6a
		6.0-10.0	17	3	2	26	53	47	21	22	A-7-6
76+38	80'Lt	0.3-4.0	37	3	5	26	29	38	14	26	A-6a
		4.0-9.0	Black Coal							-	Visual
76+38	CL	0.3-2.0	15	2	8	43	32	32	11	24	A-6a
		2.0-6.0	Brown Weathered Sandstone							15	Visual
80+00	CL	0.3-4.0	13	5	28	30	24	29	9	27	A-4a
		4.0-8.0	20	1	30	26	23	23	6	16	A-4a
		8.0-10.0	15	2	4	50	29	25	8	19	A-4b
82+00	90'Lt	0.3-5.0	19	0	5	42	34	30	11	17	A-6a
		5.0-9.0	27	1	14	36	22	24	6	18	A-4a
82+00	CL	0.3-7.0	13	4	13	40	30	32	13	21	A-6a
		7.0-10.0	Gray Weathered Indurated Clay							13	Visual
82+00	76'Rt	0.3-5.0	40	1	2	31	26	35	11	14	A-6a
		5.0-11.0	Brown Broken Weathered Clay Shale							14	Visual
		11.0-19.0	Black Weathered Carbonaceous Shale							15	Visual
		19.0-22.0	Gray Weathered Indurated Clay							12	Visual
84+70	CL	0.5-6.0	Brown Broken Weathered Shale							18	Visual
		6.0-11.0	Brown Broken Weathered Shale							12	Visual
		11.0-15.0	Brown and Gray Weathered Indurated Clay							7	Visual
87+00	100'Lt	0.3-6.0	0	0	1	48	51	51	23	27	A-7-6
		6.0-10.0	73	1	1	9	16	39	11	18	A-2-6
87+00	20'Lt	0.3-3.0	67	2	3	16	12	NP	NP	24	A-2-4 *
89+00	CL	0.3-5.0	13	4	15	37	31	35	11	20	A-6a *
		5.0-10.0	Brown Broken Weathered Shale							12	Visual
89+75	CL	0.3-5.0	40	3	14	22	21	36	12	22	A-6a
		5.0-10.0	Brown and Gray Broken Weathered Shale							10	Visual
90+00	85'Lt	0.3-3.0	0	2	19	36	43	39	15	33	A-6a
		3.0-8.0	15	4	16	38	27	32	11	21	A-6a
		8.0-10.0	29	4	5	41	21	31	11	14	A-6a
93+00	70'Lt	0.3-3.0	0	2	18	49	31	31	11	34	A-6a
		3.0-9.0	43	0	2	31	24	37	11	18	A-6a
		9.0-12.0	Gray Broken Weathered Shale							14	Visual
93+00	CL	0.3-3.0	45	3	3	26	23	33	11	19	A-6a
96+00	85'Lt	0.0-2.0	63	4	14	10	9	28	8	19	A-2-4
		2.0-7.0	40	4	10	29	17	29	6	21	A-4a
		7.0-11.0	Gray Weathered Indurated Clay							10	Visual

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
96+00	CL	0.3-6.0	54	3	8	20	15	30	8	5	A-2-4
		6.0-10.0	39	4	12	27	18	27	7	14	A-4a
96+00	80'Rt	0.3-3.0	27	2	4	40	27	29	11	24	A-6a *
97+30	CL	0.3-2.0	38	3	13	20	26	32	11	26	A-6a
98+80	CL	0.3-4.0	13	2	5	37	43	37	15	22	A-6a
		4.0-10.0	27	2	7	33	31	27	11	19	A-6a
99+00	95'Lt	0.3-2.0	6	2	22	41	29	30	8	21	A-4a
		2.0-5.0	41	6	12	25	16	27	7	18	A-4a
		5.0-8.0	Gray Broken Weathered Shale							12	Visual
99+00	80'Rt	0.3-2.0	0	4	7	37	52	36	11	23	A-6a
		2.0-4.0	0	3	10	43	44	37	16	18	A-6b
102+00	CL	0.3-3.0	16	6	17	31	30	36	14	31	A-6a
		3.0-6.0	0	1	7	65	27	29	8	30	A-4b
		6.0-8.0	21	4	5	46	24	32	11	17	A-6a
103+00	60'Lt	0.3-3.0	0	1	20	45	34	32	14	26	A-6a
		3.0-8.0	31	2	11	34	22	27	6	16	A-4a
		8.0-13.0	45	9	4	27	15	29	4	18	A-4a
103+00	100'Rt	0.3-3.0	11	4	17	28	40	43	21	22	A-7-6
		3.0-7.0	Brown Weathered Indurated Clay							7	Visual
		7.0-11.0	Brown Broken Weathered Sandstone							14	Visual
105+00	50'Lt	0.3-6.0	26	2	8	32	32	41	19	25	A-7-6 *
		6.0-10.0	Brown Weathered Indurated Clay							11	Visual
105+00	50'Rt	0.3-3.0	0	2	14	40	44	41	16	28	A-7-6
		3.0-6.0	61	5	13	10	11	31	12	24	A-2-6
		6.0-8.0	29	2	1	50	18	30	6	18	A-4b
107+25	50'Rt	0.3-6.0	46	1	4	13	36	40	17	18	A-6b
		6.0-9.0	39	4	2	19	36	61	28	24	A-7-5
		9.0-12.0	Brown Weathered Indurated Clay							8	Visual *
107+40	CL	0.3-3.0	27	1	2	25	45	51	30	26	A-7-6
		3.0-10.0	Brown Broken Weathered Shale							7	Visual
		10.0-18.0	Brown Broken Weathered Shale							10	Visual
		18.0-22.0	Brown Broken Weathered Shale							11	Visual
109+75	CL	0.3-4.0	0	3	14	44	39	34	14	26	A-6a *
		4.0-10.0	64	1	1	16	18	-	-	18	A-2-6
112+00	CL	0.3-6.0	0	6	5	44	45	36	13	24	A-6a
		6.0-9.0	49	2	7	16	26	39	14	24	A-6a
105+70	CL	0.3-3.0	Brown Gravel and Shale Fragments								Visual *
		3.0-10.0	Brown Broken Weathered Shale								Visual

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
112+00	70'Rt	0.3-5.0	47	2	6	29	16	31	11	22	A-6a
114+00	80'Lt	0.3-6.0	Brown Silty Clay							-	Visual
		6.0-10.0	19	2	11	33	35	37	11	16	A-6a
		10.0-13.0	Gray Broken Weathered Shale							12	Visual
114+00	CL	0.3-2.0	0	1	7	64	28	NP	NP	44	A-4b
		2.0-5.0	0	2	17	49	32	34	13	28	A-6a
114+00	85'Rt	0.3-6.0	0	2	7	46	45	38	17	26	A-6b
			TWP. RD. 218								
39+00	10'Rt	0.3-5.0	0	1	8	59	32	27	8	23	A-4b *
		5.0-9.0	Brown Broken Weathered Sandstone							14	Visual
42+00	10'Rt	0.3-7.0	Brown Weathered Indurated Clay							6	Visual *
45+00	10'Lt	0.3-7.0	Brown Broken Weathered Sandstone							7	Visual
47+00	10'Rt	0.3-6.0	Brown Weathered Indurated Clay							10	Visual
52+00	10'Rt	0.3-4.0	36	2	16	19	27	27	10	16	A-4a *
		4.0-7.0	18	2	8	31	41	34	14	17	A-6a *
54+00	10'Rt	0.3-5.0	43	6	5	20	26	34	11	11	A-6a
		5.0-10.0	27	2	3	31	37	35	13	12	A-6a
			CO. RD. 3								
36+50	12'Rt	0.3-6.0	0	0	2	56	42	39	17	19	A-6b *
		6.0-10.0	30	6	20	19	25	30	11	16	A-6a
39+00	15'Rt	0.3-3.0	19	3	18	37	23	27	6	18	A-4a
		3.0-7.0	21	6	19	32	22	NP	NP	20	A-4a
		7.0-10.0	9	3	6	59	23	NP	NP	18	A-4b
		10.0-15.0	31	6	21	23	19	NP	NP	15	A-4a
42+50	25'Lt	0.3-5.0	6	6	23	38	27	27	8	18	A-4a
45+50	CL	0.3-6.0	0	4	12	59	25	NP	NP	22	A-4b
		6.0-10.0	12	2	4	54	28	27	6	18	A-4b
		10.0-13.0	Gray Weathered Indurated Clay							8	Visual
47+50	CL	0.3-2.0	33	6	6	34	21	31	11	20	A-6a
		2.0-8.0	0	1	4	43	52	36	15	14	A-6a
		8.0-15.0	Brown Broken Clay Shale							6	Visual
49+00	CL	0.3-4.0	9	13	31	15	32	31	10	22	A-4a
		4.0-10.0	19	5	4	47	25	29	11	24	A-6a

STATION & OFFSET		DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
51+00	CL	0.3-4.0	20	3	8	50	19	NP	NP	15	A-4b *
		4.0-10.0	Brown Broken Weathered Clay Shale							8	Visual
51+60	CL	0.3-3.0	15	6	16	38	25	28	7	18	A-4a
54+00	CL	0.3-3.0	0	2	1	38	59	44	16	21	A-7-6
		3.0-7.0	0	0	0	42	58	41	14	15	A-7-6
		7.0-15.0	Brown Broken Weathered Shale							12	Visual
		15.0-17.0	Brown Broken Weathered Clay Shale							15	Visual
56+00	10'Lt	0.4-3.0	17	2	21	43	17	NP	NP	13	A-4a
		3.0-6.0	8	1	3	59	29	35	13	27	A-6a
		6.0-8.0	19	3	3	54	21	28	5	24	A-4b
		8.0-13.0	36	3	11	33	17	26	6	21	A-4a
		13.0-17.0	35	9	18	23	15	NP	NP	18	A-4a
		17.0-20.5	26	3	6	38	27	29	11	15	A-6a
58+30	10'Lt	0.4-2.0	51	3	7	26	13	30	11	20	A-6a
		2.0-6.0	Brown Broken Weathered Shale							8	Visual
61+00	10'Lt	0.4-3.0	0	1	2	28	69	47	24	19	A-7-6
		3.0-10.0	Brown and Gray Broken Weathered Shale							8	Visual *
			TWP. RD. 112								
51+90	37'Lt	0.3-5.0	0	0	12	51	37	30	9	15	A-4b *
		5.0-12.0	0	6	11	51	32	28	9	12	A-4b *
		12.0-15.0	Brown Weathered Indurated Clay							7	Visual
53+55	120'Lt	0.3-4.0	Light-Brownish-Gray Weathered Indurated Clay							9	Visual
		4.0-10.0	Brown Weathered Indurated Clay							7	Visual *
			DRIVE SAMPLE SOIL TEST DATA IR 77								
28+00	CL	5.0-6.0	0	3	5	40	52	43	20	34	A-7-6
51+73	64'Rt	2.5-3.5	35	5	4	41	15	30	5	14	A-4a
		5.0-6.0	0	4	6	60	30	31	6	16	A-4b
53+01	64'Lt	2.5-3.5	0	7	34	33	26	26	8	19	A-4a
		5.0-6.0	0	3	25	41	31	26	8	15	A-4a
		7.5-8.5	Brown Sand							-	Visual
			Twp. Rd. 218								
48+50	10'Lt	2.5-3.5	33	6	10	27	24	27	7	20	A-4a
49+85	12'Rt	2.5-3.5	0	6	11	61	22	NP	NP	28	A-4b
		5.0-6.0	0	2	7	62	29	NP	NP	33	A-4b
		7.5-8.5	0	5	11	47	37	31	11	24	A-6a
		10.0-11.0	0	2	3	59	36	31	11	21	A-6a
		12.5-13.5	0	10	13	40	37	27	8	18	A-4a
		15.0-16.0	0	7	14	45	34	30	10	19	A-4a

SOIL PROFILE

GUERNSEY-TUSCARAWAS COS.
GUE-IR 77-22.59
TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

4/47

Scattered Brush
Woods
Scattered Brush
℄ Proposed IR 77
Scattered Brush
Woods and Brush
CROSS SECTION INDEX
STATION SHEET
1171+00 16
1194+00 17
1199+00 17
1201+00 18
40' Lt. Sod=0.5'
36' Lt. Sod=0.5'
Trace of organic
℄ Sod=0.5'
Hole squeezed in at elev. 834.8'
25' Lt. Sod=0.5'
Slightly organic
Organic
Refusal
℄ Sod & TS=0.3'
75' Rt. Sod & TS=0.3'
Slightly organic
Refusal (Hand auger)
Refusal (Hand auger)
℄ Sod & TS=0.3'
Refusal (Hand auger)
76' Rt. Swamp Sod=0.3'
Refusal (Gravel) (Hand auger)
℄ Sod & TS=0.3'
Refusal (Hand auger)
℄ Sod & TS=0.3'
Refusal (Hand auger)
℄ Sod & TS=0.3'
Refusal (Hand auger)
℄ Sod & TS=0.3'
Refusal (Hand auger)
930
920
910
900
890
880
870
860
850
840
830
820
1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201

SOIL PROFILE

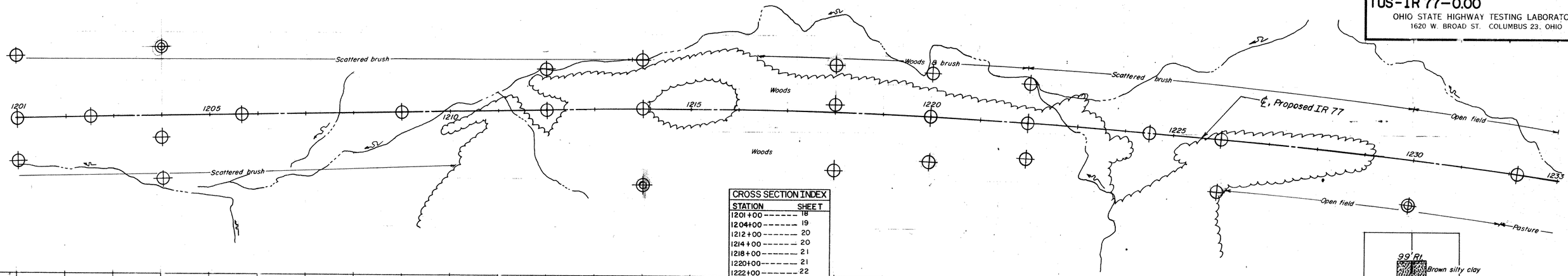
GUERNSEY-TUSCARAWAS COS. 5/47

GUE-IR 77-22.59

TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY

1620 W. BROAD ST. COLUMBUS 23, OHIO



CROSS SECTION INDEX	
STATION	SHEET
1201+00	18
1204+00	19
1212+00	20
1214+00	20
1218+00	21
1220+00	21
1222+00	22
1226+00	22
1230+00	23

A. Indurated Clay, mottled gray and brown, with clay shale seams, soft. Core loss 56%*.

B. Shale, brown, calcareous, with limestone seams, firm, badly broken, non-fissile. Core loss 84%.*

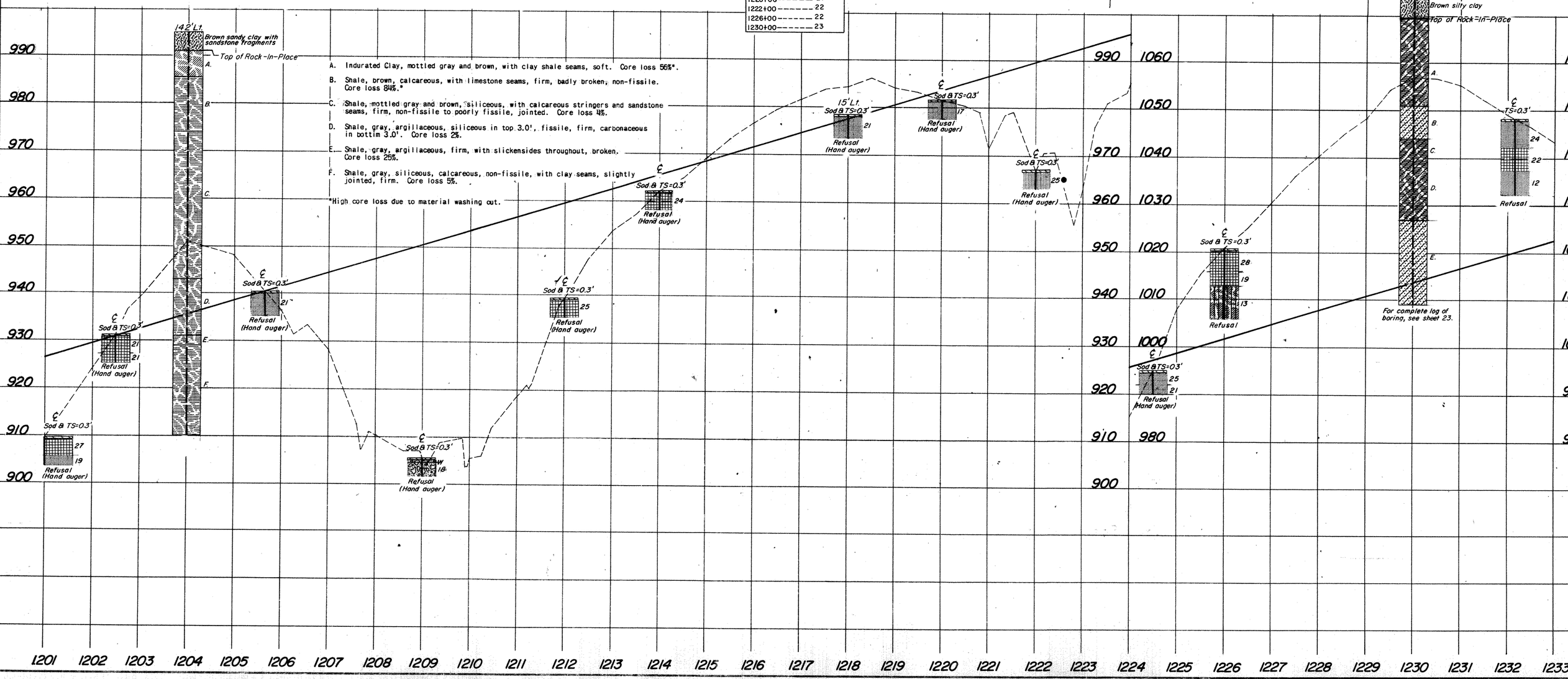
C. Shale, mottled gray and brown, siliceous, with calcareous stringers and sandstone seams, firm, non-fissile to poorly fissile, jointed. Core loss 4%.

