

BRIDGE CONTRACT NO. R-7391

INDEX						
PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION	CONTRACT NO.
I-465-4 1129127	I-465- 127-5274	CONTINUOUS STEEL BEAM	35'-0" 44'-0" 35'-0"	CARMEL CREEK	865+26.50	R-7391
SHEET NO.	SHEET DESIGNATION	SUBJECT	S.E.C. APPROVAL			
1	INDEX AND TITLE SHEET					
2	ONE SHEET	SOIL BORINGS				
3	S1	LAYOUT				
4	S2	GENERAL PLAN				
5	S3	BENTS 1 AND 4 DETAILS				
6	S4	BENTS 1 AND 4 DETAILS				
7	S5	PIERS 2 AND 3 DETAILS				
8	S6	FRAMING PLAN				
9	S7	SUPERSTRUCTURE DETAILS				
10	S8	DECK PLAN AND TRANSVERSE SECTION				
11	S9	SUPERSTRUCTURE DETAILS				
12	S10	SCREED DETAILS				
13	ONE SHEET	SUMMARY				
14	S11	PIER NO. 2 W.B. LANE DETAILS				

STATE OF INDIANA  
INDIANA STATE HIGHWAY COMMISSION

# BRIDGE PLANS

## FOR SPANS OVER 20 FEET

### ON

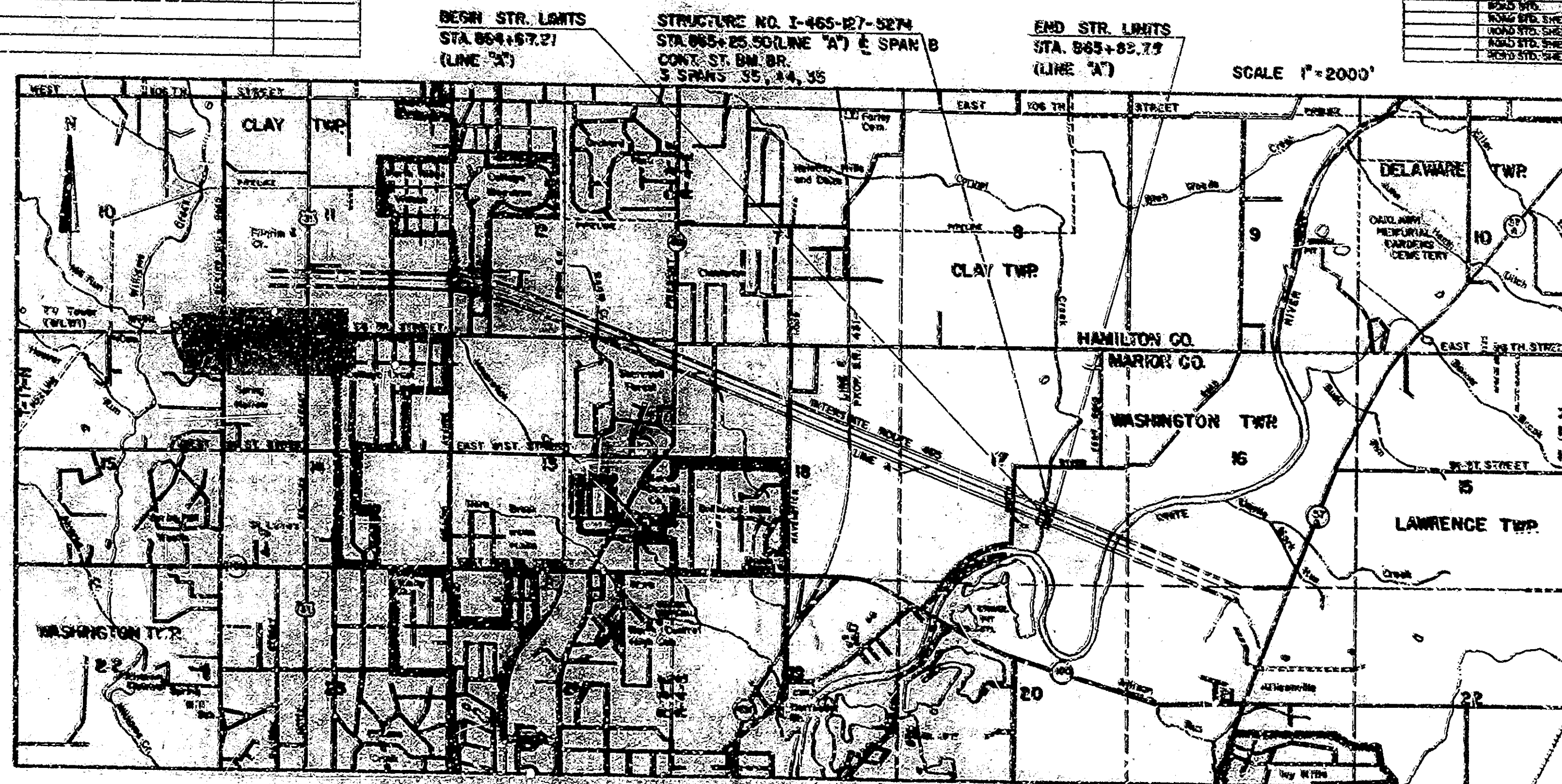
## INTERSTATE ROUTE - 465 - SECTION NO. 4

### F.A. PROJECT NO. I-465-4(129)127

BEGINNING AT A POINT ON LINE "A" APPROXIMATELY 3608.6 FEET SOUTHWEST OF THE INTERSECTION OF LINE "A" AND THE WEST LINE OF SECTION 17, T-17-N, R-4-E, WASHINGTON TWP, MARION CO. AND ALONG LINE "A" IN A SOUTHEASTLY DIRECTION FOR A DISTANCE OF 116.6 FEET TO A POINT ON LINE "A" APPROXIMATELY 3713.3 FEET SOUTHWEST OF THE ABOVE DESCRIBED INTERSECTION.

ROADWAY LENGTH = 0.000 MI.  
BRIDGE LENGTH = 0.022 MI.  
TOTAL LENGTH = 0.022 MI.

MAX. GRADE = 0.50% (LINE "A" APPROACHES)



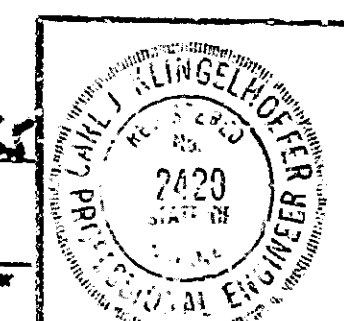
INDEX CONTINUED STANDARD DRAWINGS					
SHEET NO.	SHEET DESIGNATION	SUBJECT	DATE	APPROVED BY	REVISION
14	BRIDGE STD. C1	STANDARD UNUSUAL DETAILS			
15	BRIDGE STD. C2	STANDARD UNUSUAL DETAILS			
16	BRIDGE STD. C3	STANDARD UNUSUAL DETAILS			
17	BRIDGE STD. C4	STANDARD UNUSUAL DETAILS			
18	BRIDGE STD. C5	STANDARD UNUSUAL DETAILS			
19	BRIDGE STD. C6	STANDARD UNUSUAL DETAILS			
20	BRIDGE STD. C7	STANDARD UNUSUAL DETAILS			
21	BRIDGE STD. C8	STANDARD UNUSUAL DETAILS			
22	BRIDGE STD. C9	STANDARD UNUSUAL DETAILS			
23	BRIDGE STD. C10	STANDARD UNUSUAL DETAILS			
24	BRIDGE STD. C11	STANDARD UNUSUAL DETAILS			
25	BRIDGE STD. C12	STANDARD UNUSUAL DETAILS			
26	BRIDGE STD. C13	STANDARD UNUSUAL DETAILS			
27	BRIDGE STD. C14	STANDARD UNUSUAL DETAILS			
28	BRIDGE STD. C15	STANDARD UNUSUAL DETAILS			
29	BRIDGE STD. C16	STANDARD UNUSUAL DETAILS			
30	BRIDGE STD. C17	STANDARD UNUSUAL DETAILS			
31	BRIDGE STD. C18	STANDARD UNUSUAL DETAILS			
32	BRIDGE STD. C19	STANDARD UNUSUAL DETAILS			
33	BRIDGE STD. C20	STANDARD UNUSUAL DETAILS			
34	BRIDGE STD. C21	STANDARD UNUSUAL DETAILS			
35	BRIDGE STD. C22	STANDARD UNUSUAL DETAILS			
36	BRIDGE STD. C23	STANDARD UNUSUAL DETAILS			
37	BRIDGE STD. C24	STANDARD UNUSUAL DETAILS			
38	BRIDGE STD. C25	STANDARD UNUSUAL DETAILS			
39	BRIDGE STD. C26	STANDARD UNUSUAL DETAILS			
40	BRIDGE STD. C27	STANDARD UNUSUAL DETAILS			
41	BRIDGE STD. C28	STANDARD UNUSUAL DETAILS			
42	BRIDGE STD. C29	STANDARD UNUSUAL DETAILS			
43	BRIDGE STD. C30	STANDARD UNUSUAL DETAILS			
44	BRIDGE STD. C31	STANDARD UNUSUAL DETAILS			
45	BRIDGE STD. C32	STANDARD UNUSUAL DETAILS			
46	BRIDGE STD. C33	STANDARD UNUSUAL DETAILS			
47	BRIDGE STD. C34	STANDARD UNUSUAL DETAILS			
48	BRIDGE STD. C35	STANDARD UNUSUAL DETAILS			
49	BRIDGE STD. C36	STANDARD UNUSUAL DETAILS			
50	BRIDGE STD. C37	STANDARD UNUSUAL DETAILS			
51	BRIDGE STD. C38	STANDARD UNUSUAL DETAILS			
52	BRIDGE STD. C39	STANDARD UNUSUAL DETAILS			
53	BRIDGE STD. C40	STANDARD UNUSUAL DETAILS			
54	BRIDGE STD. C41	STANDARD UNUSUAL DETAILS			
55	BRIDGE STD. C42	STANDARD UNUSUAL DETAILS			
56	BRIDGE STD. C43	STANDARD UNUSUAL DETAILS			
57	BRIDGE STD. C44	STANDARD UNUSUAL DETAILS			
58	BRIDGE STD. C45	STANDARD UNUSUAL DETAILS			
59	BRIDGE STD. C46	STANDARD UNUSUAL DETAILS			
60	BRIDGE STD. C47	STANDARD UNUSUAL DETAILS			
61	BRIDGE STD. C48	STANDARD UNUSUAL DETAILS			
62	BRIDGE STD. C49	STANDARD UNUSUAL DETAILS			
63	BRIDGE STD. C50	STANDARD UNUSUAL DETAILS			

TRAFFIC DATA	
A.D.T. (1962)	30,722 V.P.D.
A.D.T. (1975 PROJECTED)	56,945 V.P.D.
TRUCKS	7 %
DESIGN SPEED	70 M.P.H.
ACCESS CONTROL	FULL

THESE PLANS PREPARED BY  
**ALDEN E. STILSON & ASSOCIATES  
LIMITS**  
CONSULTING ENGINEERS  
COLUMBUS, OHIO  
BY *Tom L. Woodward, P.E.* 4-15-65  
DATE

RIGHT OF WAY FOR THIS PROJECT  
INCLUDED IN PROJECT I-465-4(129)127

APPROVED *12-28-65*  
*[Signature]*  
DIVISION ENGINEER  
DATE



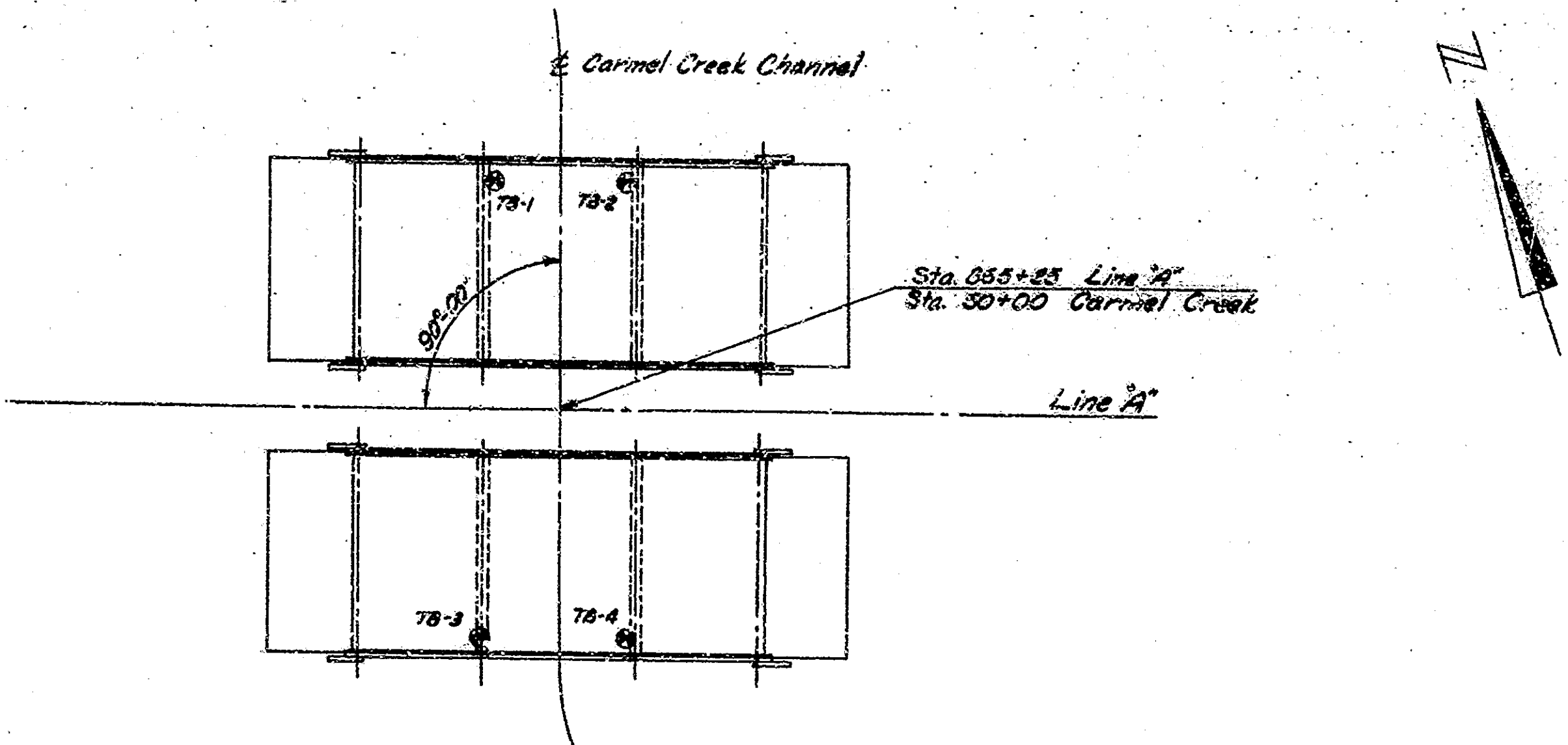
INDIANA STATE HIGHWAY COMMISSION  
STANDARD SPECIFICATIONS DATED 1963  
TO BE USED WITH THESE PLANS.

DATE	REVISIONS
3-27-65	ISSUED FOR PERMITS
4-15-65	ISSUED FOR PERMITS
5-23-65	ISSUED FOR PERMITS
6-23-65	ISSUED FOR PERMITS
7-23-65	ISSUED FOR PERMITS
8-23-65	ISSUED FOR PERMITS
9-23-65	ISSUED FOR PERMITS
10-23-65	ISSUED FOR PERMITS
11-23-65	ISSUED FOR PERMITS
12-23-65	ISSUED FOR PERMITS

RECOMMENDED FOR APPROVAL *12-23-65*  
*[Signature]*

BRIDGE FILE: I-465-27-5274





\* - Denotes Ground Water Table  
 N - Denotes the number of blows required to drive a 1 3/8" I.D. 2" O.D. split spoon sampler 6" by means of a 140# weight falling 30".

BORING NO.	TB-1		TB-2		TB-3		TB-4		
STATION	865+06		865+44		865+03		865+44		
OFFSET	60' Lt.		60' Lt.		60' Rt.		60' Rt.		
GROUND ELEV.	723.1		723.1		722.3		722.4		
	SAMPLE NO. ELEV.	N	DESCRIPTION	SAMPLE NO. ELEV.	N	DESCRIPTION	SAMPLE NO. ELEV.	N	DESCRIPTION
725			Ground Elev.			Ground Elev.			Ground Elev.
720	1	1/4	Small and dark brown silty clay, moist medium dense	1	1/4	Small and dark brown silty clay, moist medium dense	1	1/4	Small and dark brown silty clay, moist medium dense
	2	1/2	Gray silty fine to coarse sand, medium dense to medium loose	2	1/2	Drone and gray silty fine to coarse sand and fine gravel, medium loose	2	1/2	Gray silty fine to coarse sand and fine gravel, medium dense to medium loose
715	3	1/2	Gray silty fine to coarse sand, medium dense to medium loose	3	1/2	Drone and gray silty fine to coarse sand and fine gravel, medium loose	3	1/2	Gray silty fine to coarse sand and fine gravel, medium dense to medium loose
	4	1/2	Gray sandy clay with fine gravel, medium hard	4	1/2	Gray fine to coarse sand and gravel, medium dense to medium loose	4	1/2	Gray fine to coarse sand and gravel, medium dense to medium loose
710	5	1/2	Gray and brown fine to coarse sand and fine gravel, medium dense to medium loose	5	1/2	Gray silty fine to coarse sand and fine gravel, medium dense to medium loose	5	1/2	Gray fine to coarse sand and gravel, medium dense to medium loose
705	6	1/2	Gray and brown fine to coarse sand and fine gravel, medium dense to medium loose	6	1/2	Gray silty fine to coarse sand and fine gravel, medium dense to medium loose	6	1/2	Gray fine to coarse sand and gravel, medium dense to medium loose
700	7	1/2	Gray silty fine to coarse sand and fine gravel, medium dense to medium loose	7	1/2	Gray silty fine to coarse sand and fine gravel, medium dense to medium loose	7	1/2	Gray fine to coarse sand and gravel, medium dense to medium loose
695	8	1/2	Light gray to white silty clay, medium dense to medium loose	8	1/2	Light gray to white silty clay, medium dense to medium loose	8	1/2	Light gray to white silty clay, medium dense to medium loose
690	9	1/2	Light gray to white silty clay, medium dense to medium loose	9	1/2	Light gray to white silty clay, medium dense to medium loose	9	1/2	Light gray to white silty clay, medium dense to medium loose
	10	1/2	Light gray to white silty clay, medium dense to medium loose	10	1/2	Light gray to white silty clay, medium dense to medium loose	10	1/2	Light gray to white silty clay, medium dense to medium loose
685									

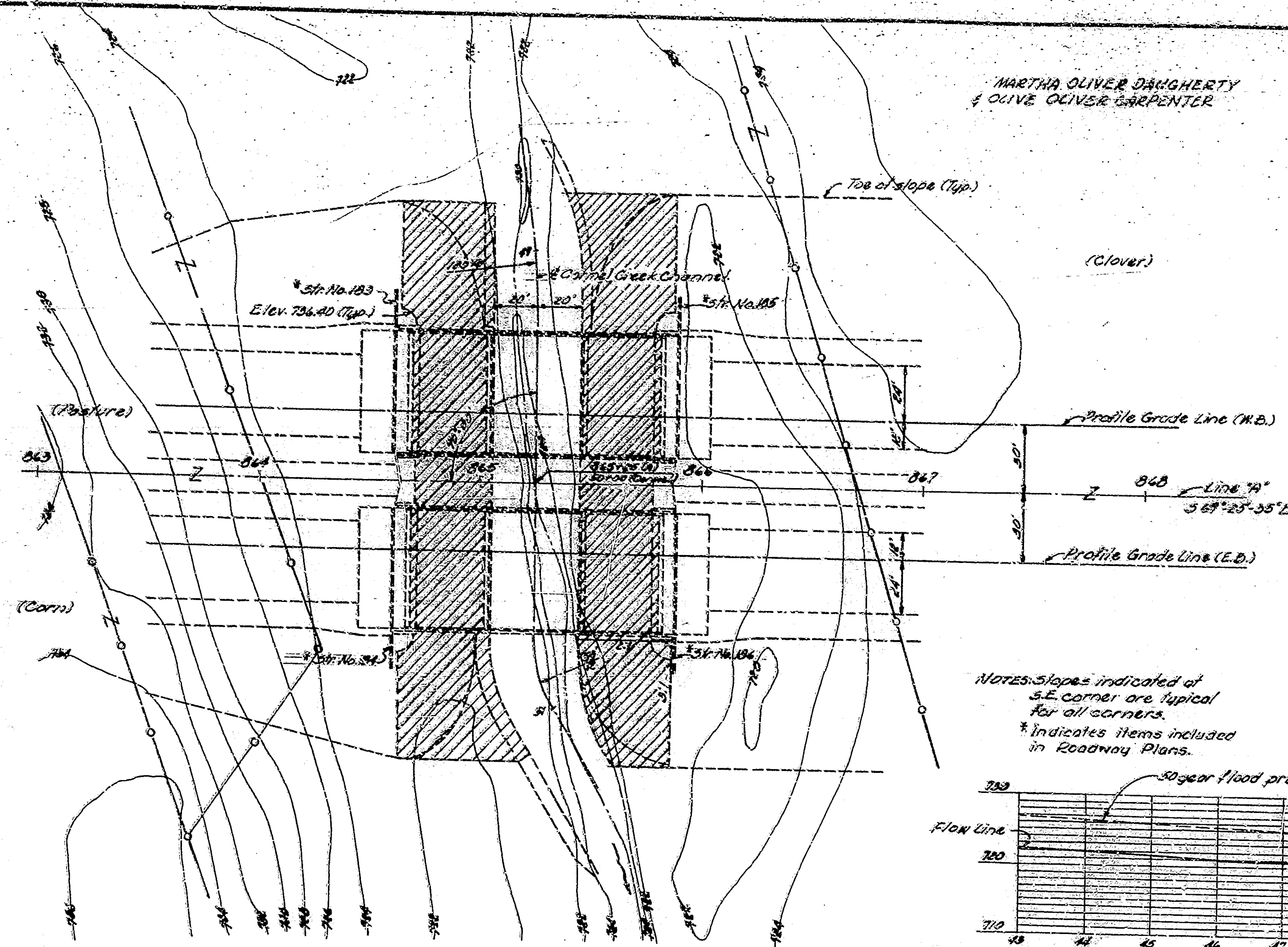
Depth of Boring - 30'-6"      Depth of Boring - 32'-6"      Depth of Boring - 33'-6"      Depth of Boring - 34'-0"

