

# STATE OF OHIO

## DEPARTMENT OF HIGHWAYS

### CAR-39-(27.35-27.38)

### CARROLL COUNTY

### FOX TOWNSHIP

S-426 (5)

FED. RD. DIVISION	STATE	PROJECT	1/51
2	OHIO	S-426(5)	

CAR-39-(27.35-27.38)

MAR 6 1952  
GROUND PHOTOLAB

#### CONVENTIONAL SIGNS

COUNTY LINE	-----
TOWNSHIP LINE	-----
SECTION LINE	-----
CORPORATION LINE	-----
PROPERTY LINE	-----
CENTER LINE	-----
FENCE LINE	-----
POLE LINE	-----
RAILROAD	-----
GUARD RAIL	-----
DRAIN PIPE	-----
Telephone & Electric	-----
Old	-----
New	-----

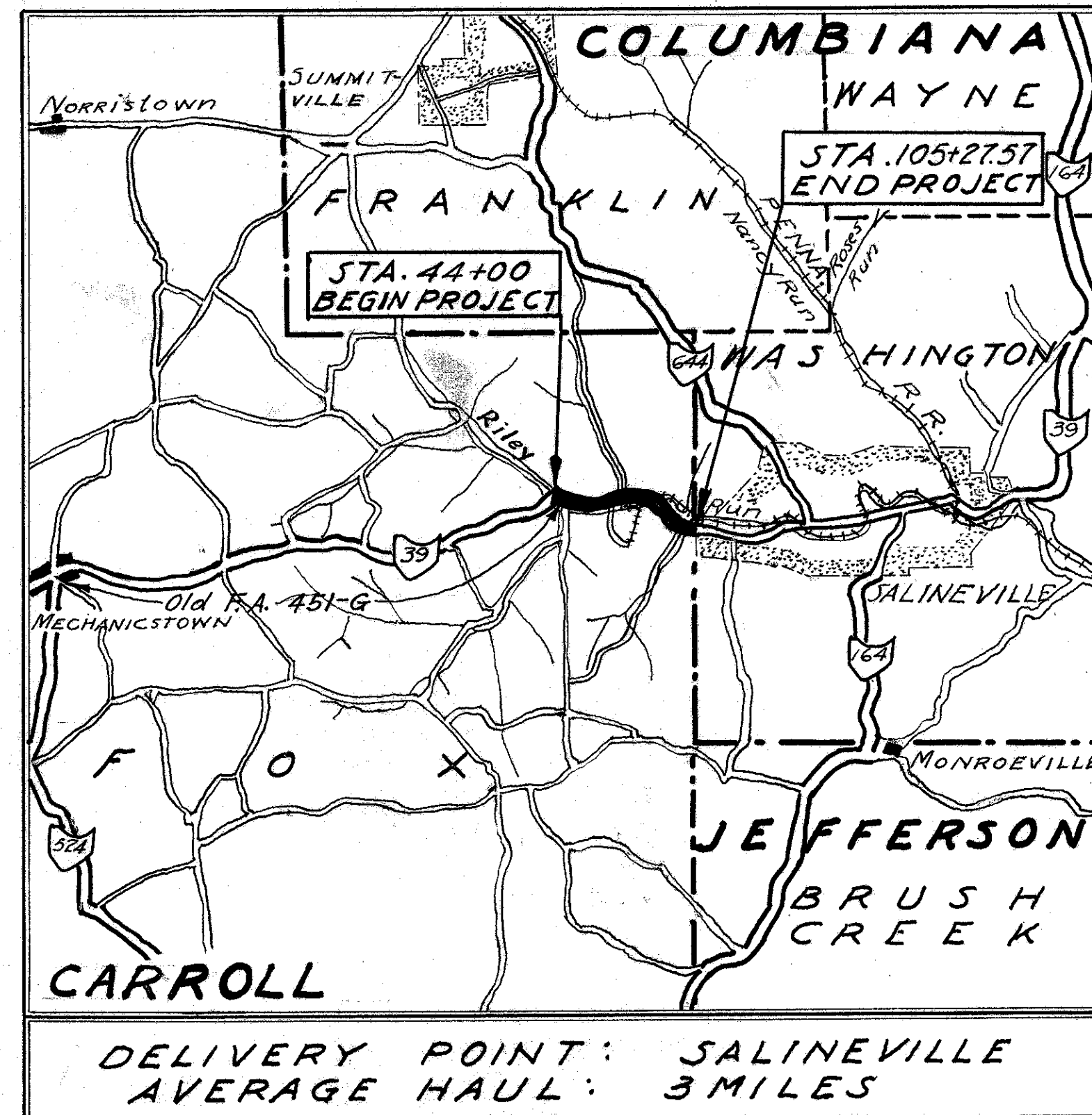
#### INDEX OF SHEETS

TITLE PAGE	SHEET	1
TYPICAL SECTIONS	"	2
DETAILS AND GENERAL NOTES	"	3-4
SUMMARY OF QUANTITIES	"	4-5
PLAN AND PROFILE	"	6-11
CURVE TABLES	"	12-13
CROSS SECTIONS	"	14-25
APPROACH DETAILS	"	26-30
DRAINAGE DETAILS	"	31-39
CHANNEL CHANGE	"	40-42
RIGHT OF WAY	"	43-47
STRUCTURE OVER 20' SPAN	"	48-51

#### LINE DATA

BEGIN PROJECT S-426 (5) STA. 44+00  
 END PROJECT S-426 (5) STA. 105+27.57  
 DEDUCT FOR R.R. CROSSING (SEE SHEET 9) 10 LIN. FT.  
 NET LENGTH OF PROJECT S-426 (5) = 6117.57 LIN. FT. OR 1.158 MILES

BEGIN WORK STA. 41+50  
 END WORK STA. 105+27.57  
 DEDUCT FOR R.R. CROSSING 10 LIN. FT.  
 NET LENGTH OF WORK = 6367.57 LIN. FT. OR 1.205 MILES



#### LOCATION PLAN

Scale: 1"=1 Mile

PORTION TO BE IMPROVED  
 STATE HIGHWAYS   
 OTHER ROADS

#### SCALES

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

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

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

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

Approved W.E. Quicksall  
 Date 1-15-58 Division Deputy Director

Approved B.H. Mahewess  
 Date 2-7-57 Deputy Director of Planning and Programming

Approved M. Overman  
 Date 2-5-58 Engineer of Bridges

Approved R.E. Shultz  
 Date 2-6-58 Engineer of Location and Design

Approved R.E. Masteter  
 Date 1-6-58 Deputy Director of Design and Construction

Approved \_\_\_\_\_  
 Date \_\_\_\_\_ First Assistant Director

Approved George J. Sherman  
 Date 2/7/58 Acting Director of Highways

MAR 6 1952  
GROUND PHOTOLAB

DEPARTMENT OF COMMERCE  
 BUREAU OF PUBLIC ROADS

APPROVED:

DIVISION ENGINEER

DATE

File No	CAR-39-(27.35-27.38)
Date of Letting	195
Contract No	

STANDARD DRAWINGS					
DR-1	1-3-55	L-1	4-1-50	AS-1-54	12-1-54
G-7.07	6-1-56	L-3	4-1-50	CS-1-54(2 sheets)	7-16-56
I-1,2,3,4,5	2-20-45	L-3-A	4-1-50		
I-8,C.B.23,42,4	5-1-52	RI-1	1-3-55		
I-14 G.	1-22-52	S-27 P.C.3	2-20-45		
I-15 No.1	8-1-55	S-27 P.C.A	1-4-54		
I-15 No.2	6-1-57	T-35	1-2-56		
I-15 No.2-A	6-1-57	SP-53	7-21-53		

SUPPLEMENTAL SPECIFICATIONS	
E-101	1-1-57
S-119	Rev. 8-11-57

# TYPICAL SECTIONS

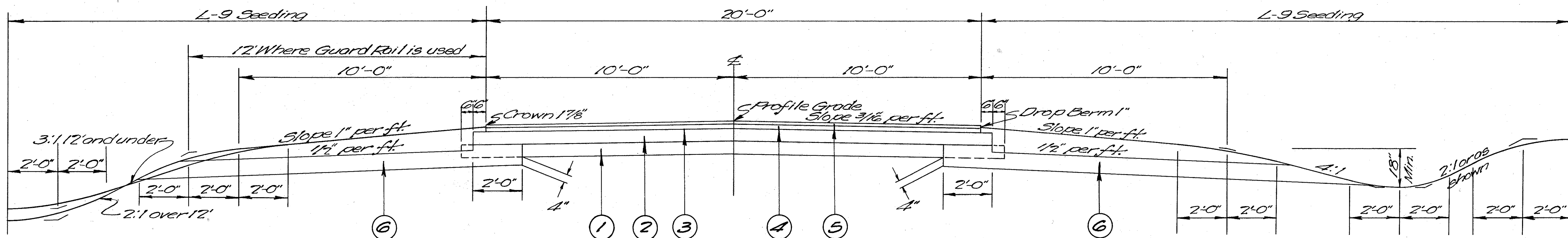
## TYPE T-35 ON B-119

Scale 1/2" = 1'-0"

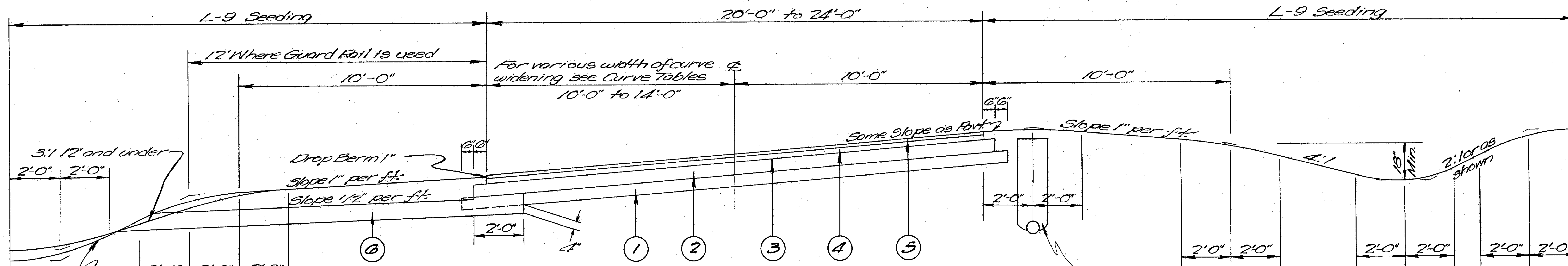
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

2  
51

CAR-39-(27.35-27.38)



STA. 88+50 TO STA. 89+50 = 100 LIN. FT.  
 STA. 103+75 TO STA. 105+27.57 = 152.57 LIN. FT.  
 252.57 LIN. FT.



STA. 44+00 TO STA. 75+63 = 3163 LIN. FT.  
 STA. 75+73 TO STA. 78+01.25 = 228.25 LIN. FT.  
 STA. 79+30.75 TO STA. 88+50 = 919.25 LIN. FT.  
 STA. 89+50 TO STA. 103+75 = 1425 LIN. FT.  
 5735.50 LIN. FT.

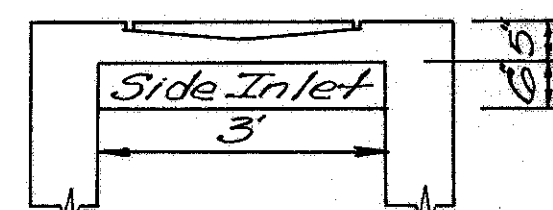
6" Pipe Underdrain where shown on Plans.  
 (For treatment of underdrains on normal sections and low side of super-elevated sections, see Sheet 3)

### - KEY -

- ① Item I-22-6" Subbase.
- ② Item B-119-6" Crushed Aggregate Base Course.
- ③ Item T-30 - Bituminous Prime Coat, using 0.35 gal. per sq. yd.
- ④ Item B-35-2 1/2" Asphaltic Concrete Leveling Course (85-100).
- ⑤ Item T-35-1 1/2" Asphaltic Concrete Surface Course, Type "A"; (85-100).
- ⑥ Item I-9 - Stone Underdrains, No 2, as per plan

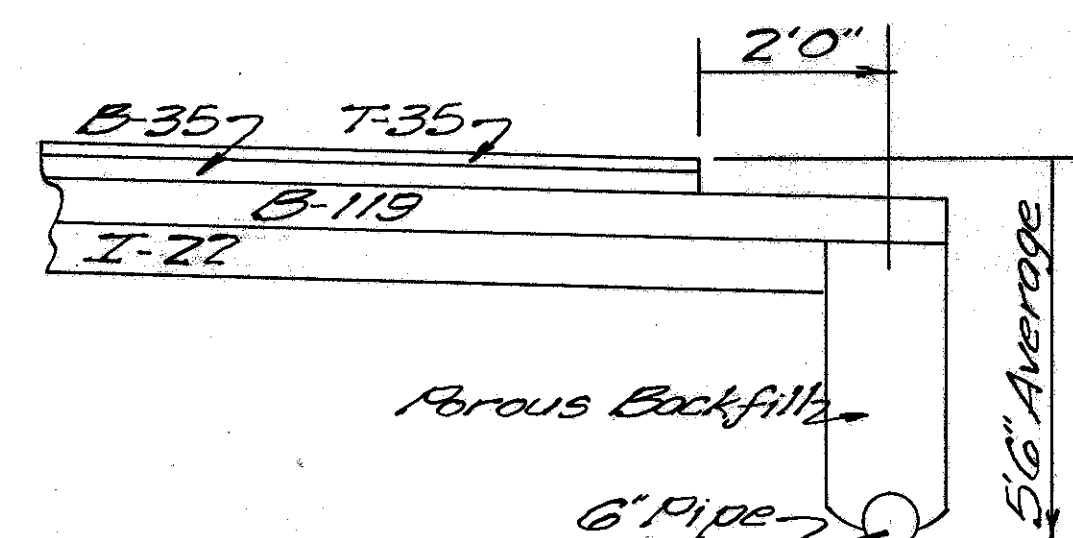
# DETAILS AND GENERAL NOTES

## DETAIL No. 2-3 CATCH BASIN MODIFIED



Side inlet shall be 3'0" X 6" and shall be placed on uphill side except where otherwise noted on plans. Floor standard ditch from 2' to 3' within 10' of Catch Basin.

## DETAIL PIPE UNDERDRAIN



**TRAFFIC:** The Contractor shall maintain traffic at all times in accordance with the requirements of Sec. G-7.07 and Item 5-15. The length of one way traffic zones shall be kept to a minimum consistent with the requirements of the work. The Contractor shall maintain the existing pavement, roadway and structures while traffic is being maintained thereon. Temporary traffic lanes shall be surfaced with Traffic Bound Material, treated with Calcium Chloride, and the surface maintained daily in a manner satisfactory to the Engineer. Two way traffic lanes shall be surfaced with aggregate at least 20 feet wide and one way traffic lanes shall have the surface aggregate not less than 12 feet wide. Maximum use shall be made of the existing pavement for traffic maintenance, holding the length and duration of use of temporary traffic lanes to a minimum. Payment for constructing, maintaining and removing temporary traffic lanes and for all other items required for the maintenance of traffic, except those provided under Items 5-15, shall be included in the lump sum bid for "Maintaining Traffic."

### CHANNEL EXCAVATION:

Where channel excavation is carried through a proposed pipe structure site, additional excavation required to obtain a suitable foundation for the structure shall be measured and paid for as Item E-3, Channel Excavation.

**DESIGN SPEED:** The geometrics for this project have been planned for a design speed of 50 M.P.H.

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

**FIELD OFFICE:** The contractor shall provide a suitable field office in accordance with section S-0.01(b) having a minimum floor area of 300 sq. ft. The contractor shall have a telephone installed and maintained during the construction of this project.

**UTILITIES:** Any and all work required for removing, relocating and constructing new facilities for private or public utilities will be done by and at the expense of their respective owners unless otherwise noted on the Plans.

**REMOVAL OF TREES AND STUMPS:** The number and size of trees and stumps shown below for removal under the construction as detailed on these plans are as nearly correct as available information permits. The State of Ohio will not be responsible for any variations found during construction. The lump sum bid for Item E-9, removal of trees and stumps, shall constitute full payment for this item and no additional compensation will be allowed. The number and size of trees and stumps are estimated below.

12" to 18"	33
18" to 24"	10
24" to 30"	9
30" to 36"	3
36" to 42"	5

**COMPACTED SUBGRADE:** The subgrade under B-119 material used on drives and mail box approaches shall be compacted for a depth of 6 inches to the density requirements in Table III, Item E-10. Payment for subgrade compaction, as specified above, shall be included in the unit price bid for Item E-10, Roadway Excavation.

**STONE UNDERDRAINS:** No. 2 Stone Underdrains shall be constructed at intervals not to exceed 100 feet on both sides of pavement on tangents and on the low side of pavement on curves, except where pipe underdrain is used. Additional underdrains may be required and shall be constructed at locations determined by the Engineer. An estimated quantity of 1000 lin. ft. has been included in the General Summary. In the final finishing of slopes and ditches care shall be exercised to assure that the exposed edges of the underdrain will be left free of earth cover that would impede free drainage.

### ESTIMATED QUANTITIES:

Specific locations and usage of estimated quantities set up on these plans to be used "where directed by the Engineer" shall be made a matter of record by incorporation into the final change order governing construction of this project.

**SEEDING:** Quantities for seeding are calculated for the soil areas within the work limits as shown on the cross sections. Seeding shall not be used on areas where rock or hard shale is encountered in cut slopes or where fill slopes are composed of rock. The existing road right of Sta. 56+50 to Sta. 61+20, left of Sta. 62+50 to Sta. 67+00, left of Sta. 75+50 to Sta. 83+50 left of Sta. 90+00 to Sta. 94+50 and left of Sta. 95+00 to Sta. 102+50 shall be plowed, harrowed and dragged to a smooth grade and the entire area left in a neat condition for seeding. Cost of this work shall be included in the unit price bid per square yard for Item L-9, Seeding and Protecting.

**ITEM 5-15, MODIFIED TRAFFIC COMPACTED MATERIAL:** This item shall consist of furnishing No. 3 or No. 3A aggregate in lieu of the grading specified under Item T-10. All other provisions of Item 5-15 shall apply. The unit prices bid for Items 5-15 shall include the cost of maintaining the aggregate beyond the limits of the temporary runaround.

**GUARD RAIL REMOVED AND DISPOSED OF:** Existing guard rail left of Sta. 43+68 to Sta. 44+58 and right of Sta. 43+77 to Sta. 45+47 shall be removed. Existing end finishes shall be carefully dismantled and reset at the ends of the guard rails to remain. All other removed materials at the above locations shall become the property of the Contractor and shall be disposed of by him. Payment for all of the above shall be included in the unit price bid for Item I-15, Guard Rail Removed and Disposed of.

**GUARD RAIL REMOVED AND STORED:** All existing guard rail from Sta. 57+60 to Sta. 105+23 shall be removed and stored in accordance with Sec. I-15.08. The end finish on the existing rail left of Sta. 101+82 shall be carefully dismantled and reset left of Sta. 105+23. The remainder of the rail elements, joints, brackets and hardware shall be carefully stored on the right of way as directed by the Engineer and left for disposal by State Forces. All other removed guard rail materials between the above limits shall become the property of the Contractor and shall be disposed of by him. Payment for all of the above shall be included in the unit price bid for Item I-15, Guard Rail Removed and Stored.

**PART WIDTH CONSTRUCTION:** Where necessary for the satisfactory maintenance of traffic, pavement shall be constructed part width at a time. Care shall be exercised to prevent the construction of a butt joint on centerline in B-119 and I-22 courses. This shall be accomplished by building the B-119 and I-22 courses, placed with the first portion of the pavement built, to extend at least 18 inches beyond the centerline and by surfacing no closer than 18 inches to this edge. When the second portion of the pavement is built, a 12 inch width of the projecting courses shall be broken down and thoroughly keyed in with the newly placed corresponding courses in the second portion of the pavement. All additional costs shall be included in the unit prices bid for the pertinent pavement items.

# SUMMARY OF QUANTITIES

## PAYEMENT CALCULATIONS

Net Length of Pavement = 5988.07 Lin. Ft.  
 Area of Pavement  $5988.07 \times 20 \div 9 = 13307$  Sq. Yds.  
 Curve Widening = 775  
 Total Area of Pavement = 14,082 Sq. Yds.

Item E-10, Subgrade Compaction  
 Pavement Area + Approach Slabs  $14082 + 111 = 14,193$  Sq. Yds.

Item I-22  
 $5988.07 \times 22 \times 0.5 \div 27 = 2440$  Cu. Yds.  
 Curve Widening  $775 \times 6 \div 36 = 129$  Cu. Yds.  
 Approach Slabs  $50 \times 22 \times 0.5 \div 27 = 20$  Cu. Yds.  
 Add for Extension of Underdrains = 5 Cu. Yds.  
 Total I-22 = 2,594 Cu. Yds.

Item B-119  
 $5988.07 \times 21 \times 0.5 \div 27 = 2329$  Cu. Yds.  
 Curve Widening  $775 \times 6 \div 36 = 129$  Cu. Yds.  
 Add for Extension of Underdrains = 30 Cu. Yds.  
 Total B-119 = 2,488 Cu. Yds.

Item T-30  
 $5988.07 \times 21 \div 9 = 13972 \times 0.35 = 4890$  Gals.  
 Curve Widening  $775 \times 0.35 = 271$  Gals.  
 Total T-30 = 5,161 Gals.

Item B-35  
 $14082 \times 24 \div 36 = 978$  Cu. Yds.

Item T-35  
 $14082 \times 11 \div 36 = 587$  Cu. Yds.

Item S-15 for Maintaining Traffic  
 Estimated Length including Temporary Ramparound = 4500 Lin. Ft.  
 Total S-15  $4500 \times 133 \div 100 = 5985$  Use 6,000 Cu. Yds.

Item S-15 Calcium Chloride  
 $6000 \div 50 = 120$  Tons

## EARTHWORK AND SEEDING

Station		Excav.	Emb.	Seeding	Fertilizer	Lime
From	To	Cu. Yds.	Cu. Yds.	Sq. Yds.	Lbs.	Lbs.
41+50	105+27.57	117,128	33,858	68,853	12,394	61,968
Grand Totals		117,128	33,858	68,853	12,394	61,968

Water for Embankment, I-22 and B-119  
 $(33,858 + 3,000 + 3,100) = 39,958 \times 5 + 1000 = 200$  M-Gals.

## GENERAL NOTES (CONTINUED)

### PAVED BITUMINOUS COATED ITEM 5-28 STRUCTURES

The sectional corrugated metal structures shall be shop coated and field paved in accordance with Sec. M-6.4(d).

Results obtained from the field paving shall meet the satisfaction of the Engineer. The bituminous paving may consist of an acceptable mixture of hot sand and Sec. M-5.1 Asphalt Cement, spread and compacted to the satisfaction of the Engineer, forming a smooth, durable pavement having a minimum average thickness of approximately one inch over the inside crests of the corrugations.

After installation of the structures, damaged or worn spots in the bituminous coating on the inside of the structures shall be re-coated using materials and methods recommended by the manufacturer and as directed by the Engineer.

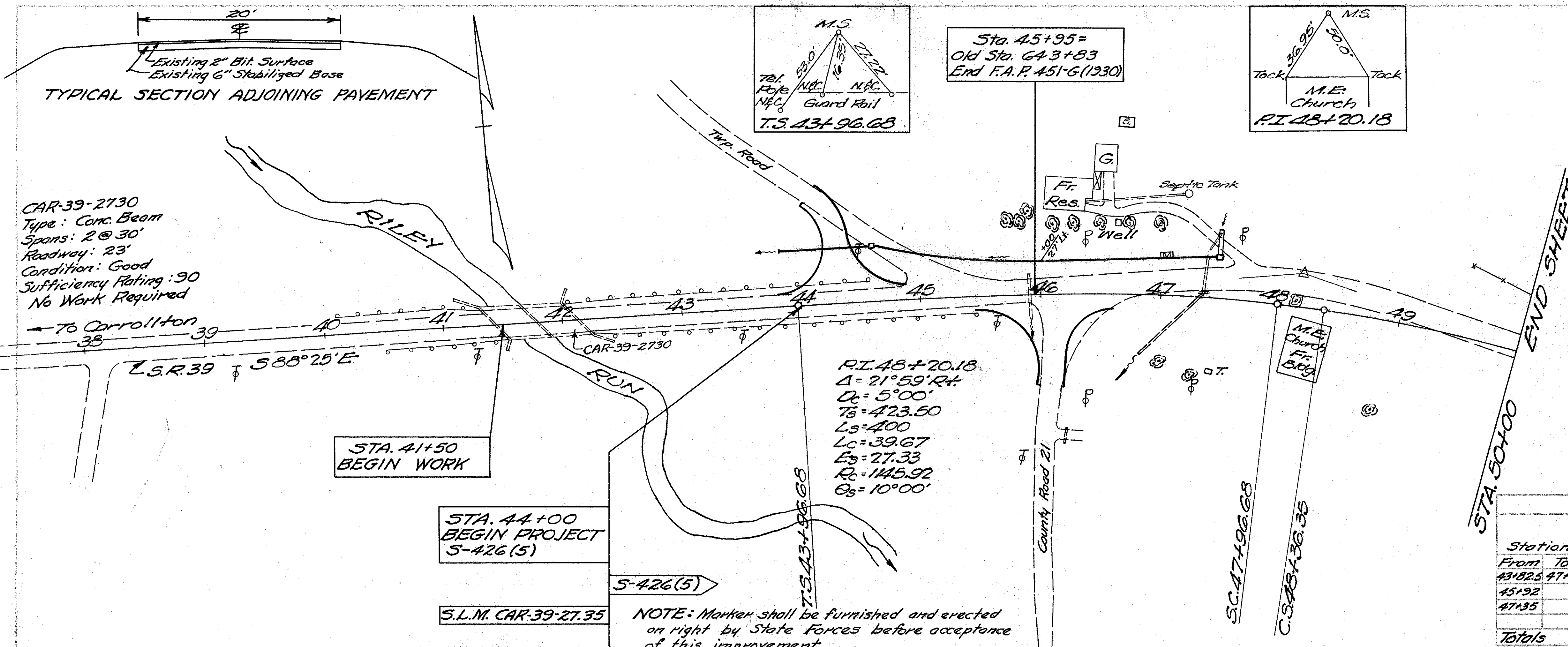
Payment for all of the above is included in the unit prices bid for the Item 5-28 Structures.

★ Extra Quantities to be used where directed by the Engineer.

# GENERAL SUMMARY

Carried from Sheet No.																						★	CODE TYPE G201	DESCRIPTION		
3	4	6	7	8	9	10	11	26	27	28	29	31	32	33	34	35	36	37	38	39		ITEM	QUANTITY	UNIT	ROADWAY	
	117,128																						E-101	117,128	Cu.Yds.	Roadway Excavation, as per Plan.
	14,133							535	635	279	594												E-101	16,236	Sq.Yds.	Compacted Subgrade.
Lump	200																						E-9	Lump	Lump	Removal of Trees and Stumps.
																							E-11	200	M-Gals.	Water.
	260																						I-15	260	Lin.Ft.	Guard Rail Removed and Disposed of, as per Plan.
		495	630	965	230	345																	I-15	2,665	Lin.Ft.	Guard Rail Removed and Stored, as per Plan.
		375		441	325	225																	I-15	1,366	Lin.Ft.	Guard Rail, Steel Beam Standard Type (Deep) as per Standard Drawing I-15 No. 2-A.
	68,853																						L-9	68,853	Sq.Yds.	Seeding and Protecting, as per Plan.
	6.20																						L-9	6.20	Tons	Commercial Fertilizer (12-12-12).
	30.98																						L-9	30.98	Tons	Agricultural Liming Materials.
	120																						S-15	120	Tons	Furnishing and Applying Calcium Chloride.
	3,000																						S-15	3,000	Cu.Yds.	Furnishing and Placing Aggregate for Traffic Bound Surface Course.
	3,000																						S-15	3,000	Cu.Yds.	Furnishing and Placing Aggregate for Traffic Bound Surface Course, Modified as per Plan.
																							S-15	Lump	Lump	Temporary Run-around Bridge and Approaches.
																							<b>DRAINAGE</b>			
												43	74	77	93	105	142	82	53	58		E-2	727	Cu.Yds.	Excavation for Structures.	
												45	118		17	90	112	8				E-3	390	Cu.Yds.	Channel Excavation.	
	57						37	24	30														E-12	181	Lin.Ft.	Pipe Removed, 15" and Under.
	106								31	33						51							E-12	221	Lin.Ft.	Pipe Removed, Over 15".
																							I-1	124	Lin.Ft.	12" Pipe for Driveways, Sec. M-6.4 (a).
																							I-1	30	Lin.Ft.	15" Pipe for Driveways, Sec. M-6.4 (a).
	290																						I-2	290	Lin.Ft.	30" Class A Storm Sewers.
	76																						I-2	76	Lin.Ft.	30" Class A Storm Sewers under Pavement or Approaches.
																							I-4	1,200	Lin.Ft.	6" Underdrains.
																							I-4	20	Lin.Ft.	6" Pipe Outlets for Underdrains, Sec. M-6.4(h) without perforations
	2											1	1		1	2	1		2	1		I-8	11	Each	Standard No. 2-3 Catch Basins, Modified as per Plan.	
1,000																							I-9	1,000	Lin.Ft.	Stone Underdrains, No. 2, as per plan
																							I-10	35	Sq.Yds.	Riprap, Type A, Grout Filled.
																							I-10	71	Cu.Yds.	Dumped Rock Channel Protection.
	21																						I-14	150	Lin.Ft.	Standard Type 1 Paved Gutter.
																							I-14	230	Lin.Ft.	Standard Type 3 Paved Gutter.
	0.5											0.4	0.5	17.4		0.5	19.3	0.4	9.6			S-1	50.0	Cu.Yds.	Concrete for Structures, Class E.	
	4																						S-22	162	Cu.Yds.	Removal of Portions of Existing Structures.
																							S-27	47	Lin.Ft.	18" Pipe for Roadway Culverts.
																							S-27	427	Lin.Ft.	24" Pipe for Roadway Culverts.
																							S-27	208	Lin.Ft.	30" Pipe for Roadway Culverts.
																							S-28	114	Lin.Ft.	36" Sectional Corrugated Metal Structure, Sec. M-6.4(g)(d) 10-8 Gage, as per plan
																							S-28	84	Lin.Ft.	12'6"x7'11" Sectional Corrugated Metal Structure, Sec. M-6.4(g)(d) 8-7 Gage, as per plan
																							<b>PAVEMENT</b>			
	2,594																						I-22	3,000	Cu.Yds.	Subbase.
	2,488		15	25	52	68	55	94	112	52	107												B-119	3,100	Cu.Yds.	Crushed Aggregate Base Course.
	5161																						T-30	5,900	Gals.	Bituminous Prime Coat, Sec. M-5.2, RC-1 or RC-2 or Sec. M-5.7, RT-2 or RT-3.
	978																						B-35	1,122	Cu.Yds.	Asphaltic Concrete Leveling Course (85-100).
	587		0.8																				T-35	710	Cu.Yds.	Asphaltic Concrete Surface Course, Type A, (85-100).
																							I-7	111	Sq.Yds.	Reinforced Concrete Approach Slabs (T=13").

STRUCTURE OVER 20' SPAN  
CAR-39-2800 - See Street 49 for Quantities



**APPROACHES**

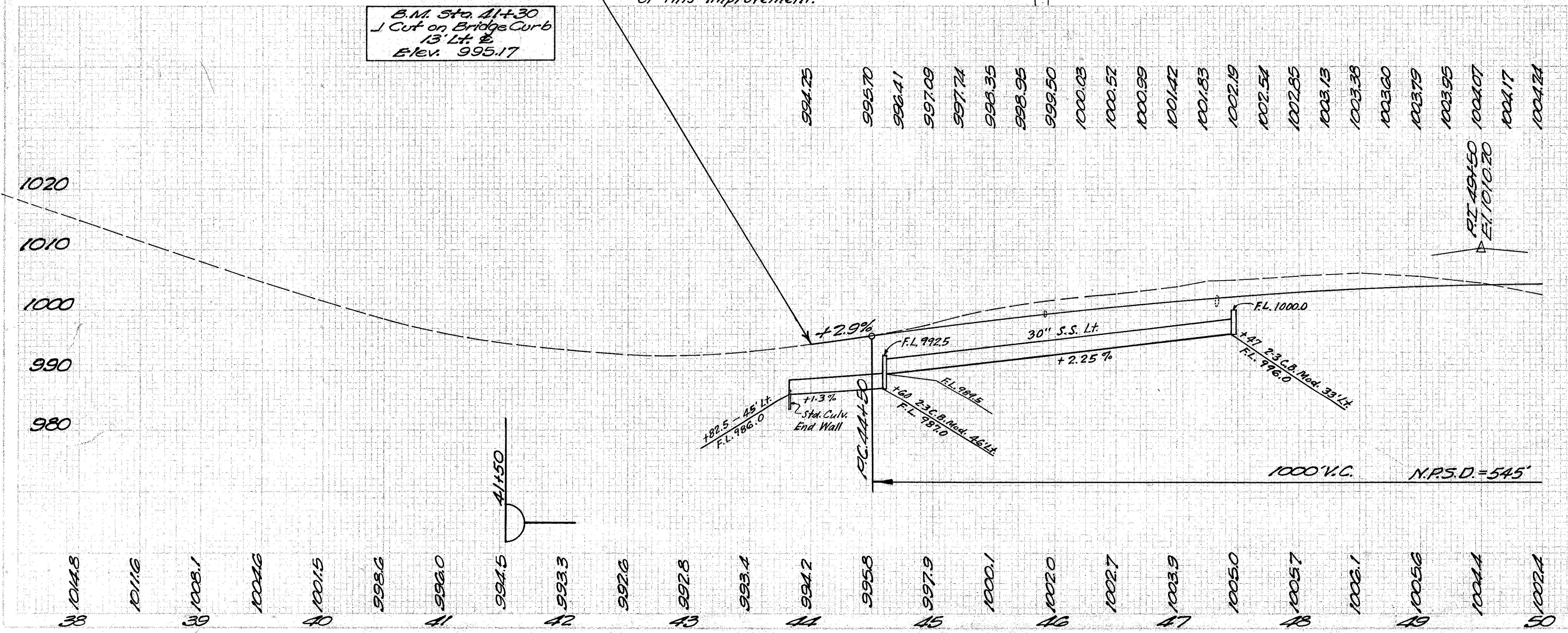
Station	Side	See Sheet	Remove 12" Pipe Lin. Ft.
44+30.08	Lt.	26	
46+15	Rt.	26	
47+45	Lt.	6	18
<b>Total</b>			<b>18</b>

**GUARD RAIL**

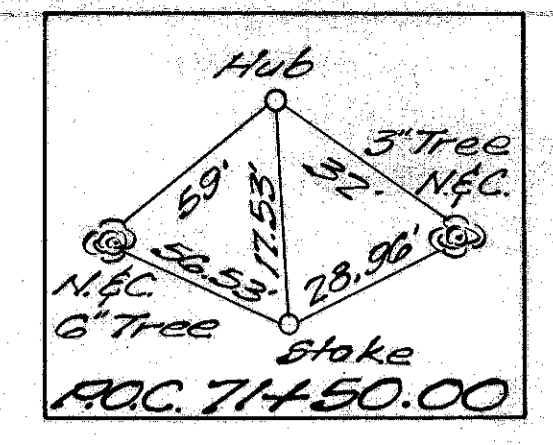
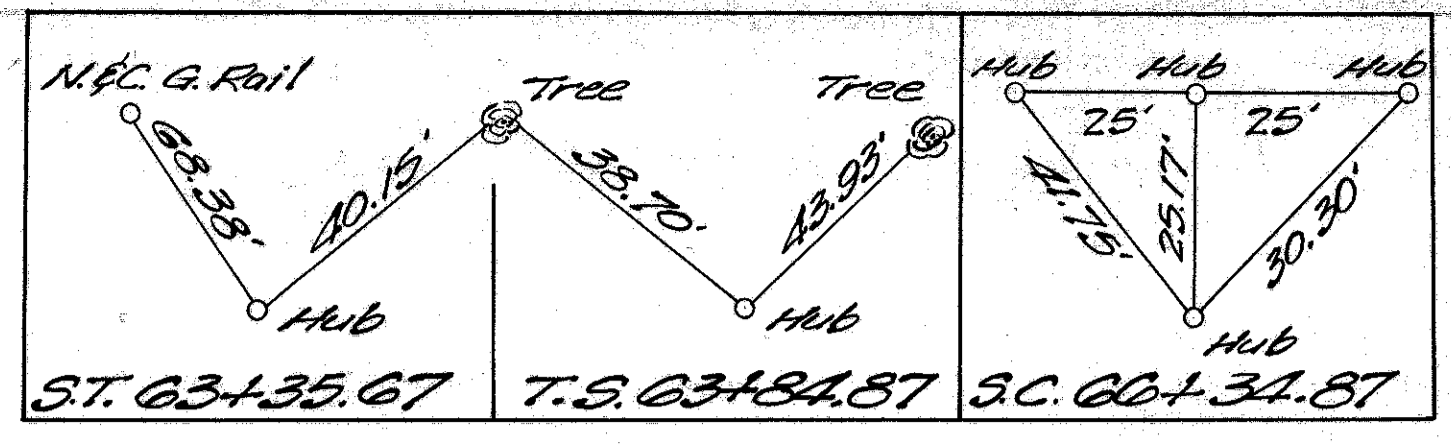
From Sta.	To Sta.	Side & See Sheet	Remove Lin. Ft.
43+68	44+58	Lt. 3+6	90
43+77	45+47	Rt. 3+6	170
<b>Total</b>			<b>260</b>

**DRAINAGE**

Station	Side	See Sheet	30" Class A St. Sewer Lin. Ft.		2-3 C.B. Mod. Ea.	Class E Conc. Cu. Yds.	Type 3 Gutter Lin. Ft.	Removals		
			Under Appk	76				12" Pipe Lin. Ft.	24" Head Pipe Lin. Ft.	Walls Cu. Yds.
43+82.5	Lt.	G	290	76	2	0.5	21	39	106	4
45+92	Rt.	G								
47+35	Rt.	G								
<b>Totals</b>			<b>290</b>	<b>76</b>	<b>2</b>	<b>0.5</b>	<b>21</b>	<b>39</b>	<b>106</b>	<b>4</b>

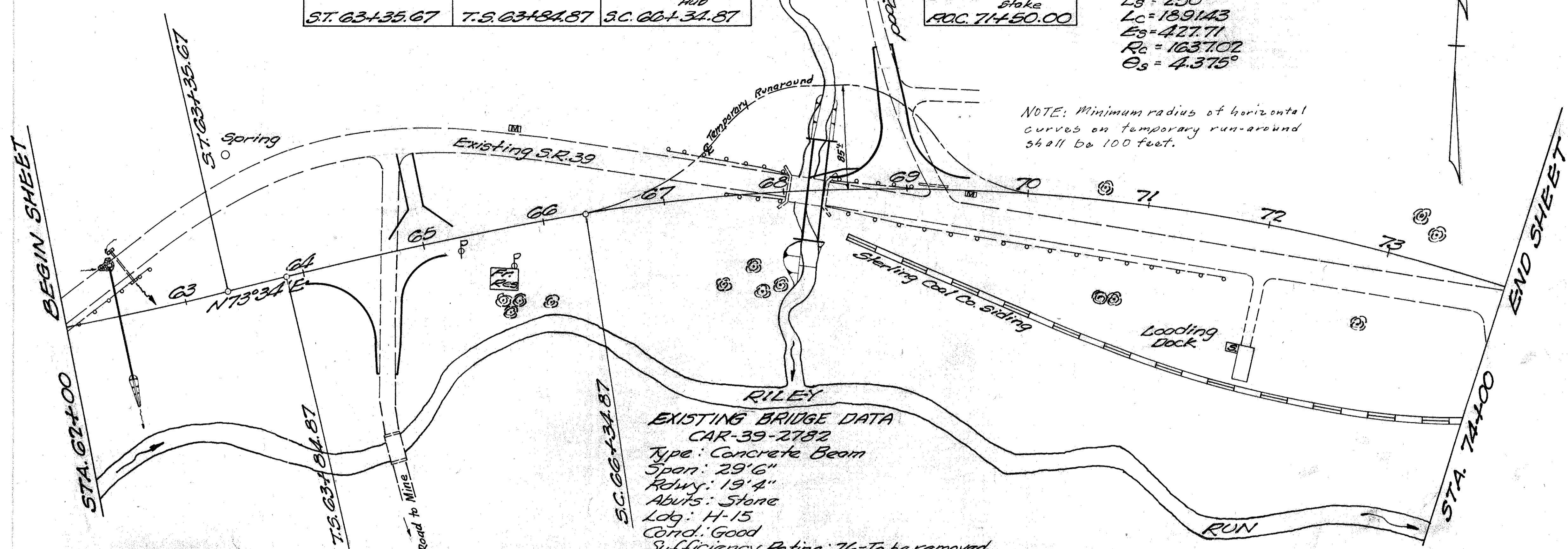






P.I. 71+66.06  
 $\Delta = 74^\circ 57' 14''$   
 $D_c = 3^\circ 30'$   
 $T_b = 1381.19$   
 $L_s = 250$   
 $L_c = 18.9143$   
 $E_s = 427.71$   
 $R_c = 163.702$   
 $\theta_s = 4.375^\circ$

NOTE: Minimum radius of horizontal curves on temporary run-around shall be 100 feet.



