

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
FRA-104-1.50
FRANKLIN COUNTY
JACKSON TOWNSHIP

S-160(4)

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	S-160(4)	1/15

FRA-104-1.50

A-19

LINE DATA
 Begin Project S-160(4) Sta. 79+10
 End Project S-160(4) Sta. 81+90
 Gross Length of Project = 280.00 Lin. Ft.
 No Additions or Deductions
 Net Length of Project = 280.00 Lin. Ft. or 0.053 Mile
 Add For Length of Work:
 Sta. 78+50 to Sta. 79+10 = 60.00 Lin. Ft.
 Sta. 81+90 to Sta. 82+50 = 60.00 Lin. Ft.
 Total Length of Work = 400.00 Lin. Ft. or 0.075 Mile

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

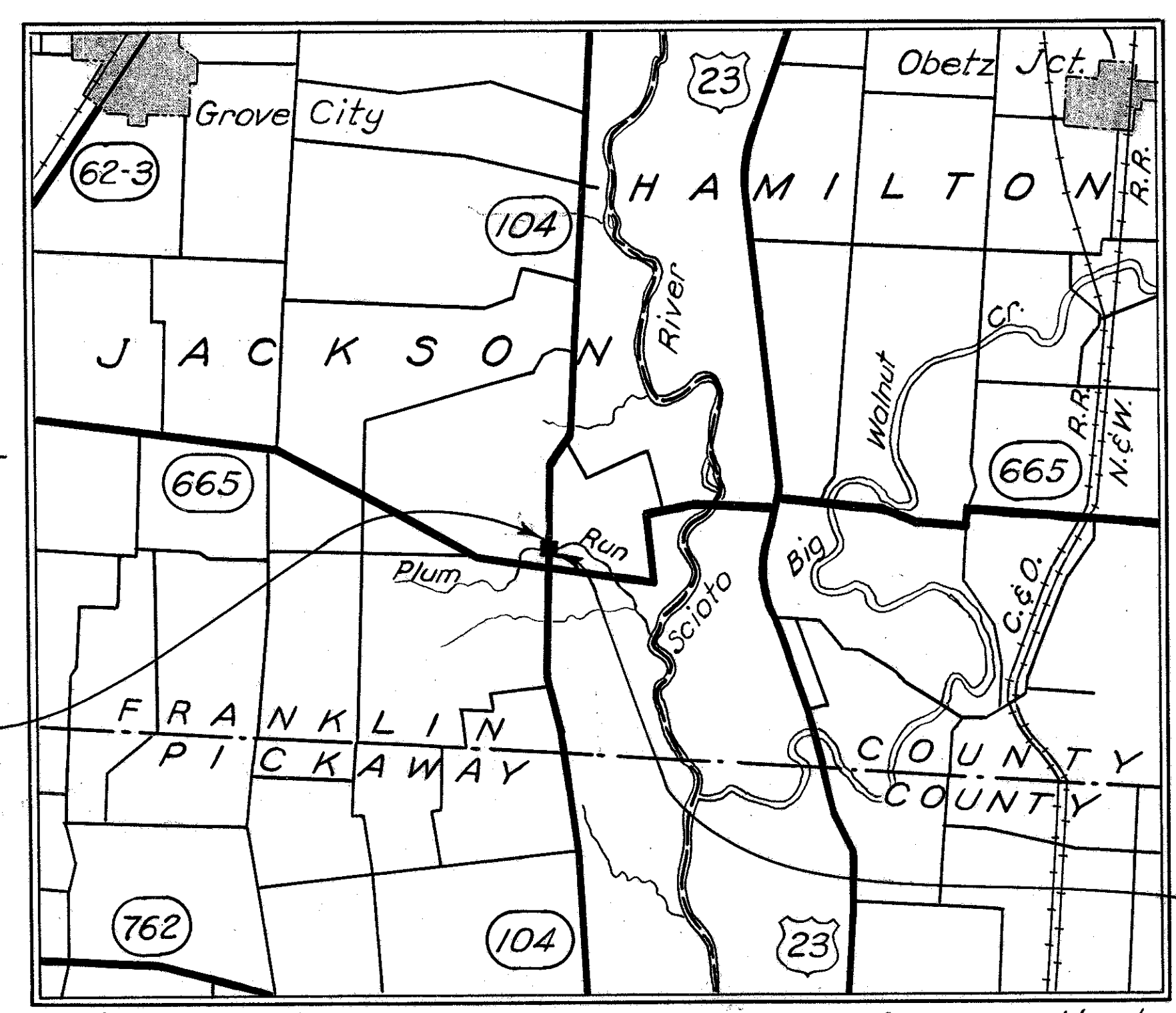
I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

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

CONVENTIONAL SIGNS

County Line	-----
Township Line	-----
Section Line	-----
Center Line	120 121
Property Line	----- P/L
City or Village Line	-----
Fence Line	----- x x
Steam Railroad	-----
Pole Line	φ φ φ

END PROJECT
STA. 81+90
S-160(4)



BEGIN PROJECT
STA. 79+10
S-160(4)

- Approved W. Waldorf
Date 12-13-55 Division Deputy Director
- Approved John J. Newson
Date 1-24-56 Deputy Director of Planning & Programming
- Approved Richard Orthwein
Date 1-13-56 Engineer of Bridges
- Approved E. J. Patten
Date 1-23-56 Engineer of Location & Design
- Approved W. F. Hadd
Date 1-23-56 Deputy Director of Design & Construction
- Approved L. F. Shambler
Date 1-23-56 First Assistant Director
- Approved J. A. [Signature]
Date 1-25-56 Director of Highways

INDEX OF SHEETS

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Portion to be Improved

State Highways	=====
County Roads	=====
Plan	1" = 50'
Profile Vertical	1" = 5'
Profile Horizontal	1" = 50'
Cross Sections	1" = 5'

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

F-15 No. 1	8-1-55	F-35	1-2-56	L-3	4-1-50	G-707	1-2-53
F-15 No. 2	12-1-54	AS-1-54	12-1-54	L-3-A	4-1-50	RI-1	1-3-55
F-8 C.B. No. 7	5-1-52	A-1-54	12-1-54	CS-1-54 Sh. 1#2	12-1-54	DR-1	1-3-55
F-1,2,3,4 & 5	2-20-45	P-1-54	12-1-54	L-1	4-1-50		

SUPPLEMENTAL SPECIFICATIONS

B-119	Rev. 12-14-55
L-209.12	7-17-54

File No.	FRANKLIN COUNTY	FRA-104-1.50
DATE OF LETTING	_____	
CONTRACT No.	_____	

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:

DISTRICT ENGINEER DATE

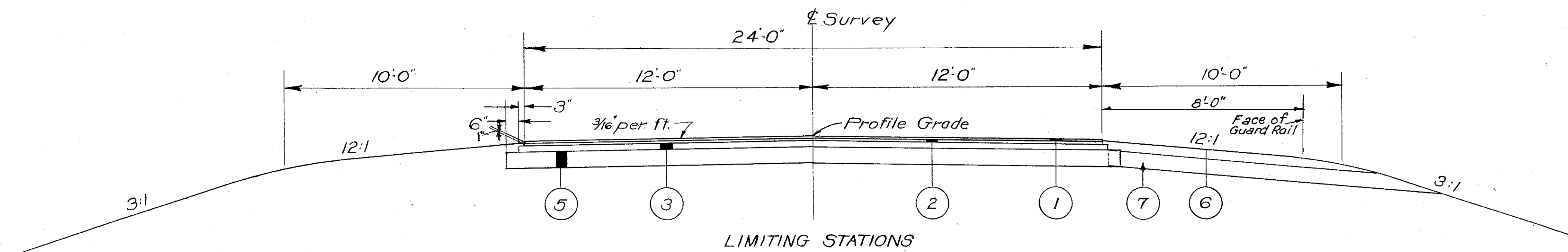
TYPICAL SECTIONS

T-35

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

2
15

FRA-104-1.50



LIMITING STATIONS

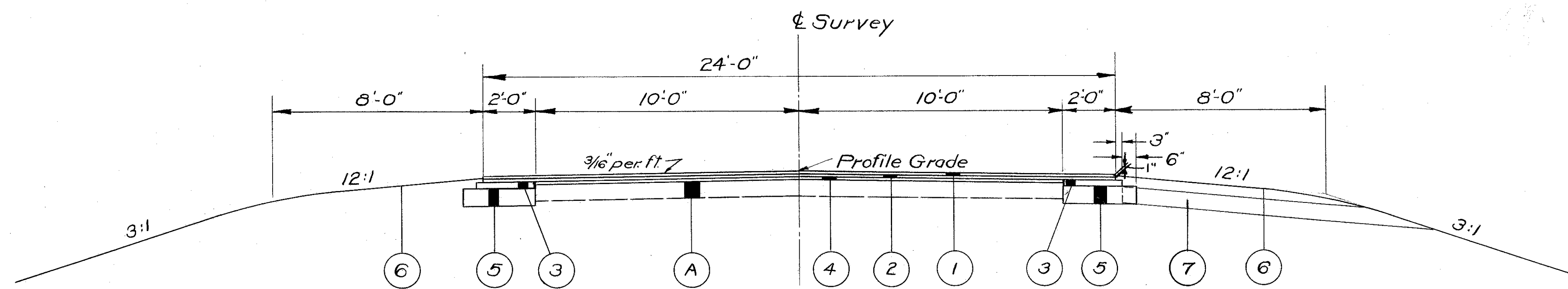
Sta. 79+38 To Sta. 79+48 = 10.0 Lin.Ft.
 Sta. 80+64 To Sta. 80+74 = 10.0 Lin.Ft.
 Total = 20.0 Lin.Ft.

NOTE-

For details not shown reference is made to Std. Dwg. RI-1. and T-35

I-9 Stone Underdrains, No. 2

Stone Underdrains shall be placed Lt. & Rt. along the project between sta. 79+10 & sta. 82+00 at approximately 50' intervals as directed by the Engineer. Estimated 8 drains @ 10.5' = 84 Lin.Ft. Quantity taken to General Summary, Page 3.



LIMITING STATIONS

Sta. 79+10 To Sta. 79+38 = 28.0 Lin.Ft.
 Sta. 80+74 To Sta. 81+90 = 116.0 Lin.Ft.
 Total = 144.0 Lin.Ft.

- (A) Existing Bituminous Surface on 8" Waterbound Macadam Base Course
- (1) Item T-35 1 1/4" Asphaltic Concrete Surface Course, Type A or C. (70-80)
- (2) Item B-35 1 1/4" Asphaltic Concrete Leveling Course (70-80)
- (3) Item B-35 3" Asphaltic Concrete Leveling Course (70-80)
- (4) Item B-35 0" Minimum Thickness Asphaltic Conc. Pre-leveling Course (70-80) (See note in proposal)
- (5) Item B-119 8" Crushed Aggregate Base Course
- (6) Item L-9 Seeding and Protecting
- (7) Item I-9 Stone Underdrain, No. 2

GENERAL NOTES

FIELD OFFICE.

The Contractor shall provide a suitable field office in accordance with Section 50.01(b) having a minimum floor area of 150 Sq.Ft. The Contractor shall have a telephone installed and maintained during the construction of this project.

UTILITIES.

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

ITEM I-9, STONE UNDERDRAINS, No. 2.