SOIL BORINGS  
 SCALES: HORIZ. 1"=30'-0", VERT. 1"=5'-0"  
 SUBMITTED FOR APPROVAL Tom L. Anderson, Jr.  
 PROJECT I-465-A(129) 127  
 CONTRACT NO. P-7361  
 BRIDGE FILE I-465-127-3274



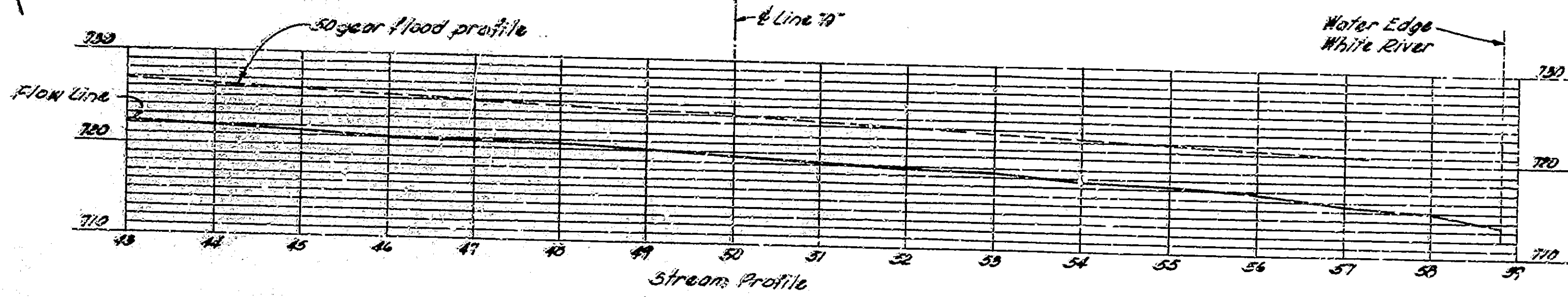
MARTHA OLIVER DAUGHERTY  
& OLIVE OLIVER CARPENTER

BRIDGES OVER 20' SPAN					
FILE NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (29) 27	1965	5	22

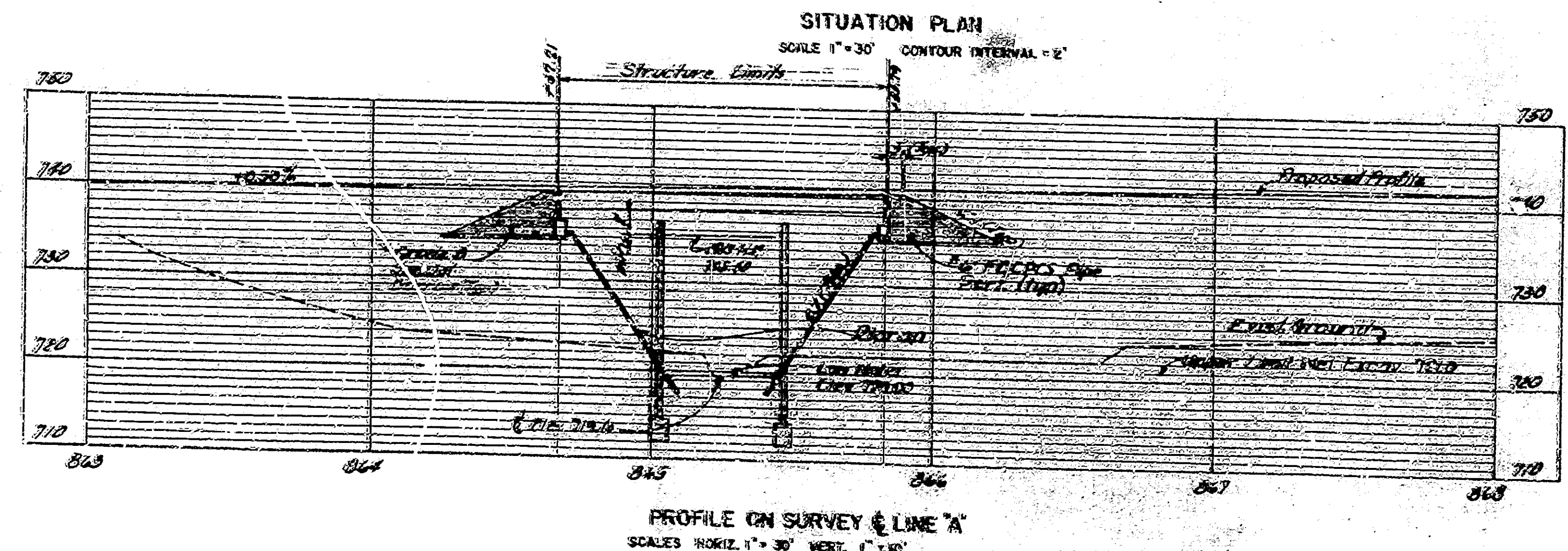


**NOTES:**  
 Location: Section 17, Township 17N, Range 4E, Washington Township, Marion County.  
 Approach Data: For bench marks, alignment references and additional approach details see sheet no. 1, Project I-465-4(29) 27 Roadway Plans.  
 Soil Data: For soil borings see sheet no. 2. See Article A203 of specifications regarding test pit data.  
**FIELD NOTES:**  
 Book B868T, pages 43 and 44  
 Book B868L, pages 51 thru 53  
 Book B868V, pages 1 thru 19  
**RIPPAP:**  
 Cross-hatched area indicates 1852 sq. yd. riprap at Bent 1 and 1222 sq. yd. at Bent 4. Includes 205 sq. yd. at Bent No. 1 and 195 sq. yd. at Bent 4 for the wall and spec. conc. curb.

Notes: Slopes indicated at S.E. corner are typical for all corners.  
 \* indicates items included in Roadway Plans.



**Hydraulic Data**  
 Drainage Area = 3490 ac., 50 yr. "Q" = 1300 cfs.  
 50 yr. normal depth = 4.5' (based on roughness coeff. 75 and slope 5" = 100 ft.)  
 1910 H.W. elev. 735.40  
 Waterway area below normal depth = 210 sq. ft.



**LAYOUT**  
 Twin Continuous Steel Beam Bridges  
 3 spans @ 35'-0", 44'-0", 35'-0"  
 53'-0" floodway, 6' curbs, no skew  
 Over Carmel Creek on Interstate 465

**INDIANA STATE HIGHWAY COMMISSION**

MARION COUNTY

SCALE: as noted April 15, 1965

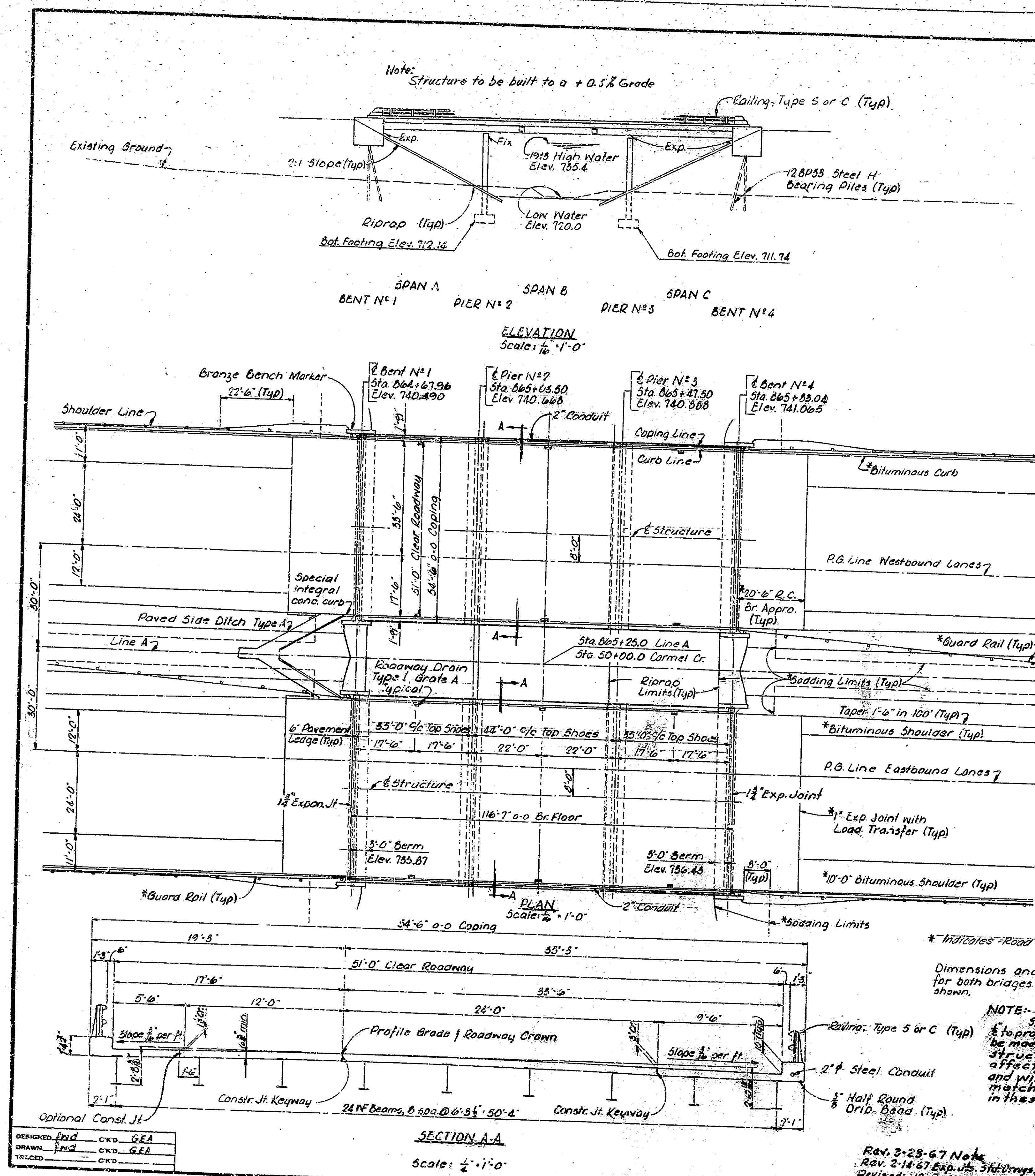
SUBMITTED FOR APPROVAL: *Tom R. [Signature]*

DRAWING: 31 OF 10  
 PROJECT: I-465-4 (29) 27 (North Leg)  
 BRIDGE CONTRACT NO. R-7391 Sta. 865+26.5  
 BRIDGE FILE: I-465-127-5274 & 3001 B

DESIGNED: TAD	CHKD: [Signature]
DRAWN: TAD	CHKD: [Signature]
TRACED: TAD	CHKD: [Signature]

Rev. 11-2-66 Grade B  
 Rev. 10/1/62 Bend  
 Revised 5-27-56 (Notes)





STANDARD DRAWINGS		
BRIDGE	ROAD	PURPOSE
C <sub>1</sub>		Bar bending, test bar samples, reinforcing bar notes, pile splicing, notch in slab, at ends of beams, Exp. Jt.
D		Roadway Drains
	MB2	Riprap
R <sub>1-C</sub>		Alum. Rail Details (Type 5)
R <sub>1-E</sub>		Alum. Rail Details
R <sub>1-F</sub>		Steel Rail Details (Type C)
R <sub>6A</sub>		Bridge Lighting Details
	MA	Pavement Offsets

BRIDGES OVER 20' SPAN					
FILE NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	1-465-4 (127)	1965	4	22

**GENERAL NOTES**

**FOOTING DEPTH:** Depth of footings to be extended if found necessary. See Article B 403.2(a) of Specifications.

**PILE CAPACITY AND LENGTH:** Piles shall be driven to approximate refusal. Determine pile lengths by Articles F103 and F203 of Specifications.

**REINFORCING STEEL COVERING:** Reinforcing steel covering shall be 1/2 inches minimum in the top and 1 inch minimum in bottom of floor slabs, 3 inches in footings, except bottom steel which shall be 4 inches, and 2 inches in all other parts unless noted.

**PIER CONCRETE:** Concrete in footings and pier stems to be Class 'C'.

**SUPERSTRUCTURE CONCRETE:** Concrete in superstructure, including railing, to be Class 'F'.

**END BENT CONCRETE:** Concrete in end bents to be Class 'F'.

**MISCELLANEOUS CONCRETE:** Concrete in slopewall to be Class 'D'. Concrete in integral curb to be Class 'F'.

**CONCRETE JOINTS:** Continuous concrete pours shall be required between construction joints as shown on detail plans.

**WATERPROOFING:** Waterproof backs of mudwalls and wingwalls on end bents in accordance with Specifications.

**CONCRETE CHAMFER:** Bevel forms 1/4 inch under copings and chamfer exposed edges 1 inch unless noted.

**SLOPE PROTECTION:** Construct riprap at locations as shown on layout.

**PILE TOLERANCE:** Maximum tolerance in position of pile head is 2 inches for steel H piles.

**\* EXPANSION JOINTS:** Three 1-inch expansion joints with load transfer to be placed in the pavement as shown on Bridge Standard M5.

**RAILINGS:** All railing posts shall be constructed perpendicular to grade.

**SPECIAL PROVISIONS:** See Special Provisions for items included in this contract.

**DESIGN DATA:** Designed for HS 20-44 loading in accordance with 1965 AASHTO Specifications. Checked for a special loading consisting of 2-24,000 pound axes spaced 4'-0" apart.

**TYPICAL CROSS SECTION:** For I-465 typical sections, see Drawing 5, Roadway Plans.

**EXISTING STRUCTURE:** No present structure at proposed bridge site.

**SHOP DRAWINGS:** The Contractor shall prepare detailed working or shop drawings to enable him to fabricate, erect, and construct all parts of the work in conformity with the Engineer's drawings and specifications and shall submit 5 copies of these to the Engineer. See Article E 1103.2 of the Specifications.

**PAY ITEMS:** For pay items covering this structure, see Bridge Summary.

**CONDUIT:** Conduit shall extend 2'-6" beyond end of bridge floor.

**DRAINS:** 12 standard Type 1, Grate A roadway drains to be placed as shown on the General Plan. Top of bents 1 and 4 caps shall be sealed with two coats of epoxy resin sealer. See Special Provisions.

**NOTE:** 1 1/2" Exp. Joint same as 1" Exp. Jt. shown on Br. Std. C1 except for width.

**GENERAL PLAN**

Twin Continuous Steel Beam Bridges  
 3 Spans @ 35'-0", 14'-0", 35'-0"  
 51'-0" Roadways, 6' Curbs, No skew  
 Over Carmel Creek, on Interstate Route 465

**INDIANA STATE HIGHWAY COMMISSION**  
 MARION COUNTY

SCALE: As Shown  
 April 15, 1965

SUBMITTED FOR APPROVAL: Tom L. Woodward, P.E.

DRAWING: 32 OF 10  
 PROJECT: I-465-4(127) (North Leg)  
 BRIDGE CONTRACT NO. R-7391  
 BRIDGE FILE: I-465-127-5974

**NOTE:** Slab thickness as shown on plans to be increased to provide 2" top cover on slab steel. This change shall be made by raising grade on structure. No change in structure elevations is required except those affected by raising floor surface including coping and wingwalls. Top approach grade to be warped to match bridge floor. No revisions have been made in these plans for this change. See Special Provisions.

Dimensions and details are typical for both bridges unless otherwise shown.

\* Indicates Road Items

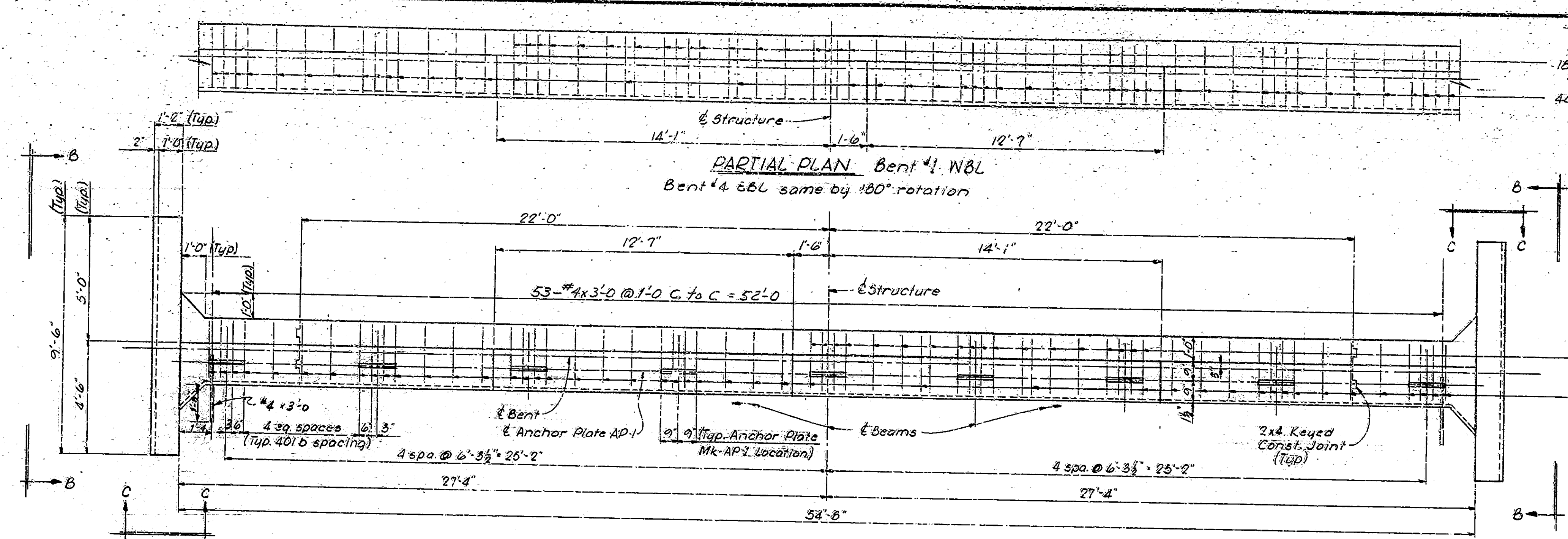
DESIGNED	PKD	CKD	GEA
DRAWN	PKD	CKD	GEA
TRACED		CKD	