**EXISTING BRIDGE DATA**  
 CAR-39-2782  
 Type: Concrete Beam  
 Span: 29'6"  
 Rely: 19'4"  
 Abut: Stone  
 Ldg: H-15  
 Cond: Good  
 Sufficiency Rating: 76-To be removed

**APPROACHES**

Station	Side	See Sheet	B-119 Agg. Cu. Yds.	T-35 Surf. Cu. Yds.
64+75	Rt.	27		
65+00	Lt.	17	23	
68+58	Lt.	18	2	0.8
69+00	Lt.	27		
<b>Totals</b>			25	0.8

**GUARD RAIL**

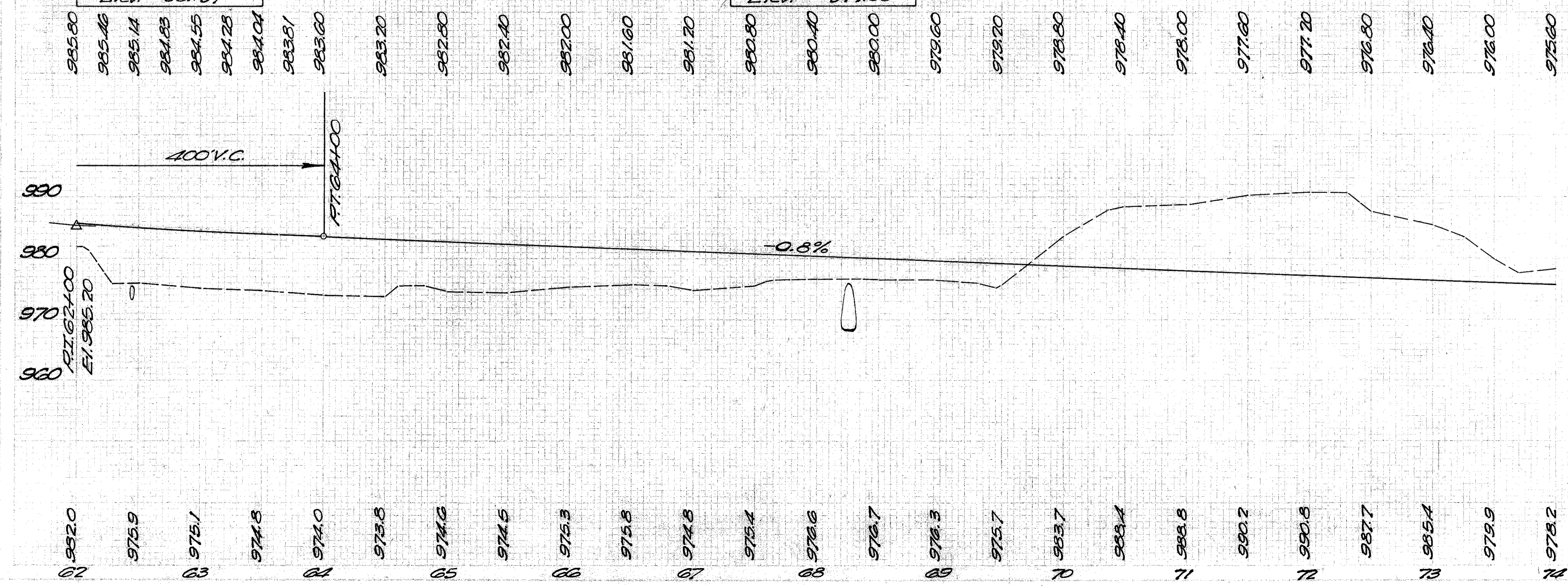
From Sta.	To Sta.	Side &	Remove - Lin. Ft.
62+00	62+77	R. & L.	85
67+10	69+04	Lt.	165
67+49	71+73	L. & R.	380
<b>Total</b>			630

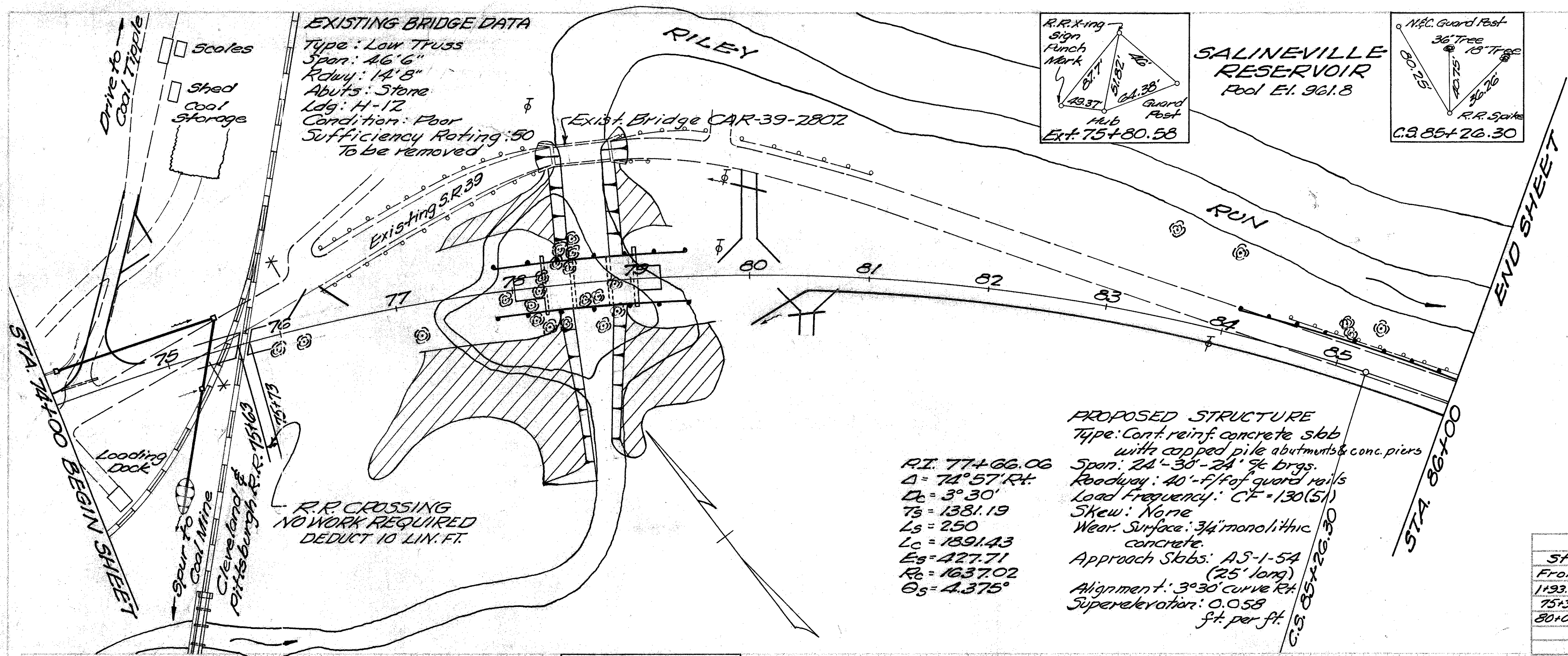
**DRAINAGE**

Station	See Sheet	Removals		New Work			
		Type	Size	Length	Type	Size	Length
62+45	32	Pipe	18"	33'	Pipe	30"	94'
68+26	33	C.B. Bridge	29'6" Span		Pipe Arch	12'6" x 7'11"	84'

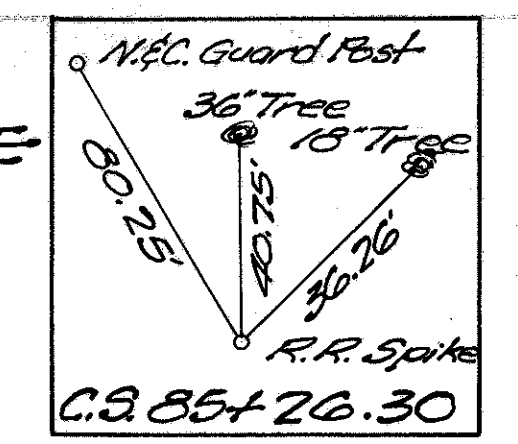
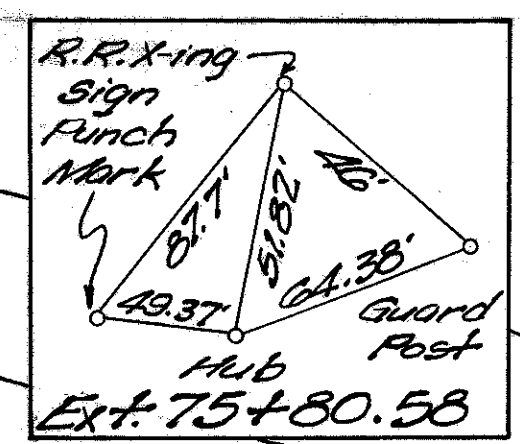
E.M. 316.62+50  
 1 Cut on Headwall  
 56' Lt. &  
 Elev. 981.57

E.M. 316.68+04  
 1 Cut on Bridge Curb  
 13' Lt. &  
 Elev. 977.00





**EXISTING BRIDGE DATA**  
 Type: Low Truss  
 Span: 46' 6"  
 Rdwy: 14' 8"  
 Abuts: Stone  
 Ldg: H-12  
 Condition: Poor  
 Sufficiency Rating: 50  
 To be removed



**PROPOSED STRUCTURE**  
 Type: Cont. reinf. concrete slab  
 with capped pile abutments & conc. piers  
 Span: 24'-30'-24' st brgs.  
 Roadway: 40'-ft of guard rails  
 Load Frequency: CF=130(5)  
 Skew: None  
 Wear Surface: 3/4" monolithic concrete  
 Approach Slabs: AS-1-54 (25' long)  
 Alignment: 3°30' curve Rt  
 Superelevation: 0.058 ft. per ft.

RI 77+66.06  
 Δ = 74°57' Rt.  
 Dc = 3°30'  
 Ts = 1381.19  
 Ls = 250  
 Lc = 1891.43  
 Es = 427.71  
 Rc = 1637.02  
 Os = 4.375°

**APPROACHES**

Station	Side	See Sheet	B-119 Aggr. Cu.Yds.	Pipe Lin. Ft.
74+22	Lt.	28		12" 15"
76+35	Lt.	19	12	
80+00	Lt.	20	24	30
80+50	Rt.	20	16	30
Totals			52	30 30

**GUARD RAIL**

From Sta.	To Sta.	Side	Remove-Lin. Ft.	New-Lin. Ft.
76+38	79+30	Lt.	250	
76+41	80+36	Lt.	410	
77+83.60	79+48.10	Rt.		* 83
77+85.88	79+46.42	Lt.		* 83
84+10	86+85	Lt.	305	275
Totals			965	441

\*79.5' for Bridge Railing has been deducted.

**DRAINAGE**

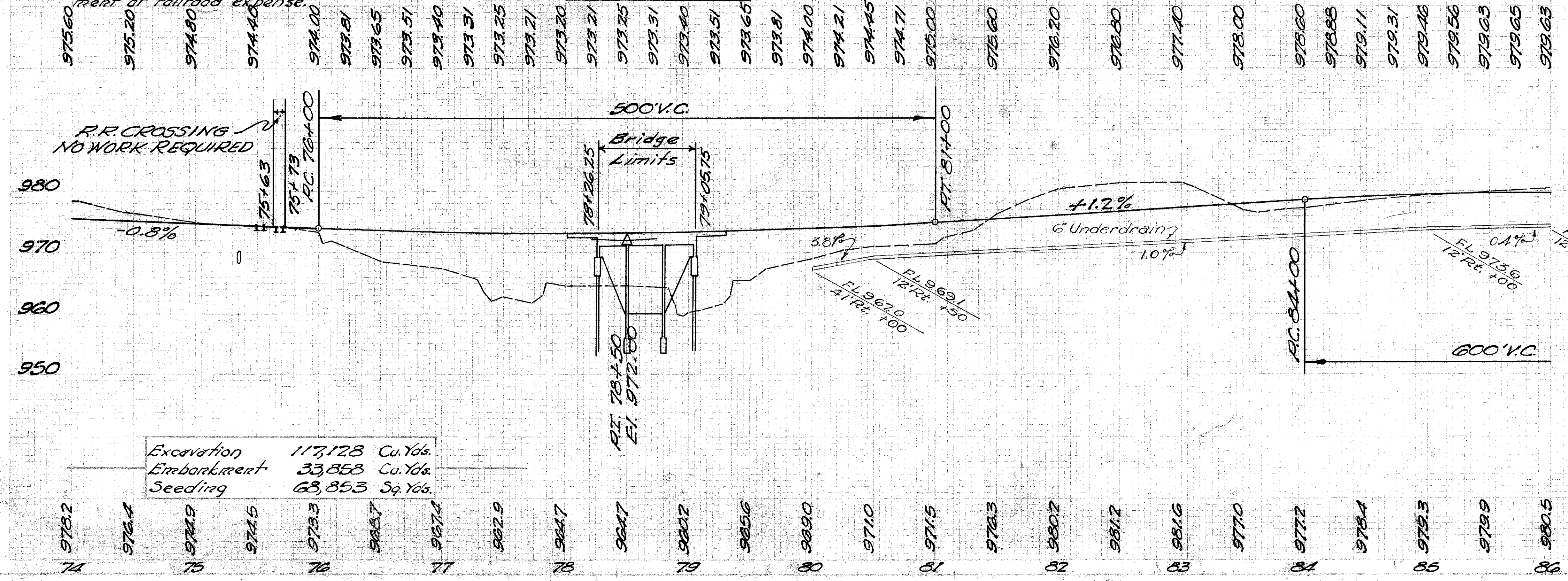
Station	Side	See Sheet	Lim. Ft.	New Culverts
From To	E	Sheet	6" U.D. 6" Outlet	Type Size Length
1+93.75		34		Pipe 24" 137
75+35		35		Pipe 24" 137
80+00	87+00	Rt. 9+10	694 10	
Totals			694 10	

**APPROACH SLABS**

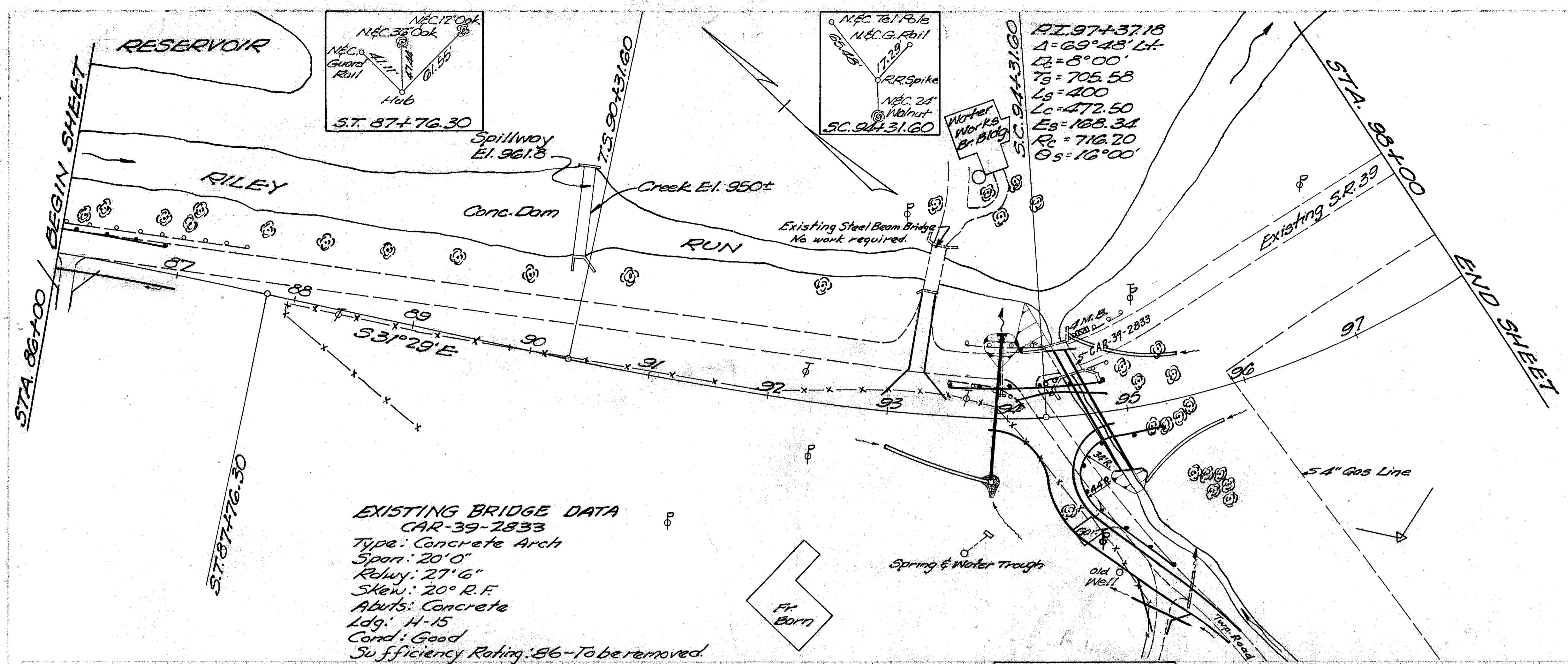
From Sta.	To Sta.	Sq. Yds.	Type
78+01.25	78+26.25	55.5	AS-1-54
79+05.75	79+30.75	55.5	AS-1-54
Totals		111	

NOTE: The Railroad Company will extend Crossing Pavement to 24 feet parallel to bird centered on highway centerline, move crossbucks and remove old crossing pavement at railroad expense.

B.M. Sta. 78+43  
 1' Cut on Bridge Abut.  
 35' Lt. E.  
 Elev. 970.01



Excavation 117,128 Cu.Yds.  
 Embankment 33,858 Cu.Yds.  
 Seeding 68,853 Sq.Yds.



**EXISTING BRIDGE DATA**  
 CAR-39-2833  
 Type: Concrete Arch  
 Span: 20' 0"  
 Relly: 27' 6"  
 Skew: 20° R.F.  
 Abutts: Concrete  
 Ldg: H-15  
 Cond: Good  
 Sufficiency Rating: 86 - To be removed.

**APPROACHES**

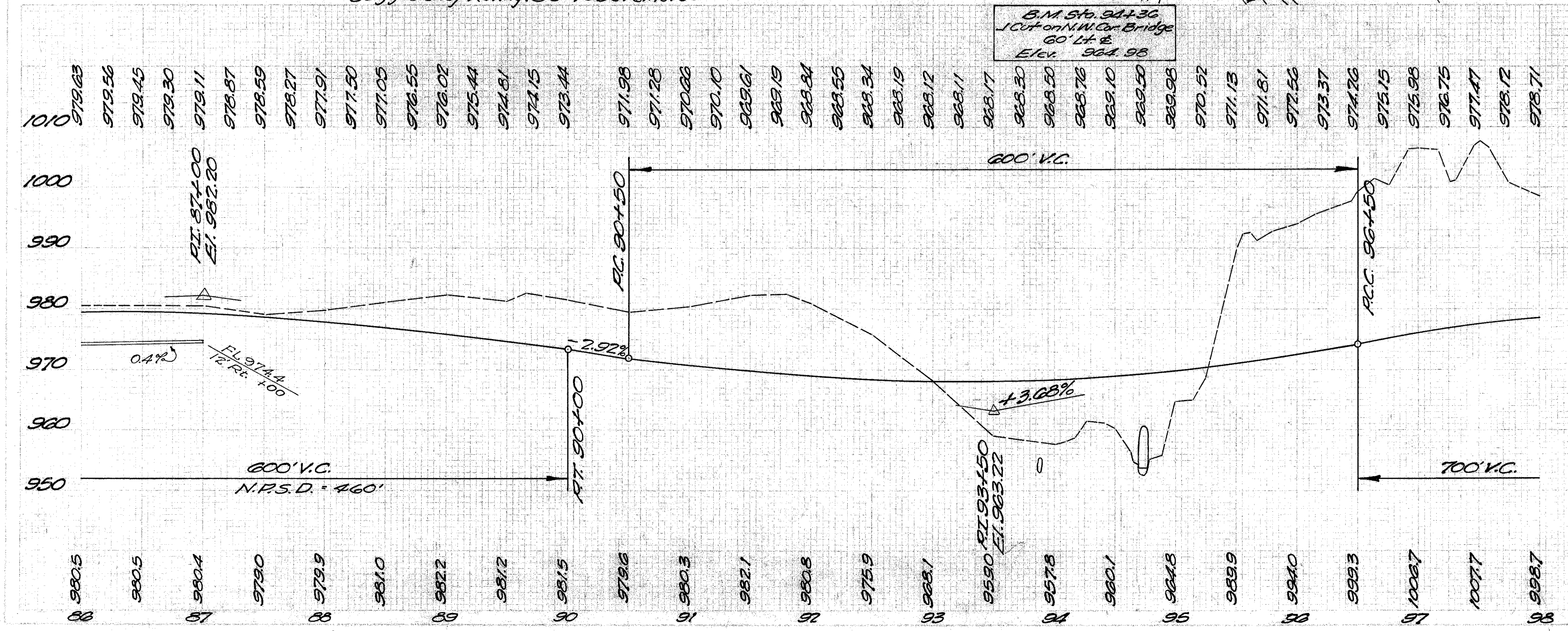
Station	Side	See Sheet	B-119 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds.	12" Pipe Lin. Ft.
86+10	Rt.	21	17		
93+20	Lt.	22	33	9.3	
94+40	Lt.	22	5	2	
94+40	Rt.	29			
1+30	Rt.	30	13	5	50
<b>Totals</b>			<b>68</b>	<b>16.3</b>	<b>50</b>

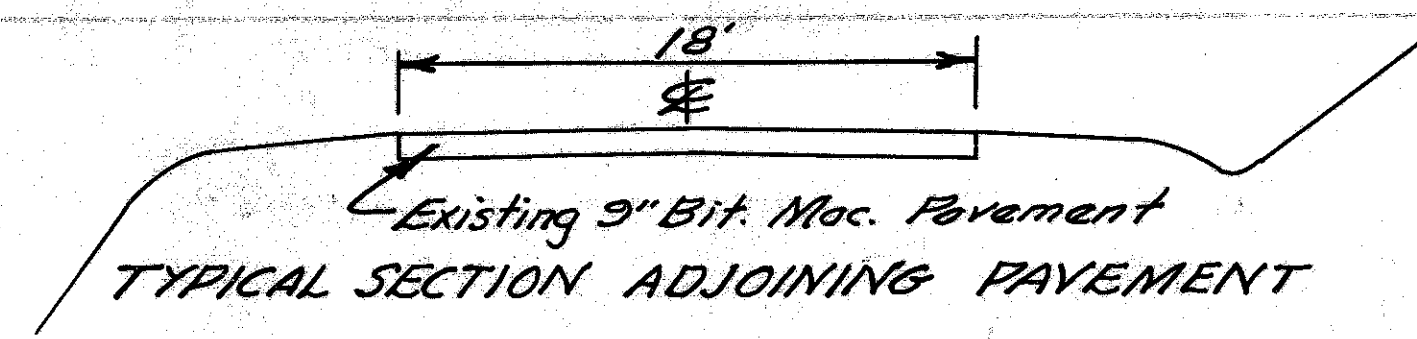
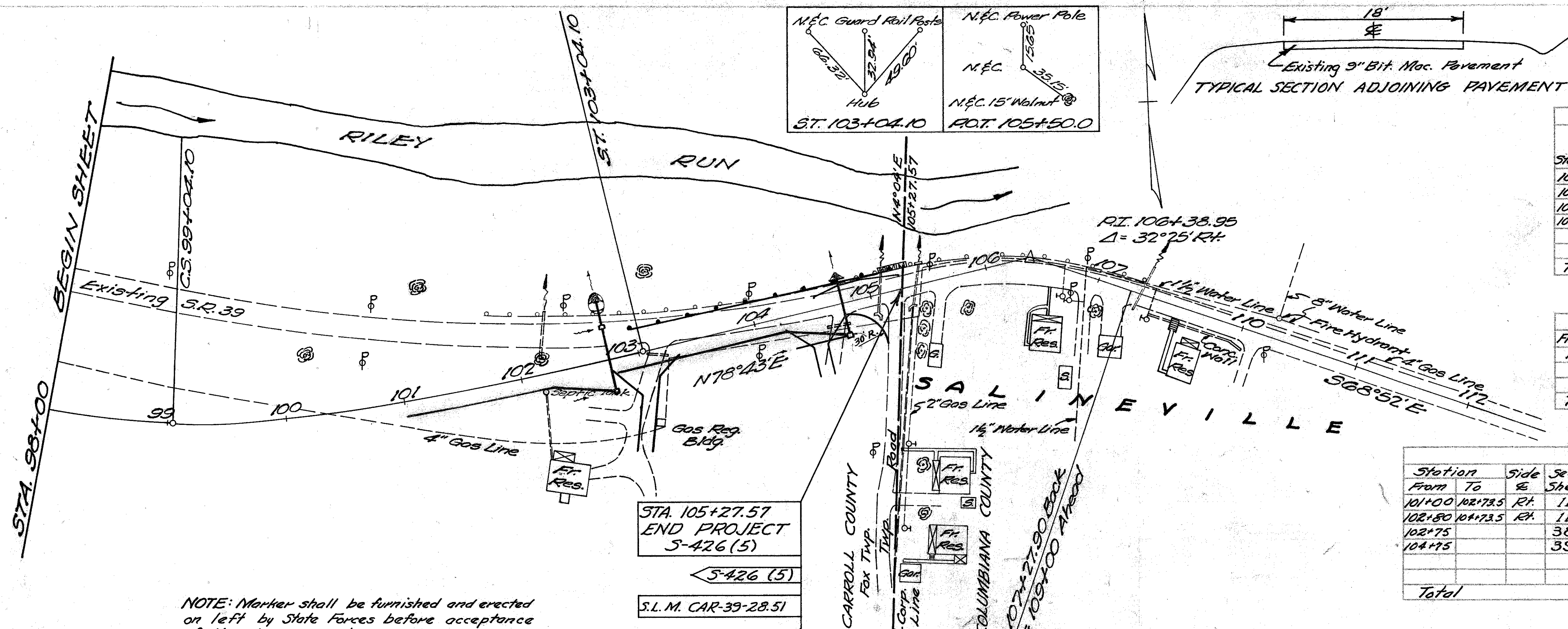
**GUARD RAIL**

From Sta.	To Sta.	Side	Remove - Lin. Ft.	New - Lin. Ft.
93+50	94+75	Lt.	115	125
93+56	95+13	Lt.	115	
1+77± on Appr.	95+25±	L. & R.		200
<b>Totals</b>			<b>230</b>	<b>325</b>

**DRAINAGE**

Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
93+90	36	Pipe	18"	51'	Pipe	30"	114'
94+73	37	Conc Arch	20' Span		Pipe	96"	114'





**APPROACHES**

Station	Side	See Sheet	B-119 Aggr. Cu. Yds.	F-35 Surf. Cu. Yds.	12\"/>	
103+15	Rt.	25	21	8.4	17	
104+50	Rt.	25	17		44	
104+85	Lt.	25	5	2	20	
105+22	Rt.	25	12			
<b>Totals</b>			<b>55</b>	<b>10.4</b>	<b>44</b>	<b>37</b>

**GUARD RAIL**

From Sta.	To Sta.	Side	Remove - Lin. Ft.	New - Lin. Ft.
102+98	105+23	Lt.	345	225
<b>Totals</b>			<b>345</b>	<b>225</b>

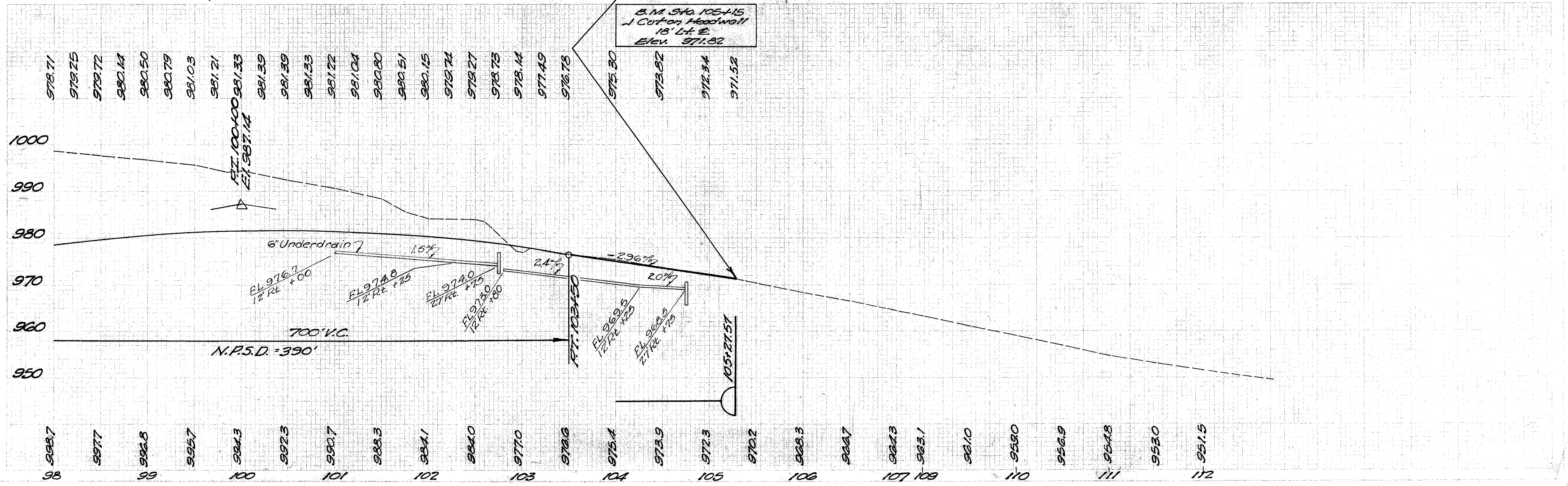
**DRAINAGE**

Station From To	Side	See Sheet	6\"/>			
101+00-102+75	Rt.	11	177			
102+80-104+73.5	Rt.	11	195			
102+75		38		Stone Box 18\"/>		
104+75		39		H'wall	Pipe 18\"/>	
<b>Total</b>			<b>372</b>			

NOTE: Marker shall be furnished and erected on left by State Forces before acceptance of this improvement.

STA. 105+27.57  
 END PROJECT  
 S-426 (5)  
 S.L.M. CAR-39-28.51

B.M. STA. 105+15  
 Cut on Headwall  
 18' Lt. E  
 Elev. 971.82



# CURVE TABLES

T.S. 43+96.68 S.C. 47+96.68		D = 5°-00' Rt.		C.S. 48+36.35 S.T. 52+36.35			
Left Edge	Width	Add Super	STATION	± Grade	Deduct Crown	Width	Right Edge
			T.S. 43+96.68	994.15	10.00		
994.18	10.00		44+00	994.25	10.02	994.00	
995.08			+25	994.98	10.14	994.78	
995.91			+50	995.70	10.27	995.52	
996.73			+75	996.41	0.16	10.39	996.25
997.51			45+00	997.09	10.52	996.93	
998.27			+25	997.74	10.64	997.58	
998.98			+50	998.35	10.77	998.19	
999.68			+75	998.95	10.89	998.79	
1000.33			46+00	999.50	11.02	999.34	
1000.95			+25	1000.03	11.14	999.67	
1001.56			+50	1000.52	11.27	1000.36	
1002.13			+75	1000.99	11.39	1000.83	
1002.66			47+00	1001.42	11.52	1001.26	
1003.18			+25	1001.83	11.64	1001.67	
1003.65			+50	1002.19	11.77	1002.03	
1004.09			+75	1002.54	11.89	1002.38	
1004.43			S.C. 47+96.68	1002.81	12.00	1002.65	
1004.48			48+00	1002.85	12.00	1002.69	
1004.77		1.80'	+25	1003.13	12.00	1002.97	
1004.87			C.S. 48+36.35	1003.24	12.00	1003.08	
1004.96			+50	1003.38	11.93	1003.22	
1005.08			+75	1003.60	11.81	1003.44	
1005.17			49+00	1003.79	11.68	1003.63	
1005.23			+25	1003.95	11.56	1003.79	
1005.24			+50	1004.07	11.43	1003.91	
1005.24			+75	1004.17	11.31	1004.01	
1005.21			50+00	1004.24	11.18	1004.08	
1005.14			+25	1004.27	11.06	1004.11	
1005.04			+50	1004.28	10.93	1004.12	
1004.91			+75	1004.25	10.81	1004.09	
1004.76			51+00	1004.20	10.68	1004.04	
1004.57			+25	1004.11	10.56	1003.95	
1004.34			+50	1003.99	10.43	1003.83	
1004.10			+75	1003.85	0.16	10.31	1003.69
1003.82			52+00	1003.67	10.18	1003.55	
1003.52			+25	1003.46	10.06	1003.38	
1003.39			S.T. 52+36.35	1003.35	10.00	1003.32	
1003.22			+50	1003.22	10.00	1003.22	
1002.96	10.00		T.S. 52+69.0	1003.02	10.00	1003.07	
1002.88	10.06		+75	1002.95	10.00	1003.02	
1002.52	10.31		53+00	1002.65	10.00	1002.80	

T.S. 52+69.0 S.C. 56+69.0		D = 6°-00' Lt.		C.S. 59+35.67 S.T. 63+35.67			
Left Edge	Width	Deduct Crown	STATION	± Grade	Add Super	Width	Right Edge
1003.39	10.00		T.S. 52+69.0	1003.35	10.00	1003.32	
1003.22	10.00		+50	1003.22		1003.22	
1002.96	10.00		T.S. 52+69.0	1003.02		1003.07	
1002.88	10.06		+75	1002.95		1003.02	
1002.52	10.31		53+00	1002.65		1002.80	
1002.17	10.56		+25	1002.32		1002.58	
1001.79	10.81	0.16	+50	1001.95		1002.32	
1001.40	11.06		+75	1001.56		1002.05	
1000.98	11.31		54+00	1001.14		1001.74	
1000.52	11.56		+25	1000.68		1001.40	
1000.04	11.81		+50	1000.20		1001.03	
999.54	12.06		+75	999.70		1000.65	
999.04	12.31		55+00	999.20		1000.26	
998.54	12.56		+25	998.70		999.88	
998.04	12.81		+50	998.20		999.49	
997.54	13.06		+75	997.70		999.11	
997.04	13.31		56+00	997.20		998.72	
996.54	13.56		+25	996.70		998.34	
996.04	13.81		+50	996.20		997.95	
995.54	14.06		S.C. 56+69.0	995.82		997.64	
995.04			+75	995.70		997.53	
994.54			57+00	995.20	2.00'	997.04	
994.04			+25	994.70		996.54	
993.54			+50	994.20		996.04	
993.04			+75	993.70		995.54	
992.54			58+00	993.20		995.04	
992.04			+25	992.70		994.54	
991.54			+50	992.20		994.04	
991.04			+75	991.70		993.54	
990.54			59+00	991.20	2.00'	993.04	
990.04			+25	990.70		992.53	
989.54	14.00		C.S. 59+35.67	990.49		992.31	
989.04	13.86		+50	990.20		991.97	
988.54	13.61		+75	989.70		991.36	
988.04	13.36		60+00	989.20		990.74	
987.54	13.11		+25	988.71		990.14	
987.04	12.86		+50	988.24		989.55	
986.54	12.61		+75	987.78		988.98	
986.04	12.36		61+00	987.35		988.43	
985.54	12.11		+25	986.93		987.90	
985.04	11.86		+50	986.54		987.39	
984.54	11.61		+75	986.16		986.90	
984.04	11.36		62+00	985.80		986.42	
983.54	11.11		+25	985.46		985.98	
983.04	10.86		+50	985.14		985.53	
982.54	10.61	0.16	+75	984.83		985.11	
982.04	10.36		63+00	984.55		984.71	
981.54	10.11		+25	984.28		984.38	
981.04	10.00		S.T. 63+35.67	984.17		984.25	
980.54			+50	984.04		984.06	
980.04			+75	983.81		983.77	
979.54	10.00		T.S. 63+84.87	983.72	10.00	983.67	

T.S. 63+84.87 S.C. 66+84.87		D = 3°-30' Rt.		C.S. 85+26.30 S.T. 87+26.30			
Left Edge	Width	Add Super	STATION	± Grade	Deduct Crown	Width	Right Edge
984.12	10.00		T.S. 63+84.87	984.17	10.00	984.25	
984.00			+50	984.04		984.06	
983.83			+75	983.81		983.77	
983.77			C.S. 63+84.87	983.72		983.67	
983.68			64+00	983.60		983.49	
983.56			+25	983.40	0.16	983.24	
983.46			+50	983.20		983.04	
983.36			+75	983.00		982.84	
983.26			65+00	982.80		982.64	
983.16			+25	982.60		982.44	
983.06			+50	982.40		982.24	
982.96			+75	982.20		982.04	
982.86			66+00	982.00		981.84	
982.75			+25	981.80		981.64	
982.69			S.C. 66+84.87	981.72		981.56	
982.59			+50	981.60		981.44	
982.40		1.16'	+75	981.40		981.24	
982.20			67+00	981.20		981.04	
982.00			+25	981.00		980.84	
981.80			+50	980.80		980.64	
981.60			+75	980.60		980.44	
981.40			68+00	980.40		980.24	
981.20			+25	980.20		980.04	
981.00			+50	980.00		979.84	
980.80			+75	979.80		979.64	
980.60			69+00	979.60		979.44	
980.40			+25	979.40		979.24	
980.20			+50	979.20		979.04	
980.00			+75	979.00		978.84	
979.80			70+00	978.80		978.64	
979.60			+25	978.60		978.44	
979.40			+50	978.40		978.24	
979.20			+75	978.20		978.04	
979.00			71+00	978.00		977.84	
978.80			+25	977.80		977.64	
978.60			+50	977.60		977.44	
978.40			+75	977.40		977.24	
978.20			72+00	977.20		977.04	
978.00			+25	977.00		976.84	
977.80			+50	976.80		976.64	
977.60			+75	976.60		976.44	
977.40		1.16'	73+00	976.40		976.24	
977.18			+25	976.20		976.04	
976.90			+50	976.00		975.84	
976.57			+75	975.80		975.64	
976.22			74+00	975.60		975.44	
975.87			+25	975.40		975.24	
975.52			+50	975.20		975.04	
975.17			+75	975.00		974.84	
974.82			75+00	974.80		974.64	
974.50			+25	974.60	0.16	974.44	
974.33			+50	974.40		974.30	
974.28			+75	974.20		974.28	
974.28	10.00		76+00	974.00	10.00	974.21	

974.27	10.00		76+25	973.81	10.00	974.05	
974.26			+50	973.65		973.85	
974.25			+75	973.51		973.65	
974.24			77+00	973.40		973.45	
974.23			+25	973.31		973.30	
974.22			+50	973.25		973.17	
974.21			+75	973.21		973.08	
974.20		1.16'	78+00	973.20	0.16	973.04	
974.21			+25	973.21		973.05	
974.25			+50	973.25		973.09	
974.31			+75	973.31		973.15	
974.40			79+00	973.40		973.24	
974.51			+25	973.51		973.35	
974.65			+50	973.65		973.49	
974.81			+75	973.81		973.65	
975.00			80+00	974.00		973.84	
975.21			+25	974.21		974.05	
975.45			+50	974.45		974.29	
975.71			+75	974.71		974.55	
976.00			81+00	975.00		974.84	
976.30			+25	975.30		975.14	
976.60			+50	975.60		975.44	
976.90			+75	975.90		975.74	
977.20							

# CURVE TABLES

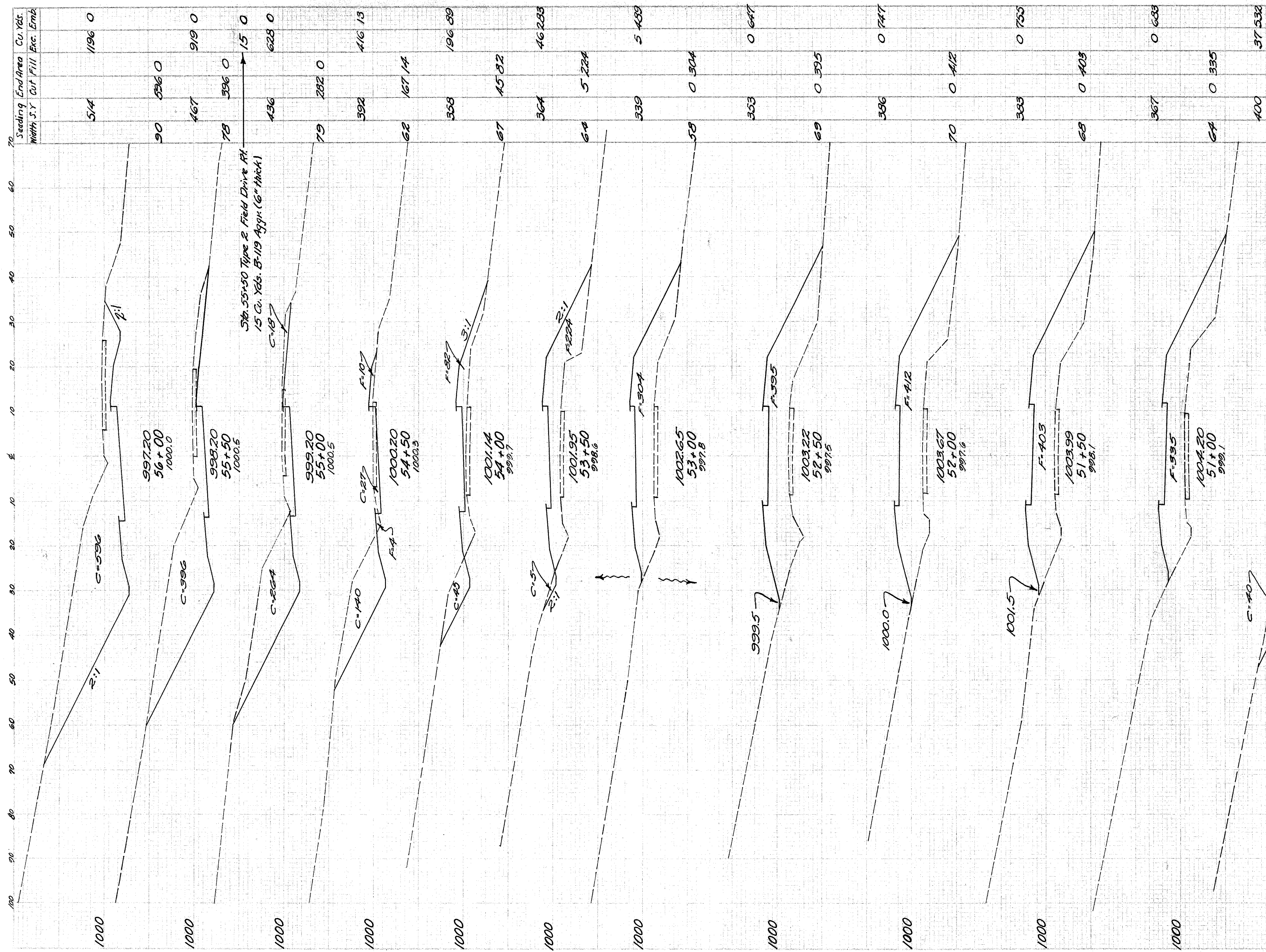
T.S. 90+31.60 S.C. 94+31.60			D= 8° 00' Lt.		C.S. 99+04.10 S.T. 103+04.10		
Left Edge	Width	Deduct Crown	STATION	± Grade	Add Super	Width	Right Edge
974.65	10.00	0.16	89+50	974.81		10.00	974.65
973.99			+75	974.15			974.00
973.28			90+00	973.44			973.34
972.55			+25	972.71			972.65
972.36	10.00		T.S. 90+31.60	972.52			972.52
971.82	10.18		+50	971.98			972.06
971.12	10.43		+75	971.28			971.48
970.50	10.68		91+00	970.66			970.97
969.94	10.93		+25	970.10			970.53
969.45	11.18		+50	969.61			970.15
969.03	11.43		+75	969.19			969.85
968.68	11.68		92+00	968.84			969.61
968.39	11.93		+25	968.55			969.44
968.18	12.18		+50	968.34			969.34
968.03	12.43		+75	968.19			969.31
967.96	12.68		93+00	968.12			969.35
967.95	12.93		+25	968.11			969.46
968.01	13.18		+50	968.17			969.63
968.14	13.43		+75	968.30			969.88
968.34	13.68		94+00	968.50			970.19
968.60	13.93		+25	968.76			970.57
968.68	14.00		S.C. 94+31.60	968.84			970.66
968.94			+50	969.10	2.00		970.94
969.34			+75	969.50			971.34
969.82			95+00	969.98			971.82
970.36			+25	970.52			972.36
970.97			+50	971.13			972.97
971.65			+75	971.81			973.65
972.40			96+00	972.56			974.40

973.21				+25	973.37			975.21
974.10				+50	974.26			976.10
974.99				+75	975.15			976.99
975.82				97+00	975.98			977.82
976.59				+25	976.75			978.59
977.31				+50	977.47			979.31
977.96				+75	978.12			979.96
978.55				98+00	978.71			980.55
979.09				+25	979.25			981.09
979.56				+50	979.72			981.56
979.98				+75	980.14	2.00		981.98
980.34				99+00	980.50			982.31
980.39	14.00		C.S. 99+04.10	980.55				982.35
980.63	13.79		+25	980.79				982.53
980.87	13.54		+50	981.03				982.66
981.05	13.29		+75	981.21				982.72
981.17	13.04		100+00	981.33				982.73
981.23	12.79		+25	981.39				982.67
981.23	12.54		+50	981.39				982.56
981.17	12.29		+75	981.33				982.38
981.06	12.04		101+00	981.22				982.16
980.88	11.79		+25	981.04				981.86
980.64	11.54		+50	980.80				981.51
980.35	11.29		+75	980.51				981.10
979.99	11.04		102+00	980.15				980.63
979.58	10.79		+25	979.74				980.10
979.11	10.54		+50	979.27				979.52
978.57	10.29		+75	978.73				978.86
977.98	10.04		103+00	978.14				978.16
977.88	10.00		S.T. 103+04.10	978.04				978.02
977.33	10.00		+25	977.49				977.40
976.62	10.00		+50	976.78				976.63
975.88	10.00	0.16	+75	976.04		10.00		975.88

Curve Widening = 384 Sq. Yds.