An estimated quantity of 84 linear feet of Item I-9, Stone Underdrains, No. 2, has been provided in the General Summary. Stone Underdrains shall be placed at approximately 50 foot intervals as directed by the Engineer.

SEEDING AND PROTECTING.

Quantities for seeding are calculated for soil areas within the construction limits as shown on the cross sections and payment shall not be made for seeding beyond these limits. Areas outside construction limits where the Engineer determines that the existing grass areas have been disturbed by construction operations shall be seeded in accordance with Section G-1.09 at the Contractor's expense.

MAIL BOX TURNOUTS.

Estimated 1 Mail Box turnout = 30.80 Sq. Yds.

Estimated Quantities:

T-35, 2" thick: 30.80 x 2 ÷ 36 = 1.71 Cu. Yds.

B-119, 5" thick: 30.80 x 5 ÷ 36 = 4.28 Cu. Yds.

Quantities carried to Calculations.

DESIGN SPEED.

The Geometrics for this project have been planned for a design speed of 60 miles per hour.

COMPACTED SUBGRADE UNDER B-119: The subgrade for mail box turnouts and drives, using B-119 Crushed Aggregate Base, shall be compacted for a depth of six inches to the density requirements in Table III, Item E-1. Payment for this subgrade compaction shall be included in the unit price bid for Item E-1, Roadway Excavation.

TRAFFIC:

Payment for any aggregate required for maintaining traffic and access for drives shall be included in the lump sum bid for "Maintaining Traffic."

CALCULATIONS

T-35 ASPHALTIC CONCRETE SURFACE COURSE, 1 1/4" THICK.

From: Sta. 79+38 to Sta. 79+48 = 10 Lin. Ft.
Sta. 80+64 to Sta. 80+74 = 10 Lin. Ft.
Total = 20 Lin. Ft.

20 x 24 ÷ 9 = 53.33 Sq. Yds.
Add for Approach Slabs, Sheet 12 = 160.00 Sq. Yds.
Total = 213.33 Sq. Yds.

213.33 x 1 1/4 ÷ 36 = 7.41 Cu. Yds.
Variable Depth & widening: Sta. 79+10 to Sta. 79+38 = 2.59 Cu. Yds.
Sta. 80+74 to Sta. 81+90 = 10.07 Cu. Yds.
Add for transitions, Sheet 5 = 5.78 Cu. Yds.
Add for drive (2" thick), sheet 5 = 3.95 Cu. Yds.
Add for Mail box turnout, sheet 3 = 1.71 Cu. Yds.
Total T-35 = 31.51 Cu. Yds.

B-35 ASPHALTIC CONCRETE LEVELING COURSE, 1 1/4" THICK.

From: Sta. 79+38 to Sta. 79+48 = 10 Lin. Ft.
Sta. 80+64 to Sta. 80+74 = 10 Lin. Ft.
Total = 20 Lin. Ft.

20 x 24 ÷ 9 = 53.33 Sq. Yds.
Total = 53.33 Sq. Yds.

53.33 x 1 1/4 ÷ 36 = 1.85 Cu. Yds.
Variable Depth & widening: Sta. 79+10 to Sta. 79+38 = 2.18 Cu. Yds.
Sta. 80+74 to Sta. 81+90 = 9.01 Cu. Yds.
Add for transitions, sheet 5 = 4.65 Cu. Yds.
Total = 17.69 Cu. Yds.

B-35 Asphaltic Concrete Pre-leveling Course

Sta. 79+10 to Sta. 79+38 = 1.58 Cu. Yds.
Sta. 80+74 to Sta. 81+90 = 13.43 Cu. Yds.
From Transitions, Sheet 5 = 0.82
Total = 15.83 Cu. Yds.

B-35 ASPHALTIC CONCRETE LEVELING COURSE, 3" THICK.

From: Sta. 79+38 to Sta. 79+48 = 10 Lin. Ft.
Sta. 80+64 to Sta. 80+74 = 10 Lin. Ft.
Total = 20 Lin. Ft.

20 x 24.5 ÷ 9 = 54.44 Sq. Yds.
Total = 54.44 Sq. Yds.

54.44 x 3 ÷ 36 = 4.54 Cu. Yds.
Variable Depth & widening: Sta. 79+10 to Sta. 79+38 = 1.17 Cu. Yds.
Sta. 80+74 to Sta. 81+90 = 4.83 Cu. Yds.
Add for transitions, sheet 5 = 2.78 Cu. Yds.
Total = 13.32 Cu. Yds.

B-119 CRUSHED AGGREGATE BASE COURSE, 8" THICK.

From: Sta. 79+38 to Sta. 79+48 = 10 Lin. Ft.
Sta. 80+64 to Sta. 80+74 = 10 Lin. Ft.
Total = 20 Lin. Ft.

20 x 25.5 ÷ 9 = 56.67 Sq. Yds.
Total = 56.67 Sq. Yds.

56.67 x 8 ÷ 36 = 12.50 Cu. Yds.
Add for widening: Sta. 79+10 to Sta. 79+38 = 3.80 Cu. Yds.
Sta. 80+74 to Sta. 81+90 = 15.75 Cu. Yds.
Add for drive (6" thick), sheet 5 = 14.30 Cu. Yds.
Add for drive (5" thick), sheet 5 = 9.88 Cu. Yds.
Add for Mail box turnout, sheet 3 = 4.28 Cu. Yds.
From Transition, sheet 5 = 60.60 Cu. Yds.
Total B-119 = 70.99 Cu. Yds.

T-30 BITUMINOUS TACK COAT.

Approach Slabs, sheet 12 = 80 Sq. Yds.
80 x 0.10 Gal. per Sq. Yd. = 8.00 Gal.

E-1 COMPACTED SUBGRADE.

From: Sta. 79+38 to Sta. 79+48 = 10 Lin. Ft.
Sta. 80+64 to Sta. 80+74 = 10 Lin. Ft.
Total = 20 Lin. Ft.

20 x 24 ÷ 9 = 53.33 Sq. Yds.
Add for Approach Slabs, sheet 12 = 74.20 Sq. Yds.
Total = 127.53 Sq. Yds.

E-11 WATER.

From: Subgrade in Cut Sections = 21.81 Cu. Yds.
Embankment = 95.00 Cu. Yds.
B-119 = 70.99 Cu. Yds.
Total = 187.80 Cu. Yds.
187.80 x 0.0050 M Gal. per Cu. F = 0.94 M Gal.

L-9 COMMERCIAL FERTILIZER.

From: Sheet 5 / 1754.22 x 9 x 20 ÷ 1000 ÷ 2000 = 1754.22 Sq. Yds.
= 0.160 Tons.

GENERAL SUMMARY

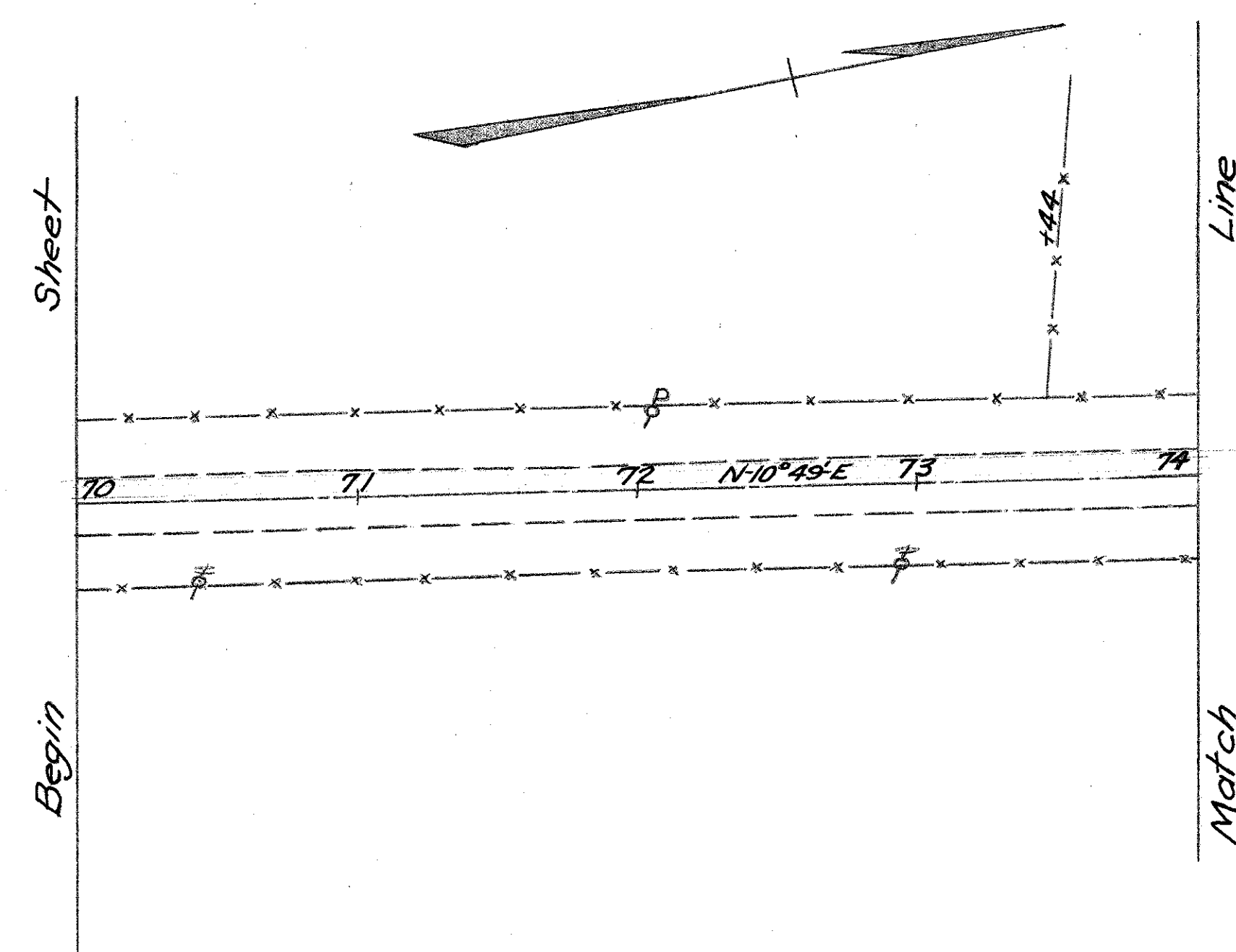
ITEM	QUANTITY	UNIT	DESCRIPTION	TYPE CODE - 6201
ROADWAY				
E-1	161	Cu. Yds.	Roadway Excavation, as per plan	
E-1	128	Sq. Yds.	Compacted Subgrade.	
E-11	1	M. Gal.	Water.	
E-12	234	Lin. Ft.	Pipe Removed, 15" and under.	
E-9	1	Each	Removal of Trees and Stumps.	
DRAINAGE				
I-3	14	Lin. Ft.	6" Roadway Drainage.	
I-3	30	Lin. Ft.	12" Roadway Drainage.	
I-8	1	Each	Standard No. 7 Side Ditch Catch Basin	
ROADWAY (CONT'D)				
I-15	96	Lin. Ft.	Guard Rail, Removed and disposed of.	
I-15	115.5	Lin. Ft.	Guard Rail, Steel Beam Type (Deep).	
L-9	1754	Sq. Yds.	Seeding and Protecting.	
L-9	0.16	Ton	Commercial Fertilizer (10-6-4).	
L-10	20	Sq. Yds.	Sodding	
DRAINAGE (CONT'D)				
I-3	10	Lin. Ft.	12" Pipe Outlet for Roadway Drainage	
I-3	36	Lin. Ft.	12" Roadway Drainage under Pavement on	
I-9	84	Lin. Ft.	Stone Underdrains, No. 2	Approaches
I-1	20	Lin. Ft.	12" Pipe for Driveways	
PAVEMENT				
T-35	32	Cu. Yds.	Asphaltic Concrete Surface Course, Type A or C, (70-80).	
B-35	47	Cu. Yds.	Asphaltic Concrete Leveling Course (70-80)	
B-119	71	Cu. Yds.	Crushed Aggregate Base Course	
T-30	8	Gals.	Bituminous Tack Coat, as per plan.	
I-7	80	Sq. Yds.	Reinforced Concrete Approach Slabs (T=10")	
STRUCTURES OVER 20' SPAN				
See Sheet No 14				