D. Shale, gray, argillaceous, siliceous in top 3.0', fissile, firm, carbonaceous in bottim 3.0'. Core loss 2%.

E. Shale, gray, argillaceous, firm, with slickensides throughout, broken. Core loss 25%.

F. Shale, gray, siliceous, calcareous, non-fissile, with clay seams, slightly jointed, firm. Core loss 5%.

*High core loss due to material washing out.



SOIL PROFILE

GUERNSEY-TUSCARAWAS COS.

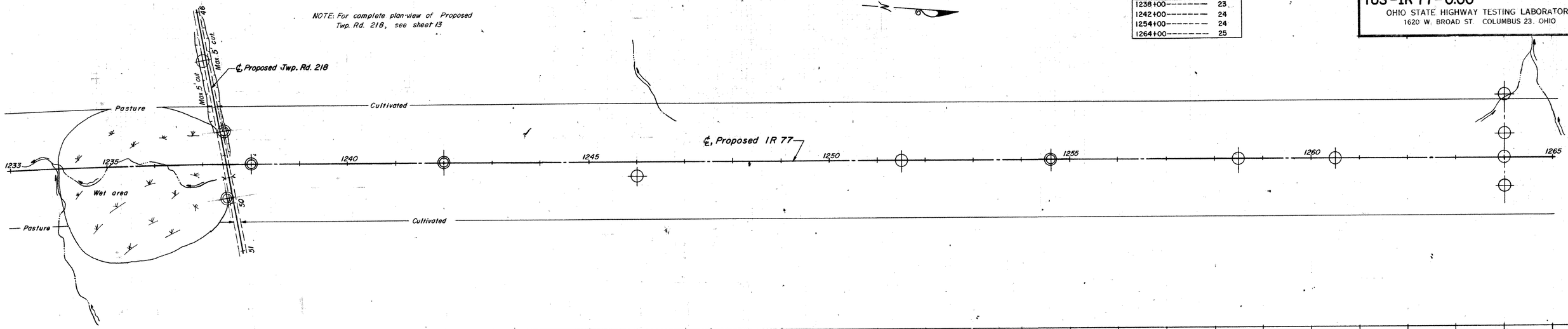
GUE-IR 77-22.59

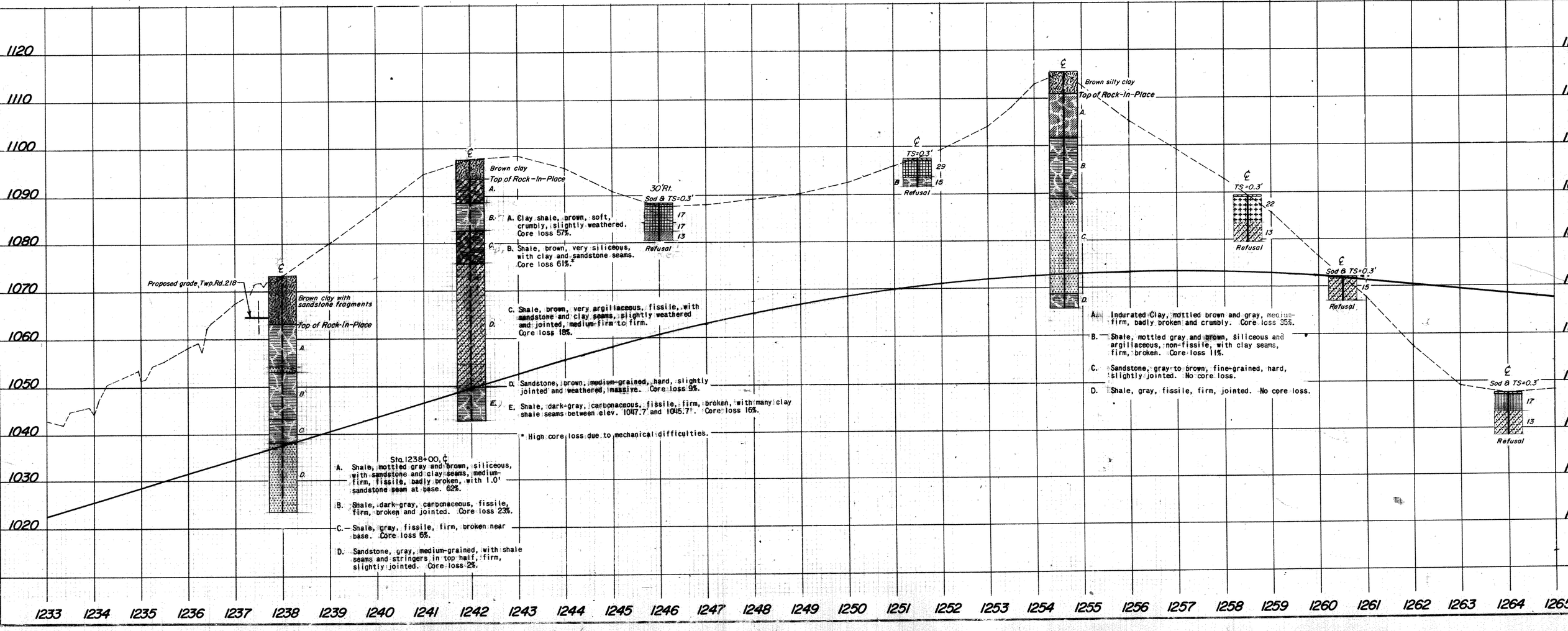
TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

CROSS SECTION INDEX	
STATION	SHEET
1238+00	23
1242+00	24
1254+00	24
1264+00	25

NOTE: For complete plan view of Proposed Twp. Rd. 218, see sheet 13.





SOIL PROFILE

GUERNSEY-TUSCARAWAS COS

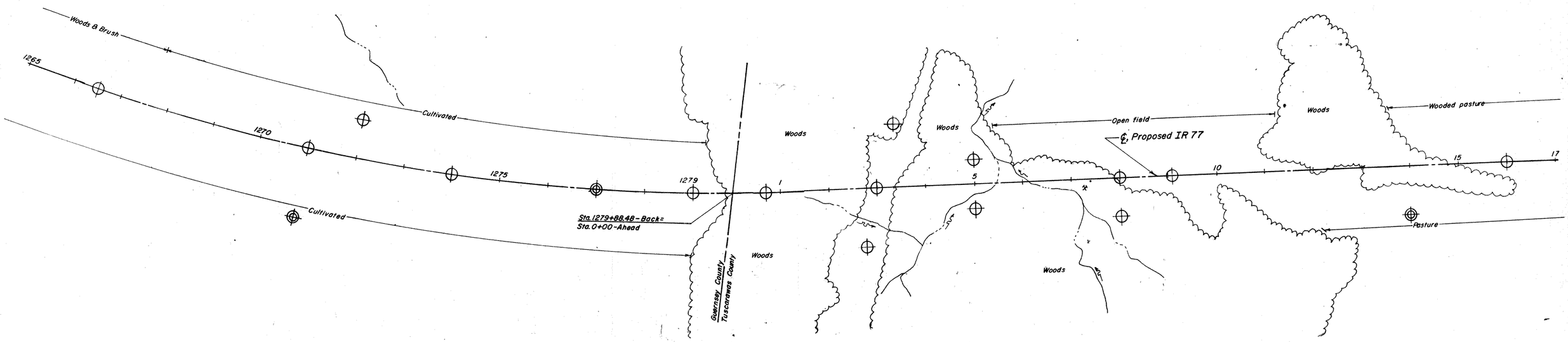
GUE-IR 77-22.59

TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23, OHIO

7/47

CROSS SECTION INDEX	
STATION	SHEET
1271+00	25
1277+00	26
3+00	26
5+00	27
8+00	28
14+00	28



SOIL PROFILE

GUERNSEY-TUSCARAWAS COS. 8/47

GUE-IR77-22.59

TUS-IR77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 1279+88.48 = ℄ Proposed IR 77 Back (Guernsey County)
Sta. 0+00 = ℄ Proposed IR 77 Ahead (Tuscarawas County)

Sta. 1271+00 – 145' Rt.

145' Rt.
Brown silty clay
Top of Rock-In-Place
A.
B.
C.
D.
℄ TS=0.3'
26
14
Refusal
60' Lt. TS=0.3'
20
14
Refusal
℄ TS=0.3'
21
15
W
Refusal
℄ Sod & TS=0.3'
14
10
Refusal

A. Shale, brown, argillaceous, siliceous, non-fissile with clay and sandstone seams, medium-firm to firm, jointed and broken. Core loss 8%.

B. Sandstone, mottled gray and brown, fine-grained, with shale and clay seams, with jointed and broken intervals. Core loss 7%.

C. Shale, brown, siliceous, firm, jointed and broken, with clay seams, non-fissile. Core loss 12%.

D. Sandstone, brown, medium-grained, hard, slightly jointed, argillaceous in bottom 3.0'. Core loss 1%.

Sta. 1277+00 – ℄

Brown clayey silt, with shale fragments
Top of Rock-In-Place
A.
B.
C.
℄
℄ Sod & TS=0.3'
22
Refusal

A. Indurated Clay, brown, soft, with shale seams throughout. Core loss 65%.

B. Shale, brown to dark-gray, siliceous, slightly carbonaceous at intervals, poorly fissile, medium-firm, slightly weathered jointed. Core loss 16%.

C. Sandstone, gray, fine-grained, with siliceous shale seams, hard, slightly jointed and weathered, coarse-grained in bottom 1.0'. Core loss 6%.

℄
12
Refusal (Hand auger)

℄
13
15
17

50' Rt.
Sod=0.5'
19
Refusal (Hand auger)

STATION 14+00, 100' Rt

100' Rt.
Brown clay
Top of Rock-In-Place
A.
B.
C.
D.
℄
14
Refusal (Boulders) (Hand auger)

℄ Sod=0.4'
10
Refusal (Hand auger)

℄ Sod=0.4'
20
Refusal (Boulders) (Hand auger)

A. Shale, light-brown, siliceous, argillaceous, fissile, broken, medium-firm, with 1.5' clay seams at elev. 1106.0', crumbly intervals. Core loss 8%.

B. Sandstone, brown, fine-grained, becomes medium-grained at elev. 1098.9', with calcareous intervals, firm, poorly fissile, with argillaceous shale seams. Core loss 4%.

C. Shale, black, carbonaceous, argillaceous with clay seams, fissile, medium-firm, broken, with 1.2' coal seam at elev. 1065.2'. No core loss.

D. Sandstone, light-brown, fine-grained, hard, argillaceous intervals, badly broken and jointed between elevs. 1052.9' and 1048.9'. Core loss 1%.

Rock Section
15' Rt.
A.
B.

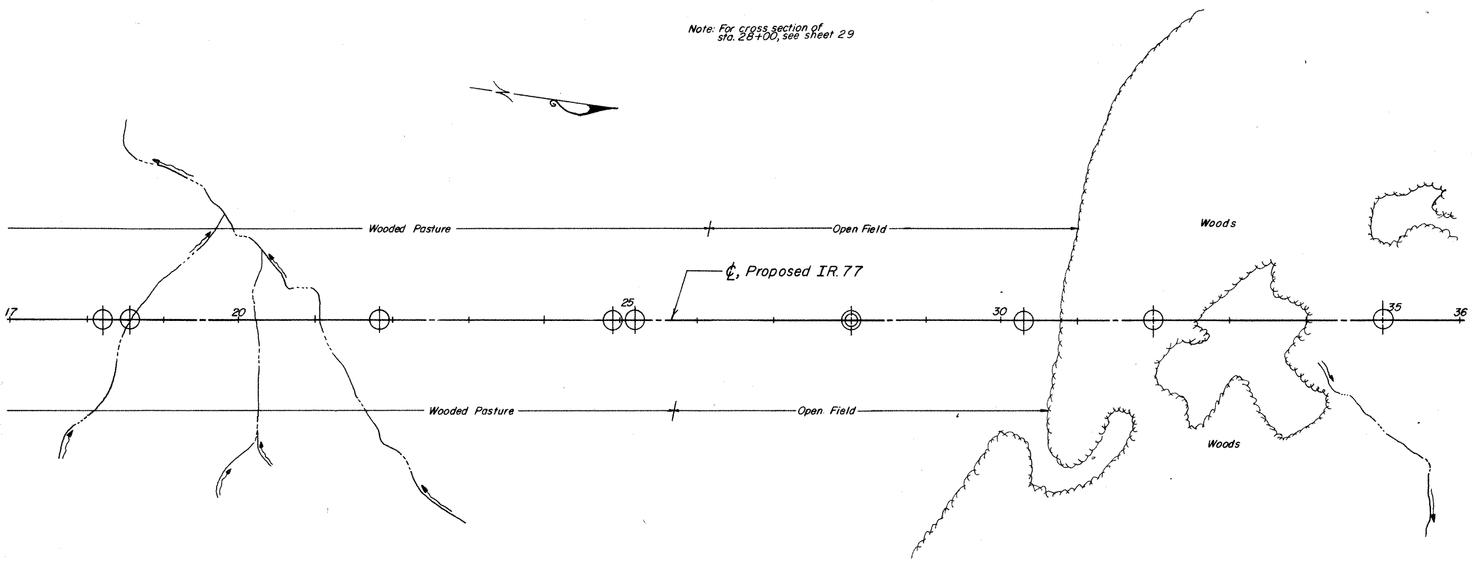
A. Shale, yellow to gray, siliceous, weak.

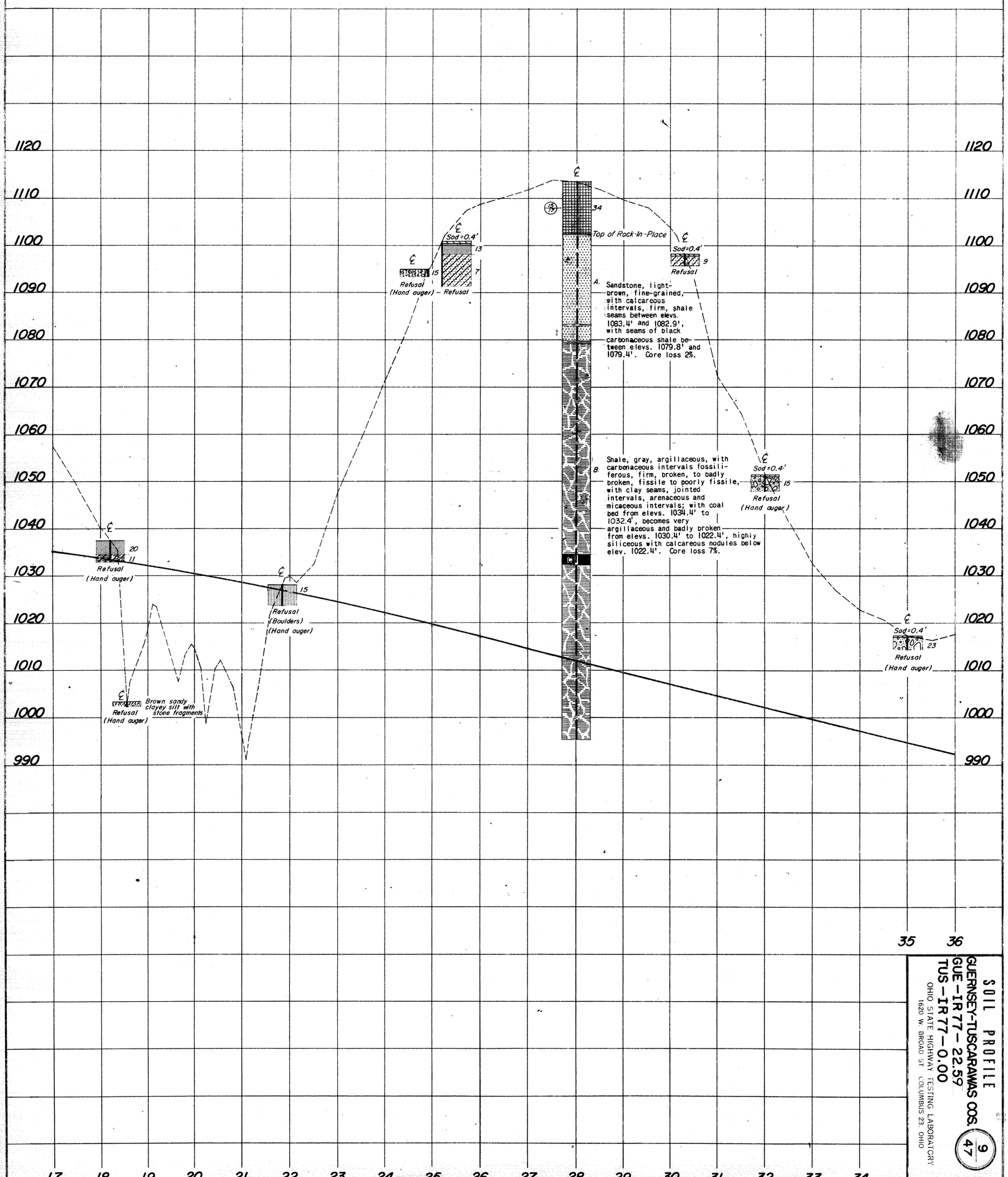
B. Clay shale, yellow to gray, weak.

