

# STATE OF OHIO DEPARTMENT OF HIGHWAYS PAU-637-11.94 PAULDING COUNTY JACKSON, EMERALD & AUGLAIZE TOWNSHIPS

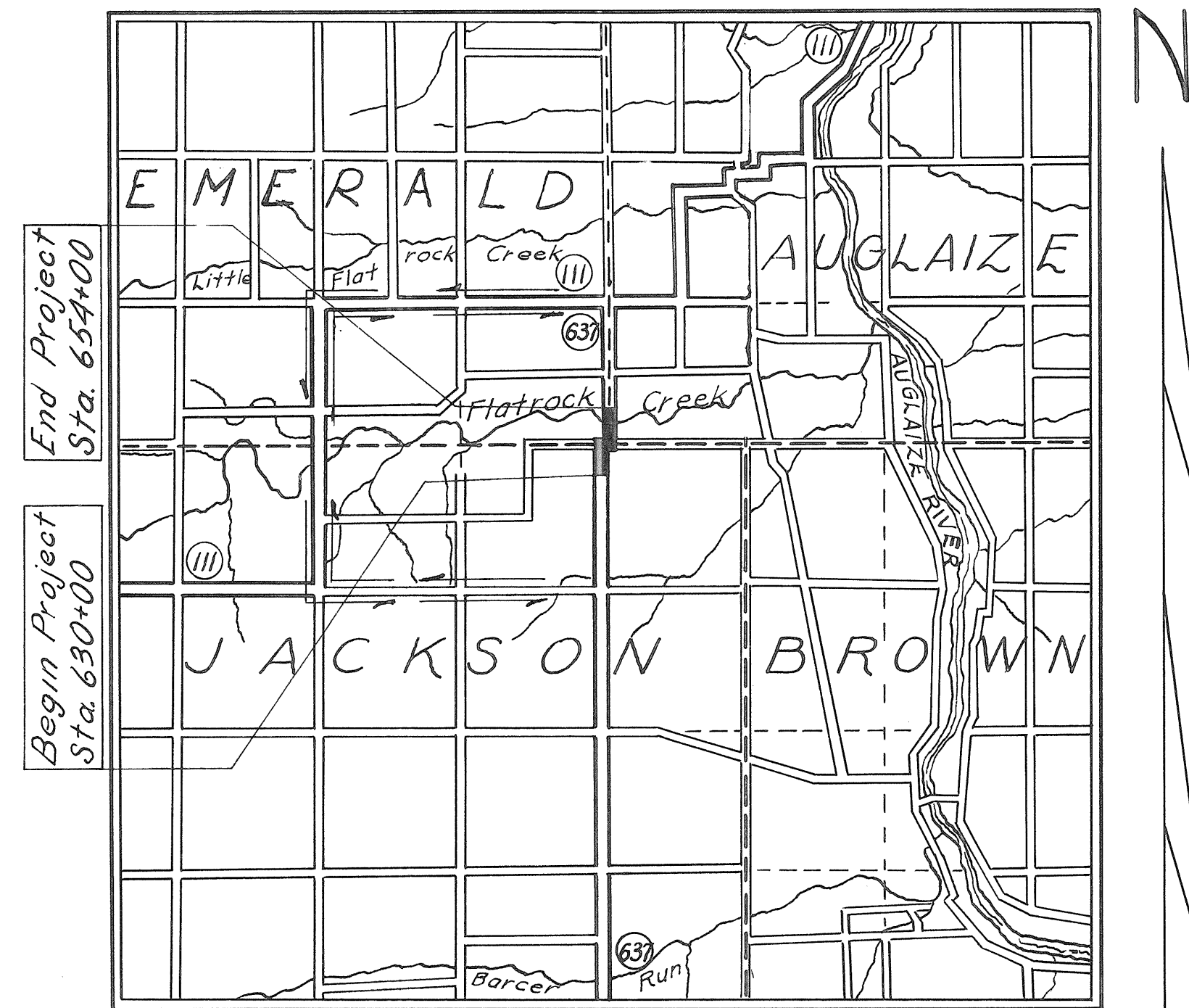
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	STATE	

1  
24

PAULDING COUNTY  
PAU-637-11.94

### CONVENTIONAL SIGNS

TOWNSHIP LINE	-----
SECTION LINE	-----
CENTER LINE	-----
FENCE LINE	-----
GUARD RAIL (EXISTING)	---x---x---x---
GUARD RAIL (PROPOSED)	o-o-o-o-o-o-o-o
POLE LINE	-----
TREES OR STUMPS (EXISTING)	⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗
TREES OR STUMPS (TO BE REMOVED)	⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗



The standard specifications of the State of Ohio, Department of Highways, including changes and supplemental specifications listed in the proposal shall govern this improvement.

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

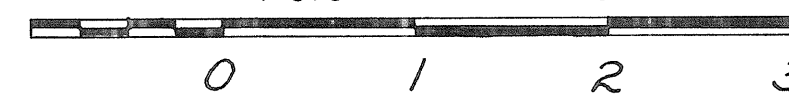
I hereby approve these plans and declare that the making of this improvement will require the closing of the highway to traffic, except as otherwise noted on Sheet No. 3, and that detours will be provided as indicated on the plans.

### INDEX OF SHEETS

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DELIVERY POINT PAULDING, OHIO (N.Y.C.) AVERAGE HAUL 7 MILES

SCALE OF MILES



### LOCATION PLAN

PORTION TO BE IMPROVED	=====
STATE HIGHWAYS	=====
OTHER ROADS	=====
DETOURS	-----

### SCALE

PLAN 1"=50'  
PROFILE: HORIZONTAL 1"=50'  
PROFILE: VERTICAL 1"=5'

Approved: Joe Chambers  
Date: 1/17/58 Division Deputy Director

Approved: C. H. Mahoney, Jr.  
Date: 1-28-58 Deputy Director of Planning & Programming

Approved: D. H. Overman, Inc.  
Date: 1-22-58 Engineer of Bridges

Approved: P. E. Shultz  
Date: 1-28-58 Engineer of Location & Design

Approved: P. E. Masten  
Date: 1-28-58 Deputy Director of Design & Construction

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

Approved: George J. Thomas, Jr.  
Date: 1/28/58 Acting Director of Highways

### LINE DATA

Begin Project	Sta. 630+00 Lin. Ft.
End Project	Sta. 654+00 Lin. Ft.
Net Length of Project	2400 Lin. Ft. or 0.454 Mile
Begin Work	Sta. 629+50 Lin. Ft.
End Work	Sta. 656+85 Lin. Ft.
Net Length of Work	2735 Lin. Ft. or 0.517 Mile

STANDARD		DRAWINGS	
G-7.07	6-1-56	L-1	4-1-50
S-27 P.C. 3	2-20-48	L-3	4-1-50
I-1, 2, 3, 4, & 5	2-20-48	L-3A	4-1-50
I-14 G	1-22-52	DR-1	1-3-55
I-15 No. 1	8-1-55	RI-1	1-3-55
I-15 No. 2-A	6-1-57	AS-1-54	12-1-54
T-35	1-2-56		

SUPPLEMENTAL SPECIFICATIONS	
B-119 Rev.	8-11-57

FILE No	PAULDING COUNTY PAU-637-11.94
Date of Letting	195--
Contract No	

JUN 9 1958  
PAULDING COUNTY

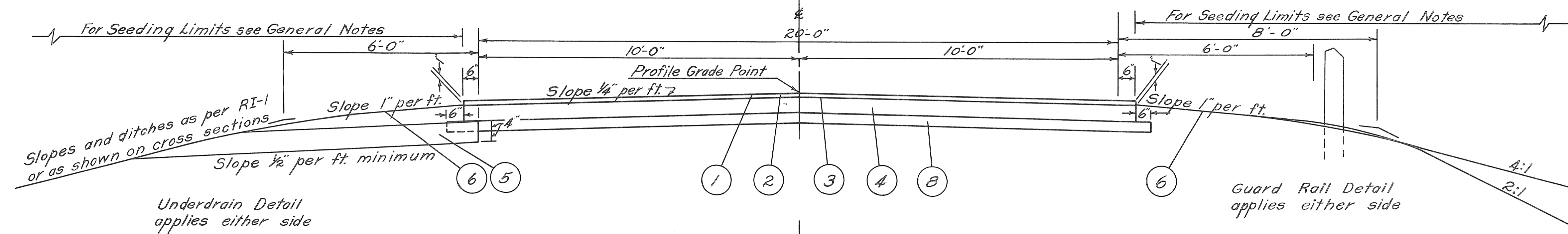
# TYPICAL SECTIONS

## T-32 ON B-119

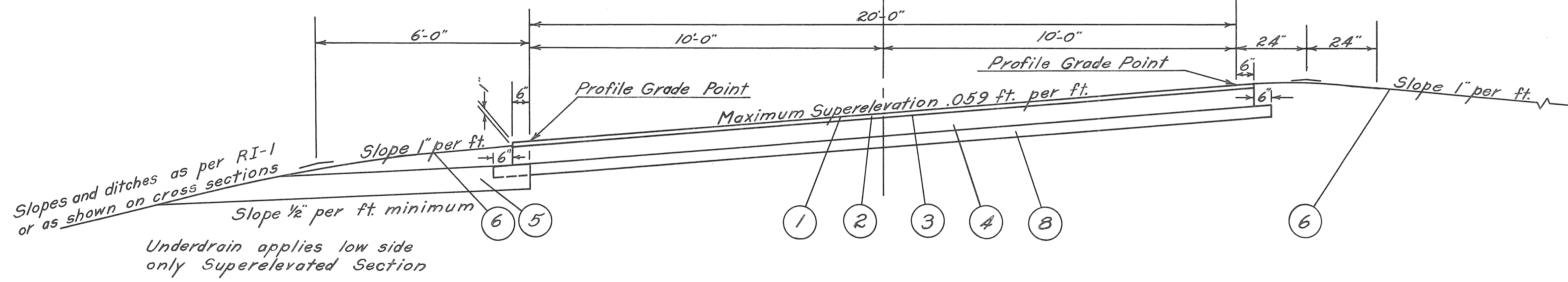
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

2  
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PAULDING COUNTY  
PAU-637-11.94

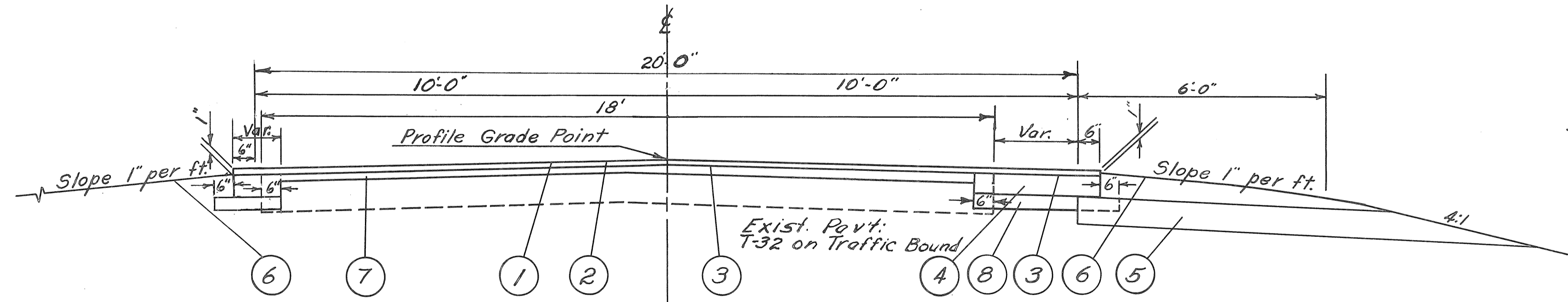


Typical at Left applies:  
Sta. 638+91.10 to Sta. 639+84.44 93.34 Lin. Ft.  
Sta. 647+54.44 to Sta. 647+95.74 41.30 Lin. Ft.  
Sta. 649+76.76 to Sta. 652+50 273.24 Lin. Ft.  
Total 407.88 Lin. Ft.



Typical at Left applies:  
Sta. 635+00 to Sta. 638+91.10 391.10 Lin. Ft.  
Sta. 639+84.44 to Sta. 647+54.44 770.00 Lin. Ft.  
Total 1161.10 Lin. Ft.

Details not shown same as the above typical



Typical at Left applies:  
Sta. 630+00 to Sta. 631+37.10 137.10 Lin. Ft.  
\* Sta. 631+37.10 to Sta. 635+00 362.90 Lin. Ft.  
Sta. 652+50 to Sta. 654+00 150.00 Lin. Ft.  
Total 650.00 Lin. Ft.

Details not shown same as the above typical

\* Superelevated to conform to cross-sections

- 1) Item T-32 Seal Coat Bituminous Material and Aggregate for Seal, Using Bituminous Material, Sec. M-5.7, RT-9 or RT-10 or Sec. M-5.3, MC-4 or MC-5 applied at the rate of 0.25 Gal. per Sq. Yd. and 0.008 Cu. Yd. No. 6 Cover Aggregate per Sq. Yd.
- 2) Item T-32 Road Mix Bituminous Material and Aggregate for Road Mix and Choke Using Bituminous Material, Sec. M-5.7, RT-8 or RT-9 or Sec. M-5.3, MC-4 or MC-5 applied at the rate of 0.90 Gal. per Sq. Yd. and 0.056 Cu. Yd. No. 46 Aggregate per Sq. Yd. and 0.004 Cu. Yd. No. 9 Choke Aggregate per Sq. Yd. Method "B" or "C".
- 3) Item T-30 Bituminous Prime Coat Using Bituminous Material, Sec. M-5.3, MC-0 or MC-1 or Sec. M-5.7, RT-2 or RT-3 applied at the rate of 0.35 Gal. per Sq. Yd.
- 4) Item B-119 6" Crushed Aggregate Base Course
- 5) Item I-9 Stone Underdrains No. 2
- 6) Item L-9 Seeding and Protecting as per plan.
- 7) Item B-119 2" Minimum Crushed Aggregate Base Course
- 8) Item I-22 4" Subbase

# GENERAL NOTES

PAULDING COUNTY  
PAU-637-11.94

- DESIGN SPEED**-The geometrics for this project have been planned for 60M.P.H. non-passing sight distance and 50M.P.H. passing sight distance.
- FIELD OFFICE**-The Contractor shall provide a suitable field office in accordance with Sec. 5-0.01 having a minimum floor area of 200 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 construction of new facilities for private or public utilities will be done by, and at the expense of the respective owners unless otherwise noted on the plans.
- SUPERELEVATION**-Superelevated curves shall be built without crown. The crown shall be worked out between the beginning of the transition and the point where the superelevation equals twice the crown.
- EXISTING GUARD RAIL**-Existing guard rail will be removed by others.
- FINAL CROSS SECTIONS**-Final cross sections will not be required on this project except where there has been a change from the plan design.
- EXISTING PAVEMENT REMOVAL**-The removal of existing pavement is included in Item E-1 Roadway Excavation for payment.
- ROUNDING OF CORNERS ON CROSS SECTIONS**-The rounded corners, shown on Std. Drawing RI-1, apply to all cross sections even though otherwise shown in these plans.
- STONE UNDERDRAINS**-I-9, Stone Underdrains shall be placed as determined by the Engineer. Quantities are figured for 50' intervals, except as noted on Typical Sections. In the final finishing of slopes and ditches, care shall be exercised to assure that the exposed ends of I-9 Underdrains shall be left free of cover that would impede free drainage.
- RIPRAP**-All riprap shall be Class "E" reinforced concrete-Item I-10, Riprap Type "A", as per plan.
- SEEDING QUANTITIES**-Quantities for seeding are calculated for soil areas within lines 2 ft. outside the work limits as shown on the cross sections and payment shall not be made for seeding beyond these limits.
- SEED MIXTURE**-Item k-9 shall be followed except that the following seed shall be used at the rate of 3 lbs. per 1000 sq.ft. throughout the limits of this project:  
 35% Kentucky Blue Grass      20% Fancy Red Top  
 35% Chewings Red Fescue      10% Perennial Rye Grass  
 In addition to the above mixture, for an area 3 ft. each way from the ditch center line, the following shall be added: from Jan. 1 to July 1, 5 lbs. of oats per 1000 sq.ft.; from July 1 to Jan. 1, 2 lbs. of Northern Rye per 1000 sq.ft. A rotary type mixer shall not be used and no mulching will be permitted in this area. Any stone or other debris 2" or over in diameter shall be removed from the exposed surface of the seed bed.
- REMOVAL OF TREES AND STUMPS**-Trees or stumps shall be removed or preserved as indicated on the plans by the following symbols:  
 Trees to be removed ☒  
 Trees to be preserved ☉  
 The number of trees or stumps to be removed as indicated by the above symbol is approximate, and the State of Ohio reserves the right to order the removal of additional trees or stumps, even though these trees or stumps are not indicated on the plans or are indicated to be preserved.
- HAND FINISHING**-Hand finishing will be permitted as per Sec. T-71.211 for the approach slabs on this project.
- CHANNEL EXCAVATION**-Channel excavation on this project is computed from contours on the site plan.
- ITEM I-14, PAVED GUTTER, TYPE I**-Modified as per plan, where called for on this project, shall be modified by being constructed 6 ft. wide with 2 ft. bottom.

- DETOUR**-The length of time of detour shall be held to a minimum and in no case shall exceed 150 consecutive calendar days. Two way traffic shall be maintained at all other times.
- TRANSVERSE PAVEMENT SLOPE**-The transverse slope of 3/16" per foot on the bridge and approach slabs shall be transitioned to the 1/4" per foot slope shown on the typical sections between Sta. 649+76.76 and Sta. 650+25 and between Sta. 647+50 and Sta. 647+95.74.
- SUBGRADE COMPACTION FOR DRIVES & MAILBOX TURNOUTS**-The subgrade under B-119 Material used on drives and mailbox turnouts shall be compacted for a depth of six inches (6") to the density requirements of Table III in Sec. E-1.09. Payment for subgrade compaction, as specified above, shall be included in the unit price bid for Item E-1 Roadway Excavation.
- ITEM I-4 6" UNDERDRAINS**-If considered necessary by the Engineer at the time of construction, 6" pipe underdrains shall be constructed at locations and to lines and grades directed by him. In general, I-4 underdrains shall be located 2 feet out from, and approximately 5 1/2 feet below, the proposed pavement edge.  
 The following estimated quantities are carried directly to the General Summary:  
 Item I-4 6" Underdrains ----- 300 Lin. Ft.  
 Item I-4 8" Outlets for Underdrains, Sec. M-6.4(a) --- 2 @ 10' = 20 Lin. Ft.  
 Quantities not used at the direction of the Engineer shall be non-performed.

GENERAL SUMMARY			
Item	Quantity	Unit	
<b>ROADWAY</b>			
E-1	3723	Cu. Yd.	Roadway Excavation, as per plan
E-1	3986	Sq. Yd.	Compacted Subgrade
E-1	5883	Cu. Yd.	Embankment
E-9	3	Each	Removal of Trees and Stumps
E-11	37	M. Gal.	Water
I-15	1423.23	Lin. Ft.	Guard Rail, Steel Beam Standard Type (Deep) as per Std. Drawing I-15 No. 2A
k-9	18,160	Sq. Yd.	Seeding and Protecting, as per plan
k-9	1.69	Tons	Commercial Fertilizer (10-6-4)
T-10	50	Cu. Yd.	Traffic Compacted Surface Course for Maintaining Traffic
M-10	1	Ton	Calcium Chloride or Calcium Magnesium Chloride, Furnished and Applied for Maintaining Traffic
<b>DRAINAGE</b>			
E-2	11	Cu. Yd.	Excavation for Structures
S-22	Lump	Lump	Removal of Portions of Existing Structures
S-27	44	Lin. Ft.	18"x11" Pipe for Roadway Culverts, M-6.4(d)(i)
I-4	20	Lin. Ft.	8" Outlets for Underdrains, Sec. M-6.4(e).
I-3	40	Lin. Ft.	8" Roadway Drainage
I-3	62	Lin. Ft.	10" Outlets for Roadway Drainage Sec. M-6.4(e)
I-4	300	Lin. Ft.	6" Underdrains
I-9	756	Lin. Ft.	Stone Underdrains, No. 2
I-10	5	Sq. Yd.	Riprap, Type A, as per plan
I-14	178	Lin. Ft.	Type I Paved Gutter, Modified as per plan
I-16	4	Each	Catch Basins Abandoned
k-10	642	Sq. Yd.	Sodding
<b>PAVEMENT</b>			
T-30	72	Gal.	Bituminous Tack Coat: Sec. M-5.5, M5-2 or RS-1; or Sec. M-5.2, RC-1 or RC-2
T-30	1818	Gal.	Bituminous Prime Coat: Sec. M-5.3, MC-0-1 ; or Sec. M-5.7, RT-2-3
T-32	5477	Gal.	Road Mix Bituminous Material: Sec. M-5.7, RT-8-9; or Sec. M-5.3, MC-4-5
T-32	1471	Gal.	Seal Coat Bituminous Material, Sec. M-5.7, RT-9-10; or Sec. M-5.3, MC-4-5
T-32	341	Cu. Yd.	No. 46 Aggregate for Road Mix
T-32	24	Cu. Yd.	No. 9 Aggregate for Choke
T-32	47	Cu. Yd.	No. 6 Aggregate for Seal Coat
B-119	841	Cu. Yd.	Crushed Aggregate Base Course
I-22	536	Cu. Yd.	Subbase
I-7	67	Sq. Yd.	Reinforced Concrete Approach Slabs (T=10")
<b>STRUCTURE OVER 20' SPAN BR. NO. PAU-637-1228</b>			
For Estimated Quantities See Sheet No. 16			

# PAVEMENT COMPUTATIONS

## T-32

### Seal Coat

Bituminous Material @ 0.25 gal. per Sq. Yd.  
 New Construction  $407.88 + 1161.10 = 1568.98$  Lin. Ft.  
 Widening  $650.00$  Lin. Ft.  
 $2218.98 \times 21 \div 9 = 5177.62$  Sq. Yd.  
 Transitions  $2(21 \pm 18) \times 50 \div 9 = 216.67$  Sq. Yd.  
 Drive & M.B. Approach  $125.00$  Sq. Yd.  
 Total  $5519.29$  Sq. Yd.  
 $5519.29 \times 0.25 = 1379.82$  Gal.  
 Intersection I-P  $91.30$  Gal.  
 Total  $1471.12$  Gal.

Aggregate @ 0.008 Cu. Yd. per Sq. Yd.  
 Area  $5519.29$  Sq. Yd.  
 $5519.29 \times 0.008 = 44.15$  Cu. Yd.  
 Intersection I-P  $2.92$  Cu. Yd.  
 Total  $47.07$  Cu. Yd.

### Road Mix

Bituminous Material @ 0.90 per Sq. Yd.  
 Area  $5177.62 + 125.00 = 5302.62$  Sq. Yd.  
 $5302.62 \times 0.90 = 4772.36$  Gal.  
 Area  $216.67$  Sq. Yd. (Above)  
 $216.67 \times 0.90 \times \frac{2}{3} = 130.07$  Gal.  
 \*Additional Material  $245.8$  Gal.  
 Intersection I-P  $328.5$  Gal.  
 Total  $5476.73$  Gal.

### Aggregate @ 0.056 Cu. Yd. per Sq. Yd.

Area  $5302.62$  Sq. Yd.  
 $5302.62 \times 0.056 = 296.95$  Cu. Yd.  
 Area  $216.67$  Sq. Yd. (Above)  
 $216.67 \times 0.056 \times \frac{2}{3} = 8.09$  Cu. Yd.  
 \*Additional Material  $15.29$  Cu. Yd.  
 Intersection I-P  $20.44$  Cu. Yd.  
 Total  $340.77$  Cu. Yd.

