

INDEX table with columns: PROJECT, STRUCTURE, TYPE, SPAN, OVER, STATION, CONTRACT NO. and SHEET NO., SHEET DESIGNATION, SUBJECT, S.P.R. APPROVAL.

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

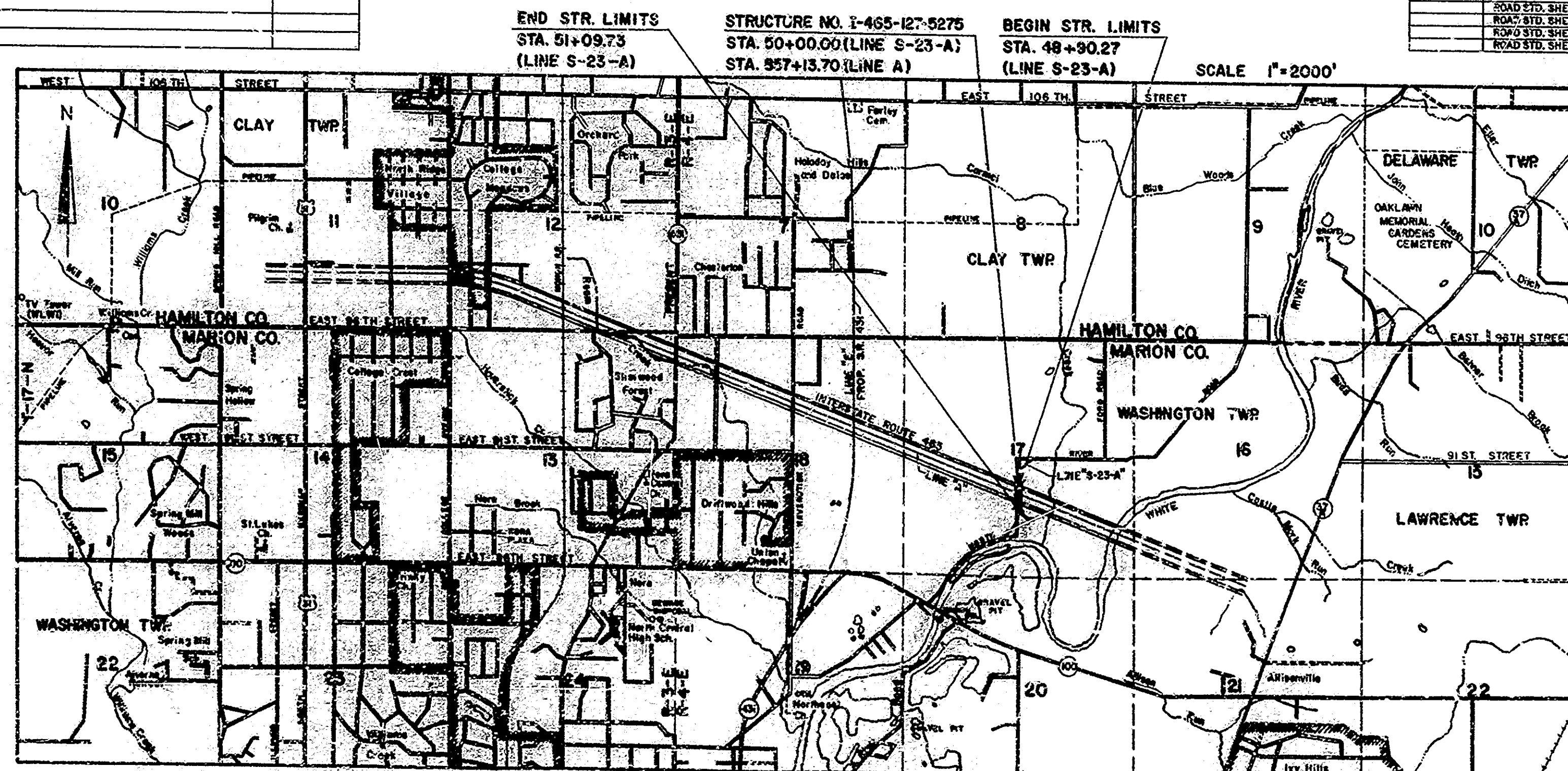
BEGINNING AT A POINT ON LINE S-23-A AND ON THE NORTH-SOUTH HALF-SECTION LINE OF SECTION 17, T-17-N, R-4-E, WASHINGTON TWP., MARION COUNTY APPROXIMATELY 711 FEET SOUTH OF THE INTERSECTION OF SAID HALF-SECTION LINE WITH THE EAST-WEST HALF-SECTION LINE OF SECTION 17 AND EXTENDING SOUTH FOR A DISTANCE OF 222 FEET TO A POINT ON LINE S-23-A APPROXIMATELY 933 FEET NORTH OF ABOVE DESCRIBED INTERSECTION.

ROADWAY LENGTH = 0.000 MI. BRIDGE LENGTH = 0.042 MI. TOTAL LENGTH = 0.042 MI.

MAX. GRADE = 4.00% (LINE "S-23-A" APPROACHES)

BRIDGES OVER 20' SPAN table with columns: ROAD NO., STATE, PROJ. NO., FISCAL YEAR, SHEET NO., TOTAL SHEETS.

INDEX CONTINUED STANDARD DRAWINGS table with columns: SHEET NO., SHEET DESIGNATION, SUBJECT, S.P.R. APPROVAL, ADOPTED REVISION NO.



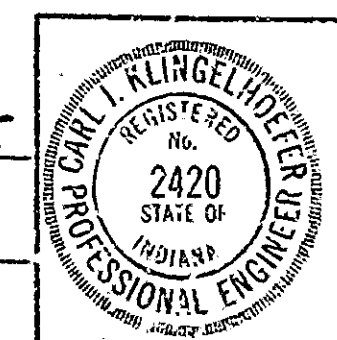
TRAFFIC DATA table for I-465 with columns: A.D.T. (1968), A.D.T. (1975 PROJECTED), TRUCKS, DESIGN SPEED, ACCESS CONTROL.

THESE PLANS PREPARED BY ALDEN E. STILSON & ASSOCIATES LIMITED CONSULTING ENGINEERS COLUMBUS, OHIO

RIGHT OF WAY FOR THIS PROJECT INCLUDED IN PROJECT I-465-4(128)127

APPROVED: 6-24-65 [Signature]

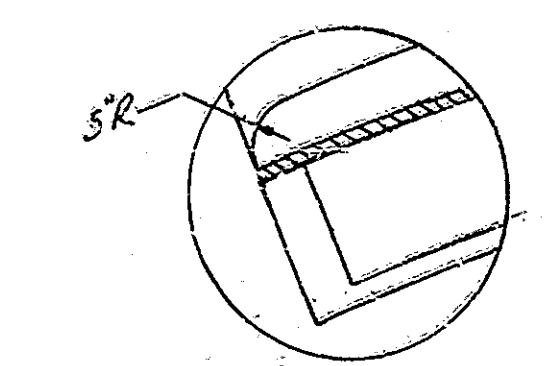
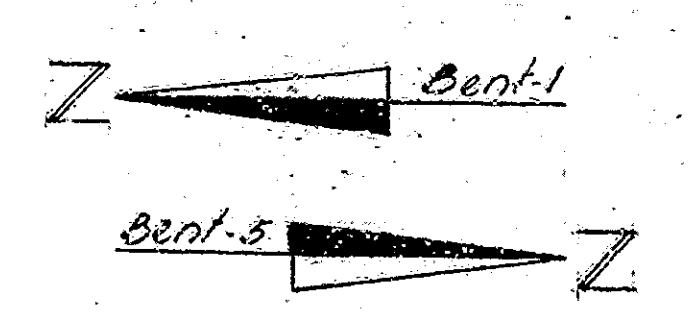
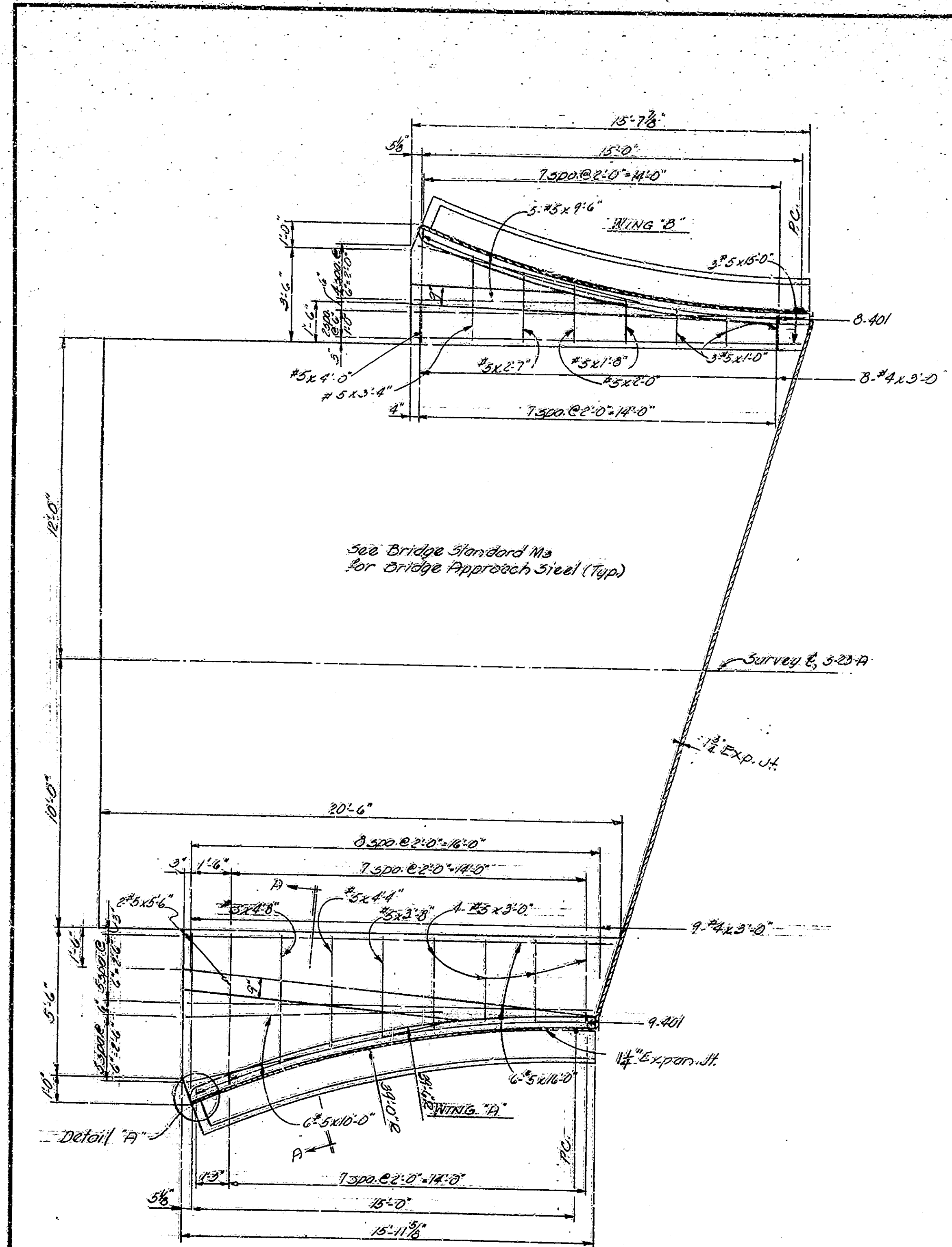
DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS APPROVED: [Signature] DIVISION ENGINEER DATE



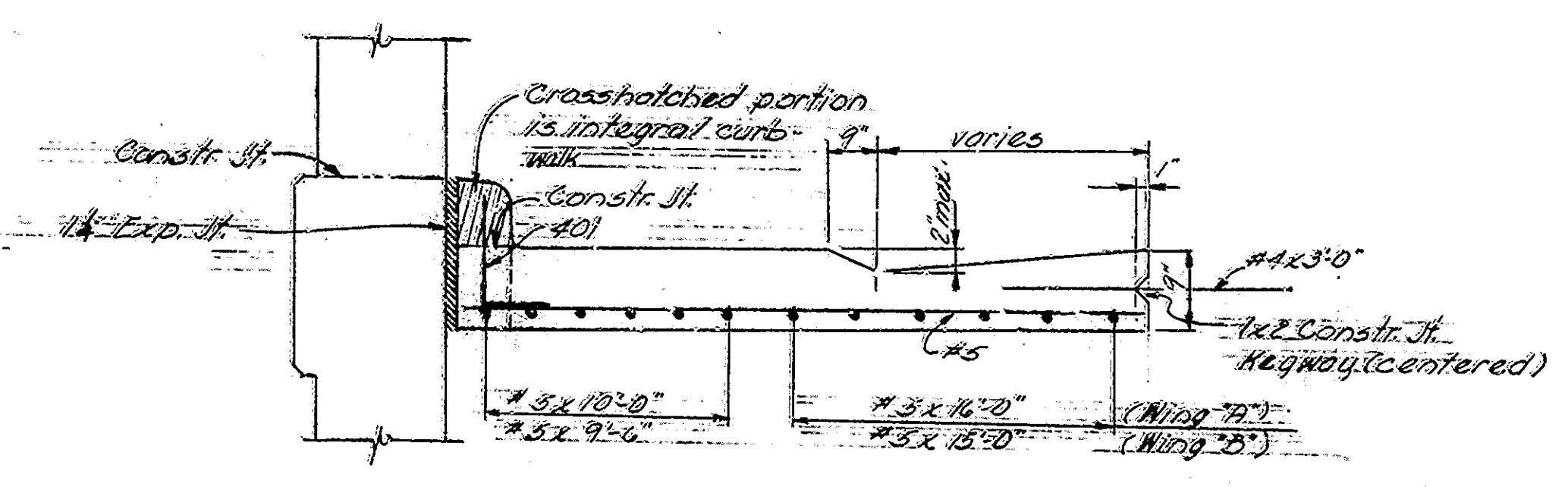
REVISIONS table with columns: DATE, SHEET NO., REVISIONS.

RECOMMENDED FOR APPROVAL 6-24-65 [Signature]

BRIDGES OVER 20' SPAN					
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	(127)27	1965	1A	



Note - Height and shape of curb shall match superstructure.