1110 1100 1090 1080 1070 1060 1050 1040 1030 1020 1010 1000 990 980 970 960 950 940 930

1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

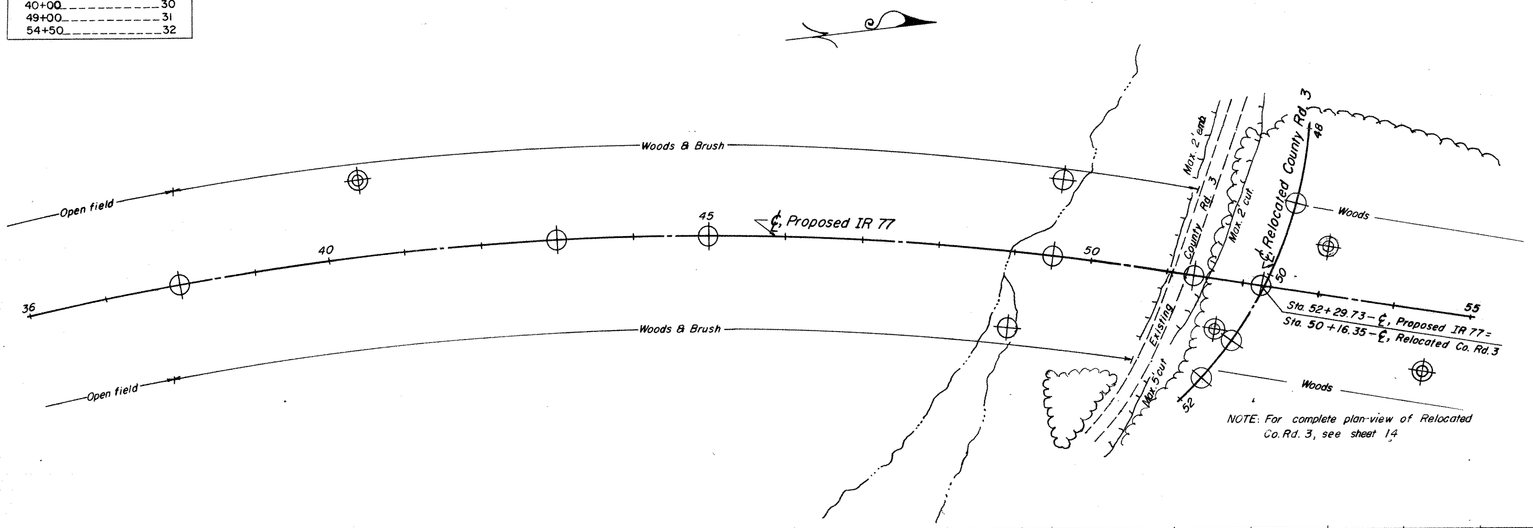
Note: For cross section of sta. 28+00, see sheet 29

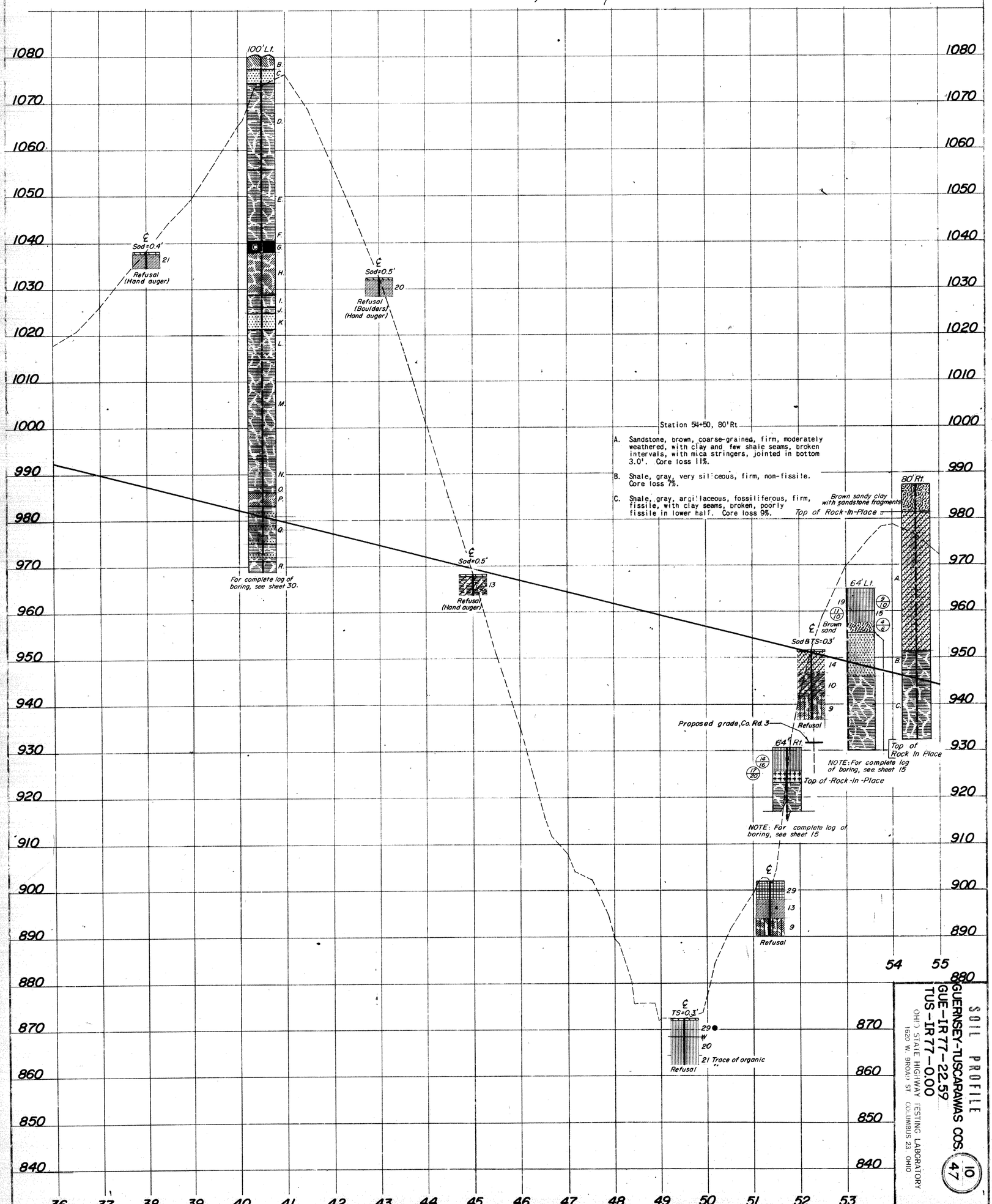




SOIL PROFILE
GUERNSEY-TUSCARAWAS COS.
GUE-IR 77-22.59
TUS-IR 77-0.00
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO
9
47

CROSS SECTION INDEX	
STATION	SHEET
40+00	30
49+00	31
54+50	32





SOIL PROFILE
GUERNSEY-TUSCARAWAS COS.
GUE-IR 77-22.57
TUS-IR 77-0.00
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO
10
47

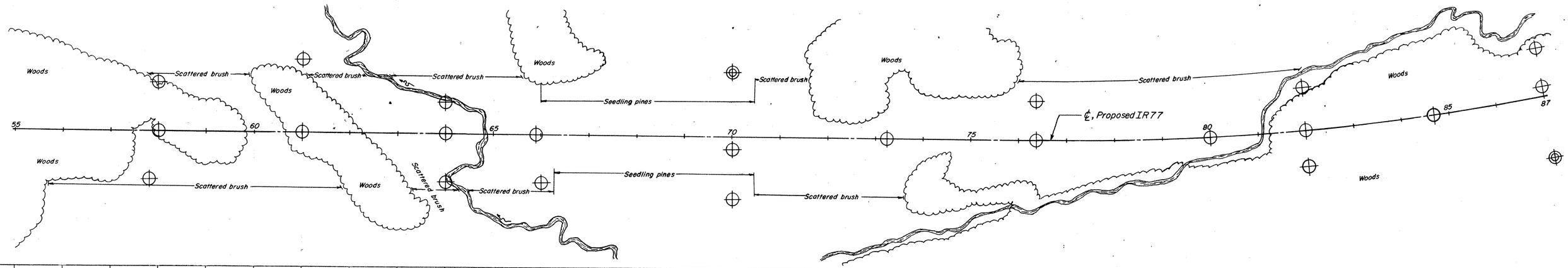
SOIL PROFILE
GUERNSEY-TUSCARAWAS COS.

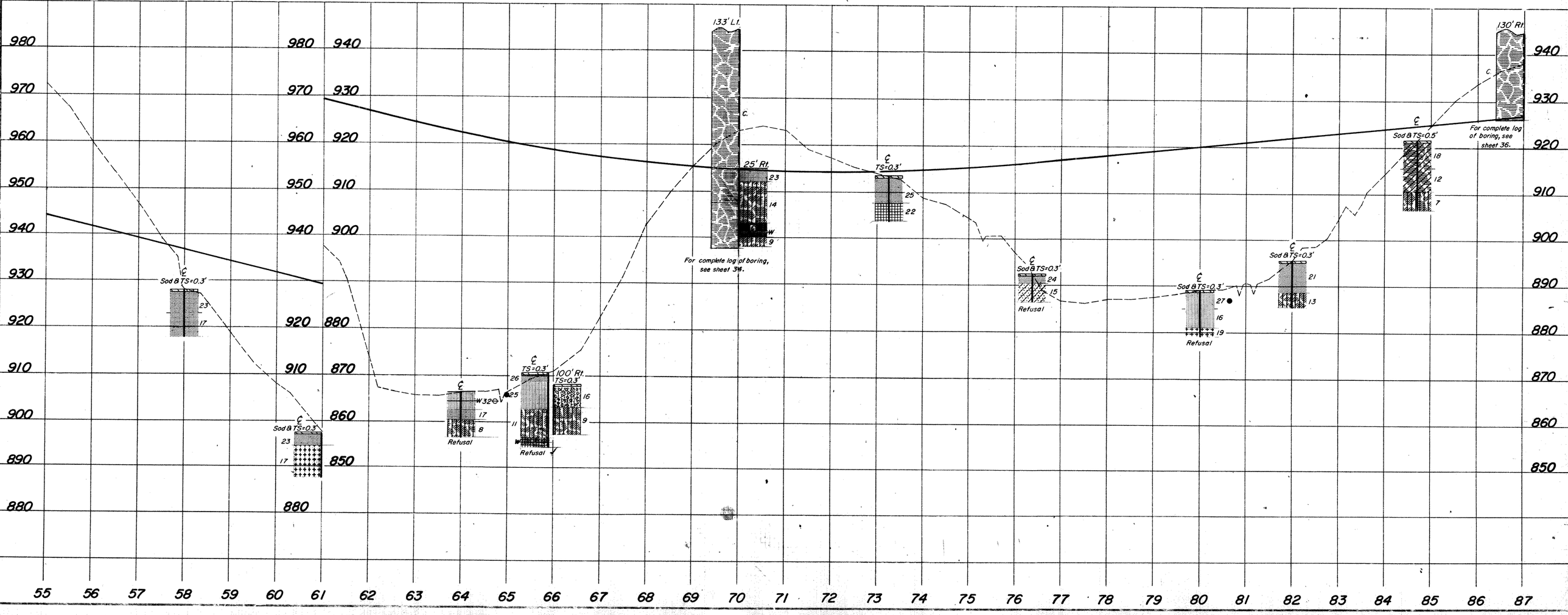
11/47

GUE-IR 77-22.59
TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

CROSS SECTION INDEX	
STATION	SHEET
58+00	32
61+00	33
64+00	33
70+00	34
76+38	35
82+00	35
87+00	36





SOIL PROFILE

GUERNSEY-TUSCARAWAS COS 12/47

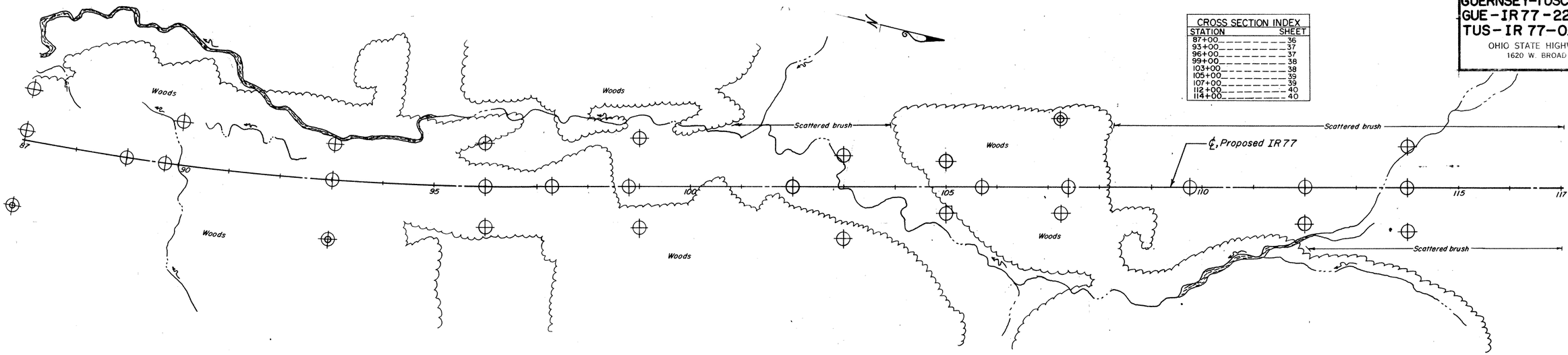
GUE-IR77-22.59

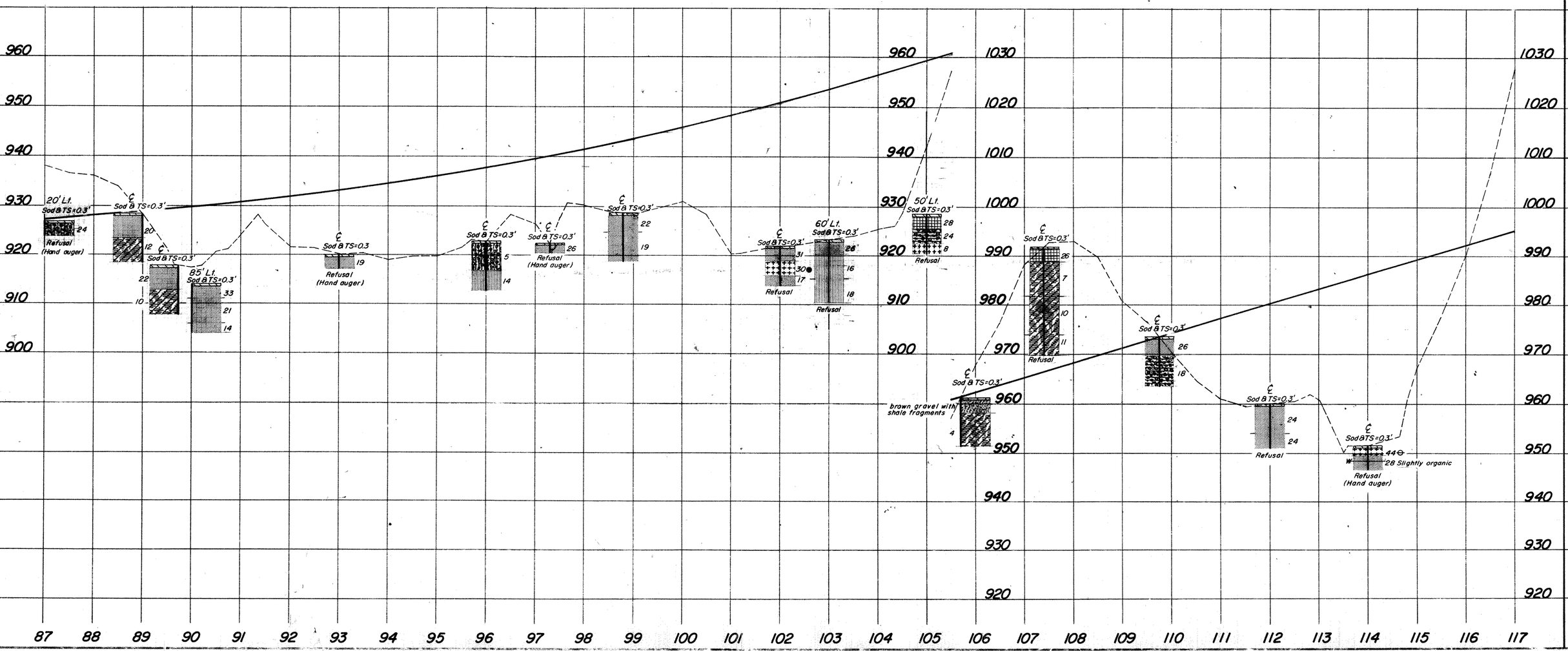
TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