### Choke @ 0.004 Cu. Yd. per Sq. Yd.

Area  $5302.62$  Sq. Yd.  
 $5302.62 \times 0.004 = 21.21$  Cu. Yd.  
 Area  $216.67$  Sq. Yd. (Above)  
 $216.67 \times 0.004 \times \frac{2}{3} = 0.58$  Cu. Yd.  
 Intersection I-P  $1.46$  Cu. Yd.  
 Total  $23.25$  Cu. Yd.

\* Additional Material required from Sta. 630+00 to Sta. 635+00  
 and from Sta. 652+50 to Sta. 654+00

### T-30 Bituminous Prime Coat @ 0.35 Gal. per Sq. Yd.

Area  $5302.62$  Sq. Yd.  
 $-524.00$  Sq. Yd. Tack Coat Area  
 $50.00$  Sq. Yd. Transitions  
 $5302.62 - 524.00 + 50.00 = 4828.62$  Sq. Yd.  
 $4828.62 \times 0.35 = 1690.0$  Gal.  
 Intersection I-P  $127.8$  Gal.  
 Total  $1817.8$  Gal.

### T-30 Bituminous Tack Coat @ 0.1 Gal. per Sq. Yd.

To be used as directed by the Engineer  
 Sta. 630+00 to Sta. 633+50  $467$  Sq. Yd.  
 Sta. 653+70 to Sta. 654+00  $57$  Sq. Yd.  
 Feather Areas  $17 \times 100 \div 9 = 189$  Sq. Yd.  
 $713 \times 0.1 = 71.3$  Gal.

### B-119 6" Crushed Aggregate Base

New Construction  $1568.98$  Lin. Ft.  
 $1568.98 \times 21 \times 0.5 \div 27 = 610.16$  Cu. Yd.  
 Widening & Salvage  
 Sta. 630+00 to Sta. 635+00  $101.73$  Cu. Yd.  
 Sta. 652+50 to Sta. 654+00  $38.84$  Cu. Yd.  
 Transitions  $3.5 \times 50 \times 0.5 \times 2 \div 27 = 4.17$  Cu. Yd.

### Intersection I-P

Drives & M.B. Approach  $60.83$  Cu. Yd.  
 Total  $25.40$  Cu. Yd.  
 Total  $841.13$  Cu. Yd.

### I-22 4" Subbase

New Construction  $1568.98$  Lin. Ft.  
 $1568.98 \times 22 \times 0.3333 \div 27 = 426.14$  Cu. Yd.  
 Widening  
 Sta. 630+00 to Sta. 635+00  $50.18$  Cu. Yd.  
 Sta. 652+50 to Sta. 654+00  $13.74$  Cu. Yd.  
 Transitions  $4 \times 50 \times 0.3333 \times 2 \div 27 = 3.40$  Cu. Yd.

### Intersection I-P

Total  $42.0$  Cu. Yd.  
 Total  $535.46$  Cu. Yd.

### I-9 Stone Underdrains

Placed as directed by the Engineer  
 Approximate Spacing  $50$  Lin. Ft.  
 Average Length  $10.5$  Lin. Ft.  
 Normal Pavement  $976$  Lin. Ft. (Both Sides)  
 Superelevated Pavement  $1524$  Lin. Ft. (One Side)  
 $72 \times 10.5 = 756$  Lin. Ft.

### E-11 Water @ 5 Gal. per Cu. Yd.

B-119  $841$  Cu. Yd.  
 I-22  $535$  Cu. Yd.  
 Embankment  $5883$  Cu. Yd.  
 $7259$  Cu. Yd.  
 $7259 \times 5 \div 1000 = 36.30$  M. Gal.

### E-1 Compacted Subgrade

New Construction  $1568.98$  Lin. Ft.  
 $1568.98 \times 20 \div 9 = 3487$  Sq. Yd.  
 Sta. 634+00 to Sta. 635+00 =  $100$  Lin. Ft.  
 $100 \times 6 \div 9 = 67$  Sq. Yd.  
 Intersection I-P  $365$  Sq. Yd.  
 I-7 Approach Slabs  $67$  Sq. Yd.  
 Total  $3986$  Sq. Yd.

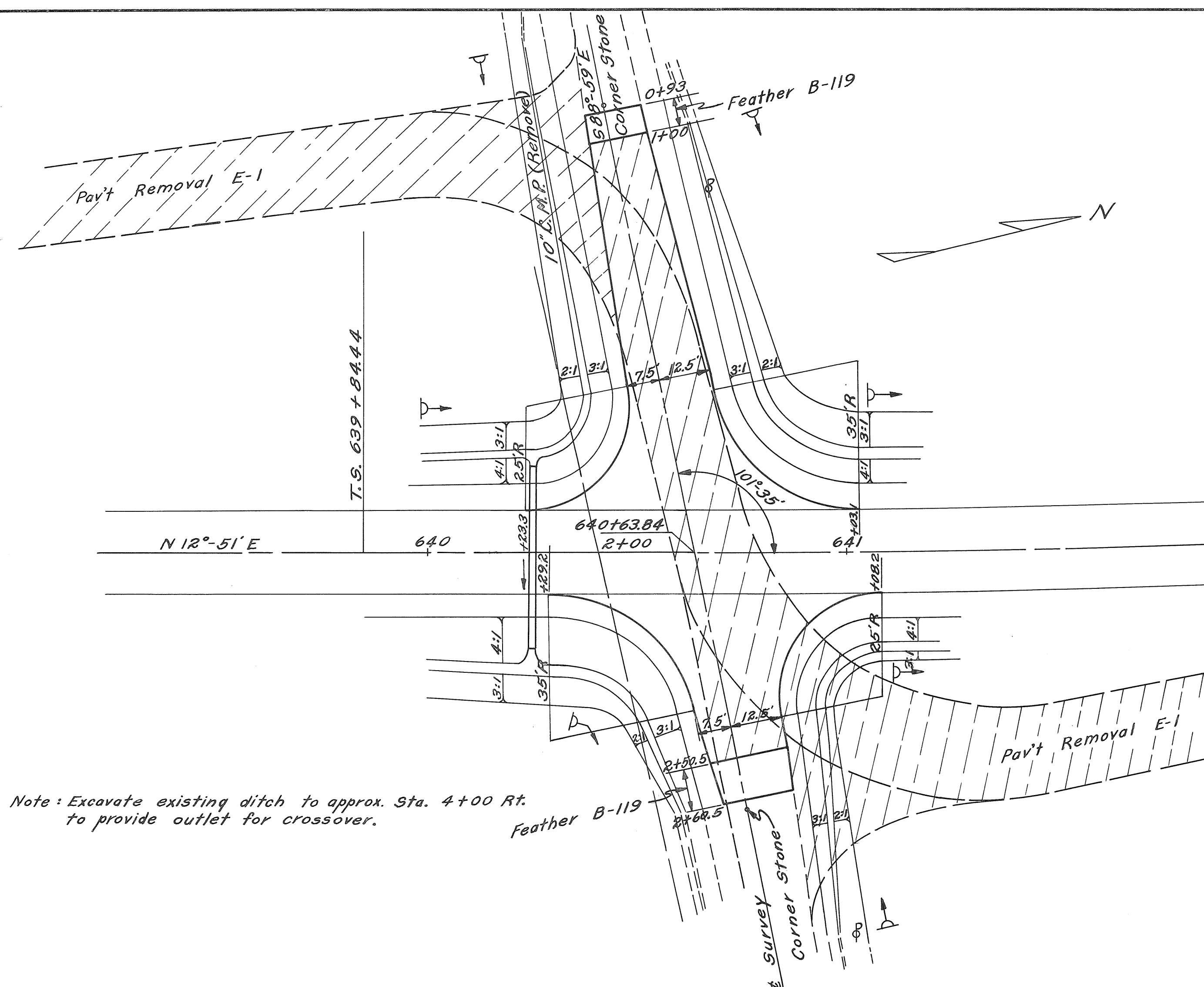
### L-9 Fertilizer @ 20 lb. per M. Sq. Ft.

Seeding  $18,160$  Sq. Yd.  
 Sod  $642$  Sq. Yd.  
 $18,802 \times 9 \div 1000 \times 20 \div 2000 = 1.69$  Tons

### I-7 Reinforced Concrete Approach Slabs

$2 \times 15 \times 20 \div 9 = 66.67$  Sq. Yd.

### E-1 Excavation & E-1 Embankment See Sheet No. 5.



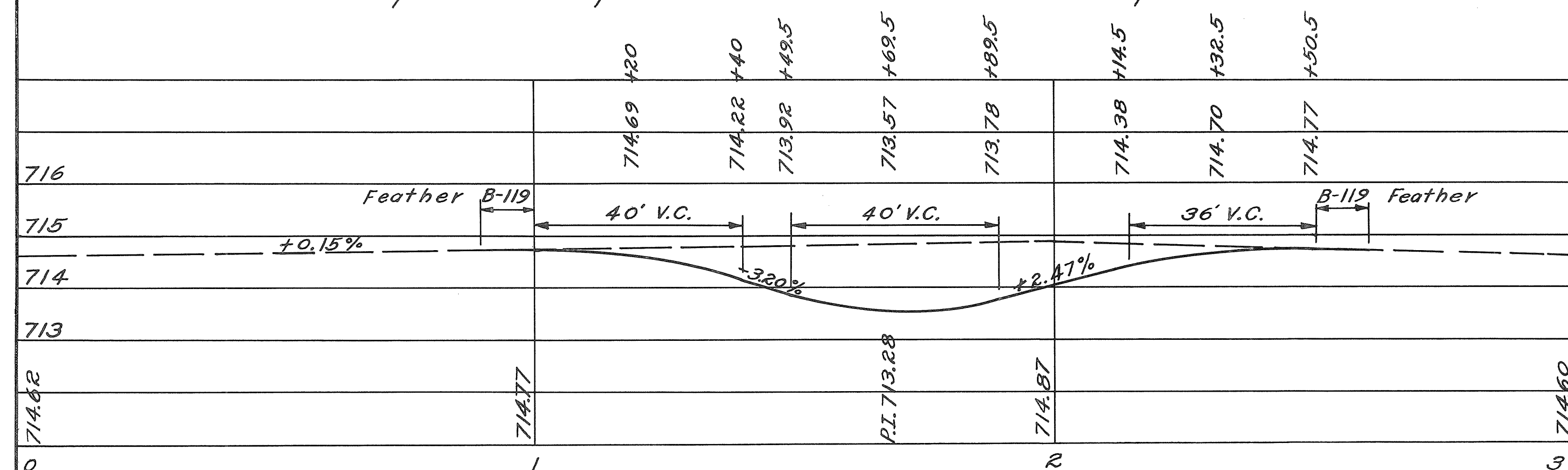
Note: Excavate existing ditch to approx. Sta. 4+00 Rt. to provide outlet for crossover.

## INTERSECTION I-P

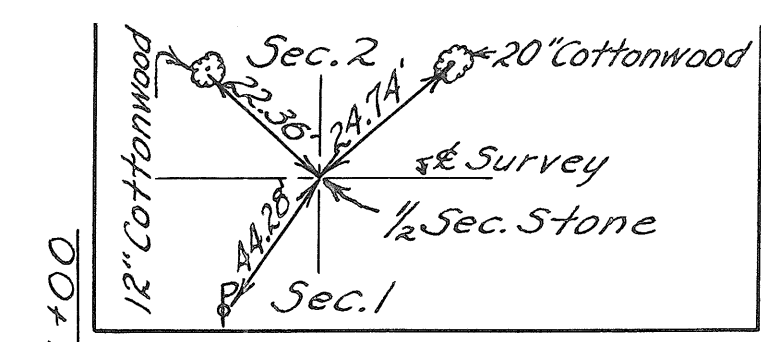
Scale: 1" = 20'

### ESTIMATED QUANTITIES

T-32 Road Mix Bituminous Material	328.5	Gal.
T-32 Seal Coat Bituminous Material	91.3	Gal.
T-32 Aggregate for Road Mix	20.44	Cu. Yd.
T-32 Aggregate for Choke	1.46	Cu. Yd.
T-32 Aggregate for Seal Coat	2.92	Cu. Yd.
T-30 Bituminous Prime Coat	127.8	Gal.
B-119 6" Crushed Aggregate Base Course	60.83	Cu. Yd.
I-22 4" Subbase	42.0	Cu. Yd.
E-1 Compacted Subgrade	365	Sq. Yd.

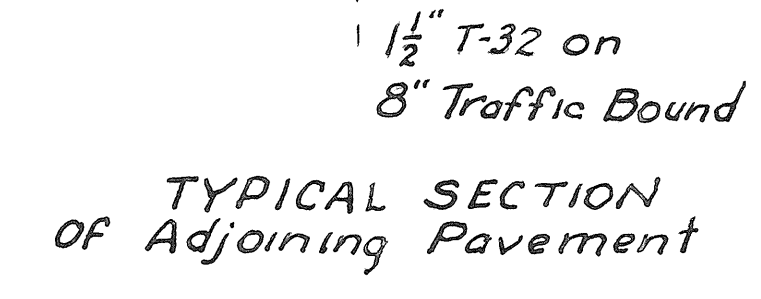
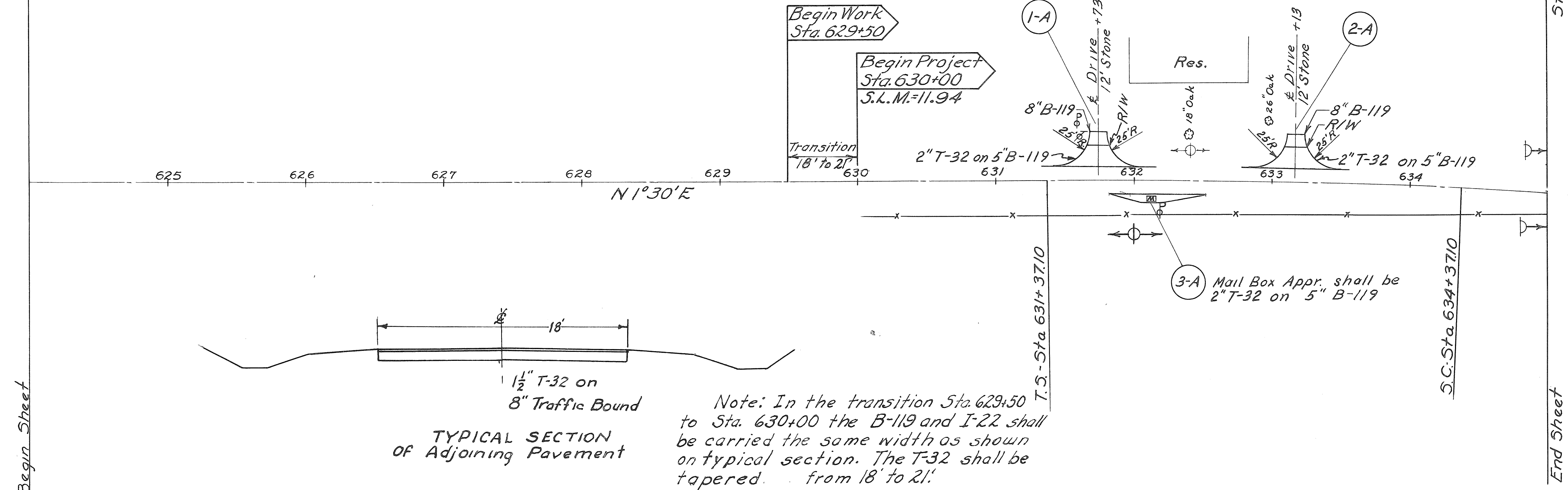


PAU-637-11.94



**CURVE DATA**  
 P.I. - Sta 635+14.99  
 $\Delta = 11^\circ 21' R.L.$   
 $D_c = 2^\circ - 30'$   
 $R_c = 2291.83'$   
 $T_s = 377.89'$   
 $L_c = 154.00'$   
 $L_s = 300'$   
 $E_s = 13.00'$

Sta 624+00  
 ~ Paulding Putnam R.E.A. Co-op Inc.  
 Paulding, O.

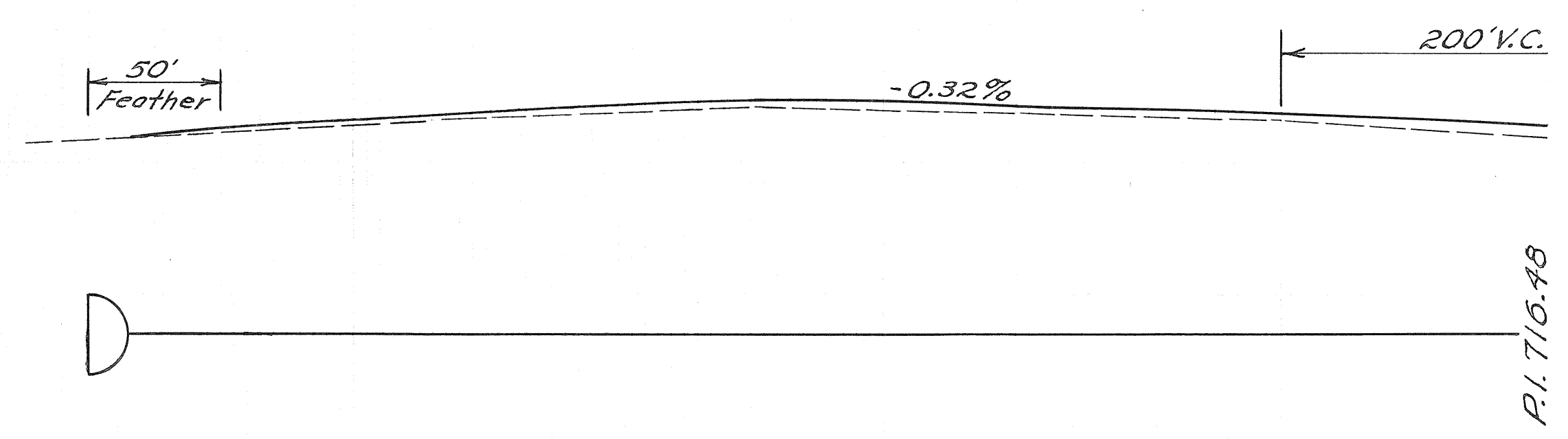


Note: In the transition Sta. 629+50 to Sta. 630+00 the B-119 and I-22 shall be carried the same width as shown on typical section. The T-32 shall be tapered from 18' to 21'.

BM#1 Sp-30" Elm Lt.  
 Sta 632+97  
 Elev. 718.15

E	716.30
Rt. Edge Lt. Edge	716.43
	716.36
	716.37
	716.50
	716.64
	716.78
	716.76
	716.97
	716.87
	717.16
	717.36
	716.99
	717.06
	717.51
	717.06
	717.59
	717.02
	717.63
	716.97
	717.66
	716.92
	717.68
	716.83
	717.68
	716.75
	717.68
	716.67
	717.69
	716.59
	717.69
	716.51
	717.68
	716.42
	717.60
	716.33
	717.51
	716.24
	717.42

720  
715  
710

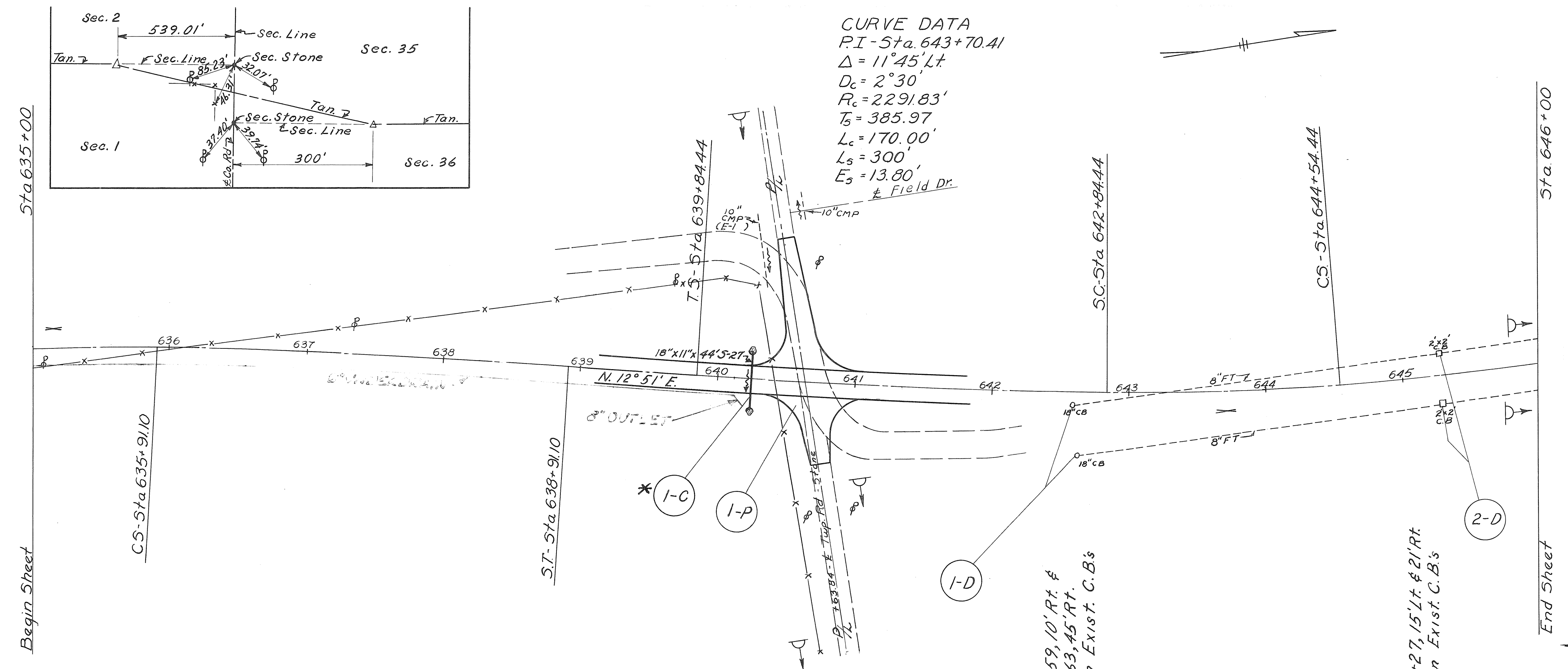


624 625 626 627 628 629 630 631 632 633 634 635

L-9 Seeding	3,455
Sq. Yd.	6,550
	3,004
	946
	3,939
	908
	18,802
	642 (Sand)
	18,160
<b>Total</b>	<b>3723,5883</b>