BILL OF MATERIAL APPROACH SLAB (Bent 1)
(Approach at Bent 5 same)

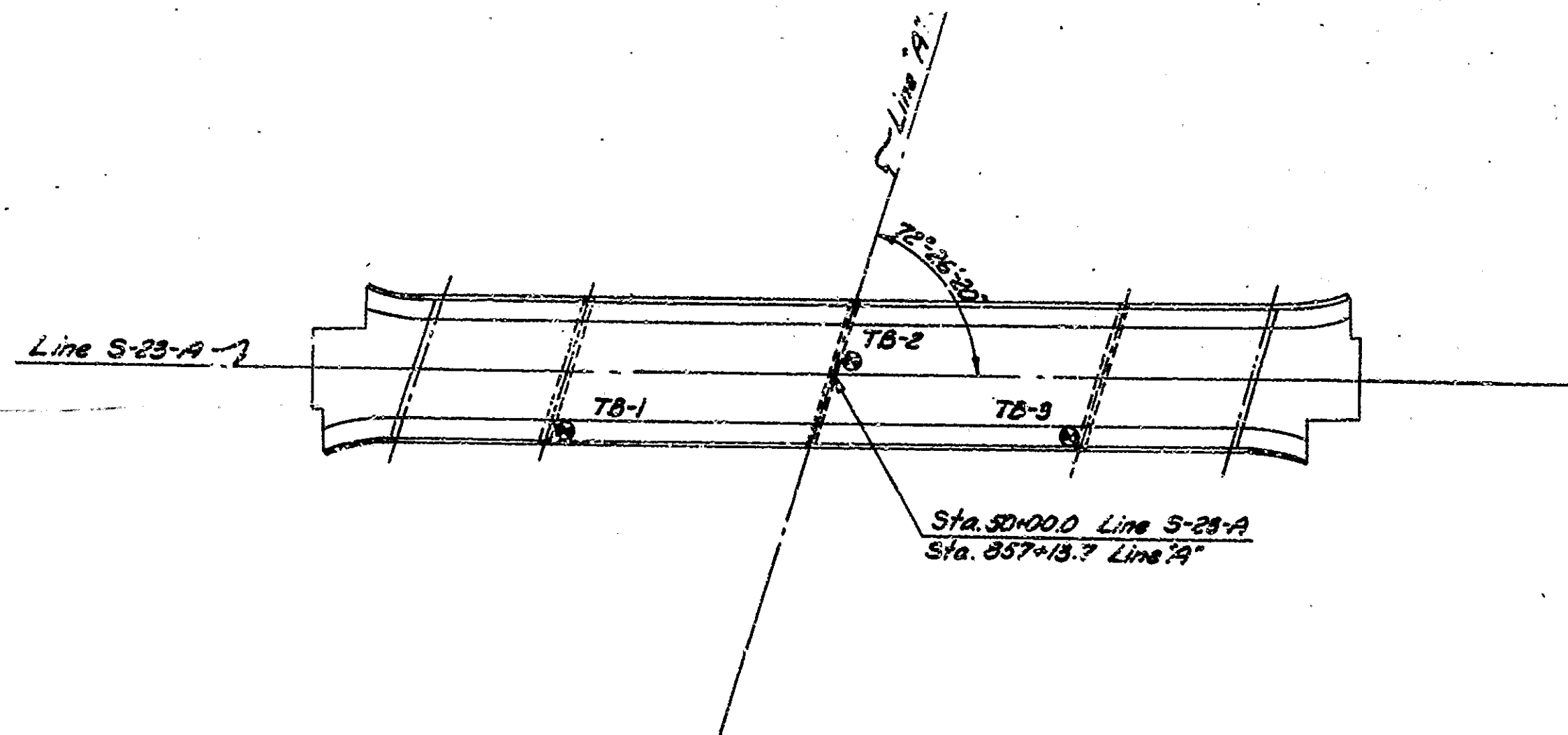
REINFORCING STEEL			
SIZE and MARK	NO OF BARS	LENGTH	WEIGHT LBS.
#5	2	5-6	11
#5	1	4-8	5
#5	1	4-4	5
#5	1	3-8	4
#5	4	3-0	13
#5	3	15-0	47
#5	5	7-6	50
#5	1	4-0	4
#5	1	2-7	3
#5	1	2-0	2
#5	1	1-8	2
#5	3	1-0	3
#5	6	10-0	63
#5	6	16-0	100
#5	1	3-4	3
	Total #5		315
#4	17	1-4	15
#4	17	3-0	52
	Total #4		67
Reinf. Slab from Br. St. Ms			1179
Total Steel			1563
REINF. CEM. CONC. PAVT (9")			
Bridge Approach		58.6 sq. Yd.	
Widening Wing "A"		72.5 sq. Yd.	
Widening Wing "B"		34.5 sq. Yd.	
Total		65.6 sq. Yd.	
Integral curb work			
Wing "A"		0.77 cu.	
Wing "B"		0.77 cu.	
Total		1.54 cu.	
MISCELLANEOUS			
1/4" Expansion Joint		28.3 LF	
1/2" Expansion Joint		31.5 LF	

DESIGNED	AWD	C.W.D.	G.E.A.
DRAWN	AWD	C.W.D.	G.E.A.
TRACED		C.W.D.	

BRIDGE APPROACH DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted
 APRIL 15, 1965
 SUBMITTED FOR APPROVAL: Tom L. Anderson P.E.
 DRAWING OF
 PROJECT: I-465-4(129)127
 BRIDGE CONTRACT NO. B-7391
 BRIDGE FILE: I-465-27-3275

PROJECT NO.	IND.	SHEET NO.	TOTAL SHEETS	FILE
465-4(129)127		1A	1A	



BORING NO.	TB-1	TB-2	TB-3
STATION	49+32	50+03	50+61
OFFSET	15' Rt.	3' Lt.	15' Rt.
GROUND ELEV.	731.6	731.2	730.9

Notes:

▲ Denotes Ground Water Table

N - Indicates 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".

ELEV.	TB-1		TB-2		TB-3	
	SAMPLE NO.	N	SAMPLE NO.	N	SAMPLE NO.	N
735						
730	1	1	1	1	1	1
725	2	2	2	2	2	2
720	3	3	3	3	3	3
715	4	4	4	4	4	4
710	5	5	5	5	5	5
705	6	6	6	6	6	6
700	7	7	7	7	7	7
695	8	8	8	8	8	8
690	9	9	9	9	9	9
685						
680						
675						

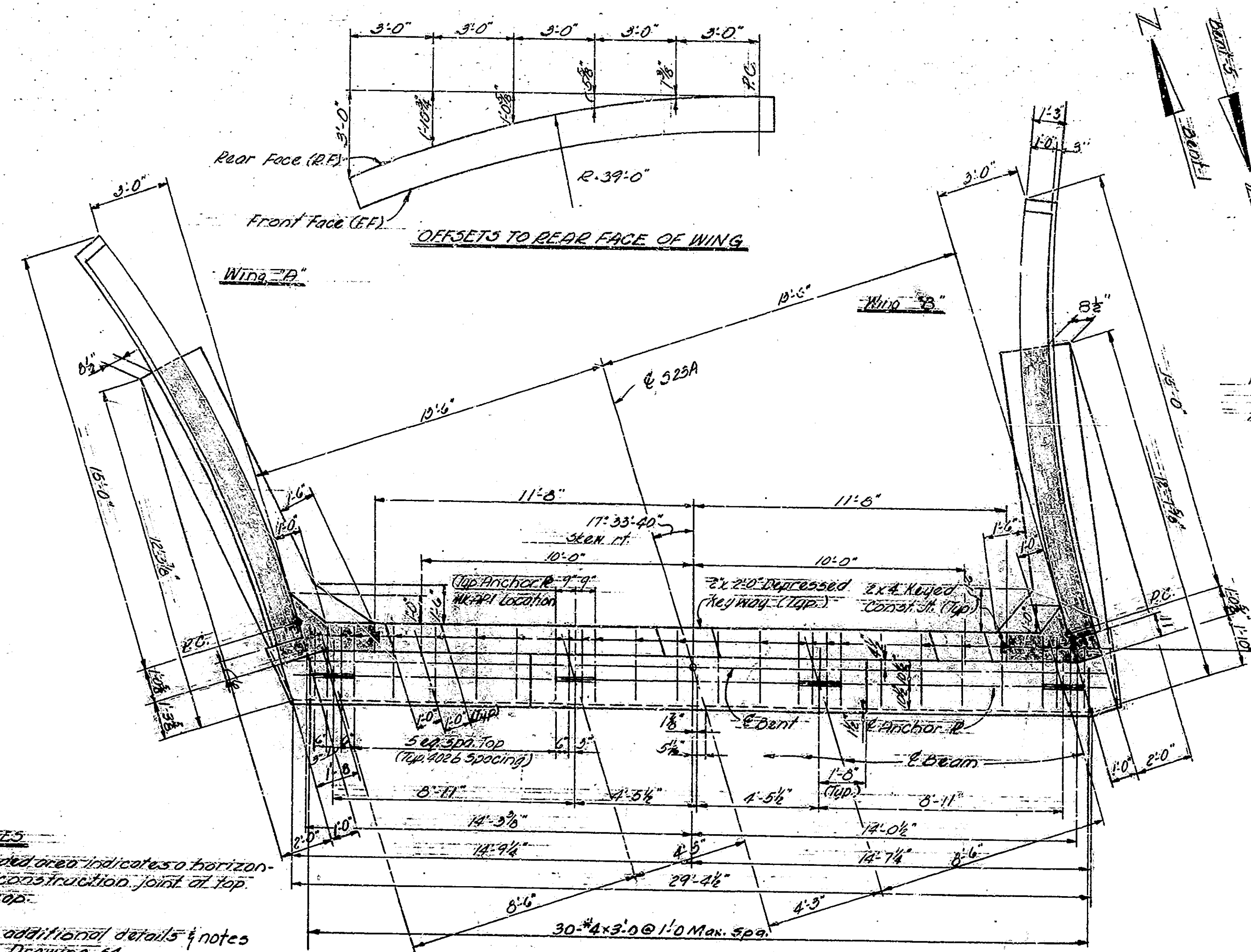
SOIL BORINGS
 SCALES: HORIZ. 1"=30'-0" VERT. 1"=3'-0"
 SUBMITTED FOR APPROVAL *Frank Whitcomb, P.E.*
 PROJECT 1-463-8 (189) 127
 BRIDGE CONTRACT NO. B-7391
 BRIDGE FILE 1-463-127-5275

PLAN
 NOTE BOOK, AT 1/4" = 1'-0"
 No. 1 of 10 - 10/10/65

PROFILE
 NOTE BOOK, PAGES 10-11
 No. 1 of 10 - 10/10/65

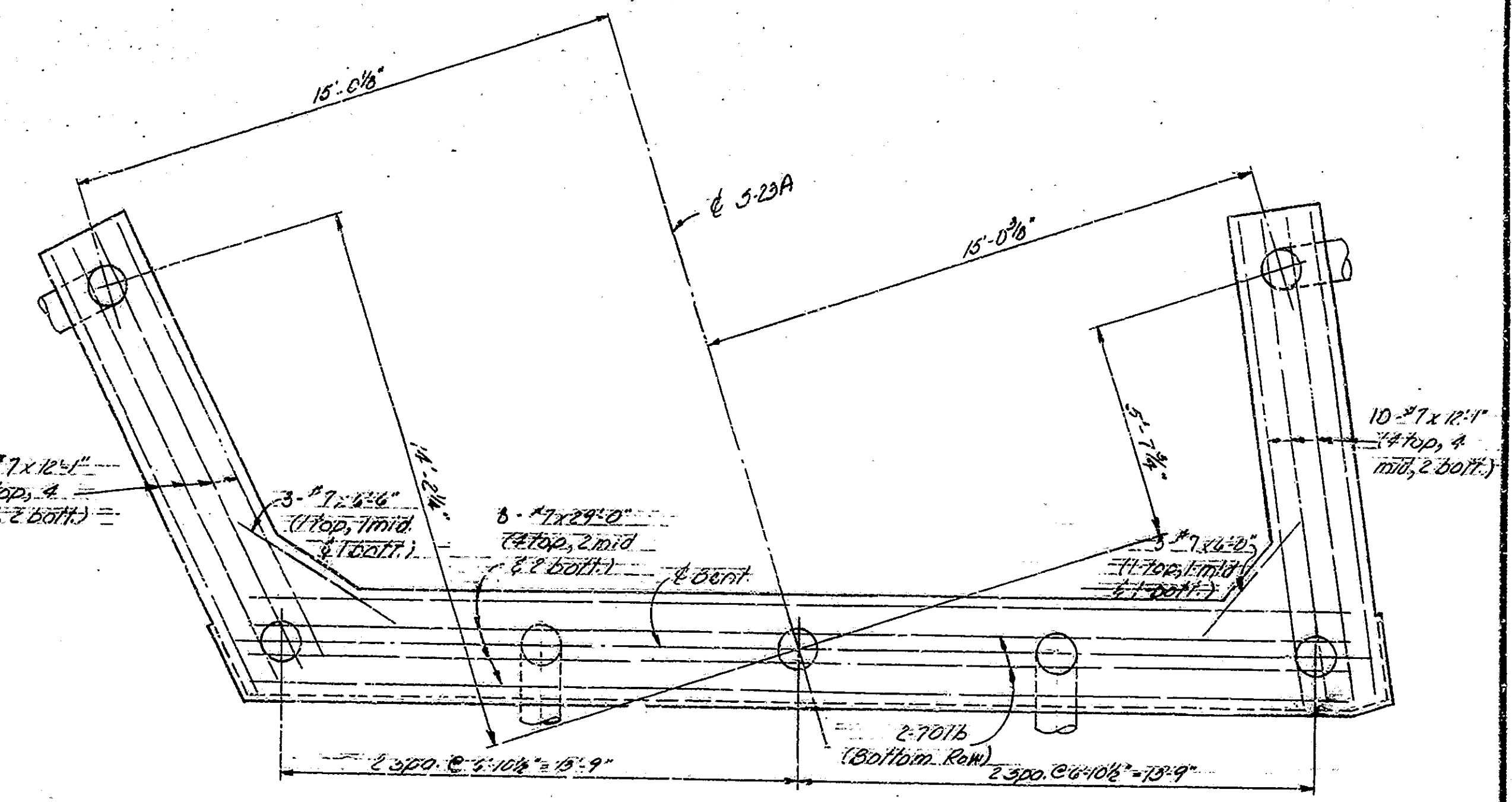
Depth of Boring - 30'-0" Depth of Boring - 34'-0" Depth of Boring - 30'-0"