The Design Speed is 50 M.P.H.

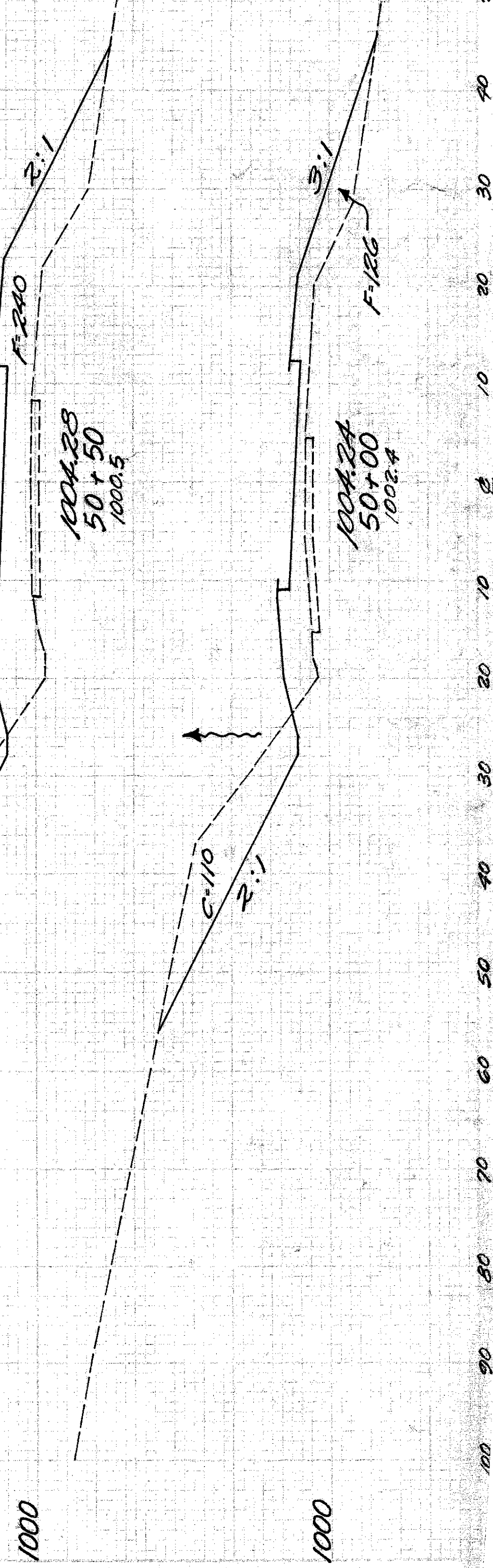




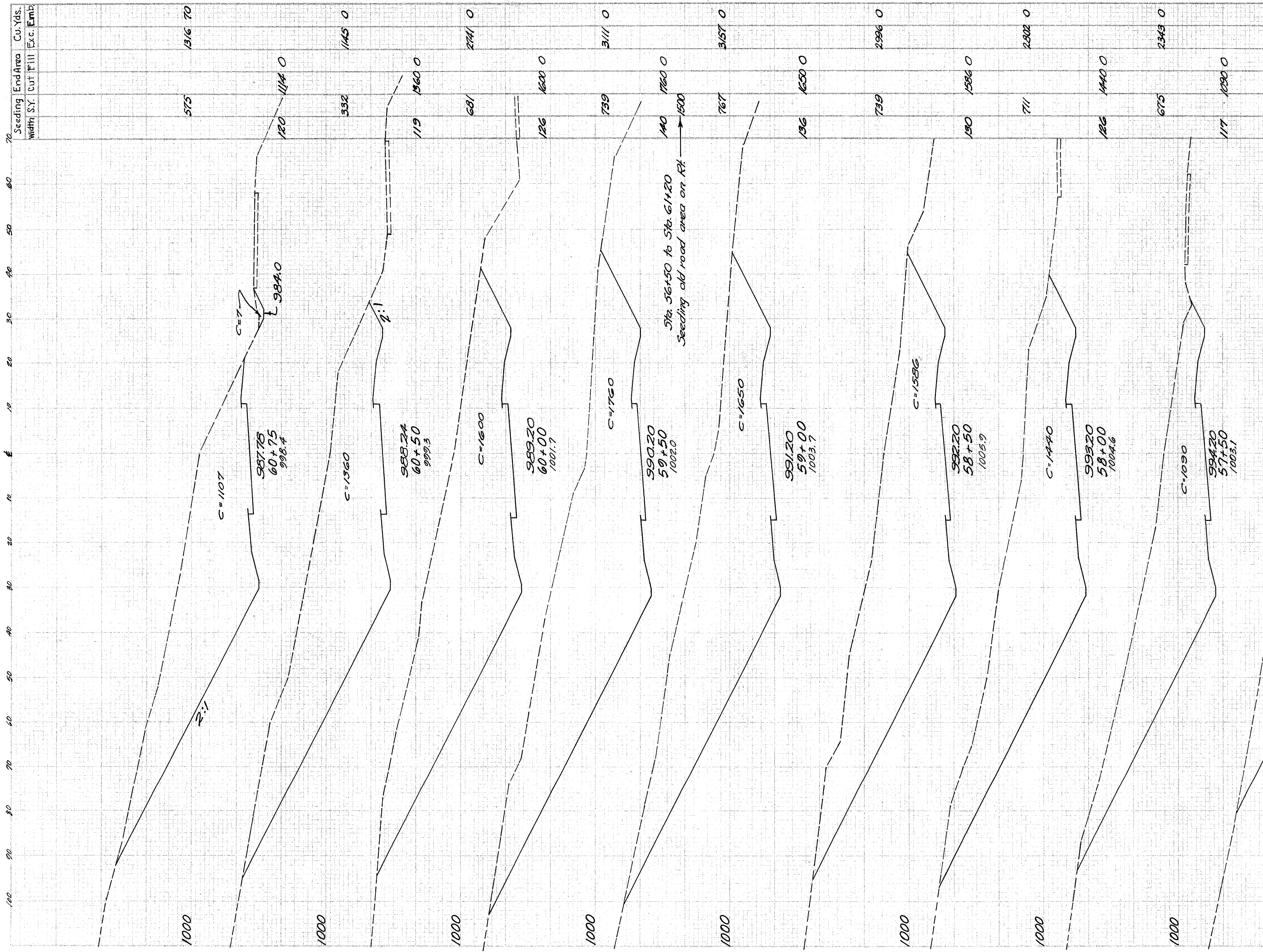
Seeding End Area Cu. Yds.  
Width S.Y. Cut Fill Exc. Emb.

Sta.	Cut	Fill	Exc.	Emb.
514	0	196	0	0
590	596	0	0	0
467	0	919	0	0
78	396	0	15	0
436	0	628	0	0
79	282	0	0	0
392	0	416	13	0
62	167	14	0	0
358	0	196	89	0
67	45	82	0	0
364	0	46	233	0
64	5	224	0	0
339	0	5	439	0
53	0	304	0	0
353	0	647	0	0
69	0	395	0	0
396	0	747	0	0
70	0	412	0	0
383	0	733	0	0
68	0	403	0	0
367	0	688	0	0
64	0	335	0	0
400	0	37	532	0

Seeding End Area Cu. Yds.  
Width S.Y. Cut Fill Exc. Emb.

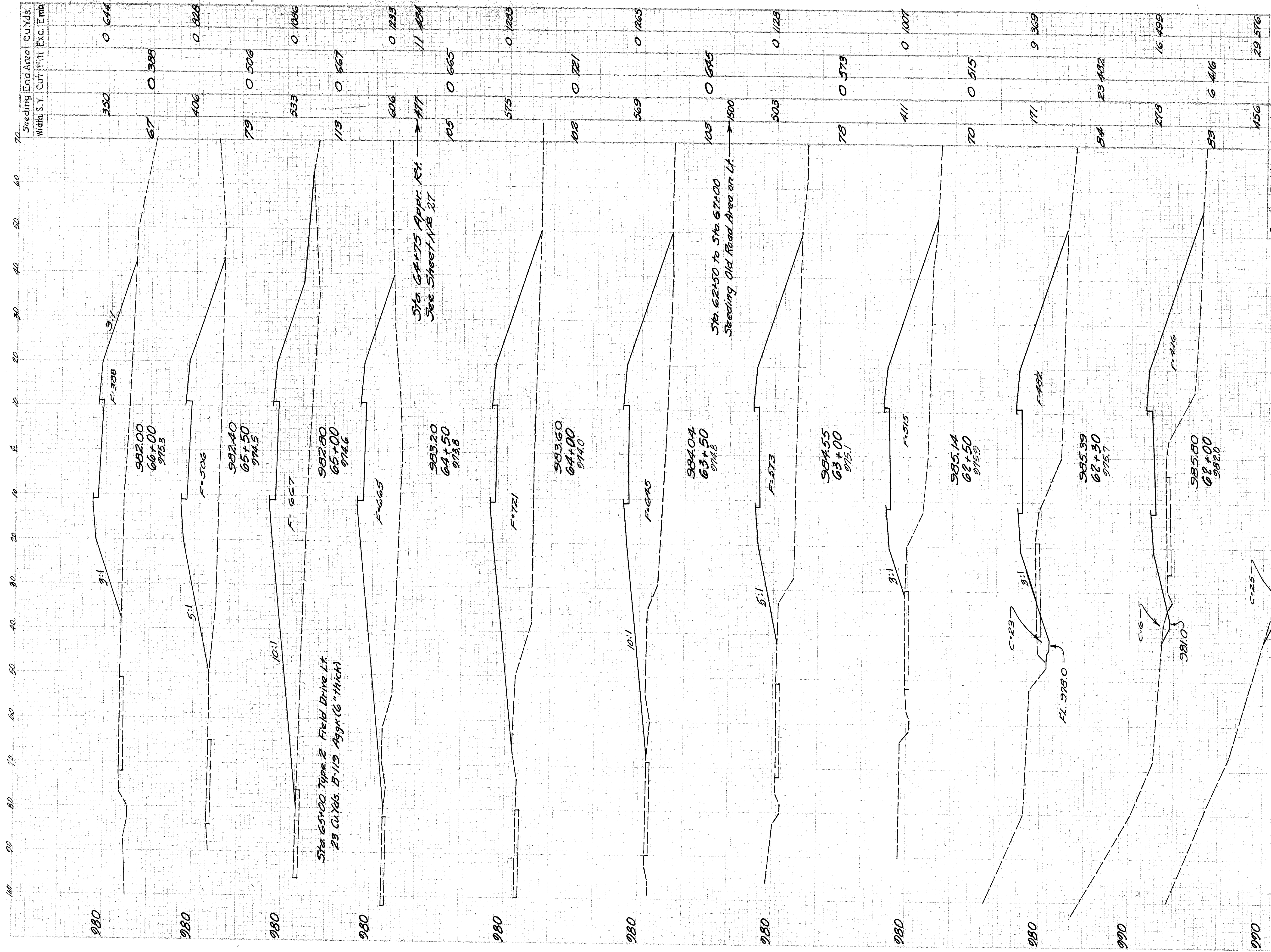


STA 50+00 TO STA 56+00



Seeding Width	End Area	Cu. Yds. Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
614	614	1884	0	1884
104	912	0	0	0
553	0	0	4689	0
95	636	0	0	636

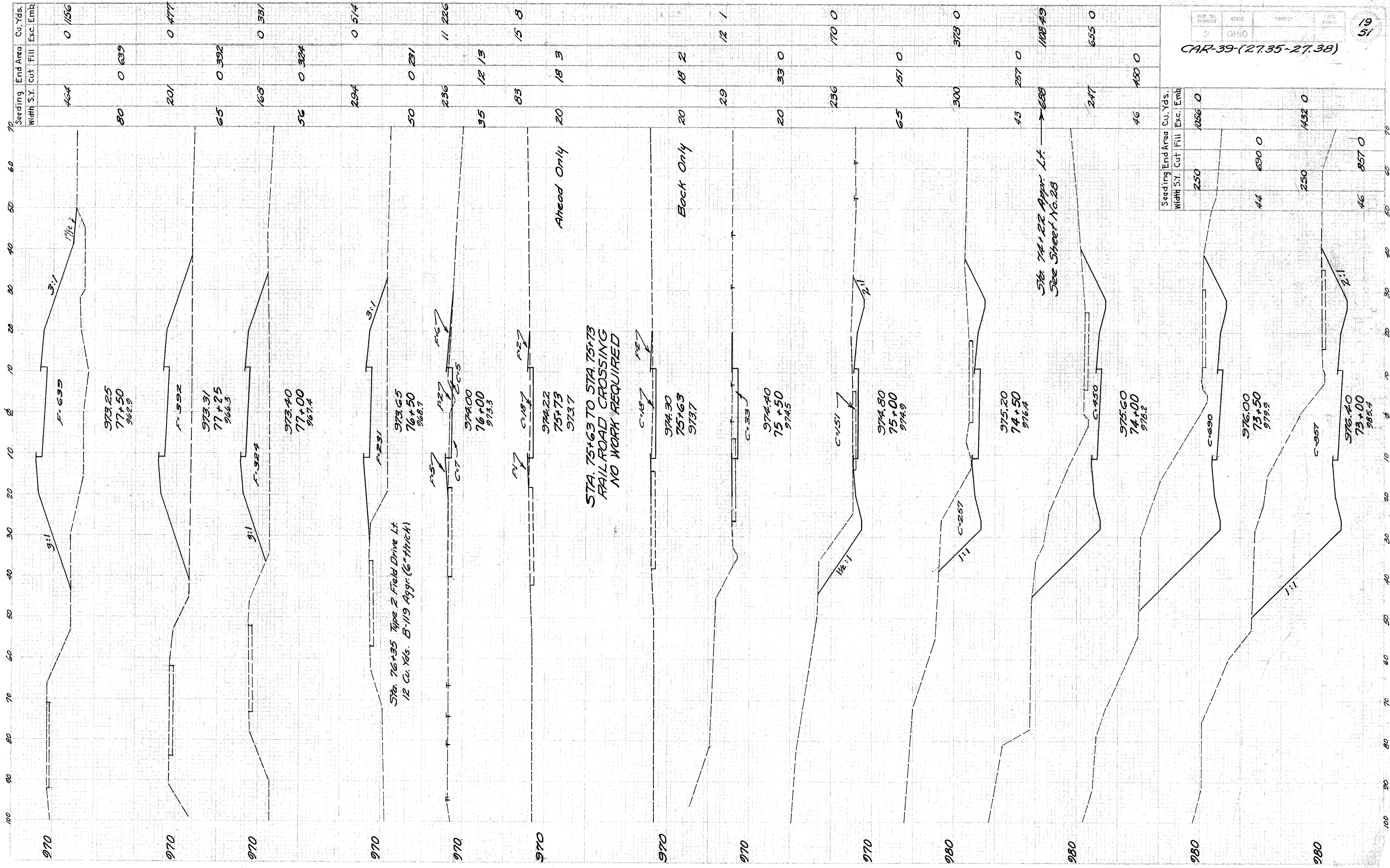
STA. 56+50 TO STA. 60+75



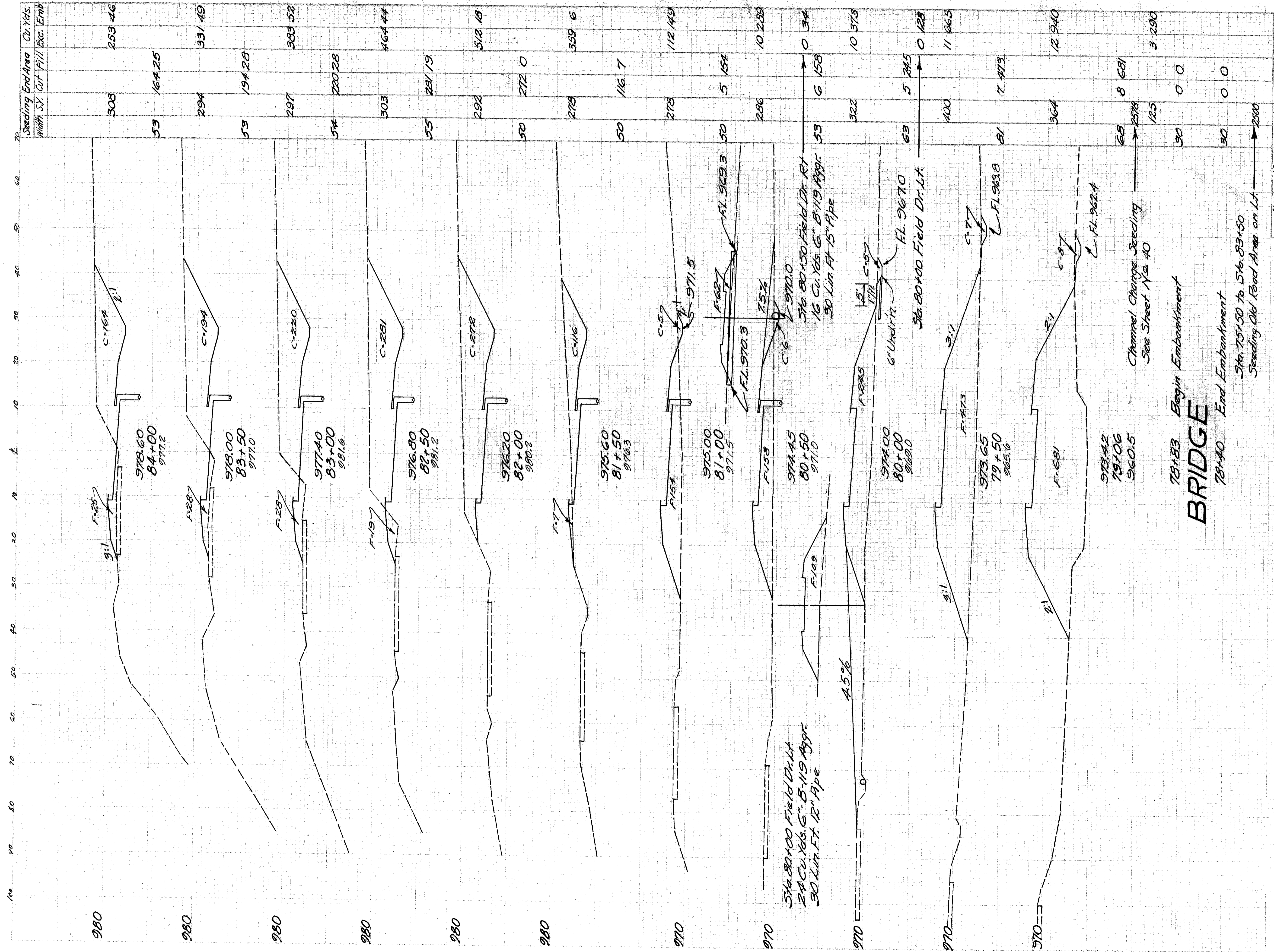
Station	Seeding	End Area	Cu. Yds.	Width	S.Y.	Cut	Fill	Exc.	Emb.
980			350					0	644
981			67					0	388
982			406					0	828
983			533					0	1086
984			119					0	667
985			606					0	1233
986			477					11	484
987			105					0	665
988			575					0	1283
989			102					0	721
990			369					0	1265
991			103					0	685
992			503					0	1128
993			78					0	573
994			411					0	1007
995			70					0	515
996			171					9	369
997			84					23	482
998			278					16	499
999			83					6	416
1000			456					29	576

CAR-39-(27.35-27.38)





STA. 73+00 TO STA. 77+50



Station	Seeding End Area Width S.Y. Cut	Exc. Emb.	Cu. Yds.
980	308	253	46
980	53	164	25
980	294	331	49
980	53	194	28
980	297	303	52
980	54	220	28
980	303	464	44
980	53	221	19
980	292	512	18
980	50	272	0
980	278	359	6
980	50	116	7
970	278	112	49
970	50	5	154
970	286	10	289
970	53	0	34
970	322	0	128
970	63	5	245
970	400	11	665
970	81	7	473
970	364	12	940
970	68	8	681
970	125	3	290
970	30	0	0
970	30	0	0
970	72	0	129
970	63	0	899
970	217	0	534
970	57	0	610

**BRIDGE**

78+83 Begin Embankment

78+40 End Embankment

Sta. 75+50 to Sta. 83+50  
Seeding Old Road Area on Lt.

Channel Change Seeding  
See Sheet No. 40

Sta. 80+00 Field Dr. Lt.  
24 Cu. Yds. 6" B-119 Aggr.  
30 Lin. Ft. 12" Pipe

Sta. 80+00 Field Dr. Lt.  
16 Cu. Yds. 6" B-119 Aggr.  
30 Lin. Ft. 15" Pipe

Sta. 80+00 Field Dr. Lt.  
24 Cu. Yds. 6" B-119 Aggr.  
30 Lin. Ft. 12" Pipe

Sta. 80+00 Field Dr. Lt.  
16 Cu. Yds. 6" B-119 Aggr.  
30 Lin. Ft. 15" Pipe

Channel Change Seeding  
See Sheet No. 40

78+83 Begin Embankment

78+40 End Embankment

Sta. 75+50 to Sta. 83+50  
Seeding Old Road Area on Lt.

Channel Change Seeding  
See Sheet No. 40

Sta. 80+00 Field Dr. Lt.  
24 Cu. Yds. 6" B-119 Aggr.  
30 Lin. Ft. 12" Pipe

Sta. 80+00 Field Dr. Lt.  
16 Cu. Yds. 6" B-119 Aggr.  
30 Lin. Ft. 15" Pipe

Sta. 80+00 Field Dr. Lt.  
24 Cu. Yds. 6" B-119 Aggr.  
30 Lin. Ft. 12" Pipe

Sta. 80+00 Field Dr. Lt.  
16 Cu. Yds. 6" B-119 Aggr.  
30 Lin. Ft. 15" Pipe

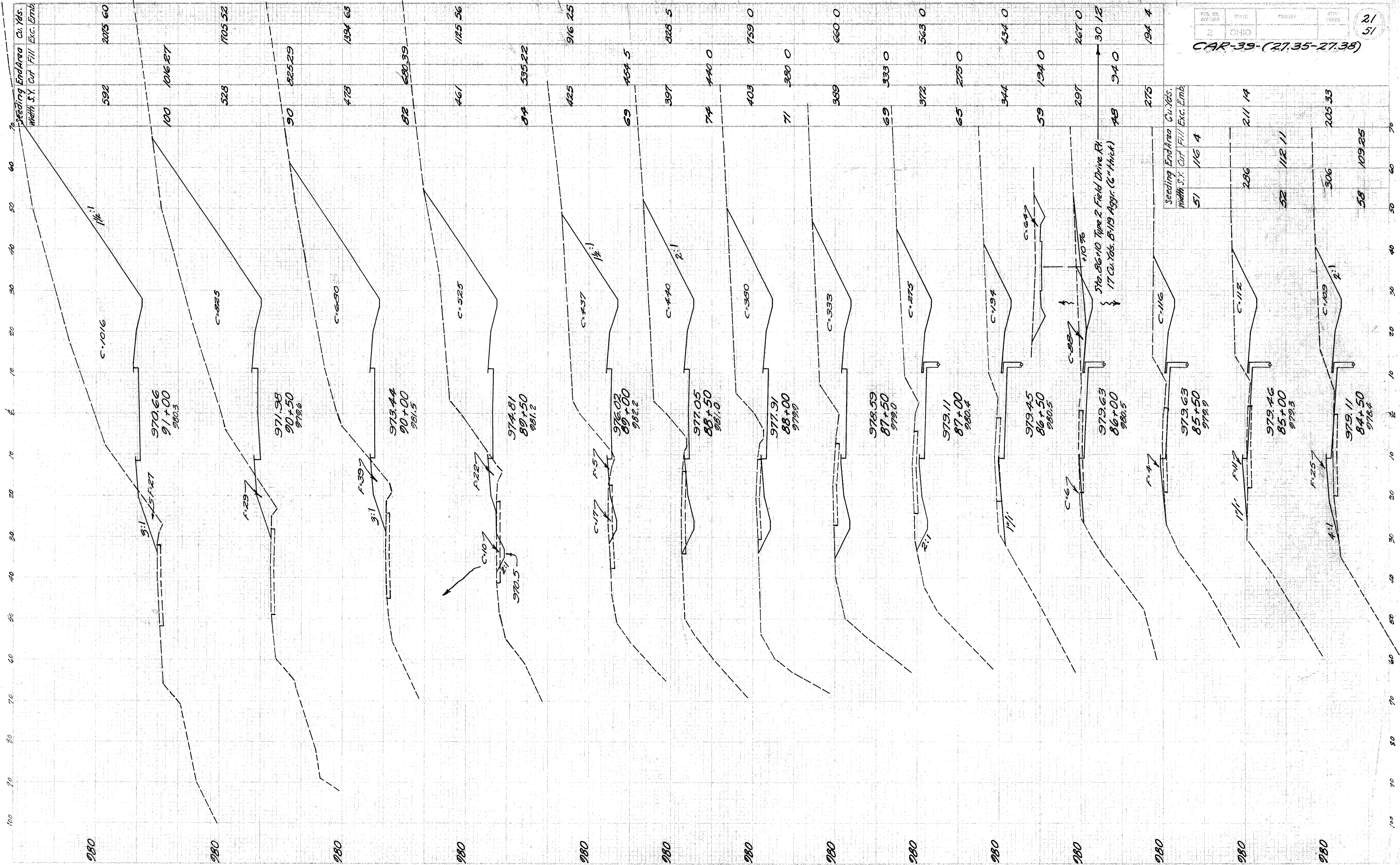
Channel Change Seeding  
See Sheet No. 40

78+83 Begin Embankment

78+40 End Embankment

Sta. 75+50 to Sta. 83+50  
Seeding Old Road Area on Lt.

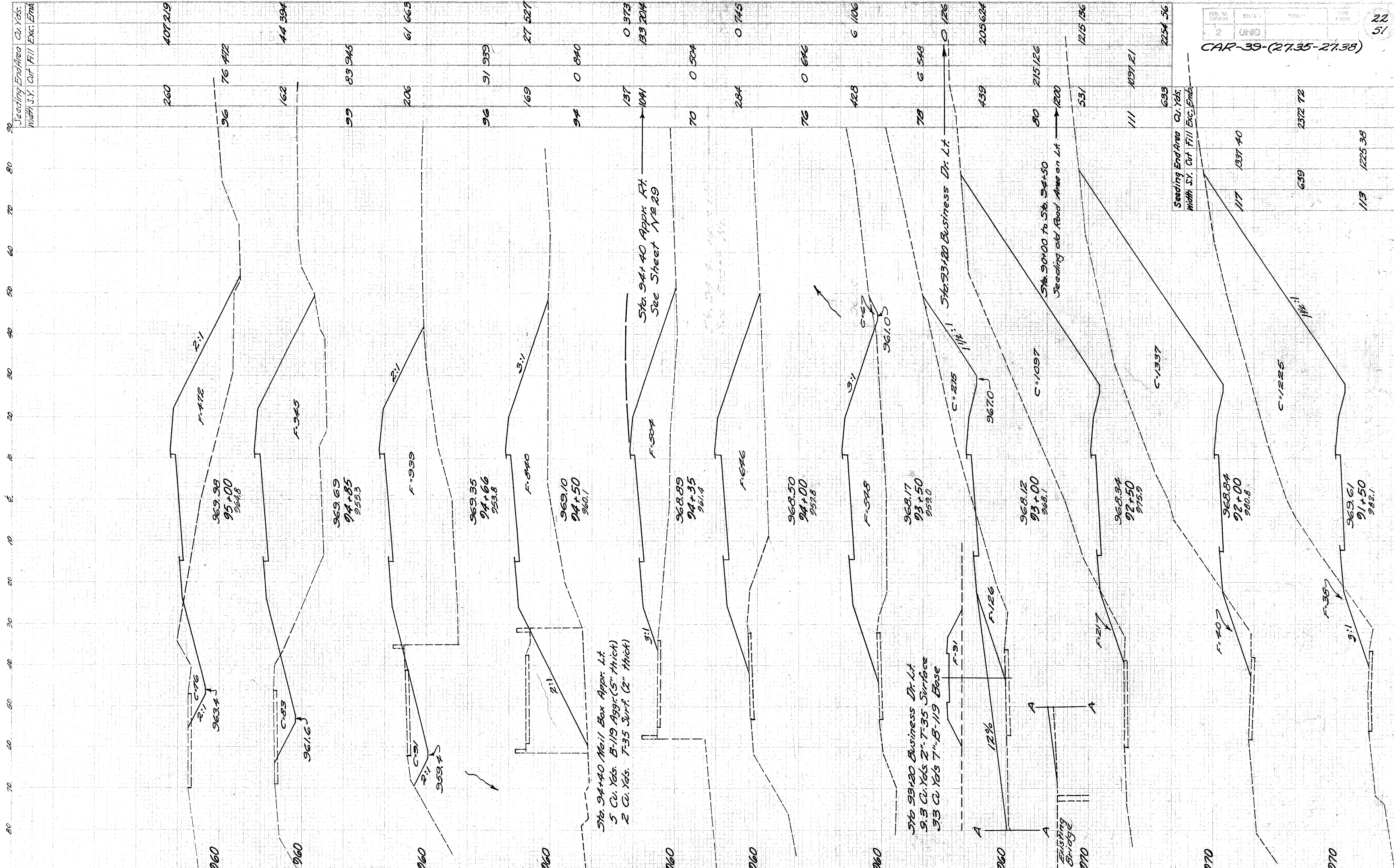
Channel Change Seeding  
See Sheet No. 40



21  
51  
CAR-39-(27.35-27.38)

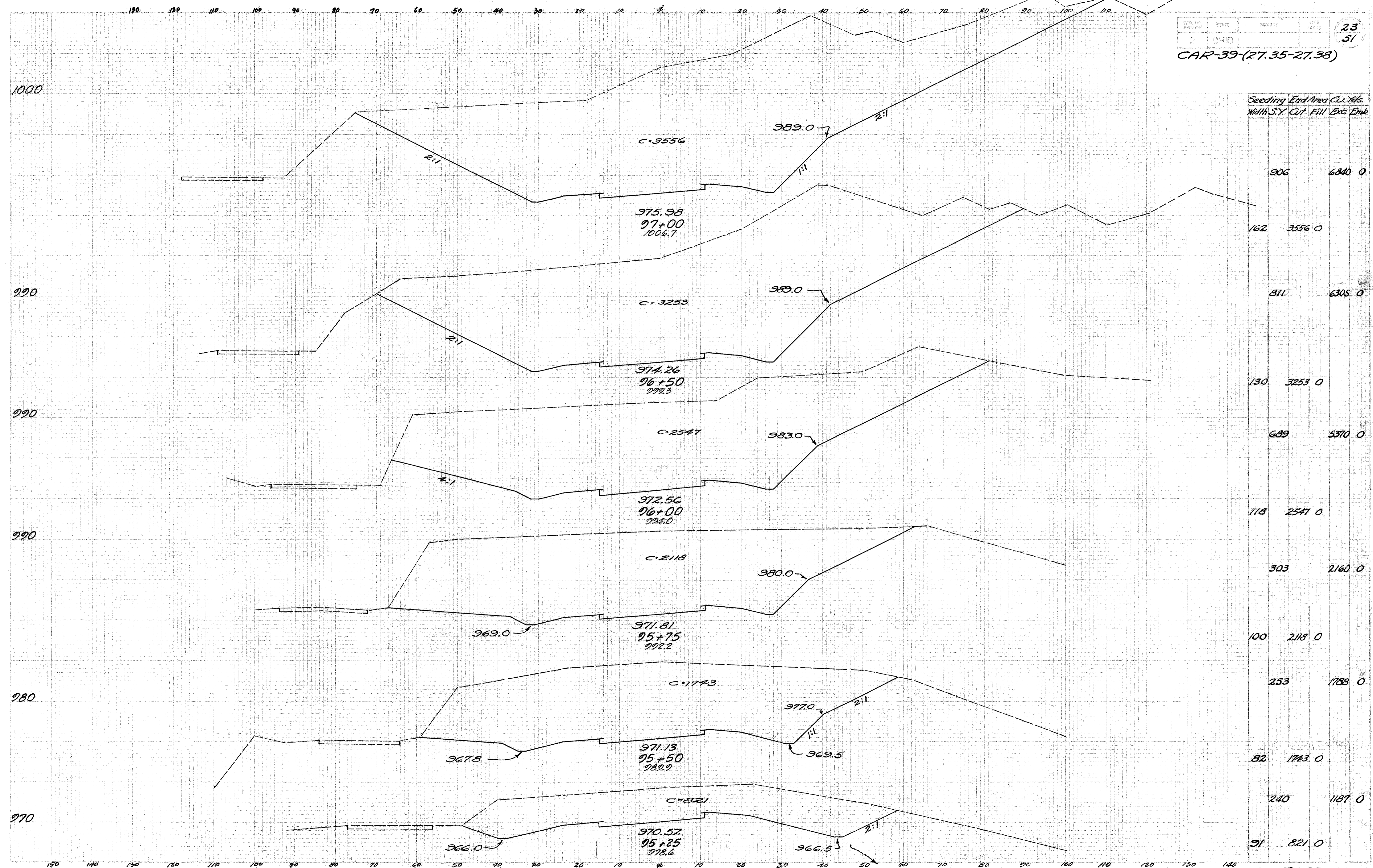
Station	Seeding	End Area	Cu. Yds.
51	116	4	
14	286		211
11	52	112	11
33	506		205
33	58	109	25

STA 84+50 TO STA 91+00

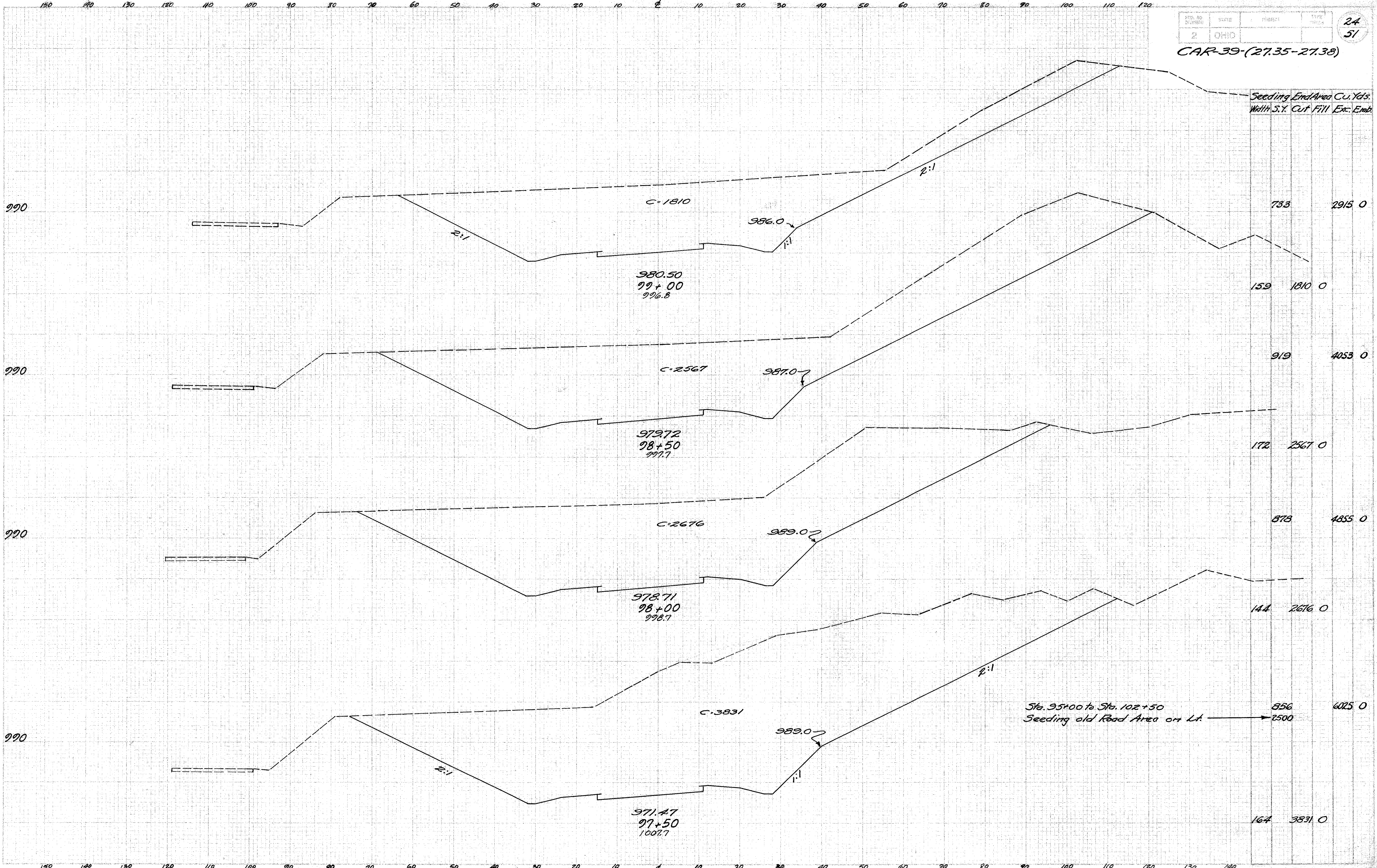


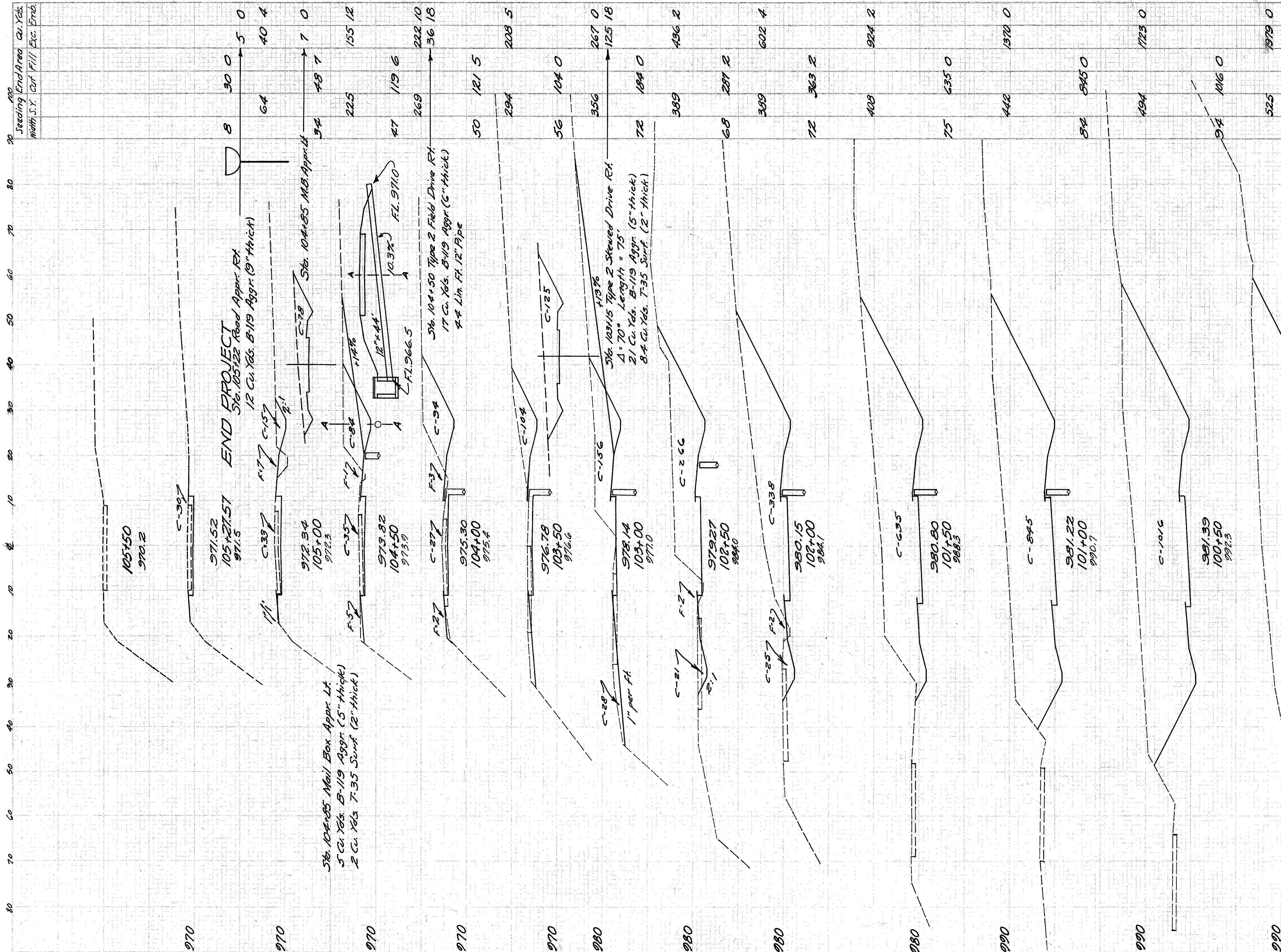
CAR-39-(27.35-27.38)