E-1 Emb.  
 Exc. Cu. Yd. Cu. Yd.  
 1044 562  
 2617 2631  
 62 2690

PAU-637-11.94



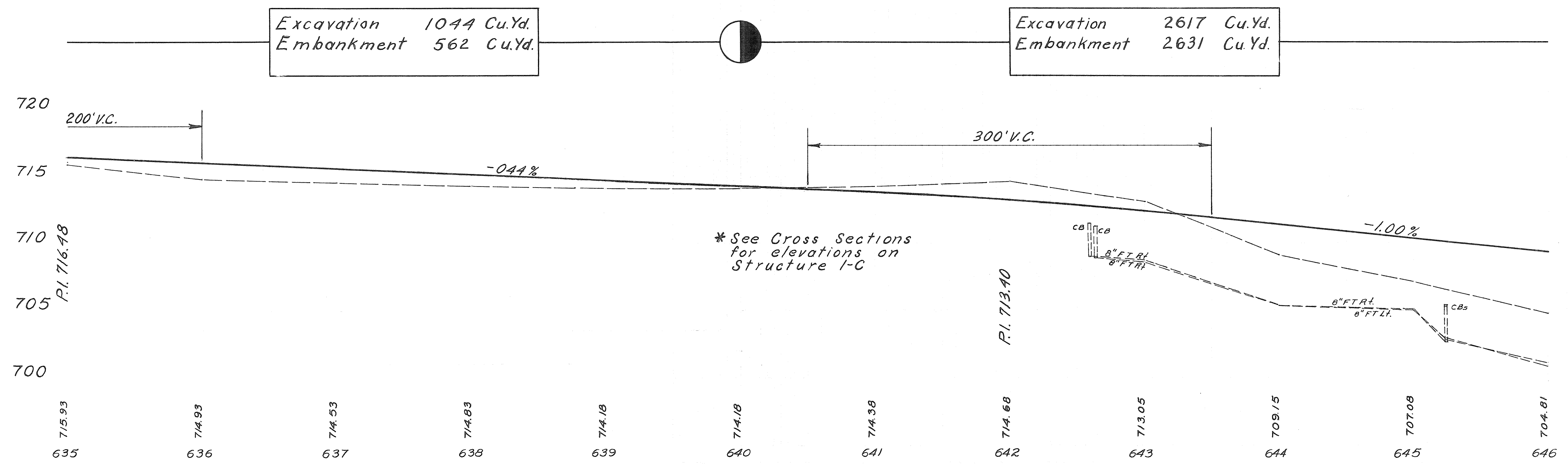
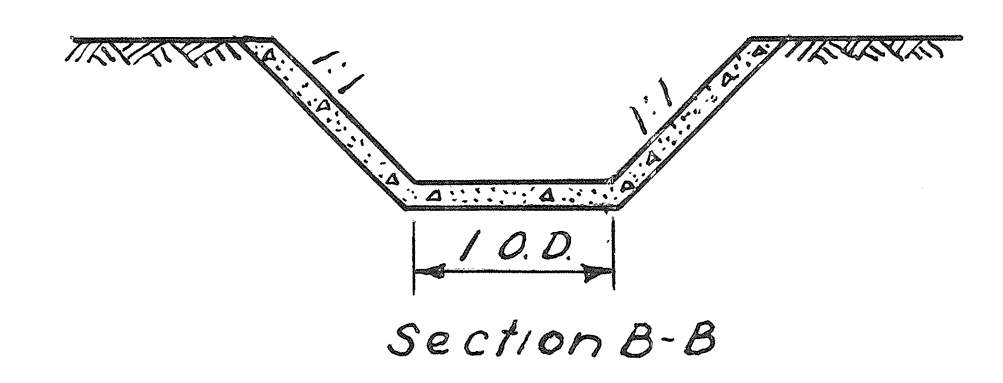
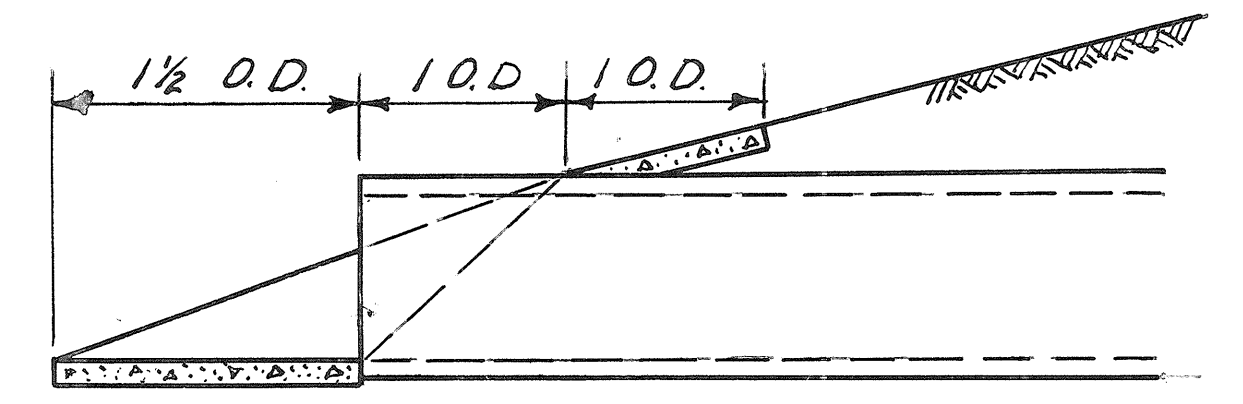
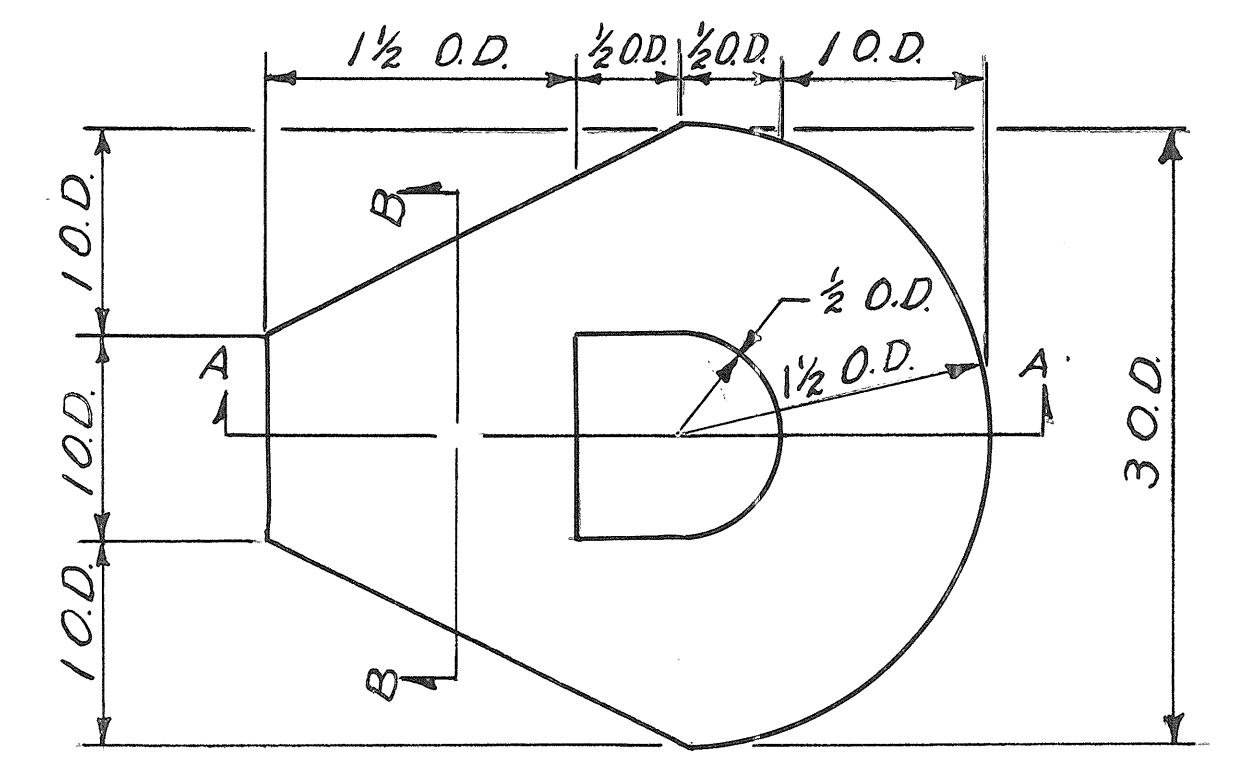
Rt. Edge Lt. Edge	716.24	717.42	716.14	717.32	716.04	717.22	715.94	717.12	715.83	716.93	715.72	716.82	715.61	716.63	715.50	716.43	715.39	716.24	715.28	716.05	715.17	715.86	715.06	715.67	714.95	715.43	714.84	715.29	714.73	715.10	714.62	714.91	714.53	714.72	714.47	714.54	714.43	714.36	714.39	714.20	714.36	714.07	714.33	713.96	714.30	713.85	714.26	713.73	714.22	713.61	714.16	713.47	714.09	713.32	714.00	713.15	713.91	712.98	713.81	712.79	713.70	712.60	713.56	712.39	713.35	712.17	713.11	711.93	712.87	711.69	712.62	711.44	712.37	711.19	712.12	710.94	711.86	710.69	711.54	710.44	711.21	710.19	710.87	709.94	710.54	709.69	710.21	709.44	709.88	709.19
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B.M.#2 - Sp-P-66.5' Lt.  
 Sta - 639+66  
 Elev - 715.08

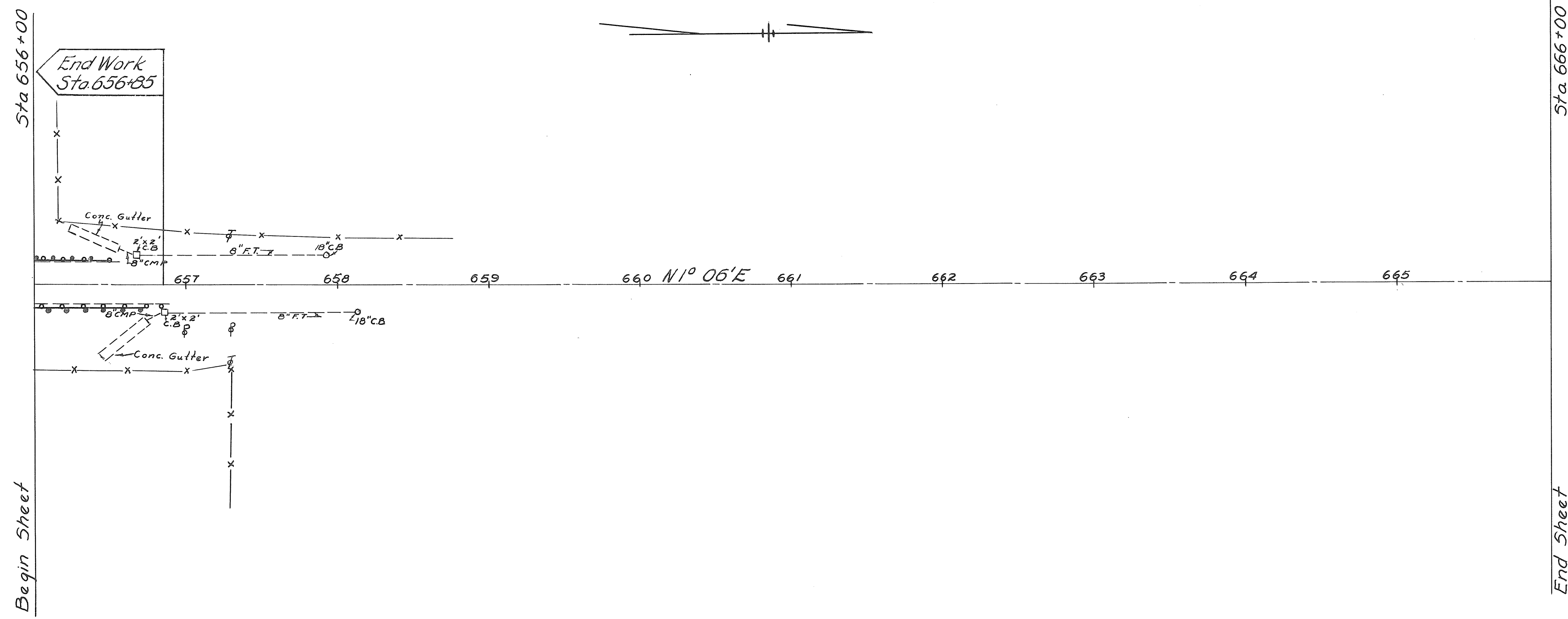
Sta. 642+59, 10' Rt. &  
 Sta. 642+63, 45' Rt.  
 Abandon Exist. C.B.'s

Sta. 645+27, 15' Lt. & 21' Rt.  
 Abandon Exist. C.B.'s

**\* RIPRAP DETAIL FOR PIPE ENDS**

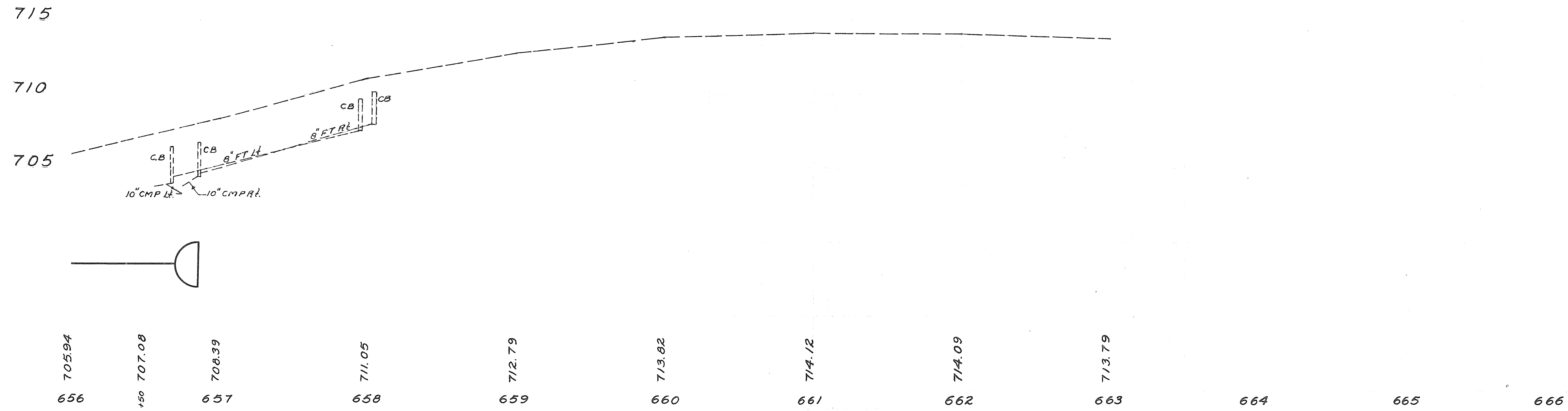




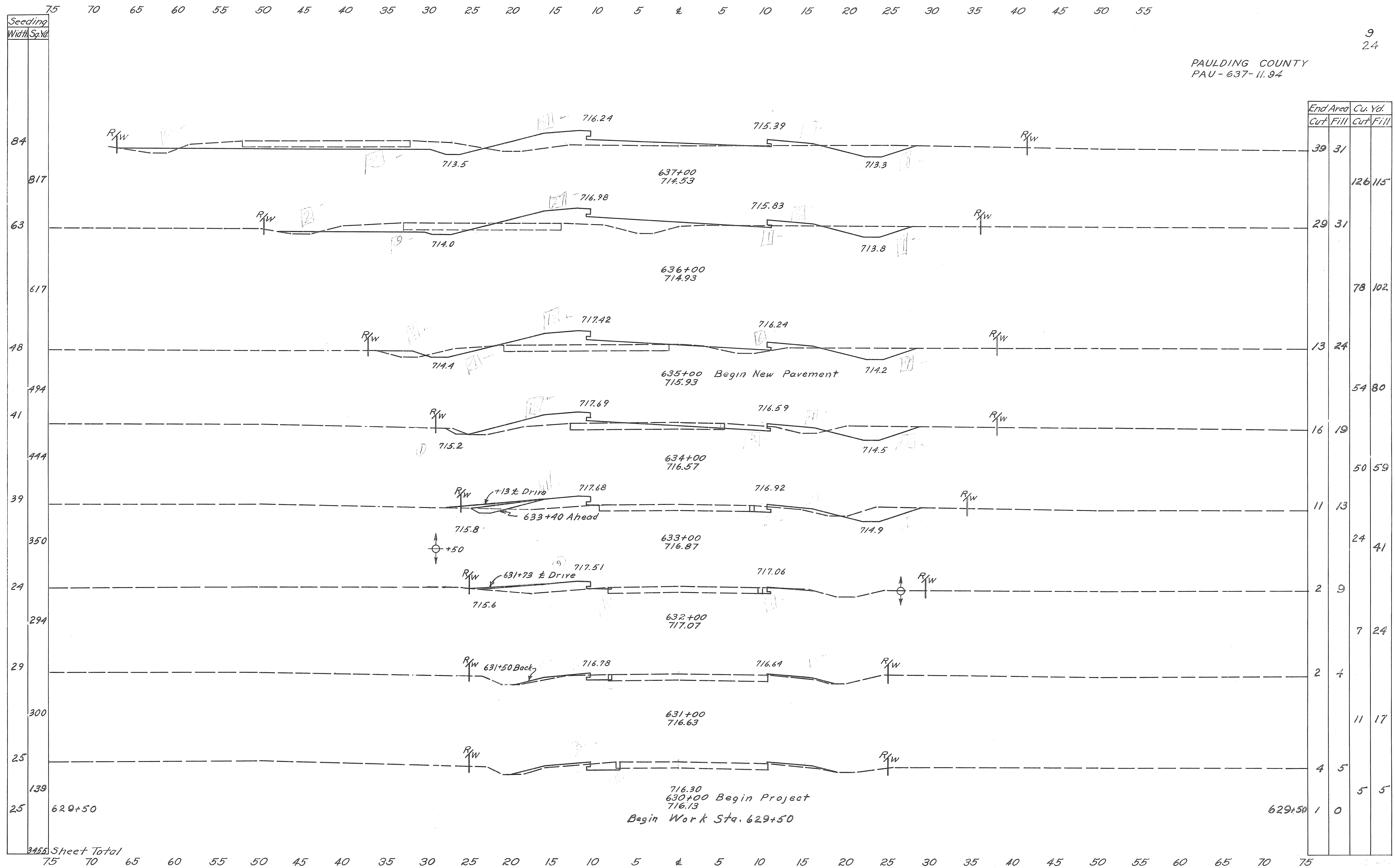


B.M.# 5 "x" Top CB-E.Wing  
 Sta 656+85  
 Elev-706.99

B.M.# 6- SpP Rt.  
 Sta 658+  
 Elev-714.57





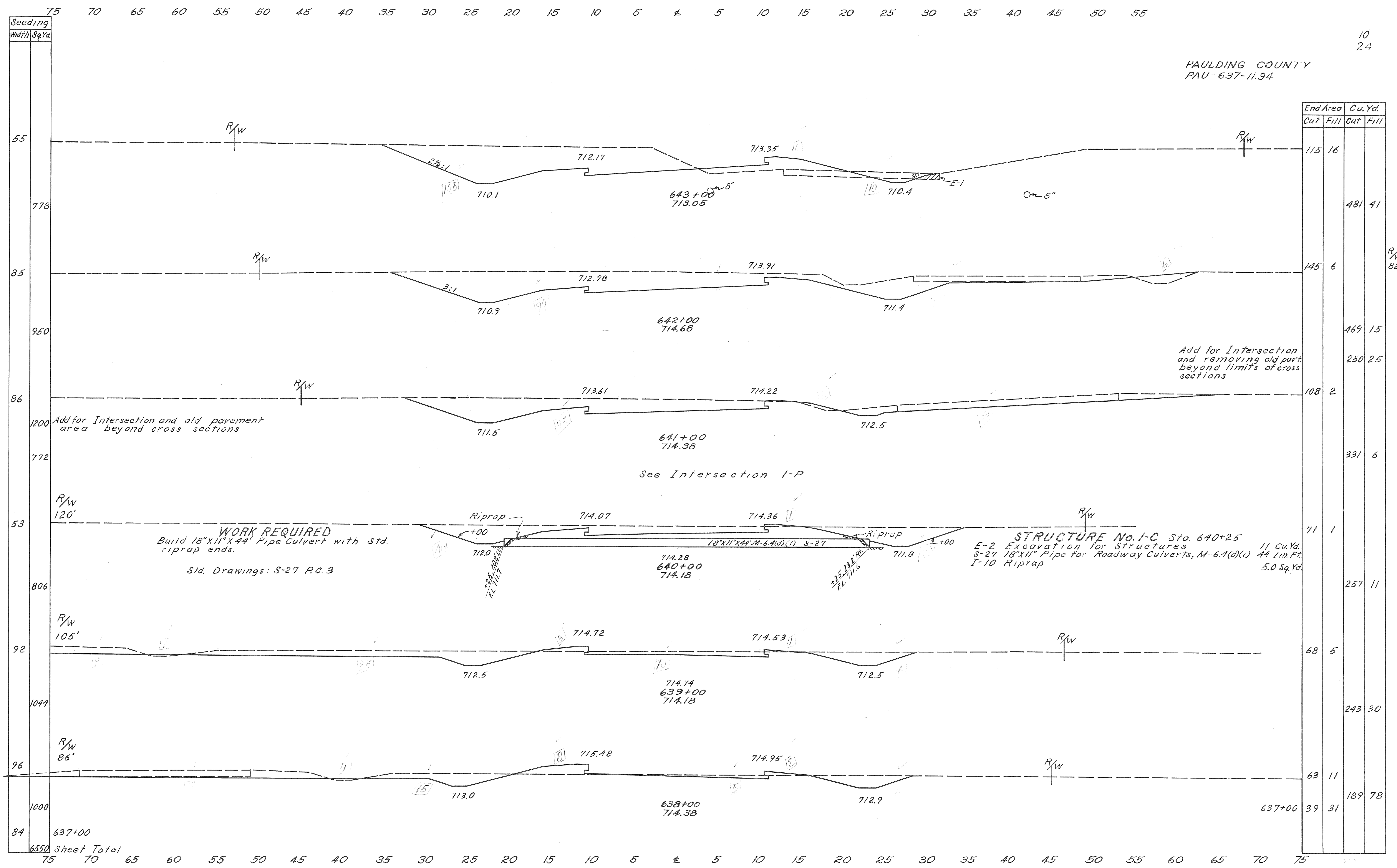


End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
39	31		
		126	115
29	31		
		78	102
13	24		
		54	80
16	19		
		50	59
11	13		
		24	41
2	9		
		7	24
2	4		
		11	17
4	5		
		5	5
1	0		

Sheet Total

716.30  
630+00 Begin Project  
716.13  
Begin Work Sta. 629+50

629+50



End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
115	16		
		481	41
145	6		
		469	15
		250	25
108	2		
		331	6
71	1		
		257	11
68	5		
		243	30
63	11		
		189	78
637+00	39	31	

Seeding  
Width Sq. Yd.

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ± 5 10 15 20 25 30 35 40 45 50 55

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ± 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

84 637+00  
6550 Sheet Total

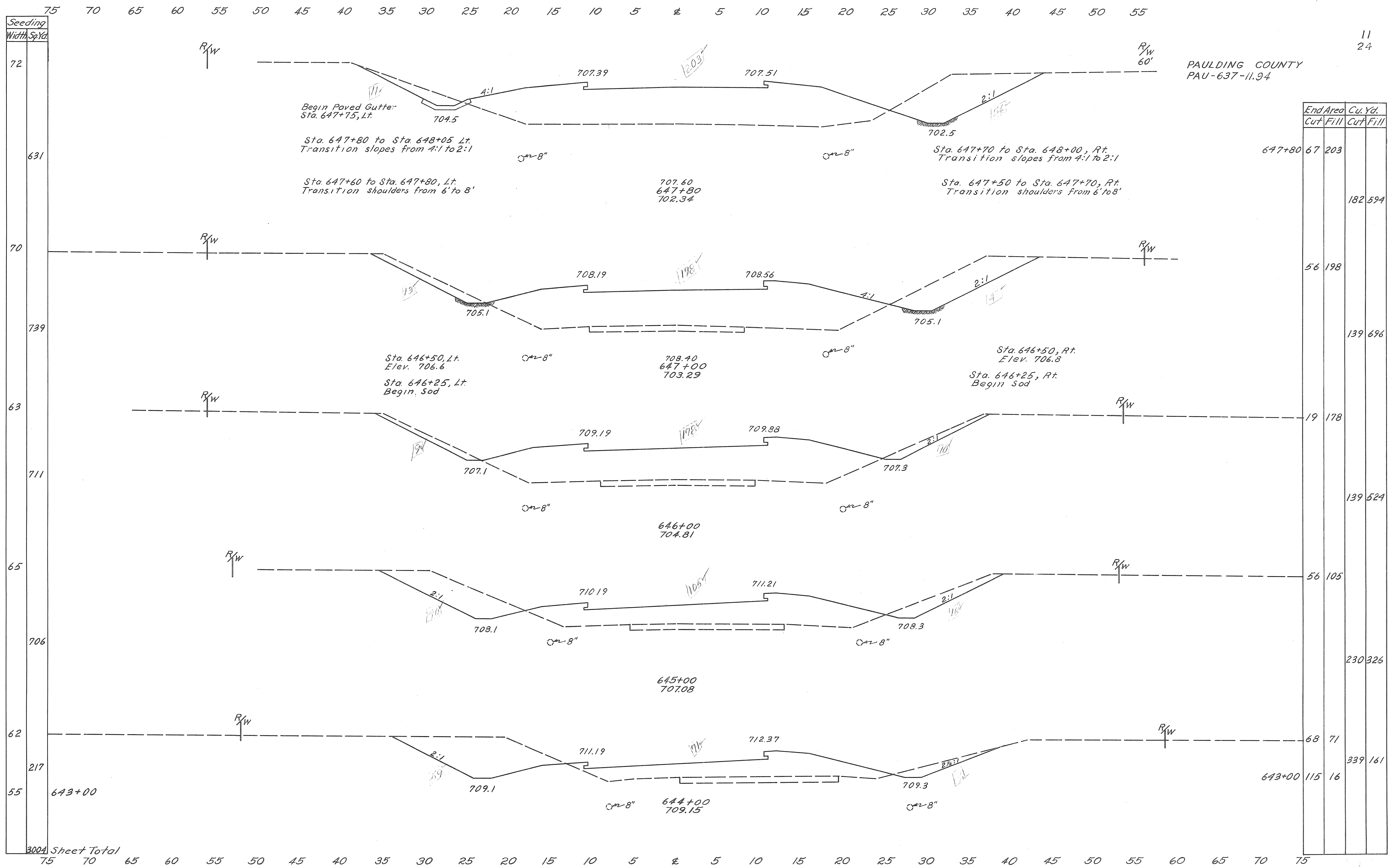
Add for Intersection and removing old part beyond limits of cross sections

1200 Add for Intersection and old pavement area beyond cross sections

**WORK REQUIRED**  
Build 18"x11"x44" Pipe Culvert with std. riprap ends.  
Std. Drawings: S-27 R.C. 3

**STRUCTURE No. I-C Sta. 640+25**  
E-2 Excavation for Structures 11 Cu. Yd.  
S-27 18"x11" Pipe for Roadway Culverts, M-6.1(d)(i) 44 Lin. Ft.  
I-10 Riprap 5.0 Sq. Yd.