BRIDGES OVER 20' SPAN					
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	145-4 (127)	1965	5	22



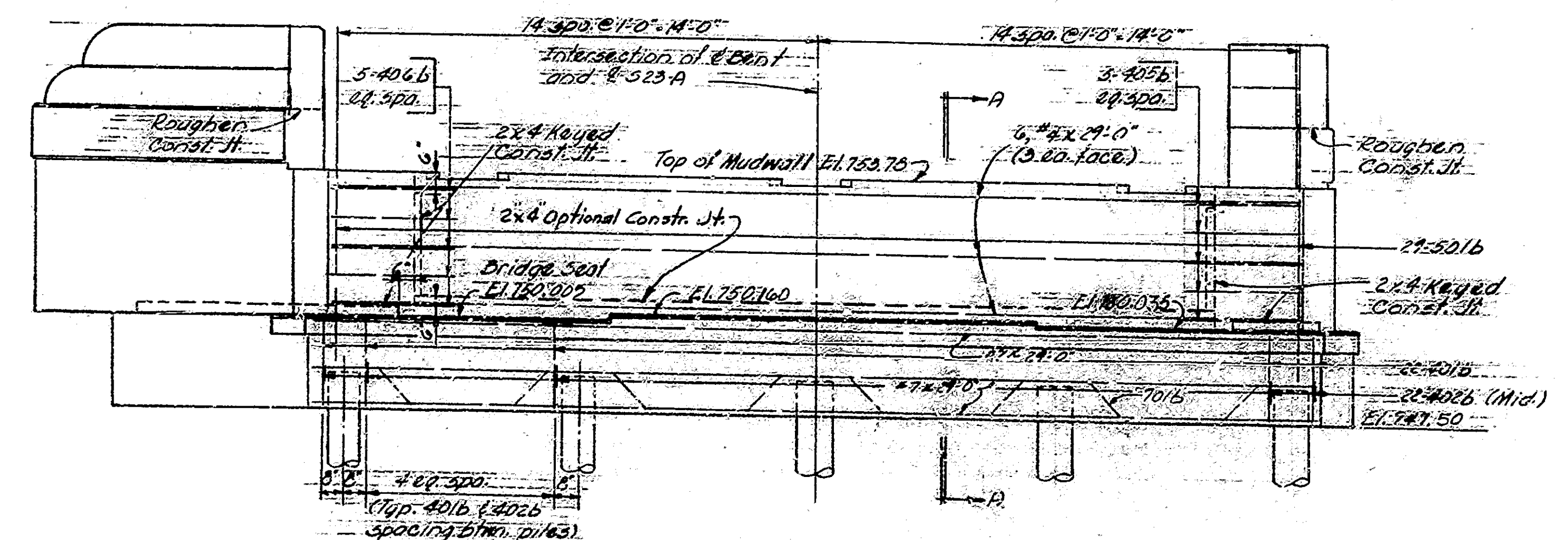
NOTES
 Shaded area indicates a horizontal construction joint at top of cap.
 For additional details & notes see Drawing 54

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

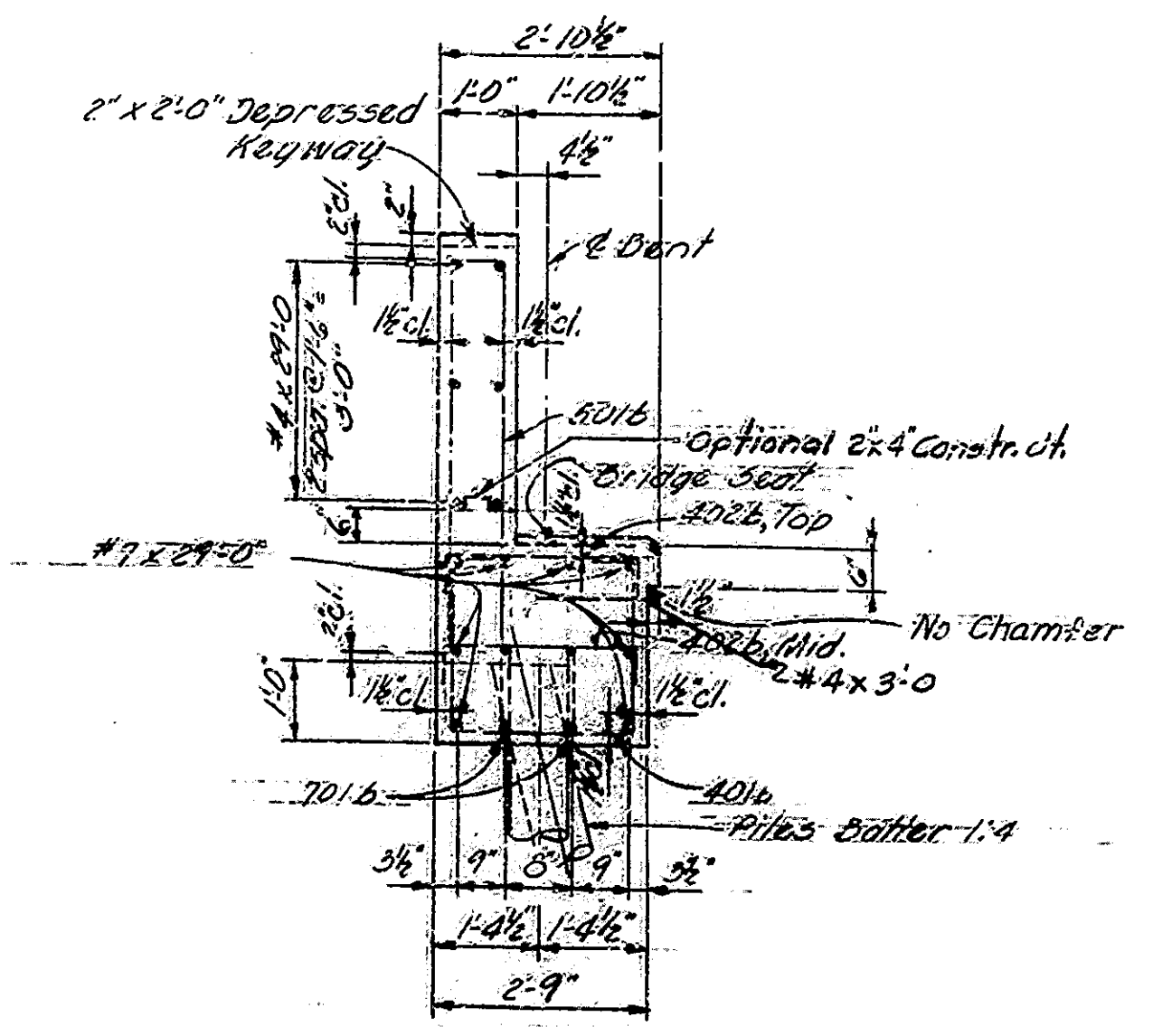


CAP PLAN
 Scale: 1/8" = 1'-0"

NOTE
 Piles shall be battered 1:4 in direction shown.



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



SECTION A-A
 Scale: 1/8" = 1'-0"

BENT 5145 DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted
 April 15, 1965.
 SUBMITTED FOR APPROVAL: Tom L. Anderson, P.E.
 DRAWING: 53 OF 18
 PROJECT: 145-4 (127)
 BRIDGE CONTRACT NO. 12-739
 BRIDGE FILE: 145-127-3275