**SECTION A-A**  
 Scale: 1/2" = 1'-0"

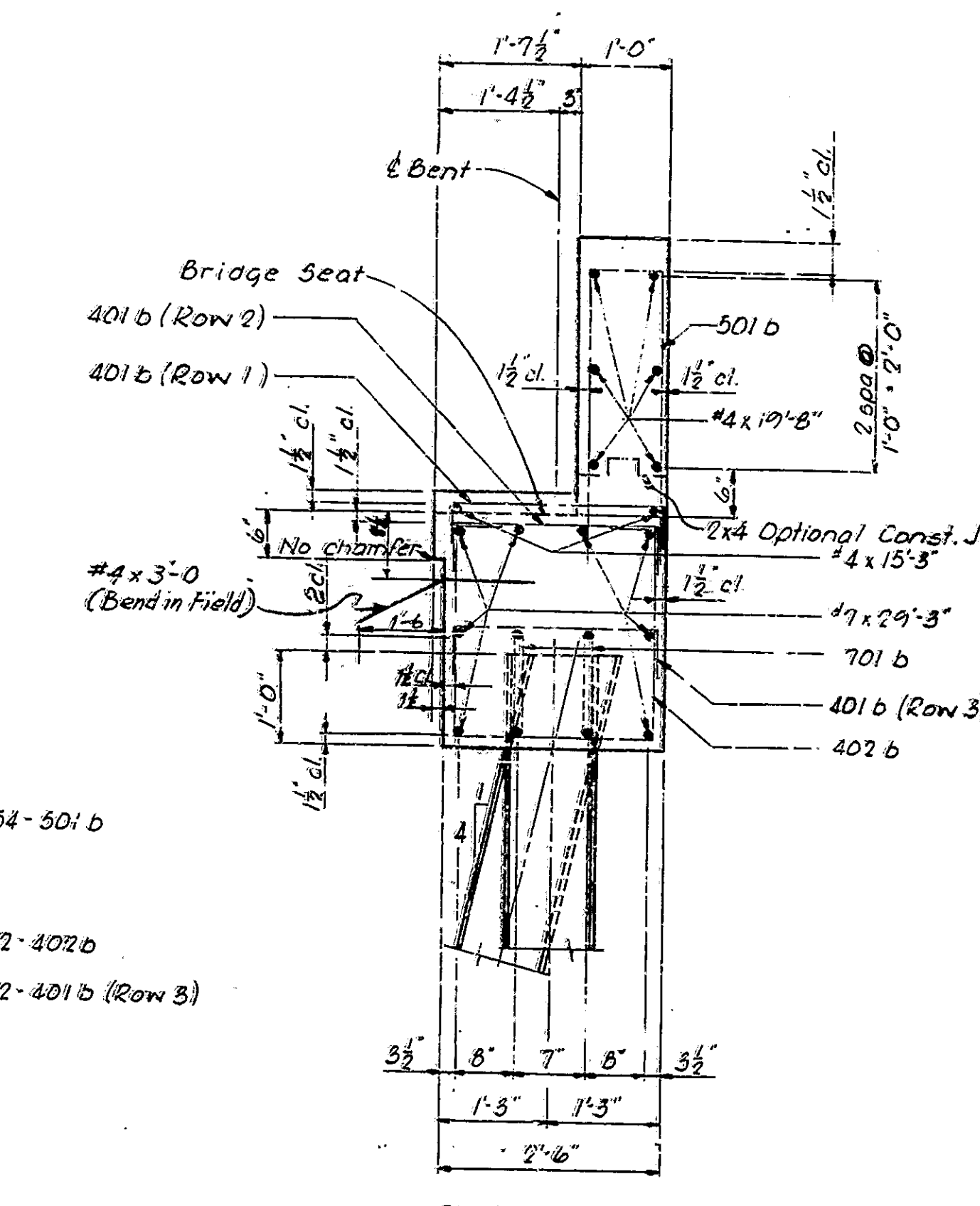
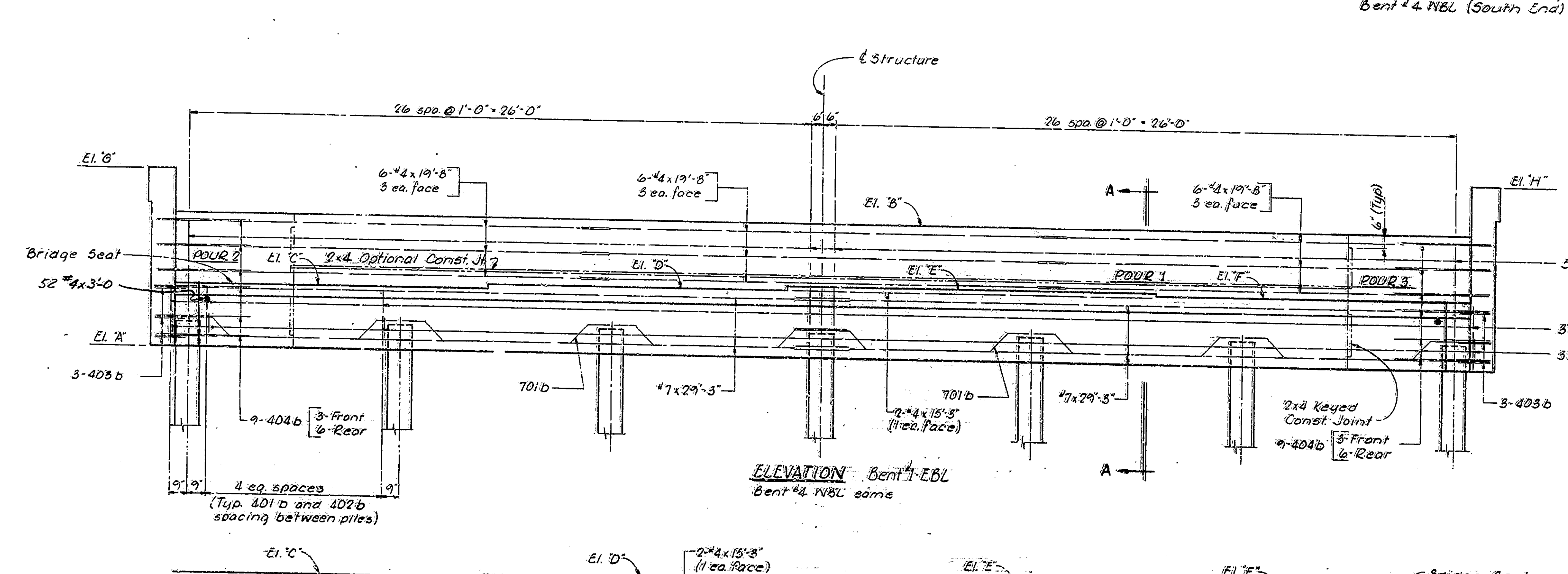
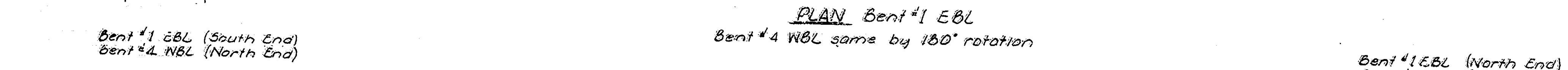
Rev. 3-23-67 Note  
 Rev. 2-14-67 Exp. Jt. 5' High Drains, Notes  
 Revised: 10-7-66 Std. Brwg. & Notes  
 Revised: 5-31-66 (Riprap)



BRIDGES OVER 20' SPAN						
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
4	IND.	1-465-4 (129) 127	1965	5	22	



**NOTES**  
 GENERAL NOTES: See Drawing 52 for General Notes.  
 ADDITIONAL NOTES: For additional notes and details see Drawing 54.



PARTIAL ELEVATION Bent #1 NBL  
 Bent #4 EBL same

Part not shown same as Bent #1 EBL

TABLE OF ELEVATIONS									
LOCATION	A	B	C	D	E	F	G	H	Berm
Bent #1-EB	735.86	739.25	736.365	736.340	736.680	736.555	740.25	731.77	735.86
Bent #4-EB	734.43	739.84	737.150	737.135	737.110	736.780	741.71	731.49	734.43
Bent #1-NB	735.86	739.25	736.585	736.560	736.840	736.565	741.77	740.55	735.86
Bent #4-NB	732.45	739.84	736.280	737.110	737.255	737.150	741.49	731.71	732.45

**BENT DETAILS**  
**INDIANA STATE HIGHWAY COMMISSION**  
 SCALE:  $\frac{3}{8}$ " = 1'-0" unless noted April 15, 1965  
 SUBMITTED FOR APPROVAL: Tom B. Anderson PE  
 DRAWING: 53 OF 10  
 PROJECT: 1-465-4 (129) 127  
 BRIDGE CONTRACT NO. R-7391  
 BRIDGE FILE: 1-465-127-5-74

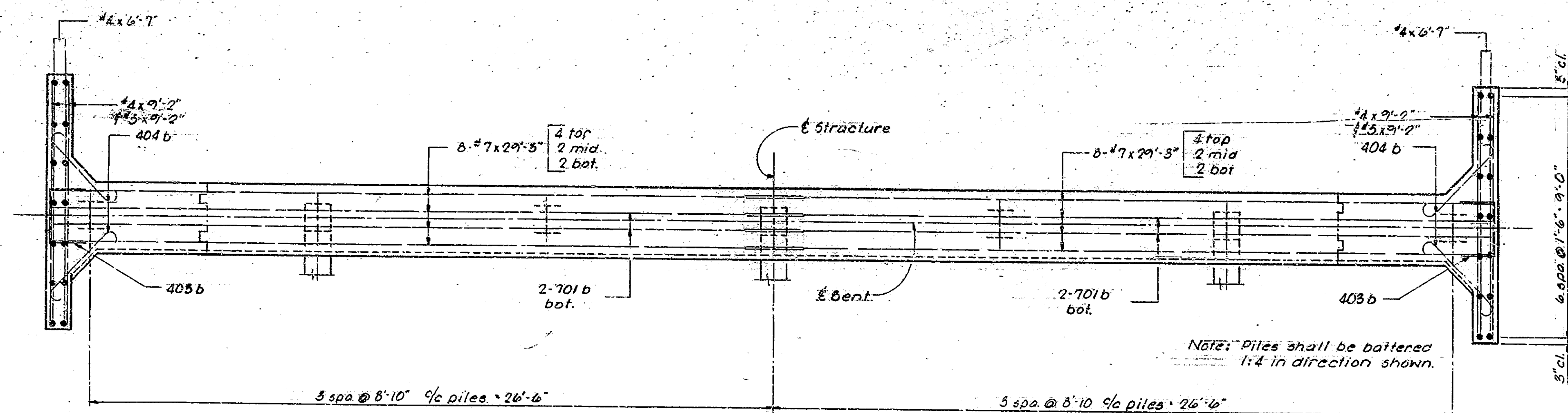
DESIGNED: PND CKD: GEA  
 DRAWN: PND CKD: GEA  
 TRACED: CKD

Revised: 2-16-67 Br. Sept Elev D&E  
 Revised: 5-31-66 Reinf. Steel

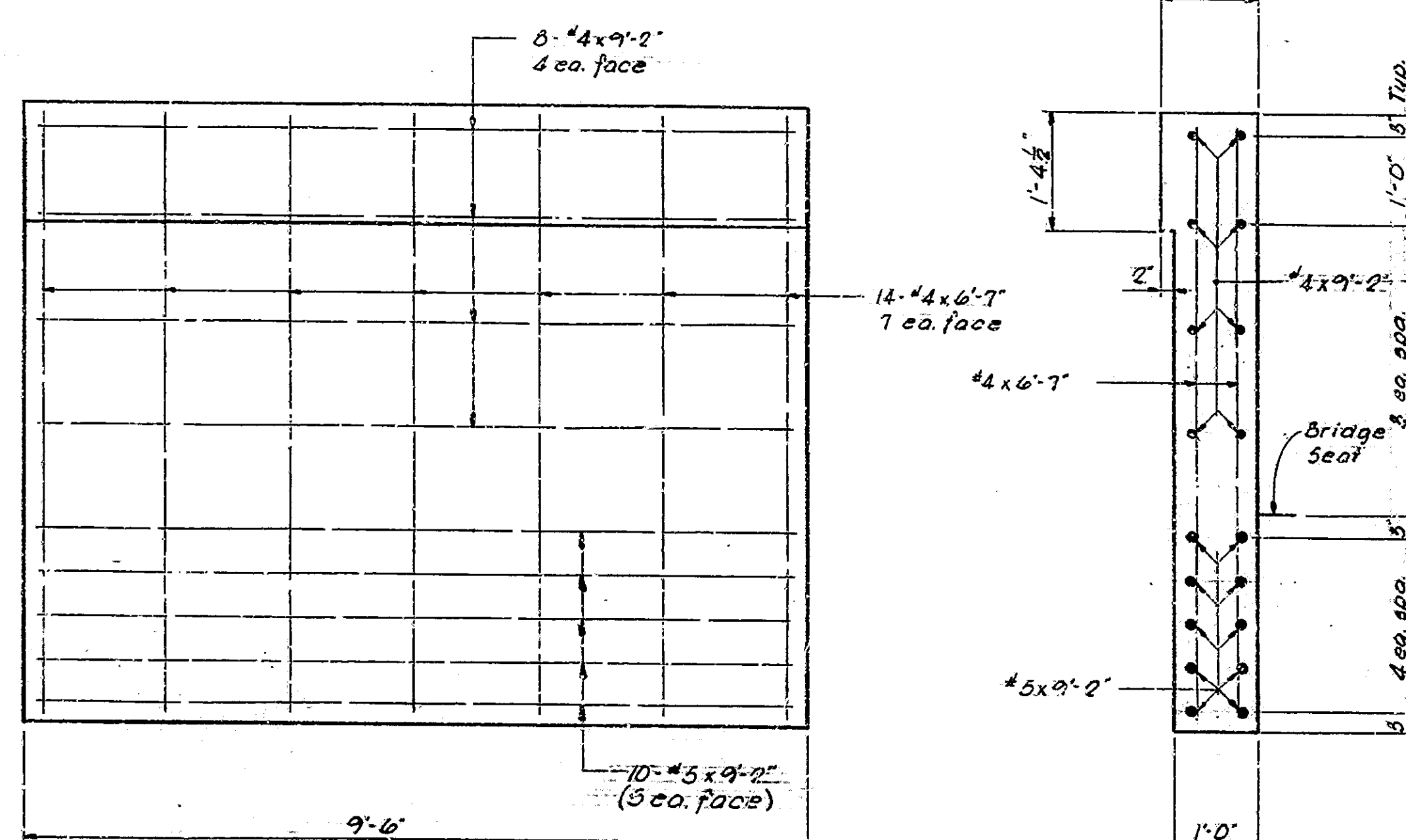
BRIDGES OVER 20' SPAN					
PUB. ROAD	STATE	PROJECT	FISCAL	SHEET	TOTAL
NO.		NO.	YEAR	NO.	SHEETS
4	IND.	1-465-4	1965	6	22

BILL OF MATERIALS  
BENT 1-EB  
(All others same)

CONCRETE			
SIZE AND MARK	Nº OF BARS	LENGTH	WEIGHT
701b	4	31.7	258
#7	16	29.3	957
	<b>Total #7</b>		<b>1215</b>
501b	54	8.5	474
#5	20	9.2	191
	<b>Total #5</b>		<b>665</b>
401b	96	5.3	208
402b	32	7.9	146
403b	6	5.5	22
404b	18	4.9	57
#4	18	19.8	236
#4	16	9.2	98
#4	20	6.7	129
#4	2	15.3	20
#4	53	3.0	106
	<b>Total #4</b>		<b>1036</b>
	<b>Total Steel</b>		<b>2916**</b>
CLASS F CONCRETE			
Pour 1			15.2 CY
Pour 2			4.7 CY
Pour 3			4.7 CY
	<b>Total</b>		<b>24.6 CY</b>
MISCELLANEOUS			
Anchor Plates Mk-AP-1			9 each
7-12BP55 Steel "H" Bearing Piles @ 42'			294 LF



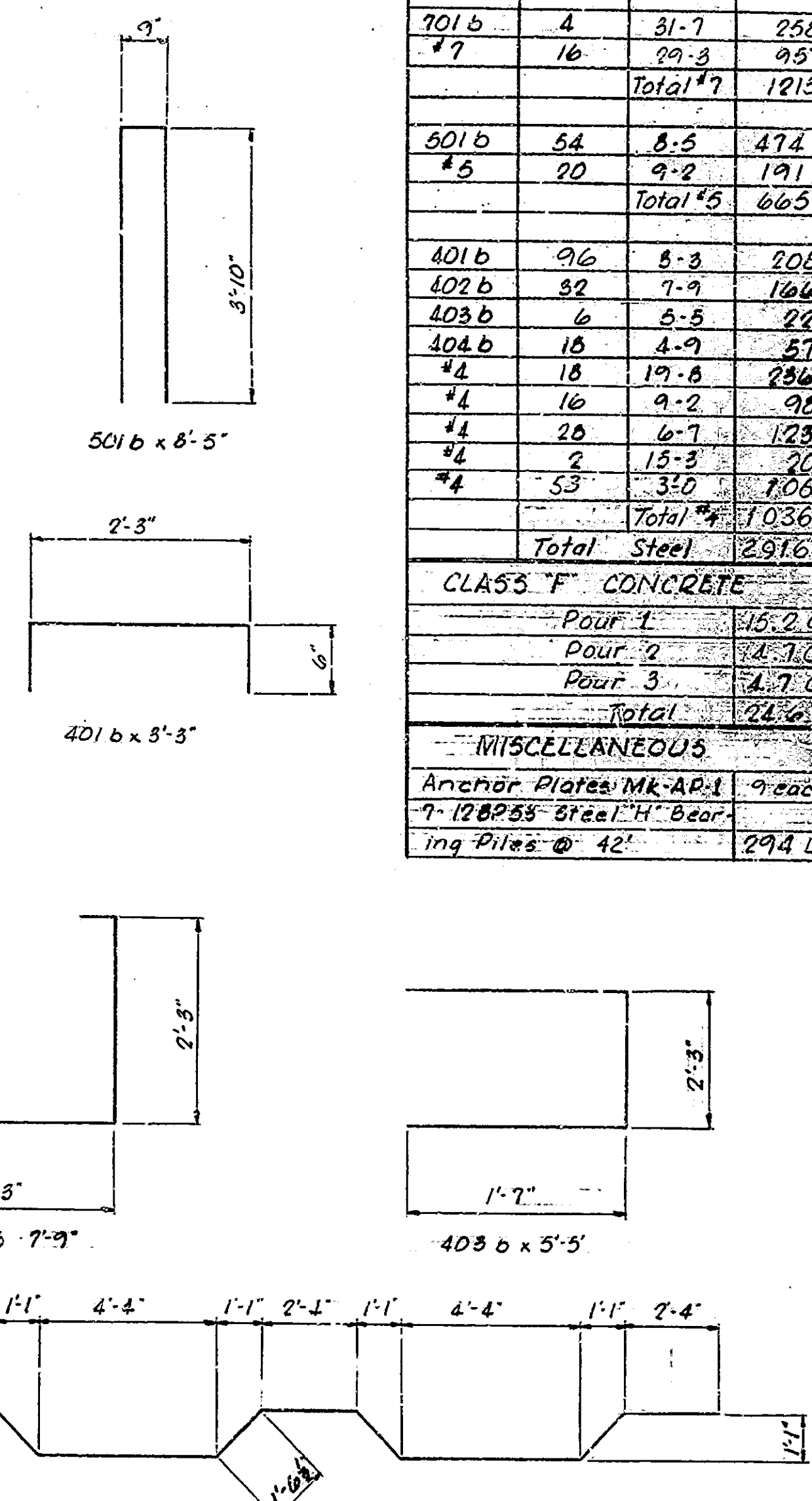
CAP PLAN  
Scale: 3/8" = 1'-0"



NOTES

BENT CAP: Bent cap shall not be poured until after fill has been completed up to approximate elevation of bottom of cap.  
 PILES: 12 BP55 Steel "H" Bearing Piles to be driven to approximate refusal. Approximate pile length is 42 feet.  
 TOP OF MUDWALL: Top of mudwall shall be trowelled smooth. Cover horizontal surface with one layer of medium weight roofing felt.

ANCHOR PLATES: Anchor plates MK-AP-1 to be pre-set in concrete.  
 REINFORCING STEEL: For reinforcing bar notes, see Bridge Standard C.  
 GENERAL NOTES: See Drawing 52 for General Notes.  
 ADDITIONAL DETAILS: For additional details see Drawing 55.



BENT DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE: As shown April 15, 1965.

SUBMITTED FOR APPROVAL: Tom J. [Signature]

DRAWING: 54 OF 10  
 PROJECT: I-465-4 (129)127  
 BRIDGE CONTRACT NO. R-7391  
 BRIDGE FILE: I-465-121-5274

DESIGNED	P.E.L.D.	CKD	G.E.A.
DRAWN	P.E.L.D.	CKD	G.E.A.
TRACED		CKD	

\*NOTE:  
As an alternate a 3/8" x 9" long headed automatic welded stud may be used.