See Intersection I-P



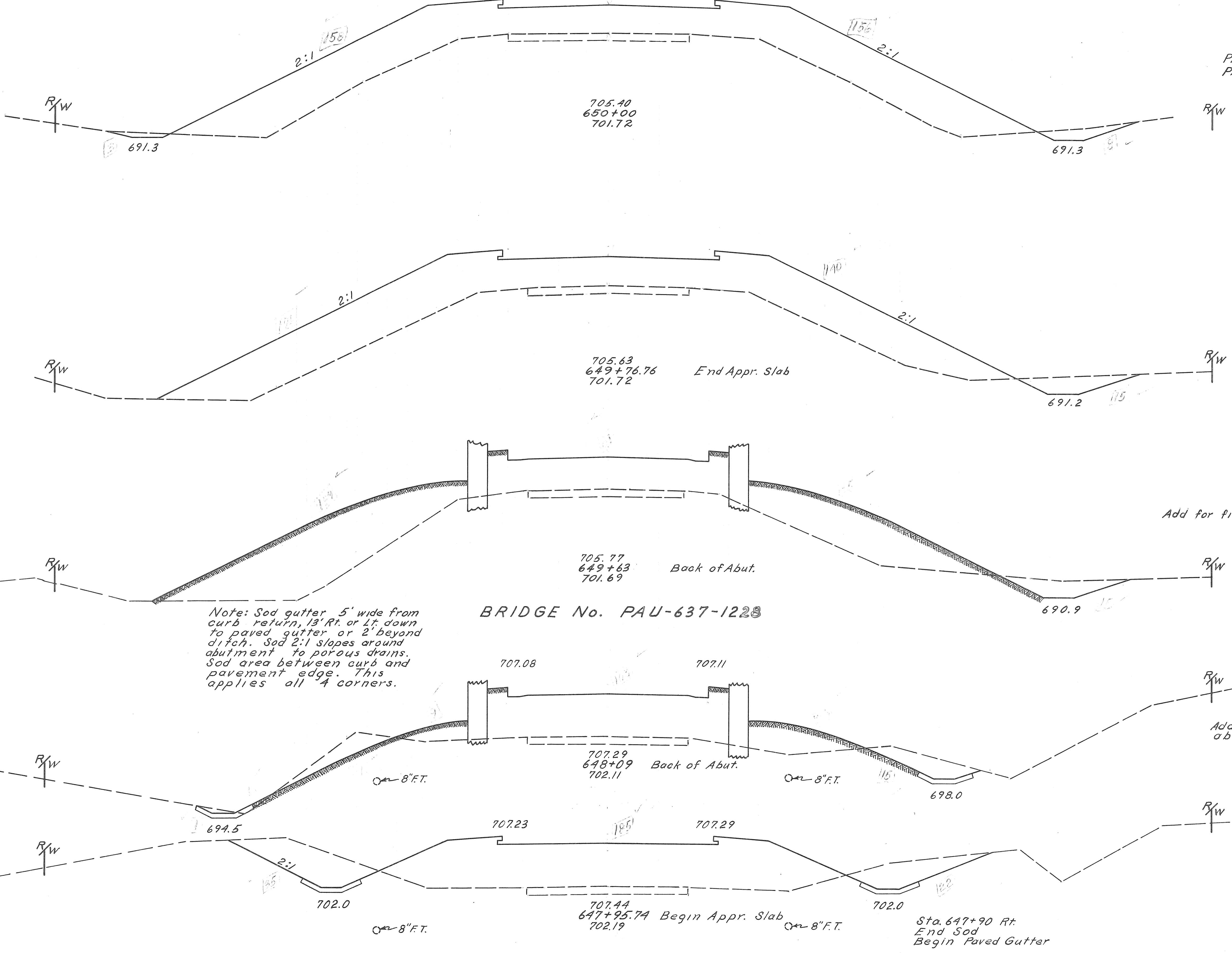
Seeding  
Width Sq. Yd.

97  
243  
91  
305  
82  
61  
277  
66  
121  
72  
946

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55

PAULDING COUNTY  
PAU-637-11.94

12  
24



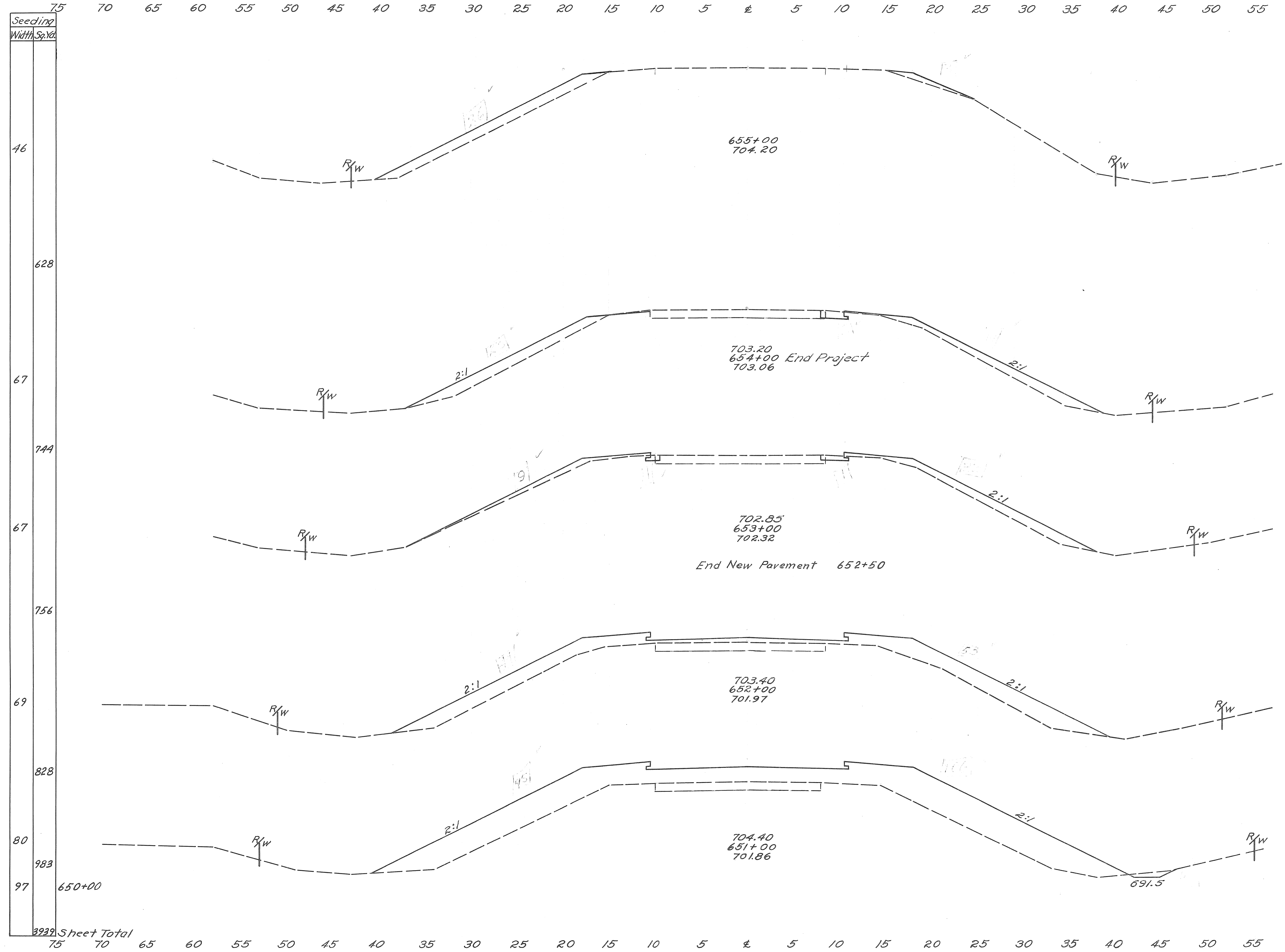
Note: Sod gutter 5' wide from curb return, 13' Rt. or Lt. down to paved gutter or 2' beyond ditch. Sod 2:1 slopes around abutment to porous drains. Sod area between curb and pavement edge. This applies all 4 corners.

End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
11	314		
		11	271
15	316		
		8	158
			143
15	305		
		28	139
			50
		21	80
57	185		
		36	113
67	203		

946 Sheet Total

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

Sta. 647+95.74 to Sta. 650+00



End Area	Cu. Yd.	
	Cut	Fill
0	29	
		4 131
2	42	
		7 135
2	31	
		4 237
0	97	
		4 552
2	201	
		24 954
11	314	

Seeding  
Width Sp. Yd.

46  
628  
67  
744  
67  
756  
69  
828  
80  
983  
97

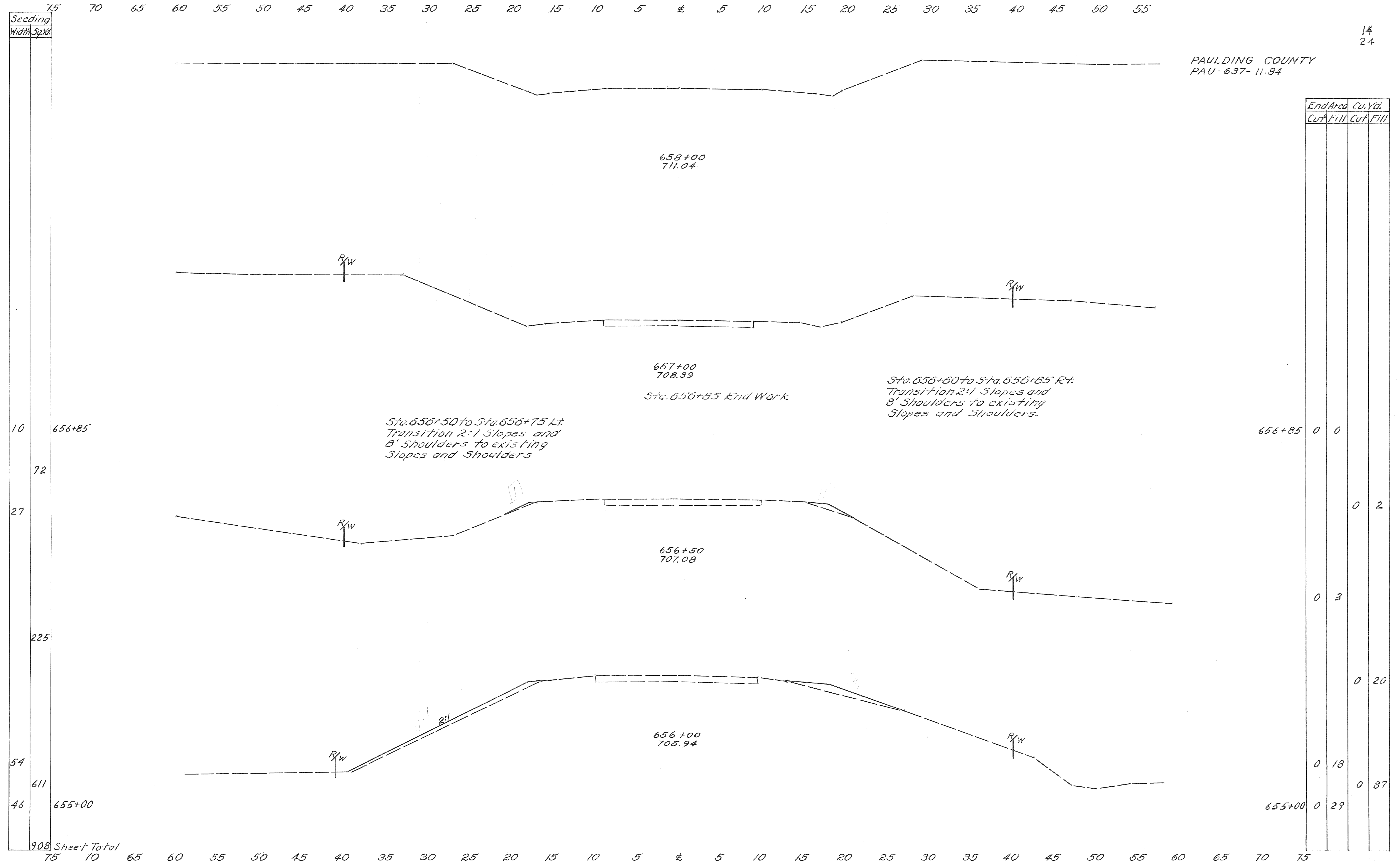
650+00

Sheet Total

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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

PAULDING COUNTY  
PAU-637-11.94



End Area		Cu. Yd.	
Cut	Fill	Cut	Fill
0	0	0	2
0	3	0	20
0	18	0	87
0	29	0	87

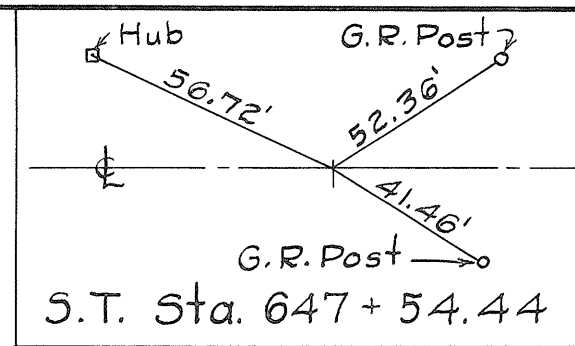
Seeding  
Width Sp. Wd.

10 656+85  
72  
27  
225  
54 611  
46 655+00

656+85 0 0  
656+50 0 3  
656+00 0 18  
655+00 0 29

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

908 Sheet Total



**EXISTING STRUCTURE**  
 Type: Thru Steel Truss on Conc. Substruct.  
 Span: 117'-3"  
 Skew: None  
 Roadway: 15'-9" Between G.R.'s  
 Wearing Surf: Bituminous  
 Loading: 53-46 (40% Reduction)  
 Condition: (Fair)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

PAULDING COUNTY  
 PAU-637-11.94  
 10.1 mi. ± N. of Grover Hill

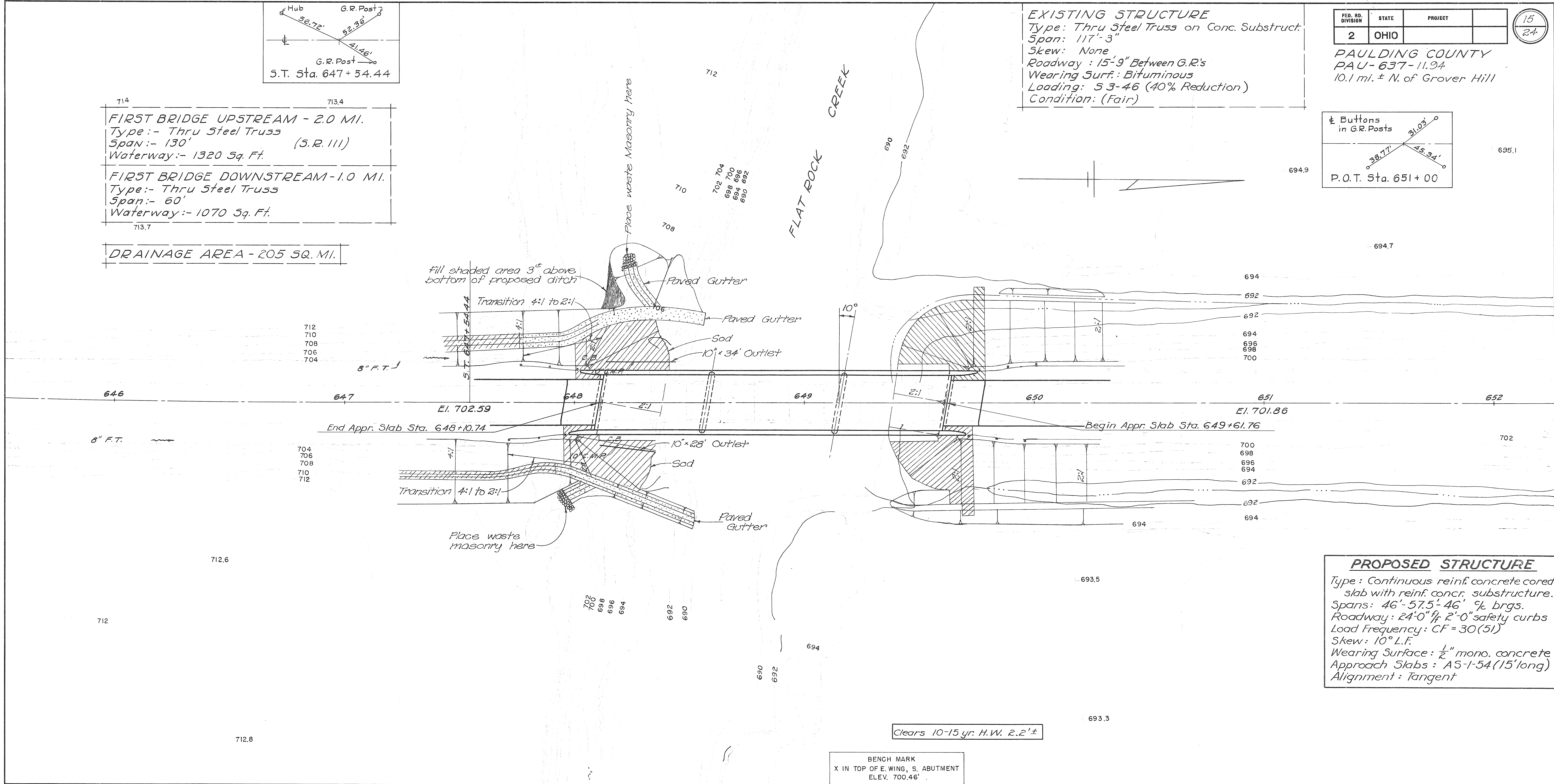
Buttons in G.R. Posts  
 38.77', 31.03', 45.34'

P.O.T. Sta. 651+00

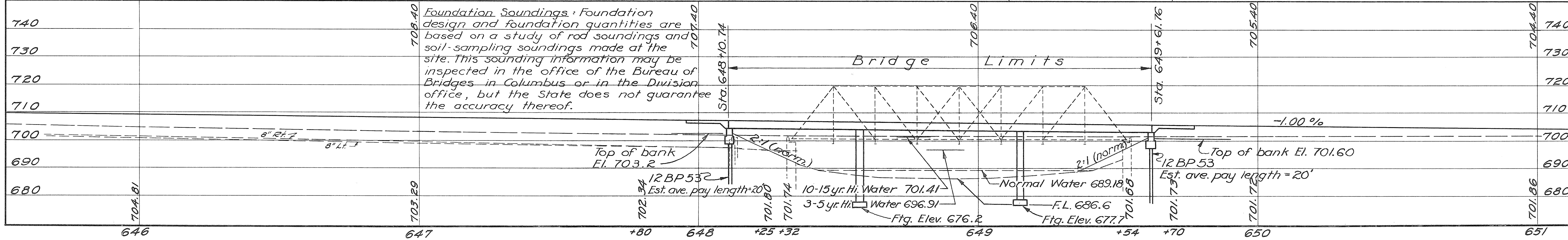
714 713.4  
**FIRST BRIDGE UPSTREAM - 2.0 MI.**  
 Type: - Thru Steel Truss  
 Span: - 130' (S.R. 111)  
 Waterway: - 1320 Sq. Ft.

713.7  
**FIRST BRIDGE DOWNSTREAM - 1.0 MI.**  
 Type: - Thru Steel Truss  
 Span: - 60'  
 Waterway: - 1070 Sq. Ft.

**DRAINAGE AREA - 205 SQ. MI.**



**PROPOSED STRUCTURE**  
 Type: Continuous reinf. concrete cored slab with reinf. concr. substructure.  
 Spans: 46'-57.5'-46' % brgs.  
 Roadway: 24'-0" w/ 2'-0" safety curbs  
 Load Frequency: CF = 30 (51)  
 Skew: 10° L.F.  
 Wearing Surface: 1/2" mono. concrete  
 Approach Slabs: A5-1-54 (15' long)  
 Alignment: Tangent



STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 BUREAU OF BRIDGES

**SITE PLAN**

BRIDGE NO. PAU - 637-1228  
 OVER FLAT ROCK CREEK  
 PAULDING CO. S.R. 637  
 STA. 648 + 10.74  
 649 + 61.76

SCALE 1" = 20'

PRESENT TOPOGRAPHY	PROPOSED WORK
SURVEYED	DRAWN
DESIGNED	CHECKED
REVIEWED	REVIEWED

D.I.C. D.I.C. J.H.B. P.E.S.

BFG 9.17.58 1-17-58

PAU-G37-11.94

**GENERAL NOTES**

**DESIGN SPECIFICATIONS:** This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57.

**REMOVAL OF EXISTING STRUCTURE:** When no longer needed to maintain traffic the existing structure shall be removed. Suitable waste masonry may be placed as bank protection at the direction of the Engineer. The remainder may be placed in embankment under or at the corners of proposed structure.

**PIER FOOTINGS** are designed for a maximum bearing pressure of 7 tons per square foot. Footings shall extend a minimum of 3' into solid rock or to the elevation shown, whichever is lower.

**POROUS DRAIN SLOPE PROTECTION** 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. 689.18 and transversely to 3ft. outside the edge of the superstructure.

**FIBER TUBES** are to be Sonovoid, Type "A", or approved equivalent. They shall be furnished in as long lengths as practical. Joints shall be staggered in adjacent lines of tubes. Waterproof end closures shall be placed on both ends of tubes immediately after arrival of the shipment. Tubes shall be stored under cover, but so as to allow circulation of air around them. The tubes, end closures, copper drain tubes, supports and securing devices are to be included for payment in the unit price bid for superstructure concrete.