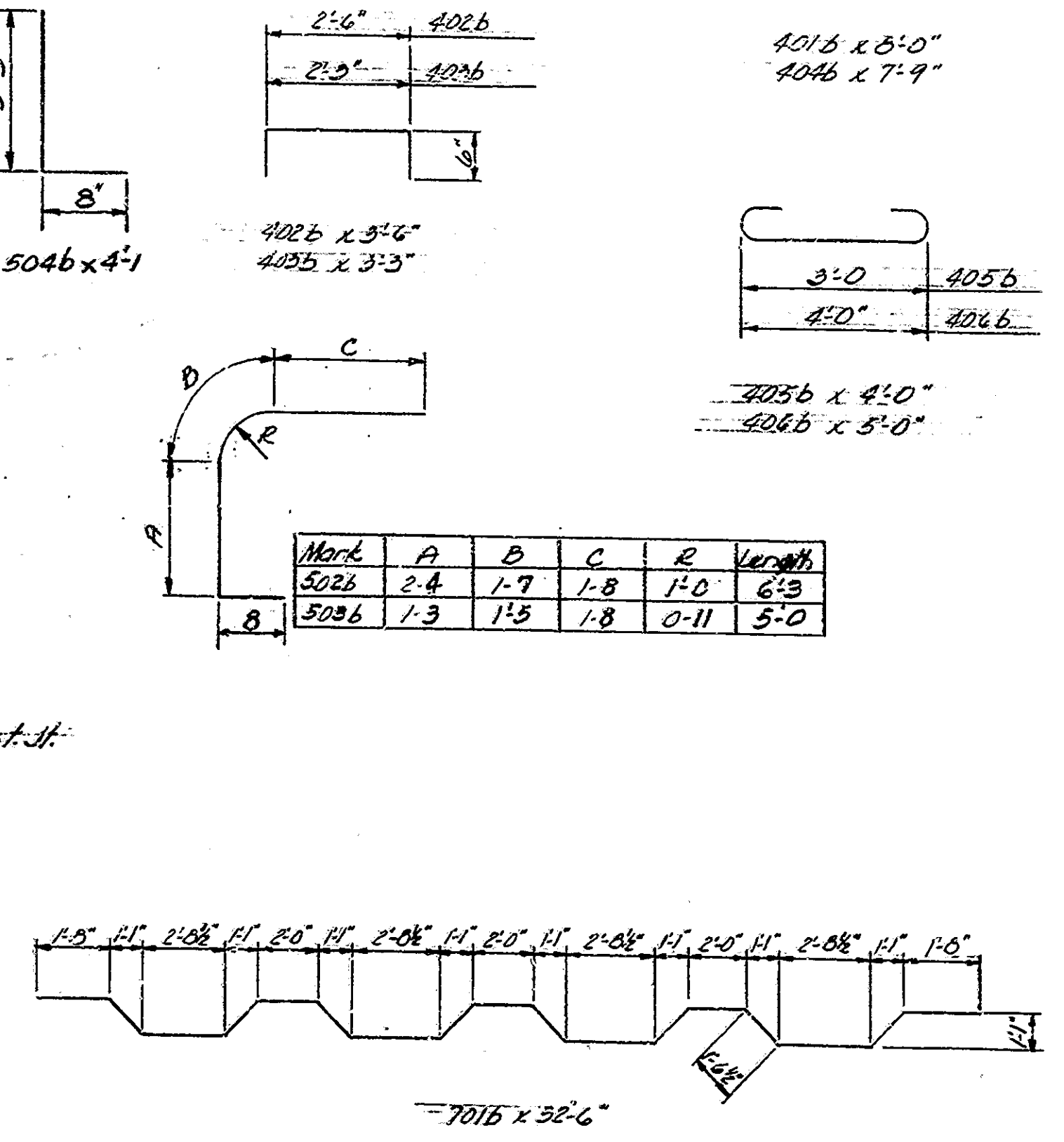
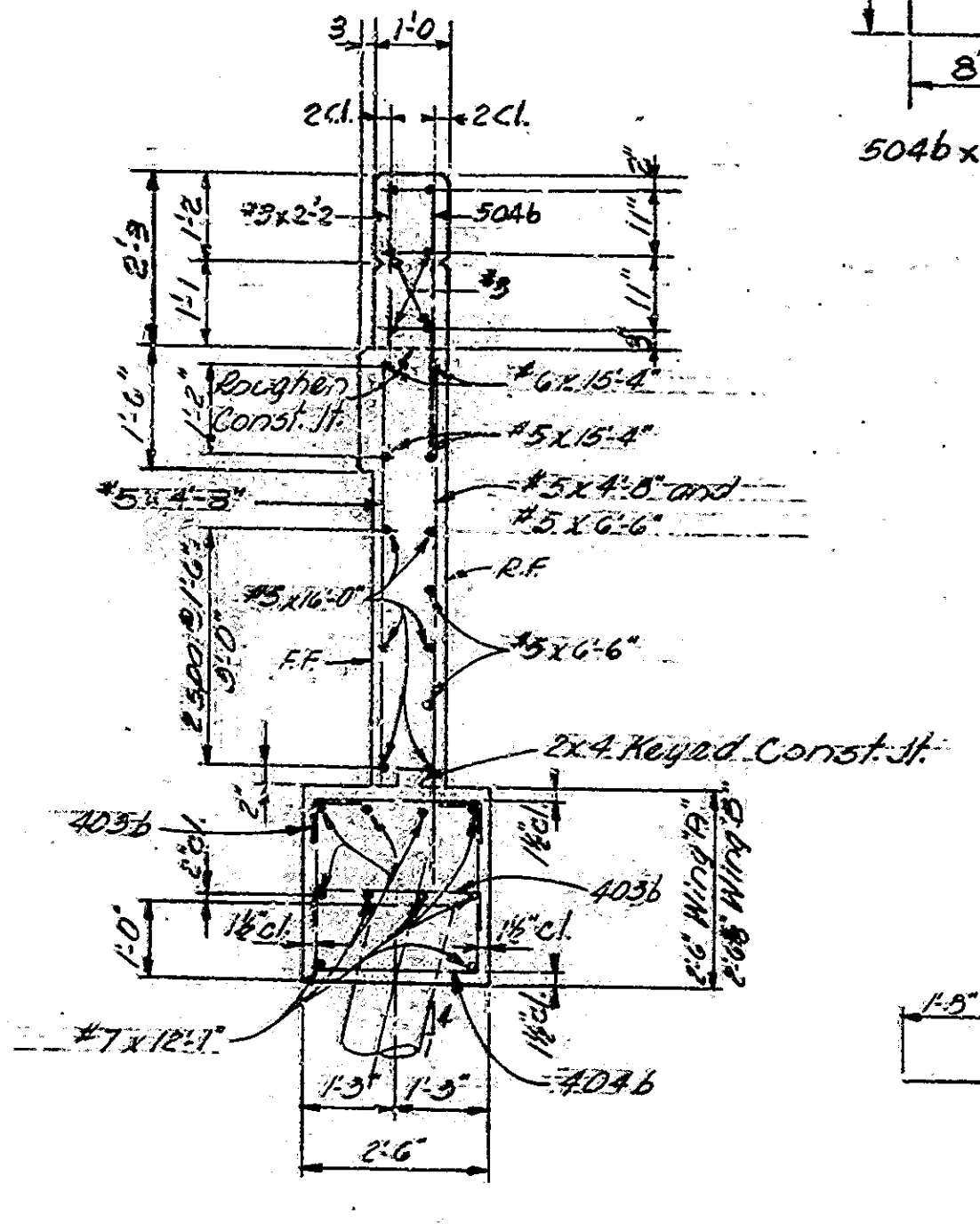
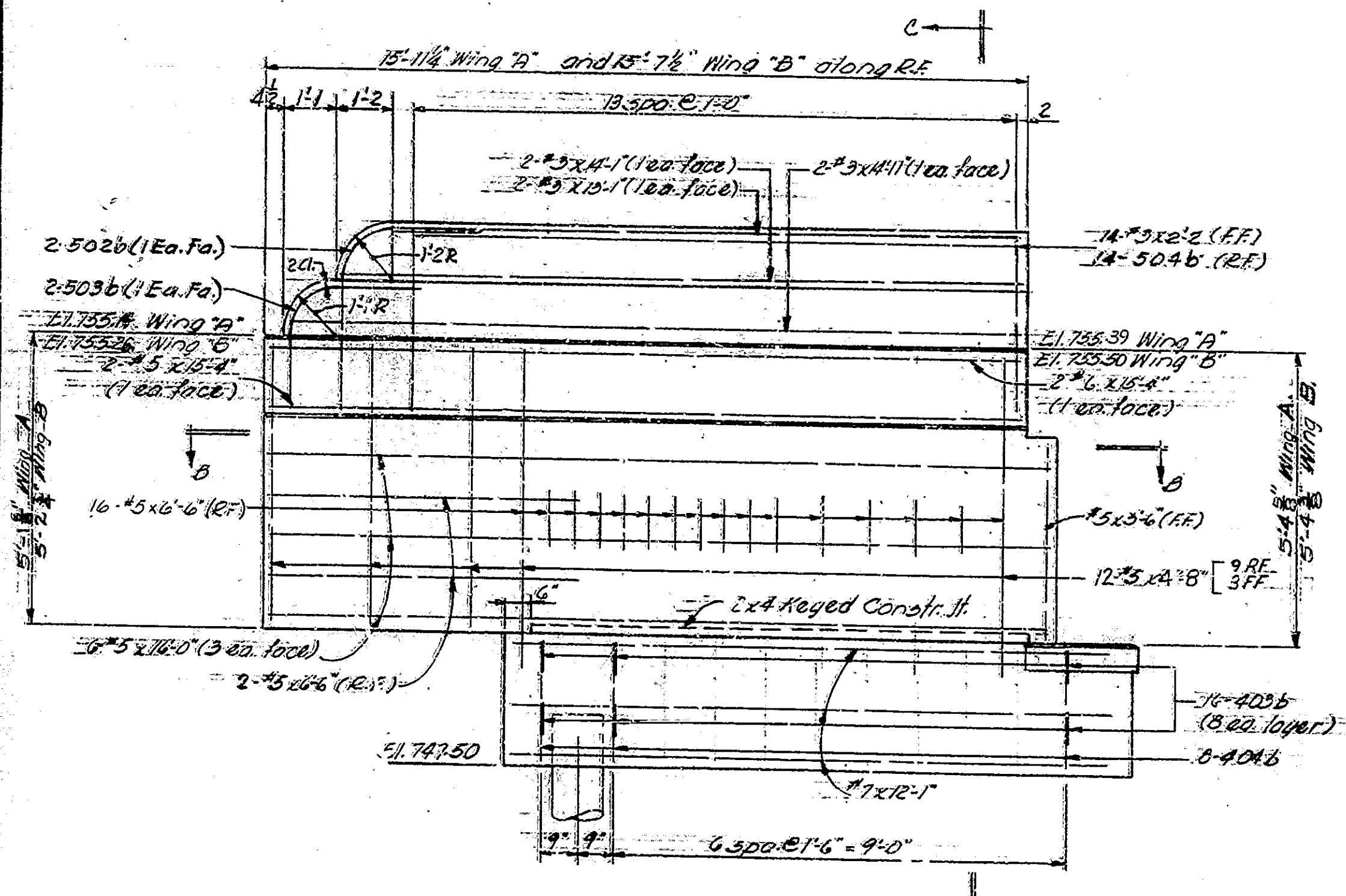
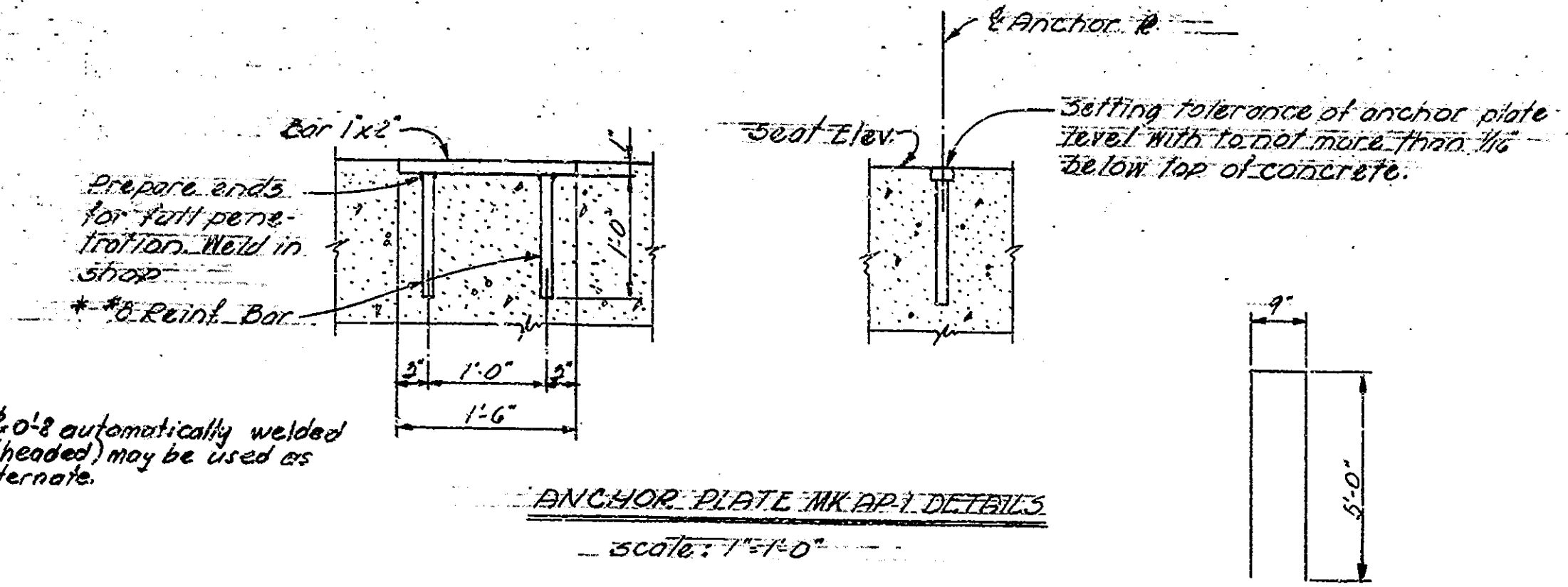
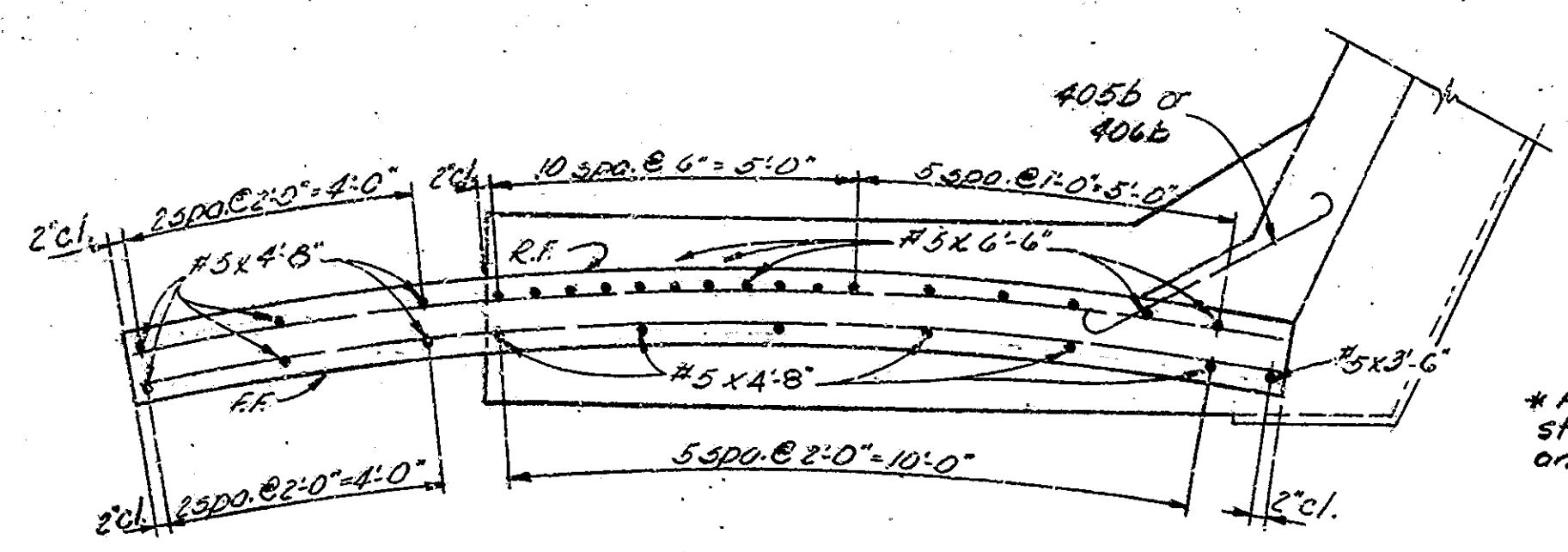
DESIGNED: F.M.C. C.K.D. G.E.A.
 DRAWN: P.M.P. C.K.D. G.E.A.
 TRACED: C.K.D.

Rev. 5-24-66 Reinf. Const. Jt. Reinf. Steel in Cap.

BRIDGES OVER 20' SPAN					
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	E-425-4 (129) 27	1965	6	22

**BILL OF MATERIALS
BENT NO. 1
(Bent No. 5 same)**

REINFORCING STEEL				
SIZE and MARK	N ^o of BARS	LENGTH	WEIGHT	
#7	2	32.6		
#7	2	29.0		
#7	20	12.1		
#7	3	6.0		
#7	3	6.6		
		Total #7	117.8	
#6	4	15.4		
5016	29	10.9		
5026	4	6.3		
5036	4	5.0		
5046	28	4.1		
#5	12	16.0		
#5	4	15.4		
#5	36	6.6		
#5	24	4.8		
#5	2	3.6		
		Total #5	112.4	
4016	22	8.0		
4026	50	3.6		
4036	32	3.3		
4046	16	7.9		
4056	5	4.0		
4066	5	5.0		
4076	2	5.2		
4086	2	4.2		
#4	6	29.0		
#4	30	3.0		
		Total #4	60.6	
#3	28	2.2		
#3	4	11.1		
#3	4	13.1		
#3	4	14.1		
		Total #3	86	
		Total Steel	908.6	
CONCRETE				
Class F in cap:				
Entire Cap and Mudwall				
between Const. Joints				
Wing A			15.8 CYs	
Wing B			3.7 CYs	
Wing C			3.6 CYs	
		Total	23.1 CYs	
Class F Rolling Concrete				
2" E. 12			8.4 CYs	
MISCELLANEOUS				
7.12" #7 Ga. Steel En-				
cased Conc. Piles @ 35'			243 LF	
Anchor Plates MK API			4 ea.	



NOTES:
 BENT CAP: Bent cap shall not be poured until after fill has been completed up to approximate elevation of bottom of cap.
 TOP OF MUDWALL: Top of mudwall and top of depressed keyways shall be trowelled smooth. Cover horizontal surfaces with one layer of medium weight roofing felt and provide 1/4" expansion joint material along vertical sides of keyways.
 REINFORCING STEEL: For reinforcing bar notes see Bridge Standard C.
 F.F. indicates front face.
 R.F. indicates rear face.

PILES: 12" Steel Encased Concrete, 7 ea. piles to be driven to 35 tons minimum bearing capacity. Approximate pile length is 35 feet.
ANCHOR PLATES: Anchor plates MK API to be pre-set in the concrete.
ADDITIONAL DETAILS: For additional details see Drawing 33.
GENERAL NOTES: See Drawing 32 for General Notes.