STA 91+50 TO STA 95+00



Seeding End Area Cu. Yds.	
Width	S.Y. Cut Fill Exc. Emb.
906	6840 0
162	3556 0
811	6305 0
130	3253 0
689	5370 0
118	2547 0
303	2160 0
100	2118 0
253	1788 0
82	1743 0
240	1187 0
91	821 0

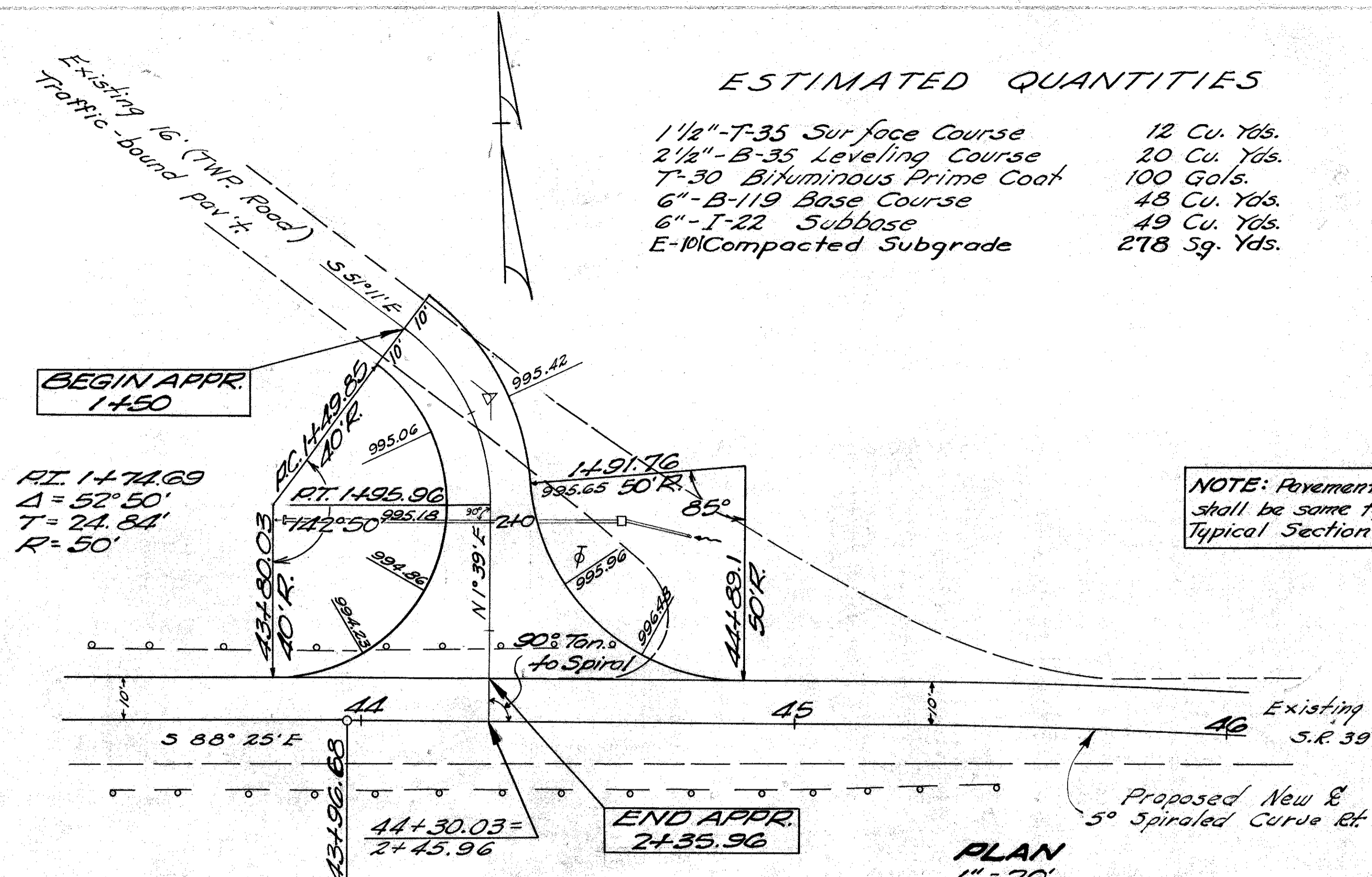




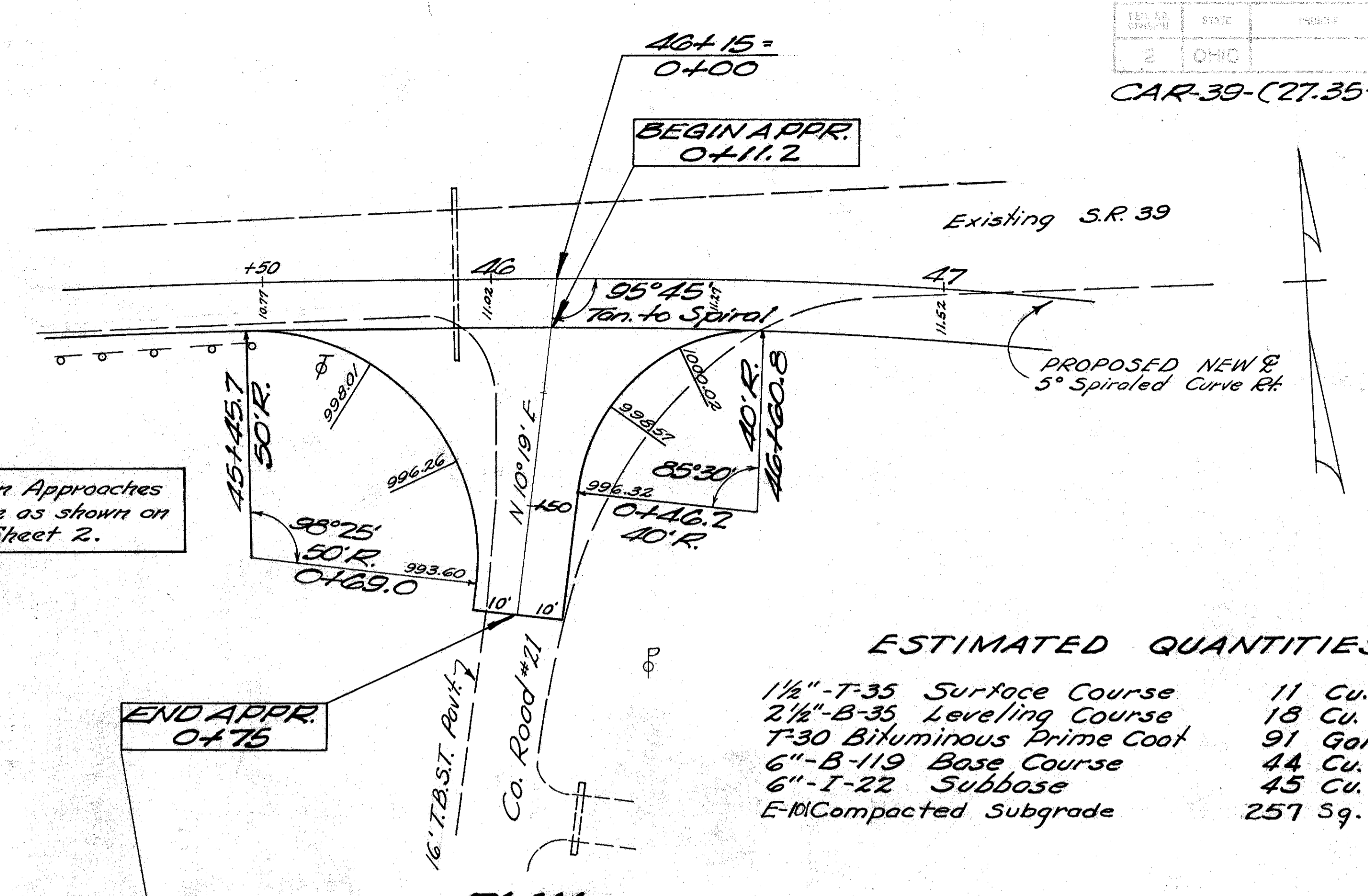
Sta.	Seeding Area Cu. Yds.	Exc. Emb.
970	30 0	5 0
975	64	40 4
980	48 7	7 0
985	225	155 12
990	47	119 6
995	269	222 10
1000	50	36 18
1005	294	121 5
1010	56	208 5
1015	356	104 0
1020	72	267 0
1025	389	125 18
1030	68	184 0
1035	389	436 2
1040	72	602 4
1045	408	363 2
1050	75	924 2
1055	442	635 0
1060	84	1370 0
1065	494	845 0
1070	94	1723 0
1075	525	1016 0
1080	95	2277 0
1085	556	1121 0
1090	105	1338 0

**ESTIMATED QUANTITIES**

1 1/2" - T-35 Surface Course	12 Cu. Yds.
2 1/2" - B-35 Leveling Course	20 Cu. Yds.
T-30 Bituminous Prime Coat	100 Gals.
6" - B-119 Base Course	48 Cu. Yds.
6" - I-22 Subbase	49 Cu. Yds.
E-10 Compacted Subgrade	278 Sq. Yds.



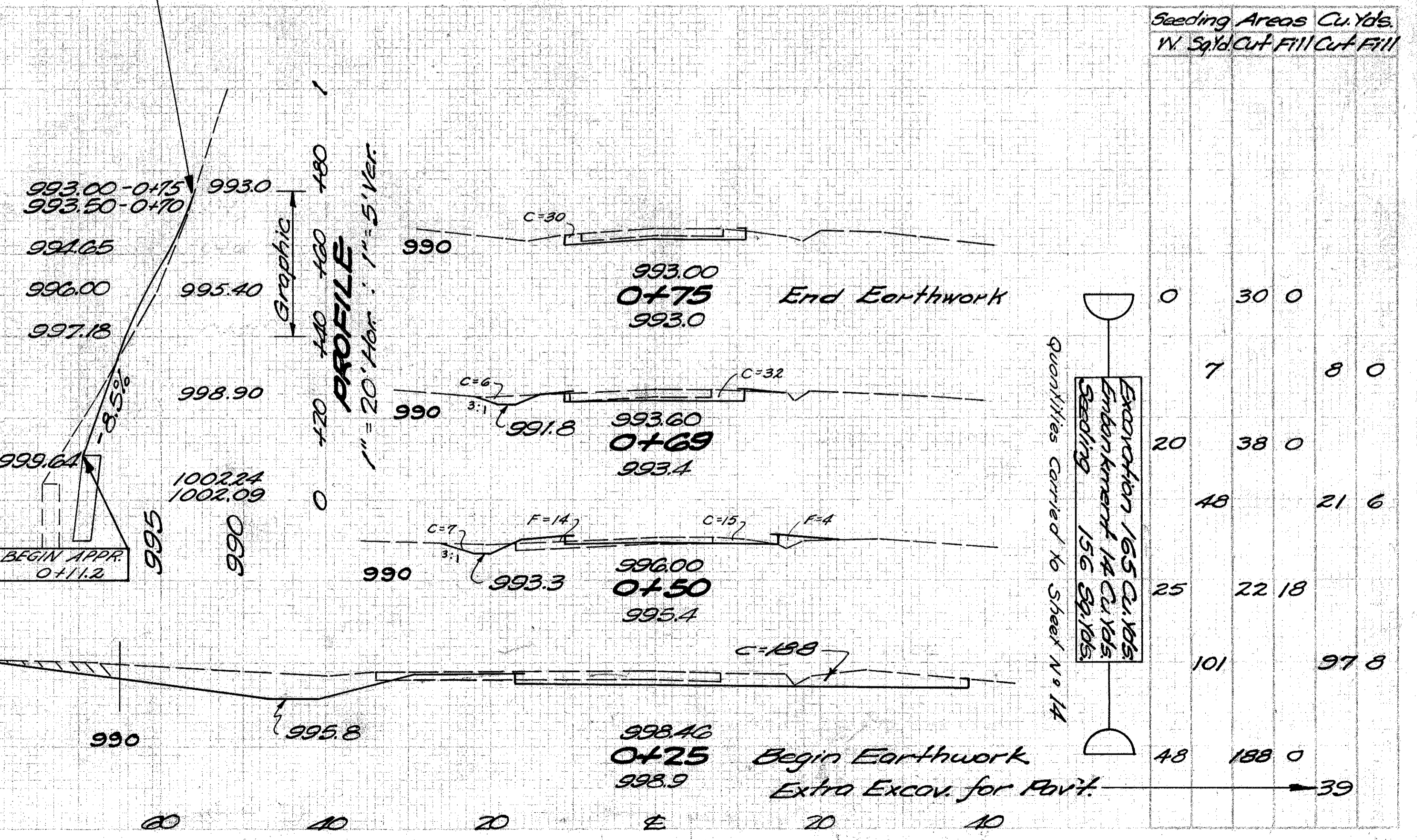
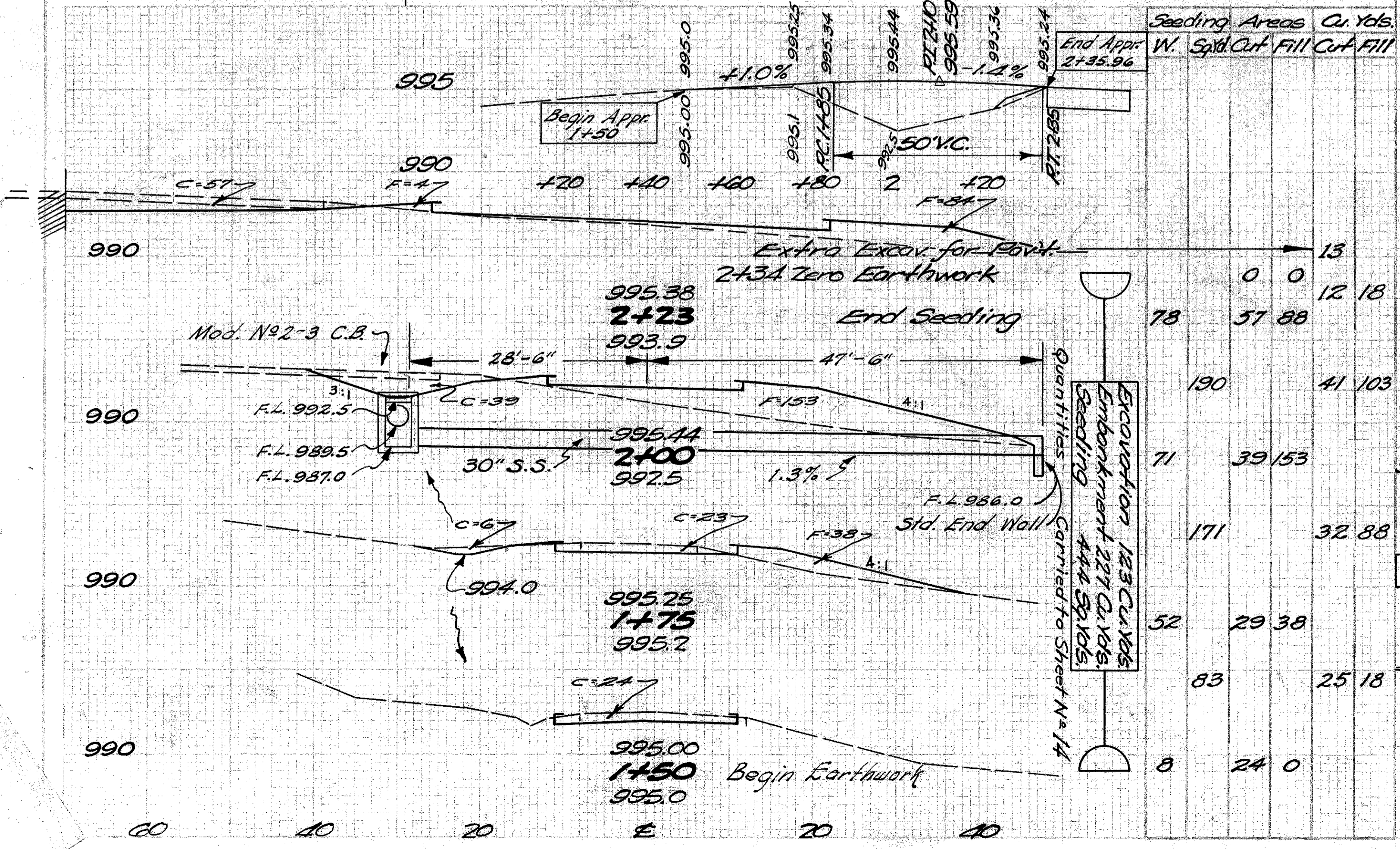
NOTE: Pavement on Approaches shall be same type as shown on Typical Section Sheet 2.



**ESTIMATED QUANTITIES**

1 1/2" - T-35 Surface Course	11 Cu. Yds.
2 1/2" - B-35 Leveling Course	18 Cu. Yds.
T-30 Bituminous Prime Coat	91 Gals.
6" - B-119 Base Course	44 Cu. Yds.
6" - I-22 Subbase	45 Cu. Yds.
E-10 Compacted Subgrade	257 Sq. Yds.

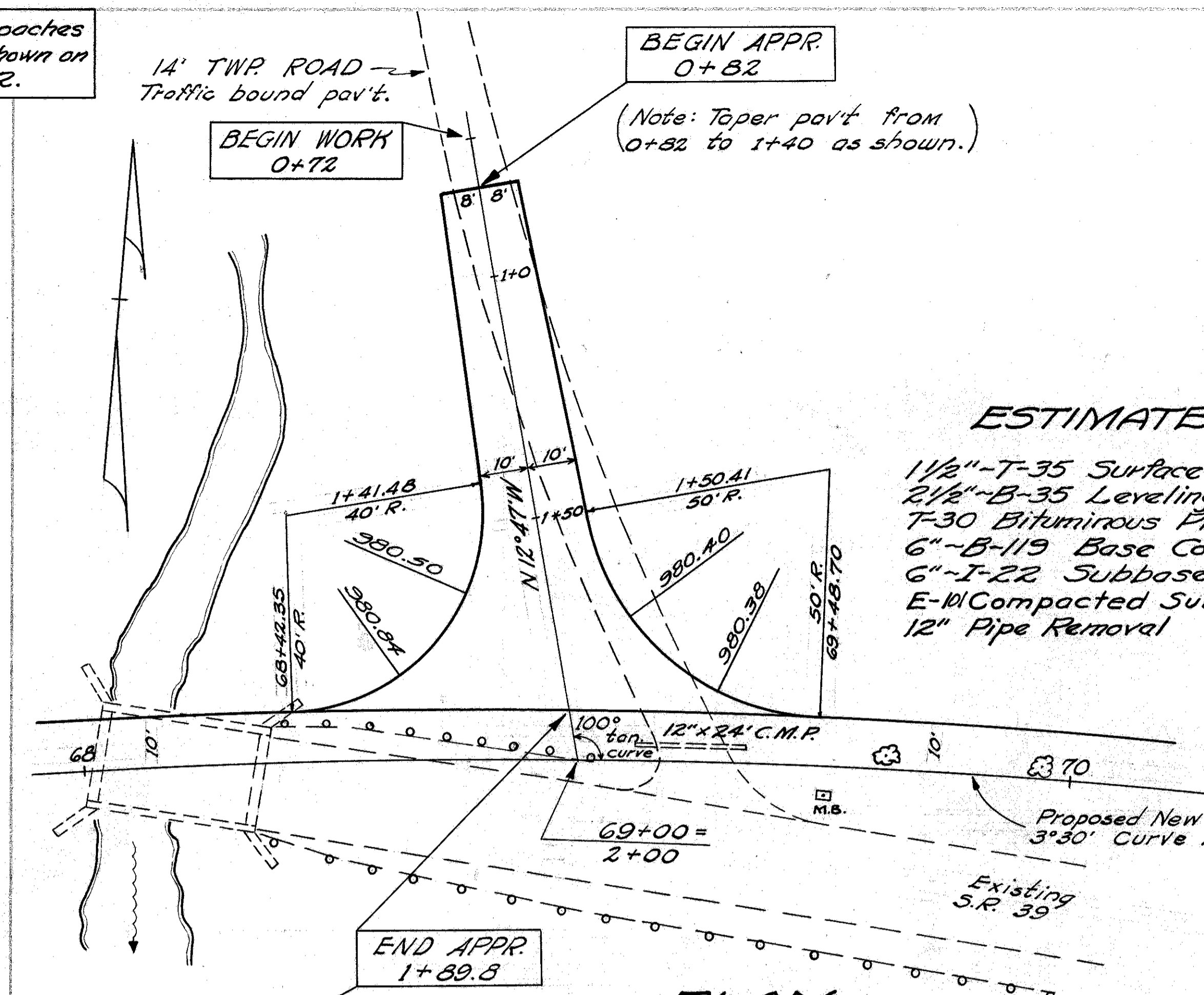
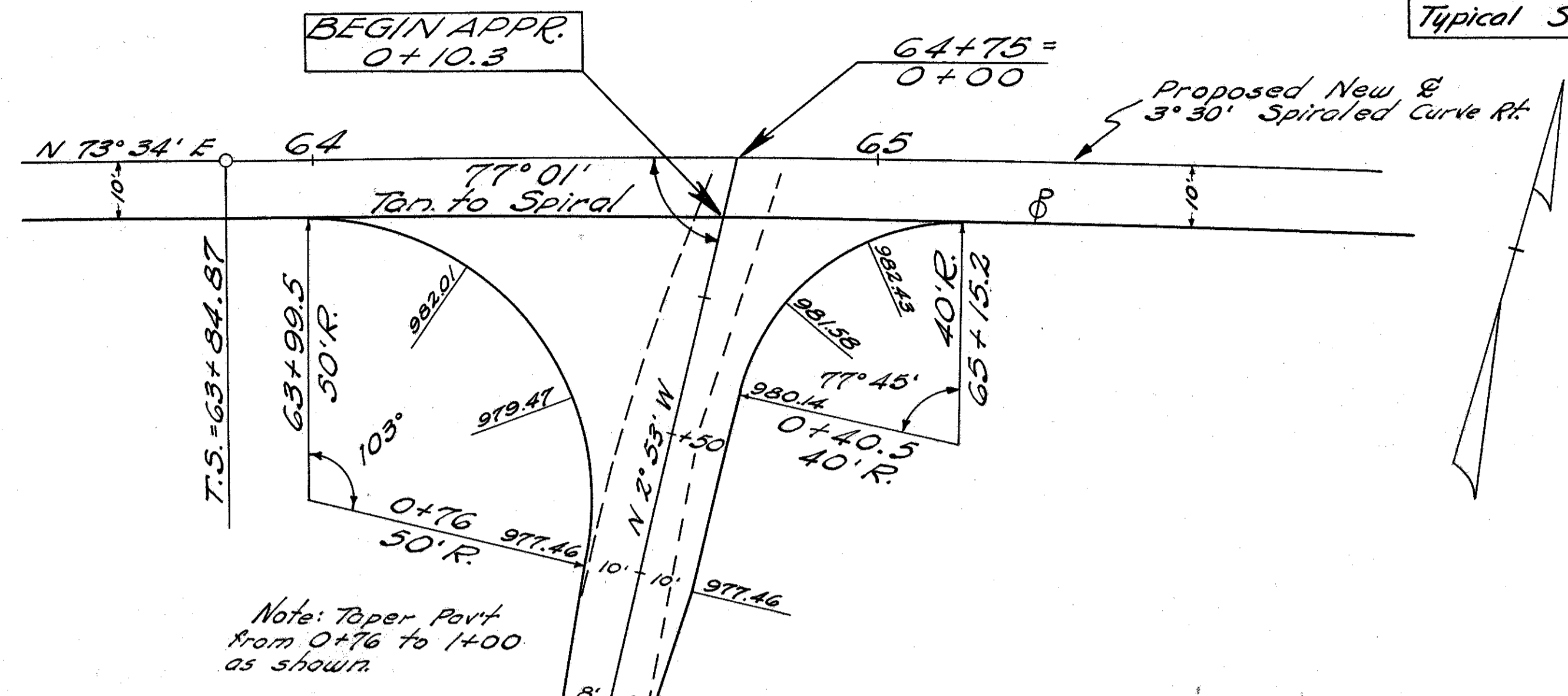
**PROFILE**  
1" = 20' Hor. : 1" = 5' Ver.



APPROACH LT. STA. 44+30.03

APPROACH RT. STA. 46+15

NOTE: Pavement on Approaches shall be same type as shown on Typical Section Street 2.



**ESTIMATED QUANTITIES**

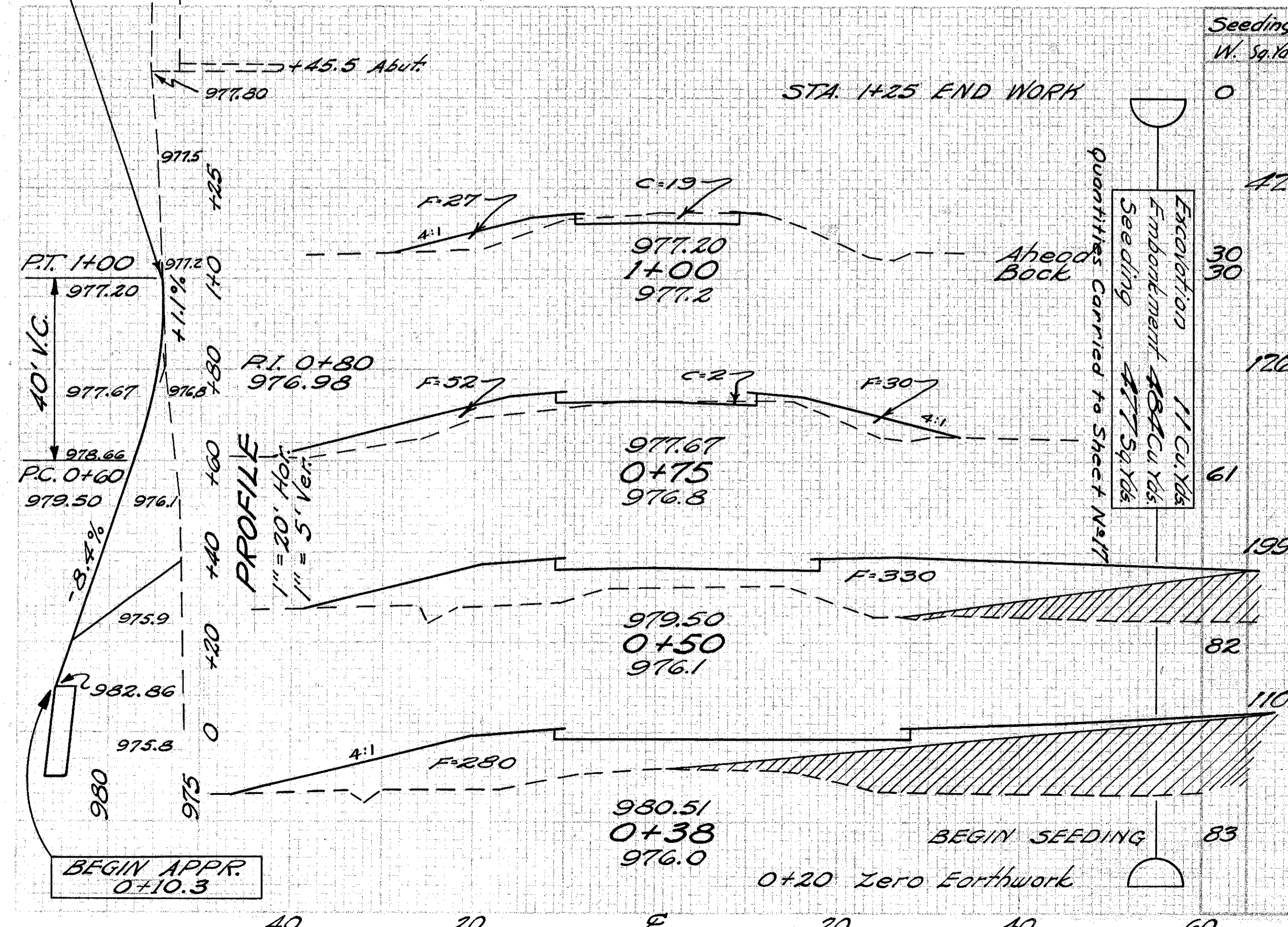
1 1/2" T-35 Surface Course	14 Cu. Yds.
2 1/2" B-35 Leveling Course	23 Cu. Yds.
T-30 Bituminous Prime Coat	115 Gals.
6" B-119 Base Course	55 Cu. Yds.
6" I-22 Subbase	56 Cu. Yds.
E-M Compacted Subgrade	319 Sq. Yds.
12" Pipe Removal	24 Lin. Ft.

**ESTIMATED QUANTITIES**

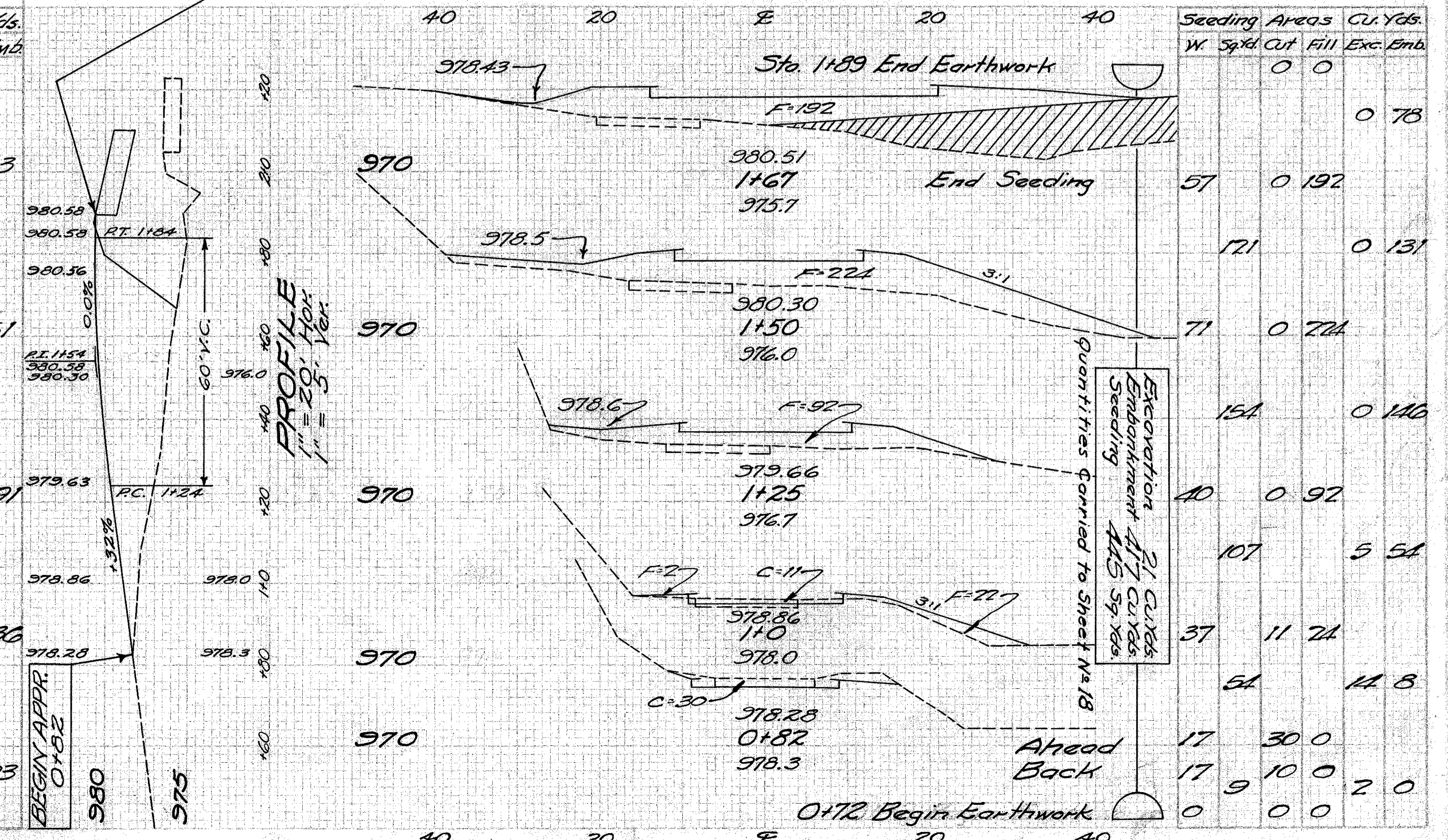
1 1/2" T-35 Surface Course	13 Cu. Yds.
2 1/2" B-35 Leveling Course	22 Cu. Yds.
T-30 Bituminous Prime Coat	113 Gals.
6" B-119 Base Course	55 Cu. Yds.
6" I-22 Subbase	56 Cu. Yds.
E-M Compacted Subgrade	316 Sq. Yds.

PLAN  
1" = 20'

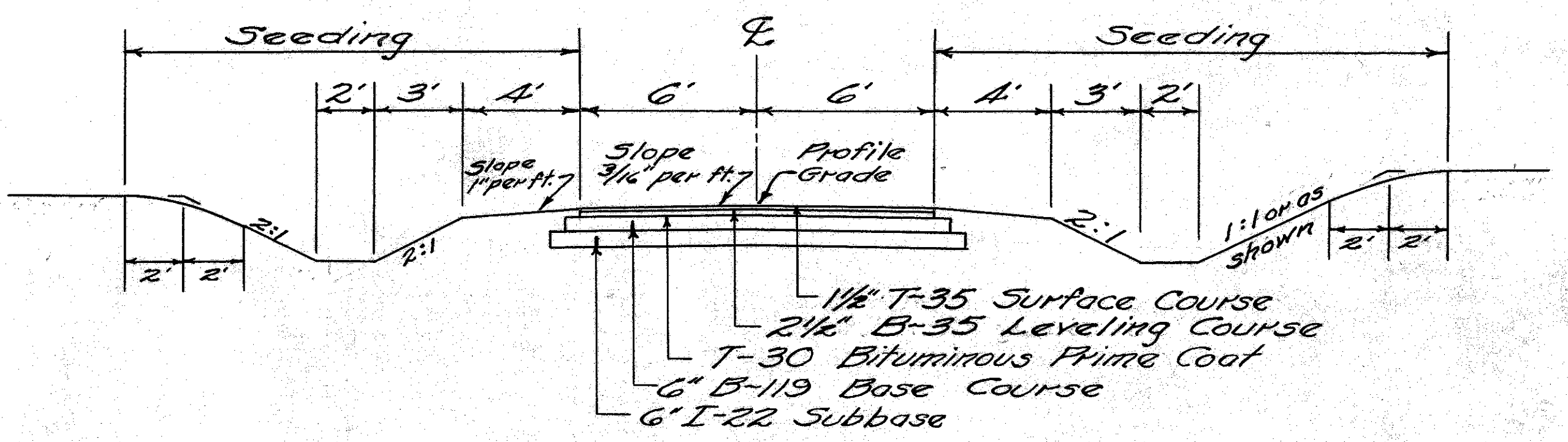
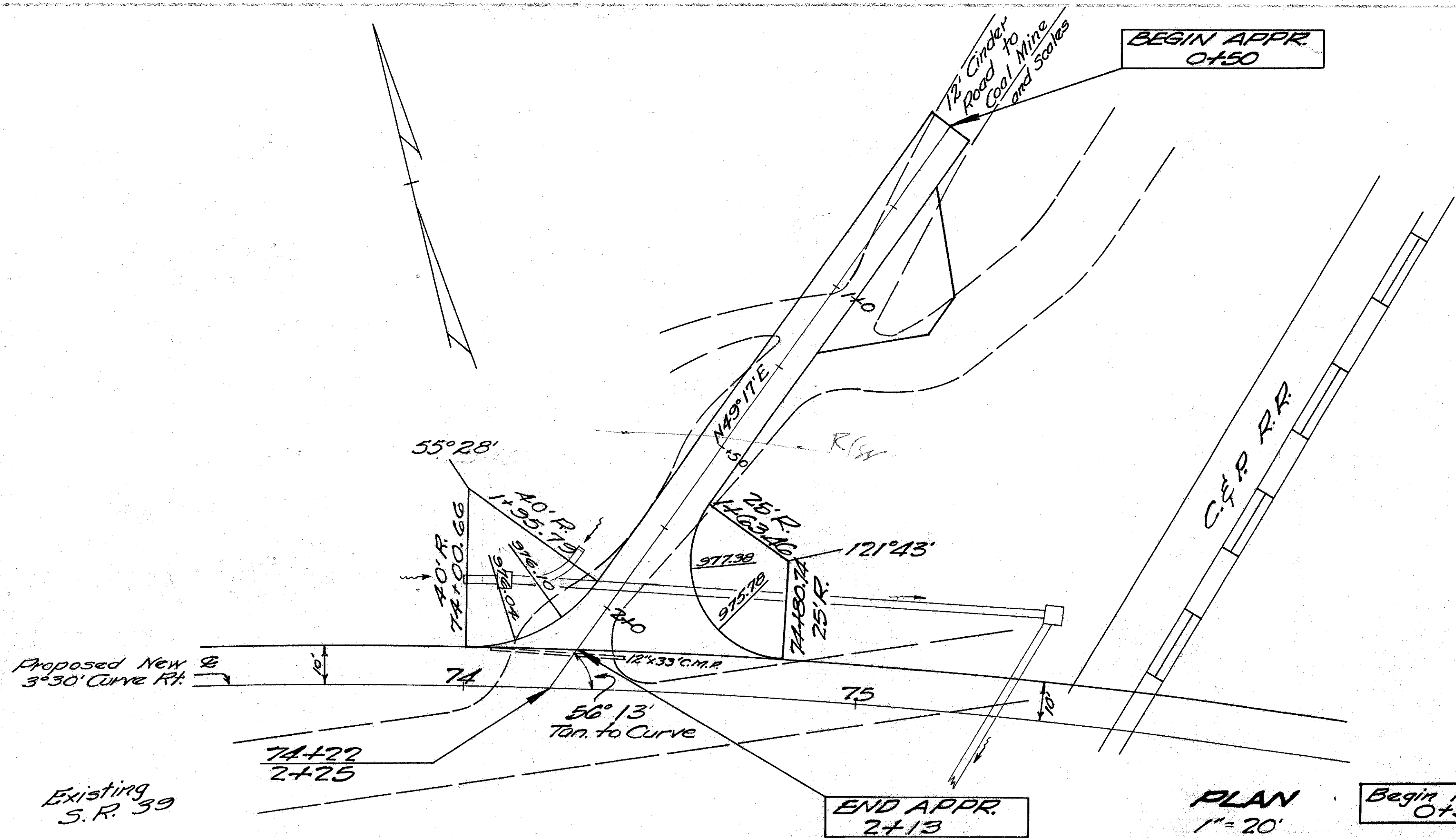
PLAN  
1" = 20'