EARTHWORK

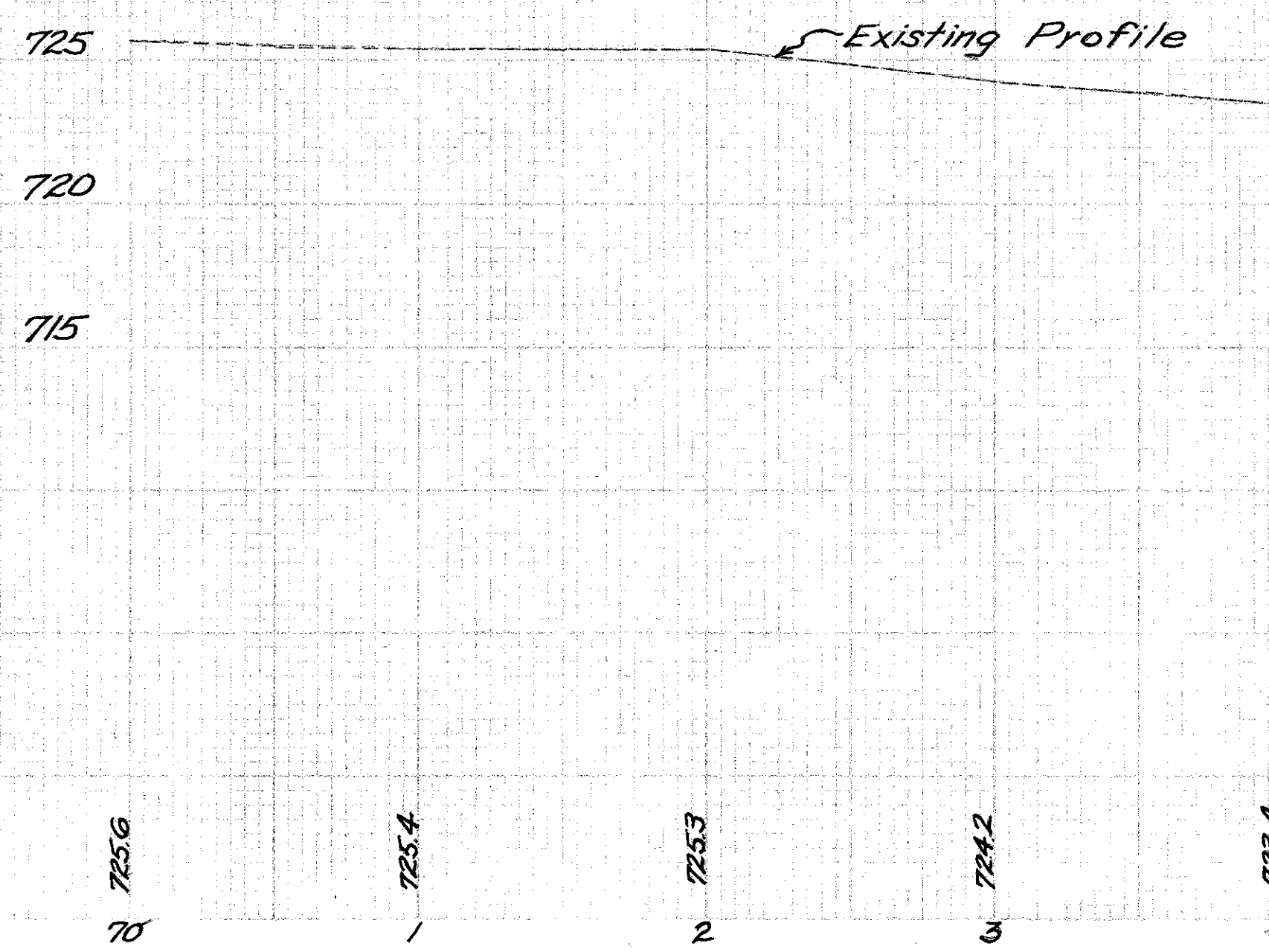
Sheet No.	Excavation	Embankment	Embankment +20%
	Cu. Yds.	Cu. Yds.	
5	53	17	21
5	108	78	34
	161	95	115

Channel Excavation = 558 Cu. Yds.
50% x 558 = 279 Cu. Yds.
(161+279) - 115 = 325 Cu. Yds. Excess.

FRA. 104-1.50



NO WORK ON THIS SHEET

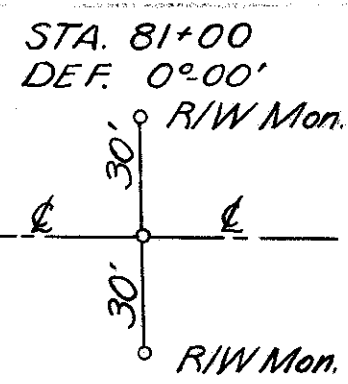


ALIGNMENT - STATION 70+00 TO STA. 74+00.

CURVE DATA
 P.I. STA. 75+83.50
 Δ=1°-11'-RT
 D=0°20'
 R=1788.74
 T=177.51
 L=355.00

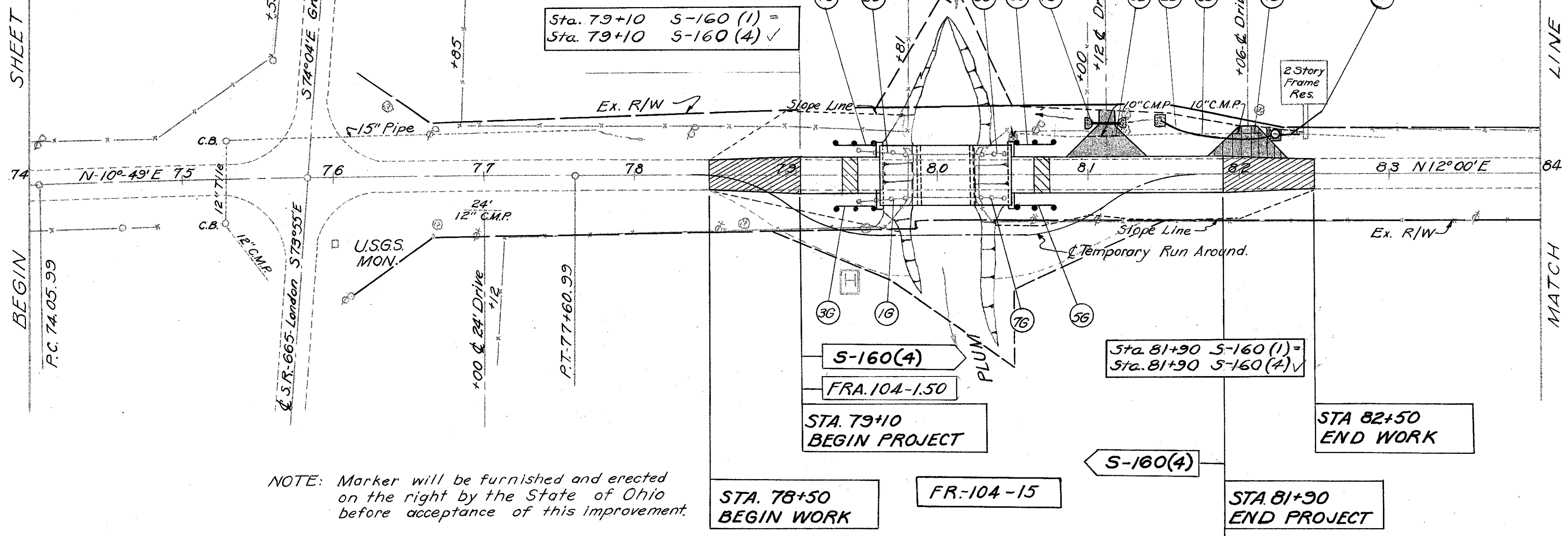
EXISTING BRIDGE DATA
 TYPE: Thru Plate Girder
 SPAN: 41'-9"
 ROADWAY: 23'-10"
 LENGTH: 45'-9"
 LOADING: S-5.4 Floor
 DATE BUILT: 1899
 SKEW: 0°00'
 CONDITION: Fair
 POSTED: Legal Loads Reduced 10%
 DISPOSITION: See sheet 14

PROPOSED BRIDGE DATA
 TYPE: Continuous Concrete Slab with capped pile substructure.
 SPAN: 26'-32.5'-26' % bearings.
 ROADWAY: 40' 1/4 guardrails
 LOAD FREQUENCY: C.F.-400-51
 SKEW: 0°00'
 SURFACE COURSE: Bituminous
 ALIGNMENT: Tangent
 APPROACH SLABS: AS-1-54(15' long)