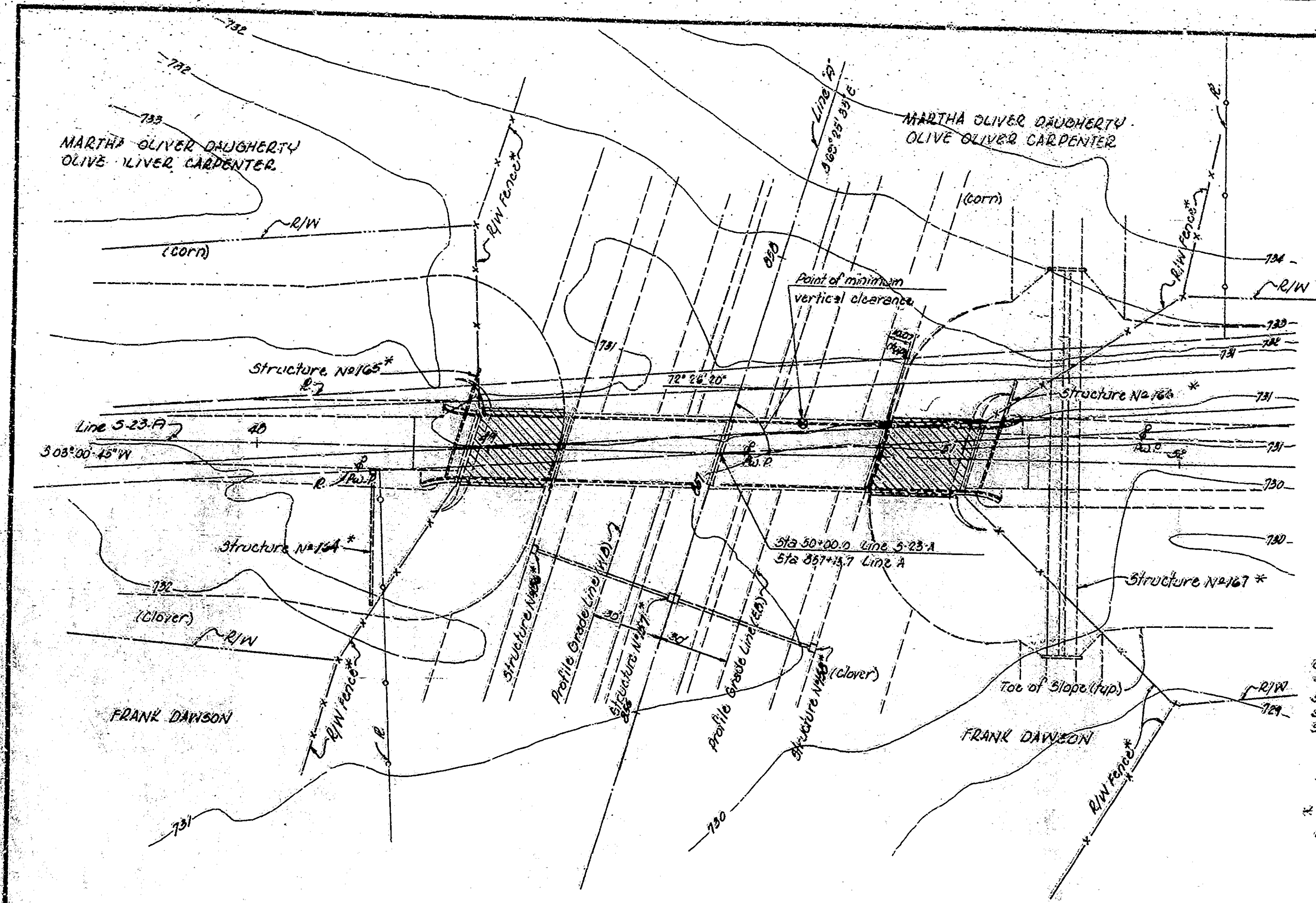
INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted April 15, 1965
 SUBMITTED FOR APPROVAL: Tom F. Anderson, P.E.

DRAWING: 54 OF 13
 PROJECT: E-425-4 (129) 27
 BRIDGE CONTRACT NO. B-7391
 BRIDGE FILE: E-65-129-5275

DESIGNED: LWA	CHKD: GEA
DRAWN: BCB	CHKD: GEA
TRACED:	CHKD:

Rev. 11-2-66 Notes, Bill of Matls.
 Rev. 5-24-66 Rebar, Bent, Plans, Bill of Matls.



SITUATION PLAN
SCALE 1" = 30' CONTOUR INTERVAL = 1 FT.

UTILITY OWNER
Power: Indianapolis Power & Light Co.
29 Monument Circle
Indianapolis, Indiana

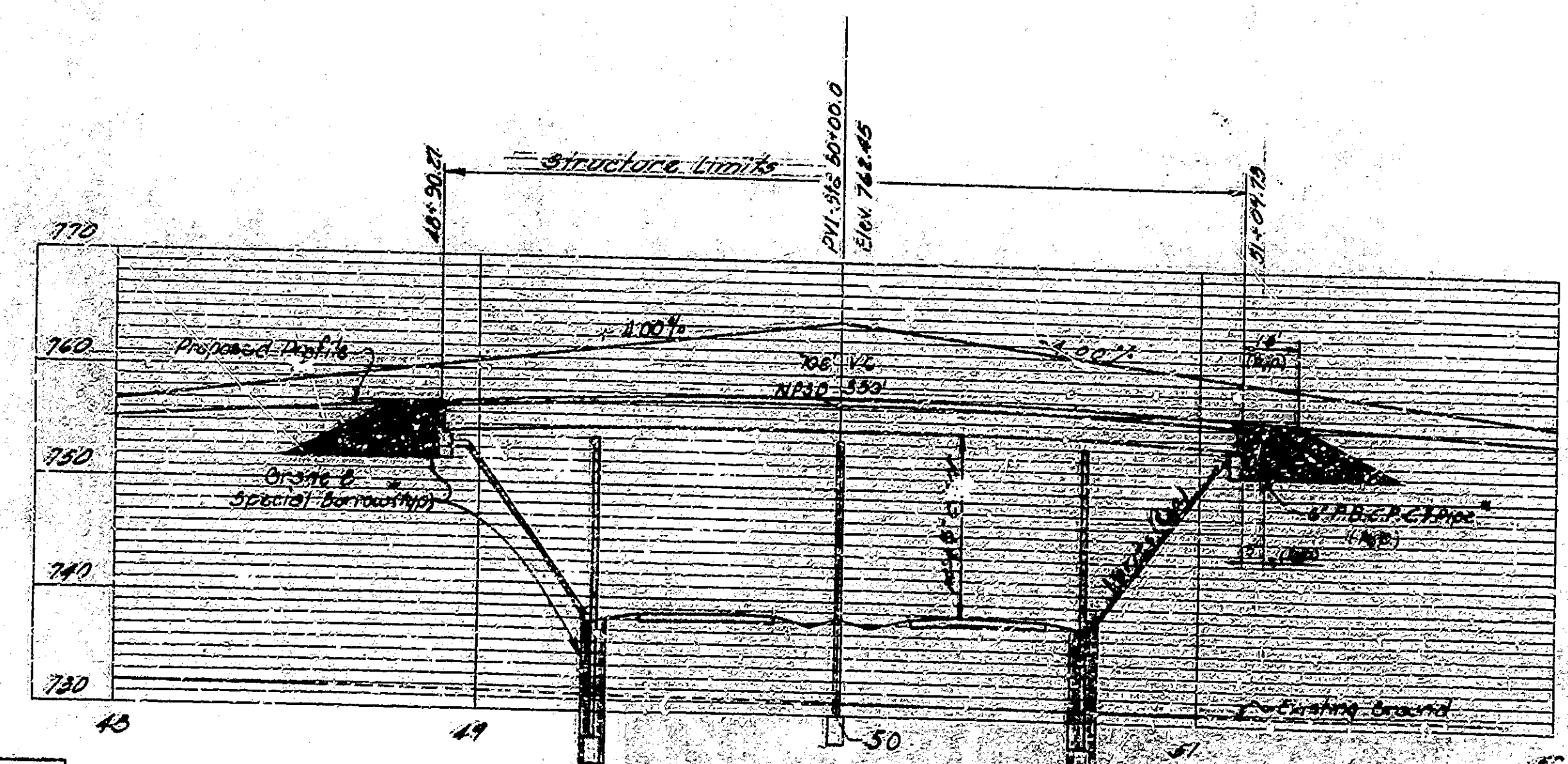
BRIDGES OVER 20' SPAN				
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	TOTAL SHEETS
4	IND.	I-465-4 (22)127	1965	22

Notes:
Crosshatched areas indicate 45% 30 yd. slope wall including 140 sq. yd. for Tozwall and Special Concrete Curb Equip.

* Indicates items included in Road Quantities

Notes:
Location: Section 17, Township 17-N, Range 4-E, Washington Township Marion County.
Approach Data: For bench marks, alignment references and additional approach details, see sheet 25, Project I-465-4 (22)127.
Soil Data: For soil borings see sheet 2. See Article A202 of the specifications regarding test pit data.
Field Notes: Book 8853 T, page 42; Book 8854 L, pages 48 & 50; Book 8855 T, pages 48 & 49; Book 8856 L, pages 63 & 64.

CURVE DATA - 74'
PVI 857+00.0
Elev. 738.65
V.C. 500'
G1 -0.40%
G2 +0.30%



PROFILE ON SURVEY & LINE S-23-A
SCALE: HORIZ. 1" = 30' VERT. 1" = 10'

LAYOUT
Continuous Steel Beam Bridge
4 spans @ 20', 68'5", 68'5", 40'-0", 25'-0" Roadway, 6' Curbs
Skew: 17°33' 40" Right
Over Interstate 465 on North River Road

INDIANA STATE HIGHWAY COMMISSION

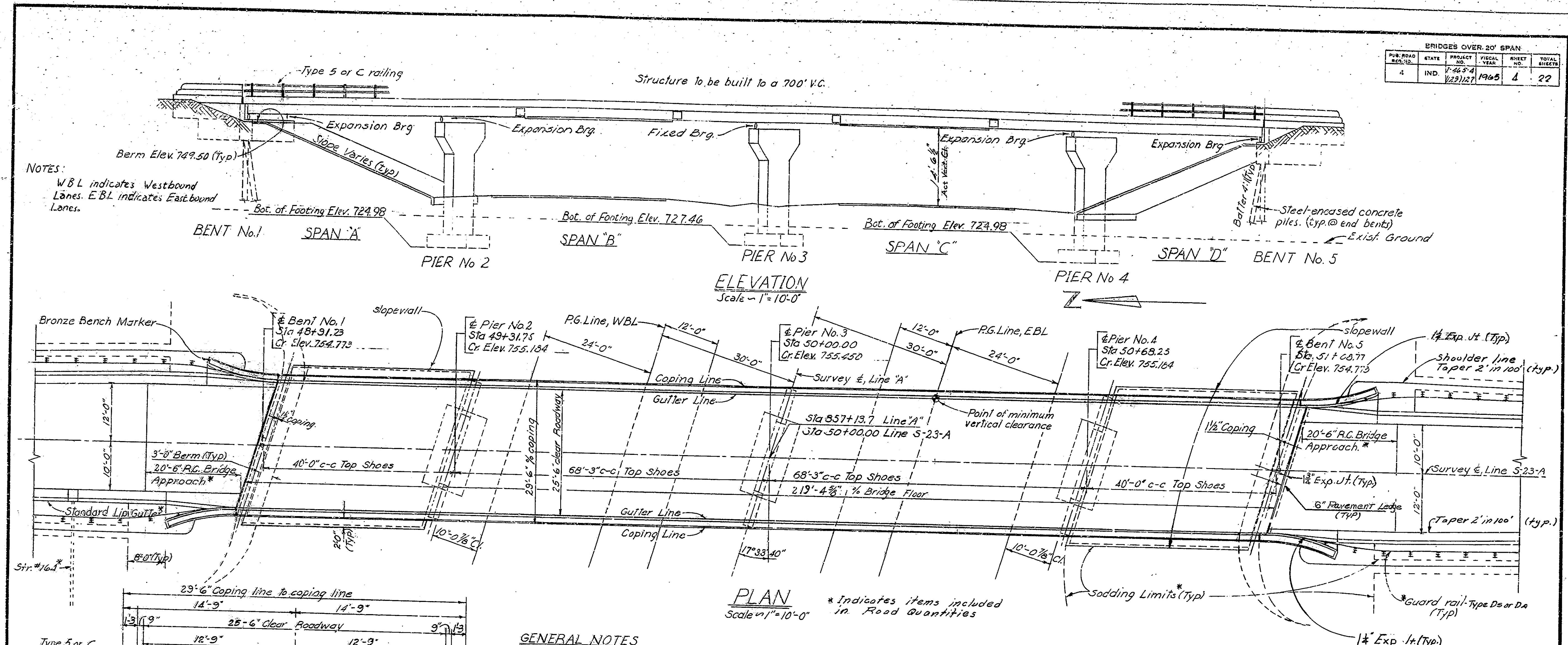
SCALE: As Noted
APR 15, 1966

SUBMITTED FOR APPROVAL: Tom R. [Signature]
DRAWING: 51 OF 13
PROJECT: I-465-4 (22)127 (North Leg)
BRIDGE CONTRACT NO. R-7391
BRIDGE FILE: I-465-4 (22)127-5275