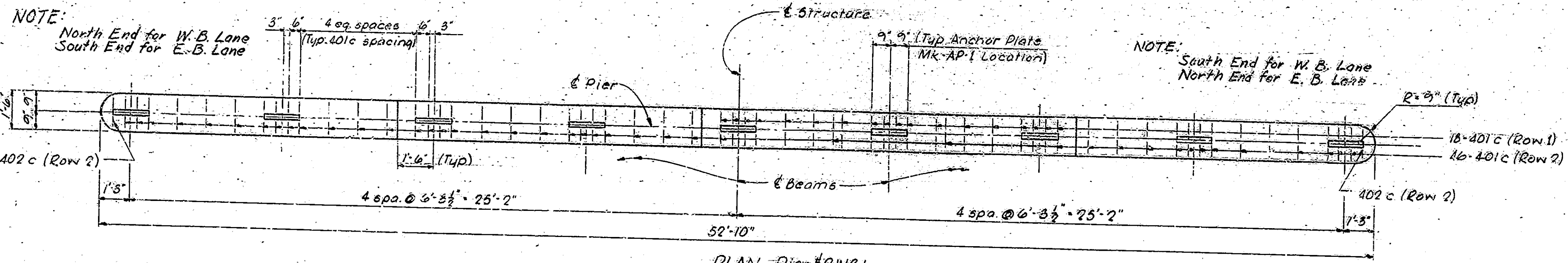
ANCHOR PLATE MK-AP-1 DETAIL

Scale: 1" = 1'-0"

Revised: 10-6-66 Anchor & Detail  
 Revised: 5-31-66 (Bill of Material)

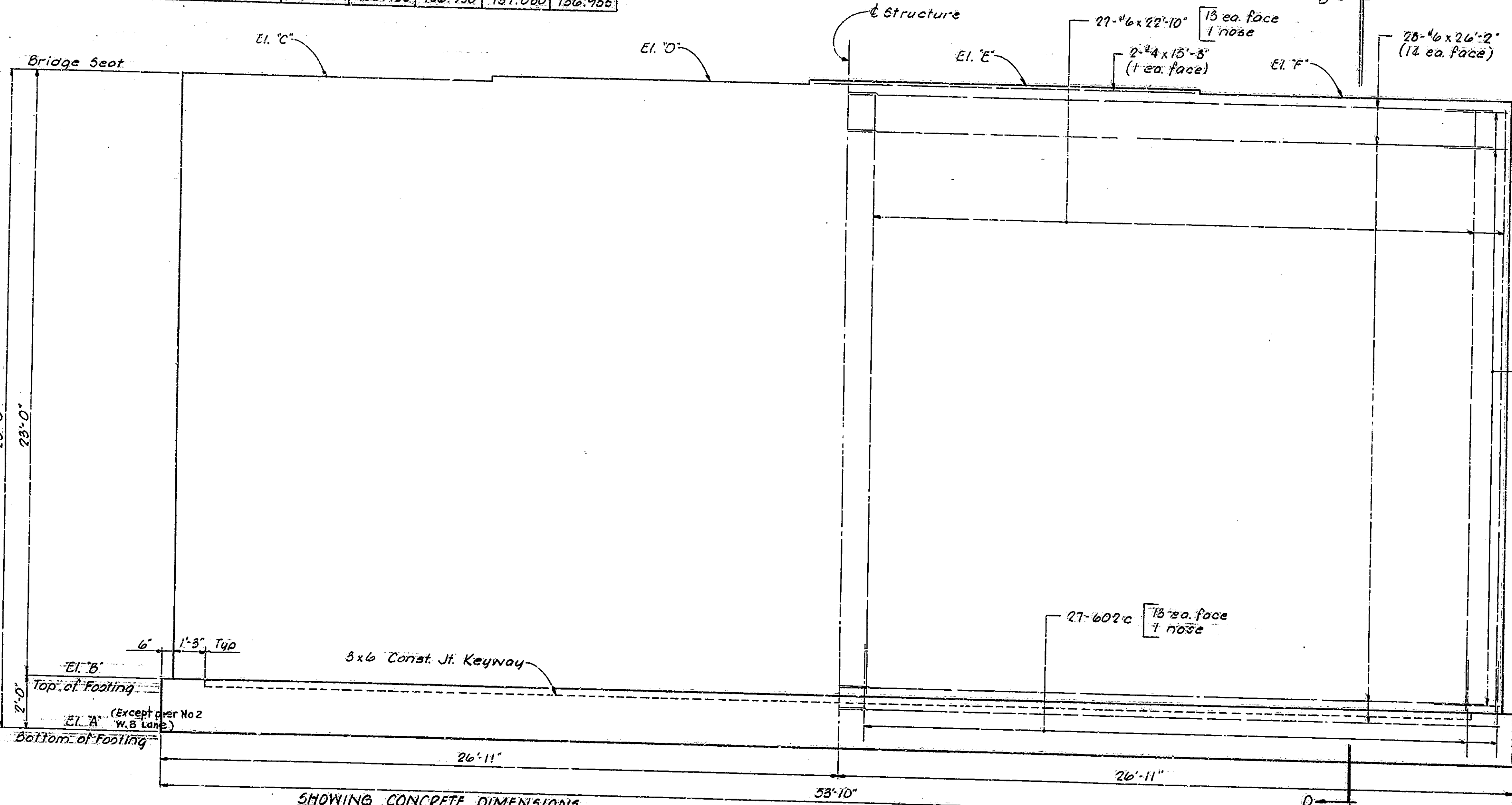


BRIDGES OVER 20' SPAN					
Road No.	State	Project No.	Fiscal Year	Sheet No.	Total Sheets
4	IND.	1-465-4 (129)127	1965	7	22



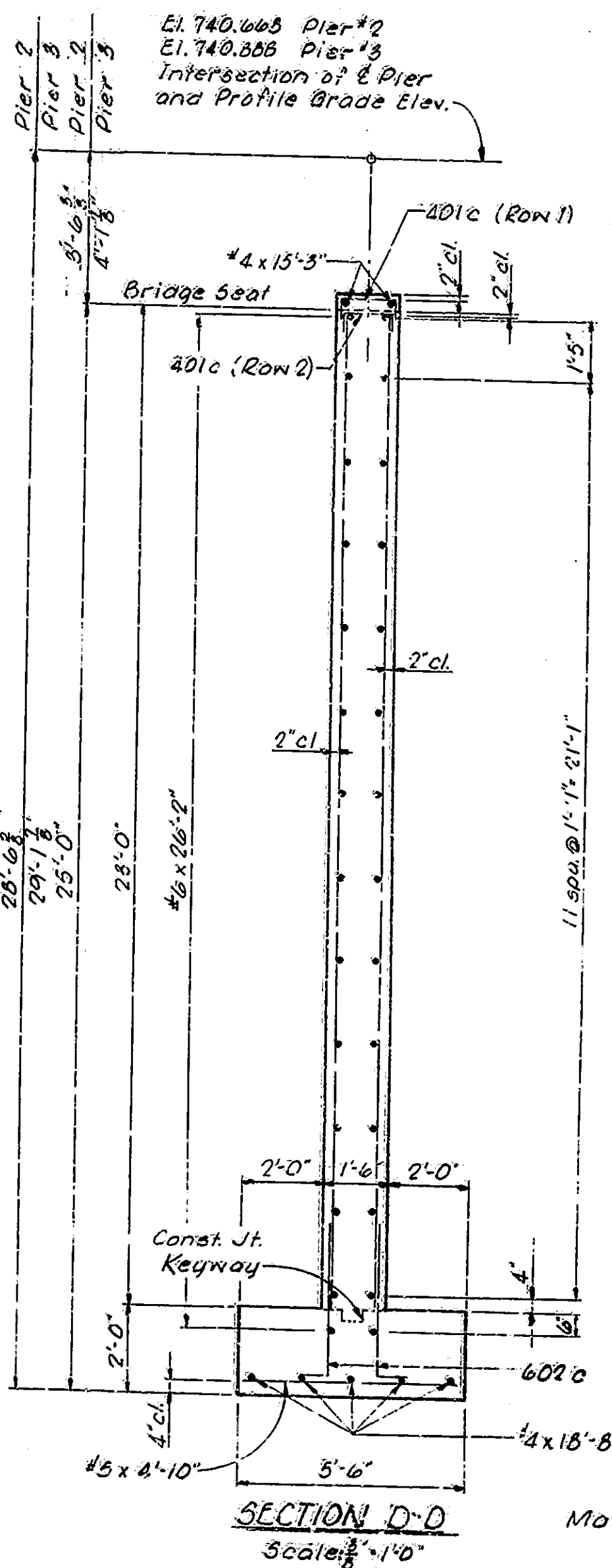
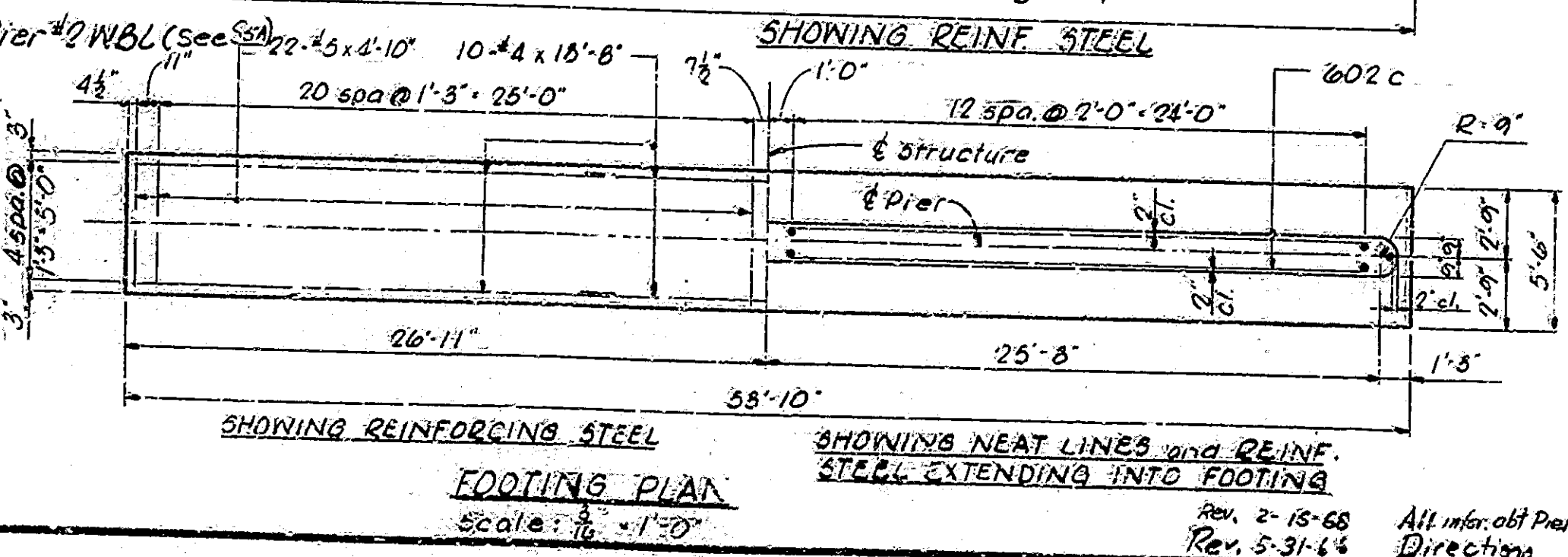
LOCATION	A	B	C	D	E	F
Pier 2	712.14	714.14	717.140	717.340	717.485	717.660
Pier 3	711.74	713.74	716.735	716.930	717.080	716.955

PLAN Pier #2 WBL  
Scale: 3/8" = 1'-0"  
Pier #3 WBL Same  
Pier #2 EBL same by 180° rotation  
Pier #3 EBL same as Pier #2 EBL



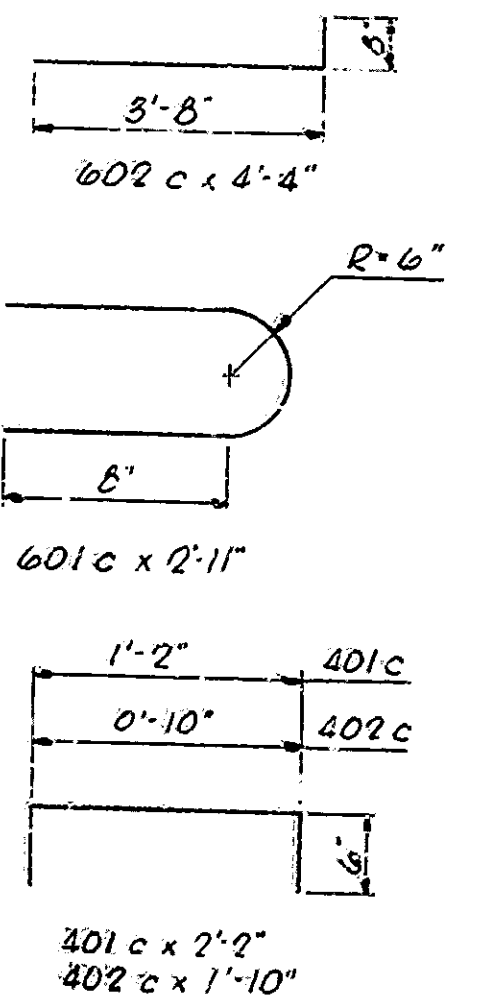
NOTES  
ANCHOR PLATES: Anchor Plates MK-AP-1 to be pre-set in concrete. See Drawing S-4 for detail.  
REINFORCING STEEL: For reinforcing bar notes, see Bridge Standard C.  
GENERAL NOTES: See Drawing S2 for General Notes.

ELEVATION Pier #2 WBL (See Section)  
Scale: 3/8" = 1'-0"  
Pier #3 WBL Same  
Pier #2 EBL same by 180° rotation  
Pier #3 EBL same as Pier #2 EBL



BILL OF MATERIALS  
Pier 2 - Eastbound  
(All others same)

REINFORCING STEEL			
SIZE AND MARK	N <sup>o</sup> OF BARS	LENGTH	WEIGHT
401c	26	2-11	114
402c	54	4-4	351
#6	34	22-10	1882
#6	56	26-2	2201
	Total #6		4518
#5	44	4-10	222
401c	64	2-2	93
402c	2	1-10	2
#4	2	15-3	20
#4	15	18-8	187
	Total #4		302
	Total steel		5042
CLASS E CONCRETE			
Footing			21.9 CY
Above Footing			66.4 CY
	Total		88.3 CY
MISCELLANEOUS			
Anchor Plates MK-AP-1			9 each



INDIANA STATE HIGHWAY COMMISSION

SCALE: As Shown  
April 13, 1965  
SUBMITTED FOR APPROVAL: Tom J. Henderson, P.E.  
DRAWING: 55 OF 10  
PROJECT: 1-465-4 (129) 127  
BRIDGE CONTRACT NO. R-7391  
BRIDGE FILE: 1-465-129-5274

DESIGNED	FWD	C.R.O.	G.E.A.
DRAWN	FWD	C.R.O.	G.E.A.
TRACED		C.R.O.	

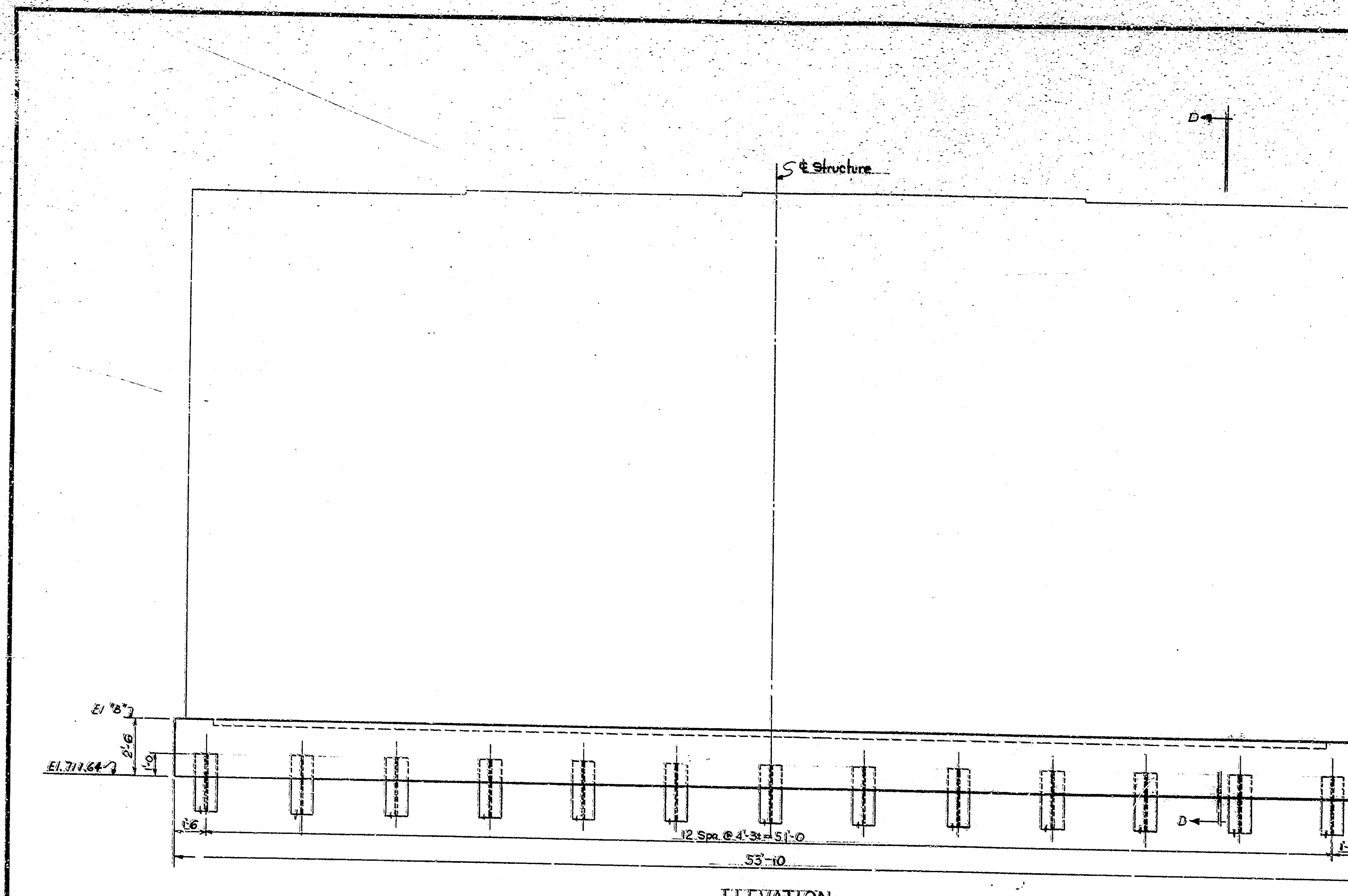
PROJECT NO.	LINE	SHEET	TOTAL SHEETS	FILE
1-465-4 (129) 127	"	7	22	

BRIDGES OVER 20' SPAN					
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4(129)127	1965	7A	22

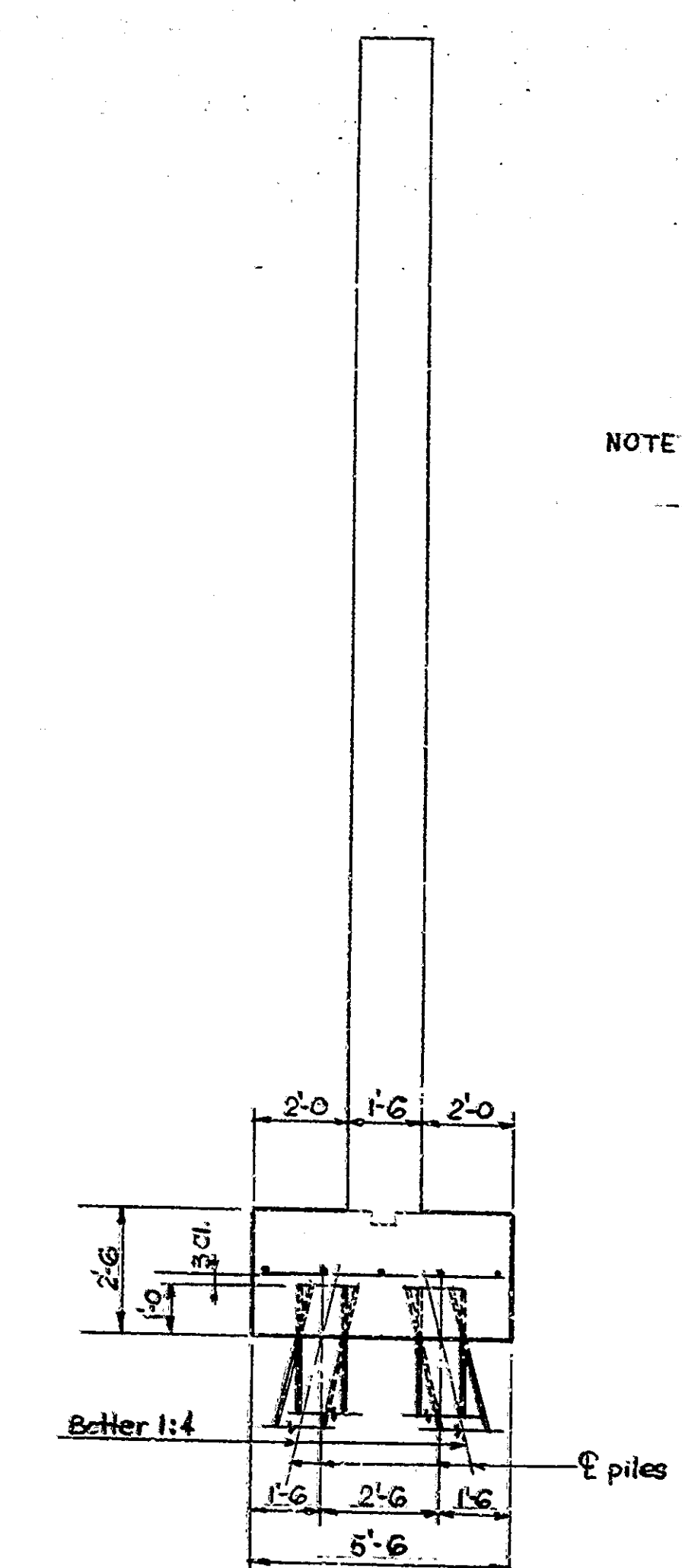
**BILL OF MATERIALS**

CLASS E CONCRETE	
Footing (TOTAL)	274 C.Y.
MISCELLANEOUS	
26-12 B.E.S. Steel "H" Brg. Piles @ 20'-0"	1520 L.F.
Additional wet excavation = 9 C.Ys.	