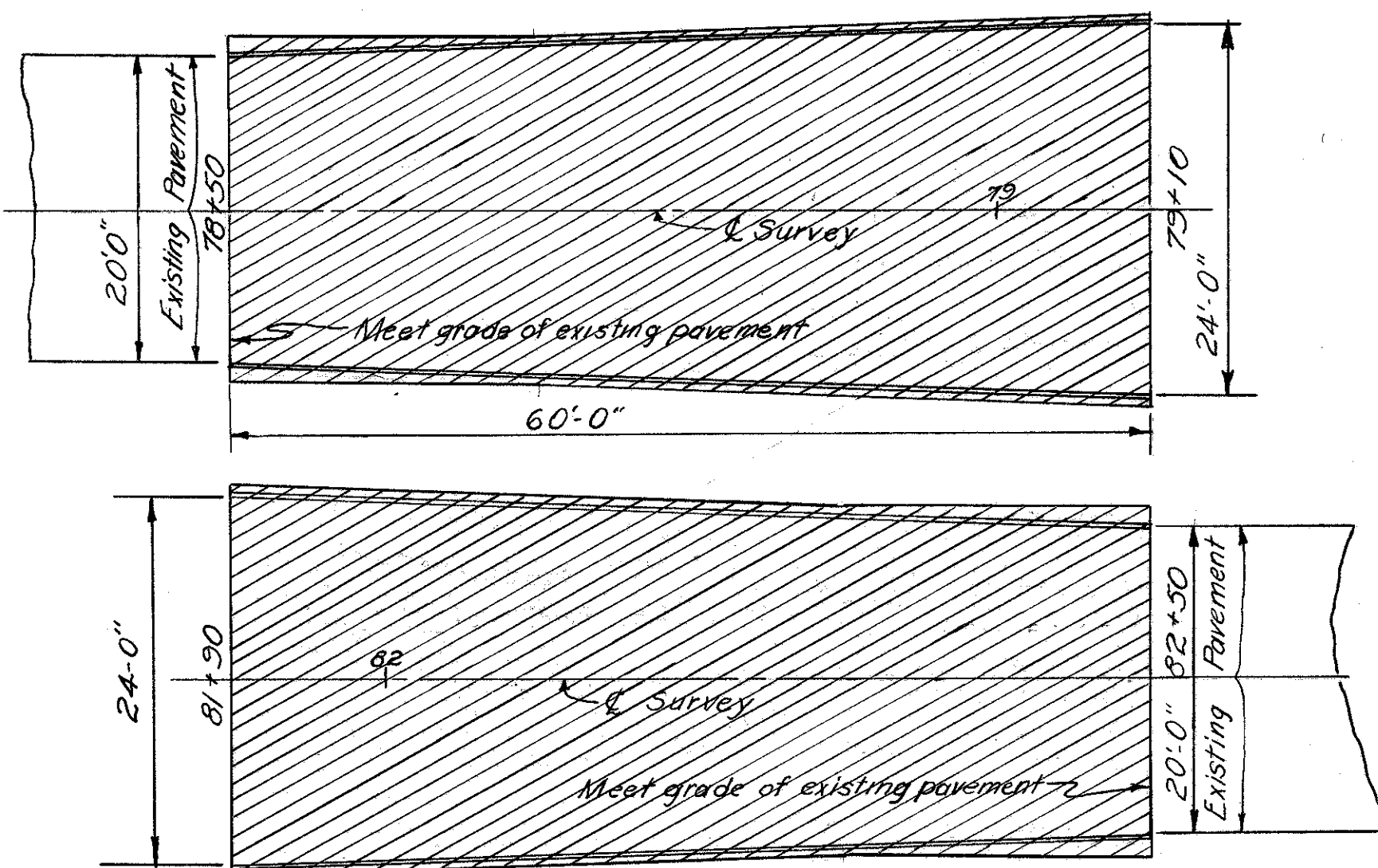
NOTE: Marker will be furnished and erected on the left by the State of Ohio before acceptance of this improvement.

FRA. 104-1.50



NOTE: Marker will be furnished and erected on the right by the State of Ohio before acceptance of this improvement.

B.M. = USGS BRASS PLATE IN CONC. N.E. CORNER OF INTERSECTION, 42' RT. STA. 76+15, ELEV. 722.26



NOTE: Reference shall be made to Std. Dwg. T-35.

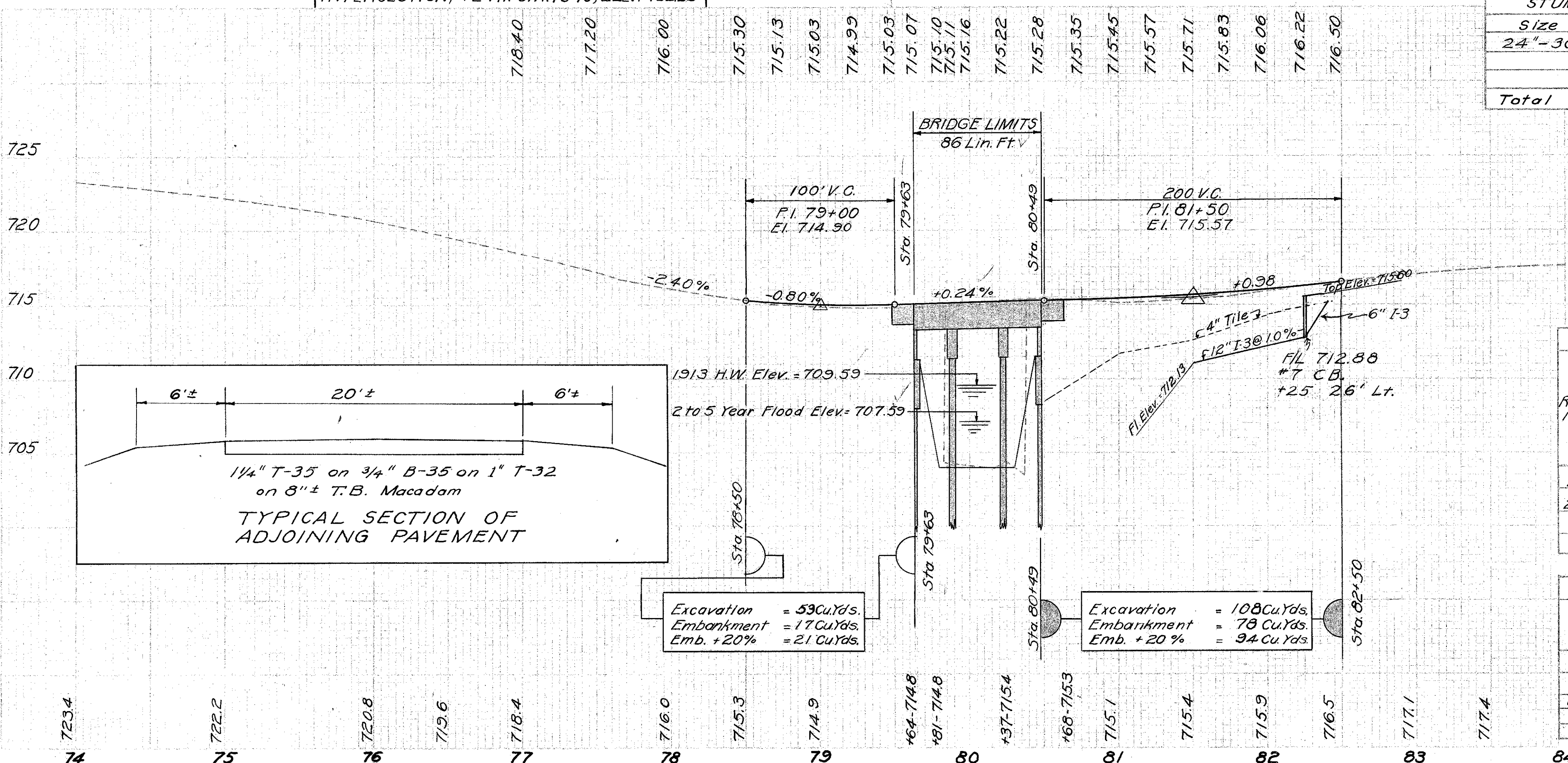
TRANSITION DETAILS ESTIMATED QUANTITIES

- T-35 1 1/2" Asphaltic Concrete Surface Course = 5.78 Cu.Yds. ✓
- B-35 1 1/2" Asphaltic Concrete Leveling Course = 4.65 Cu.Yds. ✓
- B-35 0" Min. Thick Asphaltic Concrete Pre-Leveling = 0.82 Cu.Yds. ✓
- B-35 3" Asphaltic Concrete Leveling Course = 2.78 Cu.Yds. ✓
- B-119 8" Crushed Aggregate Base Course = 10.39 Cu.Yds. ✓

Carry above quantities to sheet No. 3

REMOVAL OF STUMPS	
Size	No.
24"-30"	1
Total	1

DRAINAGE "D"										
Ref No.	Station		Side	1-8 Catch Basins No.7. Each	1-3 Roadway Drainage Lin. Ft.	E-12 Remove & Dispose of Pipe Lin. Ft.	1-3 Pipe Under Approaches Lin. Ft.	1-3 Pipe Outlet Lin. Ft.	L-10 Sodding Sq. Yds.	I-1 Pipe for Driveways Lin. Ft.
	From	To								
1-D	81+03	81+50	Lt.		6" 12"	4" 10"	12"	12"	10	20
2-D	81+50	82+26	Lt.	1	30		36	10	10	
3-D	81+00	81+22	Lt.			22				
4-D	81+95	82+17	Lt.			22				
5-D	82+26	82+40	Lt.		14					
6-D	80+50	82+40	Lt.			190				
TOTALS				1	14 30	190 44	36	10	20	20

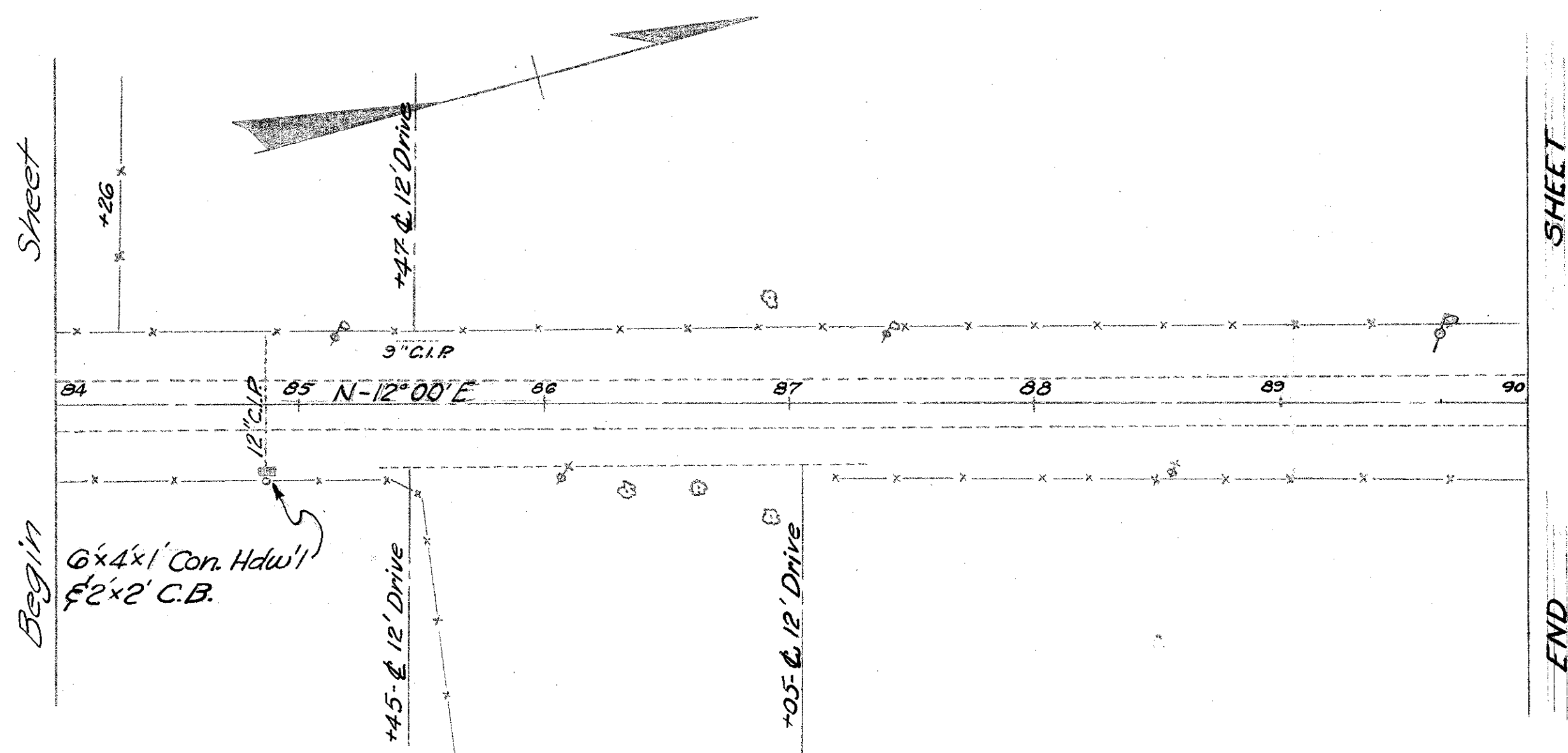


APPROACHES "A"									
Ref No.	Station	Side	Δ	W	L	M	N	B-119 Crushed Aggregate Base Course Sq. Yds.	T-35 Asphaltic Concrete Surface Course Sq. Yds.
1-A	81+12	Lt.	90°	12'	31'	20'	20'	858	
2-A	82+06	Lt.	90°	10'	20'	20'	20'	71.2	71.2
TOTALS								858	71.2