CROSS SECTION INDEX

STATION	SHEET
87+00	36
93+00	37
96+00	37
99+00	38
103+00	38
105+00	39
107+00	39
112+00	40
114+00	40





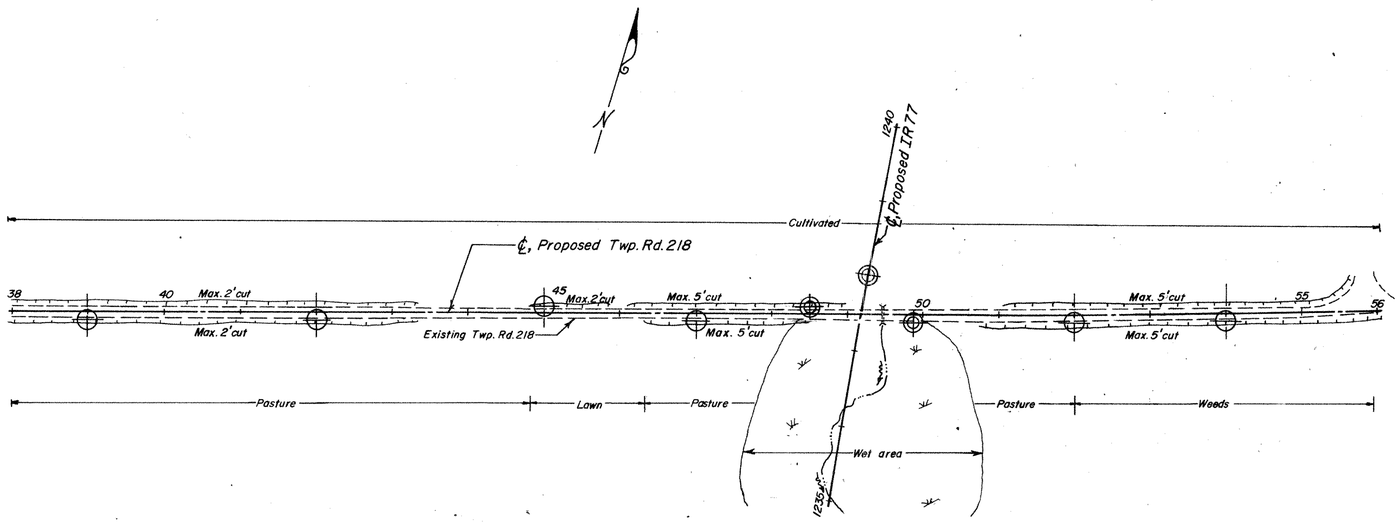
SOIL PROFILE

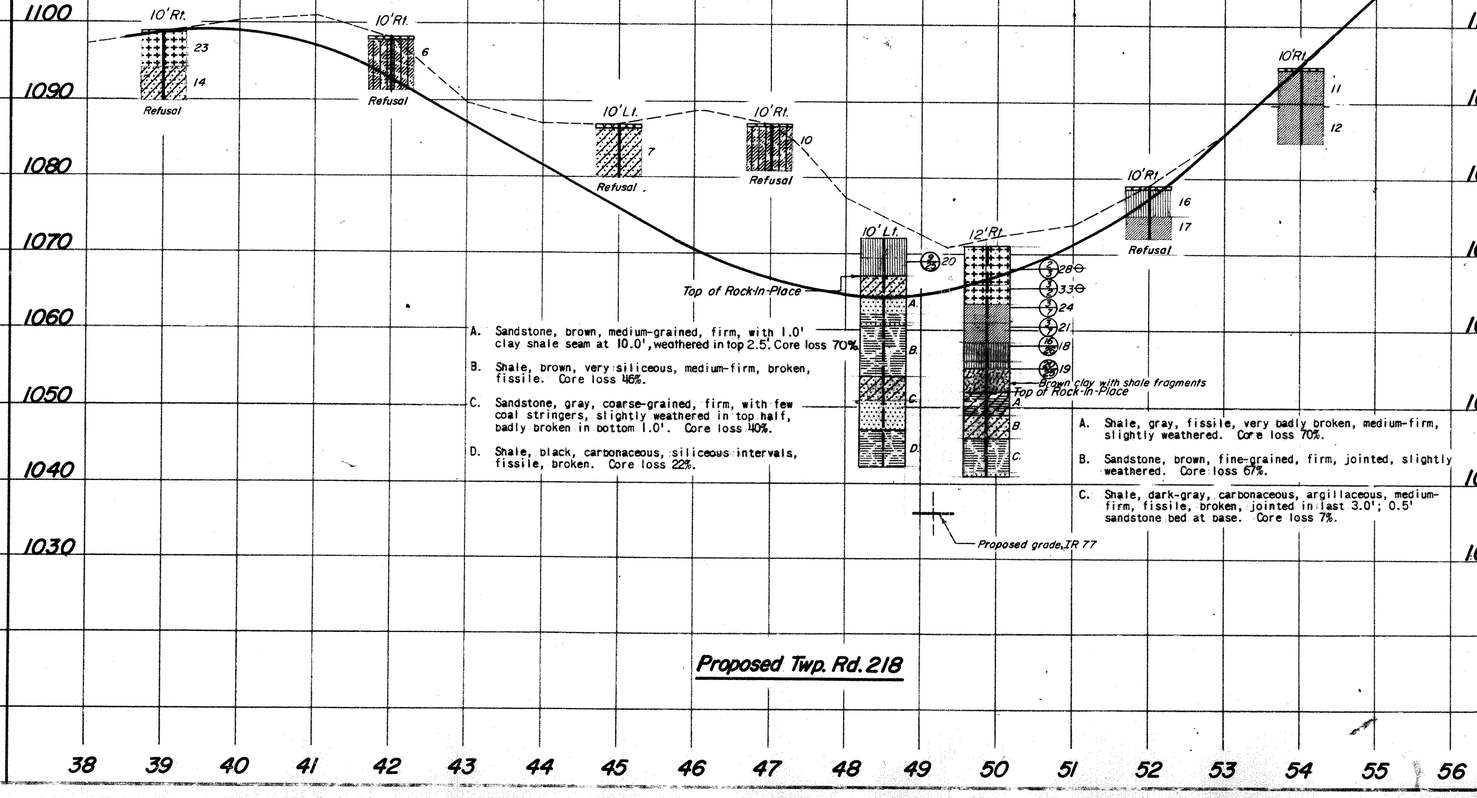
GUERNSEY-TUSCARAWAS COS. 13/47

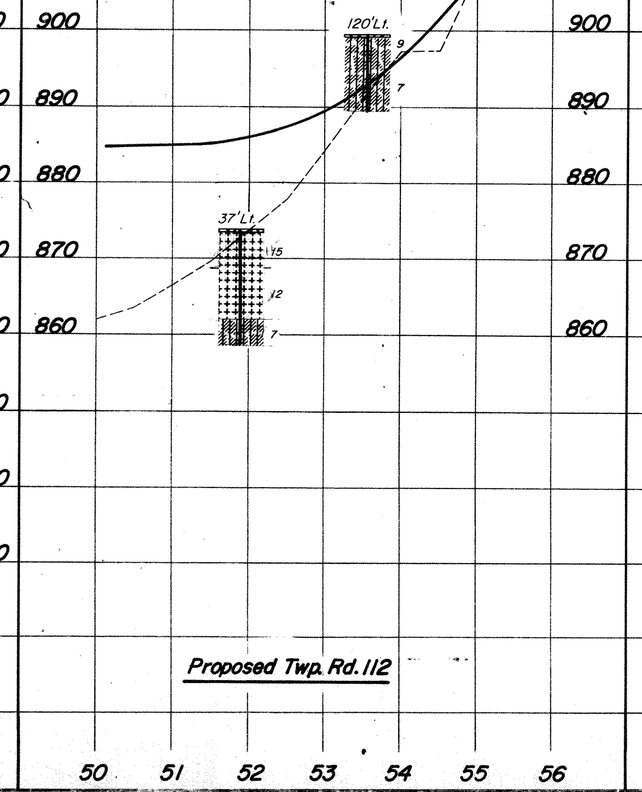
GUE-IR77-22.59

TUS-IR77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

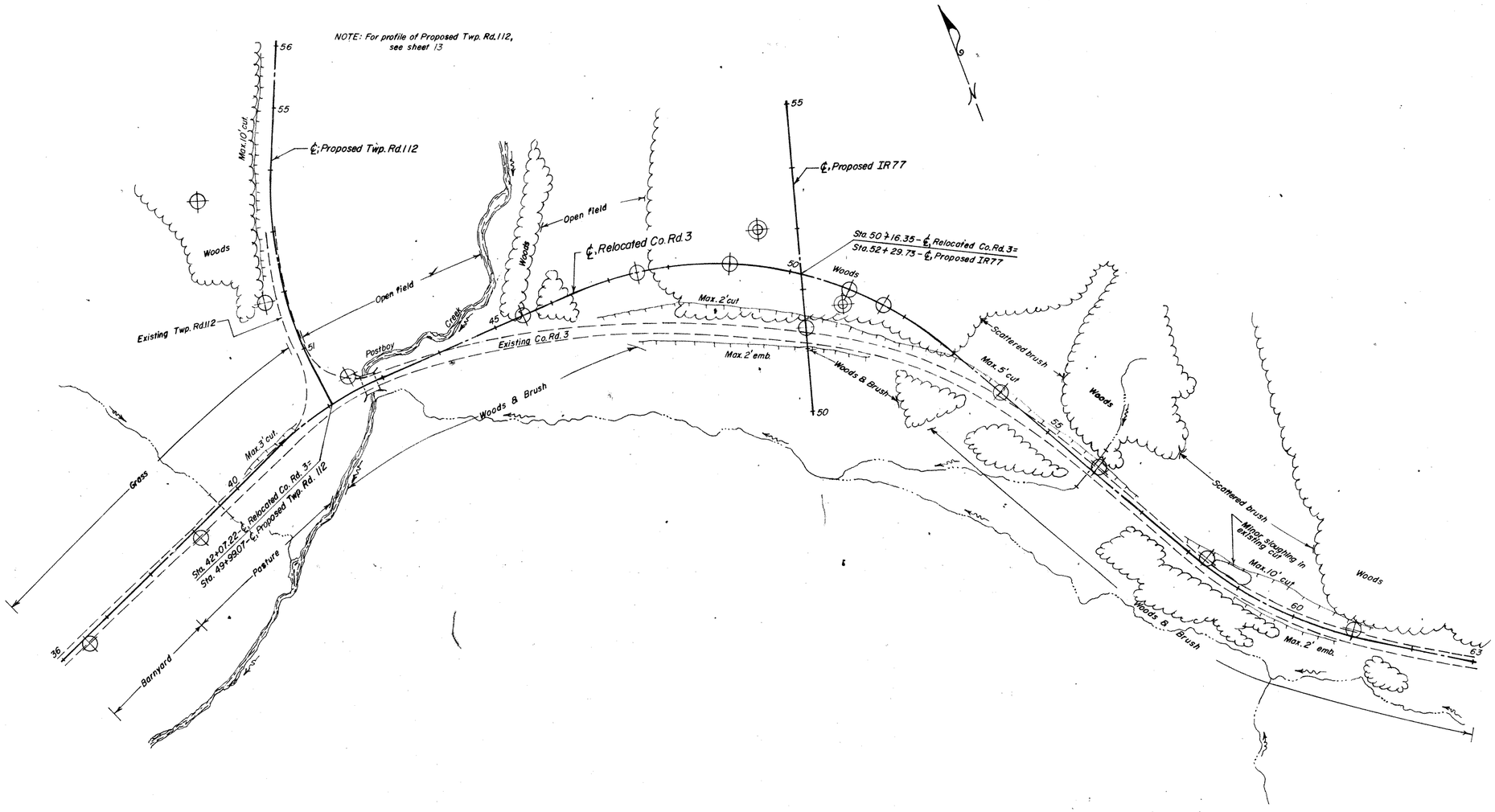






SOIL PROFILE
GUERNSEY-TUSCARAWAS COS
GUE-IR 77-22.59
TUS-IR 77-0.00
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

14
47



Relocated Co. Rd. 3 & Twp. Rd. 112

SOIL PROFILE

GUERNSEY-TUSCARAWAS COS.

GUE – IR 77 – 22.59

TUS – IR 77 – 0.00

15/47

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

970 960 950 940 930 920 910 900 890 880 870 860 850 840

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

(Sta. 53+02-64' Lt. Proposed IR 77)
58' Lt.
9 10 19
11 10 15
4 5
Brown sand
Top of Rock-In-Place
Proposed grade, IR 77
Sandstone, gray, medium-grained, firm, broken. Core loss 40 %
Shale, gray, siliceous, fissile intervals, firm, broken. Core loss 7 %

℄ Sod & TS = 0.3'
22
24
Refusal

℄ Sod & TS = 0.3'
20 Rt.
15
8
14 14 16
16 17 20
Top of Rock-In-Place
A
B
Refusal (Hand auger)

℄ Sod & TS = 0.3'
18

(Sta. 51+73-64' Rt. Proposed IR 77)

℄ Sod & TS = 0.3'
20
14
8 6
Refusal

℄, Twp. Rd. 112

℄
21
15
12
15
Refusal

10' Lt.
13
27
24
21
18
15
Refusal

10' Lt.
19
8
Refusal

10' Lt.
20
8
Refusal

12' Rt.
16

15' Rt.
Sod & TS = 0.3'
18
20
18
15

25' Lt.
18
Refusal

℄ Sod & TS = 0.
22
18
8
Refusal

Sta. 51+00 - 20' Rt.

A. Shale, light-brown, argillaceous, fissile, badly broken, jointed, medium-firm, with 0.6' clay seam at elevation 916.4', with 1.5' coal seam at base. Core loss 28%.

B. Clay shale, gray, soft. Core loss 40%.

Relocated Co. Rd. 3

SOIL PROFILE

16
47

GUERNSEY-TUSCARAWAS COS.

GUE-IR 77- 22.59

TUS-IR 77- 0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 1171+00

910
900
890
880
870
860
850
840
830
820
810

Brown silty clay

Top of Rock-In-Place

A — Shale, brown to gray, extremely siliceous, with clay seams, non-fissile with poorly fissile intervals, badly broken in top 6.0', slightly jointed, with sandstone stringers, firm. Core loss 8%.

B — Shale, gray, siliceous, non-fissile, firm, jointed. Core loss 2%.

C — Shale, dark-gray, carbonaceous, fissile, firm. No core loss.

D — Coal, black, blocky. No core loss.

E — Indurated Clay, gray, medium-firm, with clay shale intervals. No core loss.

Proposed section

Sod=0.5'

25

18

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

SOIL PROFILE

17
47

GUERNSEY-TUSCARAWAS COS.
GUE-IR 77-22.59
TUS-IR 77- 0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 1199+00

Proposed section

Sod & TS=0.3'
13
Refusal
(Hand auger)

Sod & TS=0.3'
26 ●
26 ●
Refusal
(Hand auger)

Sta. 1194+00

Brown sandy clay

Gray clay with sandstone fragments

Top of Rock-In-Place

A. Sandstone, brown, fine-grained, with shale intervals, firm, broken. Core loss 38%.

B. Shale, brown to dark-gray, arenaceous, argillaceous, with sandstone and clay seams, firm, badly broken, jointed, fissile below elev. 937.1, carbonaceous below elev. 931.6'. Core loss 31%.

C. Indurated Clay, gray, soft and crumbly. Core loss 40%.

D. Limestone, gray, hard and jointed, with 1.0' shale seam at base. Core loss 3%.

E. Sandstone, brown, fine-grained, firm, jointed. Core loss 2%.

F. Shale, gray, siliceous, fissile and slightly jointed in top 10.0', poorly-fissile in remainder, firm. No core loss.

Proposed section

Sod & TS=0.3'
16
Refusal
(Hand auger)

930 920 910 900 890 880 870 860

140 100 50 ℄ 50 100 150

970 960 950 940 930 920 910 900 890 880 870

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SOIL PROFILE

GUERNSEY-TUSCARAWAS COS. 18 47

GUE-IR 77-22.59

TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY

1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 1201+00

960
950
940
930
920
910
900
890
880

Sod & TS=0.3'
14
Refusal
(Hand auger)

Proposed section

Sod & TS=0.3'
27
19
Refusal
(Hand auger)

Sod & TS=0.3'
26
Refusal
(Gravel)
(Hand auger)

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SOIL PROFILE

19

GUERNSEY-TUSCARAWAS COS. 47

GUE-IR 77-22.59

TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY

1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 1204+00

Brown sandy clay with sandstone fragments

Top of Rock-In-Place

A. Indurated Clay, mottled gray and brown, with clay shale seams, soft. Core loss 56%.*

B. Shale, brown, calcareous, with limestone seams, firm, badly broken, non-fissile. Core loss 84%*.

C. Shale, mottled gray and brown, siliceous, with calcareous stringers and sandstone seams, firm, non-fissile to poorly fissile, jointed. Core loss 4%.

D. Shale, gray, argillaceous, siliceous in top 3.0', fissile, firm, carbonaceous in bottom 3.0'. Core loss 2%.

E. Shale, gray, argillaceous, firm, with slickensides throughout, broken. Core loss 25%.

F. Shale, gray, siliceous, calcareous, non-fissile, with clay seams, slightly jointed, firm. Core loss 5%.

*High core loss due to material washing out.

Proposed section

Sod & TS=0.3'

W 36 31'

Refusal (Hand auger)

Sod & TS=0.3'

W 20

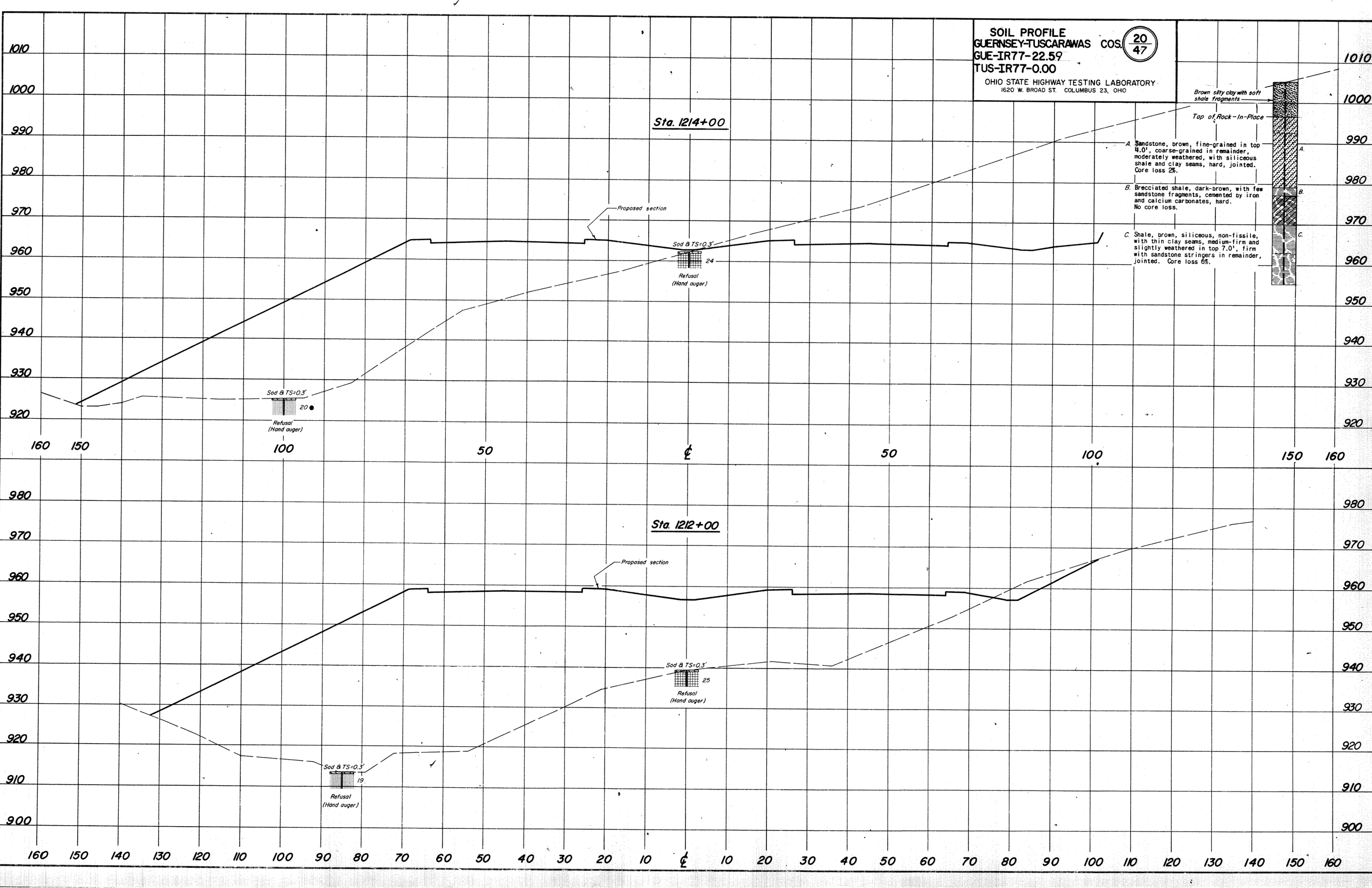
Refusal (Hand auger)