DESIGNED: JWD	CHKD: JWD
DRAWN: JWD	CHKD: JWD
TRACED: JWD	CHKD: JWD

Rev. 5-25-66 Slope Wall, Pipe

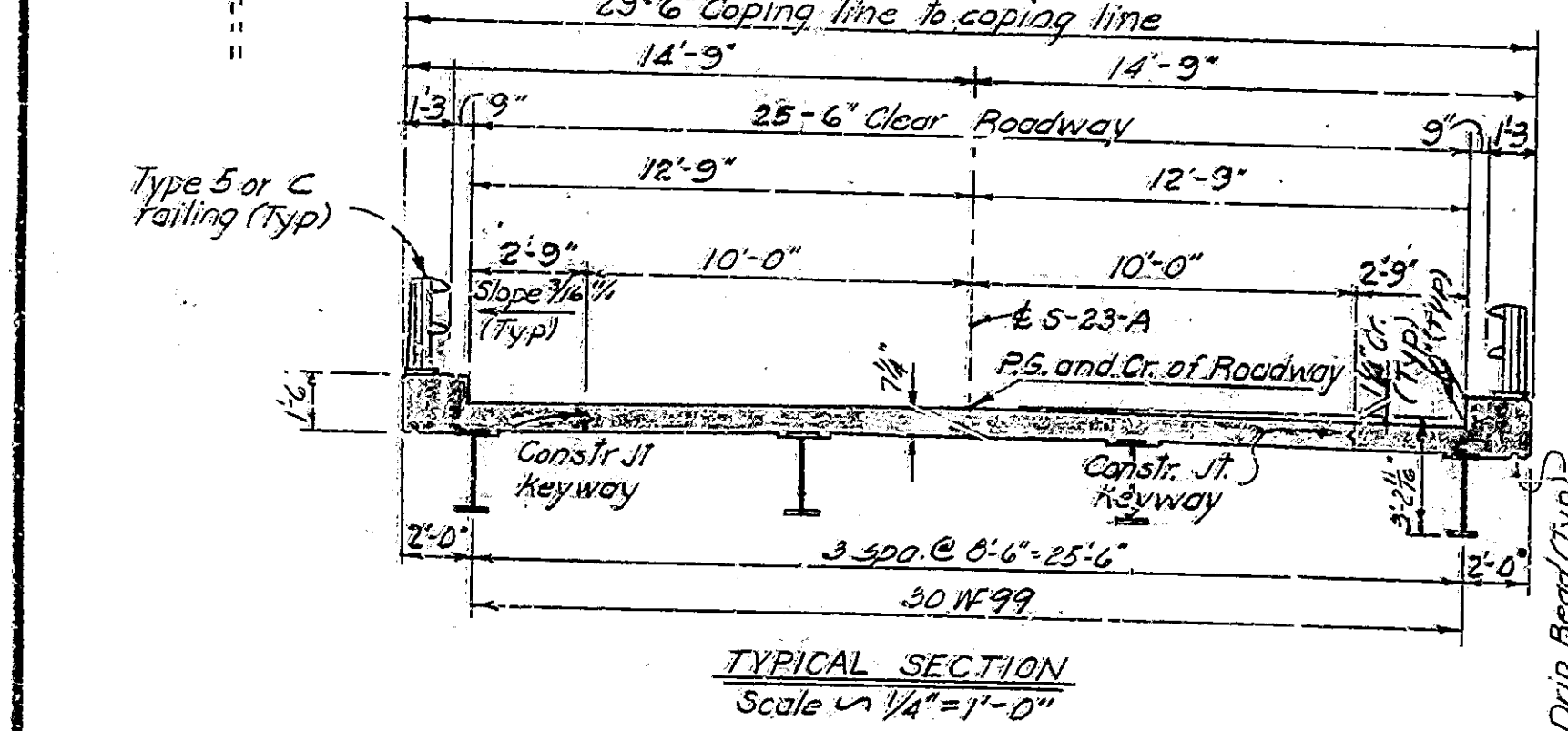
BRIDGES OVER 20' SPAN					
PUB. ROAD	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-A 129127	1965	4	22



NOTES:
WBL indicates Westbound Lanes. EBL indicates Eastbound Lanes.

ELEVATION
Scale - 1" = 10'-0"

PLAN
Scale - 1" = 10'-0"



TYPICAL SECTION
Scale - 1/4" = 1'-0"

GENERAL NOTES

CONCRETE POURS: Continuous concrete pours shall be required between construction joints as shown on detail plans.
WATERPROOFING: Waterproof backs of mullwalls 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.

PAY ITEMS: For pay items covering this structure, see Bridge Summary.
SLOPE PROTECTION: Construct slopewall at locations as shown on layout.
PILE TOLERANCE: Maximum tolerance in position of pile head is 2 inches for steel encased concrete piles.

END BENT CONCRETE: Concrete in end bents to be Class "F".
RAILINGS: All railings to 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.
TYPICAL CROSS SECTION: For Interstate typical sections, see Sheet 5 and for S-23-A typical sections, see Sheet 7, Project I-465-A (129)127.
ENCASED CONCRETE PILES: For details of steel encased concrete piles, see Bridge Standard C1, the Special Provisions, and applicable articles in the Specifications.
MISCELLANEOUS CONCRETE: Concrete in steel-encased concrete piles and concrete slopewalls to be Class "D". Concrete in integral curb to be Class "F".
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 2-110.2 of the Specifications.

Bridge	Purpose
C1	Bar bending, test bar samples, reinforcing bar notes, pile splicing, notes in slabs at ends of beams, 1" Exp. Jt.
MB	Pavement offsets, approach details.
RIE	Aluminum railing details
RIF	Steel railing (Type C)
RIC	Aluminum Railing (Type B)
Road	
MB2	Slopewall

NOTE: 1/2" and 1/4" Exp. Joints same as 1" Exp. Joint shown on Br. Std. C1 except for width.
Slab thickness as shown on plans to be increased 1/2" to provide 2" top cover on slab steel. This change shall be made by raising the grade on the structure. No change in structure elevations is required except those affected by raising floor surface including coping and wingwalls. The approach grade to be warped to match bridge floor. No revisions have been made in these plans for this change. See the Special Provisions.

GENERAL PLAN

CONTINUOUS STEEL BEAM BRIDGE
4 SPANS @ 40'-0", 68'-3", 68'-3", 40'-0", 25'-6" ROADWAY
9" CURBS. SKEW: 17° 33' 40" RIGHT
OVER INTERSTATE 465 ON NORTH RIVER ROAD
INDIANA STATE HIGHWAY COMMISSION

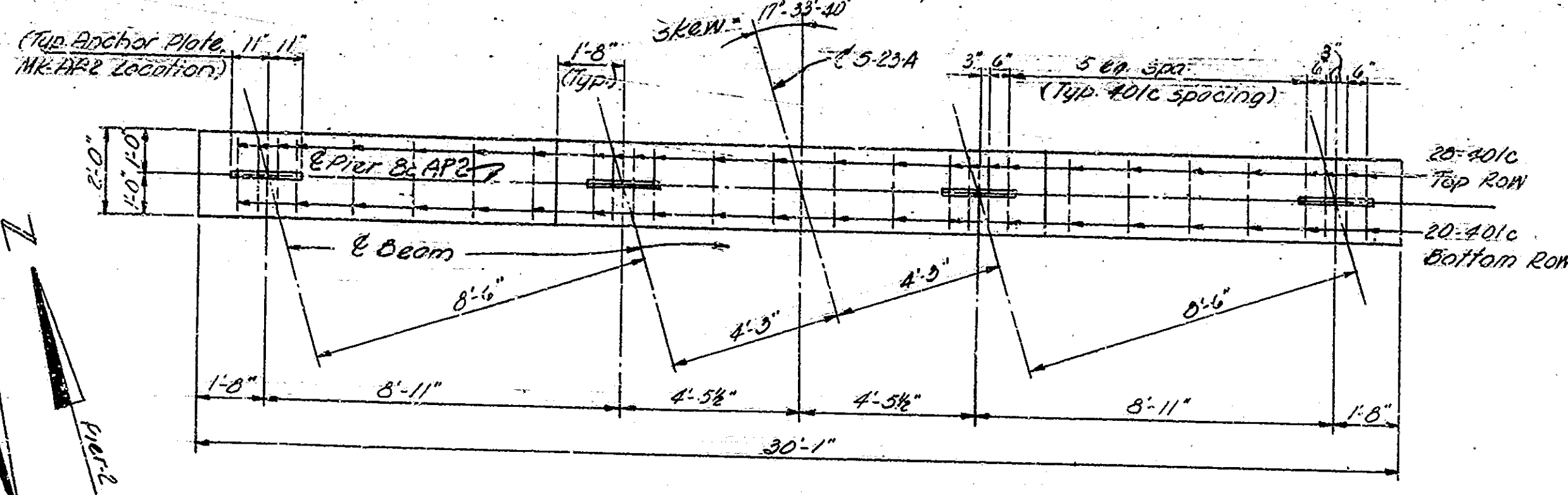
SCALE: As Noted
SUBMITTED FOR APPROVAL: Tom L. ...
DRAWING: S2 OF 19
PROJECT: I-465-A (129)127
BRIDGE CONTRACT NO. 2-739
BRIDGE FILE: I-465-127-5375

DESIGNED	PM	CHKD	FWA
DRAWN	PM	CHKD	FWA
TRACED		CHKD	

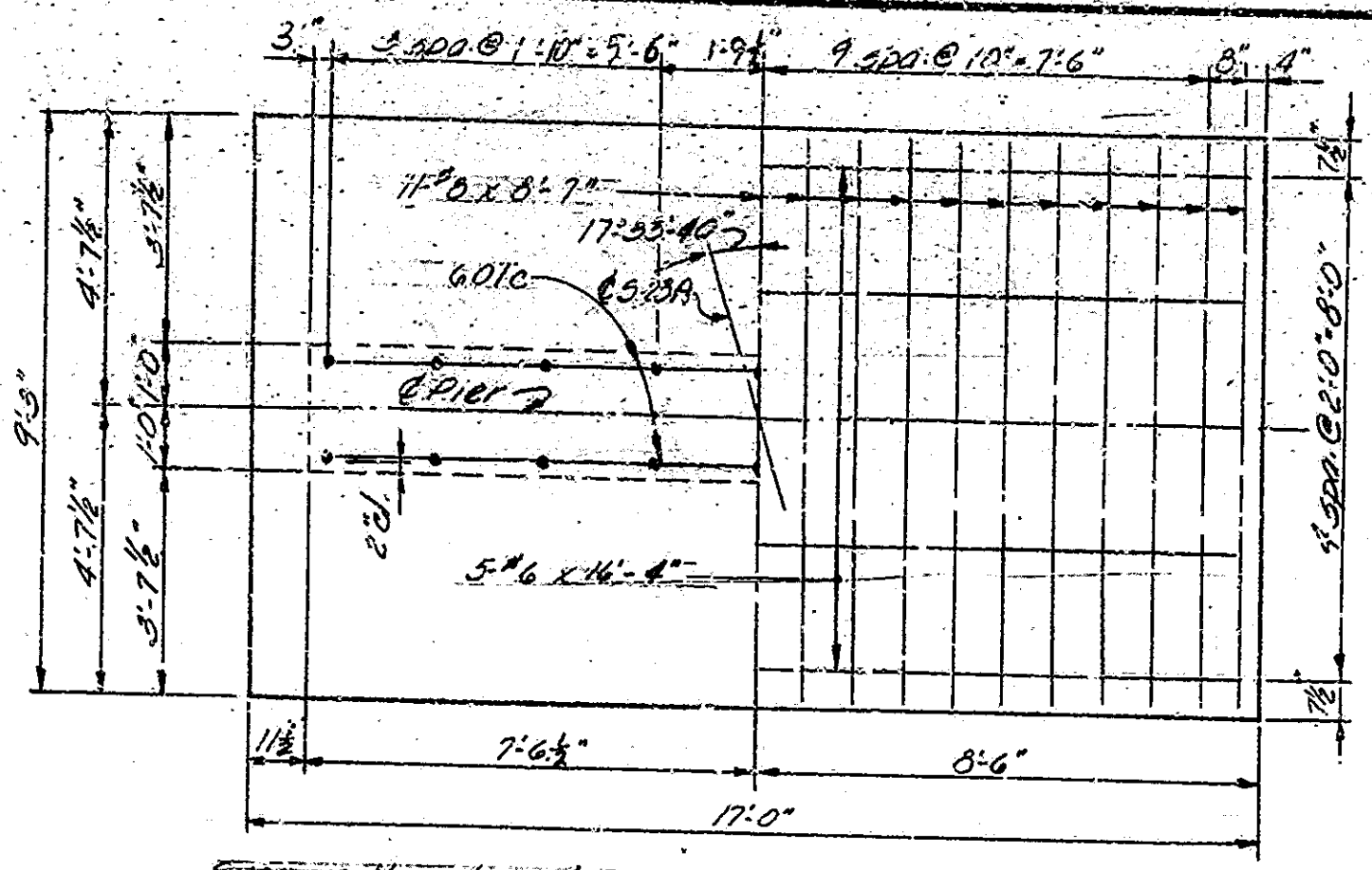
Rev. 3-23-67 Slabthk Note
Rev. 2-15-67 Exp. Jts. Std. Drawg.
Rev. 11-2-66 Notes, Coping Dim.
Rev. 10-6-66 Std. Drawg. & R.R.
Rev. 5-26-66 Railing Std. Drawg. Notes

April 15, 1965

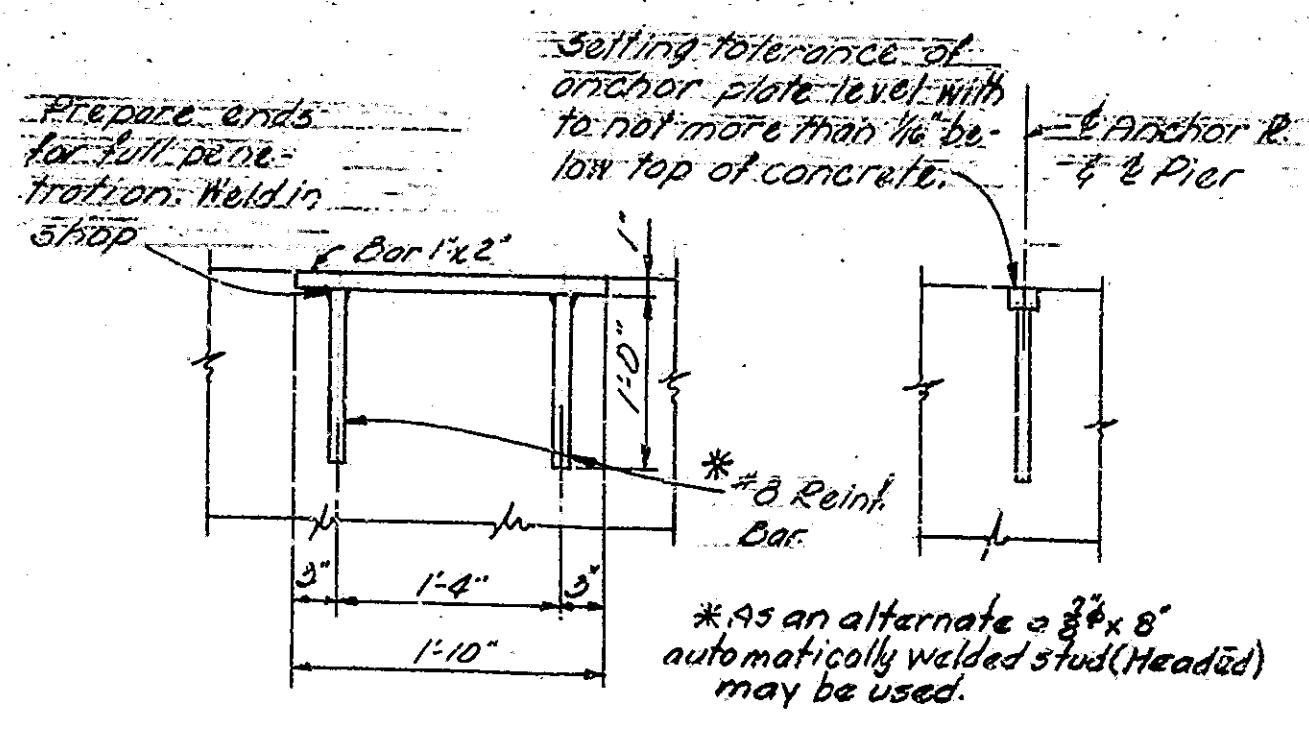
BRIDGES OVER 20' SPAN					
PUB. ROAD	STATE	PROJECT	FISCAL	SHEET	TOTAL
NO.		NO.	YEAR	NO.	SHEETS
4	IND.	I-465-4 (29) 127	1965	7	22