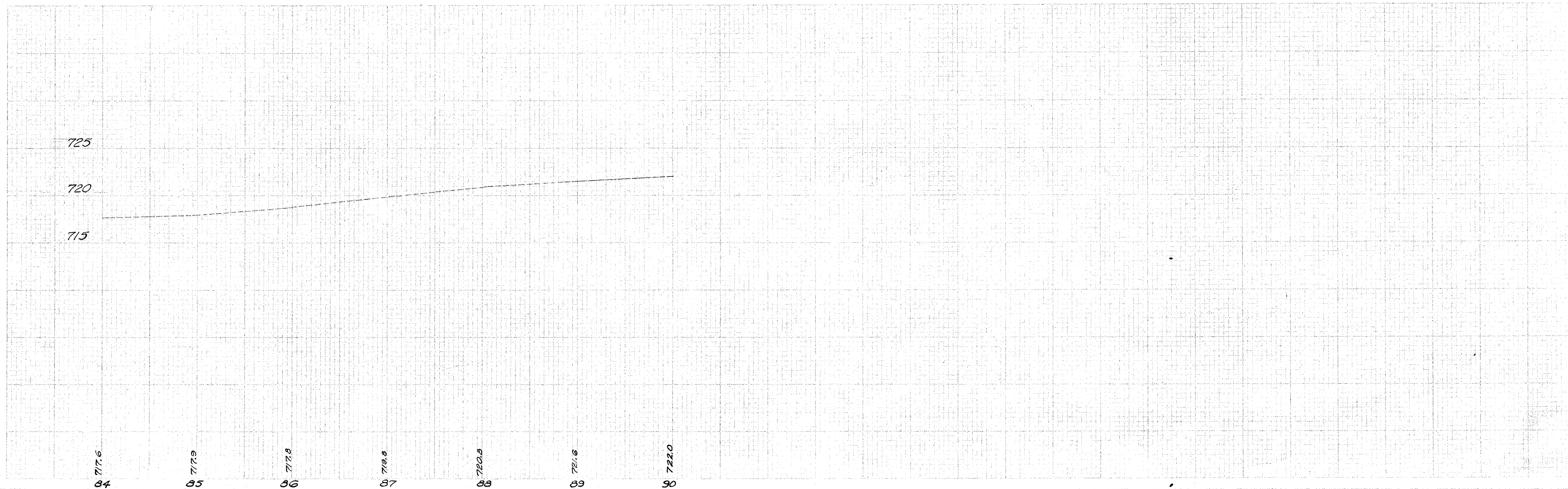
GUARD RAIL "G"					
Ref No.	Station		Side	1-15 Guard Rail Remove & Dispose Lin. Ft.	1-15 Guard Rail Lin. Ft.
	From	To			
1G	79+49	79+81	Rt.	32	
2G	79+49	79+81	Lt.	32	
3G	79+33.98	79+63.0	Rt.		29.02 ✓
4G	79+34.27	79+63.0	Lt.		28.73 ✓
5G	80+49.0	80+77.79	Rt.		28.73 ✓
6G	80+49	80+78.02	Lt.		29.02 ✓
7G	80+28	80+44	Rt.	16	
8G	80+28	80+44	Lt.	16	
TOTALS				96	115.5

SEEDING & PROTECTING			
Station	Side	L-9 Seeding & Protecting	Sq. Yds.
78+50	82+50	Lt./Rt.	1604.22
Channel Slopes			
From Sheet 10			150.00 ✓
TOTAL			1754.22

FRA. 104-1.50

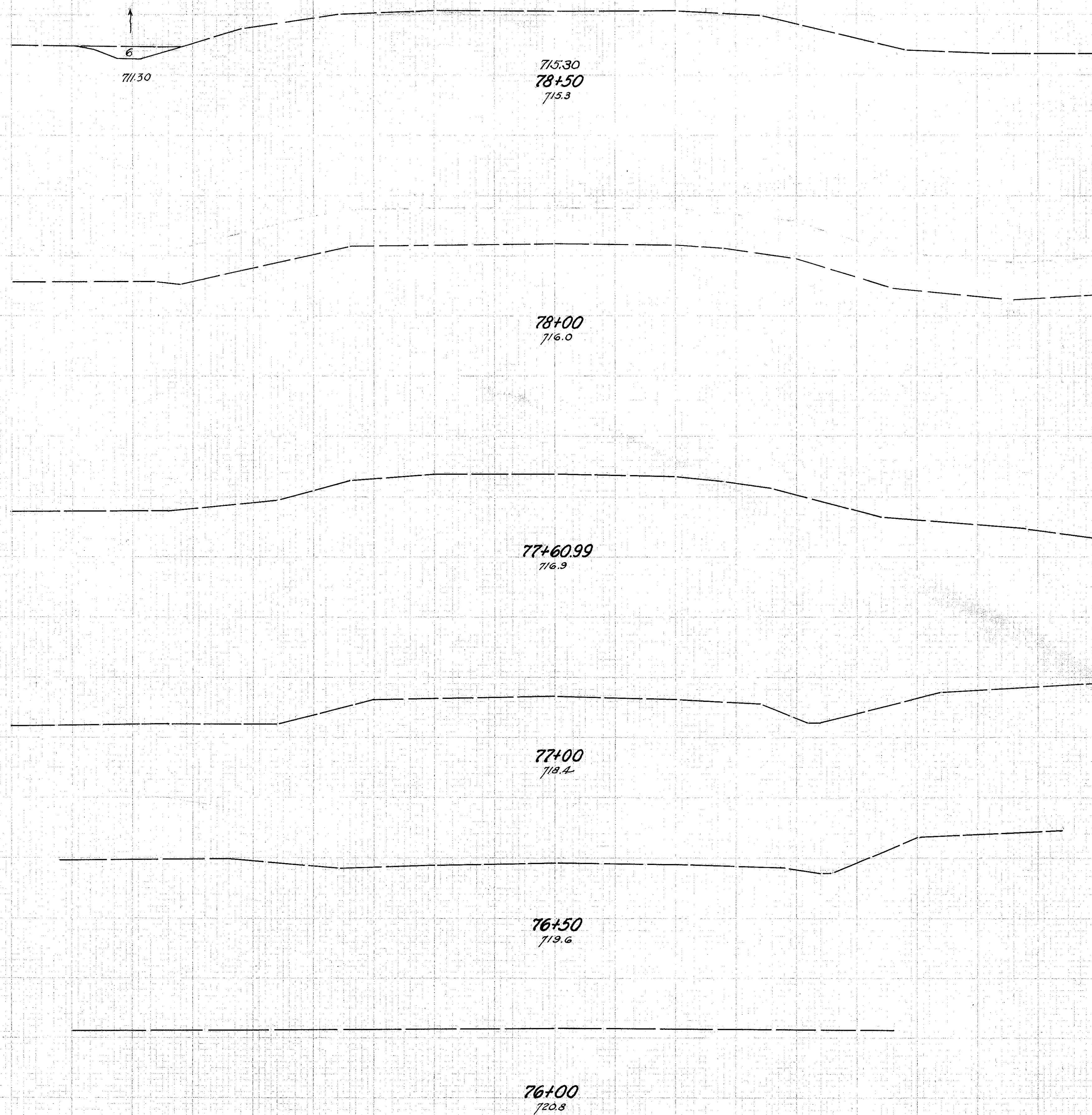


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ALIGNMENT - STATION 84+00 TO STA. 89+00