1000 990 980 970 960 950 940 930 920 910 900 890 880

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

SOIL PROFILE
GUERNSEY-TUSCARAWAS COS. 20/47
GUE-IR77-22.59
TUS-IR77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO



SOIL PROFILE

21/47

GUERNSEY-TUSCARAWAS COS.
GUE-IR 77-22.59
TUS-IR 77- 0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta 1220+00

Sod & TS=0.3'
21
W
Refusal
(Hand auger)

Proposed section

Sod & TS=0.3'
17
Refusal
(Hand auger)

Sod & TS=0.3'
18
Refusal
(Hand auger)

Sta 1218+00

Sod & TS=0.3'
26
Refusal
(Hand auger)

Sod & TS=0.3'
21
Refusal
(Hand auger)

Proposed section

Sod & TS=0.3'
23
Refusal
(Hand auger)

SOIL PROFILE

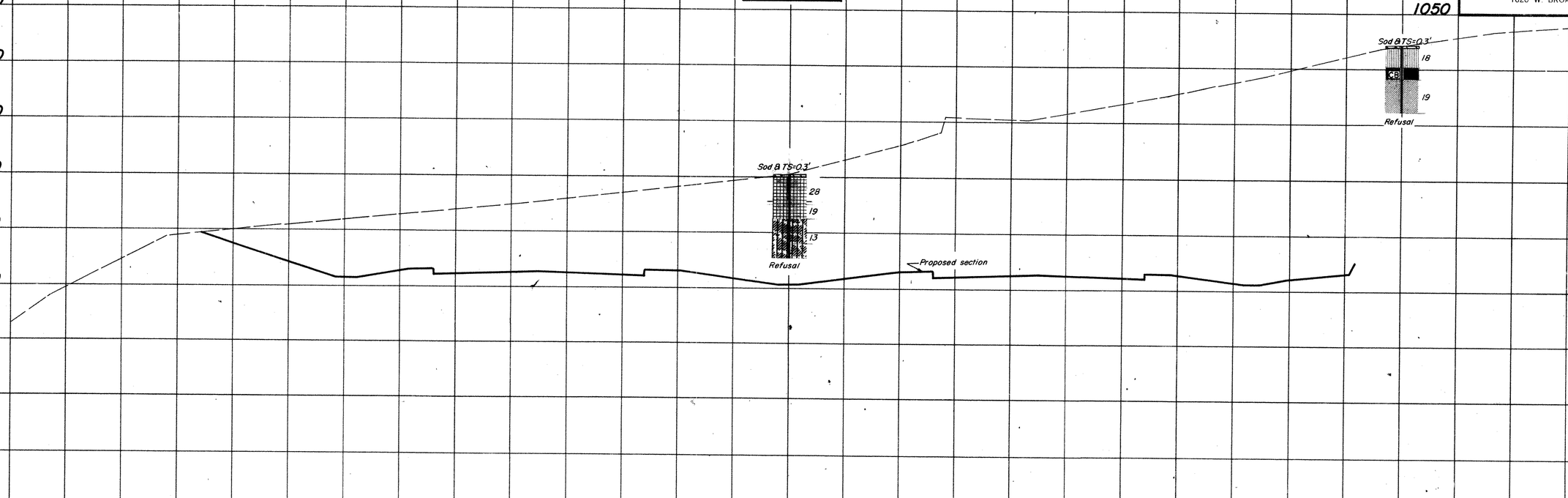
GUERNSEY-TUSCARAWAS COS. 22/47

GUE - IR 77 - 22.59

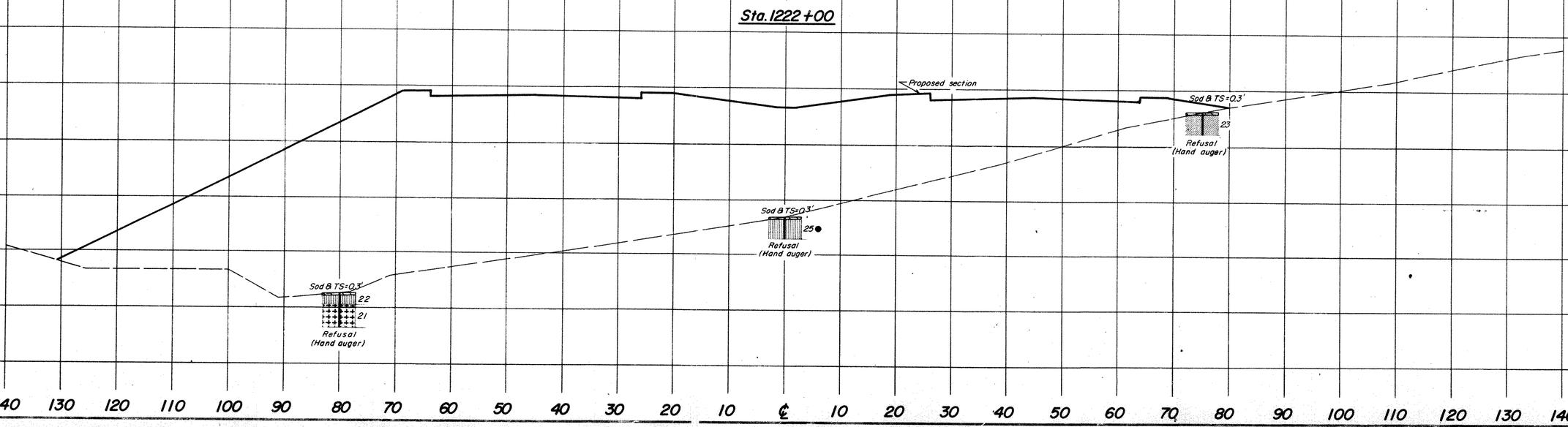
TUS - IR 77 - 0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 1226 + 00



Sta. 1222 + 00



SOIL PROFILE

GUERNSEY-TUSCARAWAS COS

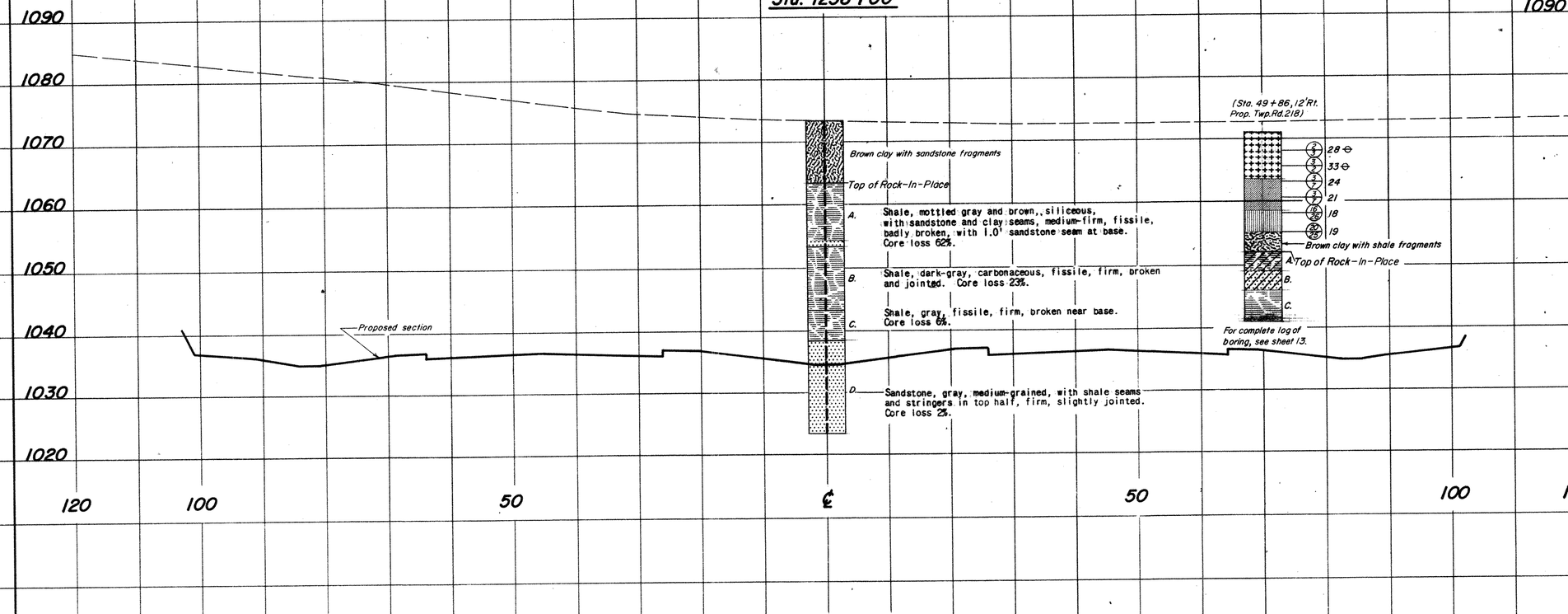
GUE - IR 77 - 22.59

TUS - IR 77 - 0.00

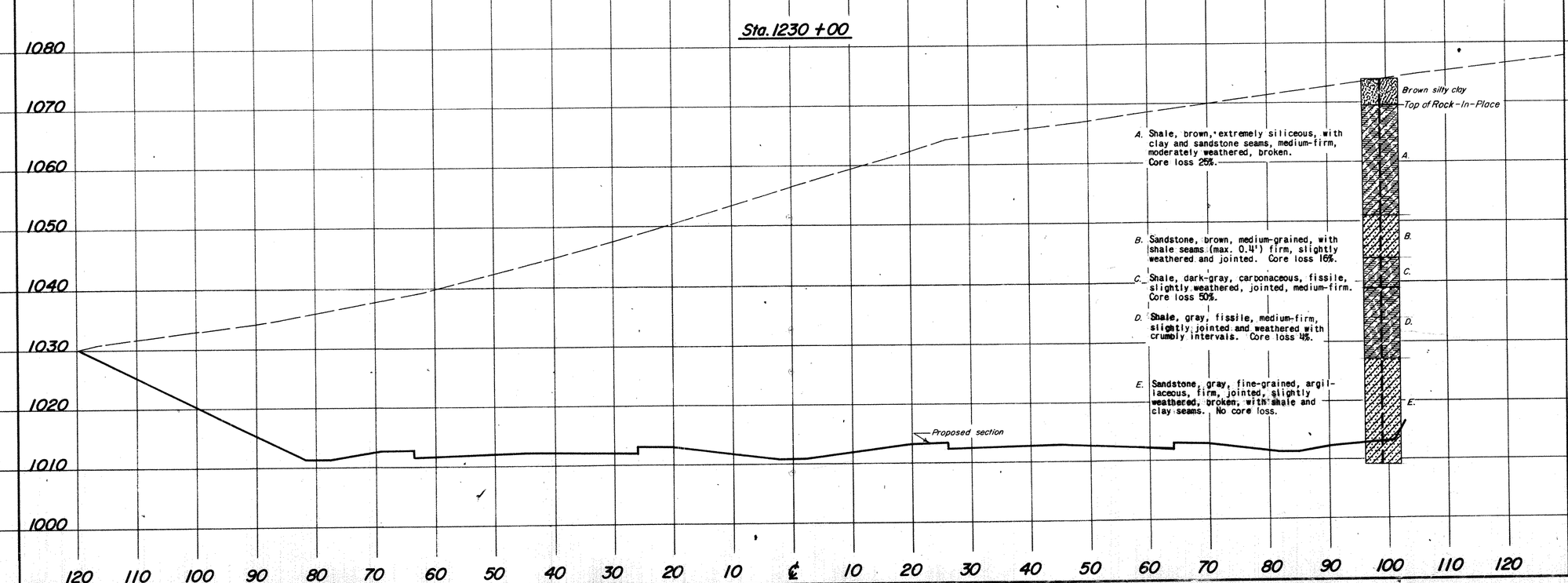
OHIO STATE HIGHWAY TESTING LABORATORY

1620 W. BROAD ST. COLUMBUS 23. OHIO

Sta. 1238+00



Sta. 1230+00



SOIL PROFILE

GUERNSEY-TUSCARAWAS COS 24/47

GUE - IR 77 - 22.59

TUS - IR 77 - 0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 1254 +00

(Sta. 1254 + 60)

Brown silty clay

Top of Rock-In-Place

A. Indurated Clay, mottled brown and gray medium-firm, badly broken and crumbly. Core loss 35%.

B. Shale, mottled gray and brown, siliceous and argillaceous, non-fissile, with clay seams, firm, broken. Core loss 11%.

C. Sandstone, gray to brown, fine-grained, hard, slightly jointed. No core loss.

D. Shale, gray, fissile, firm, jointed. No core loss.

Proposed section

1120 1110 1100 1090 1080 1070 1060

110 100 50 ℄ 50 100 110

Sta. 1242 +00

Brown clay

Top of Rock-In-Place

A. Clay shale, brown, soft, crumbly, slightly weathered. Core loss 57%.

B. Shale, brown very siliceous, with clay and sandstone seams. Core loss 61%*

C. Shale, brown, very argillaceous, fissile, with sandstone and clay seams, slightly weathered and jointed, medium-firm to firm. Core loss 18%.

D. Sandstone, brown, medium-grained, hard, slightly jointed and weathered, massive. Core loss 9%.

E. Shale, dark-gray, carbonaceous, fissile, firm, broken, with many clay shale seams between elevations 1047.7' and 1045.7'. Core loss 16%.

*High core loss due to mechanical difficulties.

Proposed section

1100 1090 1080 1070 1060 1050 1040

110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110

SOIL PROFILE

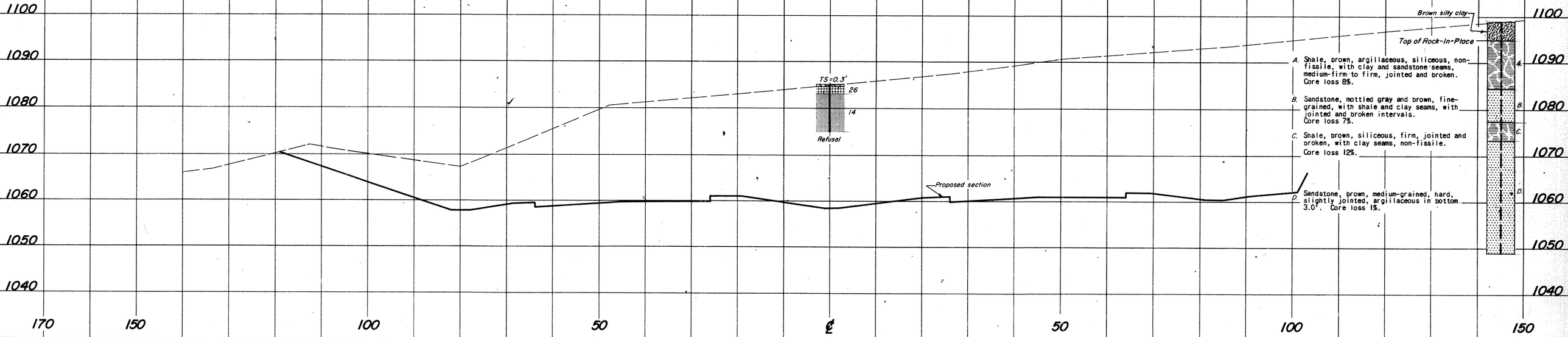
GUERNSEY-TUSCARAWAS COS. 25/47

GUE - IR 77 - 22.59

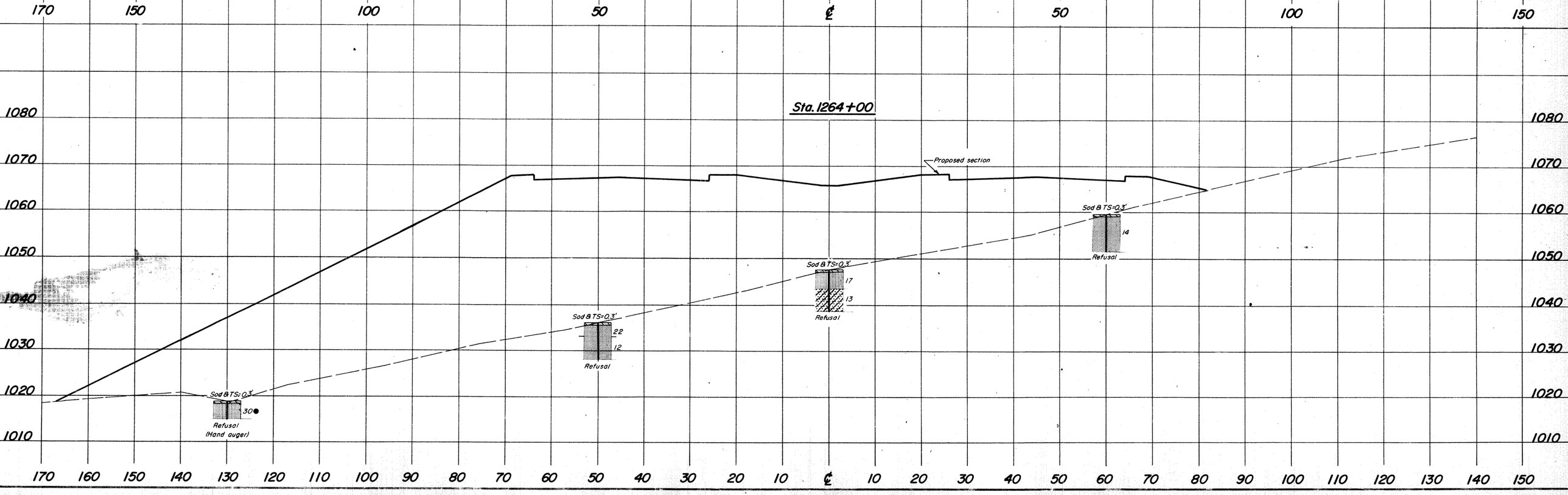
TUS - IR 77 - 0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 1271+00



Sta. 1264+00



SOIL PROFILE

GUERNSEY-TUSCARAWAS COS 26/47

GUE - IR 77 - 22.59

TUS - IR 77 - 0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 3+00

Proposed section

(Sta. 2+75)

15
12
15

13
15
7

(Sta. 3+35)

23
15
13

Sta. 1277+00

Brown clayey silt with shale fragments

Top of Rock-In-Place

A. Indurated Clay, brown, soft, with shale seams throughout. Core loss 65%.

B. Shale, brown to dark-gray, siliceous, slightly carbonaceous at intervals, poorly fissile, medium-firm, slightly weathered, jointed. Core loss 16%.