APPROACH RT. STA. 64+75

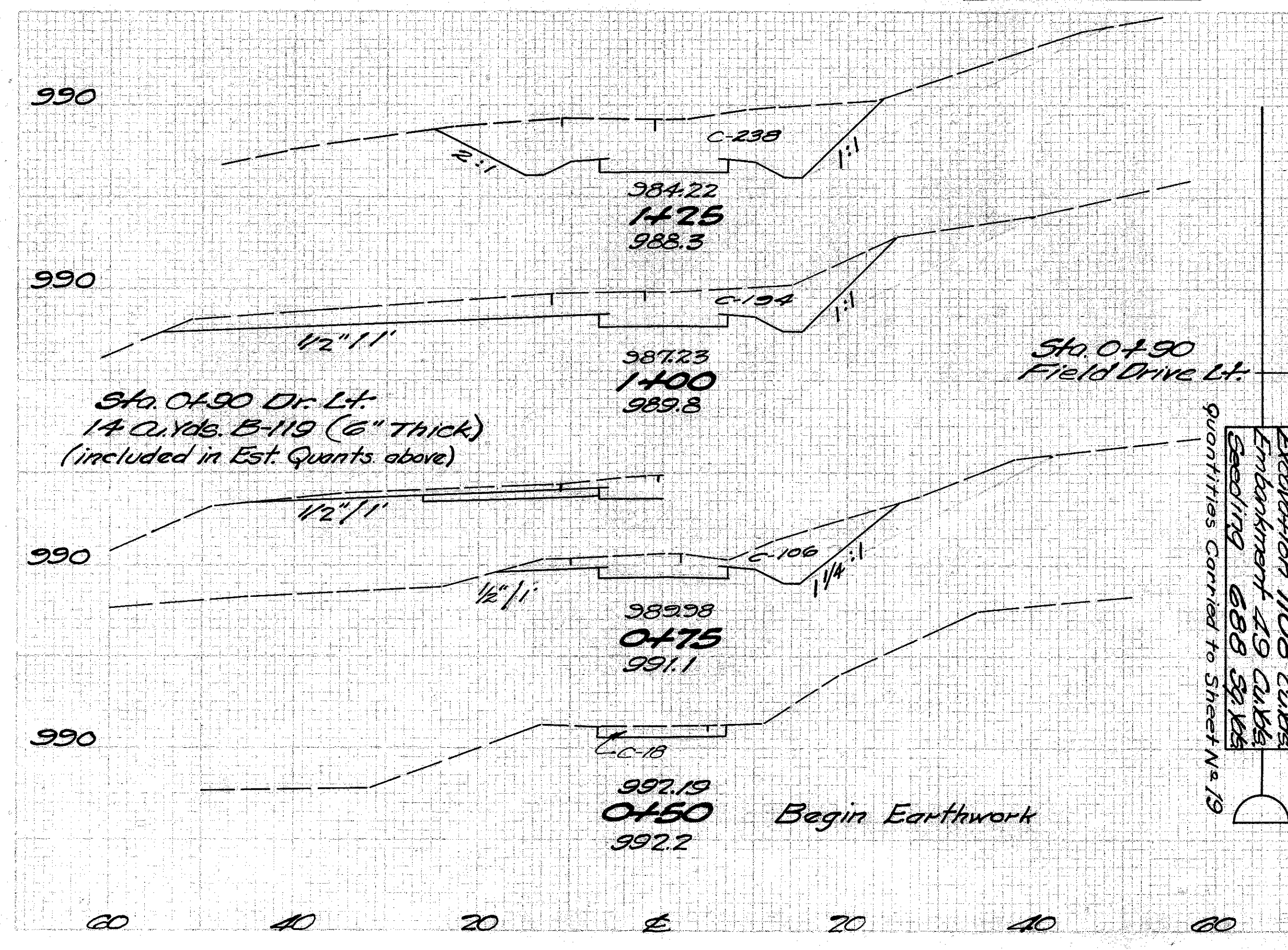


APPROACH LT. STA. 69+00



**ESTIMATED QUANTITIES**

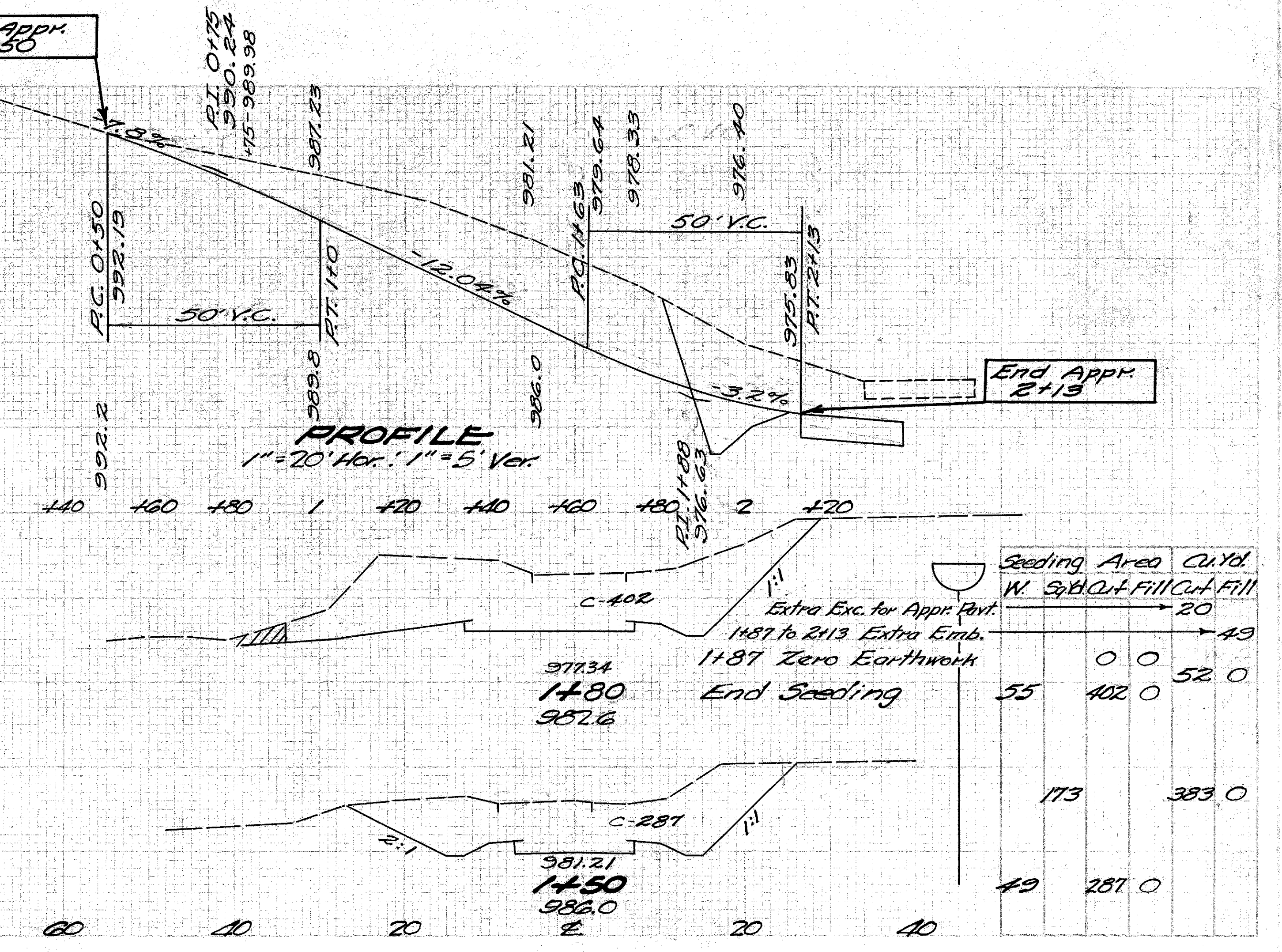
T-35 Surface Course	12 Cu.Yds.
B-35 Leveling Course	20 Cu.Yds.
T-30 Bituminous Prime Coat	103 Gals.
B-119 Base Course (49+14)	63 Cu.Yds.
I-22 Subbase	52 Cu.Yds.
E-101 Compacted Subgrade	279 Sq.Yds.



Station	Seeding Area	Cu.Yd.	W. Spd.	Fill	Cut	Fill
990	131	243	0			
985	45	238	0			
980	163	200	0			
975	77	194	0	14		
970	161	139	0			
965	39	106	0			
960	54	57	0			
955	0	18	0			

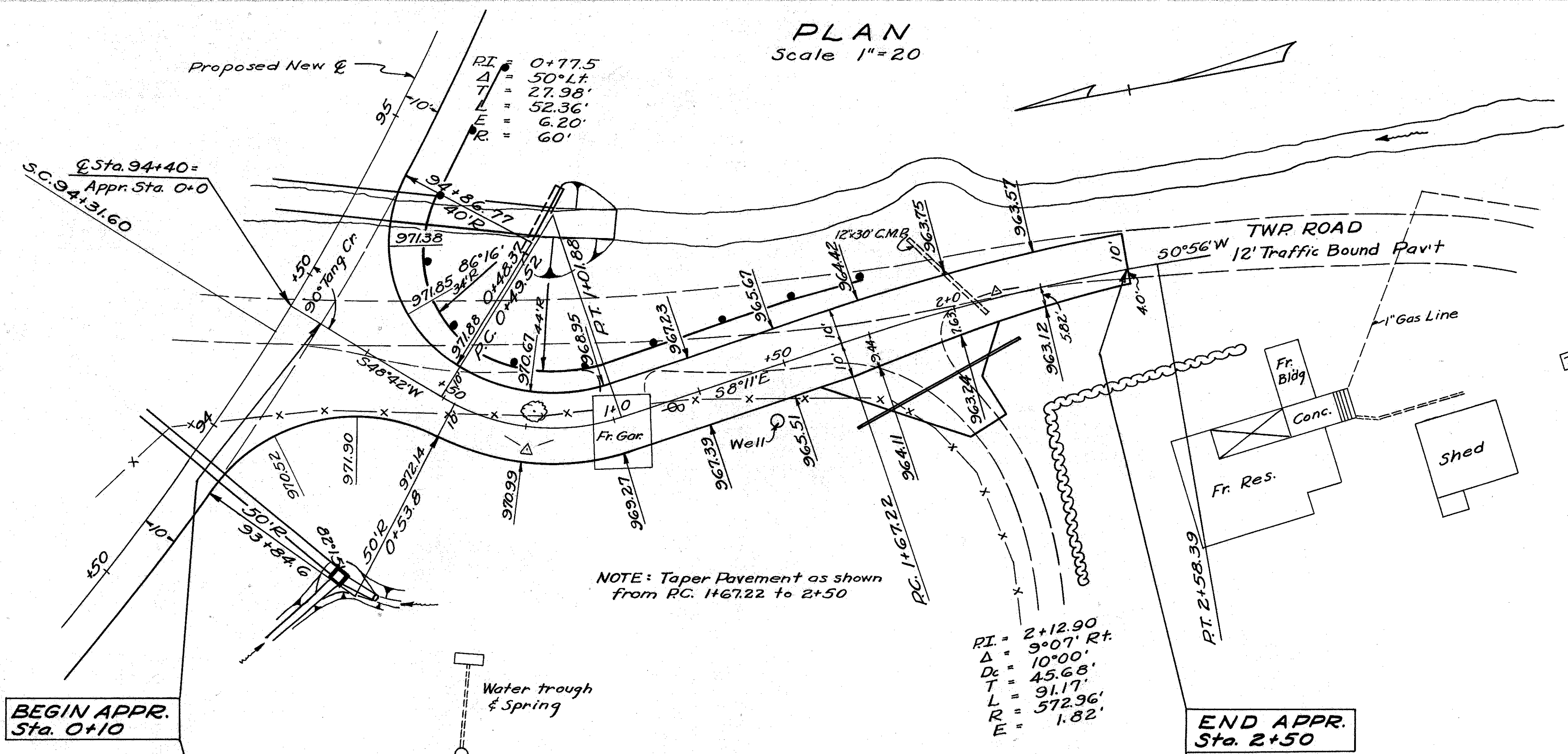
Excavation 1108 Cu.Yds.  
Embankment 49 Cu.Yds.  
Seeding 888 Sq.Yds.

Quantities Carried to Sheet No. 19



Station	Seeding Area	Cu.Yd.	W. Spd.	Fill	Cut	Fill
980	173	383	0			
975	49	287	0			
970	55	402	0	52	0	
965						
960						
955						
950						
945						
940						
935						
930						
925						
920						
915						
910						
905						
900						
895						
890						
885						
880						
875						
870						
865						
860						
855						
850						
845						
840						
835						
830						
825						
820						
815						
810						
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875						
870						
865						
860						
855						
850						
845						
840						
835						
830						
825						
820						
815						
810						
805						
800						
795						
790						
785						
780						
775						
770						
765						
760						
755						

**PLAN**  
Scale 1"=20'



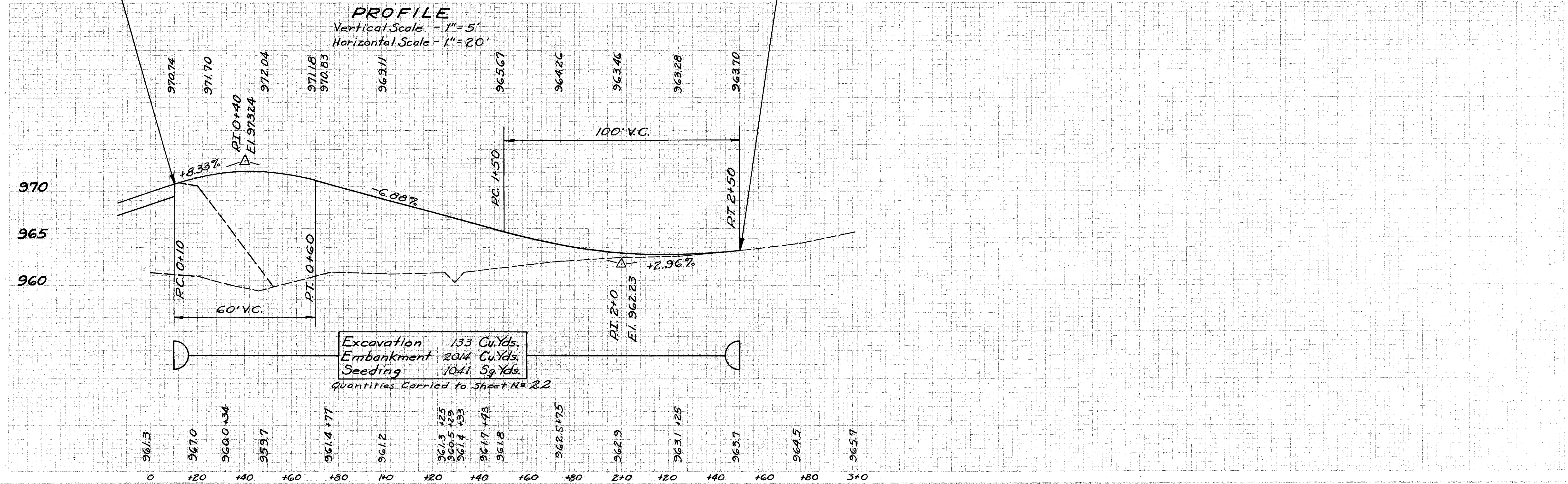
NOTE: Pavement on Approach shall be same type as shown on Typical Section Sheet 2.

**ESTIMATED QUANTITIES**

1 1/2" T-35 Surface Course	25 Cu.Yds.
2 1/2" B-35 Leveling Course	41 Cu.Yds.
T-30 Bituminous Prime Coat	216 Gals.
6" B-119 Base Course	103 Cu.Yds.
6" I-22 Subbase	107 Cu.Yds.
E-11 Compacted Subgrade	594 Sq.Yds.
12" Pipe Removal	30 Lin.Ft.

**PROFILE**

Vertical Scale - 1"=5'  
Horizontal Scale - 1"=20'

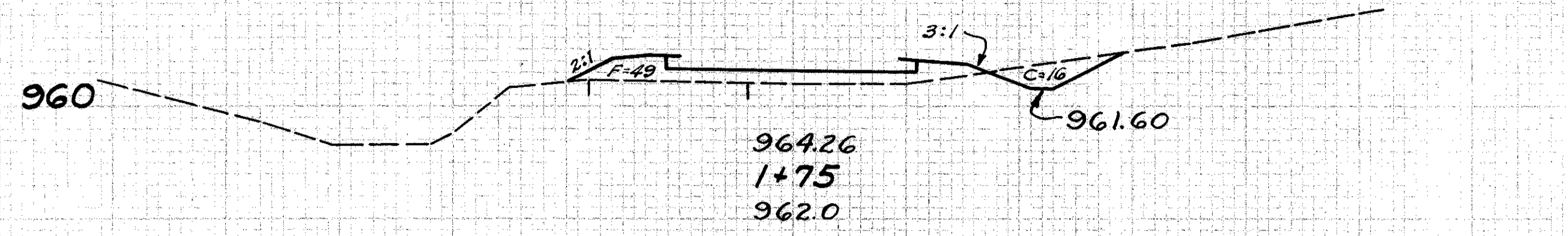


60 50 40 30 20 10 0 10 20 30 40 50 60

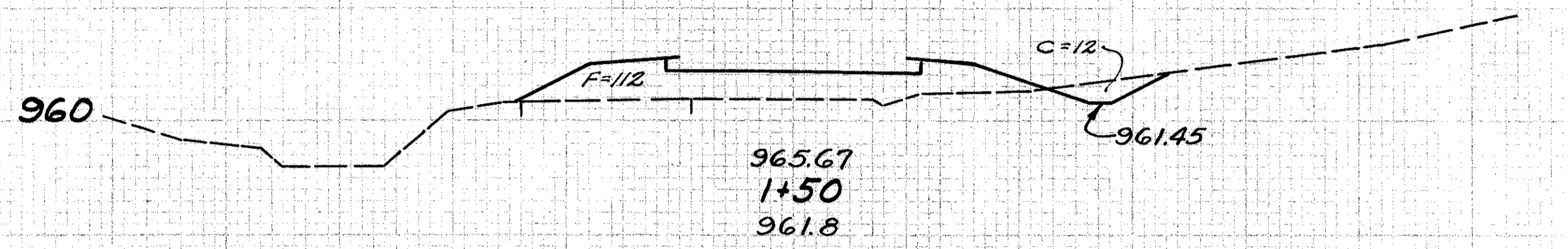
60 50 40 30 20 10 0 10 20 30

Seeding	End Area	Cu. Yds.
Width	Sq. Yds.	Cut Fill Exc. Emb.

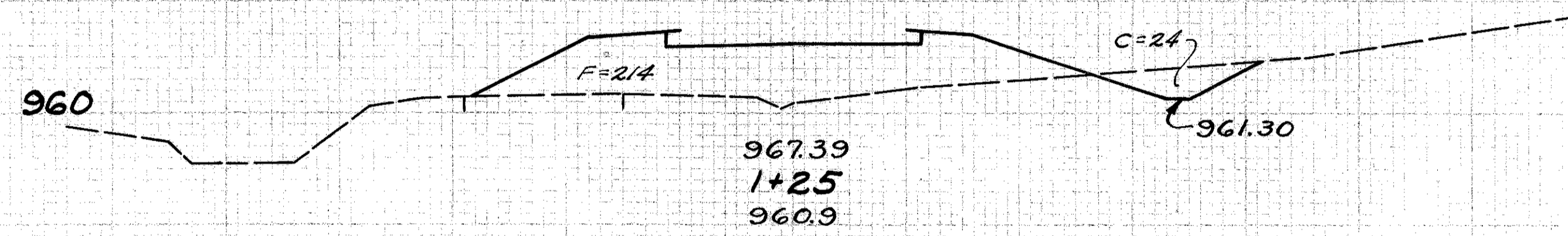
Seeding	End Area	Cu. Yds.
Width	Sq. Yds.	Cut Fill Exc. Emb.



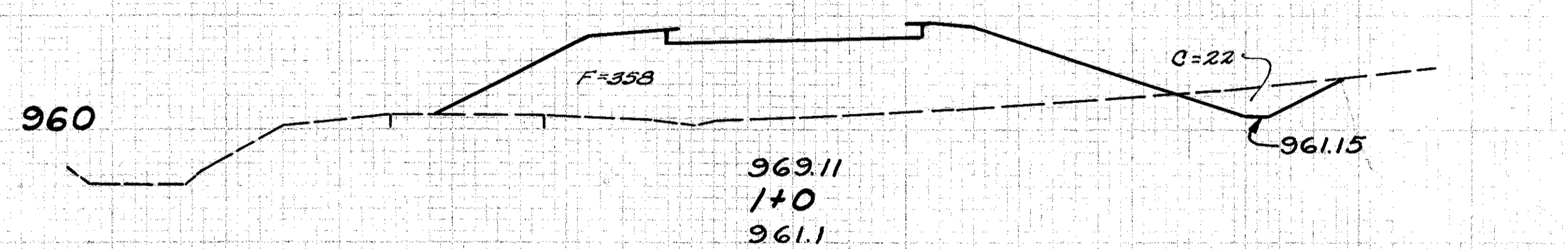
111	23.31	
36	16.49	



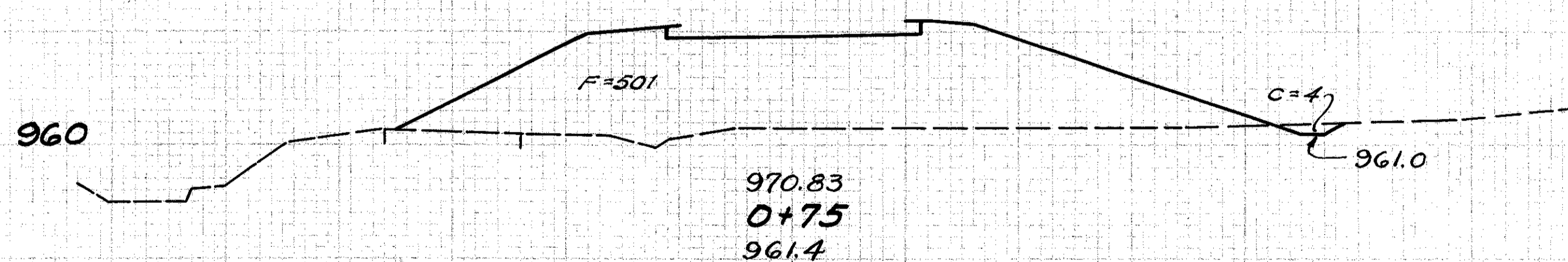
114	13.75	
46	12.112	



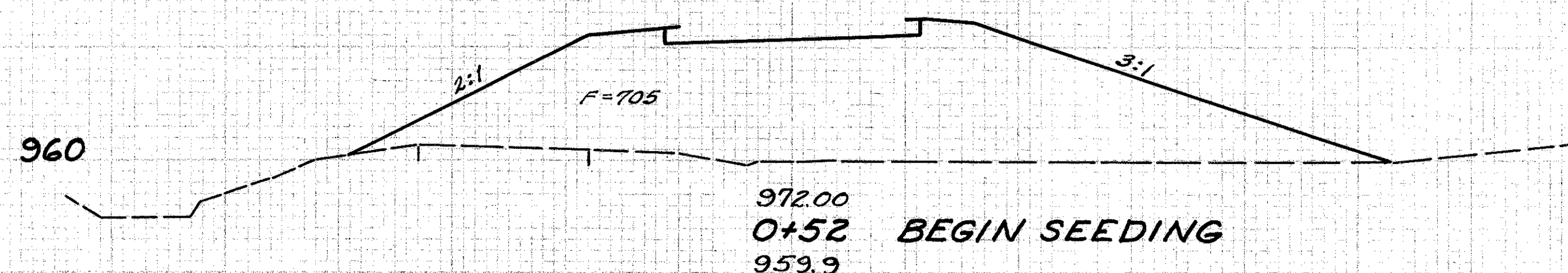
142	17.151	
56	24.214	



172	21.265	
68	22.358	



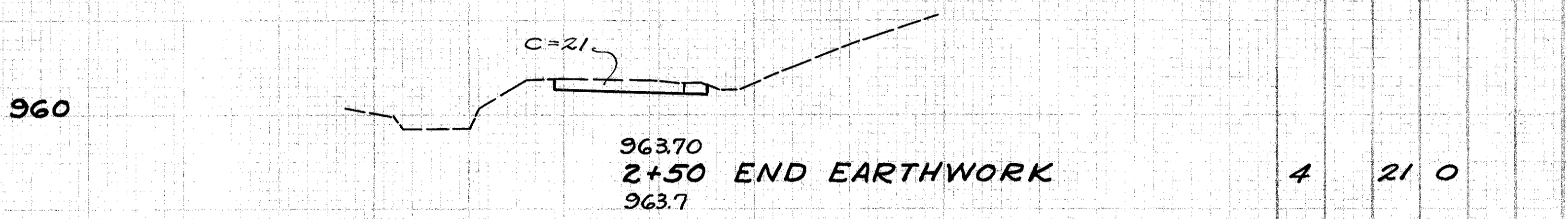
194	12.398	
72	4.501	



197	2.514	
82	0.705	

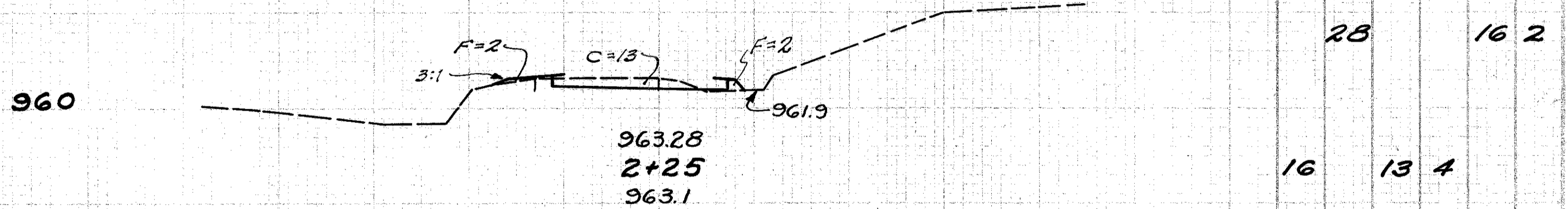
**BEGIN SEEDING**  
Sta. 0+10 **BEGIN EARTHWORK**

0	0	0.548
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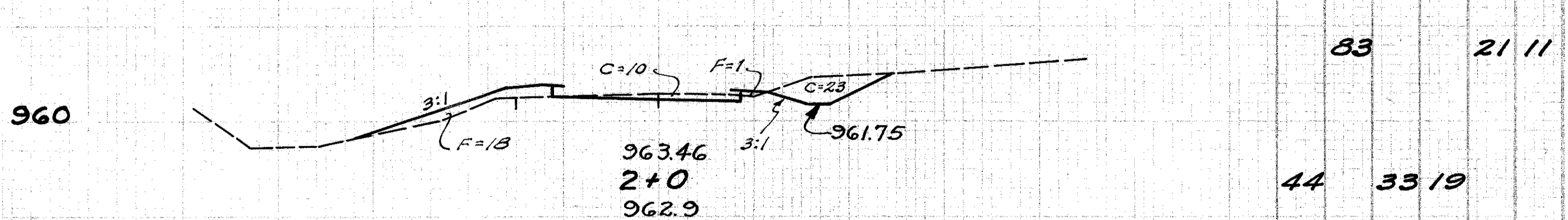
960		
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4	21.0	
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960		
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28	16.2	
16	13.4	



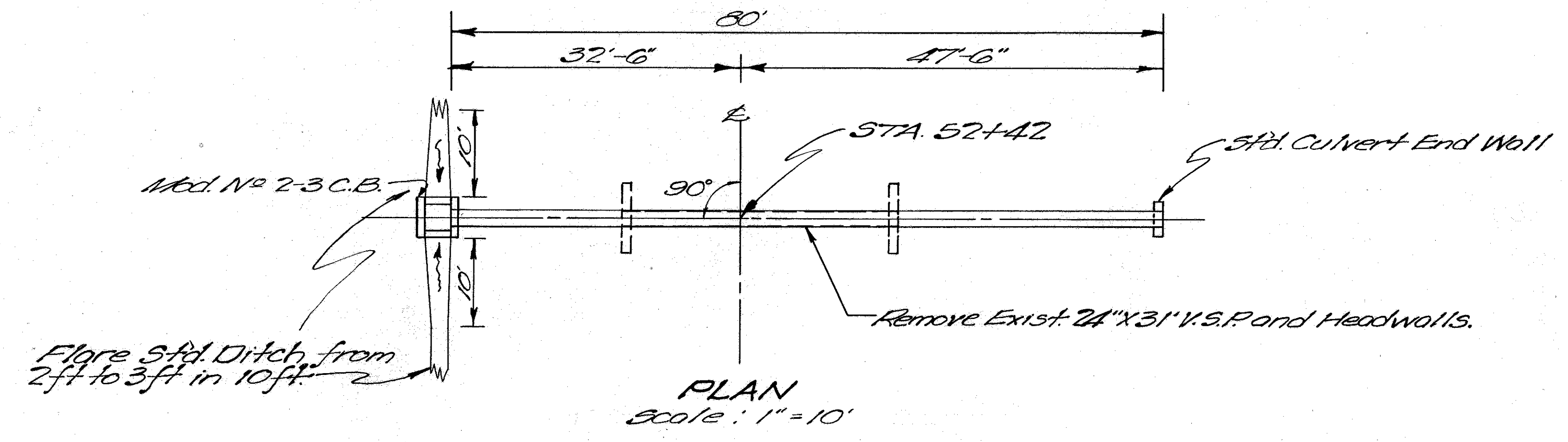
960		
-----	--	--

83	21.11	
44	33.19	

963.62  
1+90  
962.7  
**NOT FOR YARDAGE**  
Sta. 1+90 Drive Rt.  
5 Cu. Yds. T-35 (2" Thick)  
13 Cu. Yds. B-119 (5" Thick)  
50 Lin. Ft. 12" Pipe  
(Type 2 Driveway 28' Long, Δ=73)

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

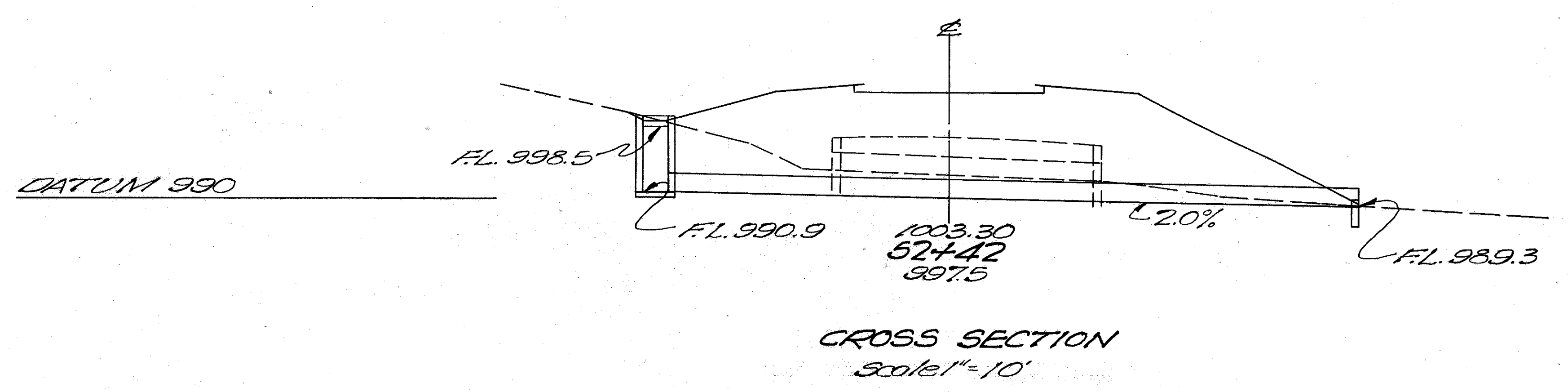
60 50 40 30 20 10 0 10 20 30



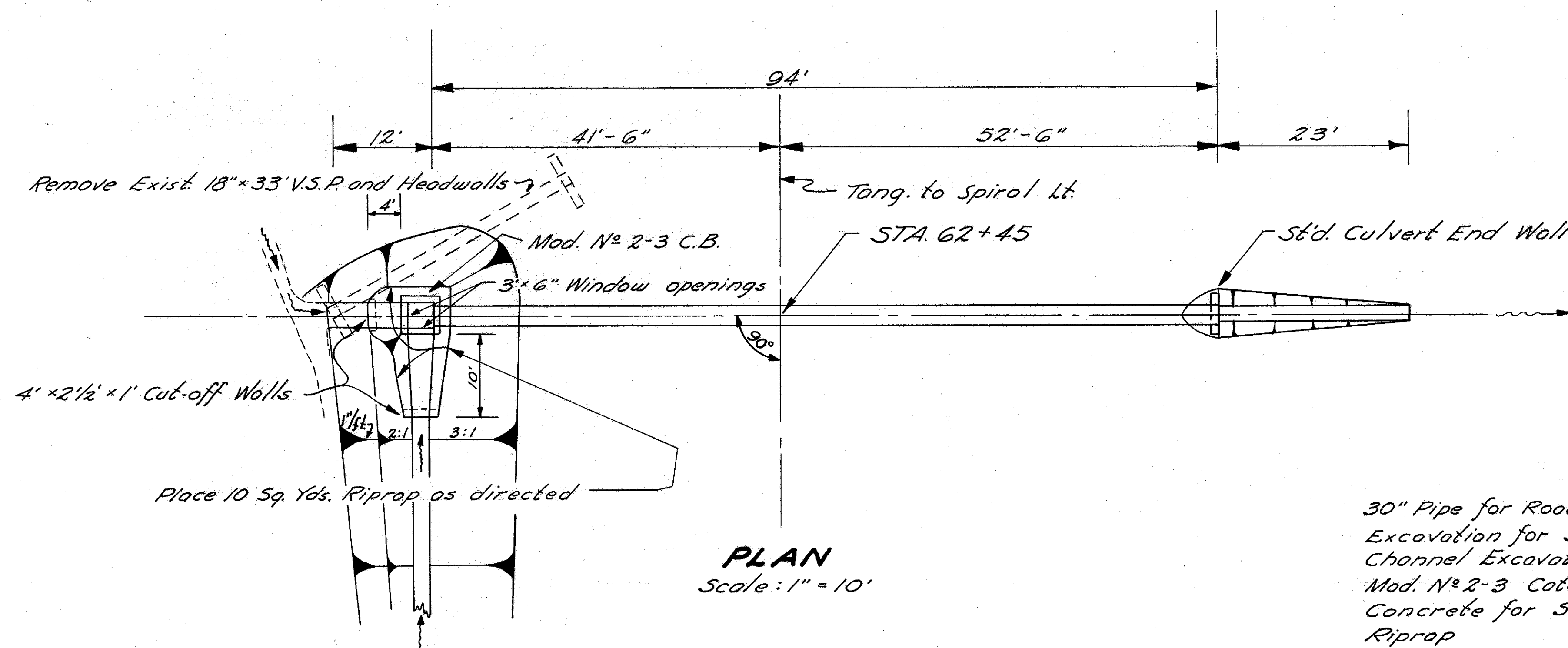
**ESTIMATED QUANTITIES**

24" Pipe for Roadway Culverts	80 Lin. Ft.
Excavation for Structures	43 Cu. Yds.
Concrete for Structures "Class E."	0.4 Cu. Yds.
Mod. No. 2-3 Catch Basin	1 Each
24" Pipe Removed (V.S.P.)	31 Lin. Ft.
Removal of Portions of Existing Structures	5 Cu. Yds.

Area: 6 acres  
Q<sub>25</sub>: 15 c.f.s.



**STA. 52+42  
24" X 80' PIPE CULVERT**



**ESTIMATED QUANTITIES**

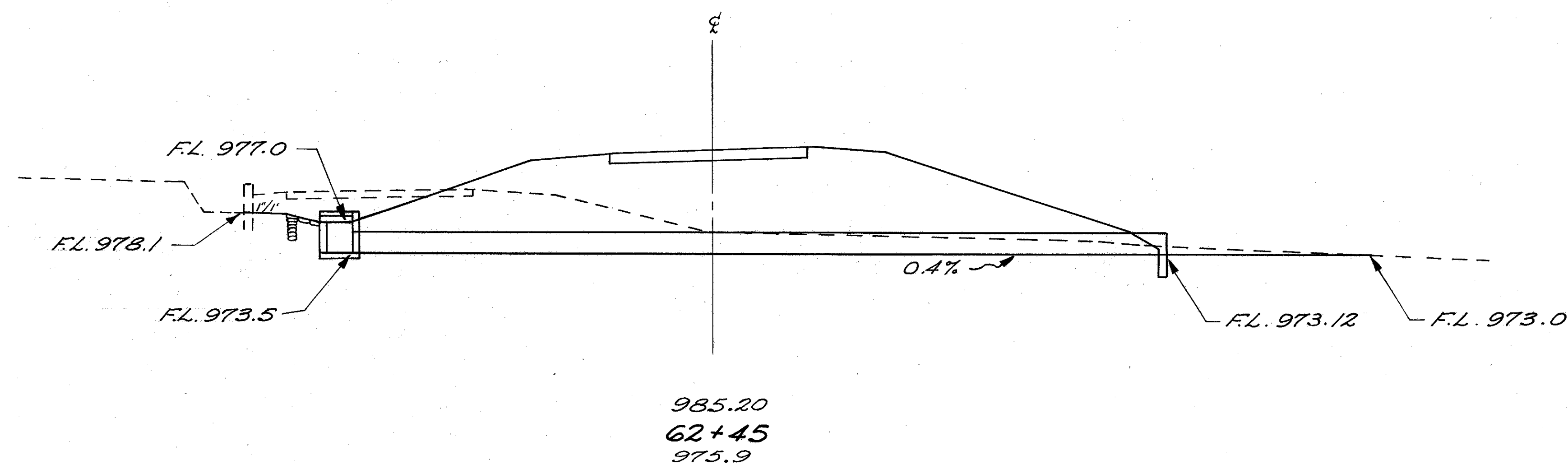
30" Pipe for Roadway Culverts	94 Lin. Ft.
Excavation for Structures	74 Cu. Yds.
Channel Excavation	45 Cu. Yds.
Mod. No. 2-3 Catch Basin	1 Each
Concrete for Structures "Class E"	0.5 Cu. Yds.
Riprap	10 Sq. Yds.
18" Pipe Removed (V.S.P.)	33 Lin. Ft.
Removal of Portions of Existing Structures	3 Cu. Yds.

Area: 16 acres  
Q<sub>25</sub>: 29 c.f.s.

990

DATUM 980

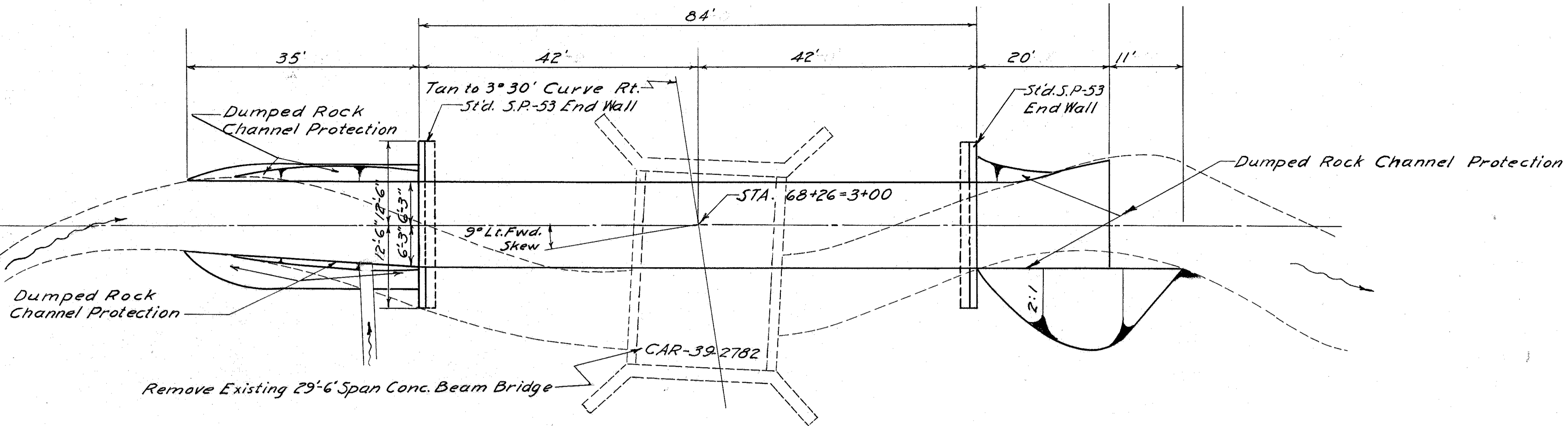
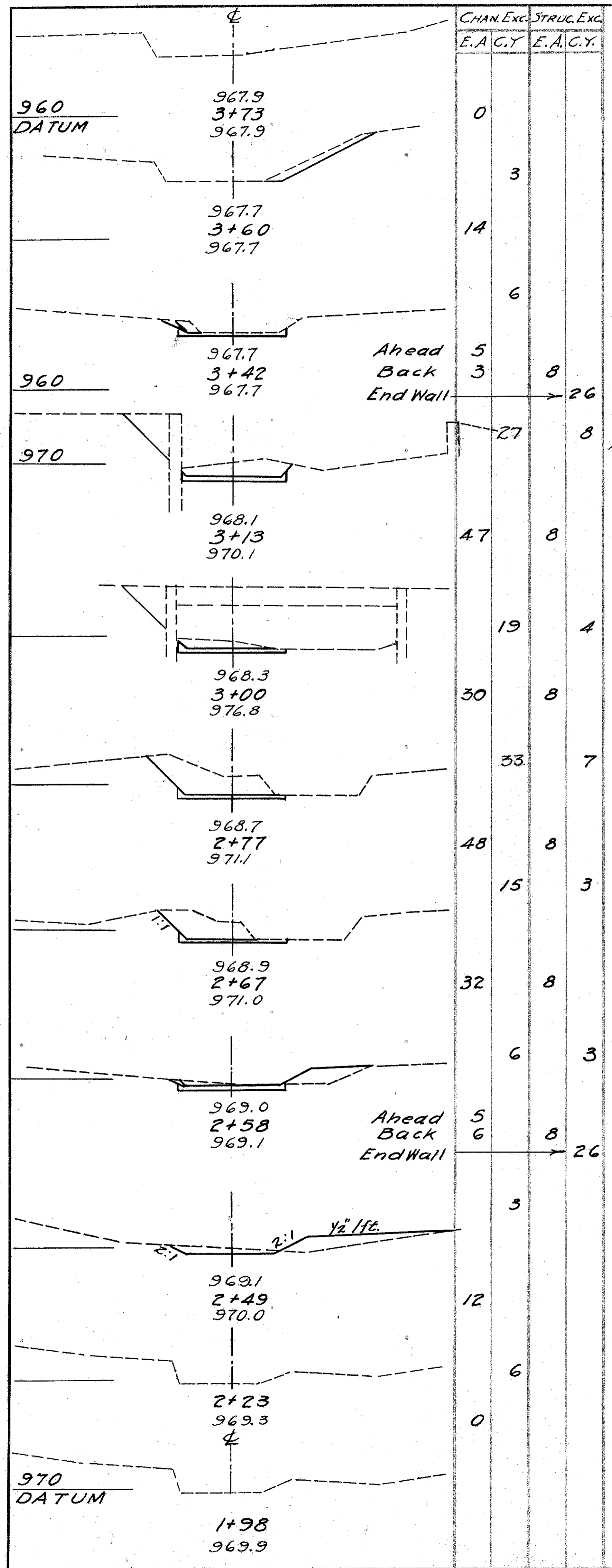
970



**CROSS SECTION**  
Scale: 1" = 10'

**STA. 62+45**  
**30" x 94' PIPE CULVERT**

CAR-39-2770



**PLAN**  
Scale 1"=10'

**NOTE:** Channel Excavation has been calculated through the roadway area for the entire length of pipe culvert. Backfill around the structure shall be placed in accordance with the requirements of Sec. E-2.08.