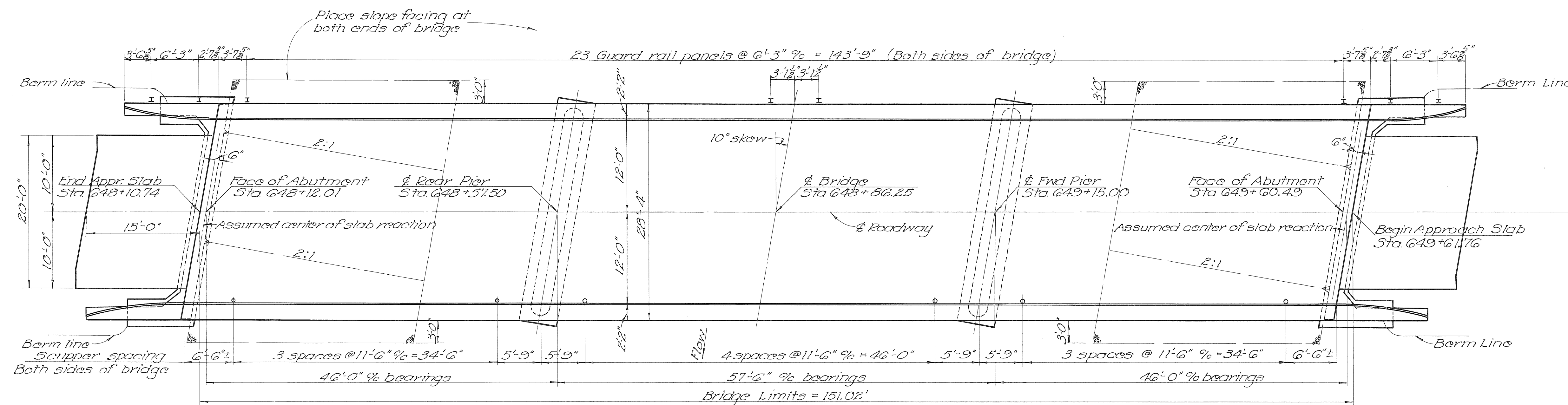
**FIBER TUBE SUPPORT:** Three prints showing details of the method for supporting and securing in place the fiber tubes, shall be submitted to the Bureau of Bridges for approval at least 15 days prior to use on project.

**PILES** shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth of 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:

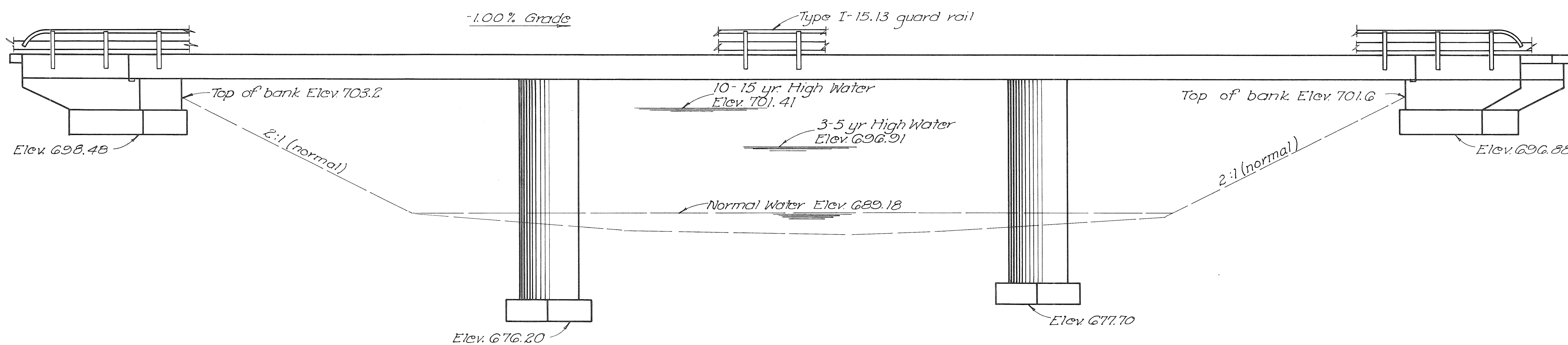
- 45 tons per pile using a 7,000 ft. lb. hammer
- 35 tons per pile using a 11,000 ft. lb. hammer
- 30 tons per pile using a 15,000 ft. lb. hammer

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 30 tons per pile.

**QUANTITY OF CONCRETE** to be paid for shall not include the volume of the voids made by the fiber tubes in the slab.



-GENERAL PLAN-



-ELEVATION-  
(Piles not shown)

**ESTIMATED QUANTITIES**

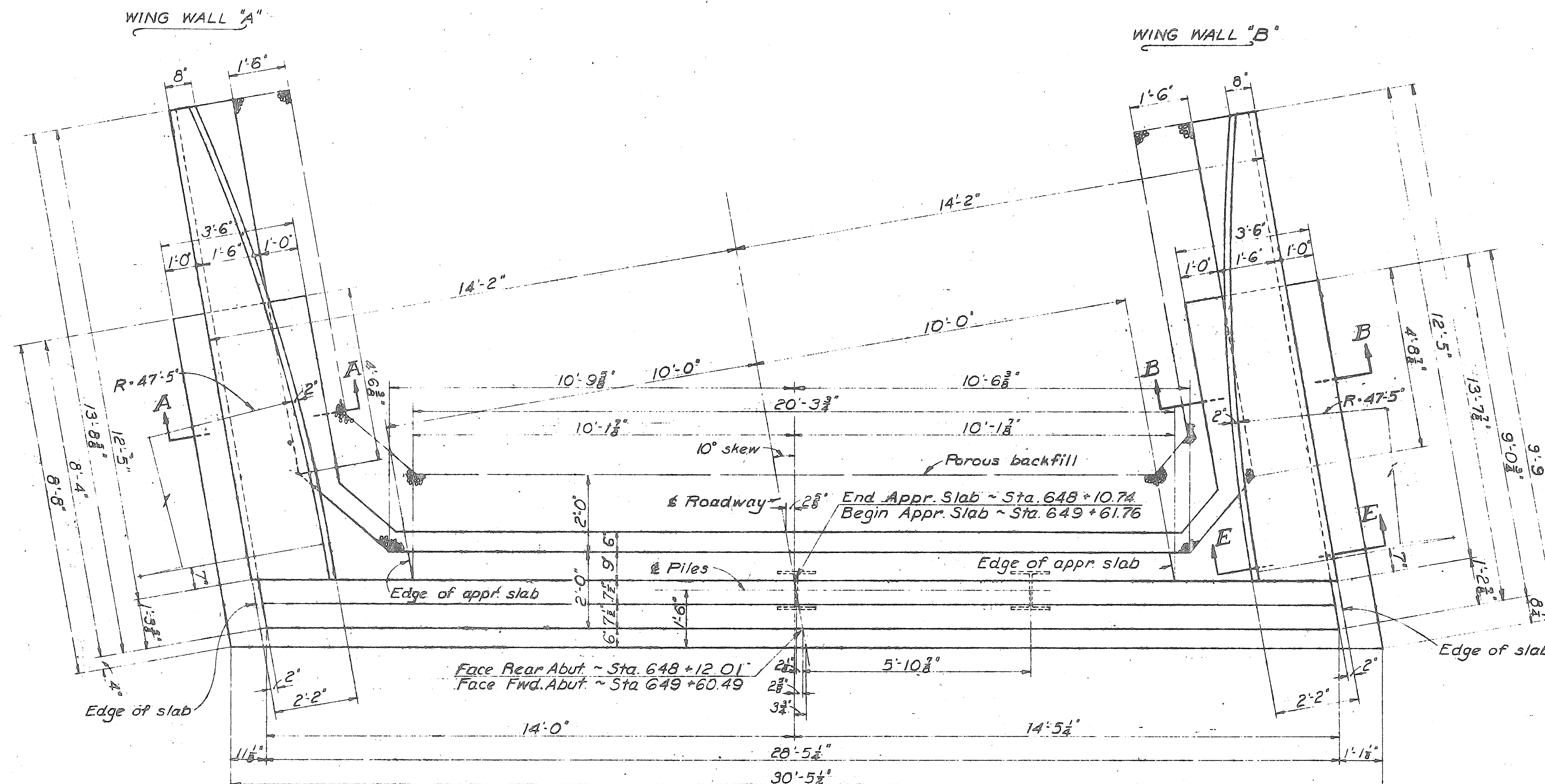
Item	Total	Unit	Description	Abuts	Piers	Super	Gen.
E-2	Lump	Sum	Cofferdams, cribs and sheeting				Lump
E-2	278	Cu. Yd.	Unclassified excavation, including rock	110	168		
E-3	176	Cu. Yd.	Channel excavation				176
S-1	290	Cu. Yd.	Class "C" concrete, superstructure			290	
S-1	63	Cu. Yd.	Class "E" concrete, abutments	63			
S-1	125	Cu. Yd.	Class "E" concrete, pier walls		125		
S-1	28	Cu. Yd.	Class "E" concrete, pier footings		28		
S-4	72,882	lb	Reinforcing steel	5,670	3,889	63,323	
S-14	351.71	lin. ft.	Railing (Type I-15.13 with handrail and galvanized steel posts and bolts)	49.67		302.04	
S-16	Lump	Sum	First test pile				Lump
S-18	360	lin. ft.	Steel piles, 12 BP53	360			
S-24	Lump	Sum	Removal of existing structure				Lump
S-29	17	Cu. Yd.	Porous backfill	17			
S-29	76	Cu. Yd.	Slope facing (S-29.05 type)				76
S-29	26	Each	Scuppers, 4" diameter cast iron or wrought iron pipe			26	

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

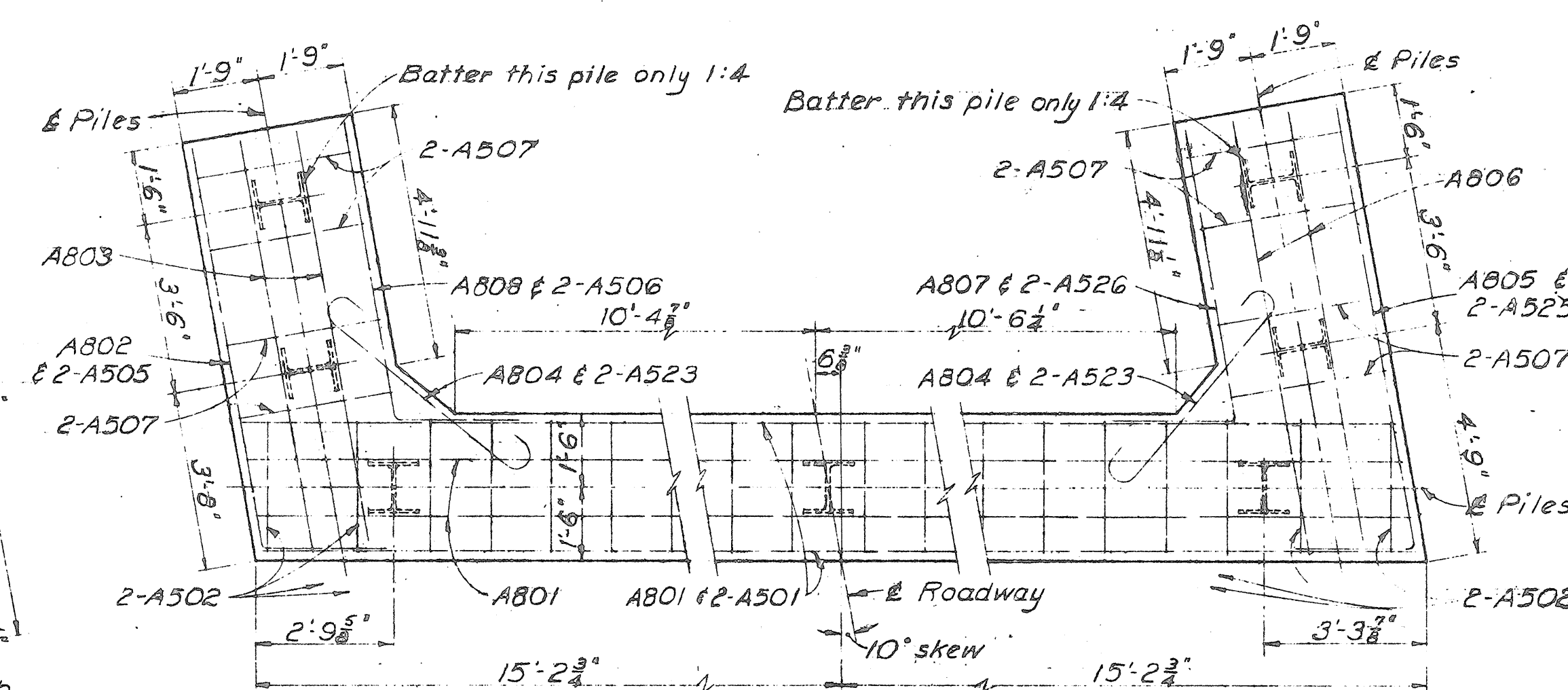
**GENERAL PLAN & ELEVATION,  
NOTES & ESTIMATED QUANTITIES  
BRIDGE No. PAU-G37-1228  
OVER FLAT ROCK CREEK  
PAULDING COUNTY STA 648+10.74  
649+61.76**

DESIGNED DGM	DRAWN DGM	TRACED DEW	CHECKED NJB	REVIEWED BFG	DATE 9.1.58	REVISED
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~ ABUTMENT PLAN ~  
Guard rail not shown



~ PLAN OF FOOTING ~  
All piles 12BP53

~ NOTES ~

EARTH EMBANKMENT shall be placed up to the proposed ground lines, after which the excavation shall be made for the abutment and the piles driven.

POROUS BACKFILL shall extend upward to the approach slab and to the surface of the earth shoulders within the limits shown on the plans. Excavation therefor, in excess of that required for construction of the footing, shall be considered as paid for in the bid price per cu yd paid for porous backfill.

EXCAVATION QUANTITY includes the removal of embankment material between the bottom of the abutment footing and the proposed ground lines.

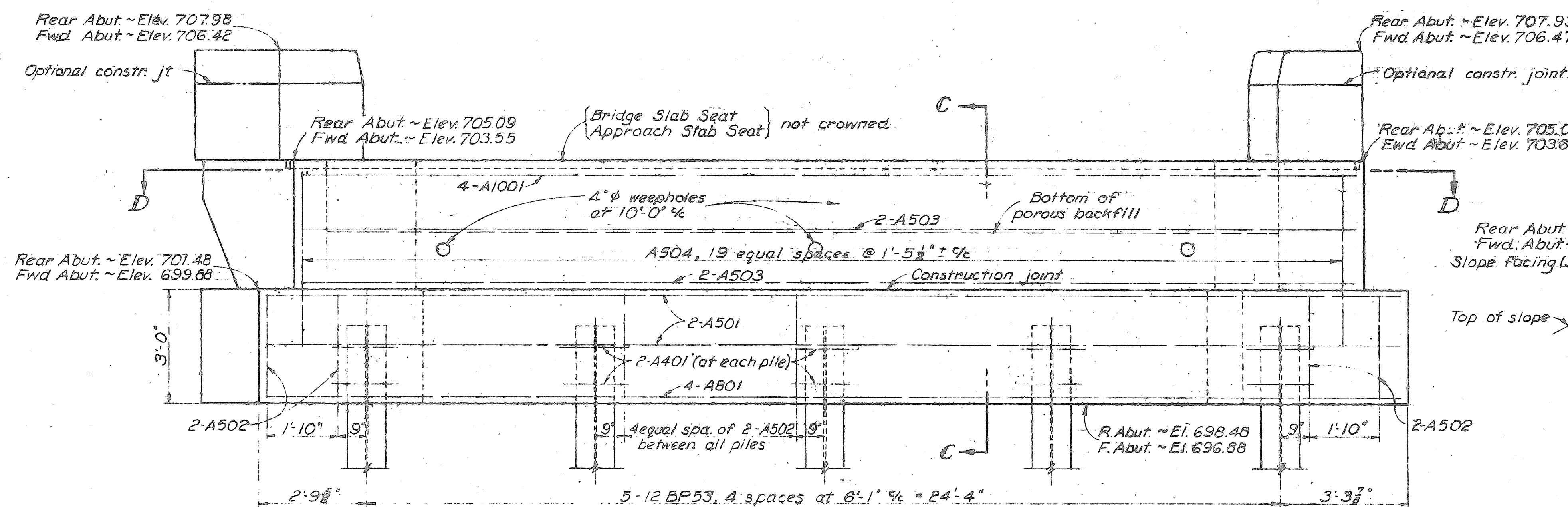
For Sections A-A, B-B, D-D, E-E and for additional details see sheet no. 18.

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

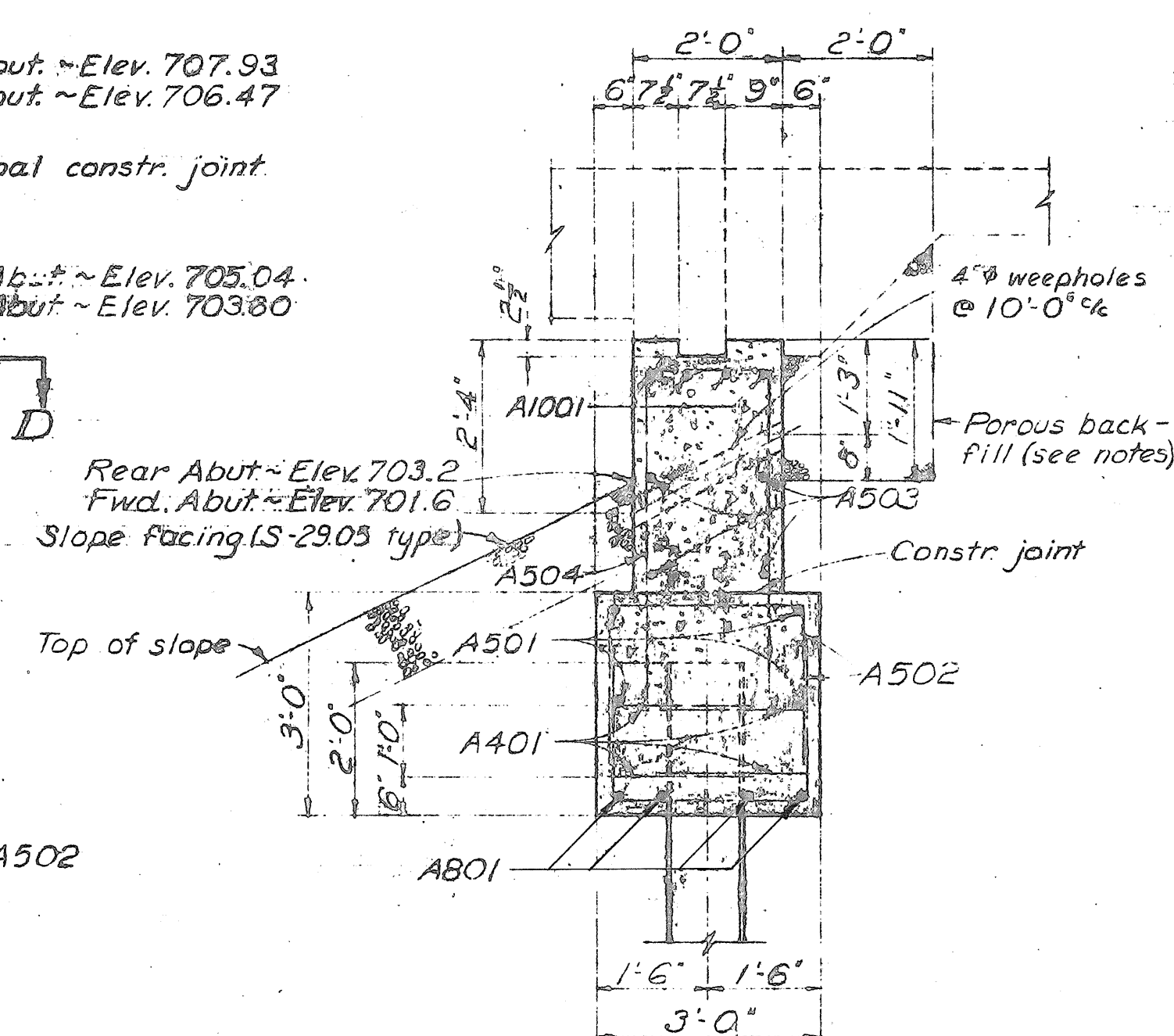
ABUTMENT DETAILS  
BRIDGE No. PAU-637-1228  
OVER FLAT ROCK CREEK