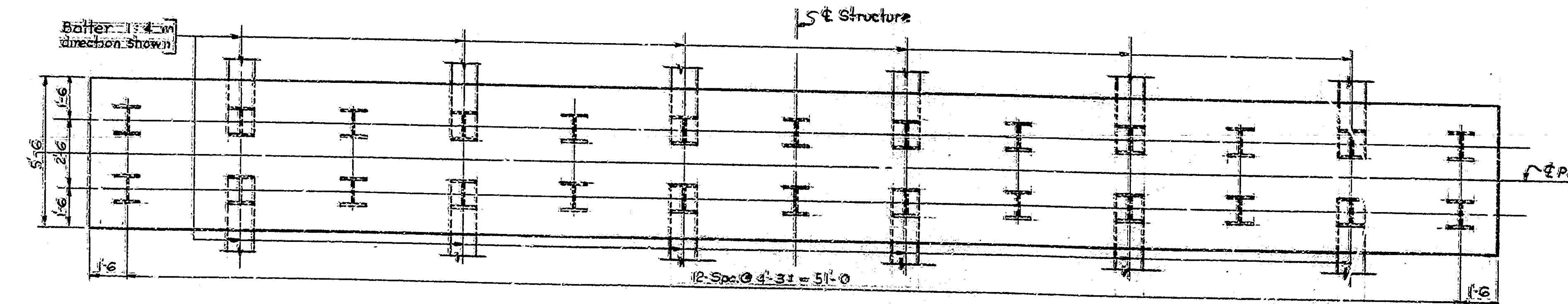
NOTE: For quantities and details not shown see drwg. SS.



**ELEVATION**  
Scale: 3/8" = 1'-0"



**SECTION D-D**  
Scale: 3/8" = 1'-0"



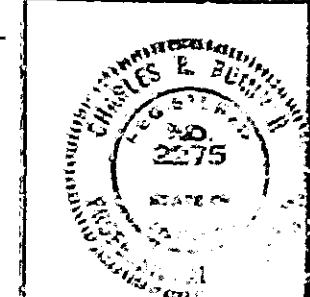
**FOOTING PLAN**  
Scale: 3/8" = 1'-0"

PILES: 26-12 B.E.S. Steel "H" Brg. Piles to be driven to approximate refusal.

DESIGNED	JCHD
DRAWN	T.E.H. 2/16/68
TRACED	CHD

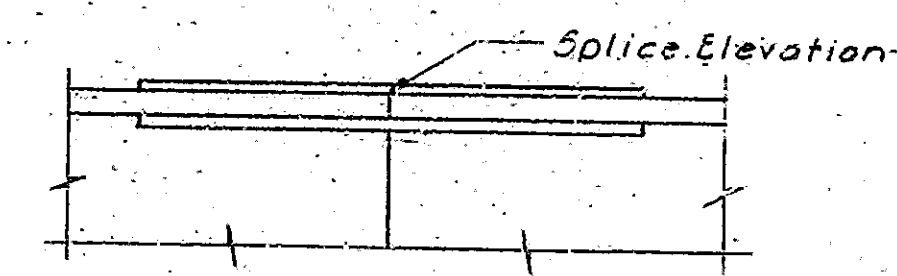
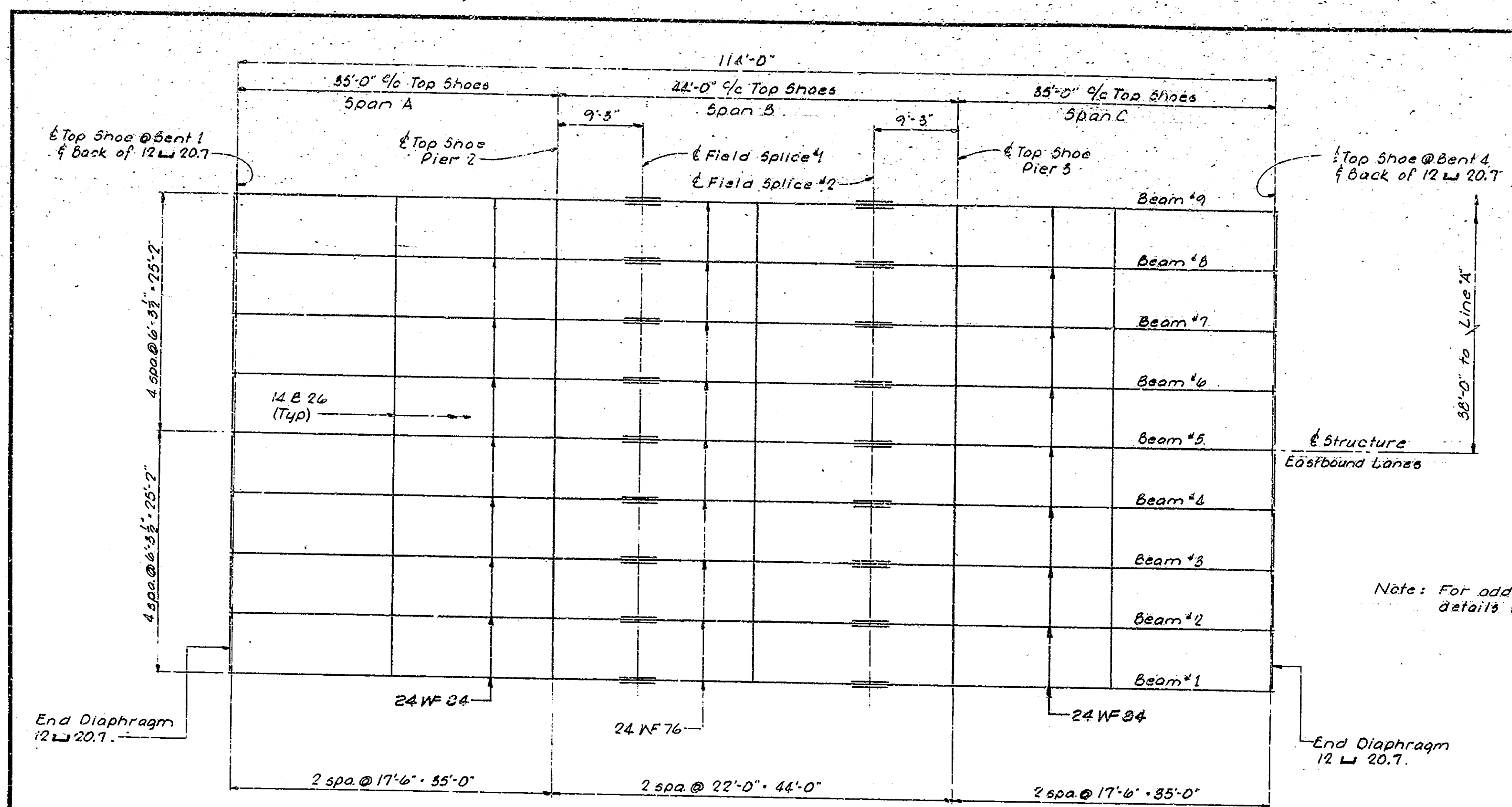
**PIER No. 2 W.B. LANE DETAILS**  
**INDIANA STATE HIGHWAY COMMISSION**

SCALE: AS SHOWN  
RECOMMENDED FOR APPROVAL: *C.R. Rummel*  
DRAWING: SMOE10  
PROJECT: I-465-4(129)127  
BRIDGE CONTRACT NO. R-7391  
BRIDGE FILE: I-465-127-5274  
FEB. 16, 1968.





BRIDGES OVER 20' SPAN					
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	1465-4(129)127	1965	8	22



Note: Splice elevations are given to top of beam flange. Indicated elevations may vary 0.02'.

Beam	#1	#2	#3	#4	#5	#6	#7	#8	#9
Splice #1	739.325	739.910	740.010	740.075	740.135	740.205	740.190	740.195	740.015
Splice #2	739.955	740.040	740.140	740.225	740.265	740.335	740.320	740.255	740.175

Beam	#1	#2	#3	#4	#5	#6	#7	#8	#9
Bent 1	0	15/16	0	1	0	3/16	3/8	1/8	0
Bent 2	1/8	1 1/16	1/8	1 1/8	1/8	1/16	1/2	1 1/4	1/8
Bent 3	1/8	1 5/16	1/8	1 1/8	1/8	1/16	1/2	1 1/4	1/8
Bent 4	0	15/16	0	1	0	3/16	3/8	1/8	0

Temperature	0'	20'	40'	60'	80'	100'	120'
Bent 1 Dim. A	1 1/16	3/8	3/16	1/2	7/16	3/8	5/16
Bent 4 Dim. A	7/8	3/4	5/8	1/2	3/8	1/4	1/8

Temperature	0'	20'	40'	60'	80'	100'	120'
Dim. A	3/16	1/8	1/16	0	0	1/16	1/8
Dim. B				0	1/16	1/8	3/16

**FRAMING PLAN**  
Scale: 1/8" = 1'-0"  
(Symmetrical about Line X)

**SUPERSTRUCTURE GENERAL NOTES**

**STRUCTURAL STEEL:** All structural steel shall conform to ASTM A-36, unless otherwise noted.  
**BOLTS:** All H.S. Bolts shall be 1/2 inch diameter and holes 5/16 inch diameter, unless noted.  
**TOP SHOE CONNECTION:** Diameter of holes in all material connecting top shoes to beam flanges shall be 1"  $\phi$ .  
 Bolts connecting beam flange to top shoe shall extend into top shoe a minimum of 1 inch.  
**SHOP DETAILS:** The shop details shall show a plan of match-marking for all reamed pieces.  
**SPLICE PLATES:** All splice plates to be removed, cleaned and painted after reaming. Splice plates shall not extend beyond the end of beam after bolting for shipment.  
**CAMBER:** Beams to be straight within a tolerance of 3/8 inch at center. If camber exists, lay out beams with camber up. Beams shall be checked for camber while supported in such a way as to have no bending moment in the direction of camber.  
**FIELD SPLICES:** All structural steel shall be erected and beams adjusted to their proper elevations using full size drift pins in a minimum of fifty (50) percent of the flange splice holes and fifty (50) percent of the web splice holes. The elevation shall be checked before bolting field splices and with beams unsupported by any falsework. See table for elevations of splices. Rivets shall not be used in the assembly of structural steel.

**SHIMS:** Shims between beams and top shoes may be built up. No shim shall be less than 3/8 inch in thickness.  
**ERECTOR MARKS:** Eastbound and Westbound structures shall have separate erection marks.  
**PAINTING:** All paint shall be in accordance with current State Highway Specifications.  
 Shop Paint }  
 Field Paint } **Basic Lead Silico Chromate (See Special Provisions)**  
 As soon as the Engineer has approved the field welds, all welds and any surface from which the shop coat has been omitted or becomes worn off or has otherwise become defective shall be thoroughly cleaned of all charred paint or any foreign matter and completely covered with one coat of shop paint.

**WELDING:** All welding shall conform to the current AWS Specifications for Welded Highway and Railway Bridges unless otherwise noted.

**GENERAL NOTES:** See Drawing 52 for General Notes.

\*The weight of High Strength Bolts is not included in the estimated weight of structural steel. The cost of these bolts shall be included in the cost of structural steel.

\***STRUCTURAL STEEL:** Estimated weight of structural steel: W.B.L. (E.B.L. Same).  
 ASTM-A36 = 99,200 pounds  
 ASTM-A441 = 5,600 pounds  
 Total = 104,800 pounds

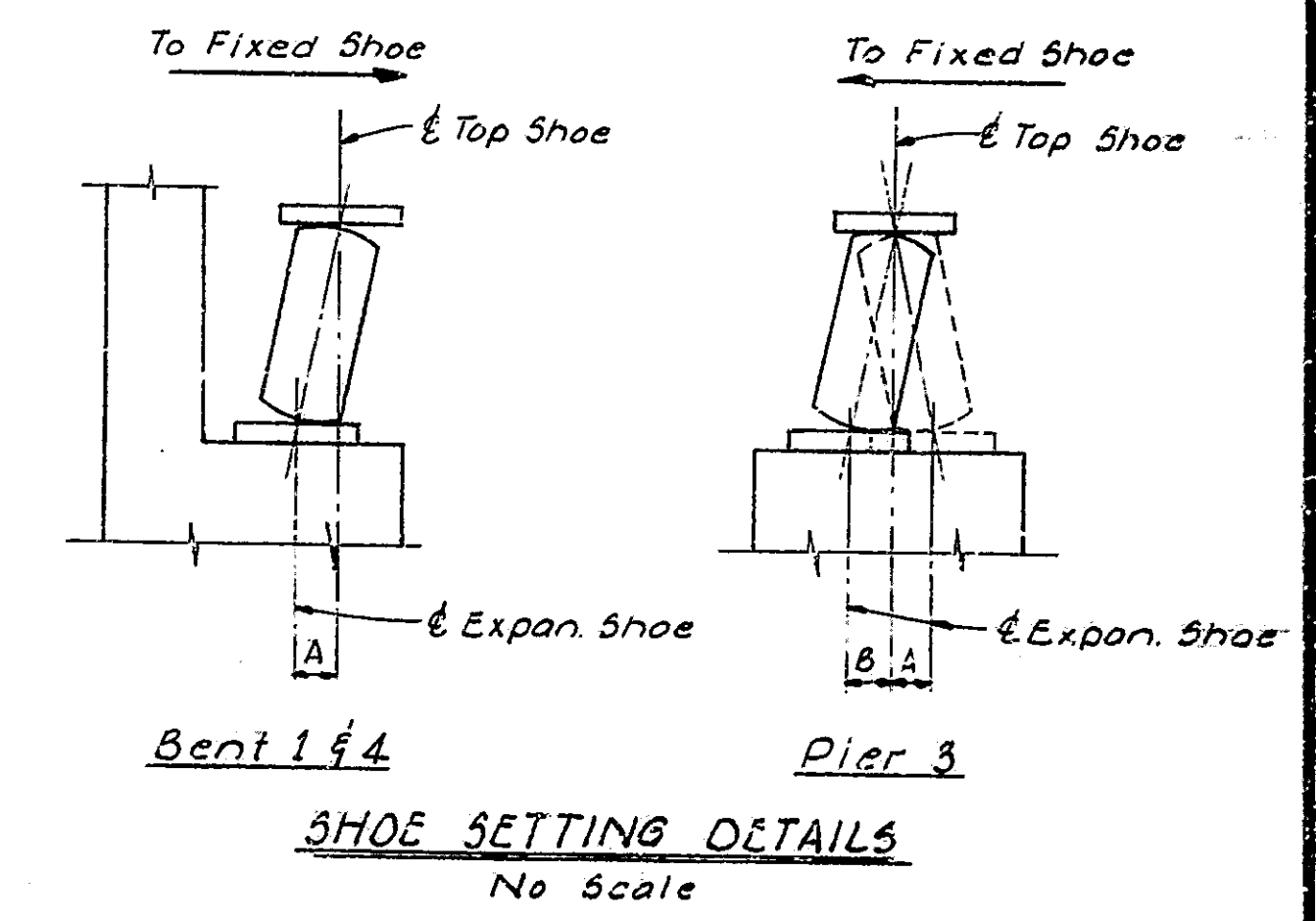
**DATA USED FOR DESIGN AND DETAILS**  
**LIVE LOAD:** HS 20-44 loading with impact and distribution of loads in accordance with 1965 AASHTO Specifications. Checked for special loading consisting of 2-24,000 pound axles spaced 4'-0" apart.  
**DEAD LOAD:** Actual weight plus 35 pounds per square foot of roadway to provide for future wearing surface.  
**SLAB:** Designed for 16,000 pound wheel plus impact, and with 1/2" monolithic wearing surface.

**UNIT STRESSES (Structural Steel)**

Bending, Tension or Compression		
A 36	20,000	#/sq. in.
A 441 (3/8 inch and under)	27,000	#/sq. in.
A 441 (3/8 inch to 1 1/2 inch incl.)	24,000	#/sq. in.
Shear in Fillet Welds		
A 36	12,400	#/sq. in.
A 441	14,700	#/sq. in.
Shear in High Strength Bolts	15,500	#/sq. in.

Bearing Steel on Concrete (Including Overturning and Eccentric Loading)	1000	#/sq. in.
Reinforcing Steel (Tension)	20,000	#/sq. in.
Concrete (Compression)	1200	#/sq. in.

**DIAPHRAGM CONNECTIONS:** Diaphragm connections to beams may be bolted in lieu of field welded connections. If the Contractor elects to use connections other than those shown on the contract plans he shall submit details to the Engineer for approval. The Contractor shall assume full responsibility for layout of all diaphragm connections and for the accuracy of all fitted parts. No increase in pay weight will be permitted.



**FRAMING PLAN**  
**INDIANA STATE HIGHWAY COMMISSION**

SCALE: As Shown  
 SUBMITTED FOR APPROVAL: Tom R. McDonald, P.E.

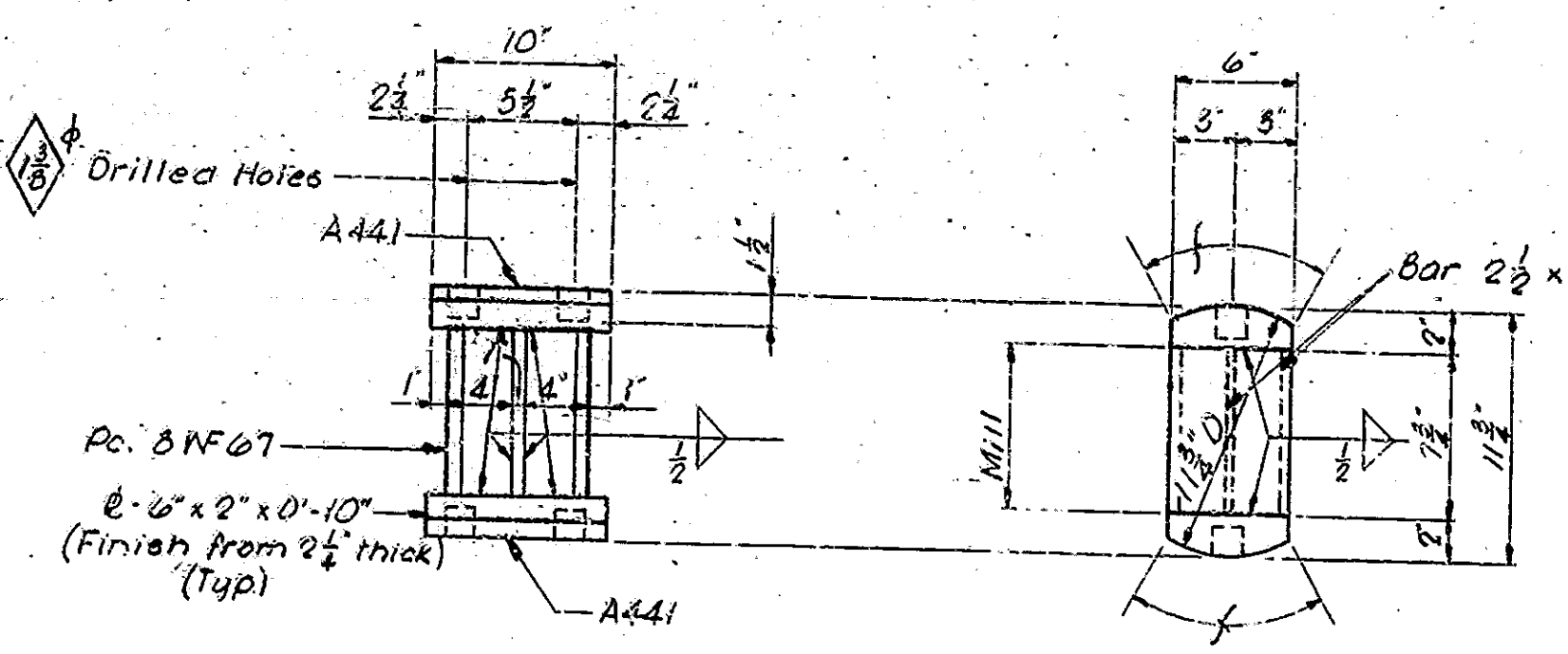
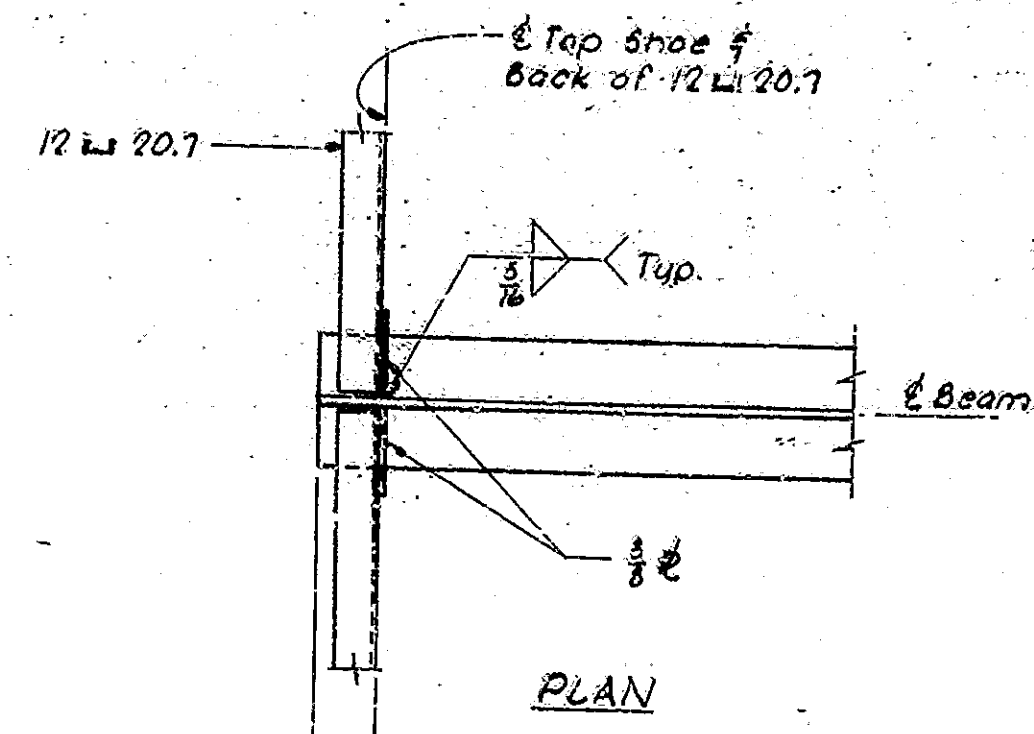
April 15, 1965  
 DRAWING: 56 OF 10  
 PROJECT: I-465-4(129)127  
 BRIDGE CONTRACT NO. R-7391  
 BRIDGE FILE: I-465-127-5274