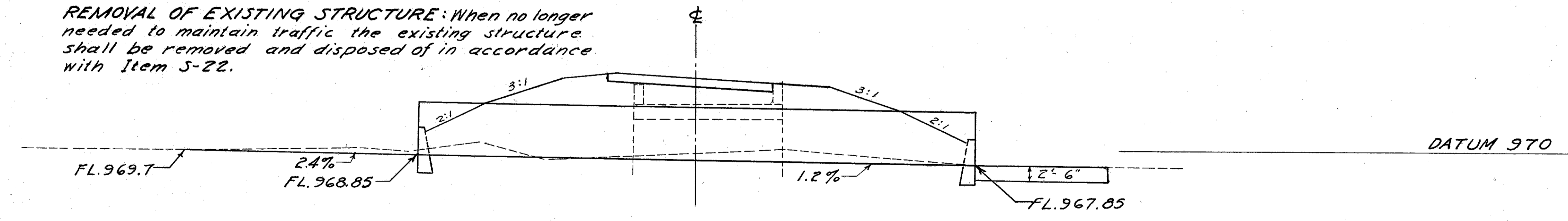
**NOTE:** For details not shown see Std. Drawing SP-53. Plates shall be formed with 2" corrugations and shall be No. 7 gage for bottom and corner plates and No. 8 gage for all others.

**TEMPORARY RUN-AROUND BRIDGE AND APPROACHES:** Bridge frequency rating, CF=130. Grade to be approximately the same as the existing pavement. Surface course shall be traffic compacted and quantities of aggregate and chloride are included in the General Summary, see Sheet No. 5

**REMOVAL OF EXISTING STRUCTURE:** When no longer needed to maintain traffic the existing structure shall be removed and disposed of in accordance with Item S-22.

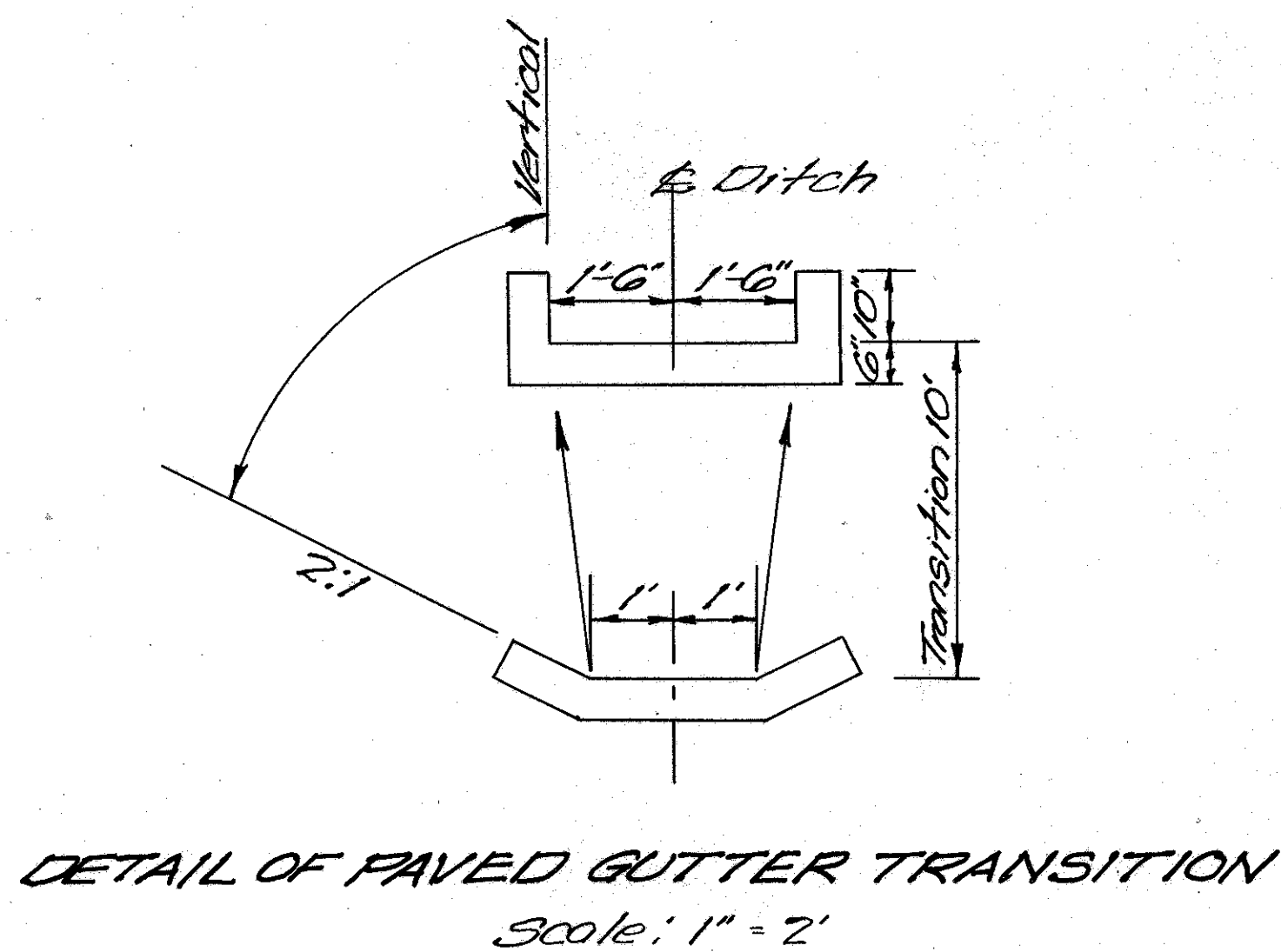
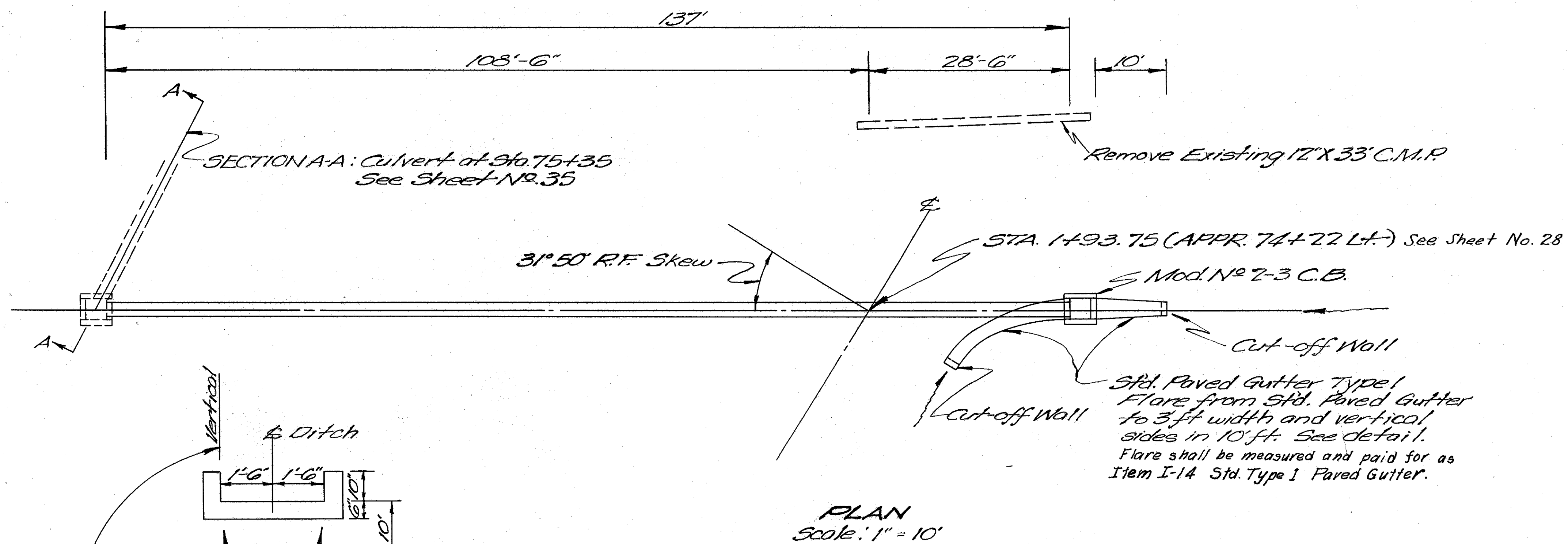
**ESTIMATED QUANTITIES**

12'-6" x 7'-11" Sectional Plate Pipe-Arch for Roadway Culverts. Sec. M-6.4(g)(d) Gage 8-7 ✓	84 Lin. Ft.
Excavation for Structures	77 Cu.Yds.
Channel Excavation	118 Cu.Yds.
Concrete for Structures "Class E"	17.4 Cu.Yds.
Removal of Portions of Existing Structures	43 Cu.Yds.
Dumped Rock Channel Protection	45 Cu.Yds.
Temporary Run-Around Bridge and Approaches	Lump Sum
Area: 1333 acres	
Q <sub>25</sub> : (Calculated) 650 cfs	



**CROSS SECTION**  
Scale: 1"=10'

STA. 68+26  
84' x 12'-6" x 7'-11" PLATE ARCH CULVERT



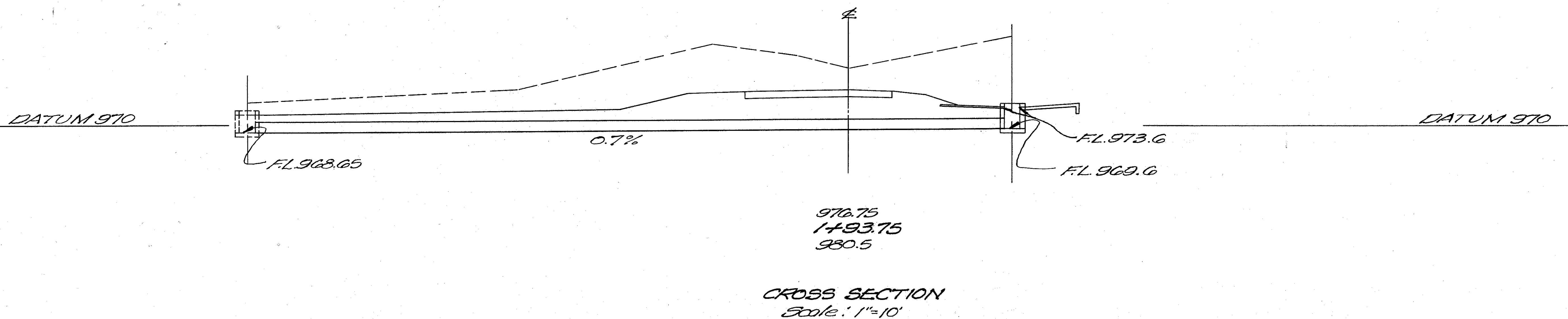
Std. Paved Gutter Type 1  
Flare from Std. Paved Gutter  
to 3 ft width and vertical  
sides in 10 ft. See detail.  
Flare shall be measured and paid for as  
Item I-14 Std. Type 1 Paved Gutter.

**ESTIMATED QUANTITIES**

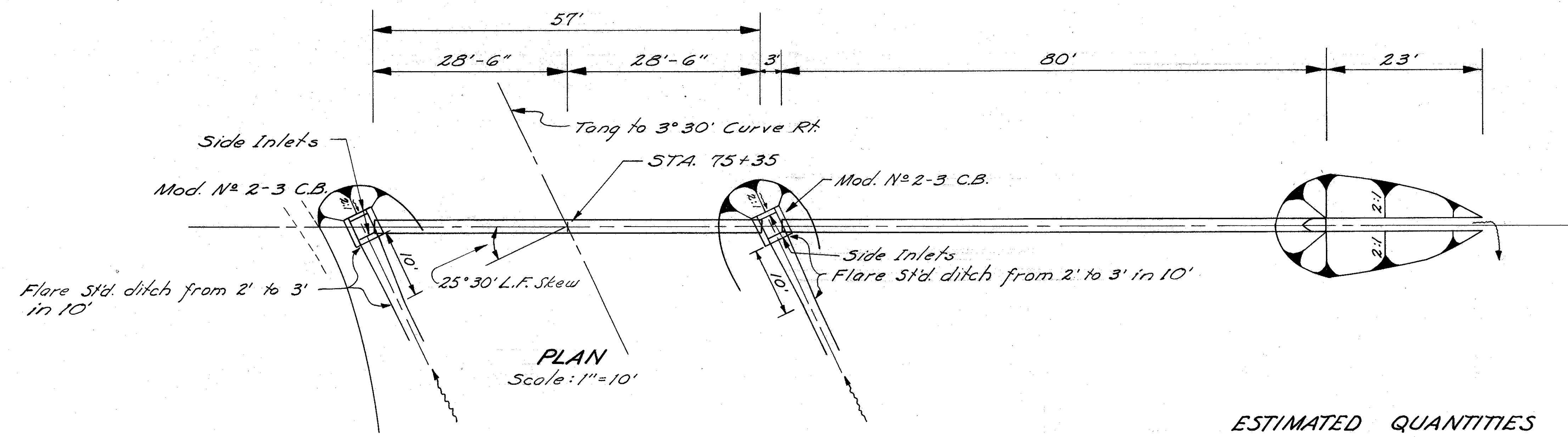
24" Pipe for Roadway Culverts  
Excavation for Structures  
Mod. No. 2-3 Catch Basin  
Std. Paved Gutter Type 1  
12" Pipe Removed (C.M.P.)

137 Lin. Ft.  
93 Cu. Yds.  
1 Each  
30 Lin. Ft.  
33 Lin. Ft.

Area: 6 acres  
Q<sub>25</sub>: 15 c.f.s.



**STA. 1+93.75 ON APPR. 74+22 L+**  
**24" X 137' PIPE CULVERT**

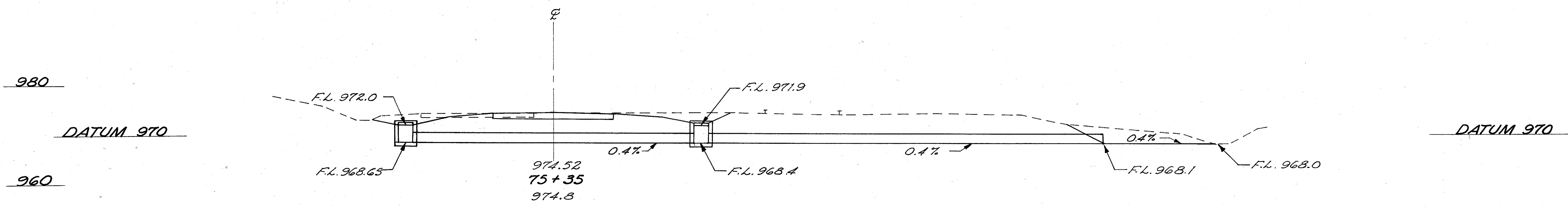


**ESTIMATED QUANTITIES**

24" Pipe for Roadway Culverts  
 Excavation for Structures  
 Channel Excavation  
 Mod. N° 2-3 Catch Basin

137 Lin. Ft.  
 105 Cu. Yds.  
 17 Cu. Yds.  
 2 Each

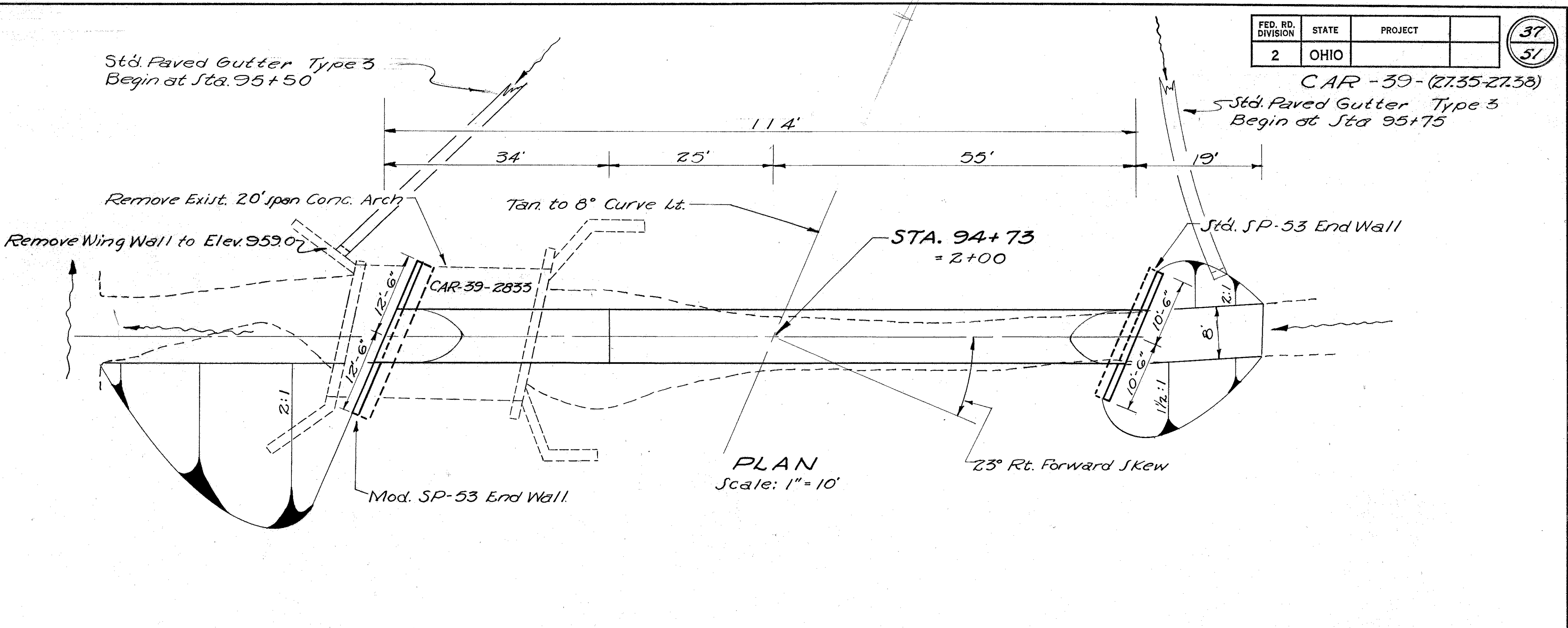
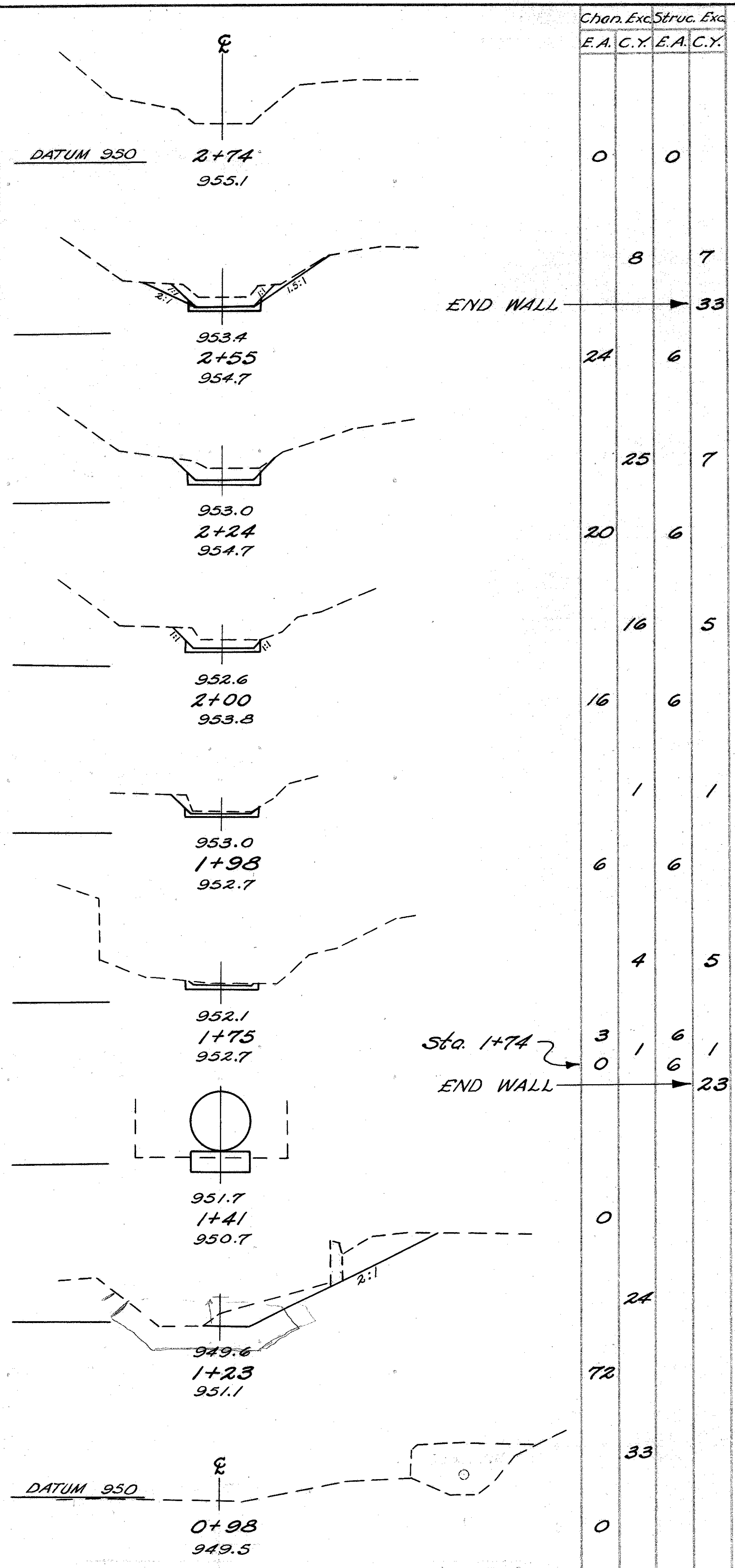
Area: 6 acres  
 Qas: 15 cfs.



**CROSS SECTION**  
Scale: 1" = 10'

CAR-39-2794  
**STA. 75 + 35**  
**24" x 137' PIPE CULVERT**





**NOTE:** Channel Excavation has been calculated through the roadway area for the entire length of pipe culvert. Backfill around the structure shall be placed in accordance with the requirements of Sec. F-2.0B.

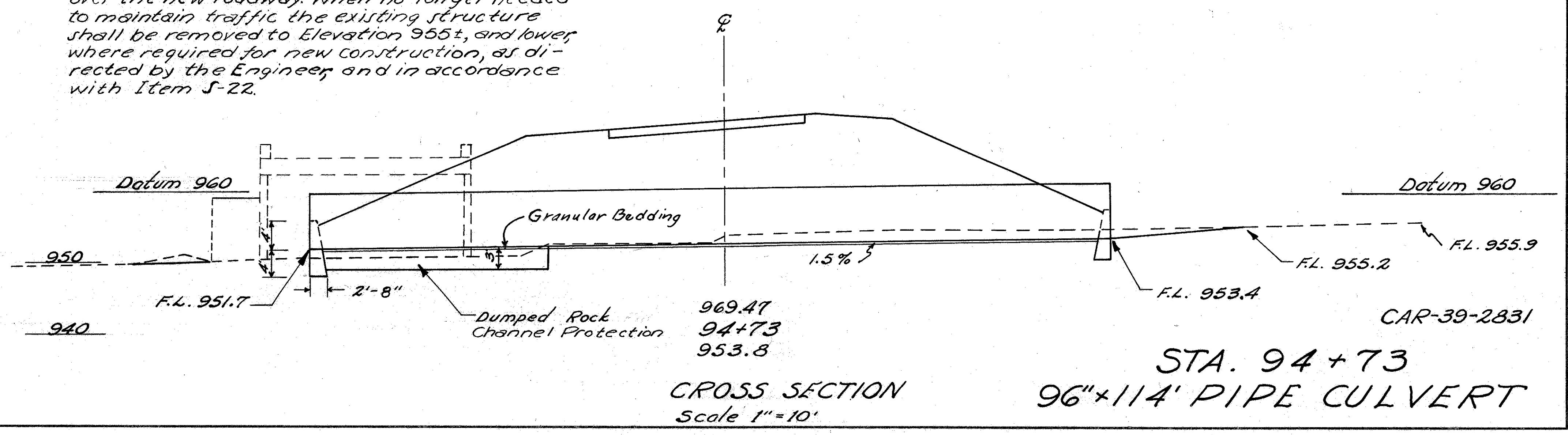
**NOTE:** For details not shown see Std. Drawing SP-53. Plates shall be formed with 2" corrugations and shall be No. 8 for bottom plates and No. 10 for all others.

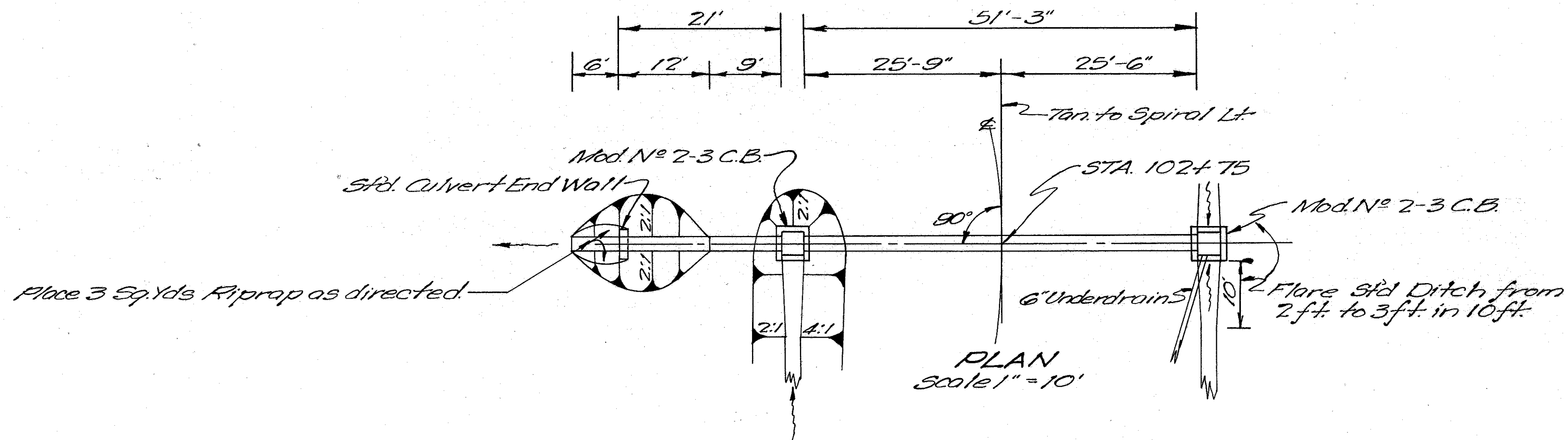
**REMOVAL OF EXISTING STRUCTURE:** The proposed culvert shall be constructed in such a manner that traffic can be maintained on the existing bridge until it can be re-routed over the new roadway. When no longer needed to maintain traffic the existing structure shall be removed to Elevation 955±, and lower where required for new construction, as directed by the Engineer, and in accordance with Item S-22.

**ESTIMATED QUANTITIES**

96" Sectional Plate Corrugated Metal Pipe for Roadway	114 Lin. Ft.
Culverts Sec. M-6.4 (g)(d) Gage 10-8	112 Cu. Yds.
Channel Excavation	82 Cu. Yds.
Excavation for Structures	19.3 Cu. Yds.
Concrete for Structures "Class E"	26 Cu. Yds.
Dumped Rock Channel Protection	95 Cu. Yds.
Removal of Portions of Existing Structures	186 Lin. Ft.
Std. Paved Gutter Type 3	

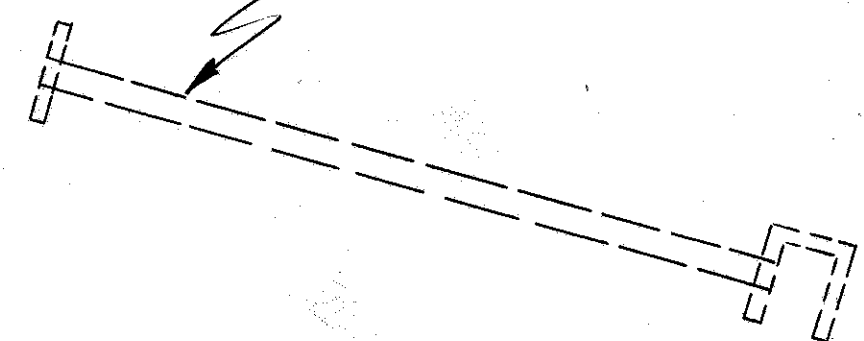
Area: 650 acres  
Q<sub>25</sub>: 425 cfs.





Place 3 Sq. Yds Riprap as directed.

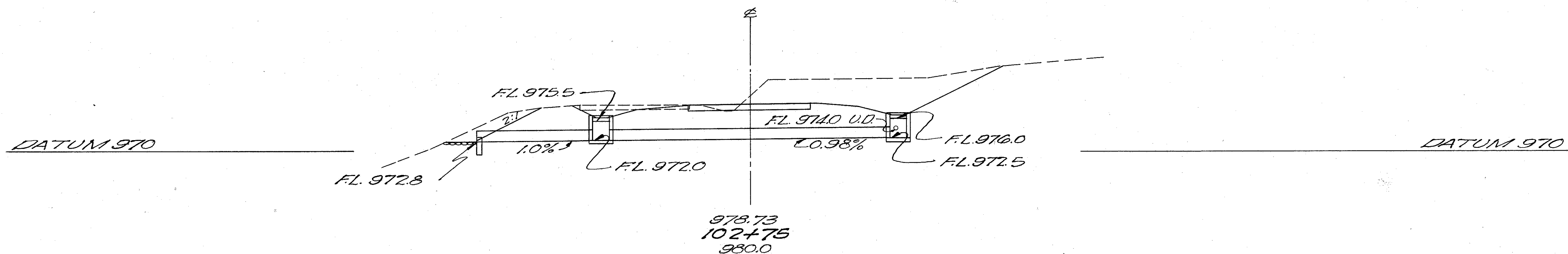
Remove Exist. 18" X 18" X 39' Stone Box Culvert and Headwalls



**ESTIMATED QUANTITIES**

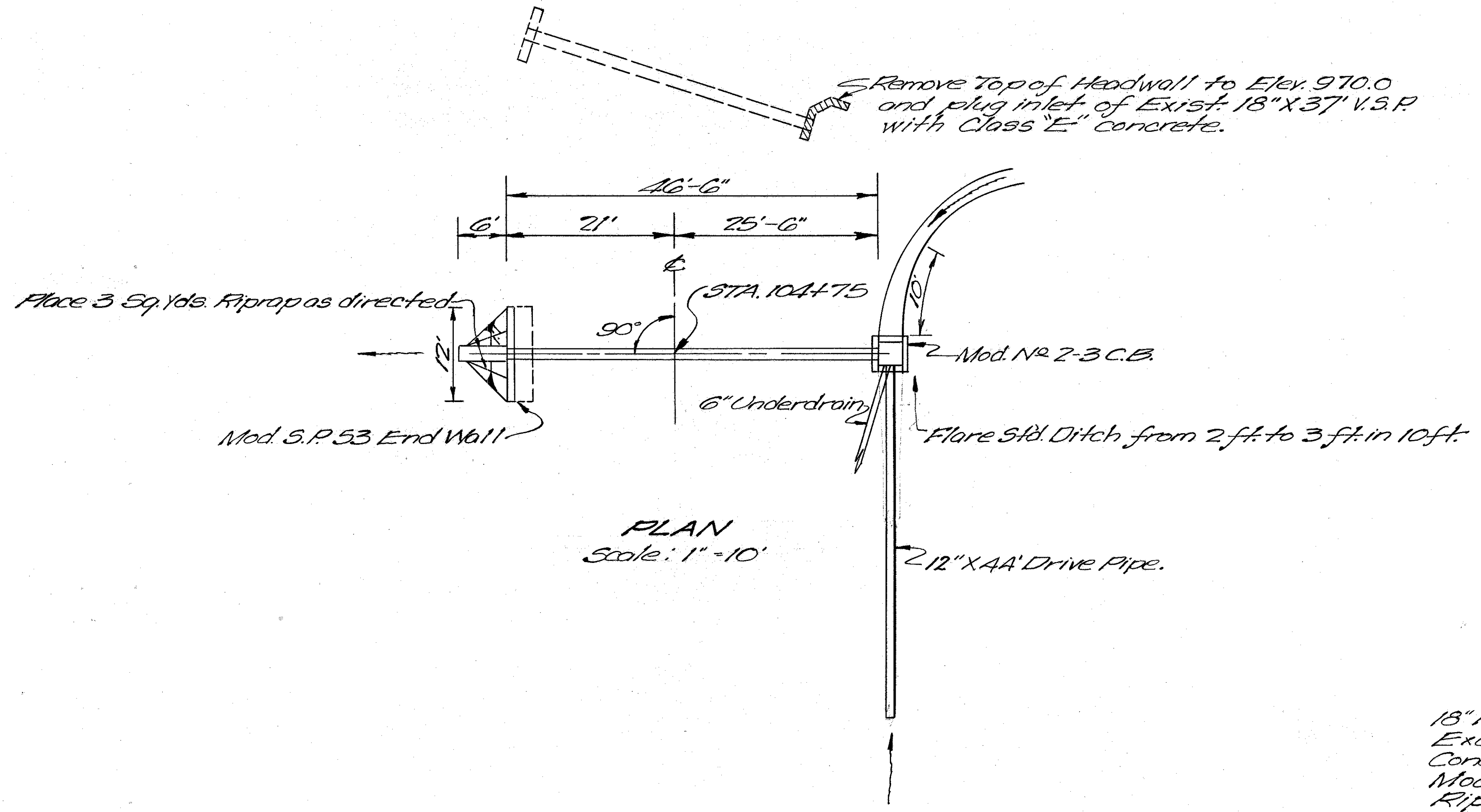
24" Pipe for Roadway Culverts	73 Lin. Ft.
Excavation for Structures	53 Cu. Yds.
Channel Excavation	8 Cu. Yds.
Mod. No. 2-3 Catch Basins "Class E."	2 Each
Concrete for Structures "Class E."	0.4 Cu. Yds.
Riprap	3 Sq. Yds.
Removal of Portions of Existing Structures.	7 Cu. Yds.

Area: 0 acres  
Q<sub>25</sub>: 10 cfs.



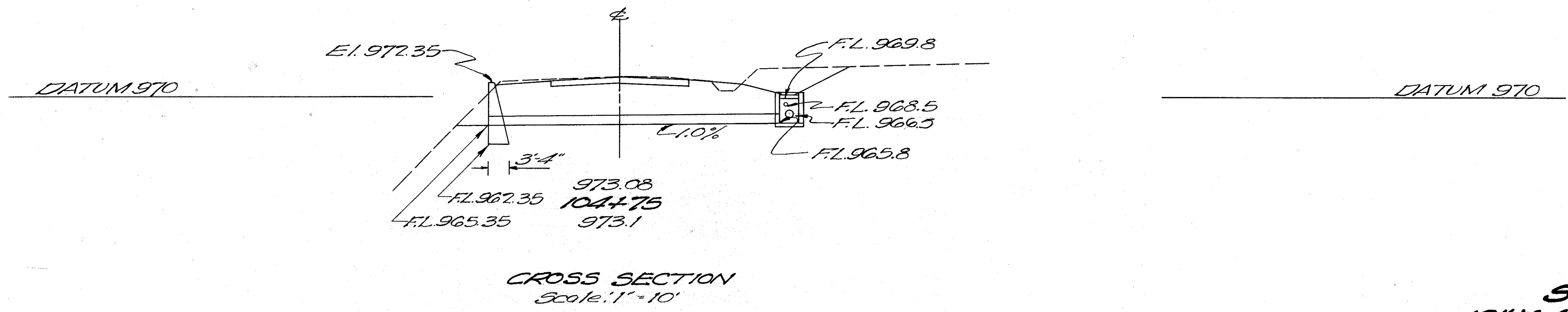
CROSS SECTION  
Scale: 1" = 10'

STA. 102+75  
24" X 73' PIPE CULVERT



**ESTIMATED QUANTITIES**

18" Pipe for Roadway Culverts	47 Lin. Ft.
Excavation for Structures	58 Cu. Yds.
Concrete for Structures "Class E"	90 Cu. Yds.
Mod. No 2-3 Catch Basin	1 Each
Riprap	3 Sq. Yds.
Removal of Portions of Existing Structures	1 Cu. Yd.

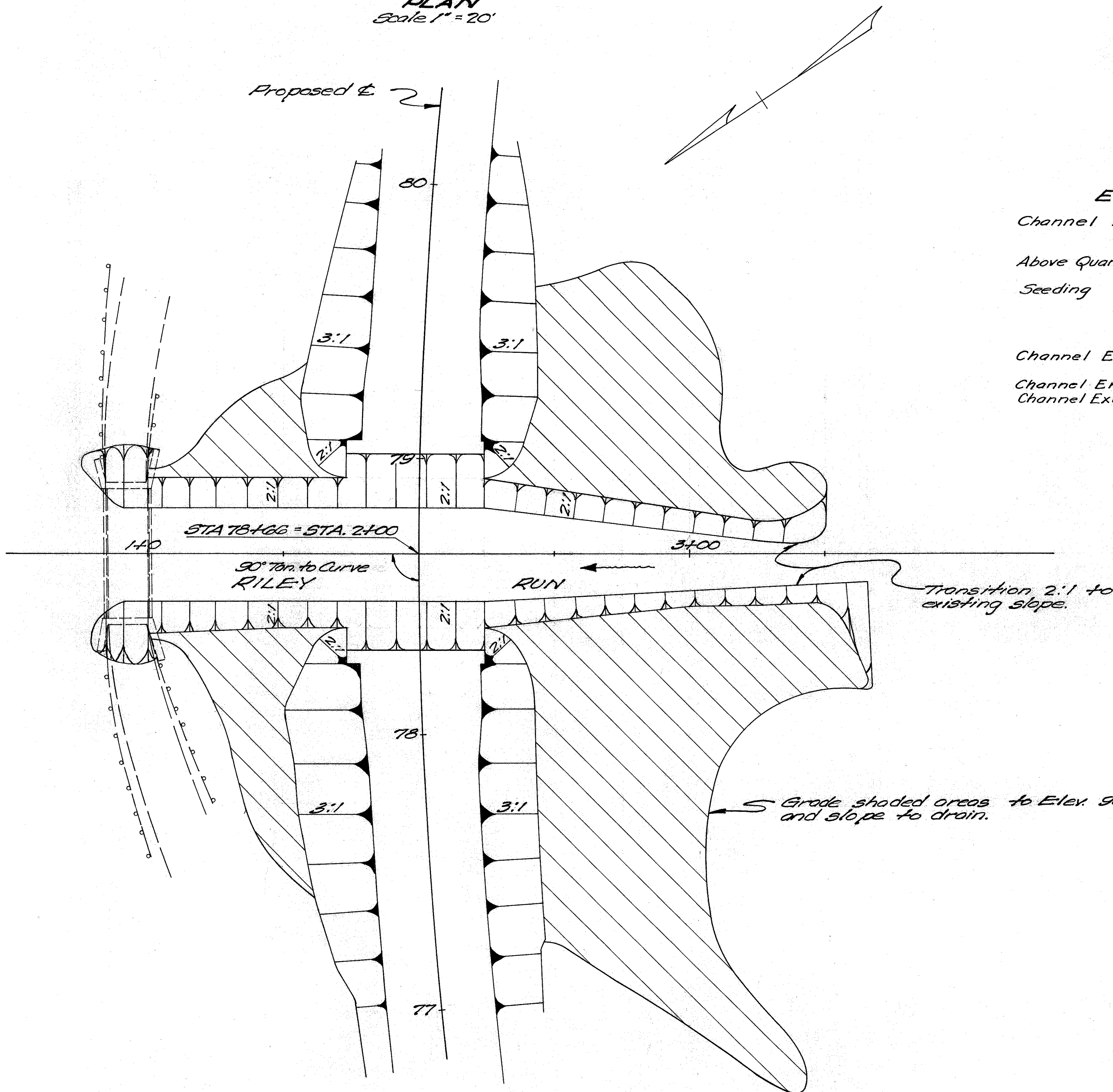


PLAN  
Scale 1" = 20'

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

40  
31

CAR-39 (27.35-27.38)



**ESTIMATED QUANTITIES**

Channel Excavation 906 Cu. Yds.