Sandstone, gray, fine-grained, with siliceous shale seams, hard, slightly jointed and weathered, coarse-grained in bottom 1.0'. Core loss 6%.

C.

Proposed section

SOIL PROFILE

GUERNSEY-TUSCARAWAS COS

GUE-IR 77-22.59

TUS-IR 77-0.00

27/47

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 5+00

Proposed section

W 22

Refusal (Hand auger)

Sod = 0.5'

19

Refusal (Hand auger)

1050 1040 1030 1020 1010 1000 990 980 970 960 950 940 930

260 250 240 230 220 210 200 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 150 160 170 180 190 200

SOIL PROFILE

GUERNSEY-TUSCARAWAS COS.

GUE - IR 77 - 22.59

TUS - IR 77 - 0.00

OHIO STATE HIGHWAY TESTING LABORATORY

1620 W. BROAD ST. COLUMBUS 23, OHIO

28
47

Sta. 14+00

Brown clay

Top of Rock-In-Place

A. Shale, light-brown, siliceous, argillaceous, fissile, broken, medium-firm, with 1.5' clay seam at elev. 1106.0', crumbly intervals. Core loss 8%.

B. Sandstone, brown, fine-grained, becomes medium-grained at elev. 1098.9' with calcareous intervals, firm, poorly fissile, with argillaceous shale seams. Core loss 4%.

C. Shale, black, carbonaceous, argillaceous, with clay seams, fissile, medium-firm, broken, with 1.2' coal seam at elev. 1065.2'. No core loss.

D. Sandstone, light-brown, fine-grained, hard, argillaceous intervals, badly broken and jointed between elevs. 1052.9' and 1048.9'. Core loss 1%.

Proposed section

1120 1110 1100 1090 1080 1070 1060 1050 1040 1030

140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180

Sta. 8+00

Proposed section

Sod = 0.4'

20

Refusal (Boulders) (Hand auger)

TS=1.5'

Refusal (Boulders) (Hand auger)

1050 1040 1030 1020 1010 1000 990 980 970

140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 160 170 180 190 200 210

SOIL PROFILE
GUERNSEY-TUSCARAWAS COS.
GUE - IR 77 - 22.59
TUS - IR 77 - 0.00
OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23, OHIO

29/47

Sta.28+00

1130
1120
1110
1100
1090
1080
1070
1060
1050
1040
1030
1020
1010
1000
990

34

Top of Rock-In-Place

A. Sandstone, light-brown, fine-grained, with calcareous intervals, firm, shale seams between elevs. 1083.4' and 1082.9', with seams of black carbonaceous shale between elevs. 1079.8' and 1079.4'. Core loss 2%.

B. Shale, gray, argillaceous, with carbonaceous intervals, fossiliferous, firm, broken to badly broken, fissile to poorly fissile, with clay seams, jointed intervals, arenaceous & micaceous intervals; with coal bed from elevs. 1034.4' to 1032.4' becomes very argillaceous and badly broken from elevs. 1030.4' to 1022.4', highly siliceous with calcareous nodules below elev. 1022.4'. Core loss 7%.

Proposed section

110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110

SOIL PROFILE

30/47

GUERNSEY-TUSCARAWAS COS.
GUE-IR 77-22.59
TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 40 + 00

(Sta. 40 + 50)

Silty clay with sandstone fragments

Top of Rock - In - Place

A. Sandstone, brown, fine to medium-grained, firm to medium-firm, generally friable, badly broken with clay seams in top 2.5', very badly broken in bottom 2.0'. Core loss 18%.

B. Indurated Clay, gray, medium-firm, crumbly, with 0.8' coaly shale bed at top. Core loss 29%.

C. Sandstone, gray to brown, medium-grained, broken, medium-firm, with few thin shale partings. Core loss 14%.

D. Clay shale, gray to brown, poorly to non-fissile, soft to medium-firm, crumbly; fissile and firm in part between elevs. 1066.3' and 1063.8'. Core loss 76%.

E. Shale, gray, carbonaceous, soft and crumbly between elevs. 1051.8' and 1045.8'; generally firm, slightly carbonaceous toward base, fissile, broken, Core loss 32%.

F. Shale, black, carbonaceous, fissile, firm, jointed in bottom 0.5'. No core loss.

G. Coal, black, pyritiferous, blocky, with 0.3' coaly shale at top. No core loss.

H. Indurated Clay, black, carbonaceous, gray with plant fossils between elevs. 1035.8' and 1032.8', soft to medium-firm, crumbly. Core loss 20%.

I. Shale, gray, fissile, medium-firm, crumbly, very badly broken. No core loss.

J. Shale, light-gray, very siliceous, with sandstone laminae, firm, poorly fissile. No core loss.

K. Sandstone, brown, medium-grained, firm, broken, jointed. No core loss.

L. Shale, brown, siliceous with few thin sandstone beds at mid-interval poorly fissile, jointed, badly broken. Core loss 16%.

M. Shale, gray, siliceous and poorly fissile in top half of interval, becoming argillaceous and fissile in lower half, jointed and badly broken in top 4.0' and with few max. 0.8' badly broken intervals in remainder. No core loss

N. Shale, gray to dark-gray, carbonaceous with few fossils in bottom 1.5' argillaceous, fissile, firm to medium-firm, jointed and very badly broken and crumbly. No core loss.

O. Shale, black, extremely carbonaceous, coaly in part, fossiliferous, fissile, firm, jointed in part. No core loss

P. Indurated Clay, gray, slightly calcareous, slickensided, medium-firm to firm, crumbly in part. No core loss.

Q. Shale, gray, mottled with brown in top 2', siliceous in part, poorly fissile to fissile, jointed and broken in part, firm; grading into few sandstone beds (max. 0.5' thick, fine-grained, argillaceous) comprising about 15% of the interval. No core loss.

R. Shale, gray, argillaceous, fissile to poorly fissile, slickensided in part, firm; with 0.4' fine-grained sandstone at base. No core loss.

Proposed section

1110 1100 1090 1080 1070 1060 1050 1040 1030 1020 1010 1000 990 980 970 960

110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110

SOIL PROFILE
GUERNSEY-TUSCARAWAS COS. 31/47
GUE-IR 77-22.59
TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 49+00

Proposed section

960
950
940
930
920
910
900
890
880
870
860
850

(Sta. 49+50)
Sod & TS=0.3'
W 24
18
11
Refusal

(Sta. 49+50)
TS=0.3'
29
W
20
21 Trace of organic
Refusal

Swamp sod=0.3'
W 42 Organic
17
9
Refusal

280 270 260 250 240 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 190 200 210 220 230

SOIL PROFILE
GUERNSEY-TUSCARAWAS COS
GUE-IR 77-22.59
TUS-IR 77-0.00

32
47

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST COLUMBUS 23, OHIO

Sta. 58+00

(Sta. 57+80)
Sod & TS=0.3'
20
Refusal

Proposed section

Sod & TS=0.3'
23
17

Sod & TS=0.3'
25
16
15
14
8
Refusal

Sta. 54+50

Brown sandy clay with sandstone fragments

Top of Rock-In-Place

A. Sandstone, brown, coarse-grained, firm, moderately weathered, with clay, and few shale seams, broken intervals, with mica stringers, jointed in bottom 3.0'. Core loss 11%.

B. Shale, gray, very siliceous, firm, non-fissile. Core loss 7%.

C. Shale, gray, argillaceous, fossiliferous, firm, fissile, with clay seams, broken, poorly fissile in lower half. Core loss 9%.

Proposed section

SOIL PROFILE

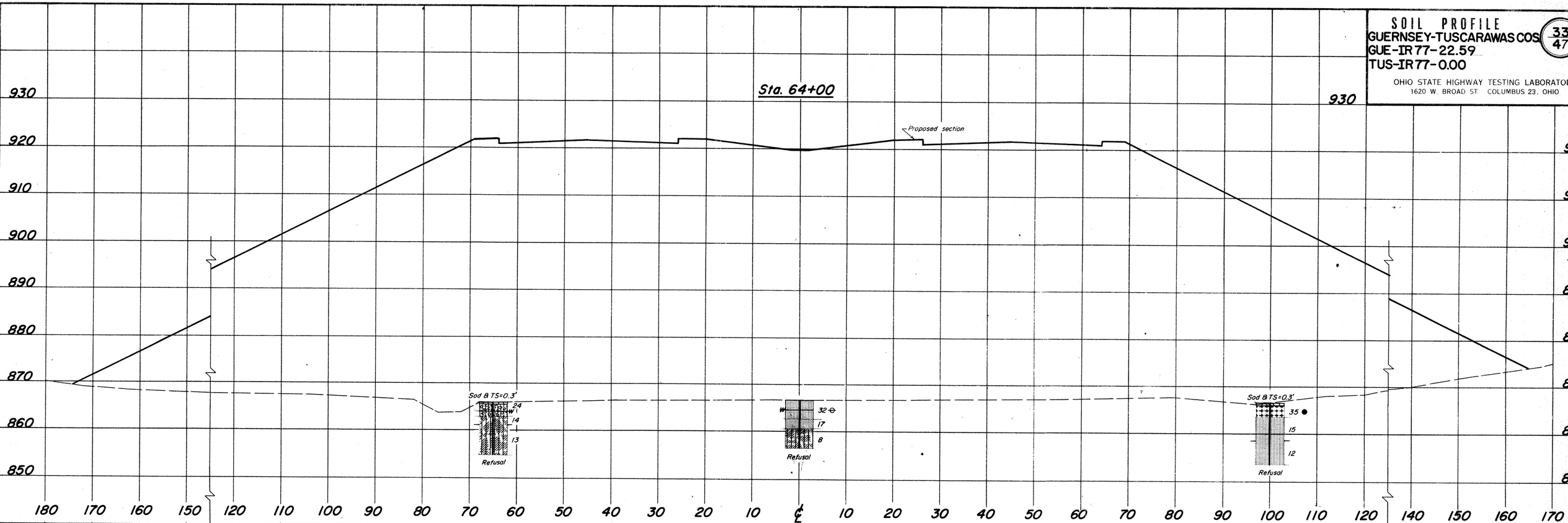
GUERNSEY-TUSCARAWAS COS 33/47

GUE-IR 77-22.59

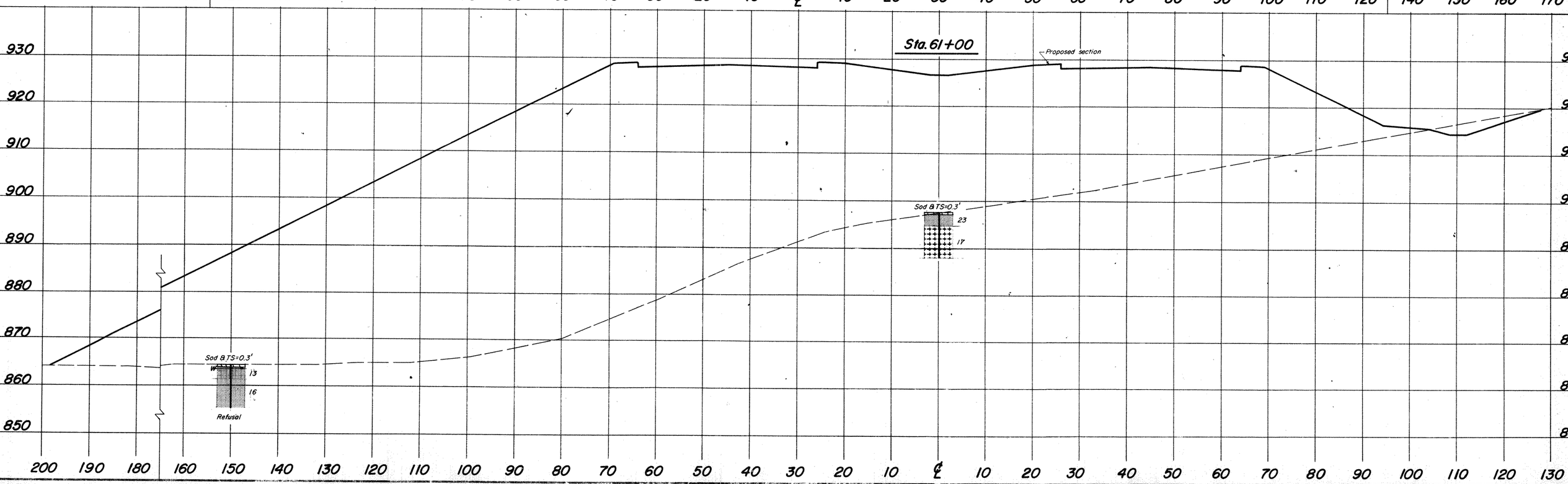
TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 64+00



Sta. 61+00



SOIL PROFILE
GUERNSEY-TUSCARAWAS COS
GUE-IR 77-22.59
TUS-IR 77-0.00
35/47

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta 82+00

950 940 930 920 910 900 890 880

Proposed section

Sod & TS=0.3'
17
18
Refusal

Sod & TS=0.3'
21
13

Sod & TS=0.3'
14
14
15
W
12
Refusal

140 100 50 ℄ 50 100 140

Sta 76+38

930 920 910 900 890 880

Proposed section

TS=0.3'
26
G
Refusal

Sod & TS=0.3'
24
15
Refusal

140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140

SOIL PROFILE

GUERNSEY-TUSCARAWAS COS. 34/47

GUE-IR 77-22.59

TUS-IR 77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W BROAD ST. COLUMBUS 23, OHIO

Sta. 70+00

Top of Rock-In-Place

A.

B.

C.

A. Sandstone, brown, coarse-grained, with thick sandy shale seams and thin clay seams, badly broken, weathered. Core loss 80%.

B. Shale, brown, very siliceous intervals, with sandstone seams, firm, non-fissile, jointed. Core loss 7%.

C. Shale, gray, non-fissile, firm and jointed with 1.0' badly broken intervals at elev. 912.4' and elev. 899.4'. Core loss 1%.

Proposed section

23
14
C
W
9

Sod & TS=0.3
20
6
Refusal

990 980 970 960 950 940 930 920 910 900 890 880 870

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

SOIL PROFILE
GUERNSEY-TUSCARAWAS COS. 36/47
GUE-IR77-22.59
TUS-IR77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23. OHIO

Sta. 87+00

Top of Rock-In-Place

Brown clay with shale fragments

A. Shale, brown, non-fissile, siliceous intervals, firm and jointed, slightly weathered, badly broken with clay seams. Core loss 27%.

B. Shale, gray, extremely siliceous, hard. No core loss.

C. Shale, mottled brown and gray, siliceous, with sandstone stringers, fossiliferous intervals, non-fissile with poorly fissile intervals, firm and jointed. Core loss 2%.

Sod & TS=0.3'
24
Refusol
(Hand auger)

Proposed section

Sod=0.3'
27
18
W

980 970 960 950 940 930 920 910 900 890

140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140

SOIL PROFILE

GUERNSEY-TUSCARAWAS COS. 37/47

GUE-IR77-22.59

TUS-IR77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 96+00

Proposed section

Sod & TS=0.3'

24

Refusal
(Hand auger)

Sod & TS=0.3'

5

14

19

21

10

Refusal

Sta. 93+00

Proposed section

Sod & TS=0.3'

19

Refusal
(Hand auger)

Sod & TS=0.3

34

18

W

14

Refusal

Brown clay

Top of Rock-In-Place

A. Shale, dark-gray, carbonaceous, fissile, soft and crumbly, emtremely weathered. Core loss 10%.

B. Clay shale, brown, fissile, soft and crumbly, extremely weathered. Core loss 61%.

C. Shale, brown, siliceous, non-fissile, medium-firm to firm, with clay seams, slightly weathered. Core loss 47%.

D. Sandstone, mottled brown and gray, very fine-grained, calcareous, hard. Core loss 10%.

E. Shale, gray, siliceous, fossiliferous intervals, non-fissile, firm, with sandstone and limestone stringers throughout brown and moderately weathered in top 5.0'. Core loss 1%.