DESIGNED: PND	CWD	GEA
DRAWN: PND	CWD	GEA
TRACED:	CWD	

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
1465-4(129)127	4	8	22	

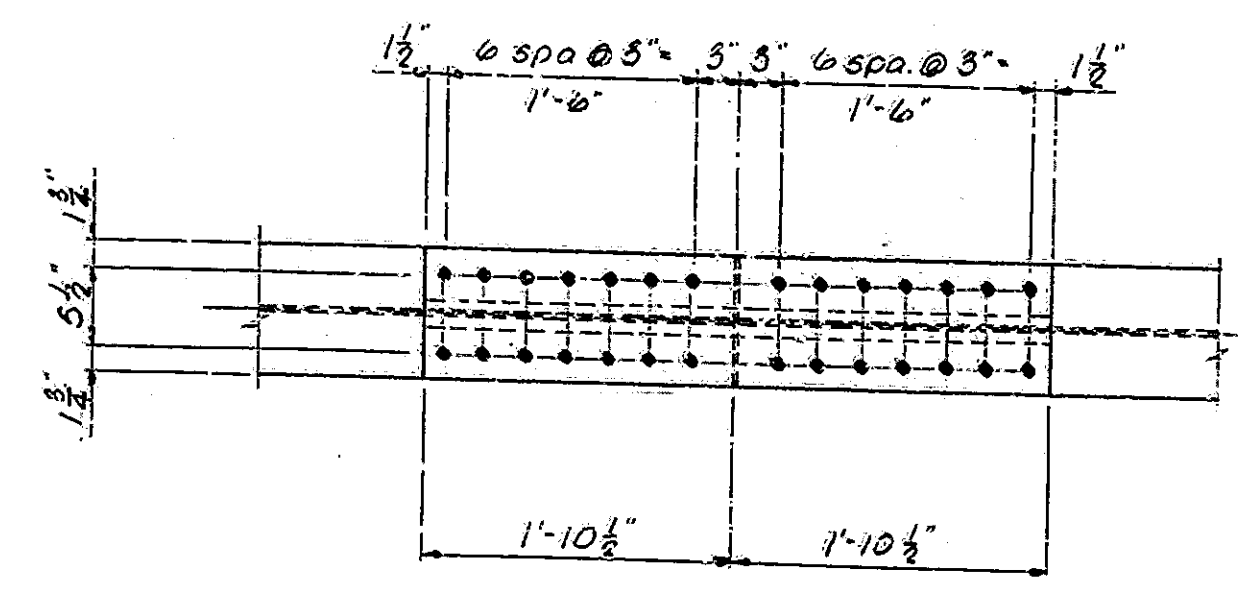


BRIDGES OVER 20' SPAN				
PUB. ROAD RES. NO.	STATE	PROJECT NO.	FISCAL YEAR	TOTAL SHEETS
4	IND.	1-465-4(129)127	1965	22

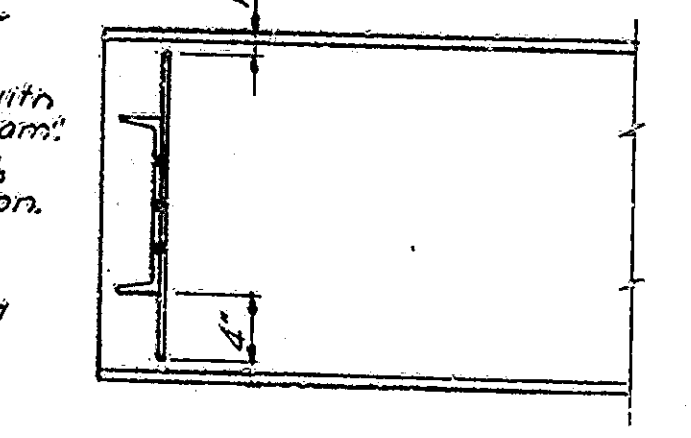


NOTE: Curved surfaces of shoes to be machined after weldments have been completed.

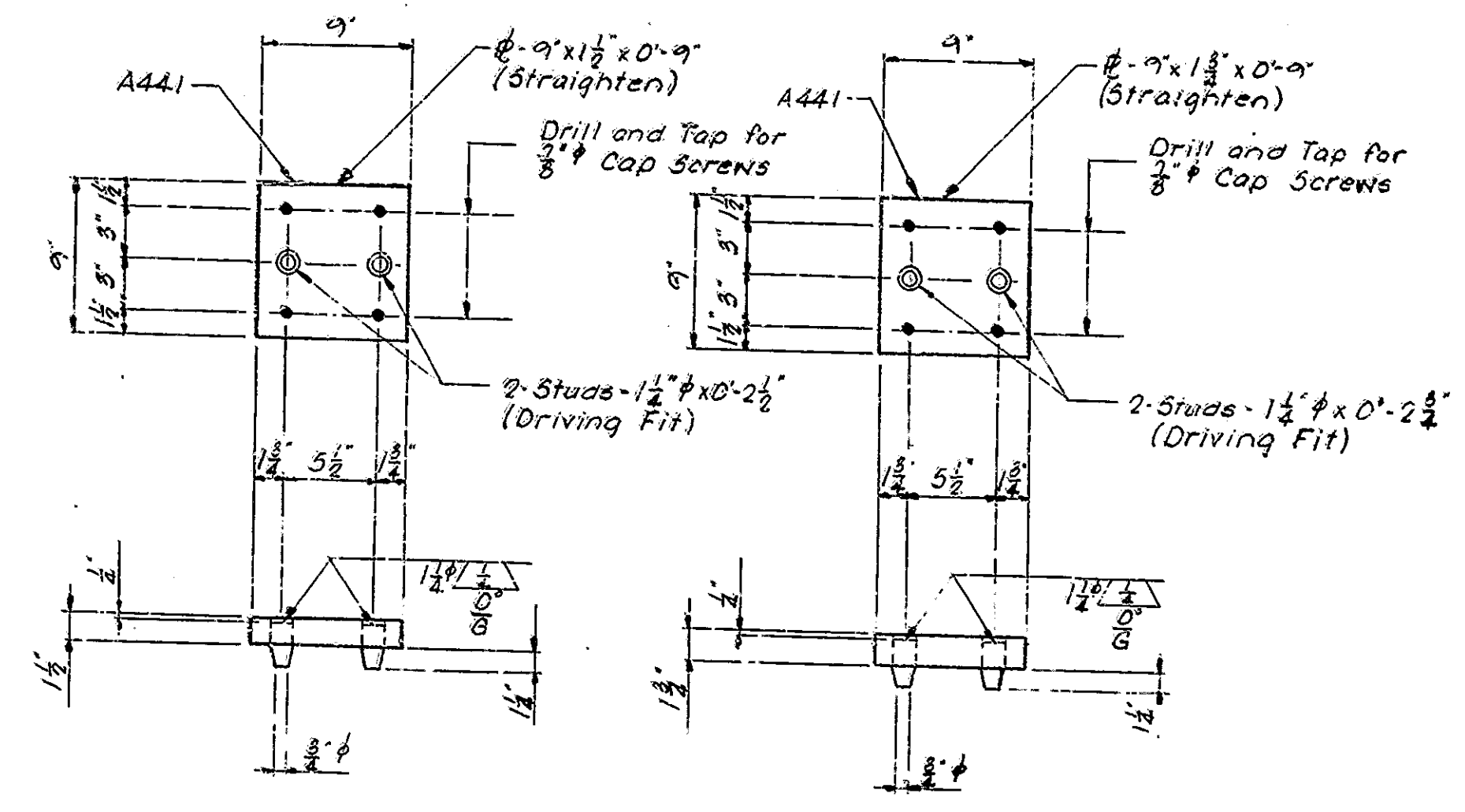
EXPANSION SHOE (Bents 1 & 4 of Pier 3)  
Scale: 1 1/2" = 1'-0"



**Holes for beam splices:** Holes for beam splices shall be subpunched or subdrilled and reamed to size while assembled. See Article E.1108.18(a) of the Specifications.  
**REAMING:** The Shop Plans shall indicate whether reaming or drilling is to be done in shop or field. If shop reaming or drilling is used, the beams shall be assembled in accordance with the "No Load Camber and Reaming Diagram". If the beams are shop reamed or drilled, full size drift pins shall be used in erection.  
**FLANGE SPLICE BARS:** Flange splice bars shall have planed or rolled edges and holes in bars shall be subdrilled and reamed or drilled full size while assembled.  
**SHOE ASSEMBLIES:** All structural steel used in shoe assemblies shall conform to ASTM A36 unless noted.  
**SUPERSTRUCTURE GENERAL NOTES:** For additional notes and details, see Drawing 56.



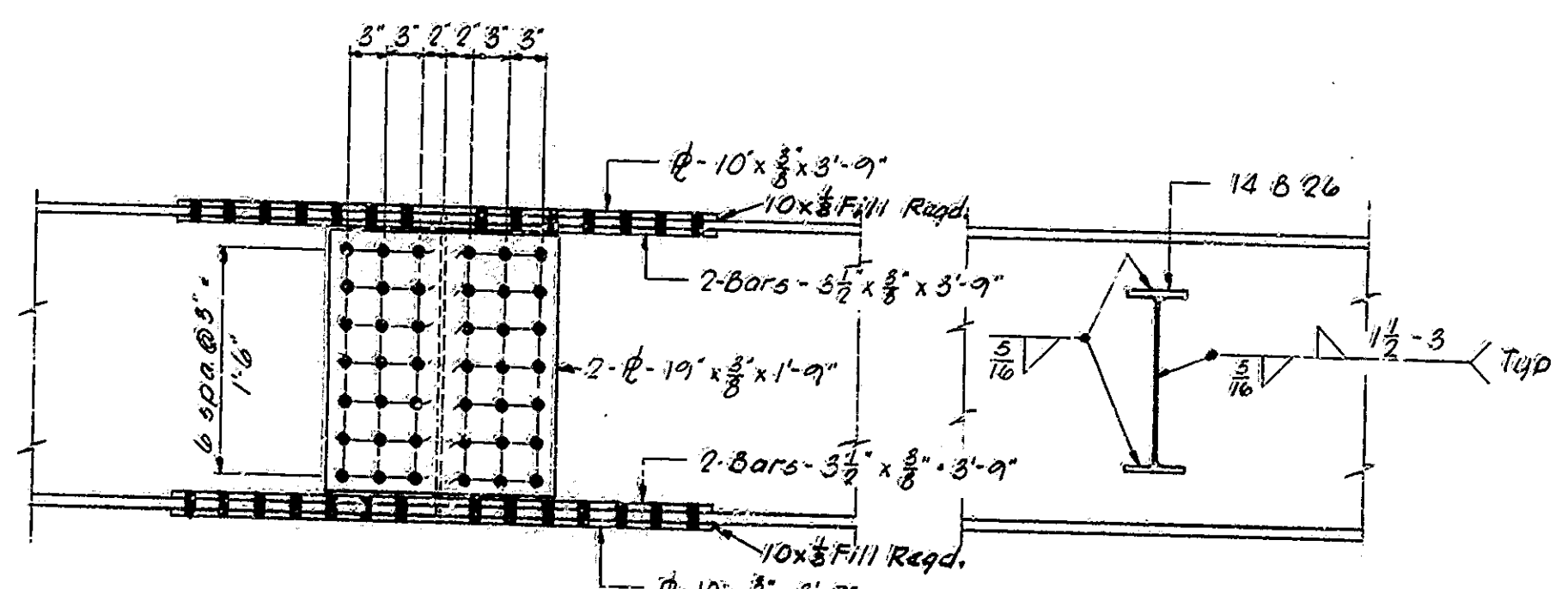
END DIAPHRAGM DETAILS  
Scale: 1" = 1'-0"



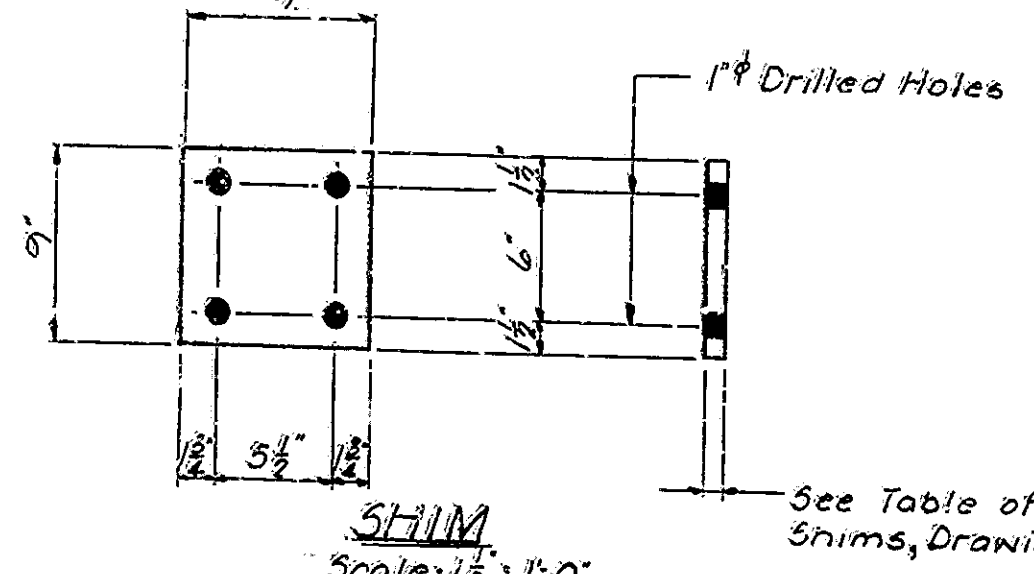
BENTS 1 & 4

PIERS 2 & 3

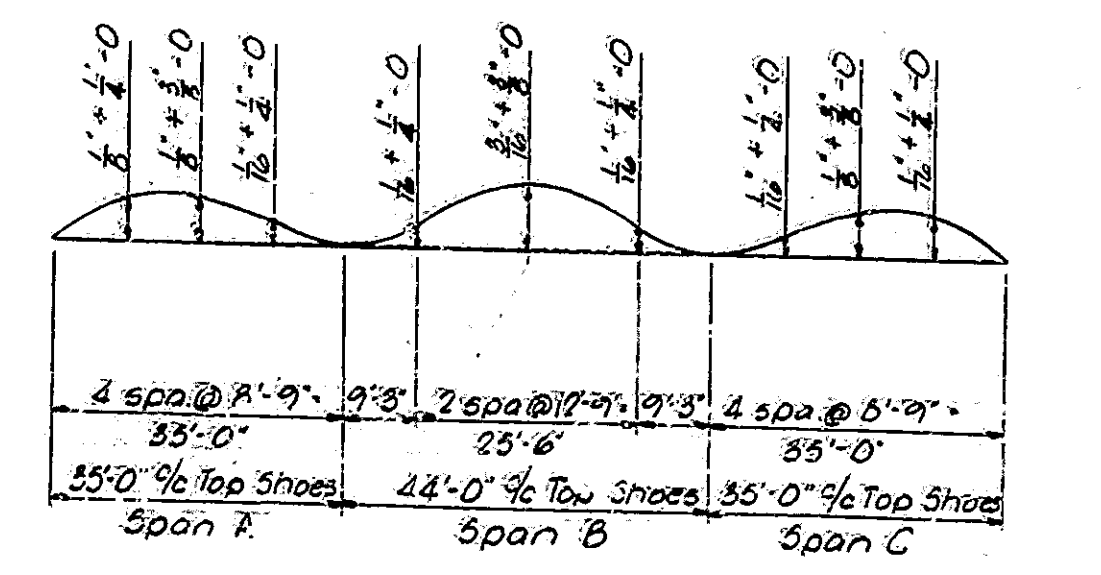
TOP SHOES  
Scale: 1 1/2" = 1'-0"



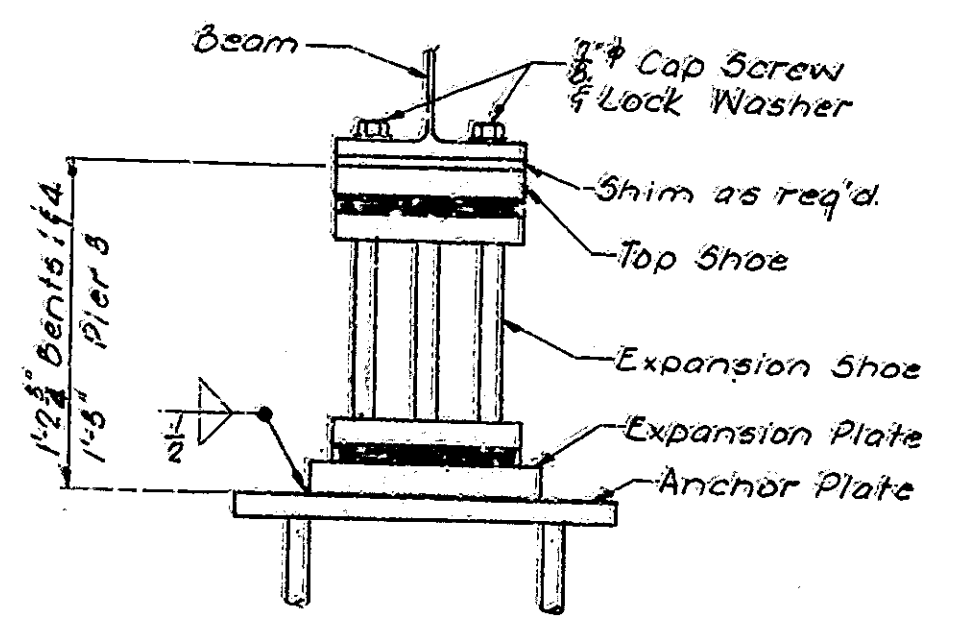
FIELD SPLICE DETAILS  
Scale: 1" = 1'-0"



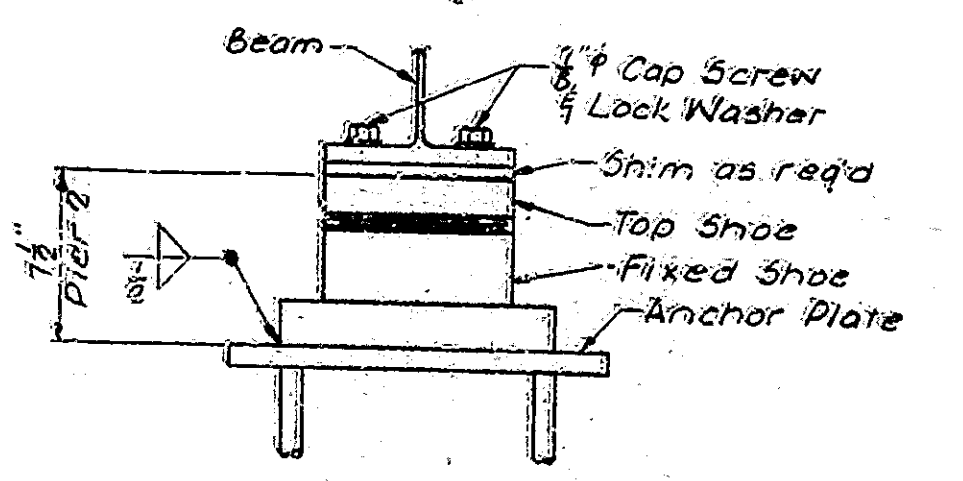
SHIM  
Scale: 1 1/2" = 1'-0"