FRA. 104-1.50

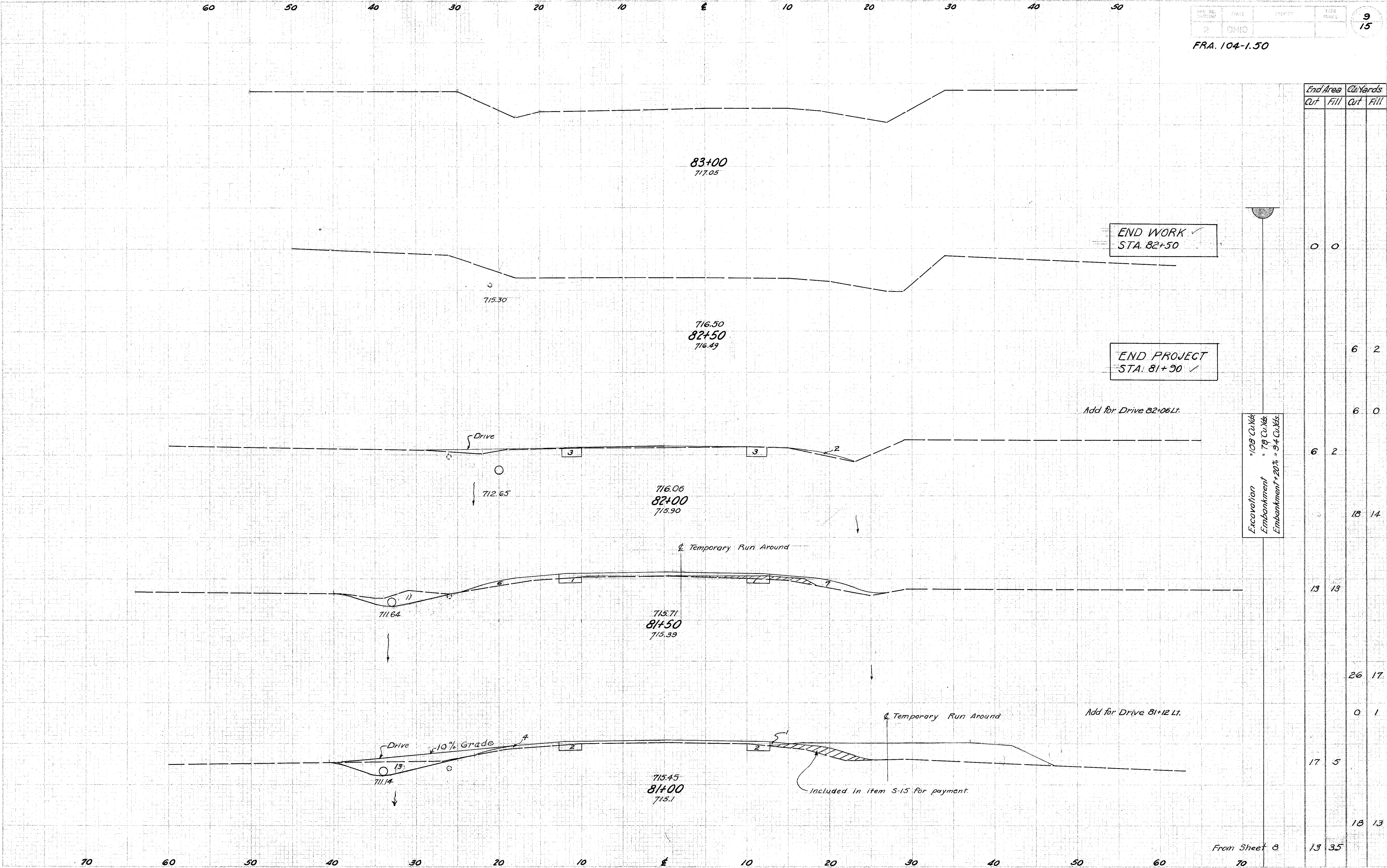


End Area		CuYards	
Cut	Fill	Cut	Fill
6	0		

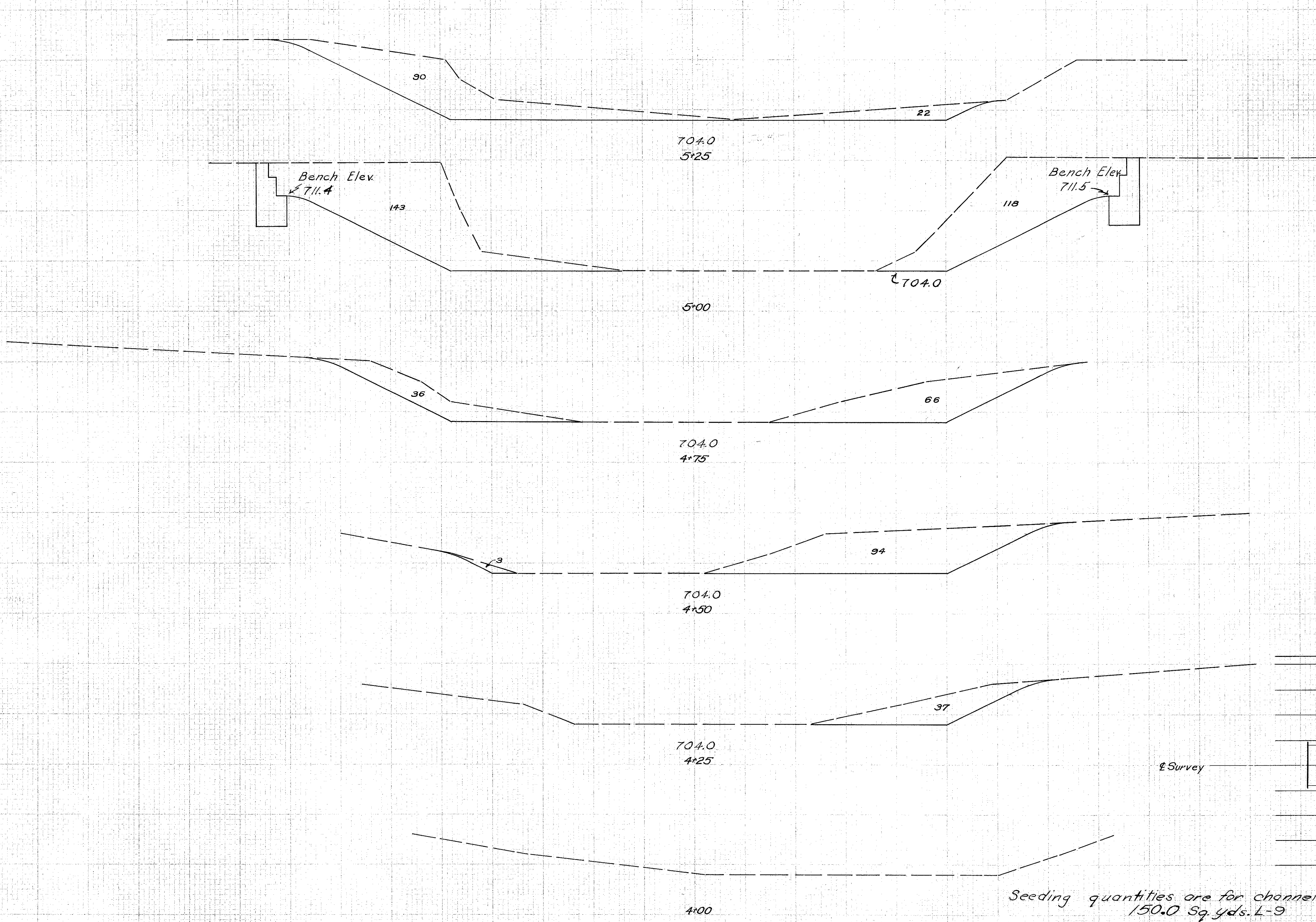
BEGIN WORK
STA. 78+50 ✓

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

STATION 76+00 TO STA. 78+50



Excavation = 108 Cu.Yds.
 Embankment = 78 Cu.Yds.
 Embankment + 20% = 94 Cu.Yds.



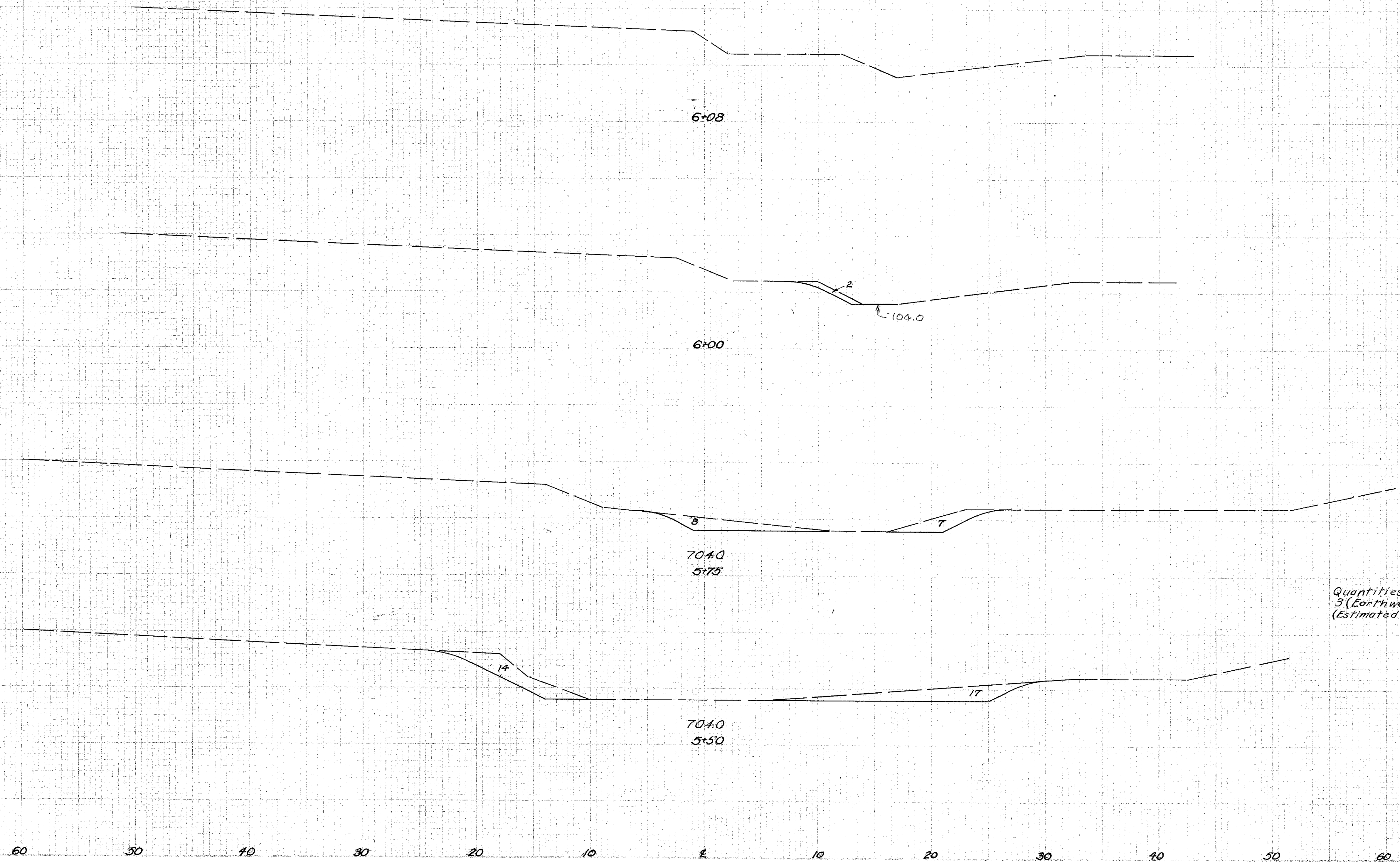
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
112	0		
		173	0
261	0		
		168	0
102	0		
		92	0
97	0		
		29	0
37	0		
		17	0
0	0		

Seeding quantities are for channel slopes.
150.0 Sq. yds. L-9

Quantities Carried to Sheet 5,
Seeding & Protecting table.

FRA.104-1.50

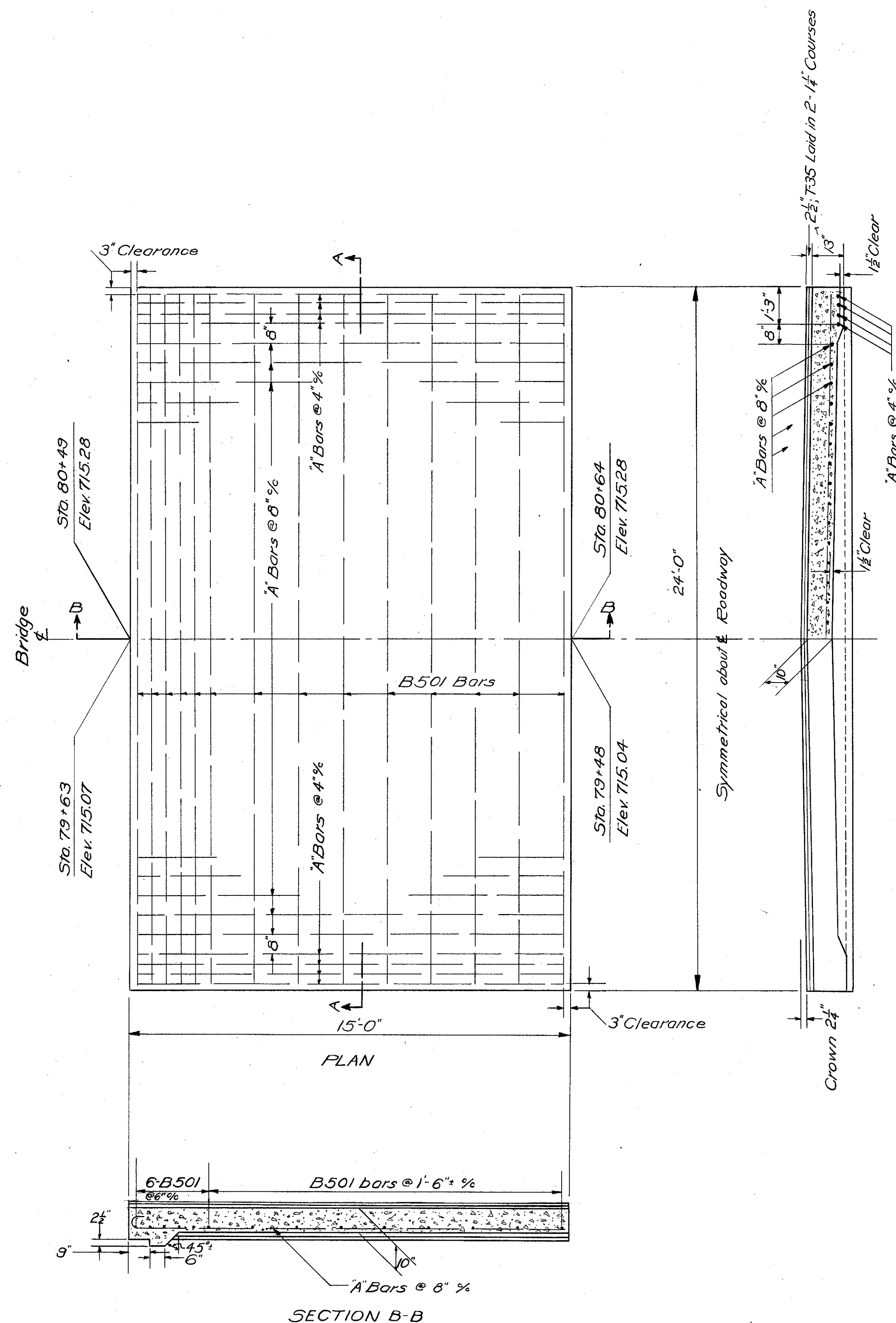
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill