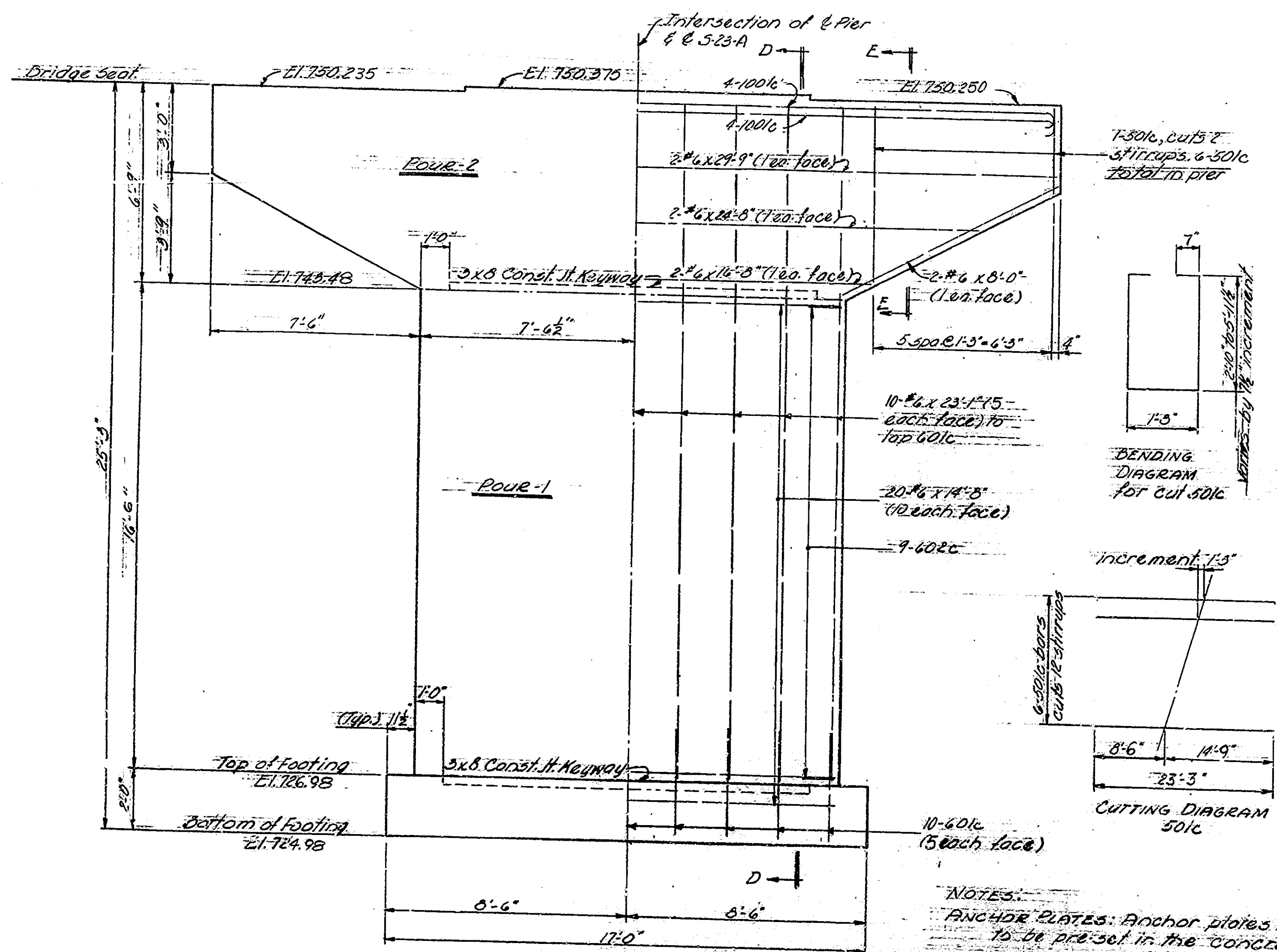
CAP PLAN
Scale: 3/8" = 1'-0"



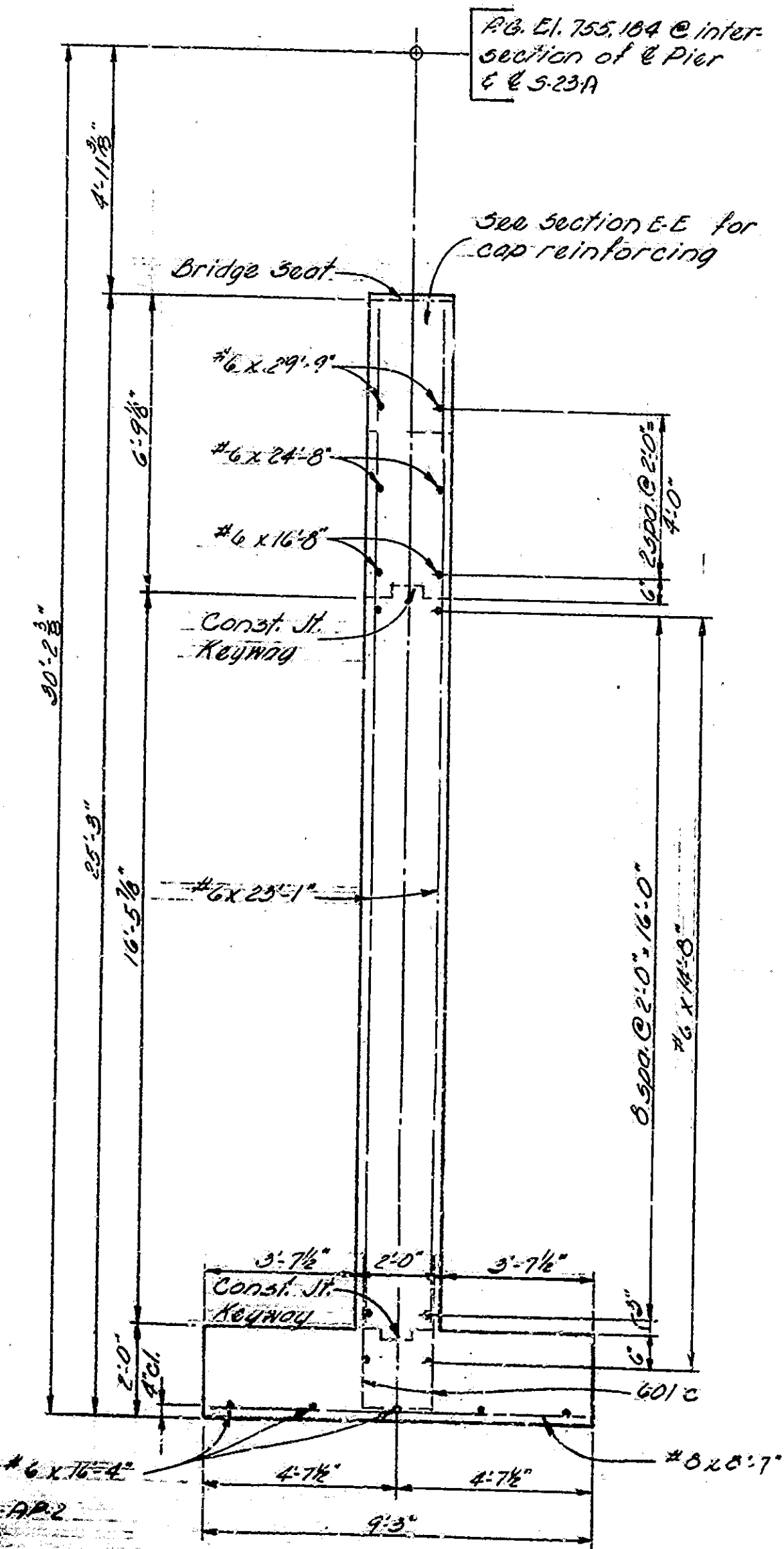
FOOTING PLAN
Scale: 3/8" = 1'-0"



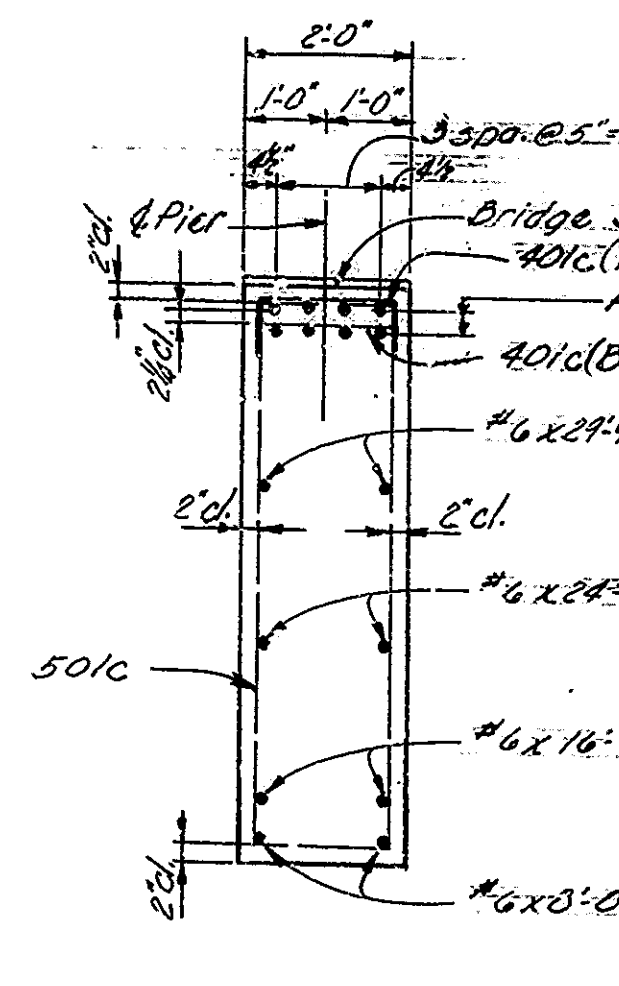
ANCHOR-PLATE-MK-AP-2 DETAILS
Scale: 1" = 1'-0"



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



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



SECTION E-E
Scale: 1/2" = 1'-0"

BILL OF MATERIALS
PIER NO. 2
(PIER NO. 4 Same)

REINFORCING STEEL			
SIZE and MARK	N ^o OF BARS	LENGTH	WEIGHT LBS.
#8	21	8'-7"	481
#6	2	29'-1"	116
#6	2	16'-8"	57
#6	2	24'-8"	104
#6	4	8'-0"	168
#6	20	4'-8"	480
Total #6			1647
501c	6	23'-3"	146
601c	48	2'-8"	86
Total Steel			3482
CONCRETE			
Footing, Class "2"			116.0 cys.
Pier No. 1 Class "2"			18.4 cys.
Pier No. 2 Class "2"			10.0 cys.
MISCELLANEOUS			
Anchor Plates Mk-AP-2			4 ea.