960 950 940 930 920 910 900 890

980 970 960 950 940 930 920 910 900 890

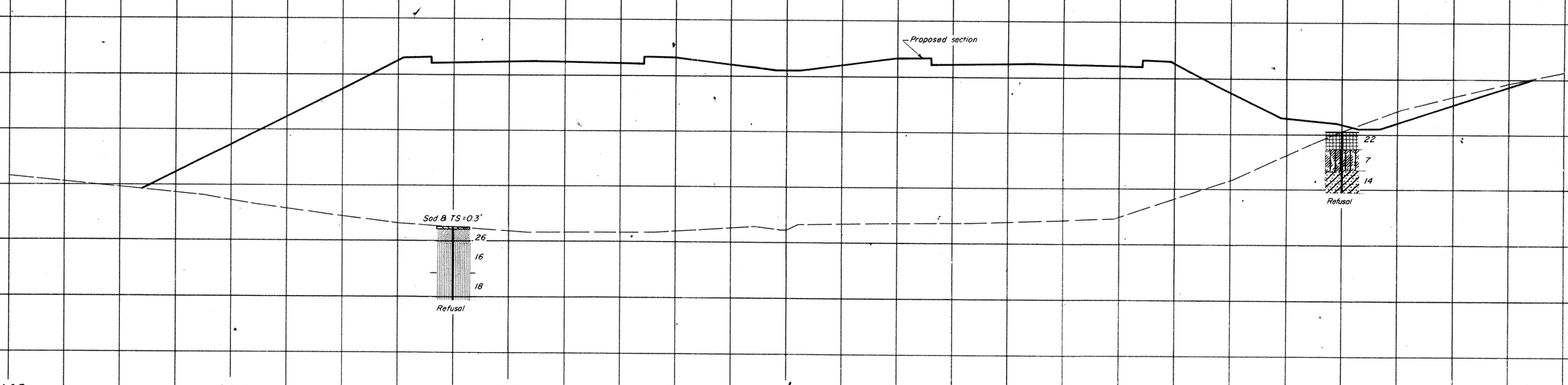
140 100 50 ℄ 50 100 140

140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140

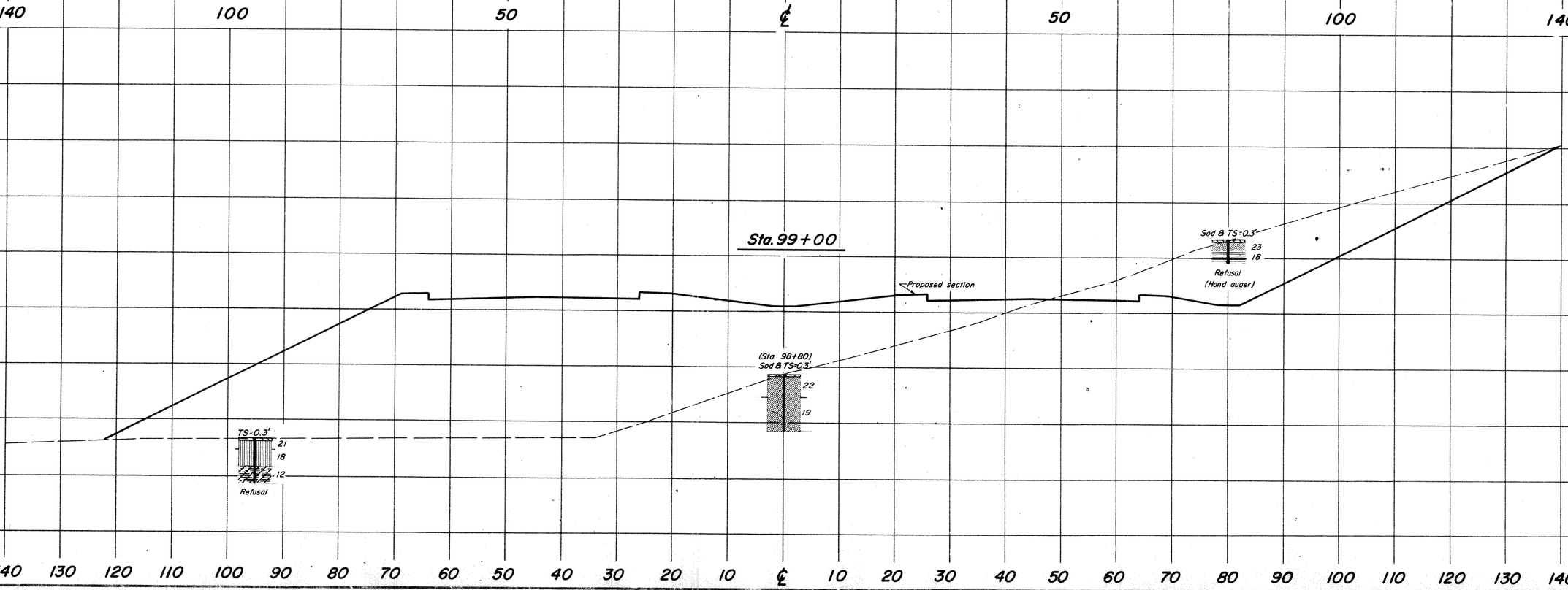
SOIL PROFILE-
GUERNSEY-TUSCARAWAS COS. 38/47
GUE-IR77-22.59
TUS-IR77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 103+00



Sta. 99+00



SOIL PROFILE

GUERNSEY-TUSCARAWAS COS. 39/47

GUE-IR77-22.59

TUS-IR77-0.00

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

Sta.107+00

(Sta.107+25)

Brown silty clay with sandstone fragments.

Brown silty clay with limestone and sandstone boulders through-out, with shale fragments in lower half.

Top of Rock-In-Place

A. Shale, brown, argillaceous, siliceous, calcareous, medium-firm, broken, poorly fissile, with clay seams, with 2.0' sandstone, (brown, fine-grained, calcareous, firm) bed at elev. 999.6'. Core loss 22%.

B. Shale, brown, very siliceous, firm, broken in lower half, non-fissile, with limy stringers, jointed. Core loss 25%.

C. Shale, brown, siliceous, argillaceous, with clay seams throughout, medium-firm, poorly fissile, broken. Core loss 8%.

D. Shale, gray, argillaceous, soft in top 3.0', medium-firm, fissile, with clay seams throughout, broken, with crumply intervals (max. 0.3'), slightly jointed, carbonaceous in bottom 5.5'. Core loss 9%.

(Sta.107+40)
Sod & TS=0.3'
26
7
10
11
Refusal

(Sta.107+25)
Sod & TS=0.3
18
24
8
Refusal

Proposed section

Sta.105+00

Sod & TS=0.3'
26
11
Refusal

Proposed section

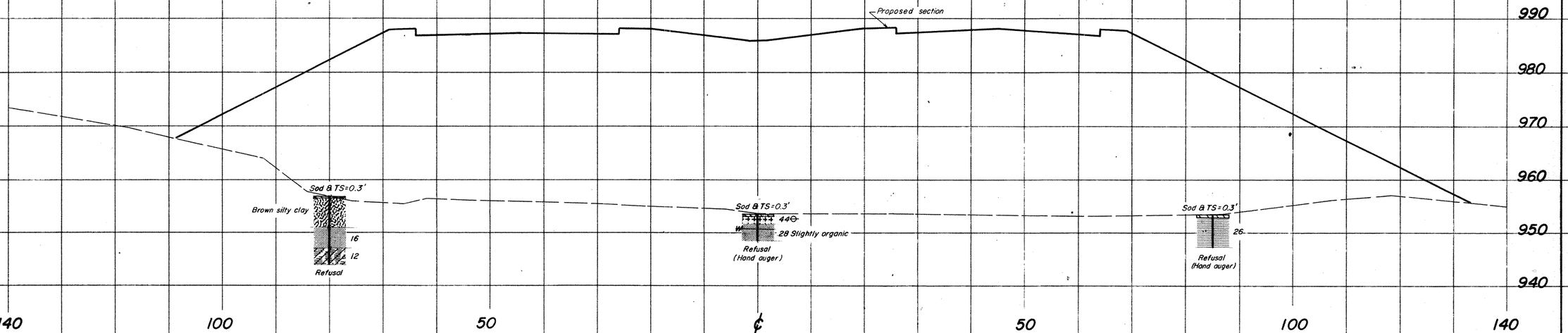
Sod & TS=0.3'
28
24
18
Refusal

1030 1020 1010 1000 990 980 970 960 950 940 930 920

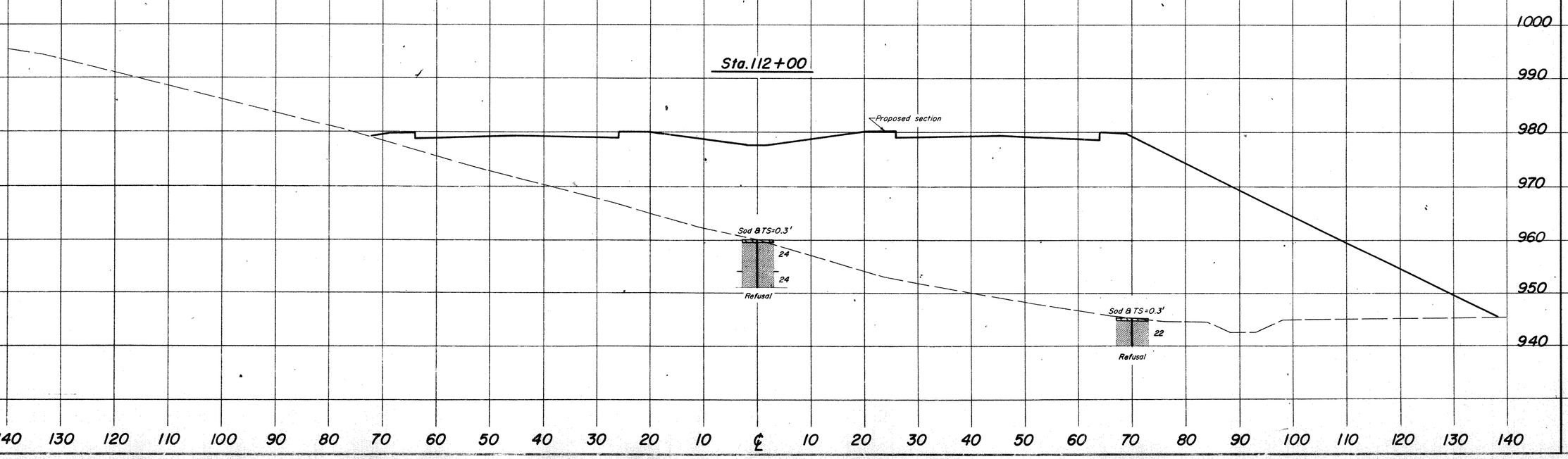
140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140

SOIL PROFILE
GUERNSEY-TUSCARAWAS COS. 40/47
GUE-IR77-22.59
TUS-IR77-0.00
OHIO STATE HIGHWAY TESTING LABORATORY
1520 W. BROAD ST. COLUMBUS 23, OHIO

Sta. 114+00



Sta. 112+00



TUSCARAWAS COUNTY
GUE-TUS-IR 77-(22.51)(0.00)

GEOLOGY OF THE SITE

The structure site is located in the unglaciated highly dissected Allegheny Plateau region, on the north steep-walled valley of a tributary of Postboy Creek, in an area where thin residual soil cover overlies sandstone and shale bedrock, of Pennsylvanian age.

EXPLORATION

The exploration consisted of two drive sample-core borings and eight drive rod penetration tests, made between May 25 and 28, and on July 2 and 3, 1964.

INVESTIGATIONAL FINDINGS

The borings disclosed that bedrock surface, occurring at 7 and 10-foot depths, elevations 956 and 923 feet, is overlain by dense silt. The borings were terminated 25 and 22 feet below bedrock surface, elevations 930 and 901 feet.

Rod soundings generally met rapid increase in penetration resistance with increase in depth and were terminated upon encounter with near-refusal and refusal to penetration 8 and 13 feet below ground surface, elevations 953 and 893 feet, considered to be below bedrock surface, as revealed by the borings.

Unconfined compression tests on similar shale and sandstone bedrock indicates a crushing strength on the order of 150 and 250 tons per square foot, respectively.

No free water was observed in any of the rod sounding holes.

LEGEND

- Auger Boring Location - Plan View
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- R — Electrical Resistivity Probe Location - Plan View
- Footing / Capped Pile
- Footing on Pile
- R — Electrical Resistivity Probe - Profile
- TR — Top of Rock
- Interval of Relatively High Moisture
- TD — Total Depth

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test.
  X = Number of Blows for First 6 Inches.
  Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm	0.42mm	0.074mm	0.005mm	
		No. 10 sieve	No. 40 sieve	No. 200 sieve		

LOG OF BORING

Date Started 5-25-64 — Sampler Type SS — Dia 1 3/8" — Water Elev. —
Date Completed 5-28-64 — Casing Length — — Surface Elev. 930.8'
Boring No B-5 — Station & Offset 51+73, 64' Rt (REAR PIER)

Elev.	Depth	Log Pen.	Rec.	Loss	Description	Sample No.	Physical Characteristics
930.8	0						
926.3	4	14/16			Brown Gravelly Silt	1	35 5 4 41 15 30 6 14
925.8	6	17/20			Brown Silt	2	6 4 6 69 33 32 6 16
923.3	8		1.5	1.0	TOP OF ROCK		
	10						
	12						
	14		3.7	1.3	Shale, light brown, argillaceous, fissile, badly broken, jointed medium-firm, with 0.6' clay seam at elevation 916.4, with 1.5' coal seam at base. Core loss 28%.		
	16						
	18		4.0	1.0			
	20						
	22						
	24		3.0	2.0			
	26						
904.3	28		5.0	0.0	Clay shale, gray, soft. Core loss 40%.		
900.8	30				BOTTOM OF BORING		

LOG OF BORING

Date Started 5-27-64 — Sampler Type SS — Dia 1 3/8" — Water Elev. —
Date Completed 5-28-64 — Casing Length — — Surface Elev. 965.0'
Boring No B-26 — Station & Offset 53+02, 64' Lt (FORWARD ABUTMENT)

Elev.	Depth	Log Pen.	Rec.	Loss	Description	Sample No.	Physical Characteristics
965.0	0						
962.5	4	9/10			Brown Sandy Silt	1	0 7 34 33 26 26 8 19
960.0	6	11/10			Brownish-Gray Sandy Silt	2	0 3 25 41 31 26 8 15
957.5	8	4/6			Brown Sand (Wash Sample)	3	V I S U A L
955.5	10				TOP OF ROCK		
955.0					Sandstone, gray, medium-grained.		
	12						
	14		3.9	1.1	Sandstone, gray, medium-grained, firm, broken. Core loss 40%.		
	16						
946.0	18		2.5	2.5			
	20						
	22						
	24		4.1	0.9	Shale, gray, siliceous, fissile intervals, firm, broken. Core loss 7%.		
	26						
	28		4.6	0.2			
	30						
	32						
	34		5.0	0.0			
930.0					BOTTOM OF BORING		

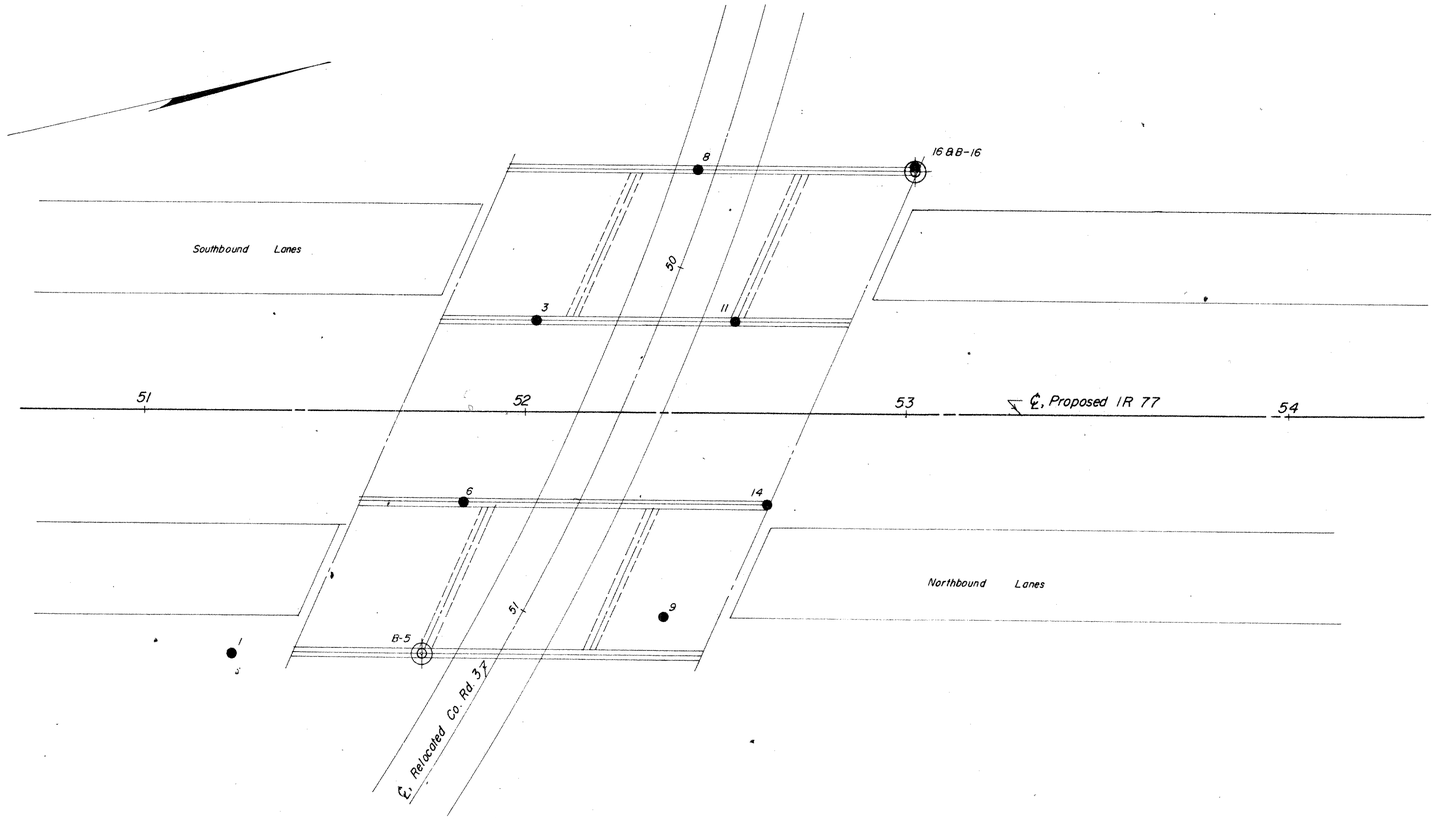
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