Above Quantity carried to Bridge Summary Sheet No. 49

Seeding 2578 Sq. Yds.

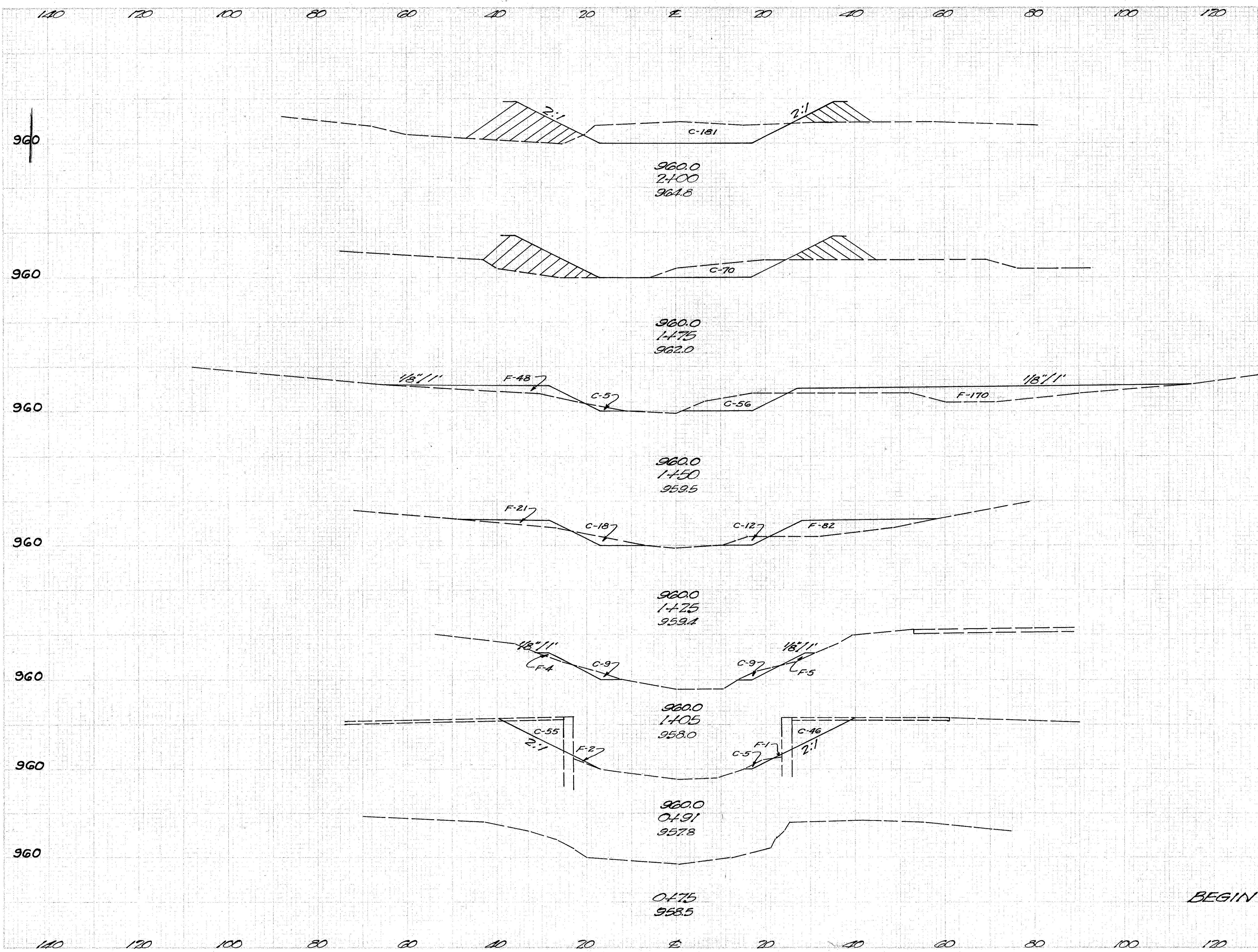
Carried to Sheet No. 20

Channel Embankment 1264 Cu. Yds.

Channel Embankment to be made from suitable  
Channel Excavation and excess Roadway Excavation.

Transition 2:1 to  
existing slope.

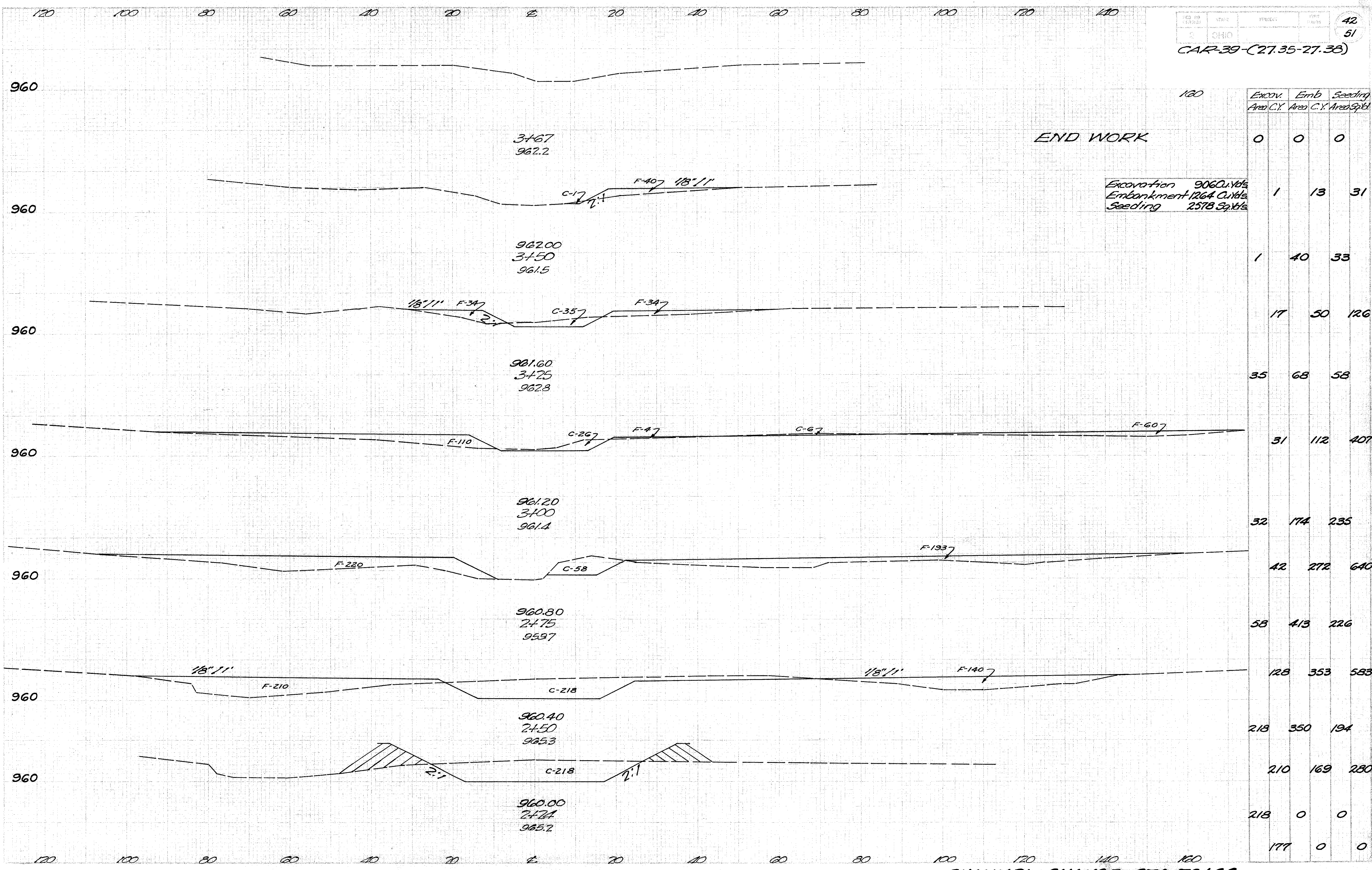
Grade shaded areas to Elev. 966.0 ±  
and slope to drain.



Excav. Area C.Y.	Emb Area C.Y.	Seeding Area Spkt.
181	0	0
116	0	0
70	0	0
61	101	174
61	218	125
42	149	244
30	103	51
18	41	68
18	9	10
32	3	16
106	3	10
31	1	9
0	0	0

BEGIN WORK

CHANNEL CHANGE STA. 78+00



END WORK

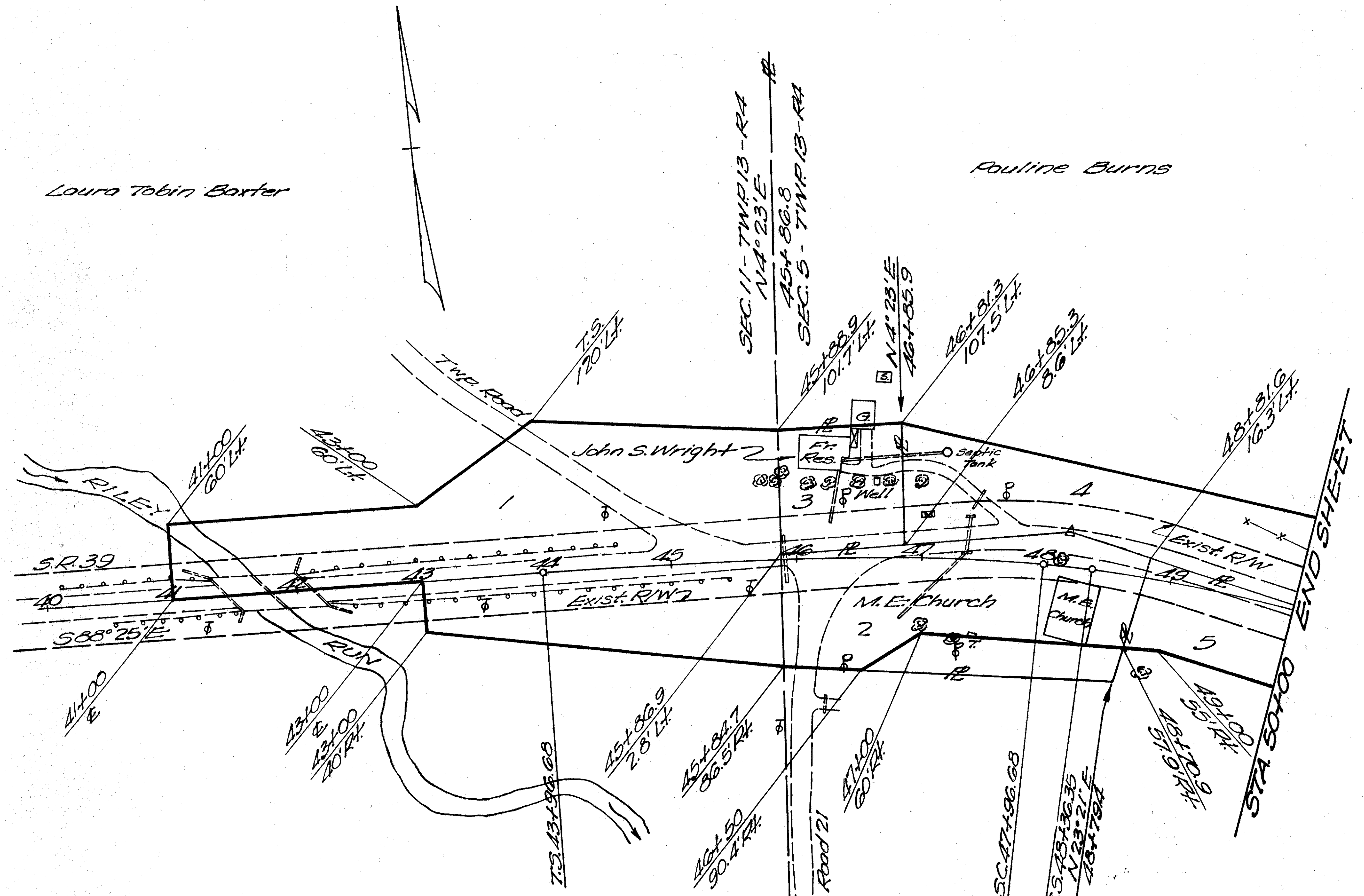
Excavation 906 Cu. Yds  
 Embankment 1264 Cu. Yds  
 Seeding 2578 Sq. Yds

Excav. Area	Emb. Area	Seeding Area
C.Y.	C.Y.	Sq. Yds
0	0	0
1	13	31
1	40	33
17	50	126
35	68	58
31	112	407
32	174	235
42	272	640
58	413	226
128	353	583
218	350	194
210	169	280
218	0	0
177	0	0

FOX TWP - SEC 5 & 11 - TWP 13 - R4

CAR 39-(27.35-27.38)  
RIGHT OF WAY PLAN

SUMMARY OF ADDITIONAL R/W REQUIRED					
Parcel No.	OWNER	Area Acres	Exist. Blk. No.	Sheet No.	Remarks
1	Laura Tobin Baxter	0.85	No		
2	M.E. Church	0.33	Yes		
3	John S. & Marie M. Wright	0.16	Yes		
4	Pauline Burns	2.79	Yes		
4A	"	0.06	No		
4B	"	1.07	No		
5	George A. & Charles Leishman	0.53	No		
5A	"	0.75	No		
6	Sterling Coal Co.	1.11	No		
7	Willard Madison	0.26	No		
8	Board of Public Affairs	-	No		
9	Charles Hetherington	4.09	Yes		
9X	"	0.86	No		
10	Village of Salineville	-	No		
11	Orville D. Hetherington	3.21	No		
12	Harold W. & Doris J. Twaddle	0.26	Yes		
13	Jane Dunlap House	0.21	No		
4-T	Pauline Burns	0.03	No		
4A-T	"	0.03	No		
6-T	Sterling Coal Co.	0.04	No		



1  
Laura Tobin Baxter

P.R.O. = 0.53 A<sup>±</sup>  
T.B.A. = 0.85 A<sup>±</sup>

2  
M.E. Church

P.R.O. = 0.21 A<sup>±</sup>  
T.B.A. = 0.33 A<sup>±</sup>

3  
John S. & Marie M. Wright

P.R.O. = 0.07 A<sup>±</sup>  
T.B.A. = 0.16 A<sup>±</sup>

Laura Tobin Baxter

RI 18+20.18  
Δ = 21° 59' R#  
Q = 5° 00'  
T<sub>s</sub> = 423.50  
L<sub>s</sub> = 400  
L<sub>c</sub> = 396.7  
E<sub>s</sub> = 27.33  
R<sub>s</sub> = 1146.92  
Q<sub>s</sub> = 10° 00'

George A. & Charles Leishman

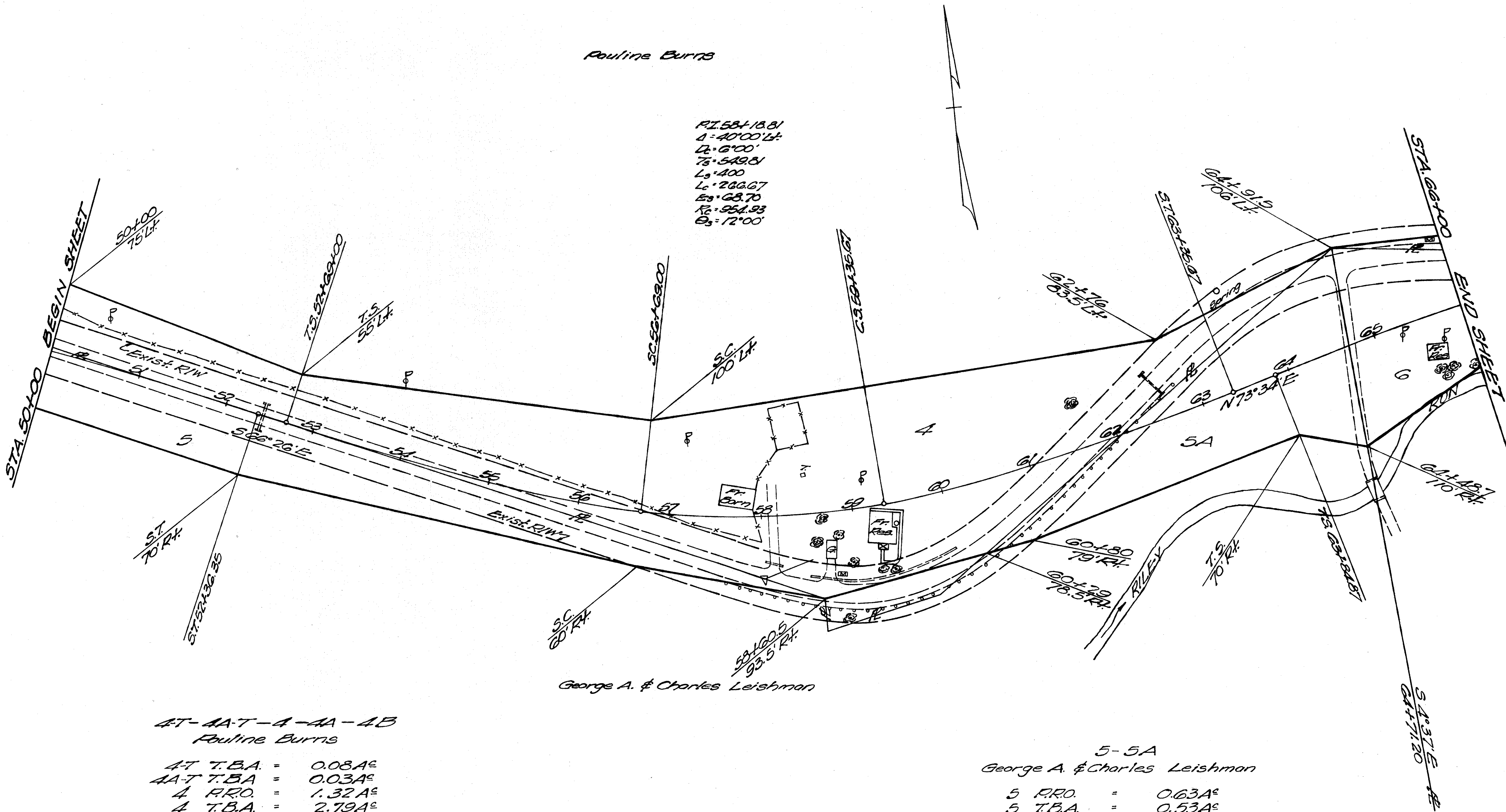
END SHEET

STA 50+00

FOX TWP - SEC 5 - TWP 13 - RA

Routine Burrs

P1: 53+13.81  
 Δ = 40°00' Lf.  
 L1: 6'00'  
 T1: 549.81  
 L2: 400  
 L3: 286.67  
 E1: 68.70  
 E2: 254.93  
 E3: 12'00'



George A. & Charles Leishman

4T-4A-T-4-AA-4B  
Routine Burrs

4T T.B.A.	=	0.08A <sup>c</sup>
4A-T T.B.A.	=	0.03A <sup>c</sup>
4 P.R.O.	=	1.32A <sup>c</sup>
4 T.B.A.	=	2.79A <sup>c</sup>
4A P.R.O.	=	0.16A <sup>c</sup>
4A T.B.A.	=	0.06A <sup>c</sup>
4B P.R.O.	=	0.29A <sup>c</sup>
4B T.B.A.	=	1.07A <sup>c</sup>

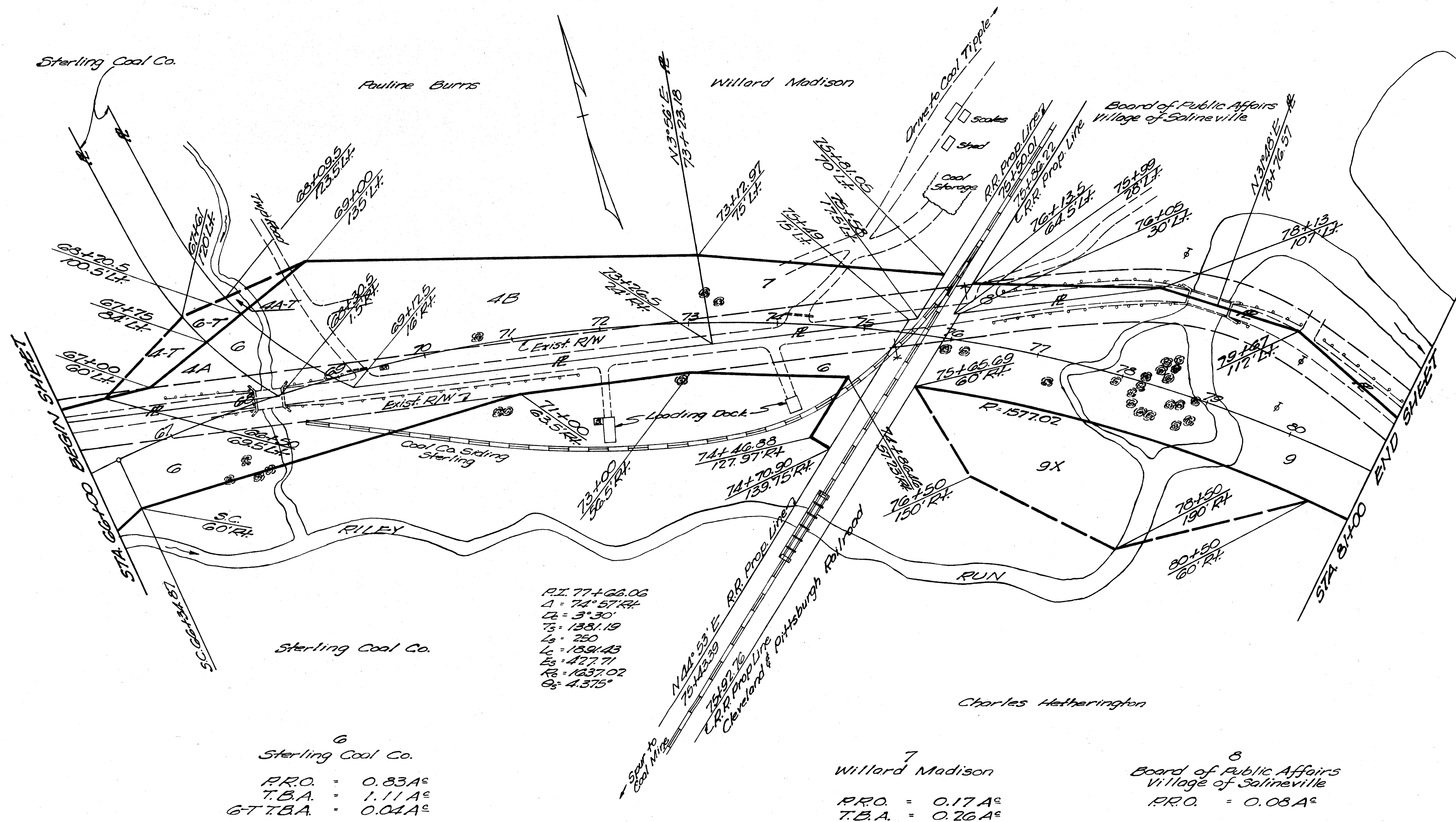
5-5A  
George A. & Charles Leishman

5 P.R.O.	=	0.63A <sup>c</sup>
5 T.B.A.	=	0.53A <sup>c</sup>
5A P.R.O.	=	0.19A <sup>c</sup>
5A T.B.A.	=	0.75A <sup>c</sup>

FOX TWP - SEC 5 - TWP 13 - RA

FED. RD. DIVISION	STATE	PROJECT	45 51
2	OHIO		

CAR-39-(27.35-27.38)



P.I. 77+66.06  
 $\Delta = 74^{\circ} 57' R$   
 $L = 3^{\circ} 30'$   
 $T_s = 1381.19$   
 $L_s = 250$   
 $L_c = 1891.43$   
 $E_s = 427.71$   
 $R_s = 1637.02$   
 $\theta_s = 4.375^{\circ}$

6  
 Sterling Coal Co.  
 P.R.O. = 0.83A<sup>c</sup>  
 T.B.A. = 1.11A<sup>c</sup>  
 G-T T.B.A. = 0.04A<sup>c</sup>

7  
 Willard Madison  
 P.R.O. = 0.17A<sup>c</sup>  
 T.B.A. = 0.26A<sup>c</sup>

8  
 Board of Public Affairs  
 Village of Salineville  
 P.R.O. = 0.08A<sup>c</sup>

Charles Hetherington

FOX TWP - SEC 5 - TWP 13 - R4

FED. RD. DIVISION	STATE	PROJECT	46 51
2	OHIO		

CAR-39-(27.35-27.38)

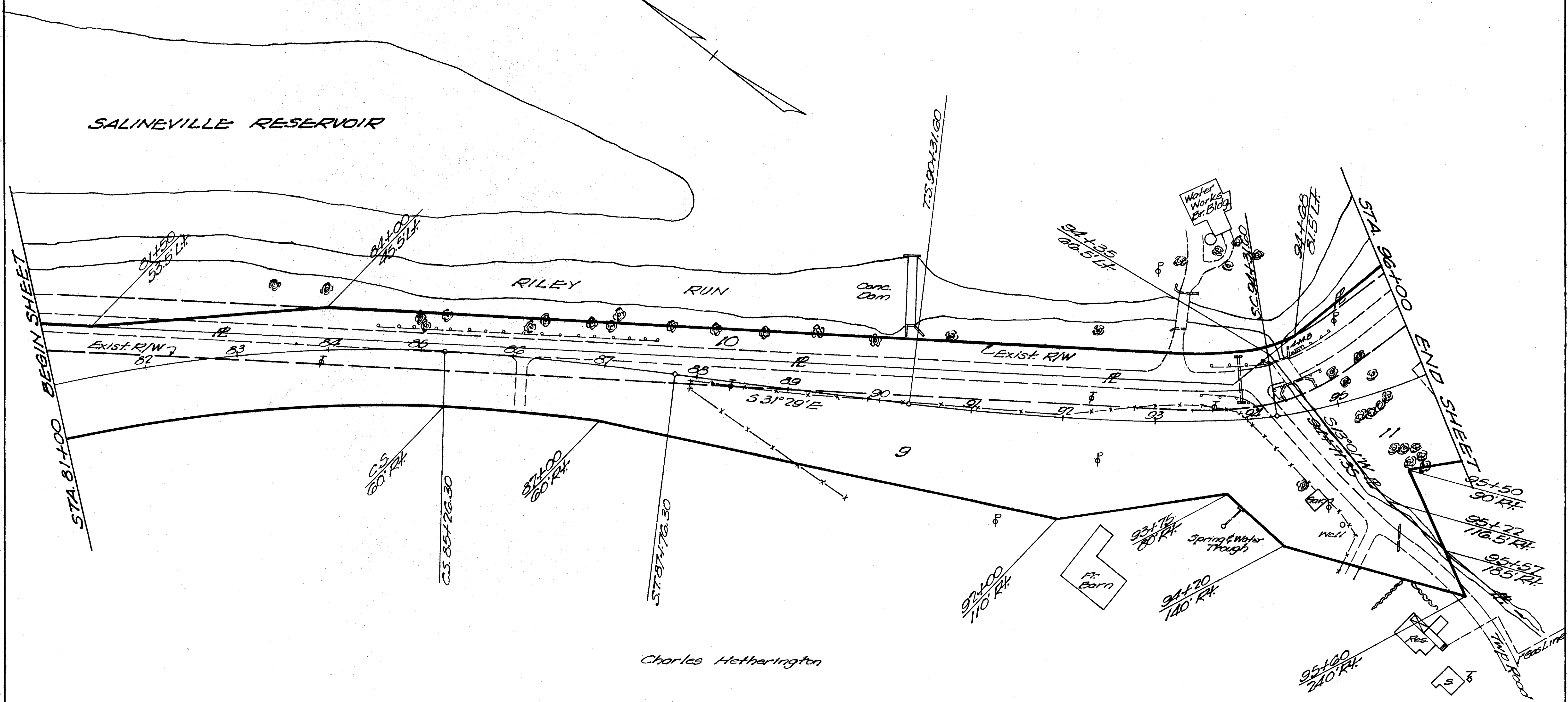
Village of Salineville

SALINEVILLE RESERVOIR

RILEY RUN

STA. 81+00 BEGIN SHEET

END SHEET



9-9X  
Charles Hetherington  
P.R.O. = 1.30A<sup>c</sup>  
T.B.A. = 4.09A<sup>c</sup>  
9XT.B.A. = 0.86A<sup>c</sup>

10  
Village of Salineville  
P.R.O. = 0.84A<sup>c</sup>

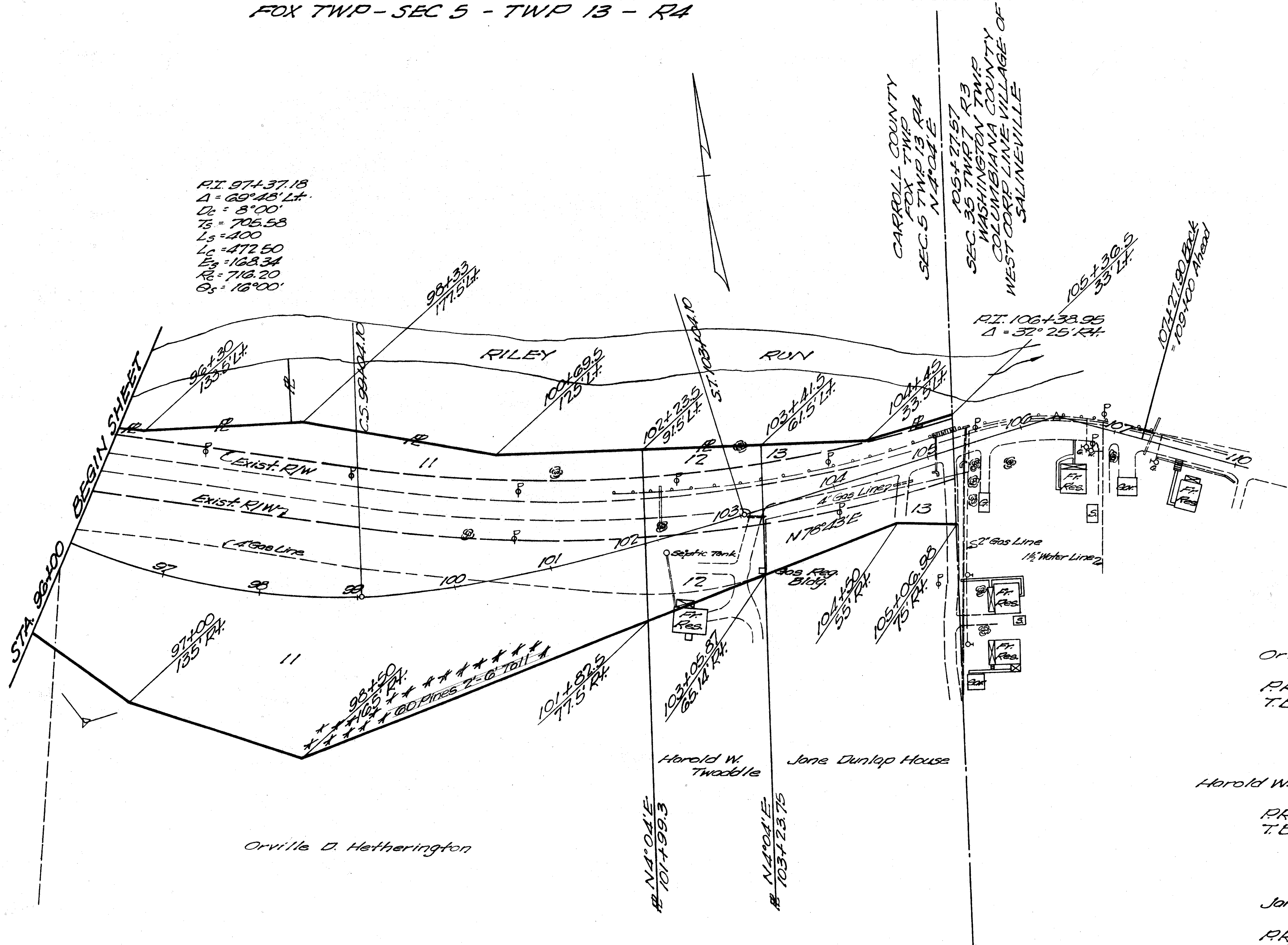
FOX TWP - SEC 5 - TWP 13 - RA

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

CAR-39-(27.35-27.38)

47  
51

P.I. 97+37.18  
 $\Delta = 69^{\circ}45' Lt.$   
 $D_c = 8^{\circ}00'$   
 $T_s = 705.58$   
 $L_s = 400$   
 $L_c = 472.50$   
 $E_s = 168.34$   
 $R_s = 716.20$   
 $\theta_s = 16^{\circ}00'$



11  
Orville D. Hetherington

P.R.O. = 0.96 A<sup>c</sup>  
 T.B.A. = 3.27 A<sup>c</sup>

12  
Harold W. & Doris J. Twoddle

P.R.O. = 0.17 A<sup>c</sup>  
 T.B.A. = 0.26 A<sup>c</sup>

13  
Jane Dunlap House

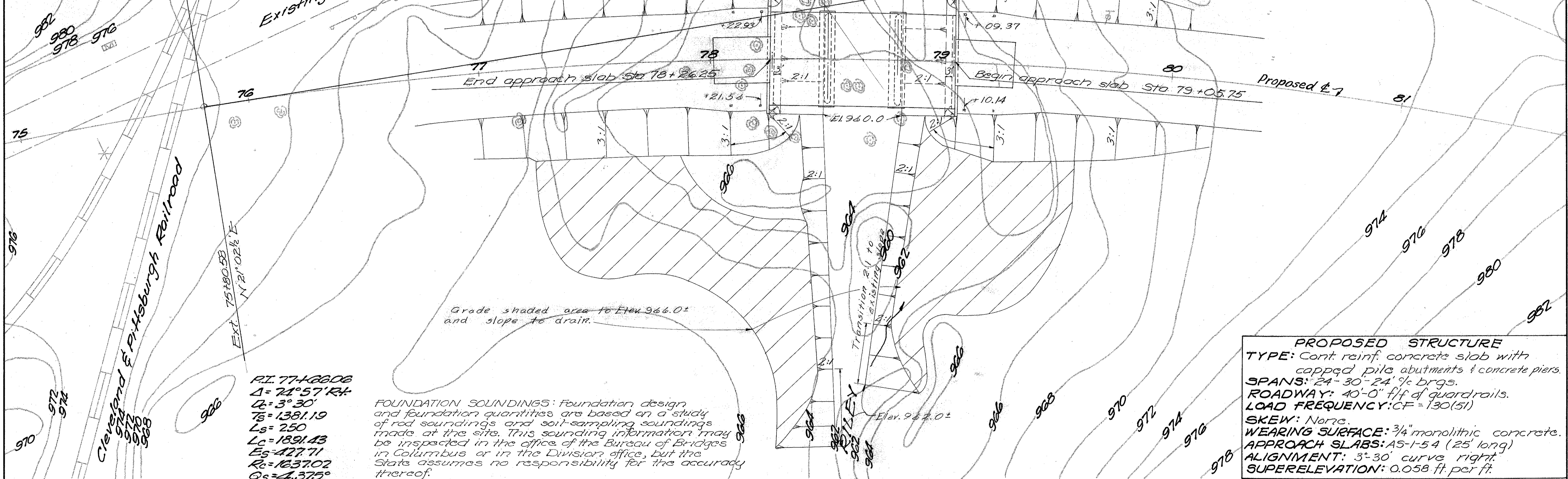
P.R.O. = 0.28 A<sup>c</sup>  
 T.B.A. = 0.21 A<sup>c</sup>

B.M. Sta. 78+43  
 L. Cut on S.E. Cor. W. Abut.  
 98' Lt. E  
 Elev. 970.01

Ext. 75+80.58 P.O.C. 80+00  
 R.R. wing  
 Sign  
 Punch  
 Mark  
 1931  
 Guard  
 Rail  
 Post  
 Hub  
 Post  
 Stake

N.C. in  
 Tel. Pole 75.0'

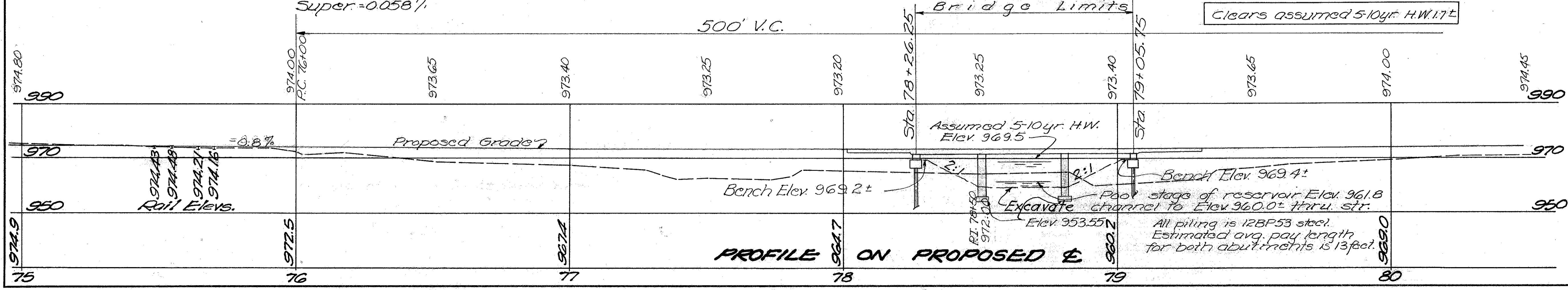
**EXISTING BRIDGE DATA**  
 Type: Low Truss  
 Span: 46' 6"  
 Rdwy: 14' 8"  
 Abutts: Stone  
 Ldg: H-12  
 Condition Poor  
 Sufficiency Rating: 50  
 To be removed.



PI. 77+66.06  
 $\Delta = 71^\circ 57' R+$   
 $Q_1 = 3^\circ 30'$   
 $T_8 = 1381.19$   
 $L_s = 250$   
 $L_c = 1891.43$   
 $E_s = 427.71$   
 $R_c = 163702$   
 $Q_s = 4.375^\circ$   
 Super. = 0.058'

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

**PROPOSED STRUCTURE**  
 TYPE: Cont. reinf. concrete slab with capped pile abutments & concrete piers.  
 SPANS: 24'-30'-24' % brgs.  
 ROADWAY: 40'-0" f/f of guardrails.  
 LOAD FREQUENCY: CF = 130(51)  
 SKEW: None.  
 WEARING SURFACE: 3/4" monolithic concrete.  
 APPROACH SLABS: A5-1-54 (25' long)  
 ALIGNMENT: 3°-30' curve right  
 SUPERELEVATION: 0.058 ft. per ft.



**DRAINAGE AREA = 12.356 MI.**

STATE OF OHIO  
 DEPARTMENT OF HIGHWAY  
 BUREAU OF BRIDGES

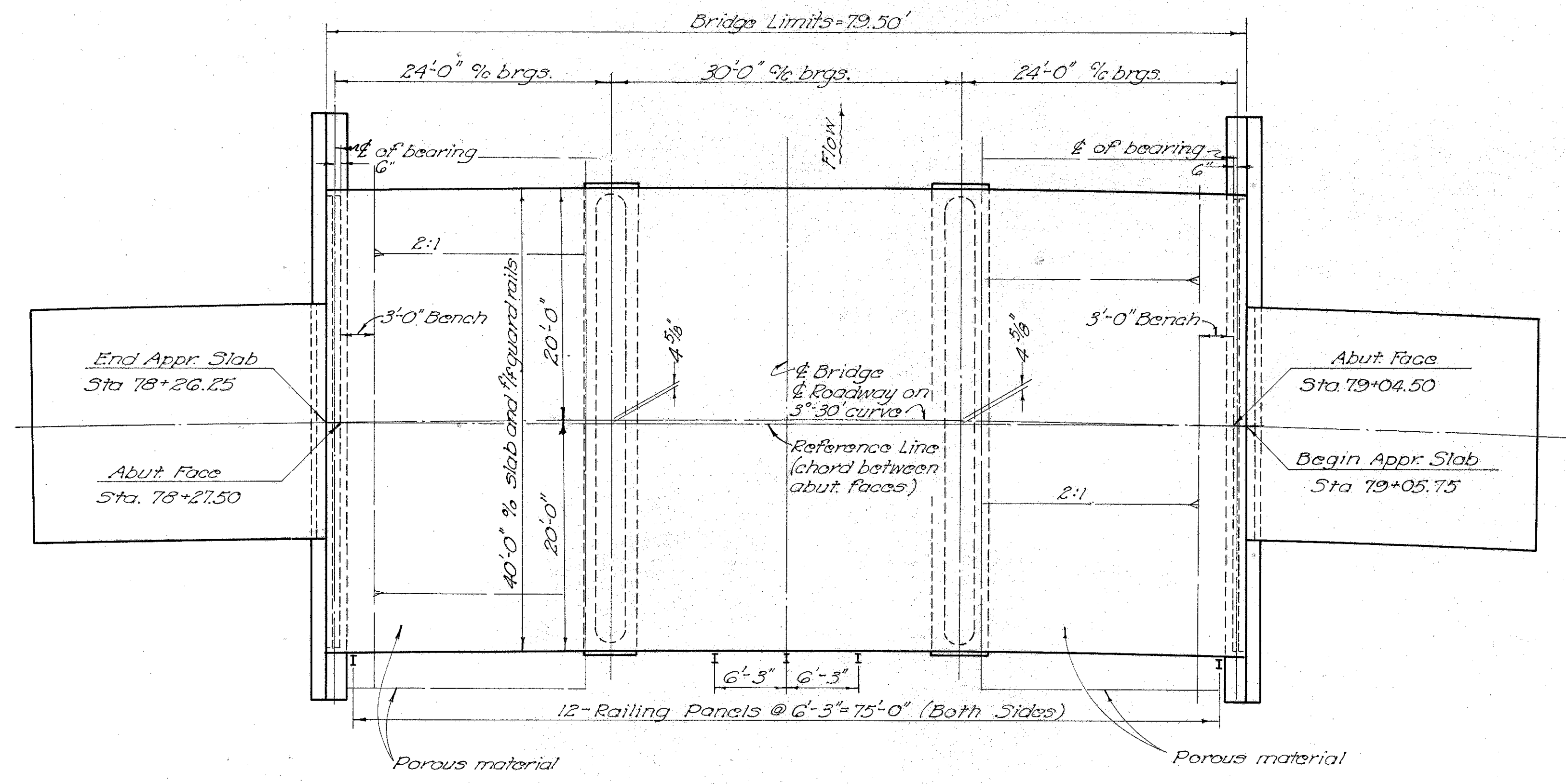
**SITE PLAN**  
 BRIDGE NO. CAR-39-2E  
 OVER RILEY RUN  
 CARROLL COUNTY - S.