PAULDING COUNTY STA. 648+10.74  
649+61.76

DGM DGM NJB BFG 9/7 1-17-58

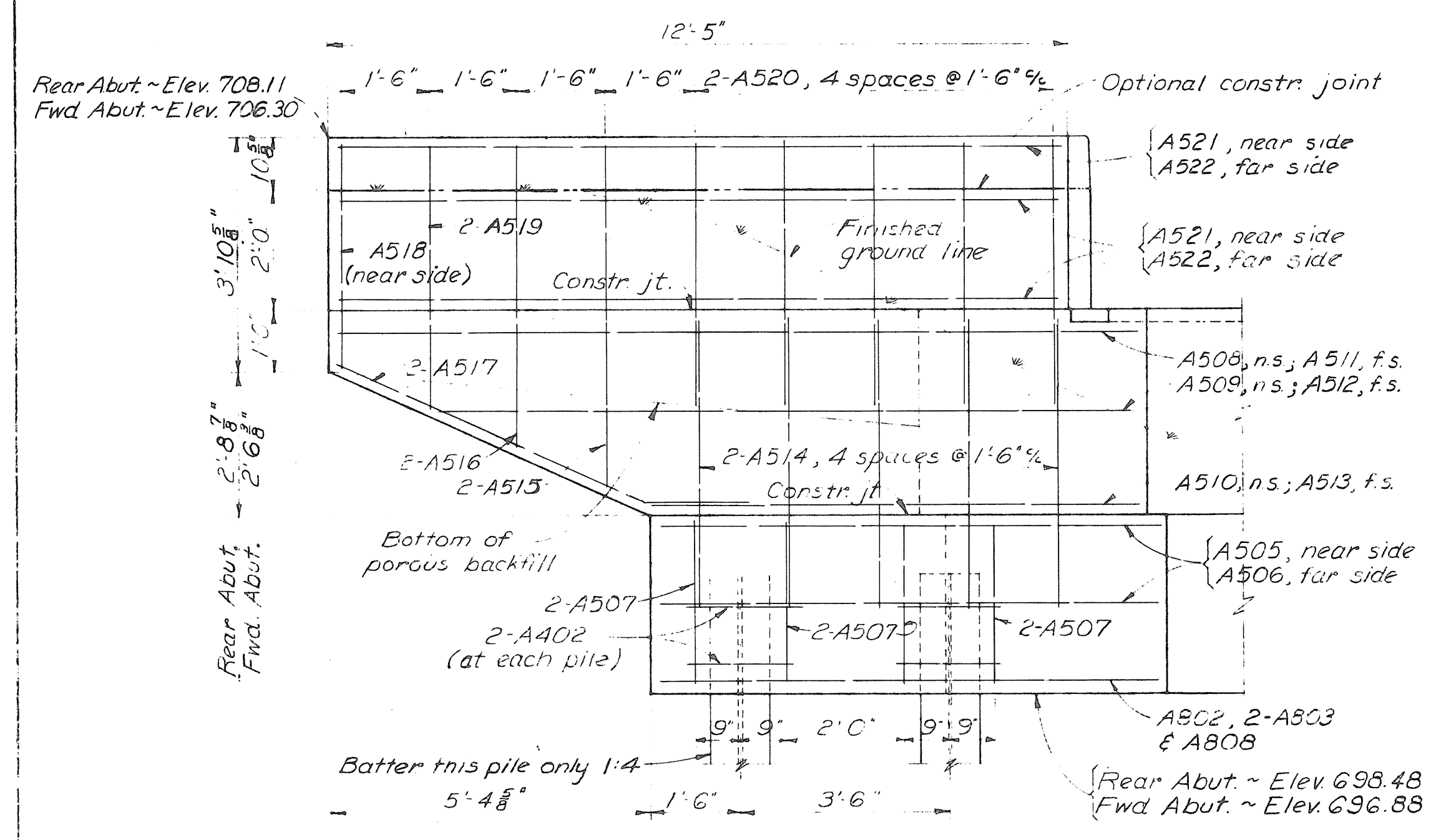


~ ELEVATION ~

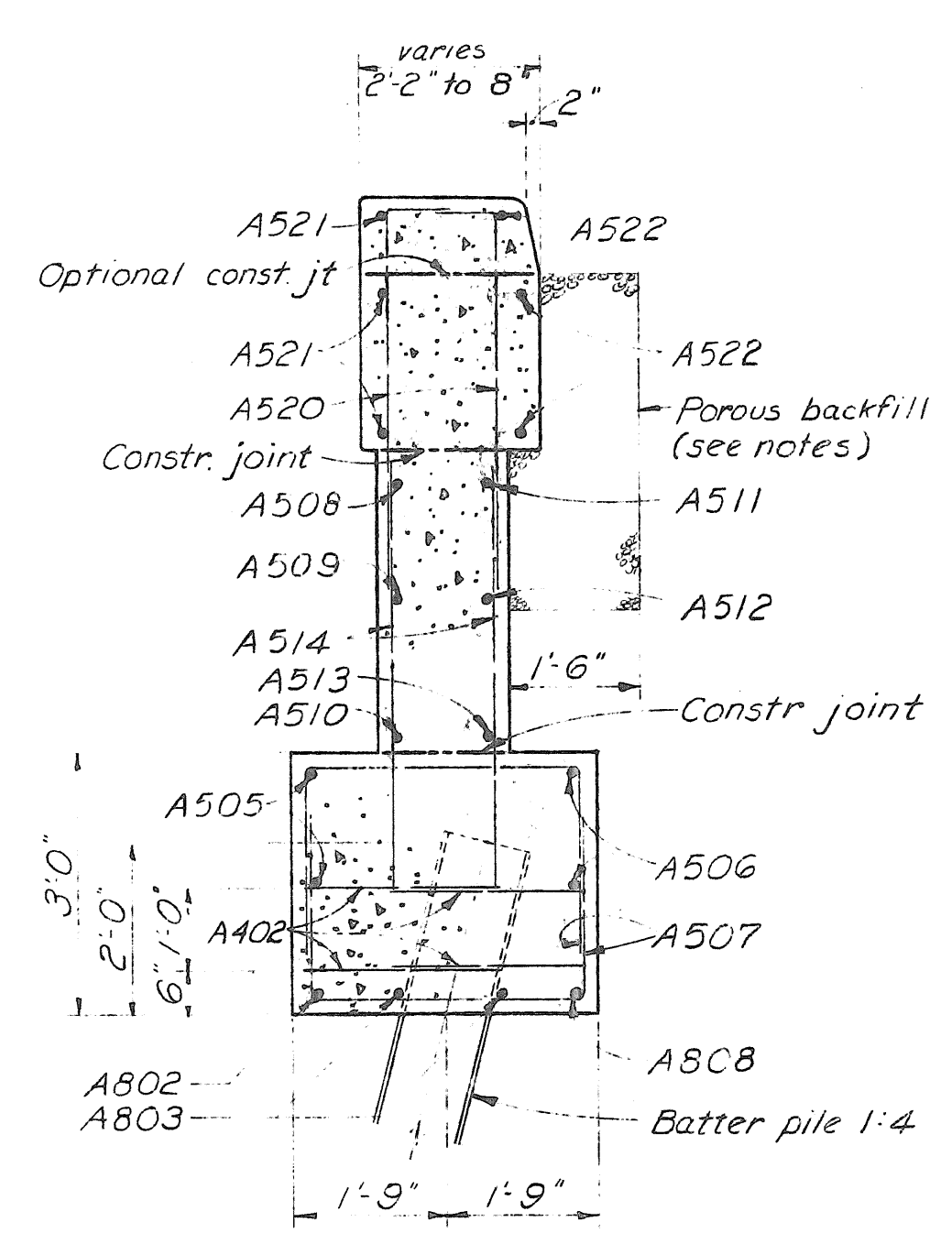


~ SECTION C-C ~

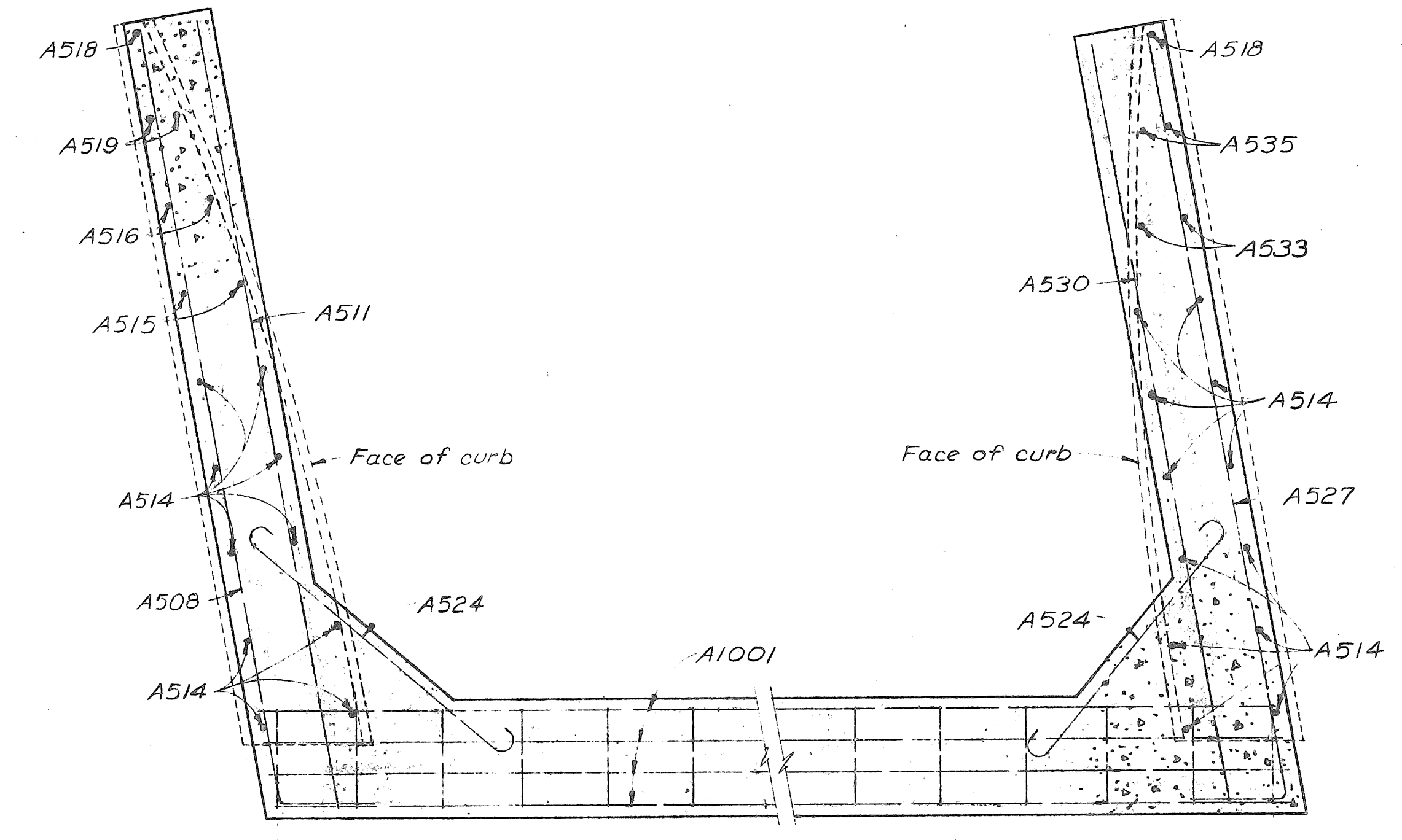
PAU-637-11.94



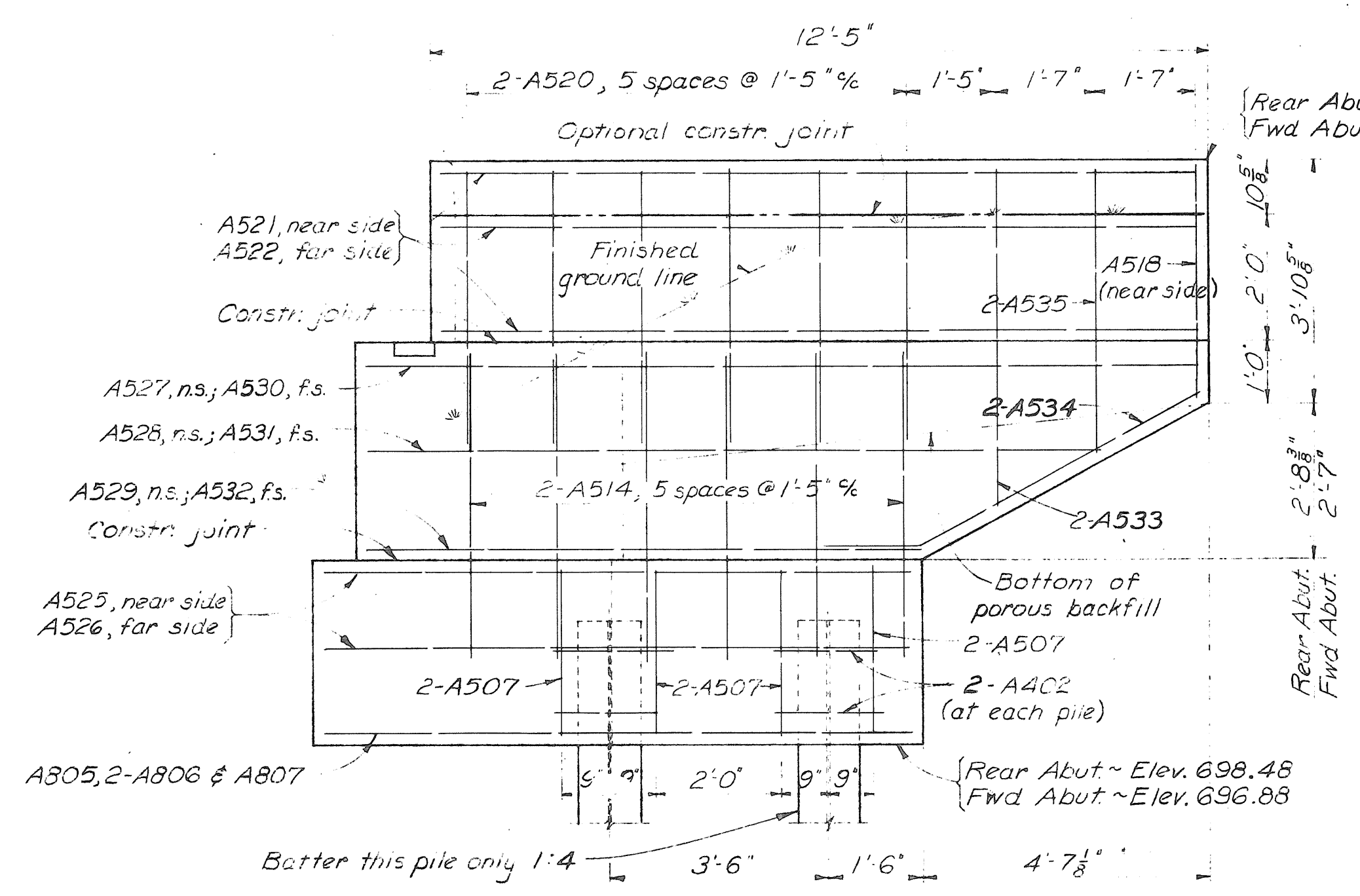
~ WING WALL "A" ELEVATION ~  
Guard rail not shown



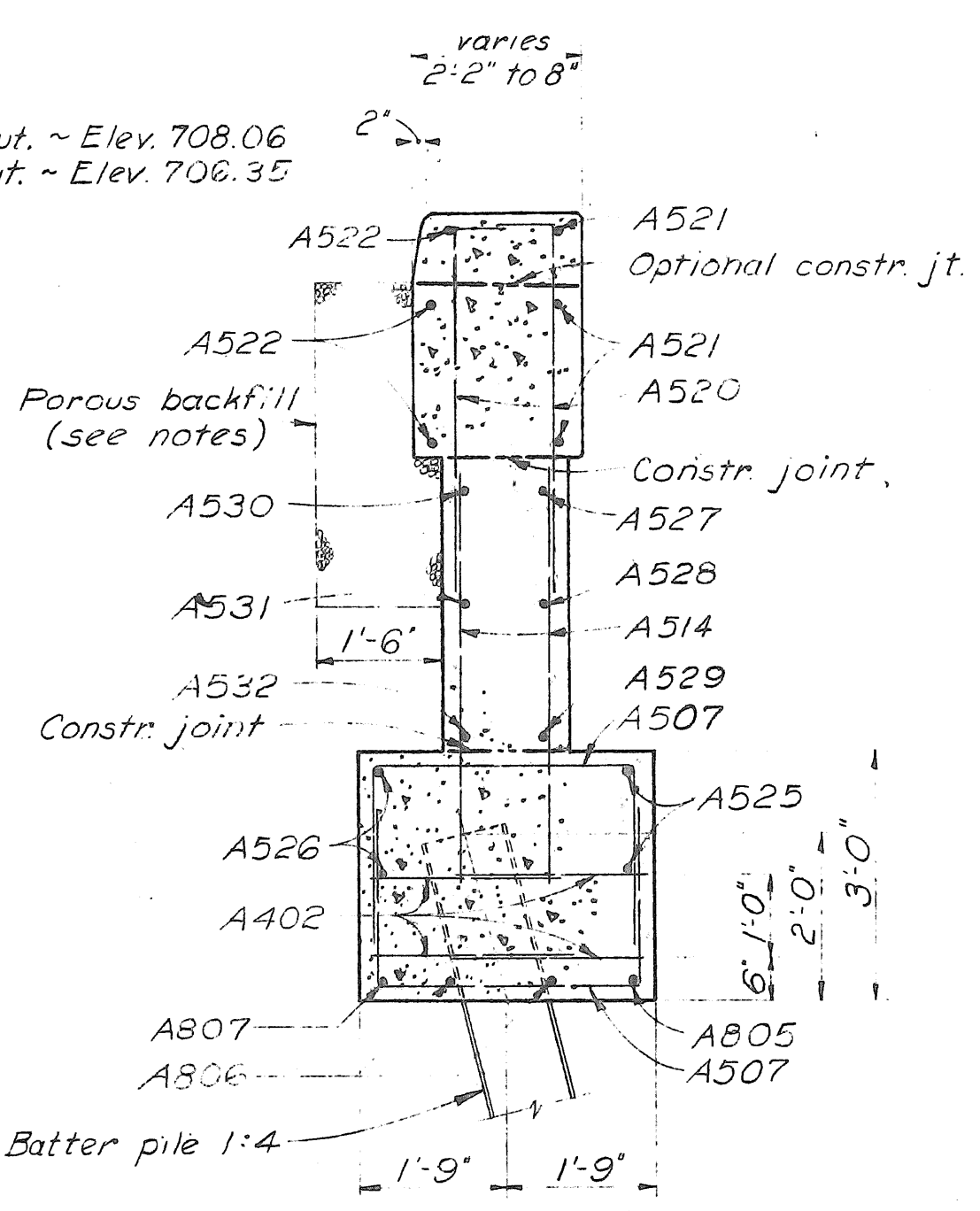
~ SECTION A-A ~



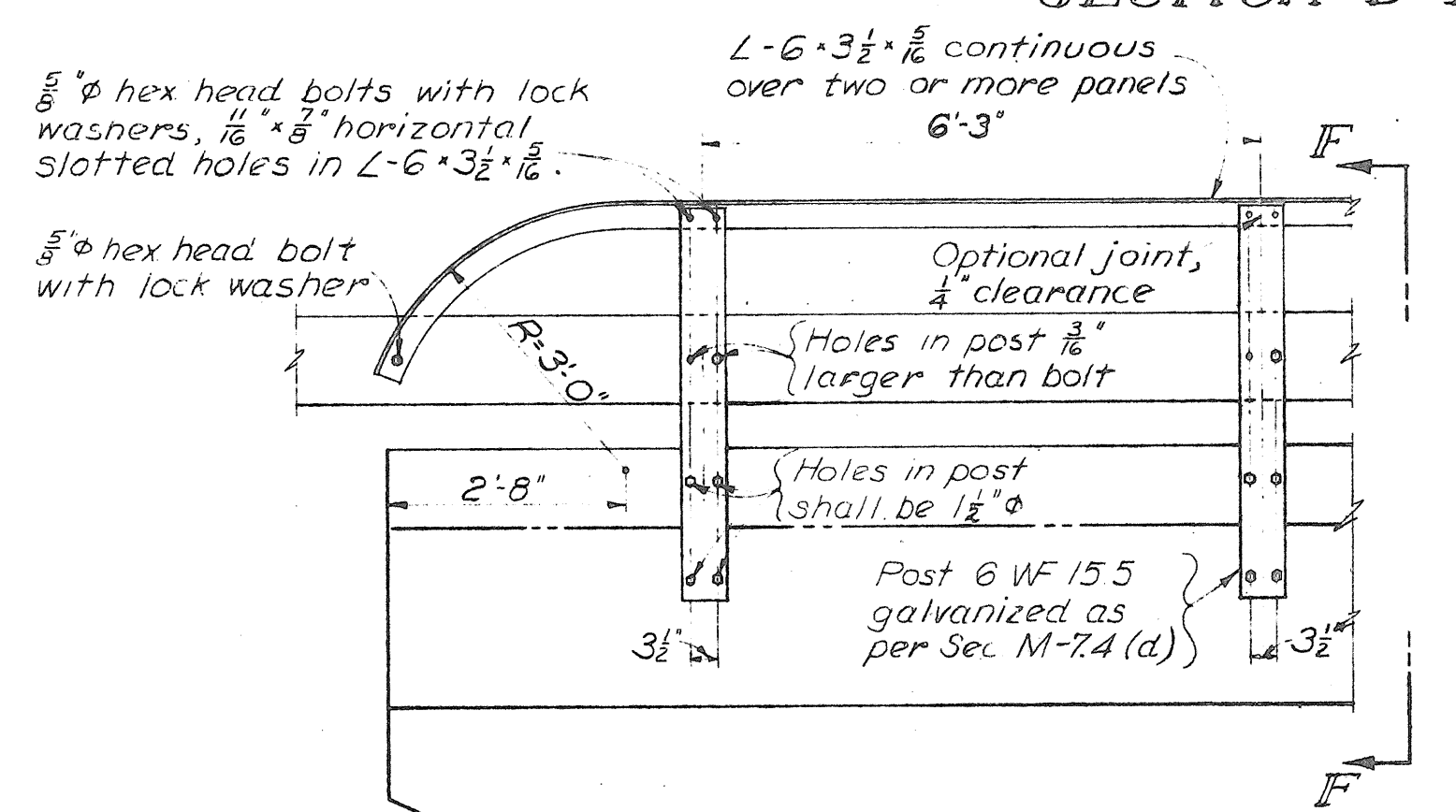
~ SECTION D-D ~



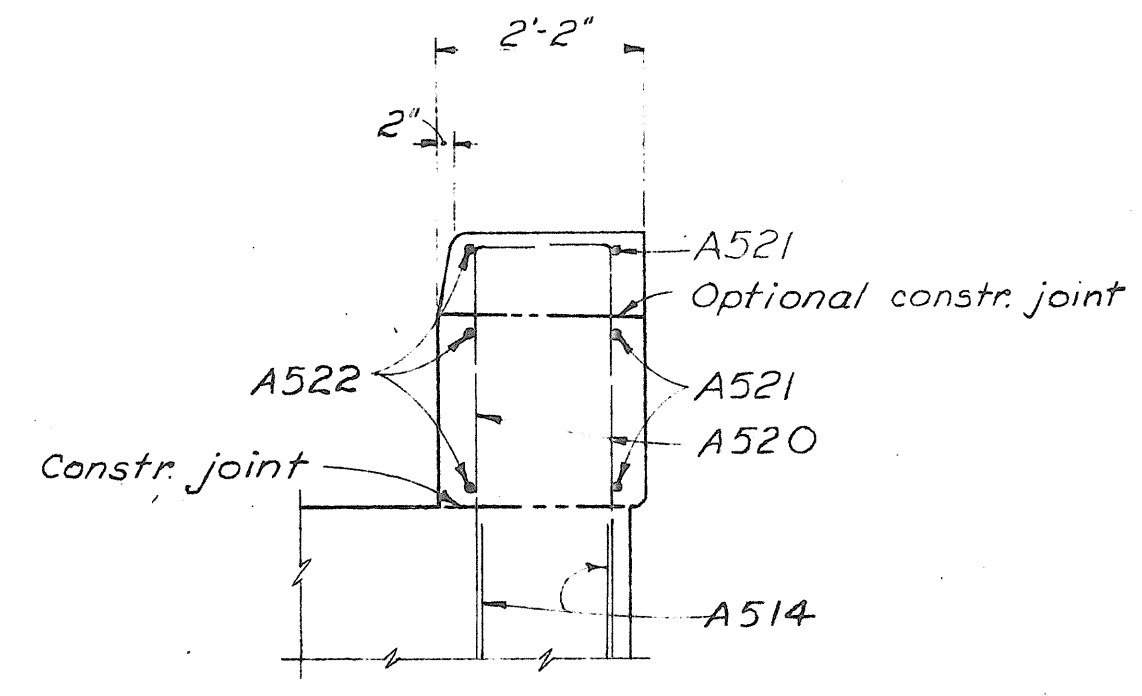
~ WING WALL "B" ELEVATION ~  
Guard rail not shown