0	0	0	0
2	0	8	0
15	0	21	0
31	0	66	0

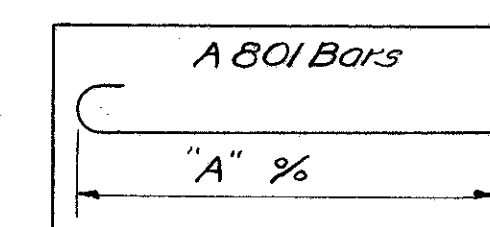
Quantities Carried to Sheets
3 (Earthwork table) and 14
(Estimated Quantities).

Excavation = 55.5 Cu. Yds.
Embankment = 0 Cu. Yds.
Embankment + 20% = 0 Cu. Yds.



NOTE:
For details not shown, reference shall be made to Std. Dwg. AS-1-54.

REINFORCING STEEL ^a					
Mark	No.	"A"	Length	Shape	Weight
A801	78	14'-6"	15'-7"	Bent	3245.6
B501	28		23'-6"	Straight	686.3
Total					3931.9



- ESTIMATED QUANTITIES*
- | | | |
|--|----------------|---|
| Item I-7 Reinforced Concrete Approach Slabs | 80.0 Sq. Yds. | † |
| Item E-2 Compacted Subgrade | 74.2 Sq. Yds. | ⊗ |
| Item T-35 Asphaltic Concrete Surface** | 160.0 Sq. Yds. | ⊗ |
| Item T-30 Bituminous Tack Coat, Sec. M-5.5, M5-2 or RS-1, or Sec. M-5.2, RC-1 or RC-2 applied at the rate of 0.10 gal. per sq. yd. (See Note in Proposal.) | 80.0 Sq. Yds. | † |
- * Quantities calculated for both slabs.
- ** 2 1/2" T-35 to be laid in 2-1/4" Courses.
- † Quantities Carried to General Summary, Sheet 3.
- ⊗ Quantities Carried to Calculations, Sheet 3.
- ^a Payment for reinforcing steel shall be included in the unit price bid for Item I-7.

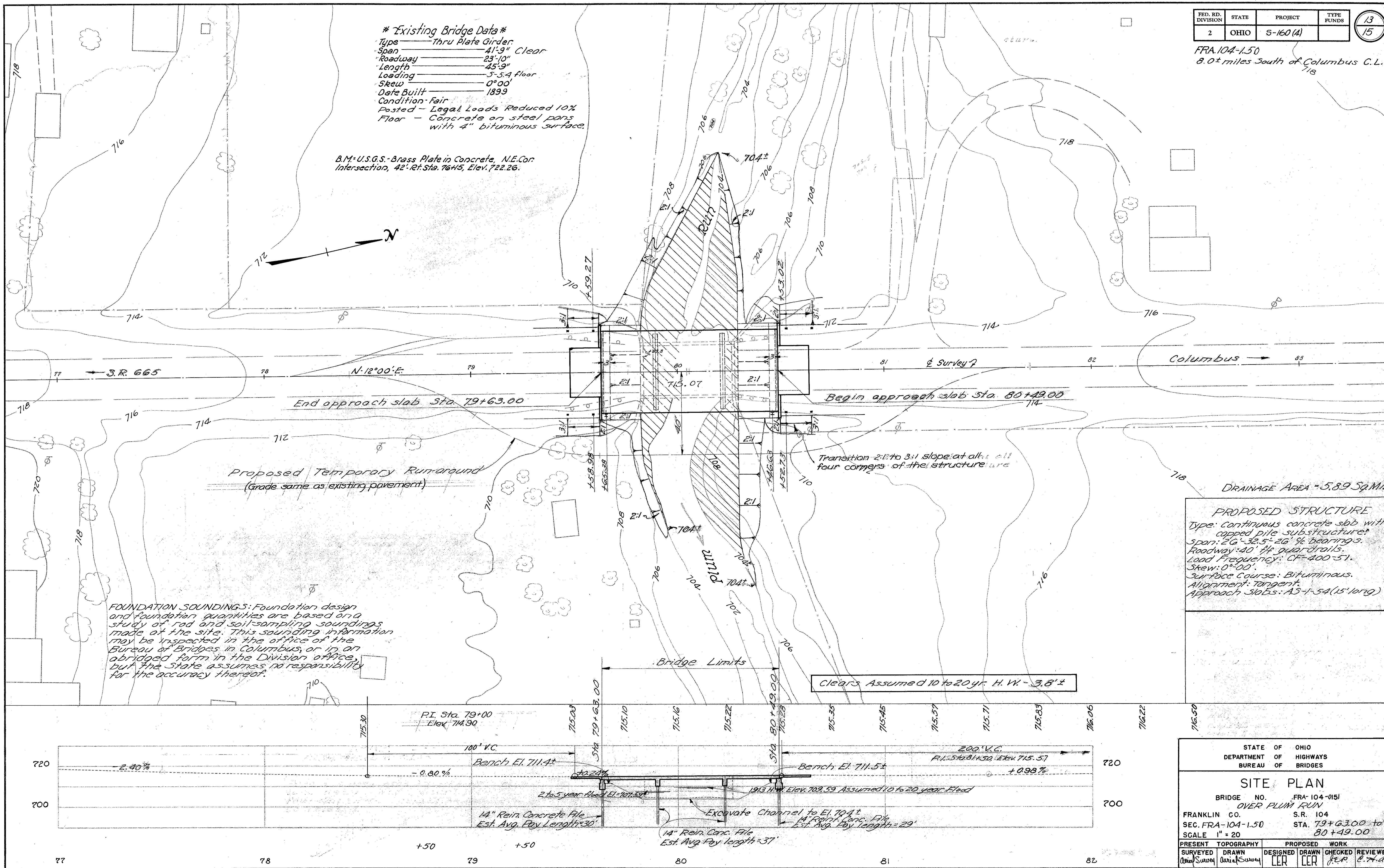
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	5-160 (A)	

13
15

FRA.104-1.50
8.0± miles South of Columbus C.L.

Existing Bridge Data
 Type — Thru Plate Girder.
 Span — 41'-9" Clear
 Roadway — 23'-10"
 Length — 45'-9"
 Loading — 5-5.4 floor
 Skew — 0°00'
 Date Built — 1899
 Condition — Fair
 Posted — Legal Loads Reduced 10%
 Floor — Concrete on steel pans with 4" bituminous surface.

B.M. = U.S.G.S. - Brass Plate in Concrete, N.E. Cor Intersection, 42° Rt. Sta. 76+15, Elev. 722.26.



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

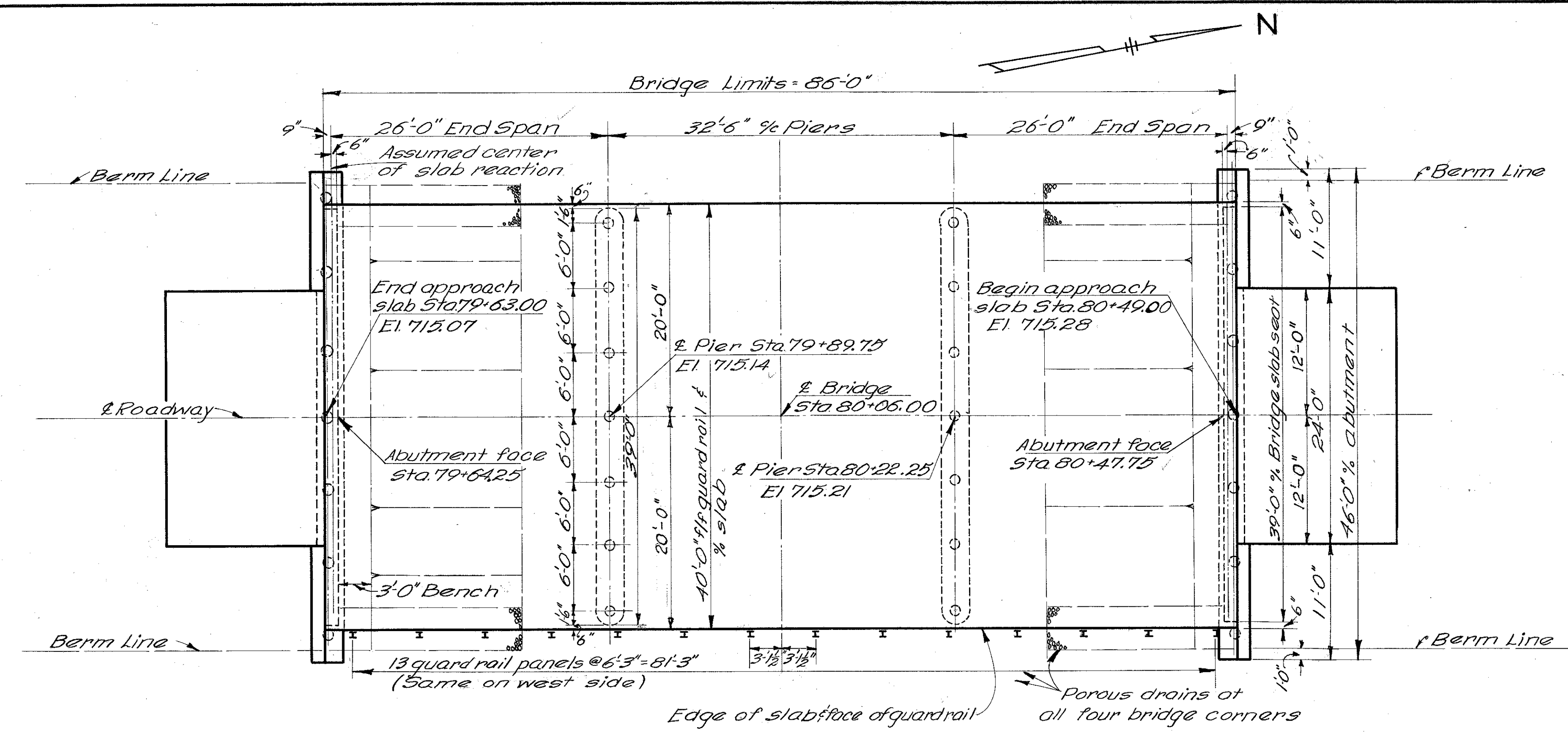
DRAINAGE AREA = 5.89 Sq. Mi.