Scale: 1" = 20'

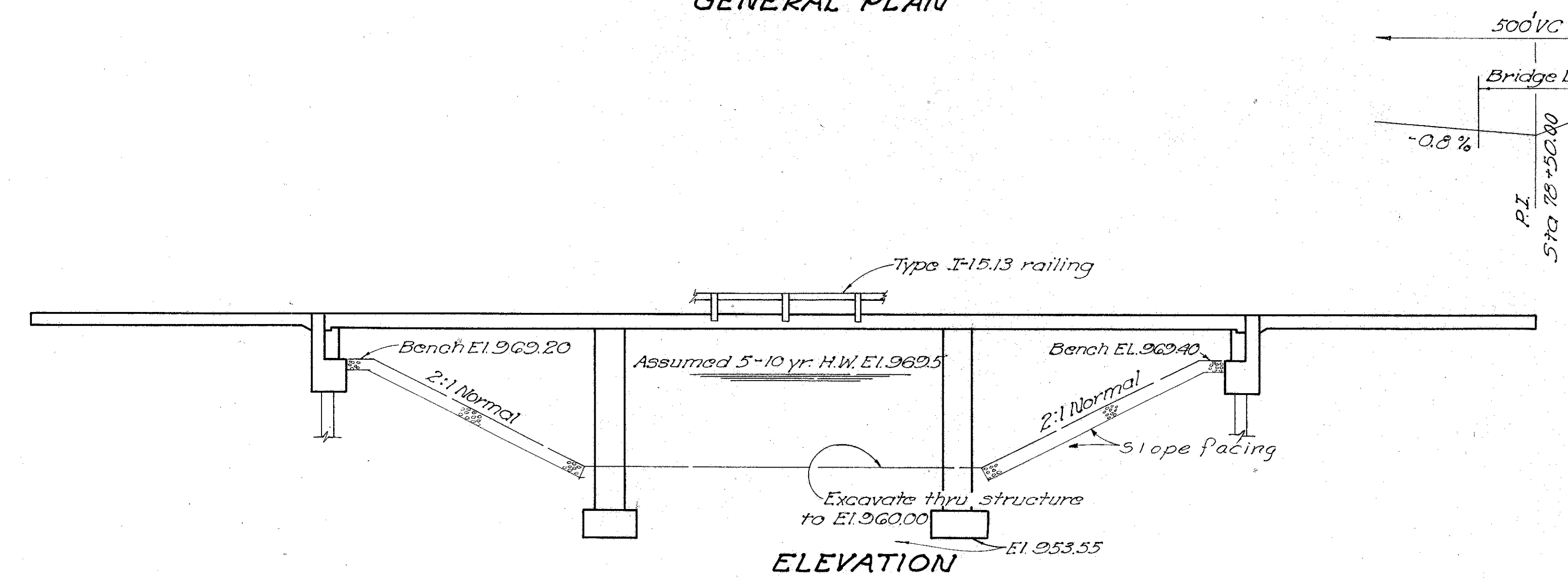
EXISTING TOP SURVEY DRAWN  
 DESIGN DRAWN  
 CHECKED

Div. Office Div. Office J.H.B. J.H.B. D.F.

BFG 2/27/12-31



GENERAL PLAN



ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawing GS-1-54 revised 7-16-56

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed. The stringers shall be carefully dismantled and piled along the right-of-way for disposal by the State's forces. Suitable waste masonry may be placed as bank protection at the direction of the Engineer.

PILES shall be driven 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 Sec. 5-18.05 is not less than the following value for a pile hammer of the indicated energy rating: For the abutment piles:  
 35 tons per pile using a 7000 ft. lb hammer  
 28 tons per pile using a 11000 ft. lb hammer  
 27 tons per pile using a 15,000 ft. lb or greater hammer  
 If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 20 tons per pile.

PIER FOOTINGS shall extend a minimum of 3" into solid rock or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 5 tons per sq. ft.

SLOPE FACING (S-29.05 type) shall be provided under the structure at both abutments. The porous drain material shall be 12" thick and shall extend from the face of the abutment down to Elev. 960.0 and transversely to 3 ft. outside the edge of the superstructure.

ESTIMATED QUANTITIES							
Item	Total	Unit	Description	Superstr.	Abut.	Piers	Gen.
E-2	191	Cu.Yd.	Unclassified excavation, including rock		59	132	
E-2	Lump	Sum	Cofferdams, cribs and sheeting				Lump
E-3	906	Cu.Yd.	Channel excavation				906
S-1	131	Cu.Yd.	Class "C" concrete, superstructure	131			
S-1	62	Cu.Yd.	Class "E" concrete, abutments		62		
S-1	94	Cu.Yd.	Class "E" concrete, pier walls			94	
S-1	35	Cu.Yd.	Class "E" concrete, pier footings			35	
S-4	39,288	lb.	Reinforcing steel	29,977	5812	3499	
S-14	159.00	Lin. Ft.	Railing (Type I-15.13 with galvanized steel posts & bolts)	159.00			
S-16	Lump	Sum	First test pile				Lump
S-18	210	Lin. Ft.	Steel piles 12BP53		210		
S-24	Lump	Sum	Removal of existing structure				Lump
S-29	82	Cu.Yd.	Slope Facing (S-29.05 type)				82
S-29	32	Cu.Yd.	Porous backfill		32		

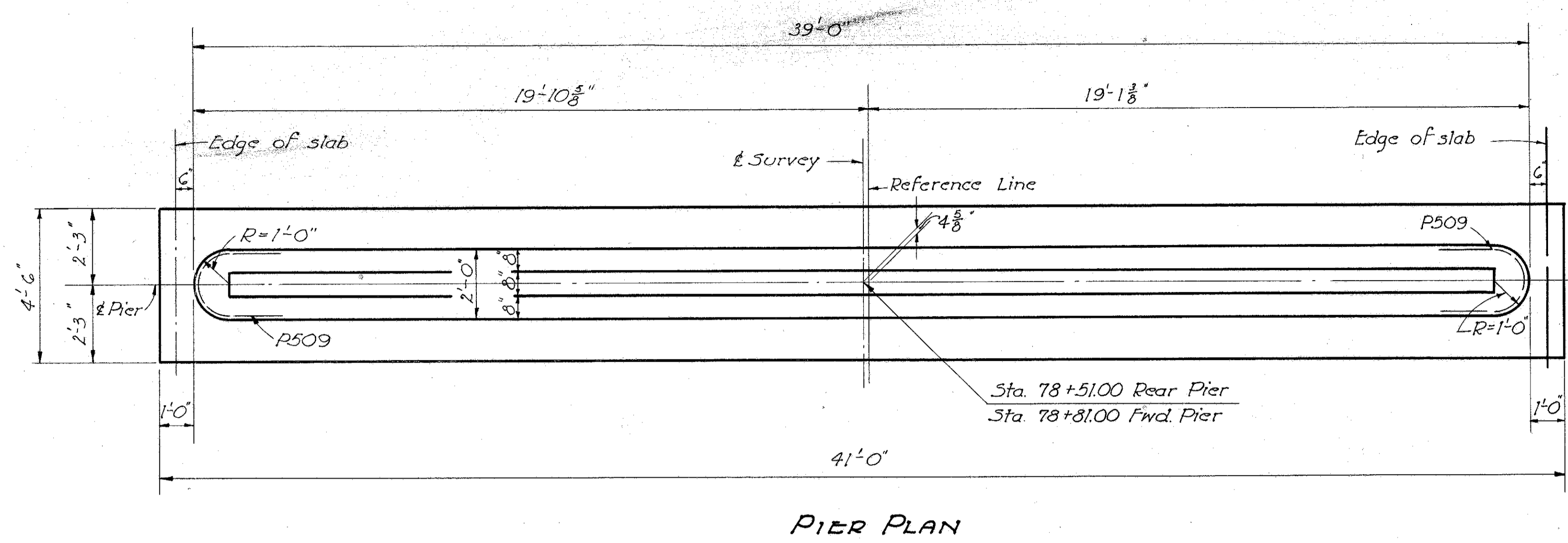
STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 DIVISION OF DESIGN AND CONSTRUCTION  
 BUREAU OF BRIDGES

**GENERAL PLAN & ELEVATION NOTES  
 & ESTIMATED QUANTITIES**

BRIDGE No. CAR-39-2800  
 OVER RILEY RUN  
 CARROLL CO. STA 78+26.25  
 79+05.75

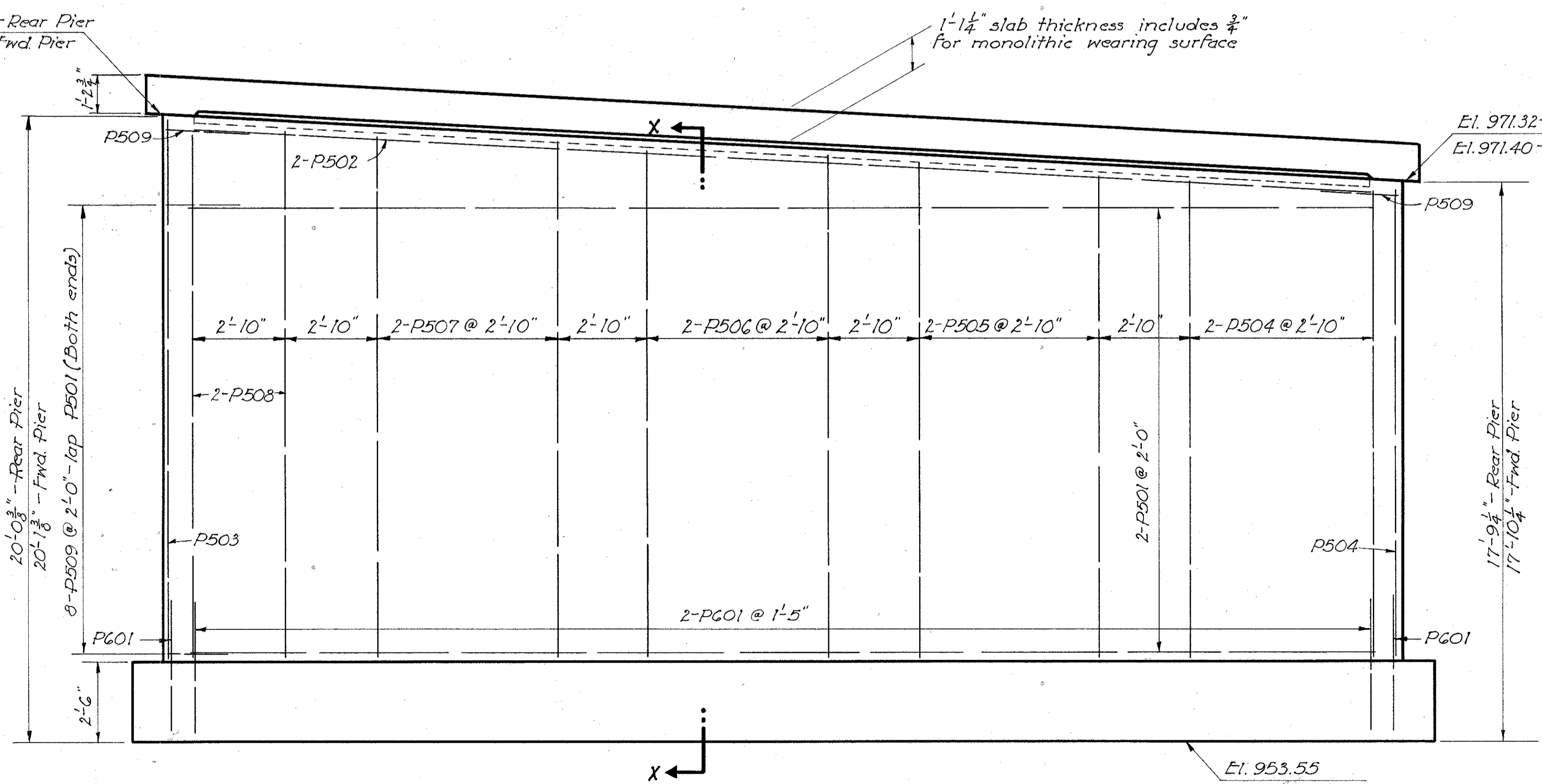
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
		RHD	JDJ	DFG	12-31-57	



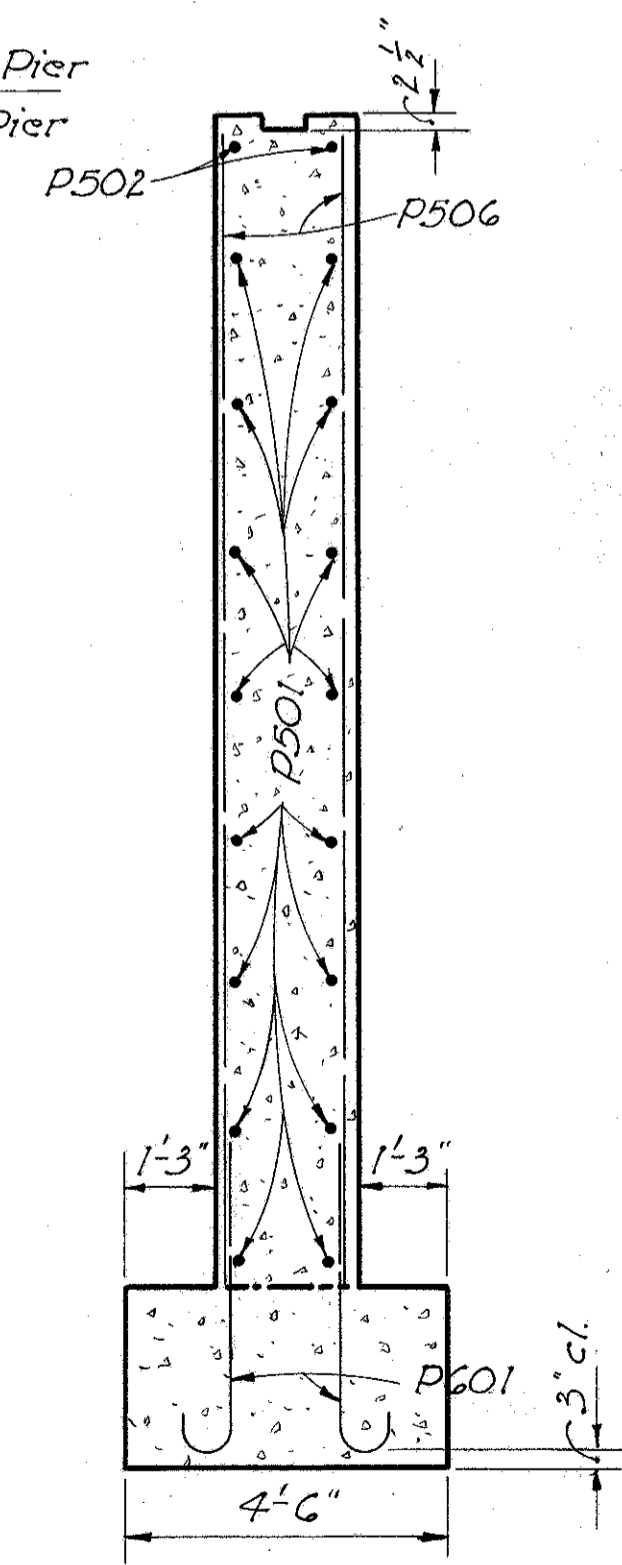


PIER PLAN

El. 973.58 - Rear Pier  
El. 973.66 - Fwd. Pier



ELEVATION



SECTION X-X

REINFORCING STEEL										
Mark	No.	Length	Weight	Sp.	Bending Diagram	Mark	No.	Length	Weight	Sp.
Superstructure						Abutments				
F924	72	21'-3"	5202	S		R1001	16	21'-7"	1486	S
G924	34	10'-6"	1214	S		R801	16	26'-6"	1132	S
H924	36	8'-2"	1000	S		R201	16	26'-1"	435	S
A824	108	28'-1"	8098	S		R502	156	6'-7"	1071	B
B824	34	21'-0"	1906	B		R503	8	20'-1"	168	S
C824	36	18'-4"	1762	B		R504	12	4'-11"	62	S
D824	17	19'-6"	885	S		R505	8	5'-10"	49	S
E824	18	15'-10"	761	S		R506	4	7'-6"	31	S
J601	36	15'-3"	825	S		R507	4	6'-8"	28	S
K601	18	13'-10"	374	S		R508	4	5'-9"	24	S
M601	80	39'-6"	4746	S	R509	14	9'-7"	140	B	
N601	54	39'-6"	3204	S	R510	14	13'-1"	191	B	
Replacement Bars						R511	16	10'-5"	174	B
RE1001	1	7'-2"	-	S	R512	12	11'-5"	143	B	
RE901	1	6'-10"	-	S	R513	4	12'-8"	53	S	
RE801	1	6'-6"	-	S	R514	8	4'-11"	41	S	
RE601	1	5'-11"	-	S	R515	12	9'-10"	123	S	
RE501	1	5'-7"	-	S	R516	28	6'-0"	175	B	
RE401	1	5'-5"	-	B	R517	4	13'-2"	55	S	
						Piers				
						P601	112	5'-5"	911	B
						P501	32	37'-0"	1235	S
						P502	4	37'-3"	155	S
						P503	2	17'-2"	36	S
						P504	14	14'-11"	218	S
						P505	12	15'-6"	194	S
						P506	42	16'-0"	200	S
						P507	12	16'-6"	207	S
						P508	8	16'-10"	140	S
						P509	36	5'-5"	203	B

Replacement Bars: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. 5-4.02 need not be furnished and replacement bars will not be required.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

**PIER DETAILS &  
REINFORCING STEEL LIST**  
BRIDGE NO. CAR-39-2800  
OVER RILEY RUN  
CARROLL COUNTY STA. 78+26.25  
79+05.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
		Grasselli	J.D.J.	9/87	12-31-57	

### LEGEND FOR PROJECT - AVERAGE RESULTS OF TESTS - 68 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Stone fragments with sand	A-1-b(0)	A-1-b	47	4	25	12	12	NP	NP	11	1
Stone fragments with sand and silt	A-2-4(0)	A-2-4	46	7	18	17	12	26	6	12	5
Sandy silt	A-4(4)	A-4a	20	10	18	29	23	21	7	14	23
Silt	A-4(b)	A-4b	3	3	10	54	30	29	8	22	4
Silt and clay	A-6(b)	A-6a	16	5	8	37	34	33	12	17	29
Silt clay	A-6(10)	A-6b	6	3	5	36	50	39	16	19	3
Clay	A-7-6(11)	A-7-6	7	4	7	38	44	44	14	32	3

Coal or coal blossom	Visual Classification	Berm material	Water content nearly equal to or greater than liquid limit.
Limestone	Visual Classification	Sod & Topsoil = X' = approx. depth	This A-4a soil will be rubbery and unstable at water contents which exceed the optimum.
Sandstone	Visual Classification	Auger boring plotted to vertical scale only.	
		Auger boring plan view	

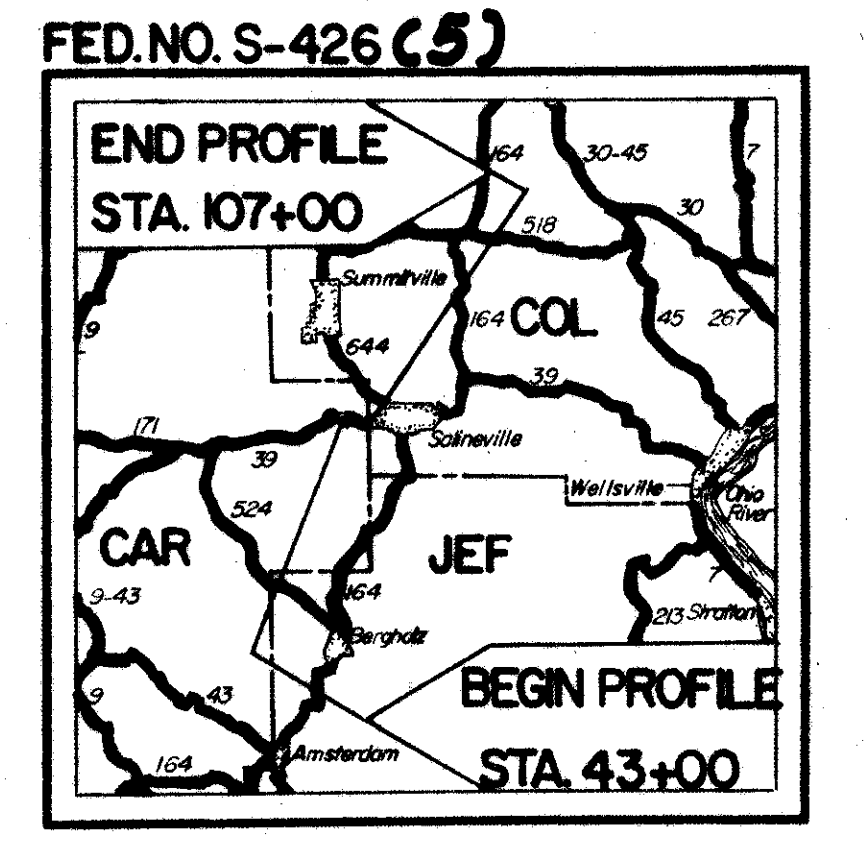
NOTE: Figures beside borings indicate water content in per cent.

### SOIL PROFILE CARROLL COUNTY CAR-39 (2735-27.38)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY  
O. S. U. CAMPUS, COLUMBUS, OHIO

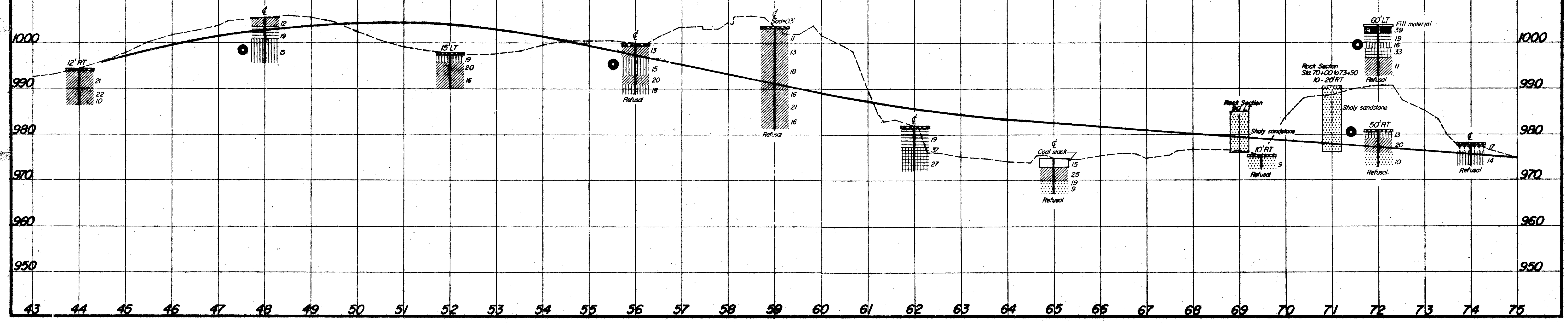
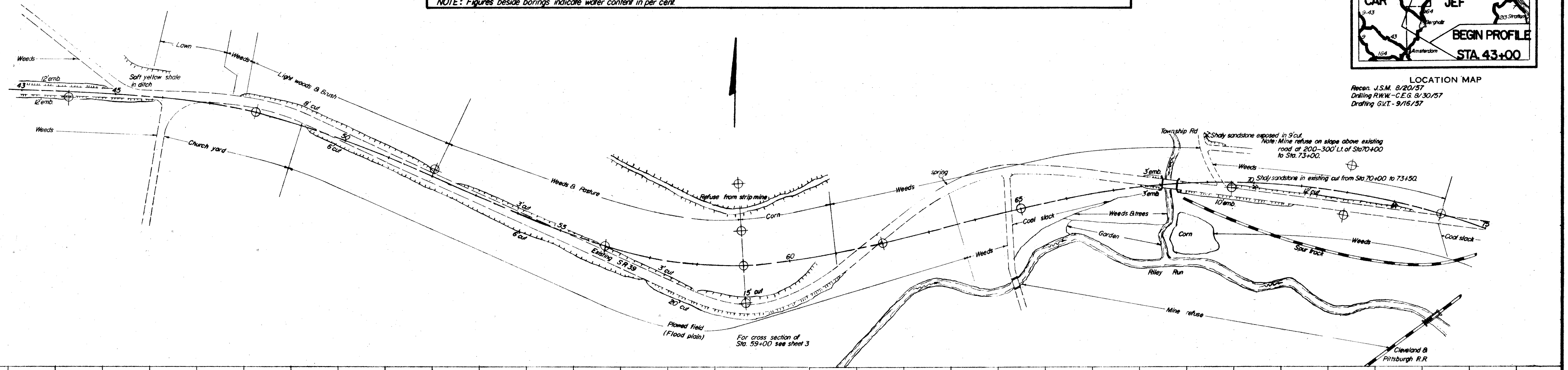
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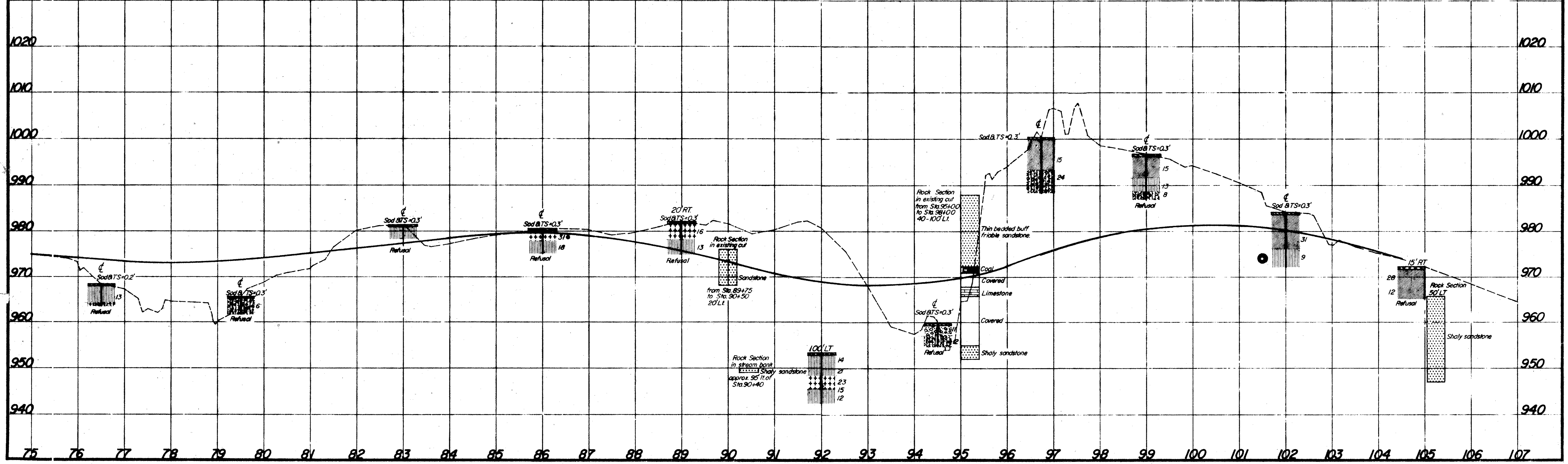
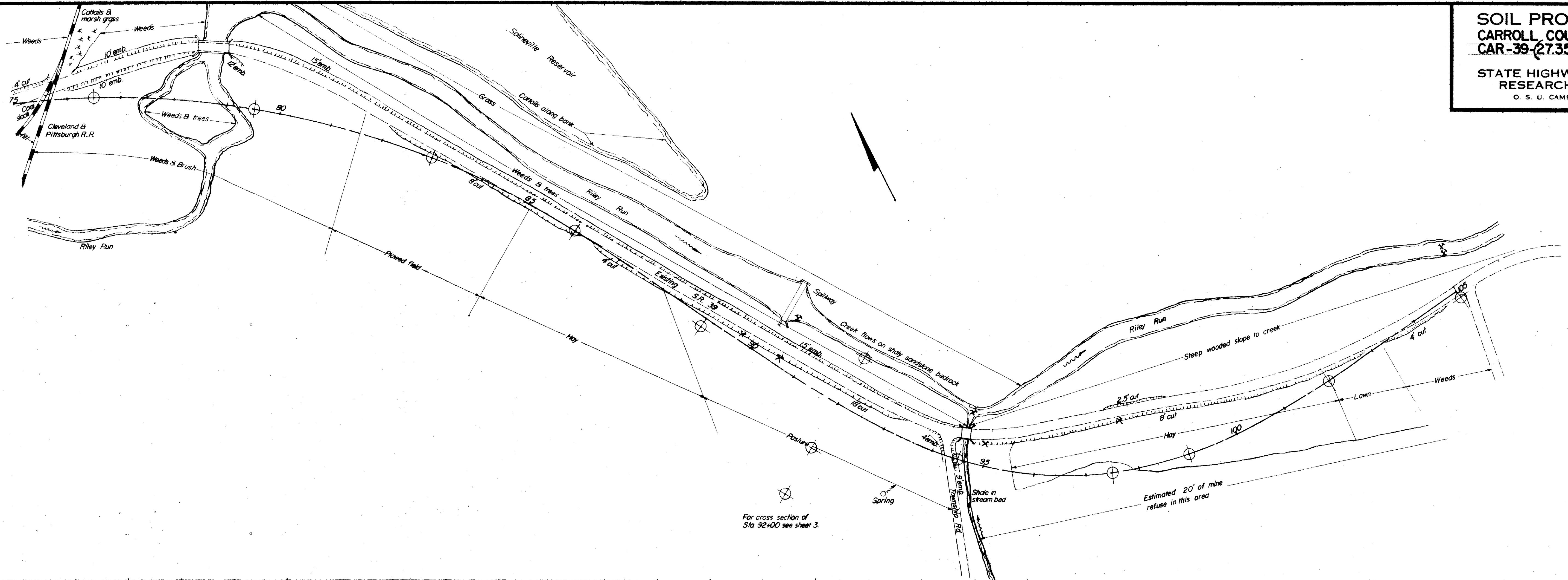
NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE USE OF THE STATE OF OHIO AND IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.



LOCATION MAP  
 Recen. J.S.M. 8/20/57  
 Drilling R.W.W.-C.E.G. 9/30/57  
 Drafting G.I.T. - 9/16/57

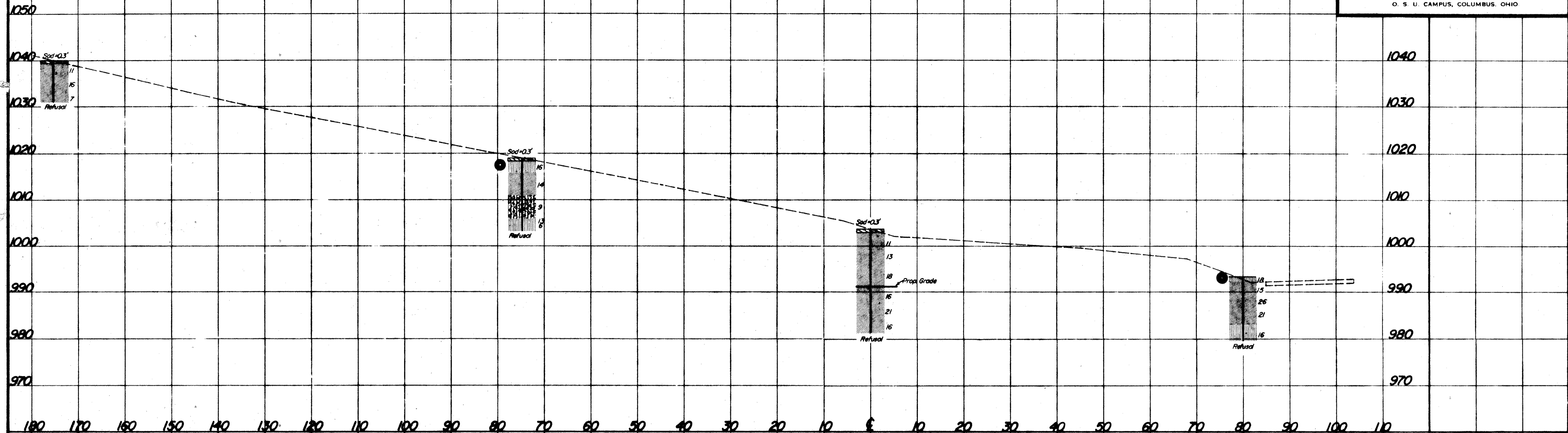
General Note:  
 Existing bituminous pavement fair to poor condition; patched and thin. "Rough Road" signs posted.



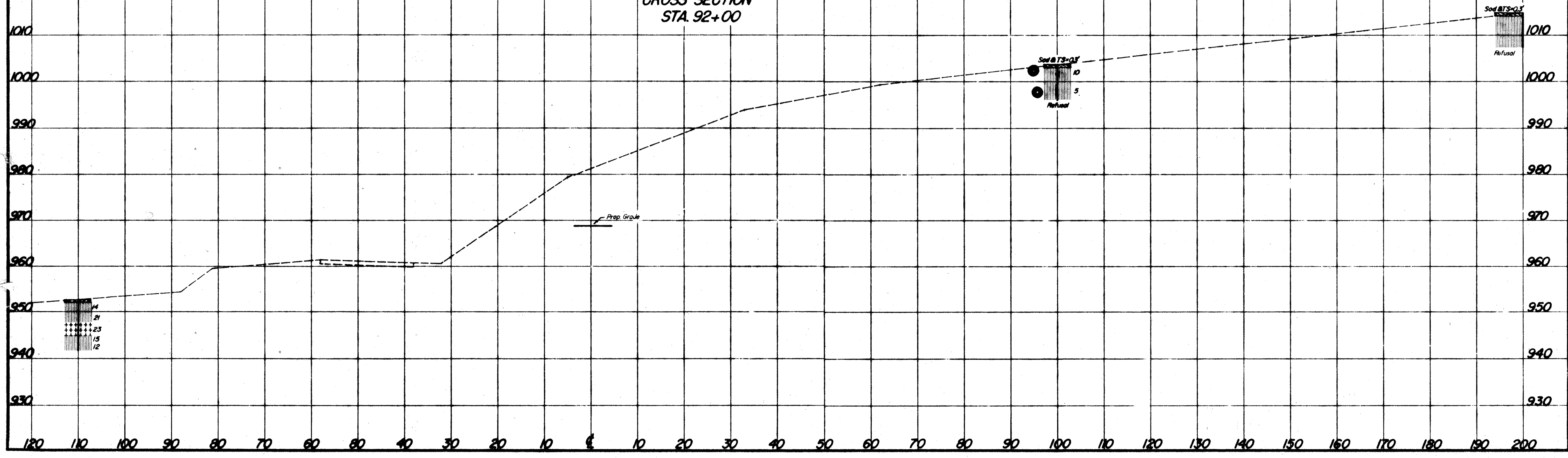


CROSS SECTION  
STA. 59+00

SOIL PROFILE  
CARROLL COUNTY  
CAR-39-(27.35-27.38) 3  
4  
STATE HIGHWAY TESTING AND  
RESEARCH LABORATORY  
O. S. U. CAMPUS, COLUMBUS, OHIO



CROSS SECTION  
STA. 92+00



SUMMARY OF SOIL TEST DATA

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	LL	PI	W.C.	SHFL Class.	
44+00	12'Rt.	0.5-5.0	11	8	11	37	33	34	14	21	A-6a
		5.0-7.0	23	6	5	37	29	36	14	22	A-6a
		7.0-8.0	63	9	3	14	11	31	12	10	A-6a
48+00	CL	0.0-2.0	11	6	9	45	29	40	15	12	A-6a
		2.0-5.0	8	3	10	47	36	39	16	19	A-6b
		5.0-10.0	18	11	16	38	23	26	5	15	A-4a
52+00	15'Lt.	0.5-2.0	8	8	16	40	28	27	10	10	A-4a
		2.0-4.0	0	3	6	46	45	34	14	20	A-6a
		4.0-3.0	8	7	8	35	42	35	11	16	A-6a
56+00	CL	0.5-3.0	14	9	10	37	30	29	11	13	A-6a
		3.0-7.0	18	9	9	35	29	26	5	15	A-4a
		7.0-9.0	10	1	4	32	53	33	11	20	A-6a
59+00	CL	9.0-11.0	17	8	20	31	24	29	10	18	A-4a
		0.3-4.0	29	5	7	36	23	30	11	11	A-6a
		4.0-7.0	19	9	8	36	28	27	11	13	A-6a
59+00	75'Lt.	7.0-12.0	16	6	6	38	38	30	12	16	A-6a
		12.0-16.0	36	6	5	25	38	30	11	16	A-6a
		16.0-19.0	33	4	14	36	33	36	13	21	A-6a
		19.0-22.5	12	9	22	30	27	34	15	21	A-6a
		0.3-3.0	28	5	7	25	35	26	6	16	A-4a
		3.0-8.0	26	10	6	37	21	32	11	14	A-6a
59+00	175'Lt.	8.0-13.0	43	19	6	19	13	28	8	9	A-2-4
		13.0-14.0	15	19	25	14	27	31	7	13	A-4a
		14.0-15.5	15	28	19	23	15	29	10	7	A-4a
59+00	80'Rt.	0.3-3.0	5	4	4	47	40	33	11	11	A-6a
		3.0-7.0	8	7	8	36	41	33	11	16	A-6a
		7.0-9.0	24	7	8	35	26	30	12	7	A-6a
59+00	80'Rt.	0.0-1.0	17	11	12	28	32	32	8	18	A-4a
		1.0-4.0	7	6	9	43	35	30	11	15	A-6a
		4.0-6.0	0	0	1	54	45	34	13	26	A-6a
		6.0-10.0	4	1	7	41	47	33	13	21	A-6a
		10.0-13.5	12	12	25	24	27	27	10	16	A-4a
62+00	CL	0.5-5.0	7	5	7	34	47	37	16	19	A-6b
		5.0-6.0	1	2	3	47	47	41	14	37	A-7-6
		6.0-10.0	11	1	6	34	48	45	20	27	A-7-6
65+00	CL	0.0-2.0									COAL
		2.0-5.0	5			3	29	30	33	32	A-6a
		5.0-6.0									SANDSTONE
		6.0-7.5									SANDSTONE
69+50	10'Rt.	0.5-3.0									SANDSTONE
72+00	60'Lt.	0.6-2.0									COAL BLOSSOM
		2.0-4.0	2	0	1	29	68	40	16	19	A-6b
		4.0-5.0	3	17	11	36	33	31	6	16	A-4a
		5.0-7.0	9	9	12	32	38	46	18	33	A-7-6
		7.0-11.0	12	6	7	39	36	31	11	11	A-6a
72+00	50'Rt.	0.5-2.0	7	13	19	37	24	24	5	13	A-4a
		2.0-5.0	4	3	4	45	44	35	15	20	A-6a
		5.0-8.5									SANDSTONE
74+00	CL	0.5-2.0	0	2	12	53	33	27	7	17	A-4b
		2.0-5.0	19	21	23	17	20	27	9	14	A-4a
76+50	CL	0.2-4.0	22	5	15	31	27	27	8	13	A-4a
79+50	CL	0.3-4.0	39	6	27	18	10	21	4	6	A-2-4
		0.3-3.0	5	3	9	59	24	32	5	31	A-4b
86+00	CL	3.0-5.5	35	10	18	19	18	28	9	18	A-4a
		0.3-4.0	9	5	8	51	27	29	9	16	A-4b
89+00	20'Rt.	4.0-7.0	34	4	21	24	17	24	7	13	A-4a
		0.3-5.0	27	5	13	32	23	30	10	10	A-4a
92+00	100'Rt.	5.0-7.0	25	8	24	27	17	33	5	5	A-4a
		0.2-3.0	17	8	22	36	17	24	4	14	A-4a
92+00	100'Lt.	3.0-5.0	22	10	30	22	28	7	21	21	A-4a
		5.0-8.0	0	1	13	53	33	28	10	23	A-4b
		8.0-9.0	4	5	42	30	19	22	2	15	A-4a
		9.0-11.0	35	6	22	23	14	24	5	12	A-4a
		0.3-3.0	47	4	25	12	12	NP	NP	11	A-1-b
94+50	CL	3.0-5.0	42	8	21	16	15	26	8	12	A-2-4
97+50	CL	0.2-7.0	10	5	7	43	35	31	11	15	A-6a
		7.0-9.0	65	2	9	14	12	36	8	24	A-2-4
99+00	CL	0.3-5.0	7	4	4	52	33	34	14	15	A-6a
		5.0-8.0	17	6	33	23	21	22	6	13	A-4a
		8.0-10.0	43	2	27	15	13	19	3	8	A-2-4
102+00	CL	0.3-8.0	34	2	3	35	26	36	13	31	A-6a
		8.0-12.0	39	4	7	34	16	27	9	9	A-4a
104+00	15'Rt.	0.3-5.0	33	4	6	30	27	39	12	28	A-6a
		5.0-7.0	17	1	45	35	35	32	11	12	A-6a

NOTE: NP in Plasticity Index and Liquid Limit columns indicates that the material is non-plastic.