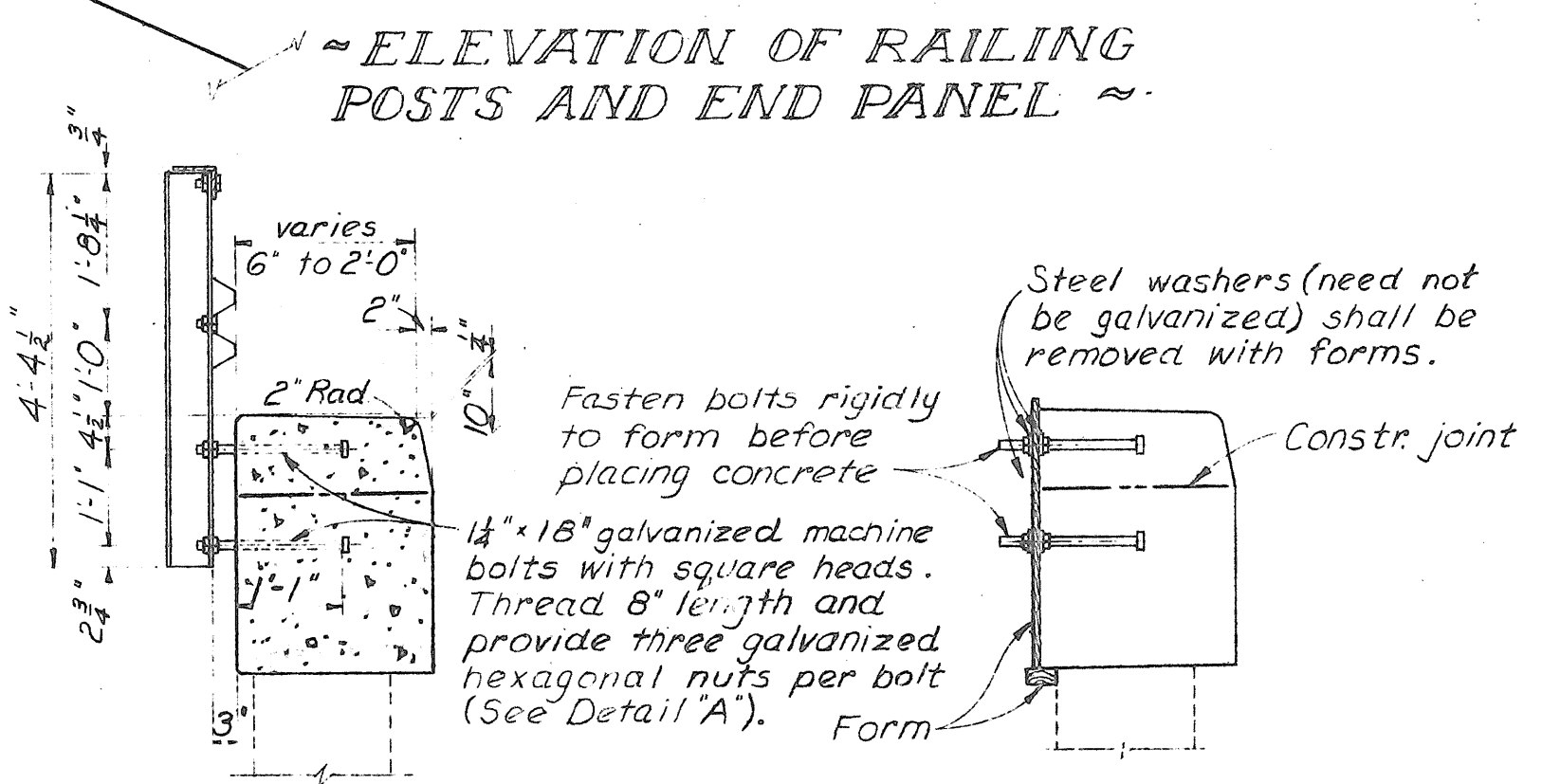
~ SECTION B-B ~



~ ELEVATION OF RAILING POSTS AND END PANEL ~



~ SECTION E-E ~

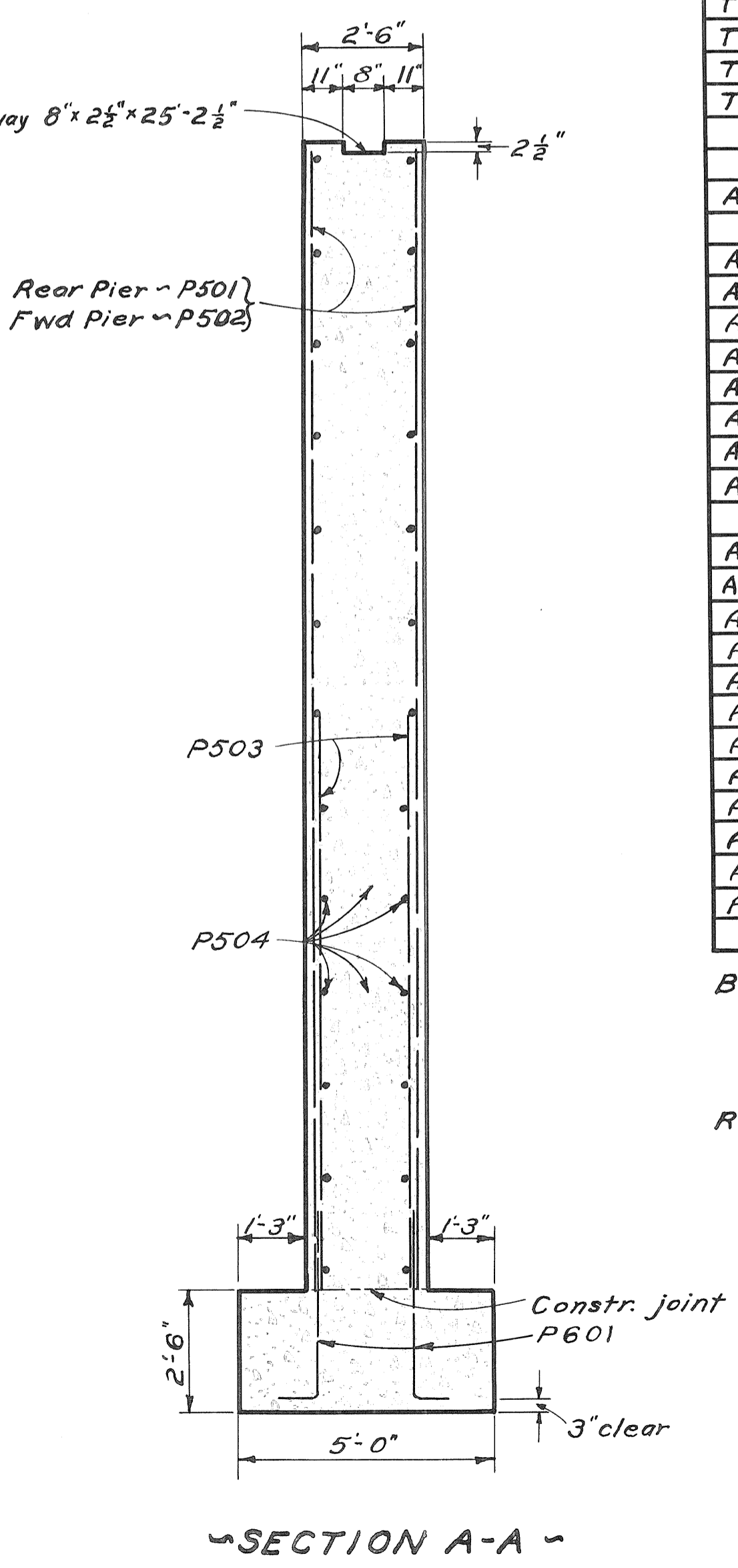
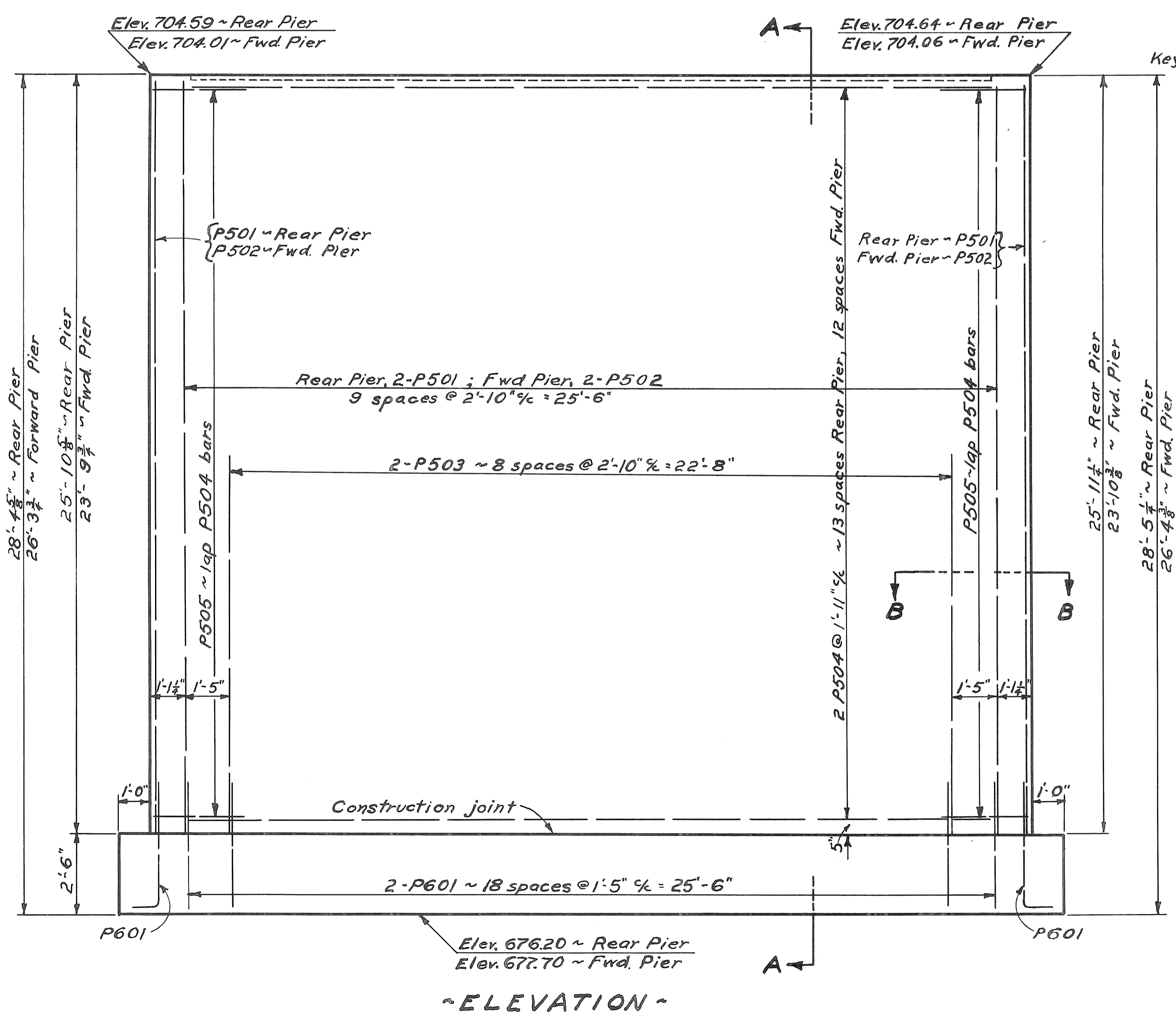
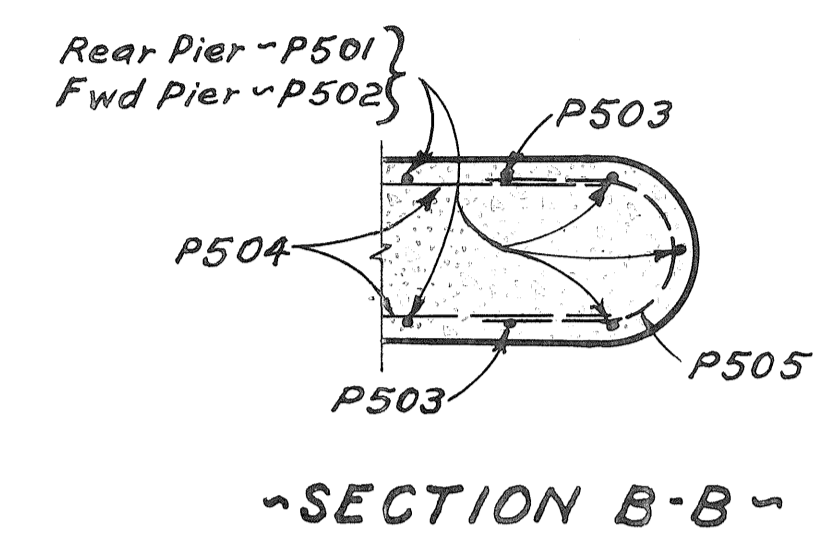
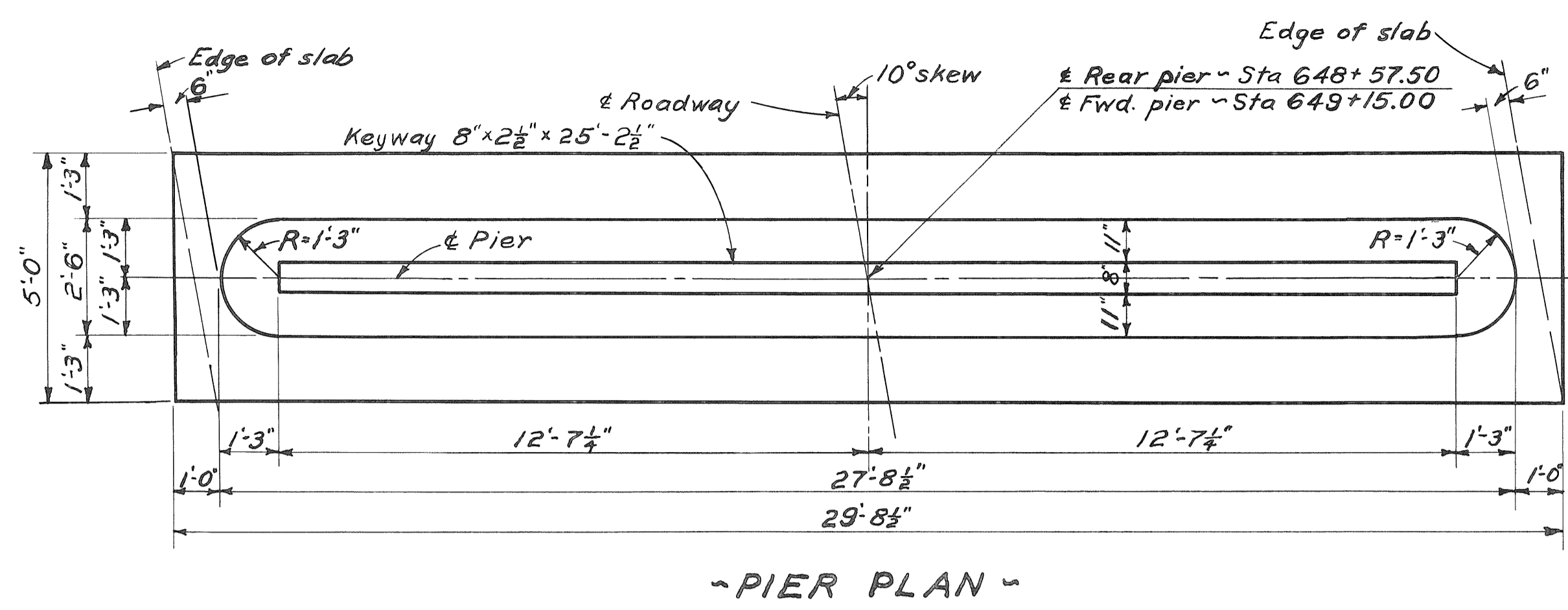


~ SECTION F-F ~

~ DETAIL A ~

For Sections A-A, B-B, D-D, E-E and For additional details see sheet no. 17

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES			
<b>ABUTMENT DETAILS</b>			
BRIDGE No. PAU-637-1228 OVER FLAT ROCK CREEK			
PAULDING COUNTY	STA. 648 + 10.74	649 + 61.76	
DGM	DGM	NJB	BFG 1-17-58



### REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp	Mark	No.	Length	Weight	Shp
<b>Superstructure</b>					<b>Bending Diagrams</b>				
S1101	44	40'-0"	9,351	S	S1003	38	35'-10"	5,869	B
S1102	88	40'-3"	18,819	S	S1004	19	31'-6"	2,575	S
S1001	38	20'-4"	3,325	S	S601	44	28'-6"	1,878	S
S1002	38	12'-3"	2,003	S	S602	22	21'-4"	705	S
S1003	38	35'-10"	5,869	B	S603	110	28'-5"	4,695	S
S1004	19	31'-6"	2,575	S	S604	162	28'-5"	6,914	S
T1101	20	31'-8"	3,365	S	T501	12	32'-3"	404	S
T501	12	32'-3"	404	S	T502	6	29'-0"	181	S
T502	6	29'-0"	181	S	T503	356	2'-8"	9,90	B
T503	356	2'-8"	9,90	B	T504	356	2'-8"	9,90	B
T504	356	2'-8"	9,90	B	T505	356	3'-5"	1,269	B
T505	356	3'-5"	1,269	B	<b>Abutments</b>				
A1001	8	28'-1"	967	S	A1001	8	28'-1"	967	S
A801	8	30'-1"	643	S	A801	8	30'-1"	643	S
A802	2	10'-8"	57	B	A802	2	10'-8"	57	B
A803	4	8'-6"	91	S	A803	4	8'-6"	91	S
A804	4	7'-5"	79	B	A804	4	7'-5"	79	B
A805	2	11'-8"	62	B	A805	2	11'-8"	62	B
A806	4	9'-0"	96	S	A806	4	9'-0"	96	S
A807	2	8'-6"	45	B	A807	2	8'-6"	45	B
A808	2	8'-7"	46	B	A808	2	8'-7"	46	B
A501	8	30'-1"	251	S	A501	8	30'-1"	251	S
A502	96	6'-7"	659	B	A502	96	6'-7"	659	B
A503	8	28'-1"	234	S	A503	8	28'-1"	234	S
A504	40	10'-11"	455	B	A504	40	10'-11"	455	B
A505	4	9'-10"	41	B	A505	4	9'-10"	41	B
A506	4	7'-9"	32	B	A506	4	7'-9"	32	B
A507	32	7'-1"	236	B	A507	32	7'-1"	236	B
A508	2	14'-10"	31	B	A508	2	14'-10"	31	B
A509	2	13'-2"	27	B	A509	2	13'-2"	27	B
A510	2	9'-7"	20	B	A510	2	9'-7"	20	B
A511	2	13'-7"	28	S	A511	2	13'-7"	28	S
A512	2	11'-11"	25	S	A512	2	11'-11"	25	S
<b>Abutments</b>					<b>Piers</b>				
A513	2	8'-4"	17	S	P601	80	4'-6"	541	B
A514	44	4'-11"	226	S	P501	22	25'-8"	589	S
A515	4	5'-8"	24	S	P502	22	23'-7"	541	S
A516	4	4'-0"	17	S	P503	36	11'-10"	444	S
A517	4	7'-0"	29	B	P504	54	25'-2"	1,417	S
A518	4	3'-7"	15	S	P505	54	6'-4"	357	B
A519	4	4'-3"	18	S	<b>Replacement Bars</b>				
A520	44	4'-10"	222	B	REN101	2	7'-6"	-	S
A521	12	12'-0"	150	S	RE1001	1	7'-2"	-	S
A522	12	10'-9"	135	B	RE801	1	6'-6"	-	S
A523	8	5'-8"	47	B	RE601	1	5'-11"	-	S
A524	12	6'-6"	81	B	RE501	1	5'-7"	-	S
A525	4	10'-10"	45	B	RE401	1	5'-4"	-	B
A526	4	7'-8"	32	B					
A527	2	14'-9"	31	B					
A528	2	13'-1"	27	B					
A529	2	10'-2"	21	B					
A530	2	13'-1"	27	S					
A531	2	11'-5"	24	S					
A532	2	8'-6"	18	S					
A533	4	5'-3"	22	S					
A534	4	6'-8"	28	B					
A535	4	4'-5"	18	S					
A401	40	5'-4"	143	B					
A402	32	6'-0"	128	B					

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, S601 is a No. 6 size bar and S1101 is a No. 11 size bar.

REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has been previously 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.

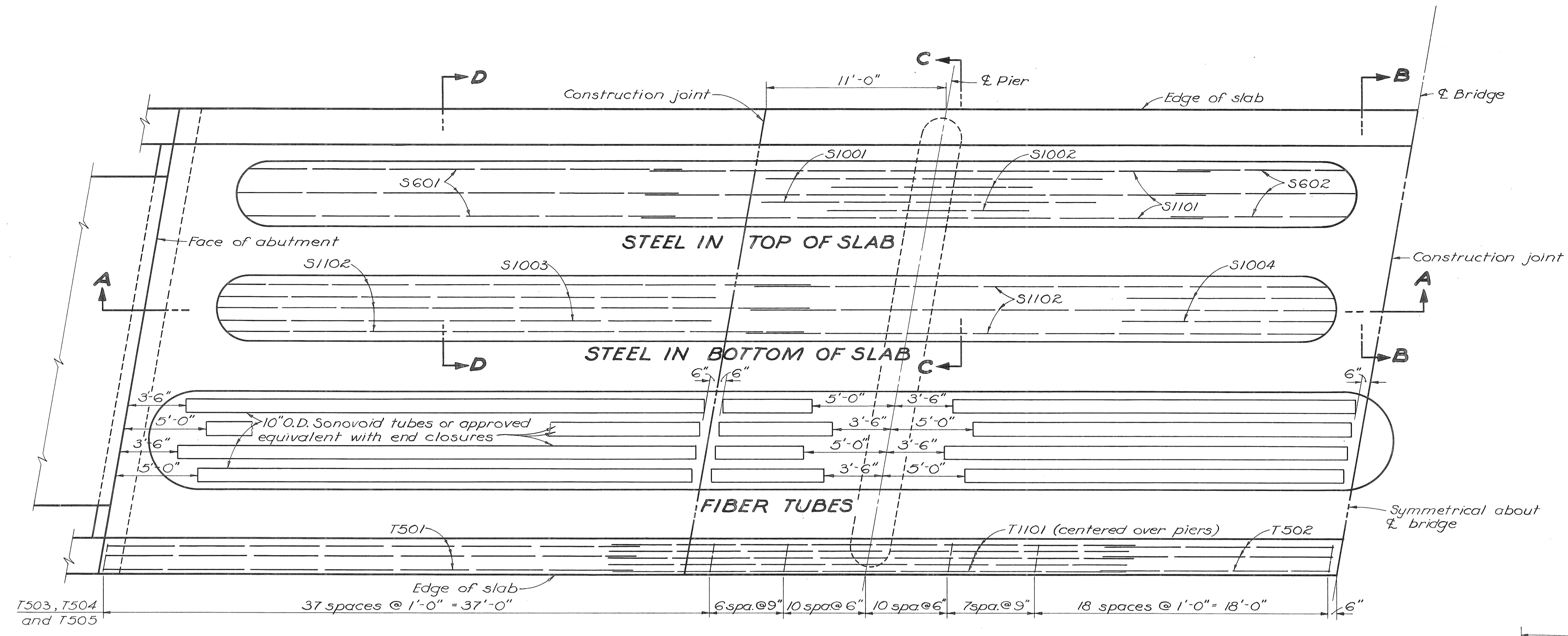
STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

### PIER DETAILS AND REINFORCING STEEL LIST

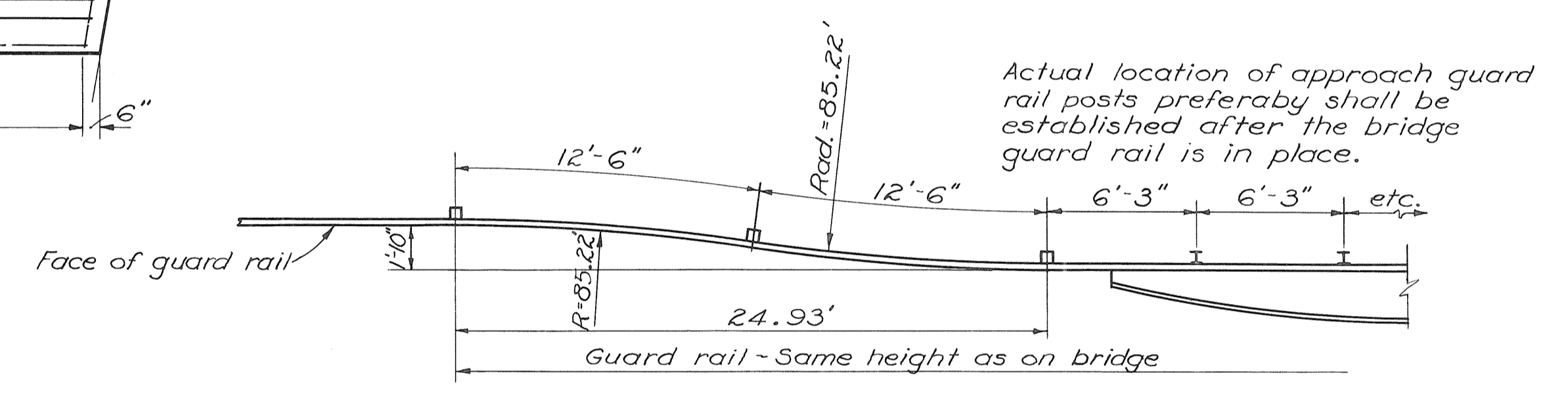
BRIDGE No. PAU-637-1228  
OVER FLAT ROCK CREEK  
PAULDING COUNTY STA. 648+10.74  
649+61.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGM	DGM	ECE	NJB	BFG	1-17-58	

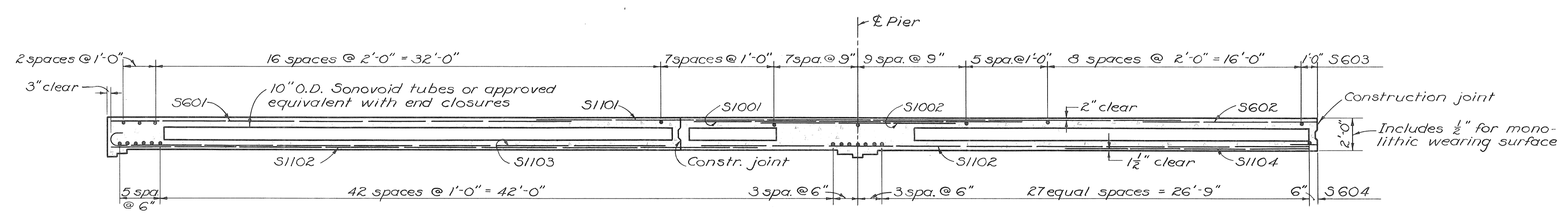
PAU-637-11.94



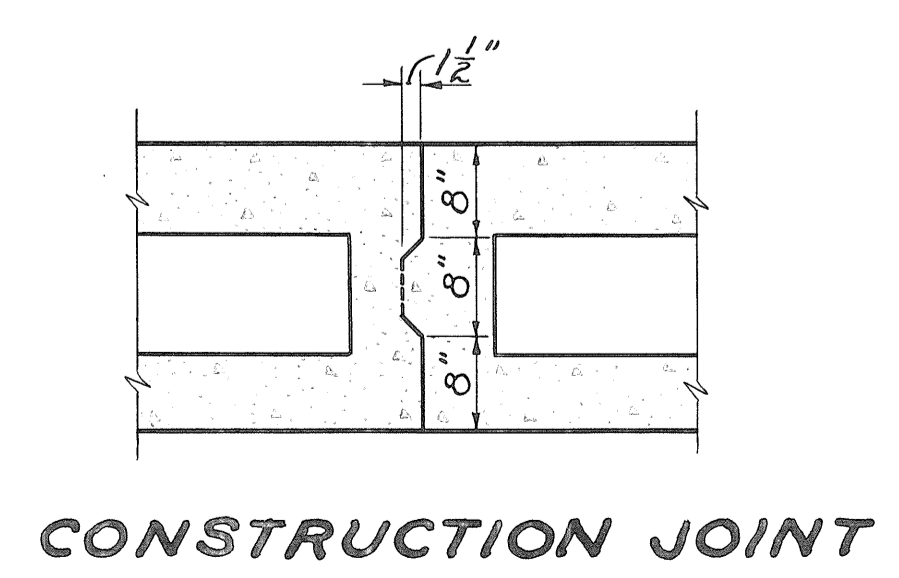
**PART PLAN OF SLAB**  
(Transverse steel in slab not shown)



**~ GUARD RAIL TREATMENT ~**



**~ SECTION A-A ~**



**CONSTRUCTION JOINT**

**CAMBER** of 1" shall be provided to allow for dead load deflection. This is the amount of camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of falsework members.