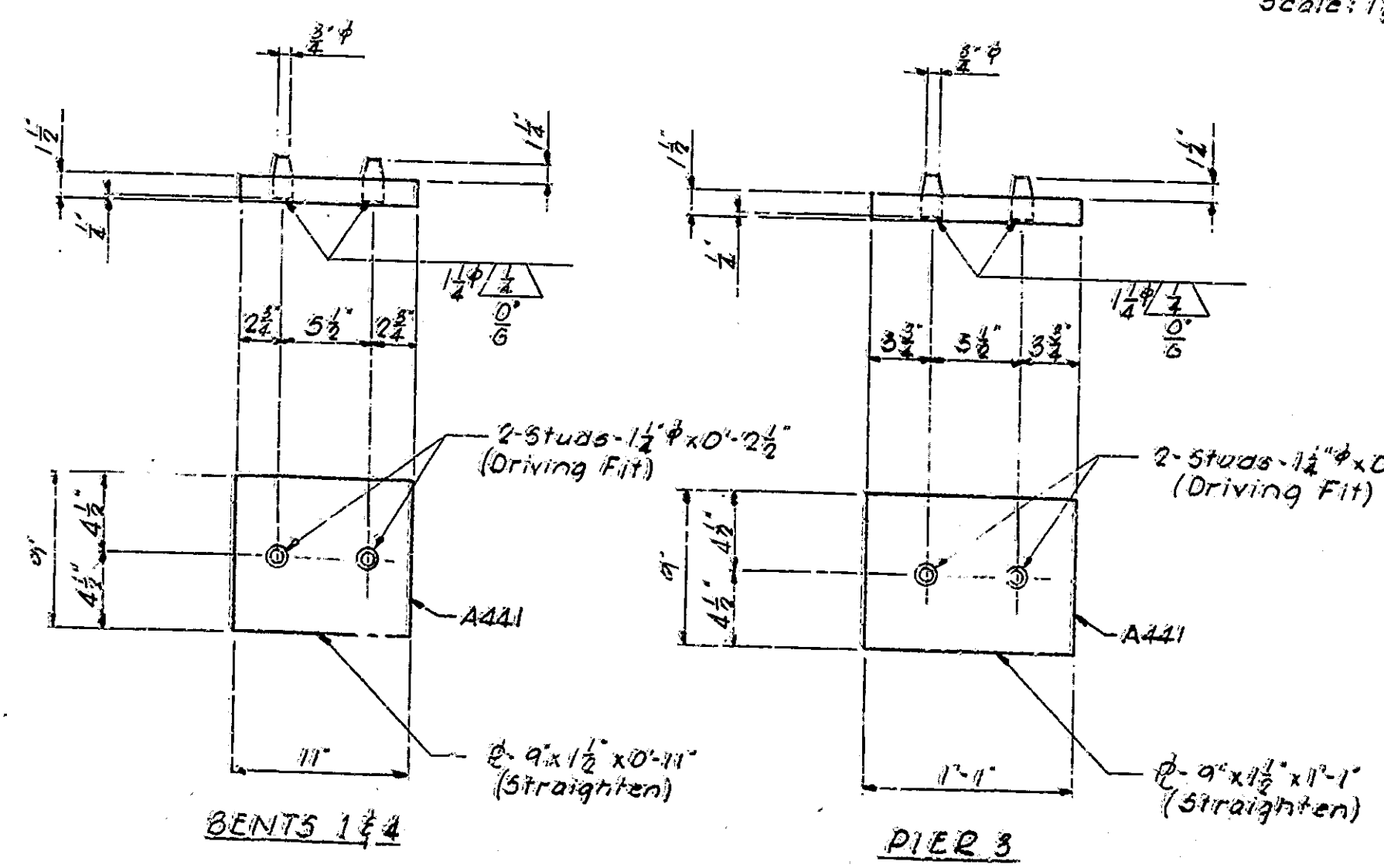
NO LOAD CAMBER and REAMING DIAGRAM  
No Scale



EXPANSION SHOE ASSEMBLY  
Scale: 1 1/2" = 1'-0"



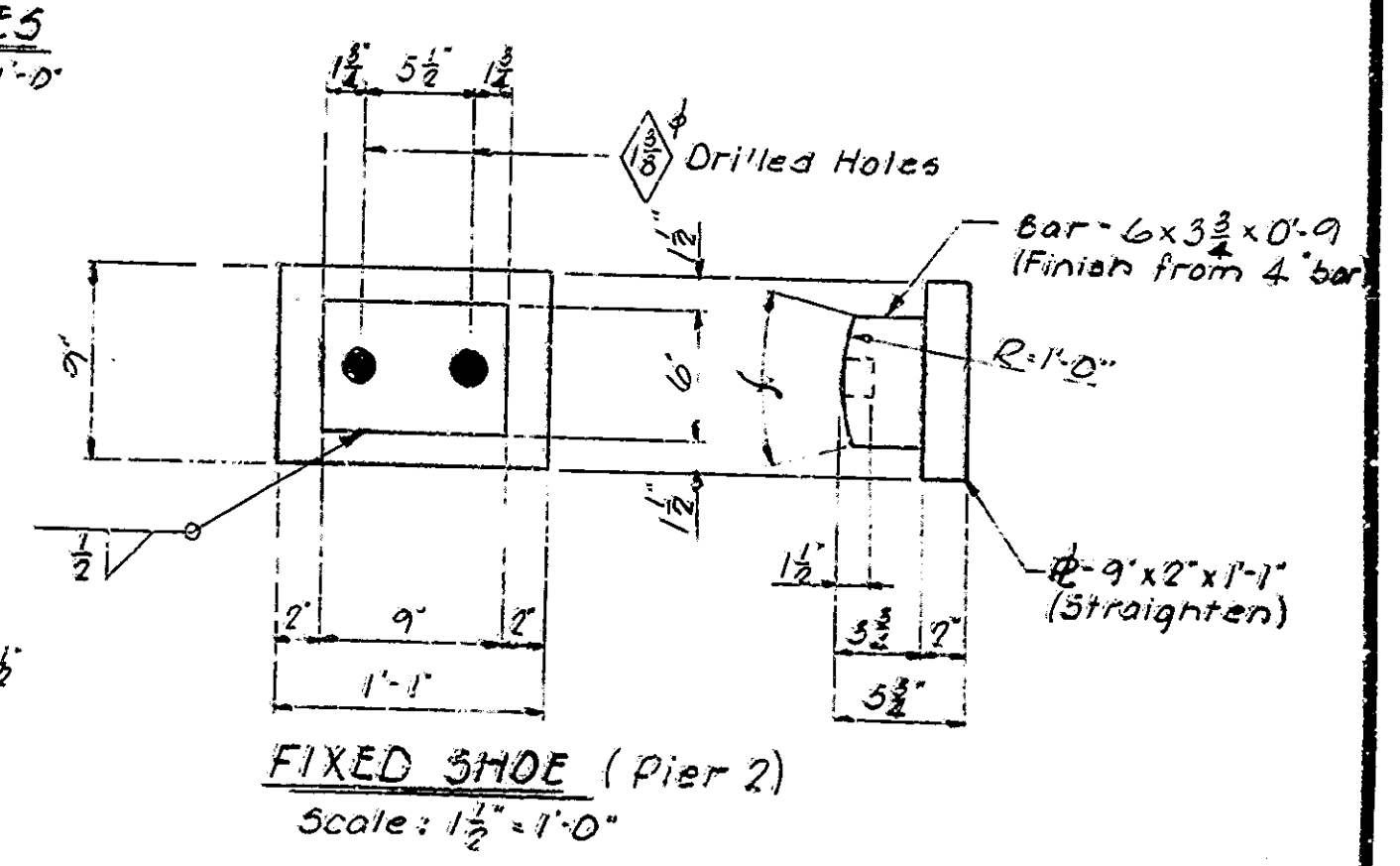
FIXED SHOE ASSEMBLY  
Scale: 1 1/2" = 1'-0"



BENTS 1 & 4

PIER 3

EXPANSION PLATES  
Scale: 1 1/2" = 1'-0"



FIXED SHOE (Pier 2)  
Scale: 1 1/2" = 1'-0"

SUPERSTRUCTURE DETAILS  
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Shown  
 April 15, 1965  
 SUBMITTED FOR APPROVAL: Tom R. Howard, P.E.  
 DRAWING: 57 OF 10  
 PROJECT: I-465-4(129)127  
 BRIDGE CONTRACT NO. R-7391  
 BRIDGE FILE: I-465-127-3274

Rev. 2-16-67 Cover & Data: 11/20/67, Fill 125  
 Revised: 5-31-66 (Cover 12)

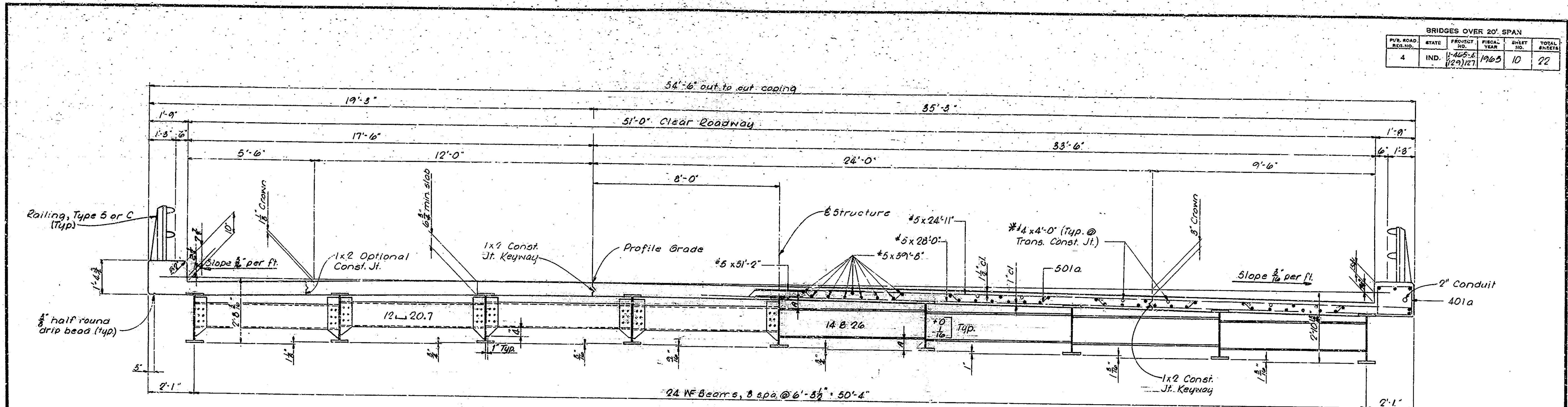
November 6, 1961

DESIGNED: FND	CKD: GEA
DRAWN: FND	CKD: GEA
TRACED:	CKD:

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS
1-465-4(129)127	X	9	22



BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	1-465-4 (29)127	1965	10	22

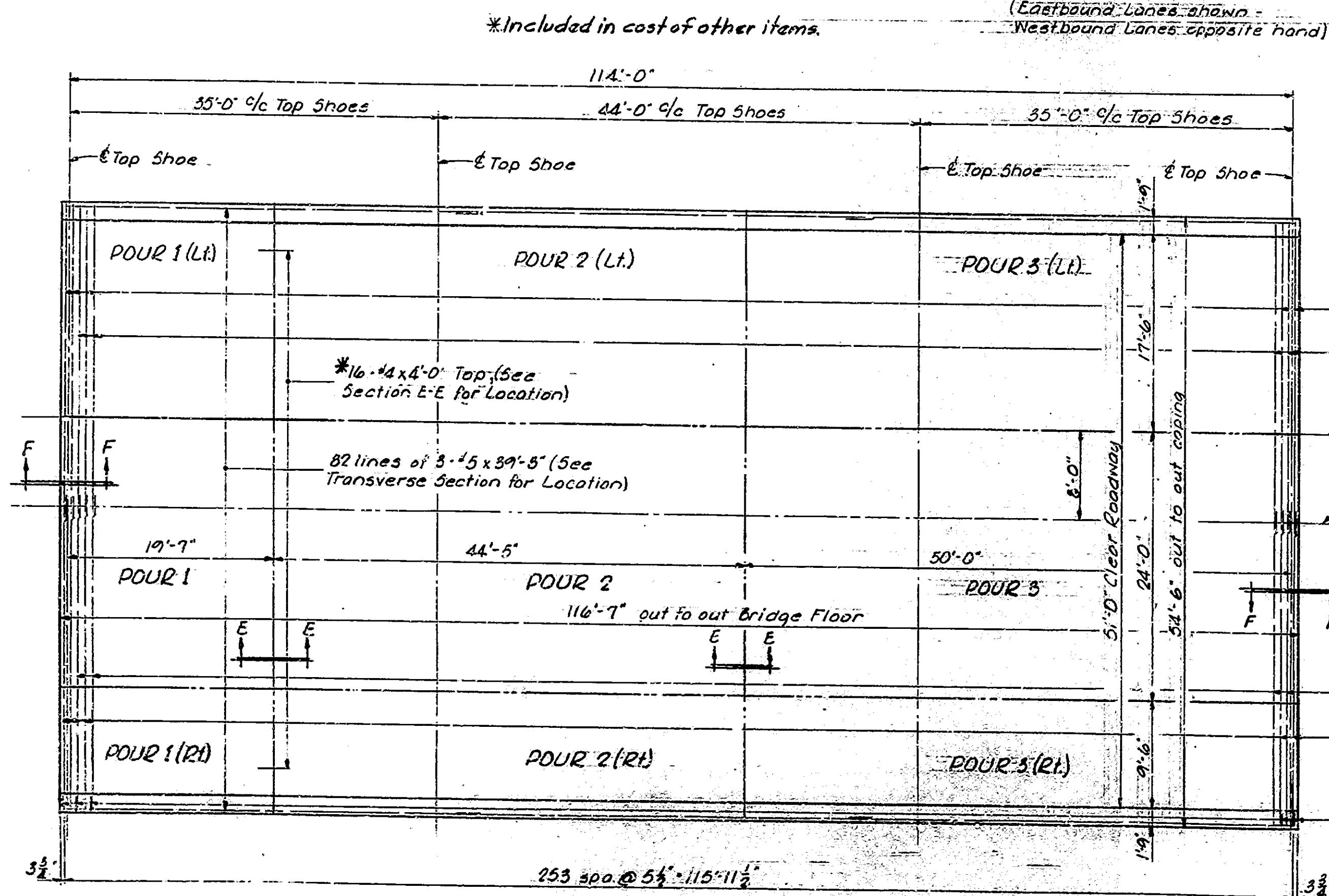


HALF-SECTION SHOWING END DIAPHRAGMS and GENERAL DIMENSIONS

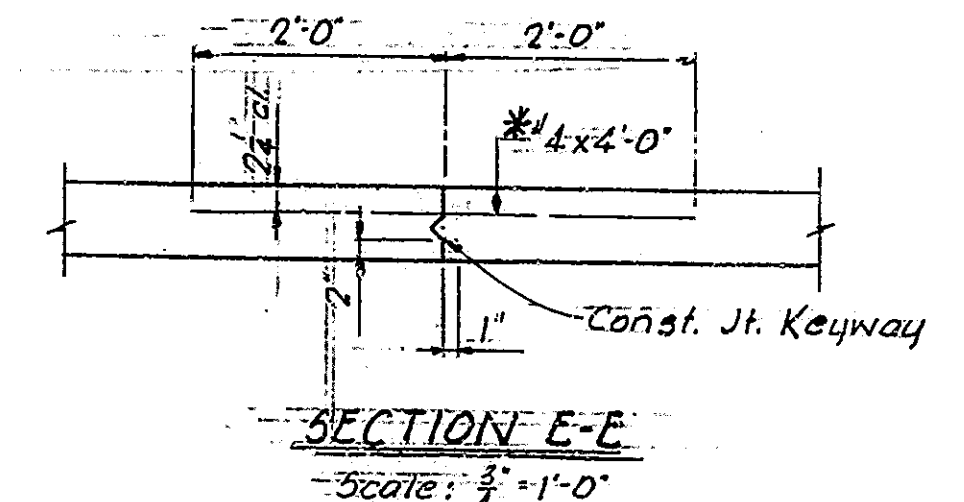
HALF-SECTION SHOWING INTERMEDIATE DIAPHRAGMS and STEEL PLACEMENT

TRANSVERSE SECTION

Note: Intermediate Diaphragms to be erected so that Dimension 'A' is equal top and bottom ( $\pm 1'$ ).



DECK PLAN



SECTION E-E

NOTES

- CORNER DETAILS: For corner details, see Drawing 59.
- REINFORCING STEEL: For reinforcing bar notes, see Bridge Standard C1.
- CONCRETE FORMS: After the structural steel has been erected, concrete forms shall not be blocked against the expansion end of the steel in making pours adjacent to the steel spans.
- POUR SEQUENCE: Sequence of pours to be made in the order of pour numbers. All separate construction joints are optional and pours may be continuous provided the pour terminates at a construction joint indicated on the plan.
- GENERAL NOTES: See Drawing 56 for General Notes.
- ADDITIONAL DETAILS: For additional details, see Drawing 59.
- CONDUIT: For location of conduit see General Plan and Bridge Standard R2A.

DECK PLAN and TRANSVERSE SECTION  
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Shown April 13, 1965

SUBMITTED FOR APPROVAL: *Tom L. ...*

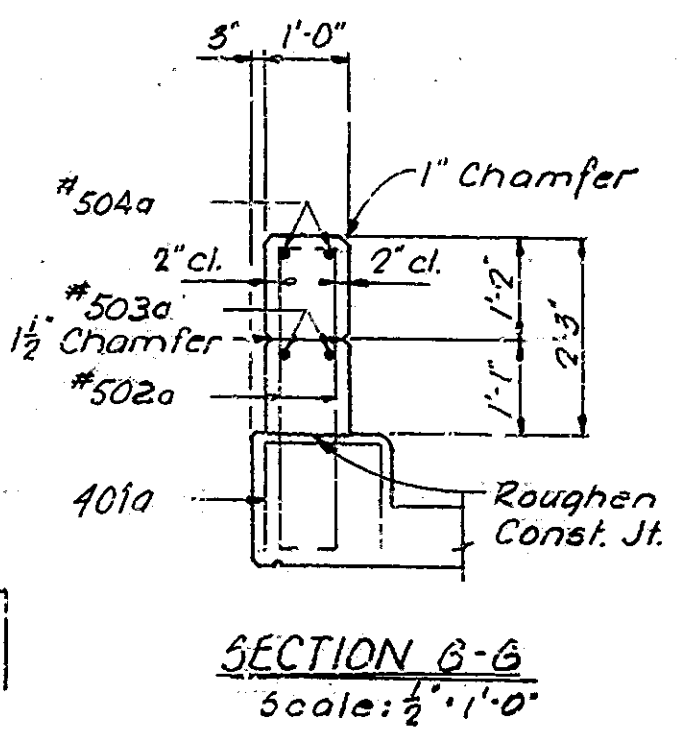
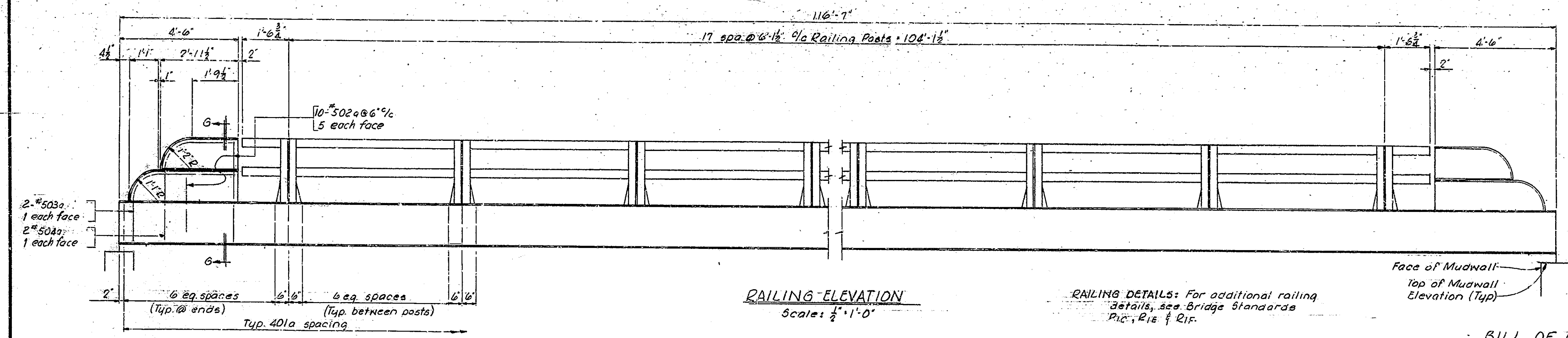
DRAWING: 48 OF 10  
PROJECT: 1-465-4(129)127  
BRIDGE CONTRACT NO. R-7391  
BRIDGE FILE: 1-465-721-5274

DESIGNED: <i>fwd</i>	C.K.D. GEA
DRAWN: <i>fwd</i>	C.K.D. GEA
TR/C.L.D.	C.K.D.