PROPOSED STRUCTURE
 Type: Continuous concrete slab with capped pile substructure.
 Span: 26'-32.5" - 26' 3/4" bearings.
 Roadway: 40' w/ guardrails.
 Load Frequency: CF-400-51.
 Skew: 0°00'.
 Surface Course: Bituminous.
 Alignment: Tangent.
 Approach Slabs: AS-1-54 (15' long)

Clears Assumed 10 to 20 yr. H. W. - 3.8'±

STATE OF OHIO		DEPARTMENT OF HIGHWAYS		BUREAU OF BRIDGES	
SITE PLAN					
BRIDGE NO. FRA-104-0151		OVER PLUM RUN			
FRANKLIN CO. S.R. 104		SEC. FRA-104-1.50 STA. 79+63.00 to 80+49.00			
SCALE 1" = 20'					
PRESENT TOPOGRAPHY			PROPOSED WORK		
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
W.H. SURVEY	W.H. SURVEY	CEP	CEP	J.P.P.	B.T.D.

FRA 104-150



GENERAL PLAN

REINFORCING STEEL LIST				
Mark	No.	Length	Weight	Shp.
Superstructure				
A945	105	30'-6"	10,889	S
B945	34	22'-5"	2,591	B
C945	34	19'-10"	2,293	B
D945	17	21'-4"	1,233	S
E945	17	16'-10"	973	S
F945	80	24'-0"	6,528	S
G945	38	11'-0"	1,421	S
H945	40	6'-10"	929	S
J601	40	15'-10"	951	S
K601	20	13'-8"	411	S
M601	93	39'-6"	3,318	S
N601	57	39'-6"	3,383	S
Piers				
P1001	8	39'-6"	1,360	S
P901	8	36'-6"	993	S
P701	84	4'-0"	687	S
R501	4	36'-6"	152	S
R502	60	8'-0"	501	B
R503	8	8'-4"	53	B
R401	56	5'-5"	203	B
Bending Diagrams				
Abutments				
R1001	16	20'-11"	1,440	S
R501	16	24'-1"	1,029	S
R501	16	23'-7"	393	S
R502	136	6'-7"	934	B
R503	8	20'-1"	168	S
R504	24	5'-4"	133	S
R505	32	7'-11"	264	B
R506	8	10'-8"	89	S
R507	16	4'-11"	82	S
R508	24	7'-4"	184	B
R509	24	8'-5"	211	B
R401	56	5'-5"	203	B
Replacement Bars				
RE100	1	7'-2"	31	
RE900	2	6'-10"	46	
RE800	1	6'-6"	17	
RE700	1	6'-2"	13	
RE600	1	5'-11"	9	
RE500	1	5'-7"	6	
RE400	1	5'-3"	4	

GENERAL NOTES

REFERENCE shall be made to Standard Drawings C-5-1-54, A-1-54 and P-1-54, all revised 12-1-54.

TEMPORARY RUN-AROUND BRIDGE AND APPROACHES: Bridge frequency rating, CF=130(31). Bridge width 24ft. Approach width 30ft; out-to-out of shoulders. Approach surface course shall be class A, 2-ft wide. Profile of run-around shall match existing grade. Existing superstructure may be moved and used as the run-around bridge providing existing posting is maintained.

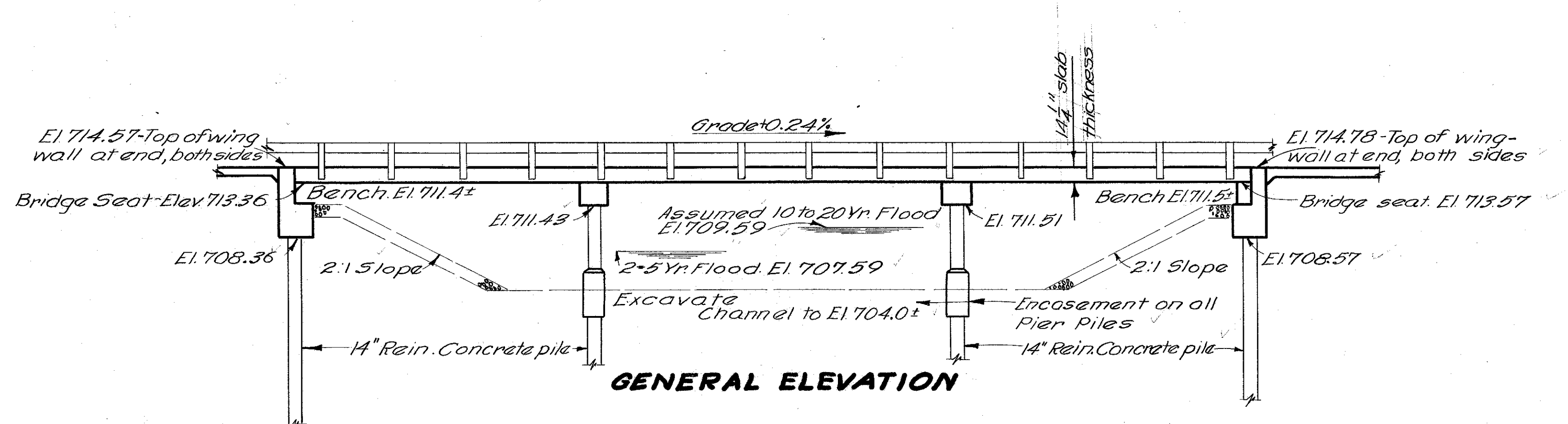
REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic, the existing structure shall be removed. Floor beams shall be carefully removed and piled along the right-of-way for disposal by the States forces. The substructure shall be removed to Elev 704.0± and to whatever extent is necessary to avoid interference with new construction, including pile driving. Suitable waste masonry may be disposed of as bank protection where directed by the Engineer. Remaining waste masonry may be disposed of in embankment slopes. The remainder of the removed materials shall become the property of the Contractor.

PILING shall be driven to a minimum bearing capacity of 26 tons for abutments and 37 tons for the piers.

POROUS DRAINS, extending from face of abutment to Elev 704.0±, shall be 4ft. wide and 1ft thick.

ASPHALTIC CONCRETE SURFACE COURSE, Item T-35, laid in two courses, shall be provided.

GRAVEL, if used as the coarse aggregate, shall be according to Sec. M-393 instead of M-391 for Class "C" concrete in the superstructure and pier caps. Gravel meeting the requirements of Sec. M-393 also may be used for other concrete in this structure.



GENERAL ELEVATION

ESTIMATED QUANTITIES						
Item	Total	Unit	Description	Superst.	Abut.	Pier
E-2	95	cuyd.	Unclassified excavation		95	
E-3	558	cuyd.	Channel Excavation			558
S-1	168	cuyd.	Class C concrete, superstructure & pier caps	153		15
S-1	46	cuyd.	Class E concrete, abutments		46	
S-3	405	sq.yd.	Type C waterproofing	405		
S-4	46,325	lbs.	Reinforcing Steel	37,120	5,130	3,949
S-14	172	lin. ft.	Railing, Type I-15.13 with galvanized steel posts	172		
S-15	Lump	Sum	Temporary run-around bridge & approaches			Lump
S-16	Lump	Sum	First test pile			Lump
S-18	930	lin. ft.	14" Cast in place Reinforced concrete piling		410	520
S-24	Lump	Sum	Removal of existing structure			Lump
S-29	13	cuyd.	Porous backfill		13	
S-29	12	cuyd.	Porous drains on embankment slopes			12
T-35	24	cuyd.	Asphaltic concrete surface course, Type A or C (70-20)	24		

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

GENERAL PLAN, ELEVATION, NOTES, ESTIMATED QUANTITIES, & REINFORCING STEEL LIST
BRIDGE No. FRA-104-0151
OVER PLUM RUN
FRANKLIN COUNTY Sta. 79+63.00
SEC. FRA-104-150 Sta. 80+49.00

DESIGNED: JSM DRAWN: JSM TRACED: R.H.D. CHECKED: J.M.G. REVISION: 856 DATE: 12-30-54

Revised As-Order
H.E.N. 12-18-57

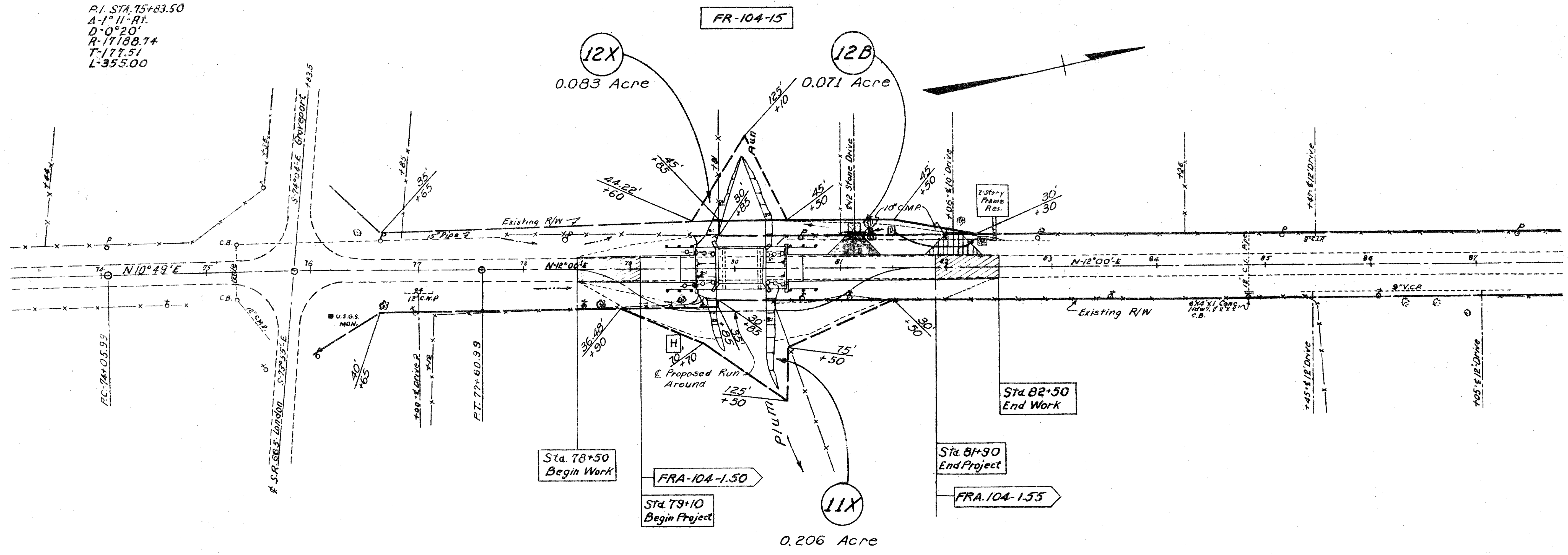
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		1956

FRA-104-150

15
13

Kathryn Utzinger

Curve Data
 P.I. STA. 75+83.50
 Δ=1°11'41"
 D=0°20'
 R=11188.74
 T=177.51
 L=355.00



Gaynelle Borrer Kerschner