**CURBS** shall be placed after the shoring under the slab has been released sufficiently to permit the spans to attain full dead load deflection.

**TRANSVERSE** bars in the slab shall be placed parallel to the piers or abutments.

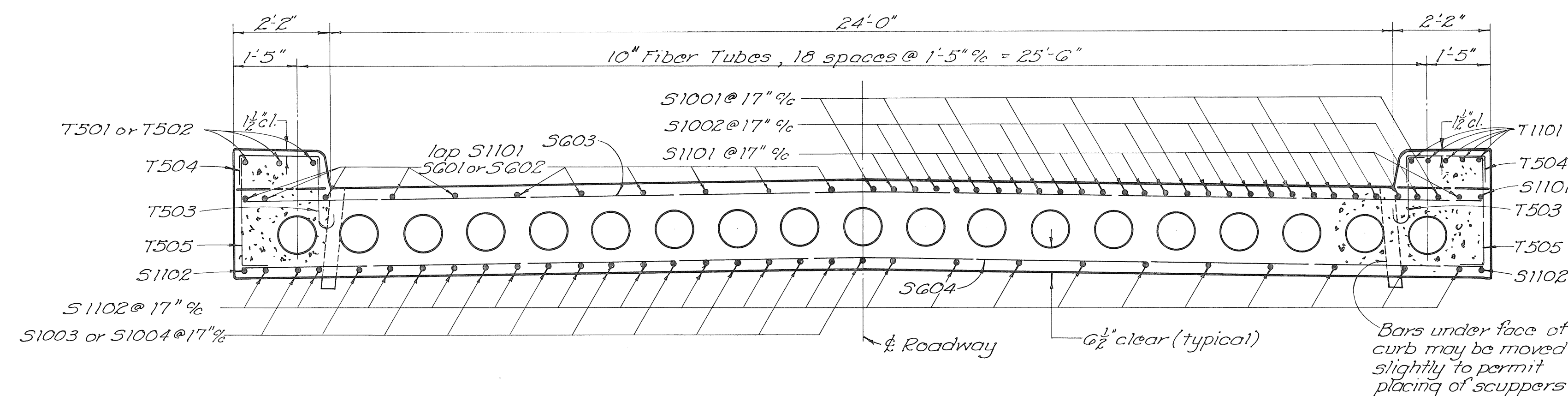
STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

**SUPERSTRUCTURE DETAILS**  
**BRIDGE NO. PAU-637-1228**  
**OVER FLAT ROCK CREEK**

PAULDING COUNTY STA. 648 +10.74  
649 +61.76

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DGM	DGM	JGW	N.J.B.	BFG	1-17-58	

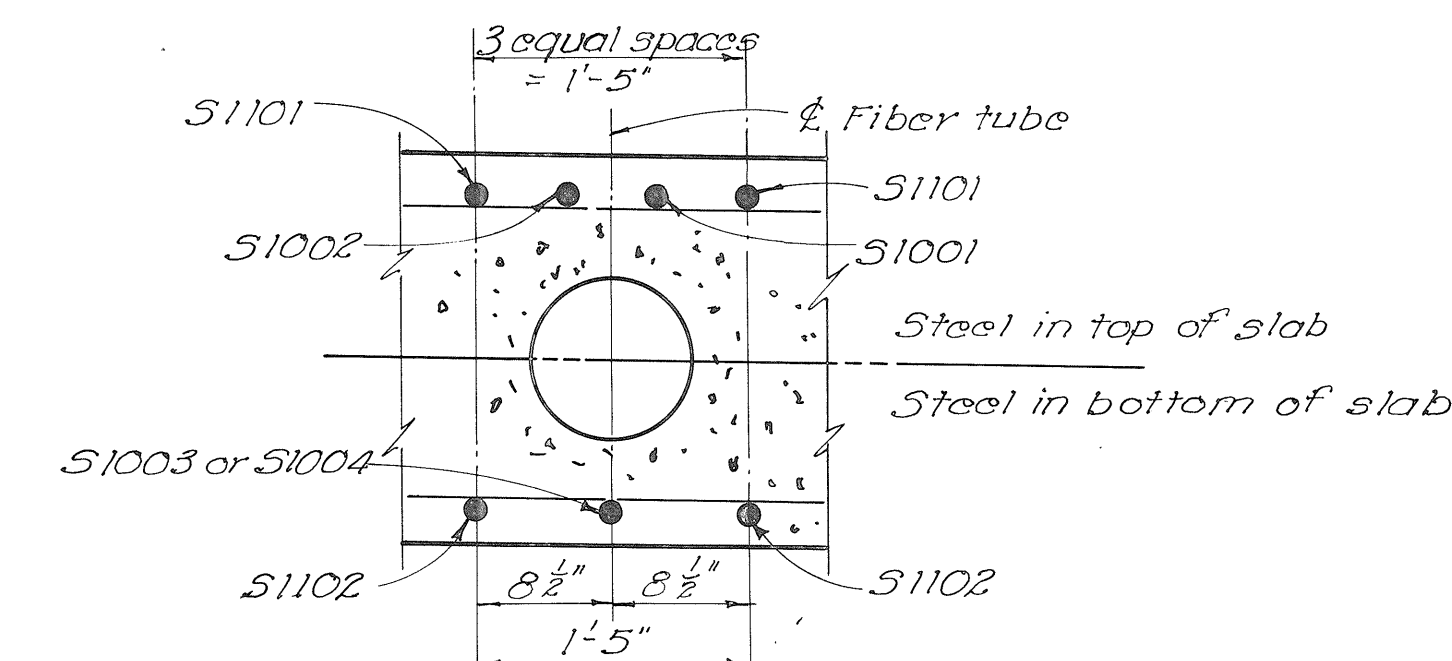
PAU-637-11.94



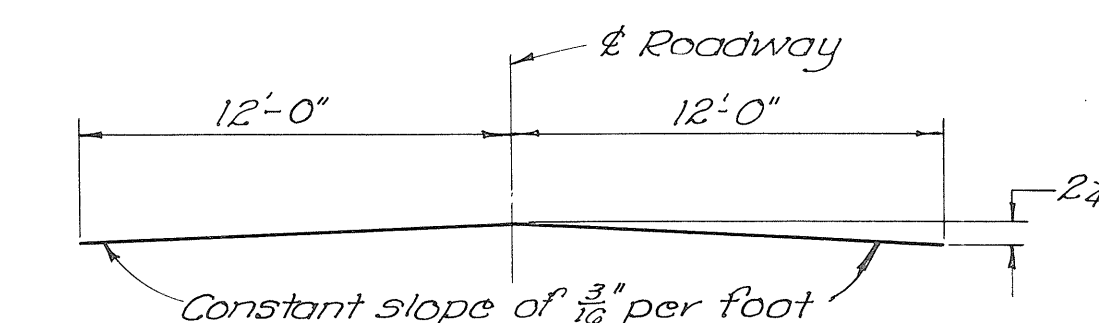
SECTION B-B AND D-D

SECTION C-C

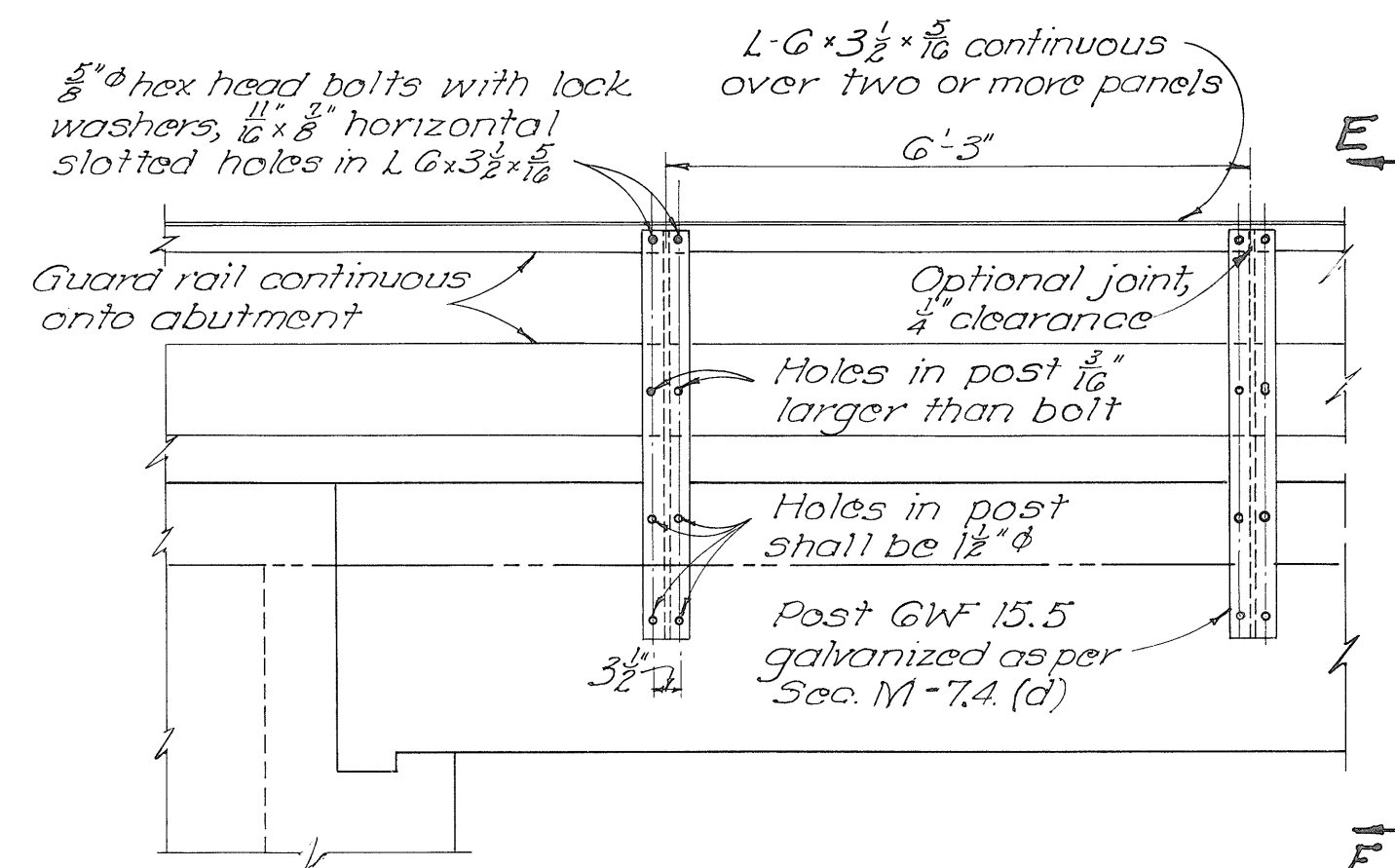
Guard rail not shown



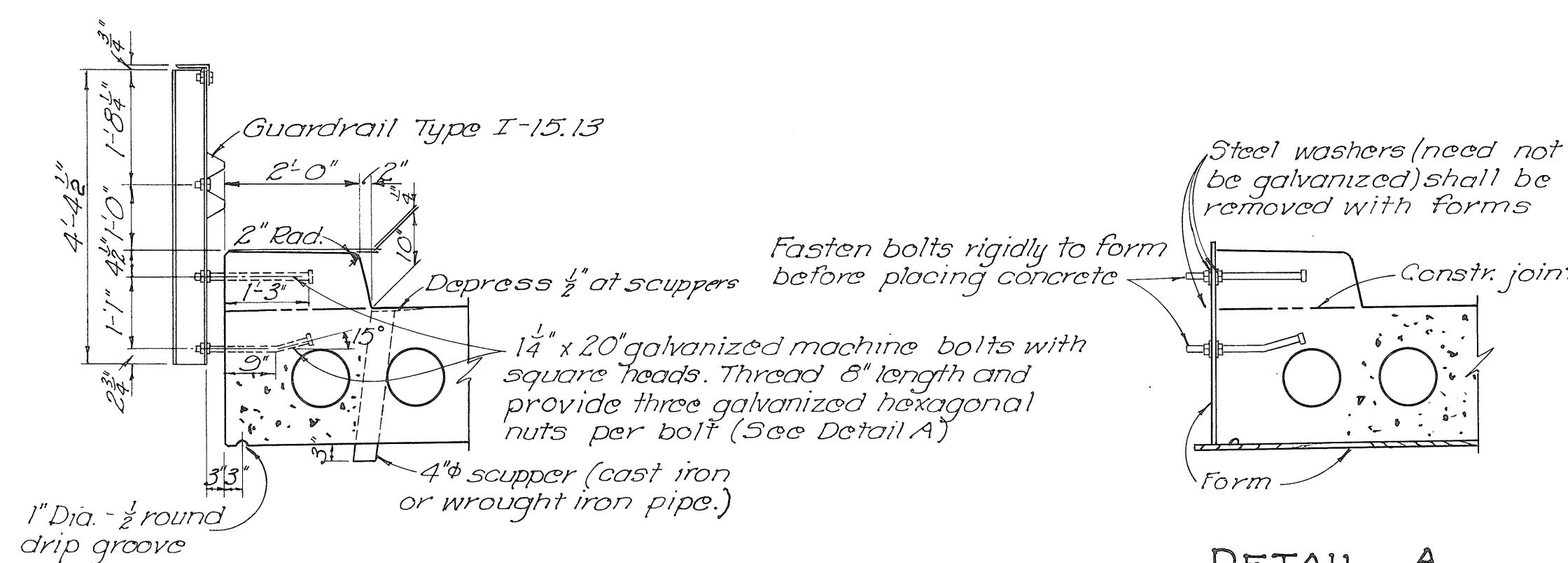
PLACING DIAGRAM FOR MAIN REINFORCING BARS



BRIDGE ROADWAY CROWN

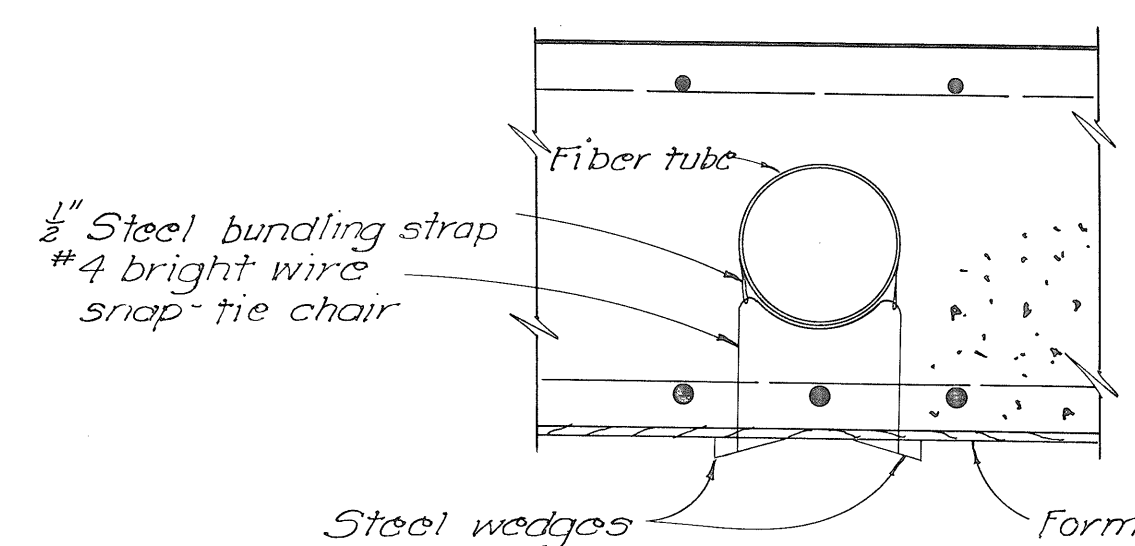


ELEVATION OF RAILING POSTS AND PANEL



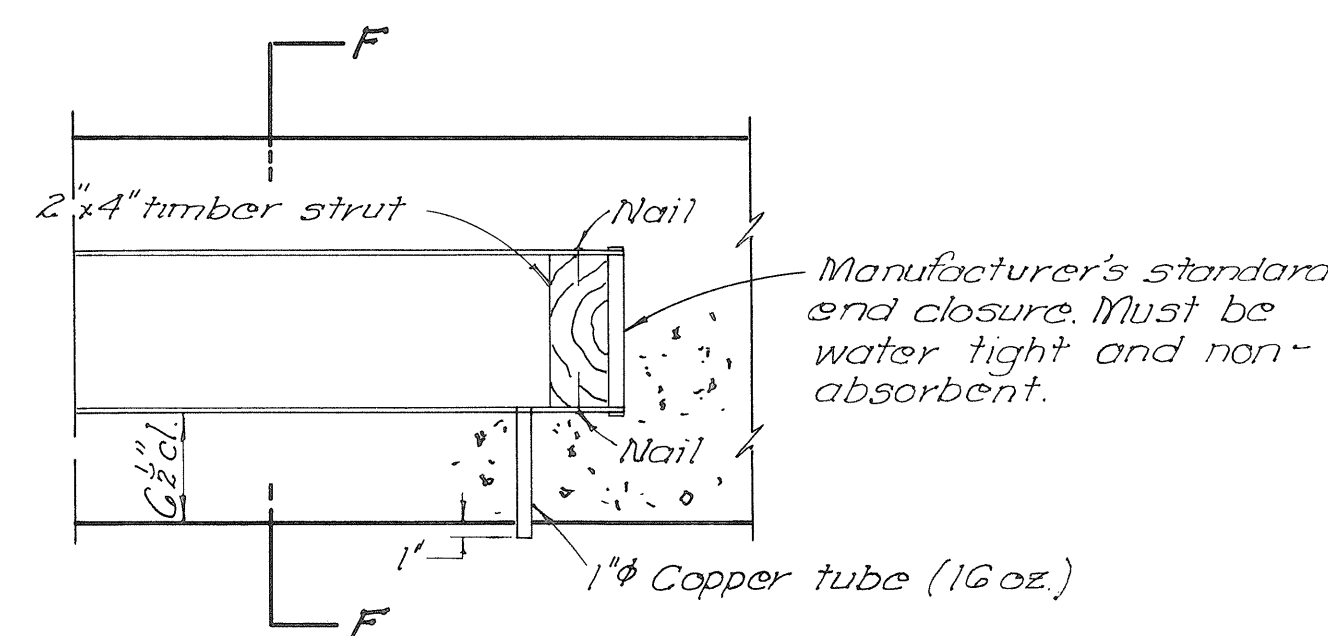
SECTION E-E

DETAIL A

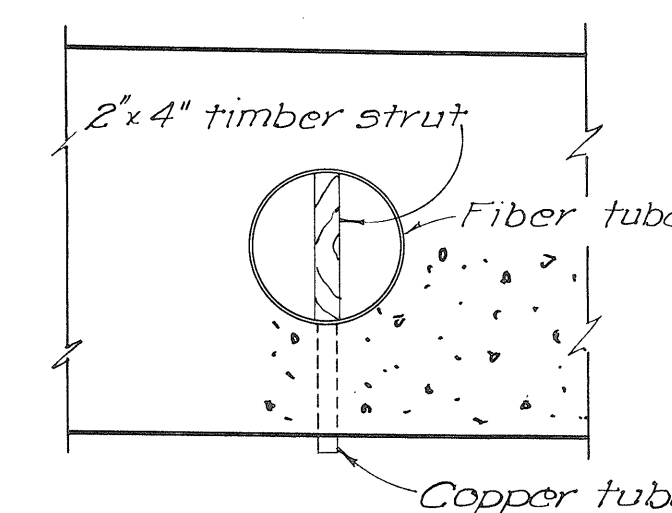


SUGGESTED DETAIL FOR SUPPORTING AND SECURING FIBER TUBES

Bundling straps and chairs shall be spaced at 4'-0" maximum along tube, except at ends of tube (including joints) where first strap and chair shall be placed 6" ± from end of tube and second strap and chair shall not exceed 2'-0" from end of tube.



FIBER TUBE END DETAIL



SECTION F-F

END CLOSURE, 2"x4" timber strut and 1" copper tube shall be at both ends of fiber tube, including joints.

FIBER TUBES shall be held securely in place in a manner that will insure the final location of the fiber tubes as shown on the plans.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES					
SUPERSTRUCTURE SECTIONS GUARD RAIL DETAILS AND FIBER TUBE DETAILS BRIDGE No. PAU-637-1228 OVER FLAT ROCK CREEK PAULDING COUNTY STA. 048+10.74 049+01.76					
DESIGNED	DGM	DRAWN	DGM	TRACED	R.H.D.
CHECKED	N.J.B.	REVIEWED	B.F.G.	DATE	1-17-58
REVISED					