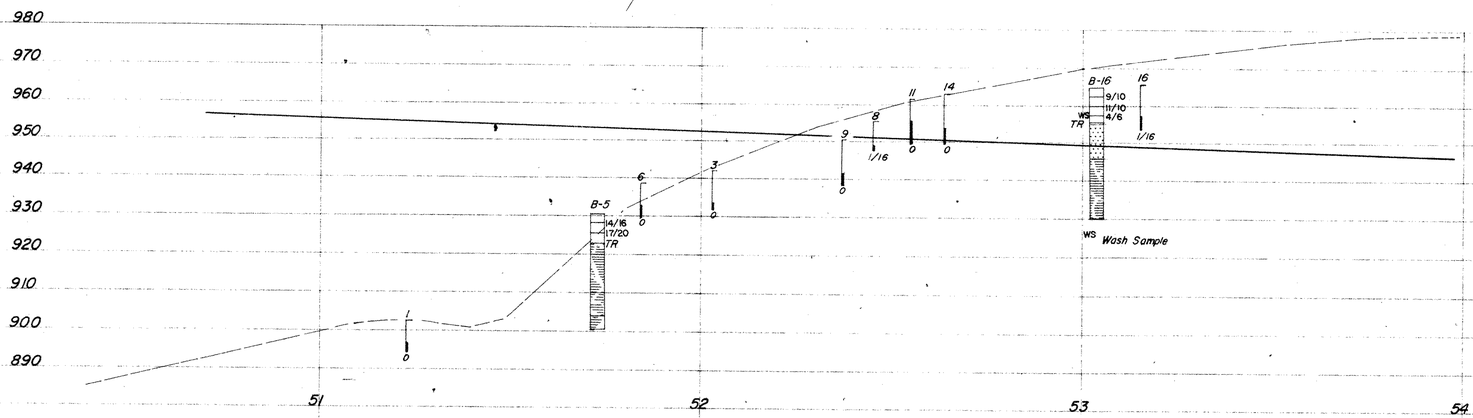
OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. TUS-IR 77-0098 L/R
OVER RELOC. CO. RD. 3
SEC. GUE-TUS-IR 77-(22.51)(0.00)

CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.D.R.	7/24/64

GUE-TUS-IR 77-(22.51)(0.00)





SCALE: 1" = 20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. TUS-IR 77-0098 L/R
OVER RELOC. CO. RD. 3
SEC. GUE-TUS-IR 77-(22.51)(0.00)

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.F.	L.N.L.	R.D.R.	7/24/64

43/47

Test Location No. 1
Station & Offset 51+23, 64' RT
REAR ABUTMENT
Surface Elev. 902.6' Water Elev. DRY

Piling
Hammer
Formula
Reference
Rod Condition GOOD

TEST ROD

Test Location No. 3
Station & Offset 52+03, 24' LT
REAR ABUTMENT
Surface Elev. 942.1' Water Elev. DRY

Piling
Hammer
Formula
Reference
Rod Condition POINT BENT

TEST ROD

Test Location No. 6
Station & Offset 51+88 24' RT
REAR PIER
Surface Elev. 938.5' Water Elev. DRY

Piling
Hammer
Formula
Reference
Rod Condition GOOD

TEST ROD

Test Location No. 8
Station & Offset 52+45 64' LT
REAR PIER
Surface Elev. 955.6' Water Elev. DRY

Piling
Hammer
Formula
Reference
Rod Condition GOOD

TEST ROD

Test Location No. 9
Station & Offset 52+37 54' RT
FORWARD PIER
Surface Elev. 950.6' Water Elev. DRY

Piling
Hammer
Formula
Reference
Rod Condition GOOD

TEST ROD

Test Location No. 11
Station & Offset 52+55 24' LT
FORWARD PIER
Surface Elev. 961.8' Water Elev. DRY

Piling
Hammer
Formula
Reference
Rod Condition GOOD

TEST ROD

Test Location No. 14
Station & Offset 52+64 24' RT
FORWARD ABUTMENT
Surface Elev. 963.0' Water Elev. DRY

Piling
Hammer
Formula
Reference
Rod Condition

TEST ROD

Test Location No. 16
Station & Offset 53+02 64' LT
FORWARD ABUTMENT
Surface Elev. 965.9' Water Elev. DRY

GUE-TUS-IR 77-(22.51)(000) 3/3

Piling
Hammer
Formula
Reference
Rod Condition GOOD

TEST ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. TUS-IR 77-0098 L/R
OVER RELOC. CO. RD. 3
SEC. GUE-TUS-IR 77-(22.51)(0.00)

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	L.N.L.	R.D.R.	7/24/64

GUERNSEY-TUSCARAWAS COUNTIES
GUE-TUS-IR 77-(22.51) (0.00)

GEOLOGY OF THE SITE

The structure site is located on the unglaciated Allegheny Plateau Region, in an area where shallow and moderately deep residual soils overlie sandstone and shale bedrock, of Pennsylvanian age.

EXPLORATION

The exploration consisted of two drive sample-core borings and ten drive rod penetration tests, made between June 3 and 10, 1964. Included with this report is the log of a boring made for the soil profile investigation for the project.

INVESTIGATIONAL FINDINGS

Borings disclosed that sloping bedrock surface, encountered at 5-foot depth, elevation 1067 feet, in the rear portion of the structure site, 10-foot depth, elevation 1063 feet, in the center portion of the structure site, and 19-foot depth, elevation 1052 feet, in the forward portion of the structure site, is overlain by loose and dense silts and stiff clays. The borings were terminated 19 and 40 feet below bedrock surface, elevations 1042 and 1023 feet.

Rod soundings generally met rapid increase in penetration resistance with increase in depth, occasionally erratic, and were terminated upon encounter with refusal to penetration, at 8 and 23-foot depths, elevations 1070 and 1047 feet, considered to generally approximate bedrock surface, as revealed by the borings.

No free water was observed in any of the rod sounding holes.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- (R) Electrical Resistivity Probe Location - Plan View.
- Footing — Capped Pile
- Footing on Pile
- (R) Electrical Resistivity Probe - Profile.
- TR Top of Rock
- Interval of Relatively High Moisture.
- TD Total Depth

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test.
  X = Number of Blows for First 6 Inches.
  Y = Number of Blows for Second 6 Inches.
- Drive Rod Penetration Resistance Sounding Log - Profile.
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z Indicates Final Measurement of Penetration, in Inches.
- W Indicates Free Water Elevation.
- Indicates Static Water Elevation.

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

Drive Sample Borings - Drive - Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer, with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

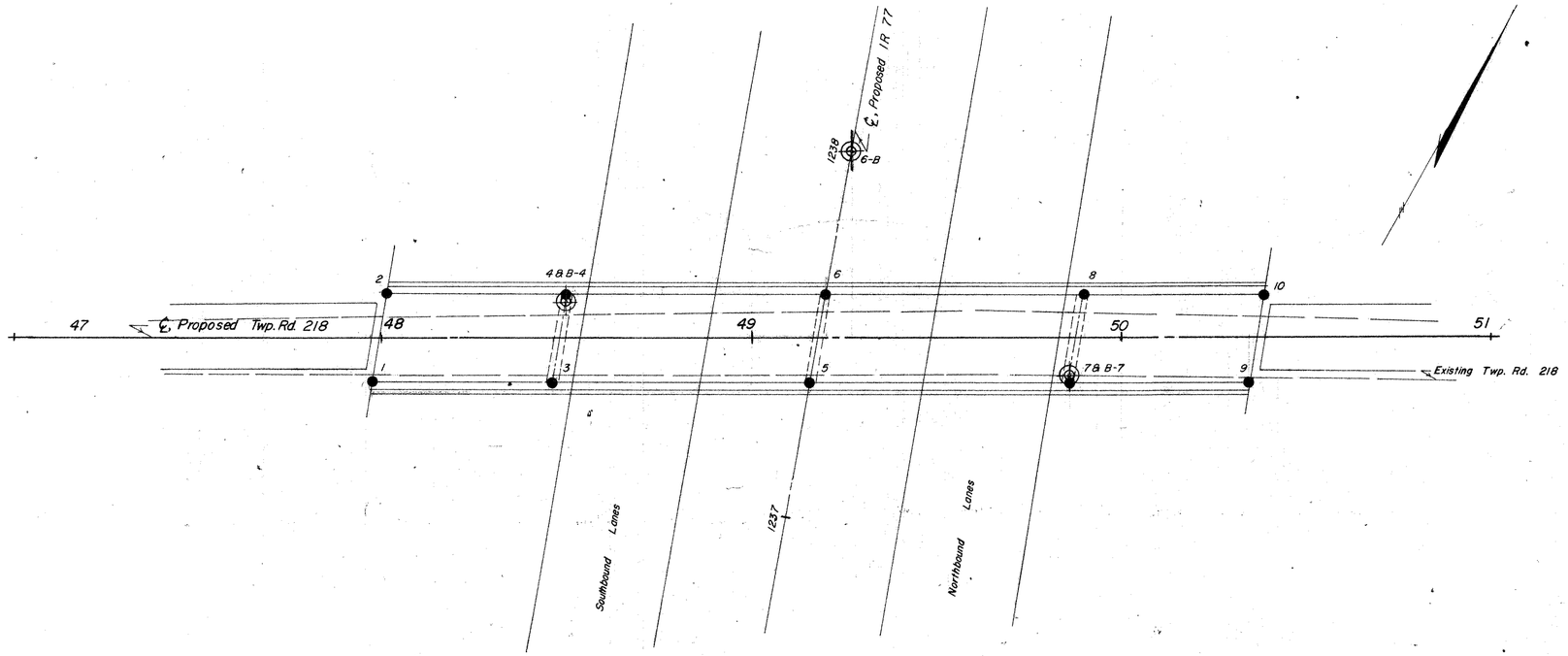
Particle Size Definitions

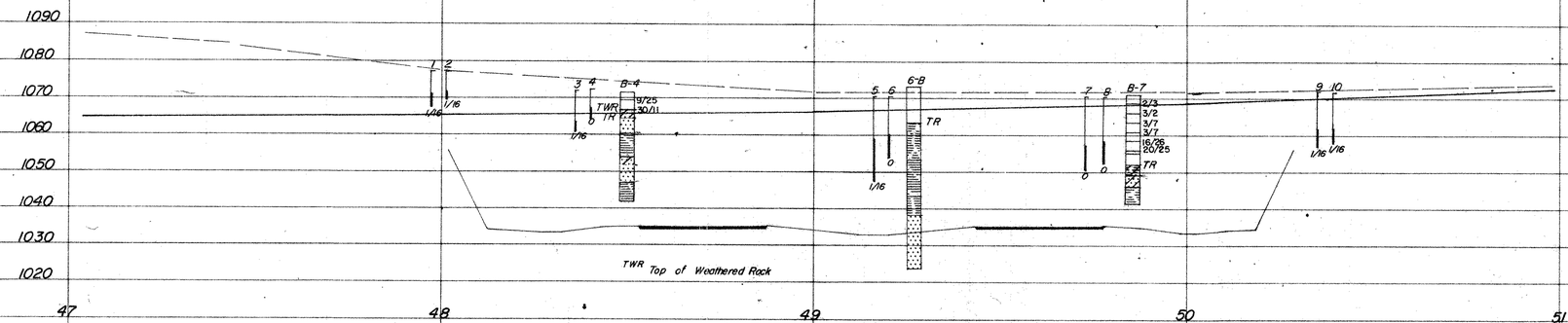
Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
	8"	3" 2.0mm	0.42mm	0.074mm	0.005mm	
		No. 10 sieve	No. 40 sieve	No. 200 sieve		

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. GUE-IR77-2379
UNDER TWP. RD. 218
SEC. GUE-TUS-IR77-(22.51)(0.00)

CHECKED BY	REVIEWED BY	DATE
R. H. P.	R.D.R.	7/9/64





SCALE: 1"=20'

OHIO STATE HIGHWAY TESTING LABORATORY			
1620 WEST BROAD ST., COLUMBUS 23, OHIO			
STRUCTURE FOUNDATION INVESTIGATION			
BRIDGE NO. GUE-IR 77-2379 UNDER TWP. RD. 218			
SEC. GUE-TUS-IR 77-(22.51)(0.00)			
PLAN AND PROFILE			
DRAWN BY R. L. F.	CHECKED BY R. H. P.	REVIEWED BY R. D. R.	DATE 7/9/64

LOG OF BORING

Date Started 6-4-64 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 6-5-64 | Casing: Length 11' | Dia. 3 1/2"
Boring No. B-4 | Station & Offset 48+50, 10' Lt (REAR PIER) | Surface Elev. 1072.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
1072.0	0														
1069.5	2	9/25			Brown Sandy Clay with Stone Fragments	1	33	6	10	27	24	27	7	20	
1067.0	4				TOP OF WEATHERED ROCK										
	6	30/11			Brown Weathered Sandstone	2	V	I	S	U	A	L		15	
1064.5	8				TOP OF FIRM ROCK										
	10		0.6	1.9	Sandstone, brown, medium-grained, firm, with 1.0' clay shale seam at 10.0'. Core loss 70%.										
1060.5	12														
	14		2.1	2.9	Shale, brown, very siliceous, medium-firm, broken, fissile. Core loss 46%.										
	16														
1054.0	18		3.1	1.9											
	20														
	22		3.1	1.9	Sandstone, gray, coarse-grained, firm, with few coal stringers, slightly weathered in top half, badly broken in bottom 1.0'. Core loss 40%.										
1047.0	24														
	26														
	28		3.9	1.1	Shale, black, carbonaceous, siliceous intervals, fissile, broken. Core loss 22%.										
1042.0	30														

BOTTOM OF BORING

LOG OF BORING

Date Started 6-24-64 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 6-30-64 | Casing: Length 10' | Dia. 3 1/2"
Boring No. B-B | Station & Offset 49+27, 51' Lt (CENTER PIER) | Surface Elev. 1073.3'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
1073.3	0														
	2		0.0	2.0											
	4		0.3	2.7	Brown clay with sandstone fragments.										
	6														
	8		3.1	1.9											
1063.3	10				TOP OF ROCK										
	12														
	14		0.9	4.1	Shale, mottled gray and brown, siliceous, with sandstone and clay seams, medium-firm, fissile, badly broken, with 1.0' sandstone seam at base. Core loss 62%.										
	16														
	18		2.9	2.1											
1053.3	20														
	22														
	24		3.8	1.2	Shale, dark-gray, carbonaceous, fissile, firm, broken and jointed. Core loss 23%.										
	26														
	28		3.9	1.1											
1043.3	30														
	32														
	34		4.7	0.3	Shale, gray, fissile, firm, broken near base. Core loss 6%.										
1038.3	36														
	38		4.8	0.2											
	40														
	42														
	44		4.9	0.1	Sandstone, gray, medium-grained, with shale seams and stringers in top half, firm, slightly jointed. Core loss 2%.										
	46														
	48		5.0	0.0											
1023.3	50														

BOTTOM OF BORING

LOG OF BORING

Date Started 6-3-64 | Sampler Type SS | Dia. 1 3/8" | Water Elev.
Date Completed 6-3-64 | Casing: Length 19' | Dia. 3 1/2"
Boring No. B-7 | Station & Offset 49+86, 12' Rt (FORWARD PIER) | Surface Elev. 1071.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
1071.0	0														
1068.5	2														
	4	2/3			Brownish-Gray Silt	1	0	6	11	61	22	NP	NP	28	
1066.0	6	3/2			Brown Silt	2	0	2	7	62	29	NP	NP	33	
1063.5	8	3/7			Brownish-Gray Silt and Clay	3	0	5	11	47	37	31	11	24	
1061.0	10	3/7			Mottled Brown and Gray Silt and Clay	4	0	2	3	59	36	31	11	21	
1058.5	12														
	14	16/26			Mottled Brown and Gray Clayey Silt	5	0	10	13	40	37	27	8	18	
1056.0	16	20/25			Brown Clayey Silt	6	0	7	14	45	34	30	10	19	
1055.0	18				Brown clay with shale fragments.										
1052.0	20		2.6	1.4	TOP OF ROCK										
	22				Shale, gray, fissile, very badly broken, medium-firm, slightly weathered. Core loss 74%.										
1049.0	24		1.3	3.7	Sandstone, brown, fine-grained, firm, jointed, slightly weathered. Core loss 67%.										
1046.0	26														
	28		4.6	0.4	Shale, dark gray, carbonaceous, argillaceous, medium-firm, fissile, broken, jointed in last 3.0'; 0.5' sandstone bed at base. Core loss 7%.										
1041.0	30														

BOTTOM OF BORING

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. GUE-IR77-2379
UNDER TWP. RD. 218
SEC. GUE-TUR-IR 77-(22.51)(0.00)

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
J.A.G.	R. H. P.	R.D.R.	7/9/64

47/47

GUE-TUS-IR 77-(22.51)(0.00) 4/4

Test Location No.	Station & Offset	Surface Elev.	Water Elev.	Piling	Hammer	Formula	Reference	Rod Condition
1	47+97, 12' RT. REAR ABUTMENT	1077.6'						GOOD
2	48+01, 12' LT. REAR ABUTMENT	1077.6'						GOOD
3	48+46, 12' RT. REAR PIER	1072.1'						GOOD
4	48+50, 12' LT. REAR PIER	1072.4'						GOOD
5	49+16, 12' RT. CENTER PIER	1070.5'						GOOD
6	49+20, 12' LT. CENTER PIER	1070.6'						GOOD
7	49+86, 10' RT. FORWARD PIER	1070.9'						GOOD
8	49+90, 12' LT. FORWARD PIER	1070.3'						GOOD
9	50+35, 12' RT. FORWARD ABUTMENT	1072.1'						GOOD
10	50+39, 12' LT. FORWARD ABUTMENT	1072.0'						GOOD

Each plot is marked "TEST ROD" at the end of its trace.

Elevation scale: 1077, 1073, 1069, 1065, 1061, 1057, 1053, 1049, 1045

10 20 30 40 50 60 70 80 90 100

Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY TESTING LABORATORY

1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. GUE-IR 77-2379

UNDER TWP. RD. 218

SEC. GUE-TUS-IR 77-(22.51)(0.00)

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.H.P.	R.D.R.	7/9/64