PROJECT NO.	DATE	SCALE	TOTAL SHEETS	FILE
1-465-4(129)127	4	AS SHOWN	22	



BRIDGES OVER 20' SPAN					
PUB. ROAD	STATE	PROJECT	FISCAL	SHEET	TOTAL
NO.		NO.	YEAR	NO.	SHEETS
4	IND.	1-465-4 (129)127	1965	11	22



**BILL OF MATERIALS**  
EAST AND NO SUPERSTRUCTURE  
(Westbound Superstructure Same)

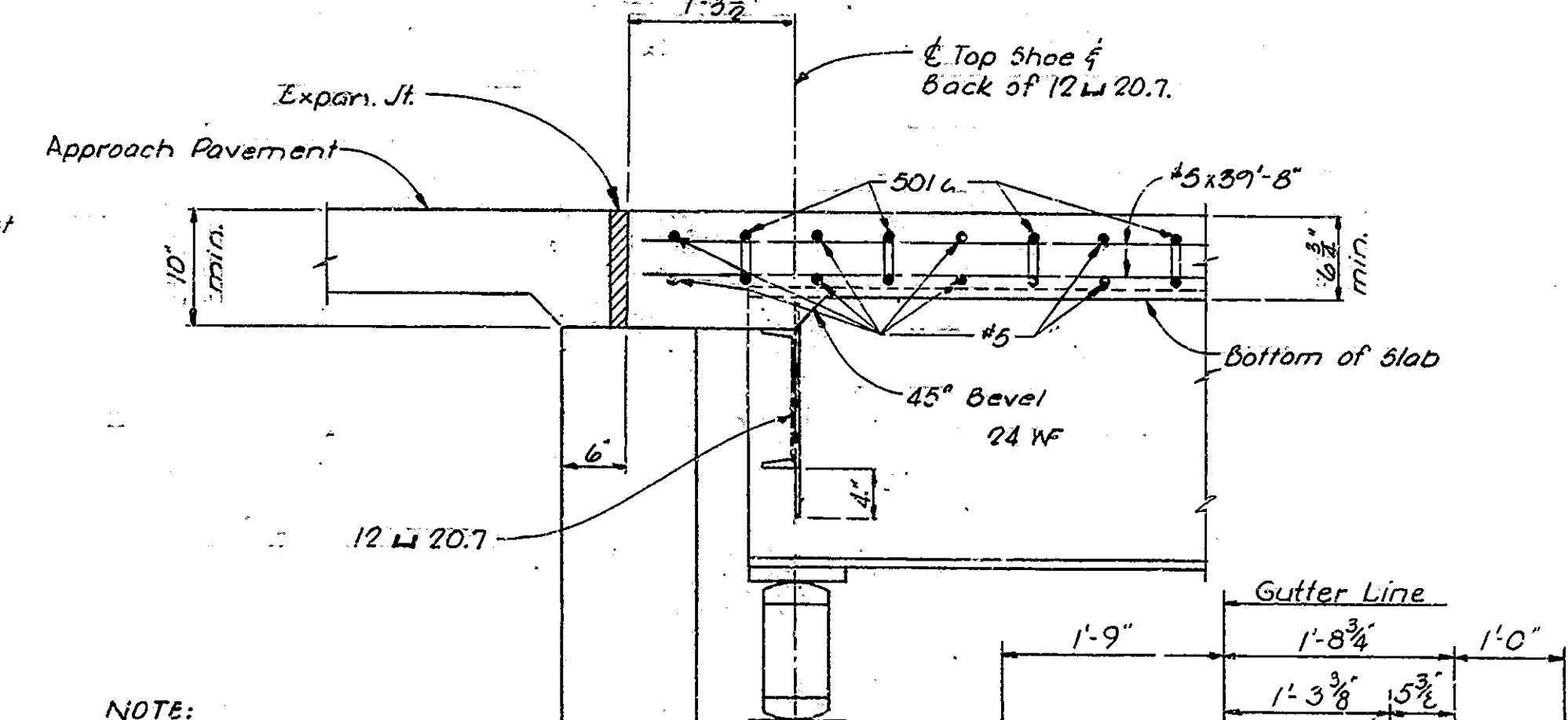
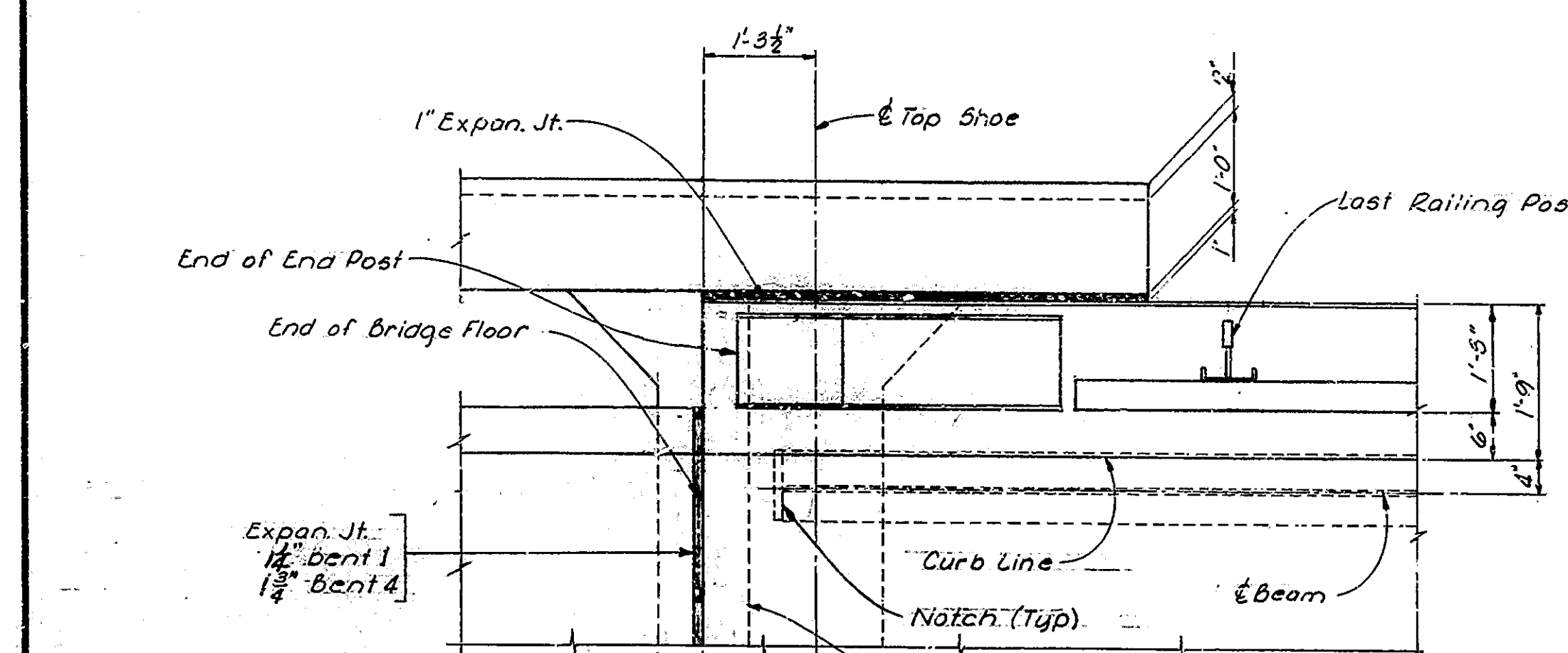
MISCELLANEOUS		REINFORCING STEEL			
Aluminum Railing (Type 5) or Steel Railing (Type C)	QTY. L.F.	SIZE AND MARK	Nº OF BARS	LENGTH	WEIGHT
		501a	252	27'-3"	17688
		#5	256	28'-0"	7570
		#5	128	31'-2"	4161
2" Steel Conduit	121.6 L.F.	#5	45	24'-11"	3326
6" C.I. Roadway Drains		#5	246	37'-8"	10,178
Type I Grate 'A'	1152 lbs.	502a	40	4'-0"	167
6 pos. 6" x 1'-5" C.I. Soil Pipe (Extra Heavy) **		503a	8	6'-2"	51
		504a	8	6'-2"	51
Total Cast Iron	1308 lbs.			Total #5	33,098

\*\* Includes 5' for hub

401a	302	3'-4"	672
		Total #4	672
**#4	32	4'-0"	35,770

CONCRETE	
Class 'F' Superstructure:	
Pour - 1	10.8 C.Y.
Pour - 2	23.2 C.Y.
Pour - 3	26.0 C.Y.
Pour - 1 (Lt)	9.7 C.Y.
Pour - 2 (Lt)	20.0 C.Y.
Pour - 3 (Lt)	23.4 C.Y.
Pour - 1 (Rt)	6.1 C.Y.
Pour - 2 (Rt)	12.7 C.Y.
Pour - 3 (Rt)	14.7 C.Y.
Total Class 'F' except railing	145.0 C.Y.
Railing Concrete @ 0.5'	1.2 C.Y.

\*\* To be included in cost of other items.



**NOTES**  
For notch in slab at end of beams and reinforcing bar notes see Bridge Standard C1.

**NOTE:**  
Top of end diaphragm to be the same elevation or above top of mudwall.

BAR	a	b	c	f	Length
503a	1'-8"	1'-7"	2'-4"	1'-0"	6'-2"
504a	2'-11"	2'-5"	1'-3"	0'-11"	6'-2"

Std. 6" C.I. Roadway Drain Type I, Grate 'A'. Fit Grate to box in shop, and ship in place.

**SUPERSTRUCTURE DETAILS**  
**INDIANA STATE HIGHWAY COMMISSION**

SCALE: - As Shown  
April 15, 1965

SUBMITTED FOR APPROVAL: *Tom L. Howard, P.E.*

DRAWING: 39 OF 10  
PROJECT: 1-465-4(129)127  
BRIDGE CONTRACT NO. R-7391  
BRIDGE FILE: 1-465-127-5274

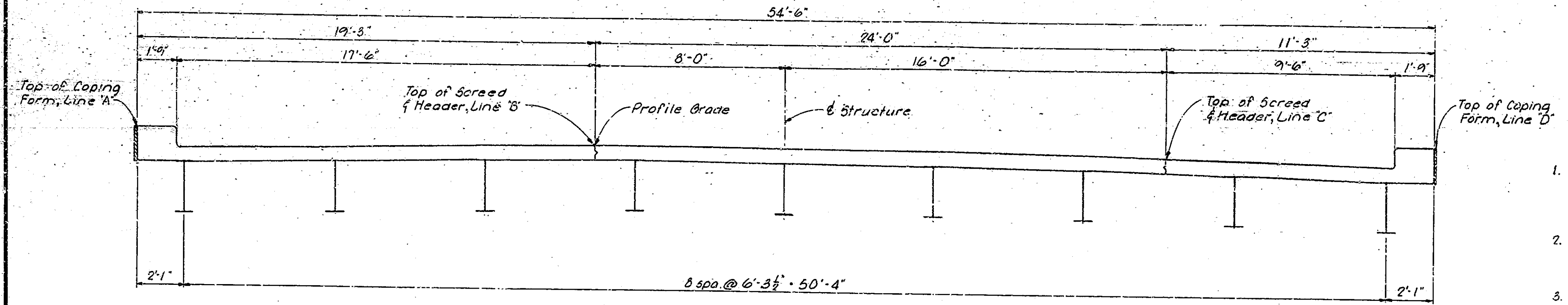
DESIGNED	PND	CKD	G.E.A.
DRAWN	END	CKD	G.E.A.
TRACED		CKD	

Rev. 2-14-67 Exp. Jts. Bill of Mat'ls.  
Revised: 5-31-66 (Railing)

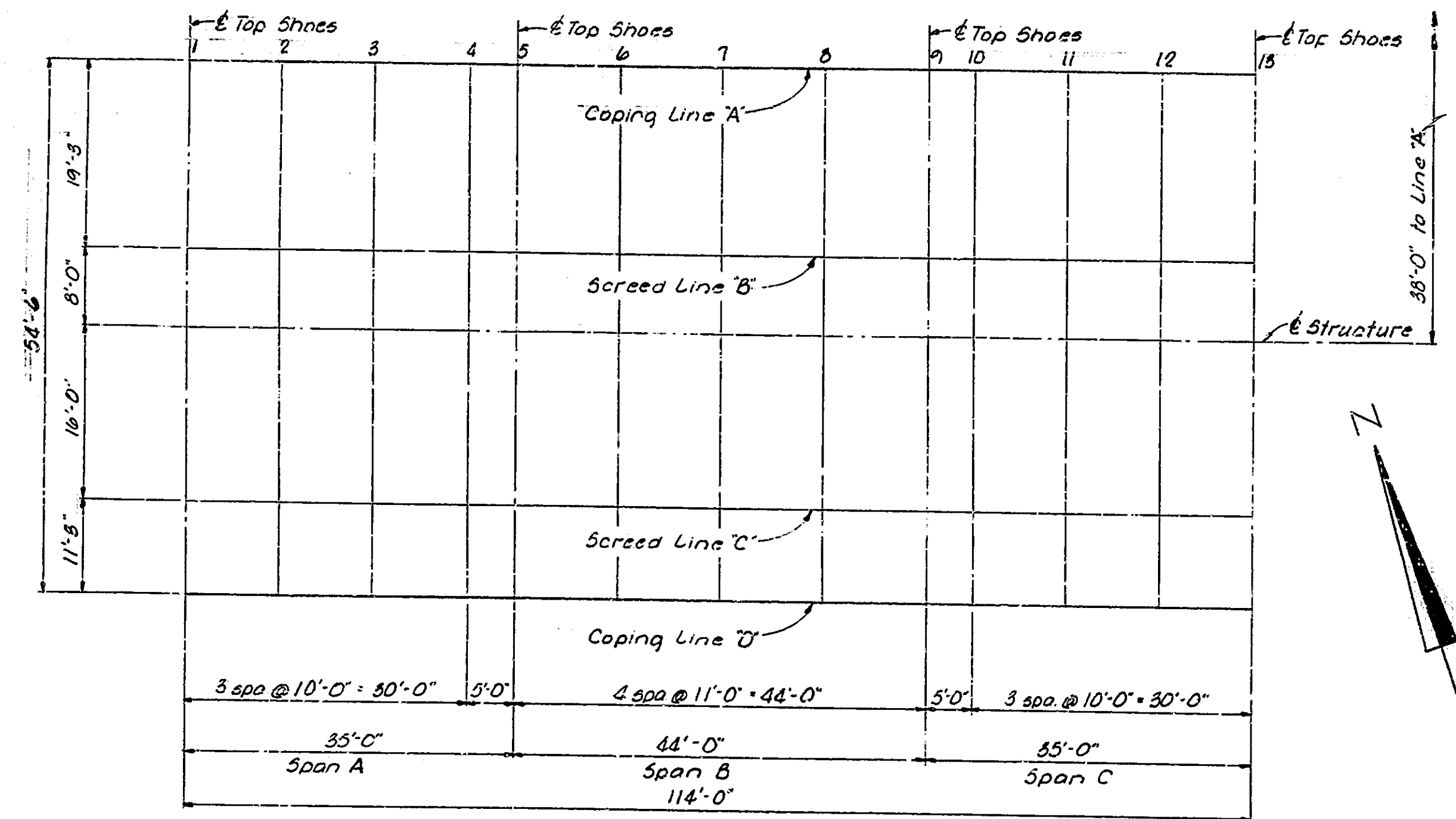
PROJECT NO.	LINE	SHEET	TOTAL SHEETS	FILE
1-465-4(129)127	52	11	22	



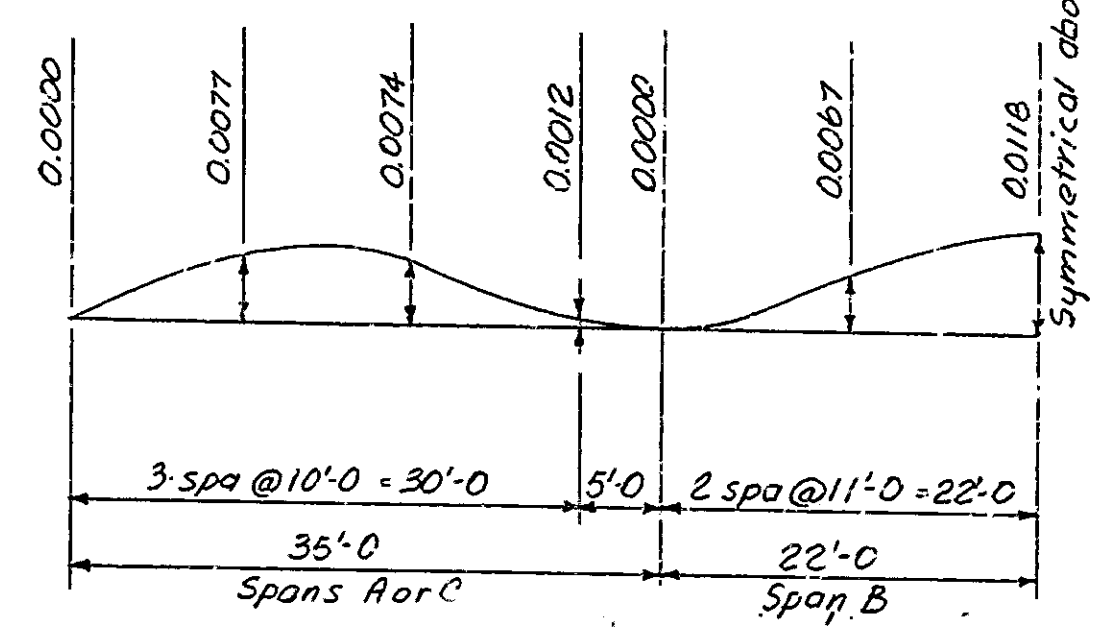
BRIDGES OVER 20' SPAN					
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	1465-4 (129) 127	1965	12	22



**CROSS SECTION FOR SCREEDS**  
 Scale:  $\frac{1}{8}$ " = 1'-0"  
 (Eastbound Lanes shown - Westbound Lanes opposite hand)



**PLAN OF SCREEDS**  
 Scale:  $\frac{1}{8}$ " = 1'-0"  
 Symmetrical about Line "A"



**CONCRETE D.L. DEFLECTION**  
 Scale: Horiz. 1" = 10'-0"  
 Vert. 1" = 0.02"

**SUPERSTRUCTURE GENERAL PROCEDURE**

1. After the structural steel is erected, adjust the superstructure longitudinally so that the distance from the centerline of top shoe to the face of masonry is equal at Bents 1 and 4.
2. With the superstructure in the adjusted position called for in (1) above, weld the anchor plates for the fixed shoes at Bent 2.
3. Adjust the expansion plates under each expansion shoe in accordance with Dimension "A" or "B" shown on Drawing 56 for the prevailing temperature. Note that Dimension "A" is always the distance from a vertical line through the centerline of top shoe in a direction away from the fixed shoe. Weld the anchor plates.
4. After the shoes are set, take elevations at all screed points on top of the adjacent beams. Enter these elevations in the "Table of Screed Elevations". Subtract these elevations from the tabulated elevations and use the resulting dimension as the height for setting the screed or coping form above that point. This dimension remains constant regardless of how much or in what order the concrete is poured. Do not set the screeds or coping forms by leveling.
5. No concrete in the floor is to be poured until the above operations are completed.

GENERAL NOTES: See Drawing 56 for General Notes.

Line	POINT	EASTBOUND LANES															WESTBOUND LANES														
		SPAN A					SPAN B					SPAN C					SPAN A					SPAN B					SPAN C				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	Elev. @ top of coping forms	741.150	741.210	741.260	741.300	741.325	741.365	741.445	741.495	741.545	741.570	741.630	741.680	741.720	741.750	741.780	741.150	741.210	741.260	741.300	741.325	741.365	741.445	741.495	741.545	741.570	741.630	741.680	741.720	741.750	741.780
B	Elev. @ top of beam	740.490	740.550	740.600	740.645	740.665	740.700	740.790	740.840	740.885	740.915	740.970	741.020	741.060	741.090	741.120	740.490	740.550	740.600	740.645	740.665	740.700	740.790	740.840	740.885	740.915	740.970	741.020	741.060	741.090	741.120
C	Elev. @ top of beam	740.240	740.300	740.350	740.395	740.415	740.460	740.550	740.600	740.645	740.675	740.730	740.780	740.820	740.850	740.880	740.240	740.300	740.350	740.395	740.415	740.460	740.550	740.600	740.645	740.675	740.730	740.780	740.820	740.850	740.880
D	Elev. @ top of coping	740.930	740.990	741.040	741.080	741.105	741.170	741.230	741.280	741.325	741.355	741.410	741.460	741.500	741.530	741.560	740.930	740.990	741.040	741.080	741.105	741.170	741.230	741.280	741.325	741.355	741.410	741.460	741.500	741.530	741.560
	Dist. top of beam to top of coping																														

DESIGNED: PRLD - CKD - GEA  
 DRAWN: PRLD - CKD - GEA  
 CHECKED: CKD

**SCREED DETAILS**  
**INDIANA STATE HIGHWAY COMMISSION**

SCALE: As Shown  
 DATE: April 15, 1965  
 SUBMITTED FOR APPROVAL: *Tom P. Henderson, P.E.*  
 DRAWING: 3/0 OF 7/0  
 PROJECT: 1-465-4 (129) 127  
 BRIDGE CONTRACT NO. R-7391  
 BRIDGE FILE: 1-465-127-5274

Revised: 5-31-66 (f. Conc. D.L. Deflection)  
 November 6, 1961

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
1-465-2(129)127	"A"	12	22	