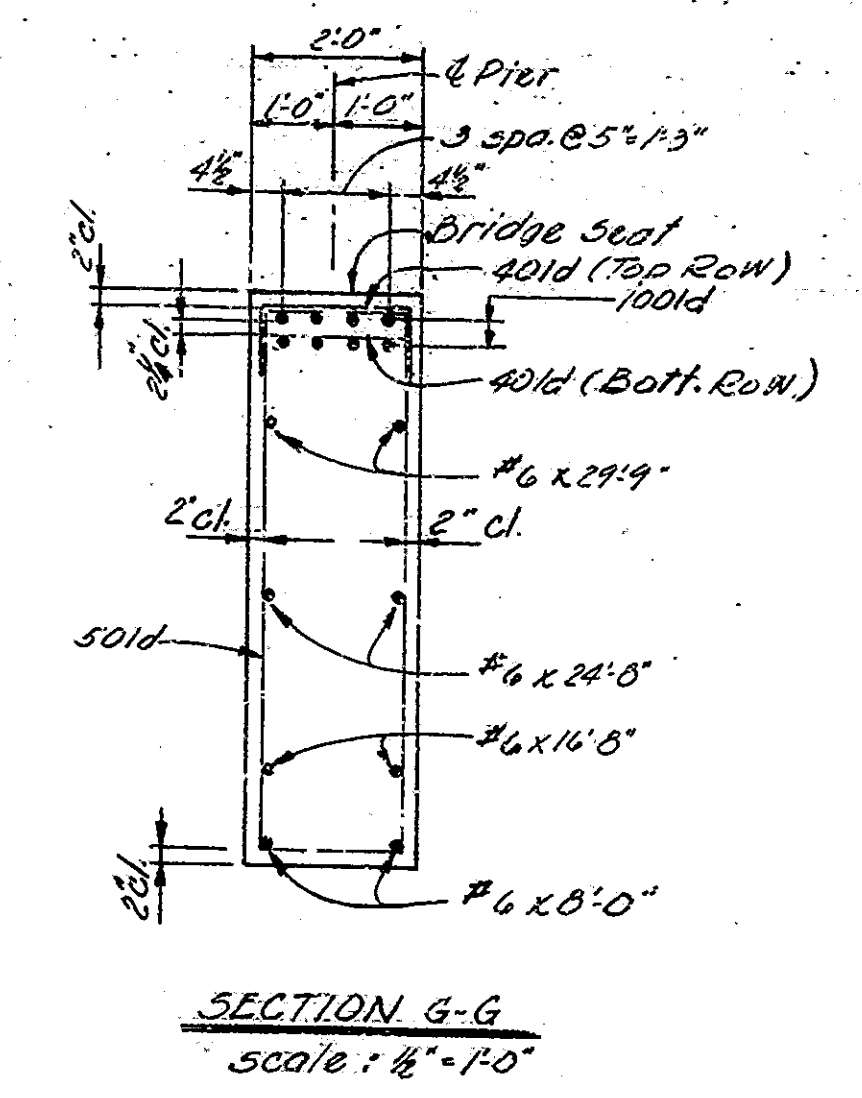
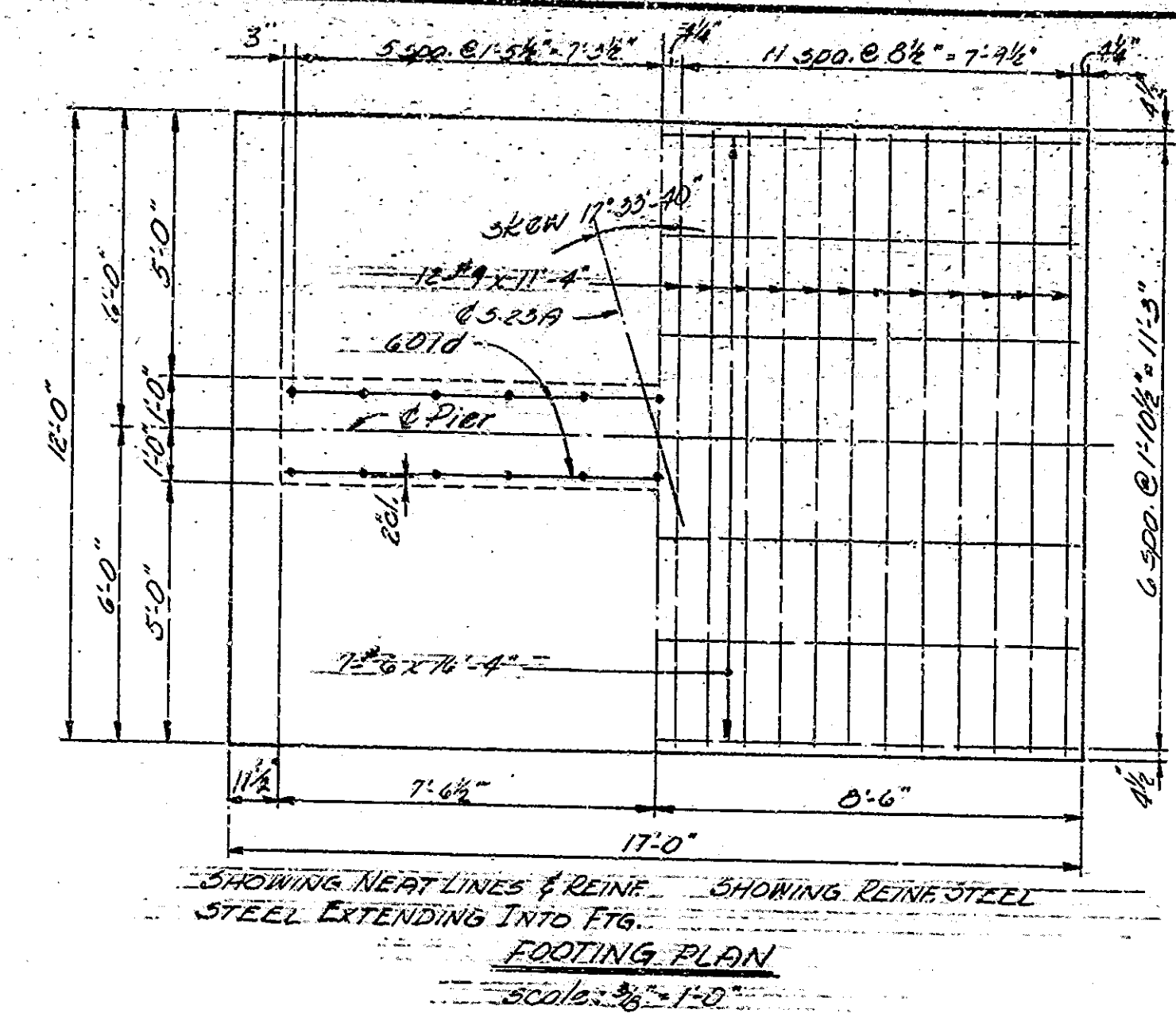
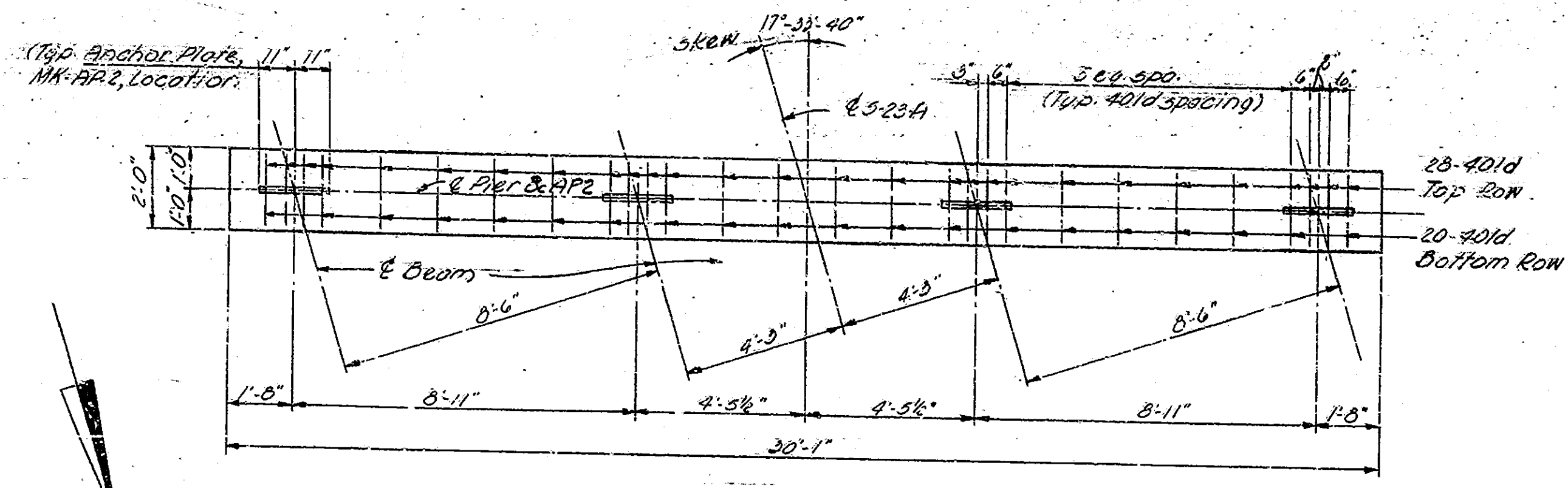
PIERS 2 & 4 DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted
 SUBMITTED FOR APPROVAL: *Tom P. Henderson P.E.*
 DRAWING: 55 OF 15
 PROJECT: I-465-4 (29) 127
 BRIDGE CONTRACT NO. R-7391
 BRIDGE FILE: I-465-127-5275
 April 15, 1965

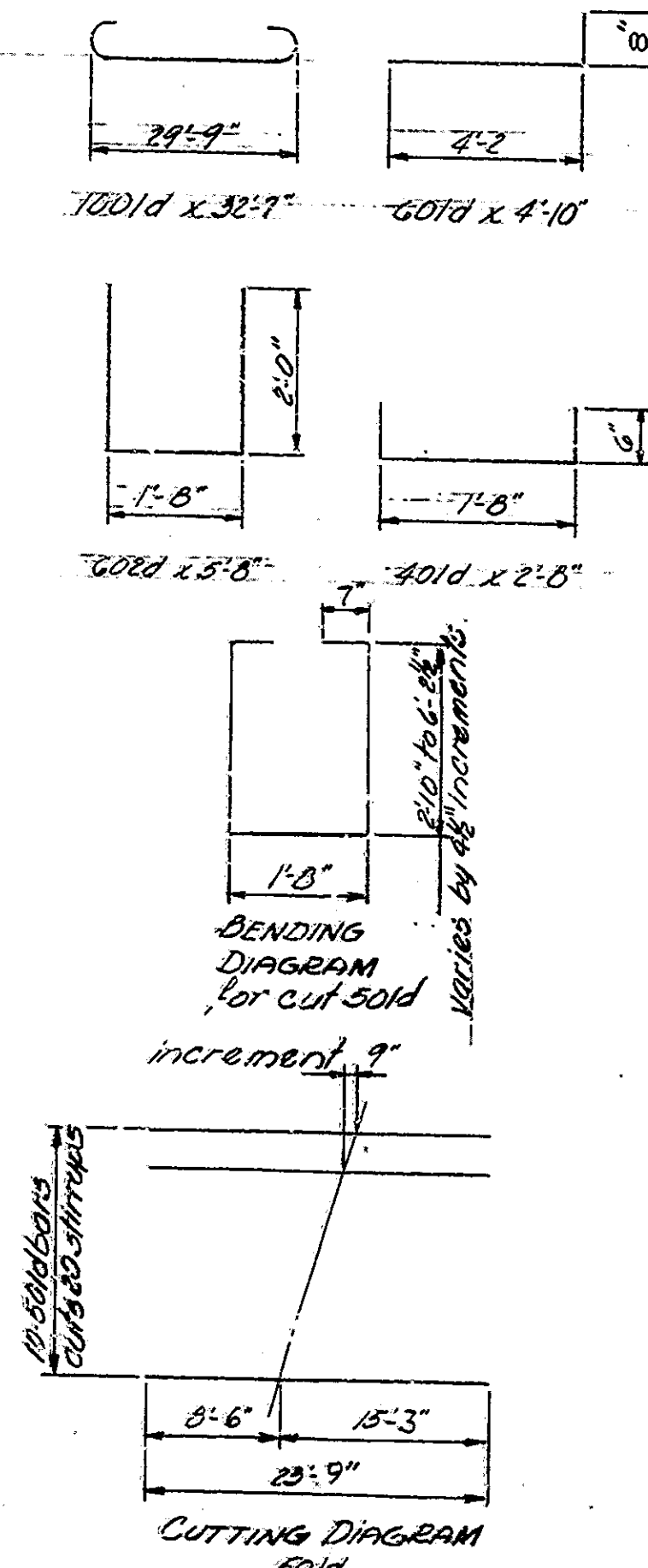
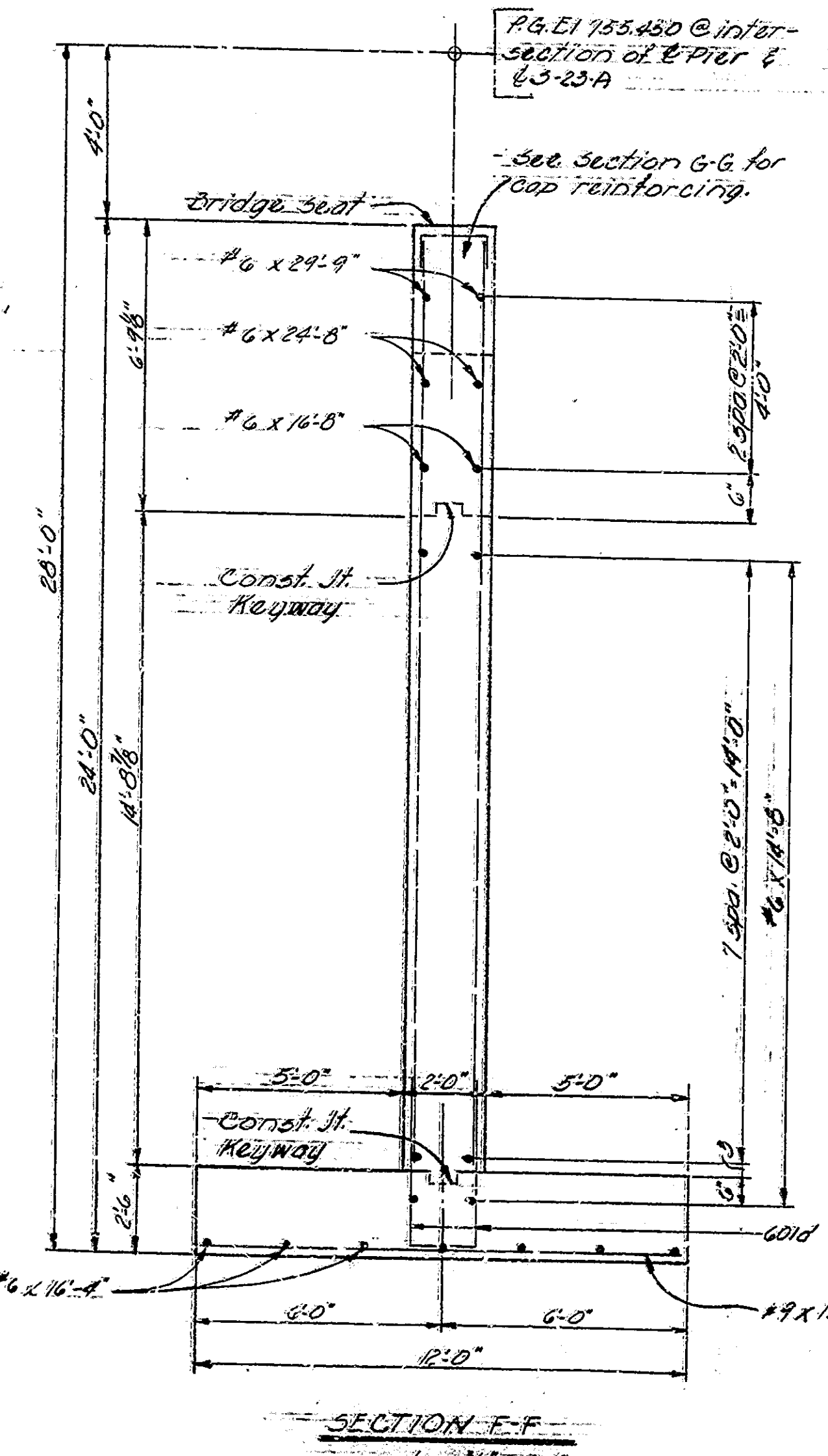
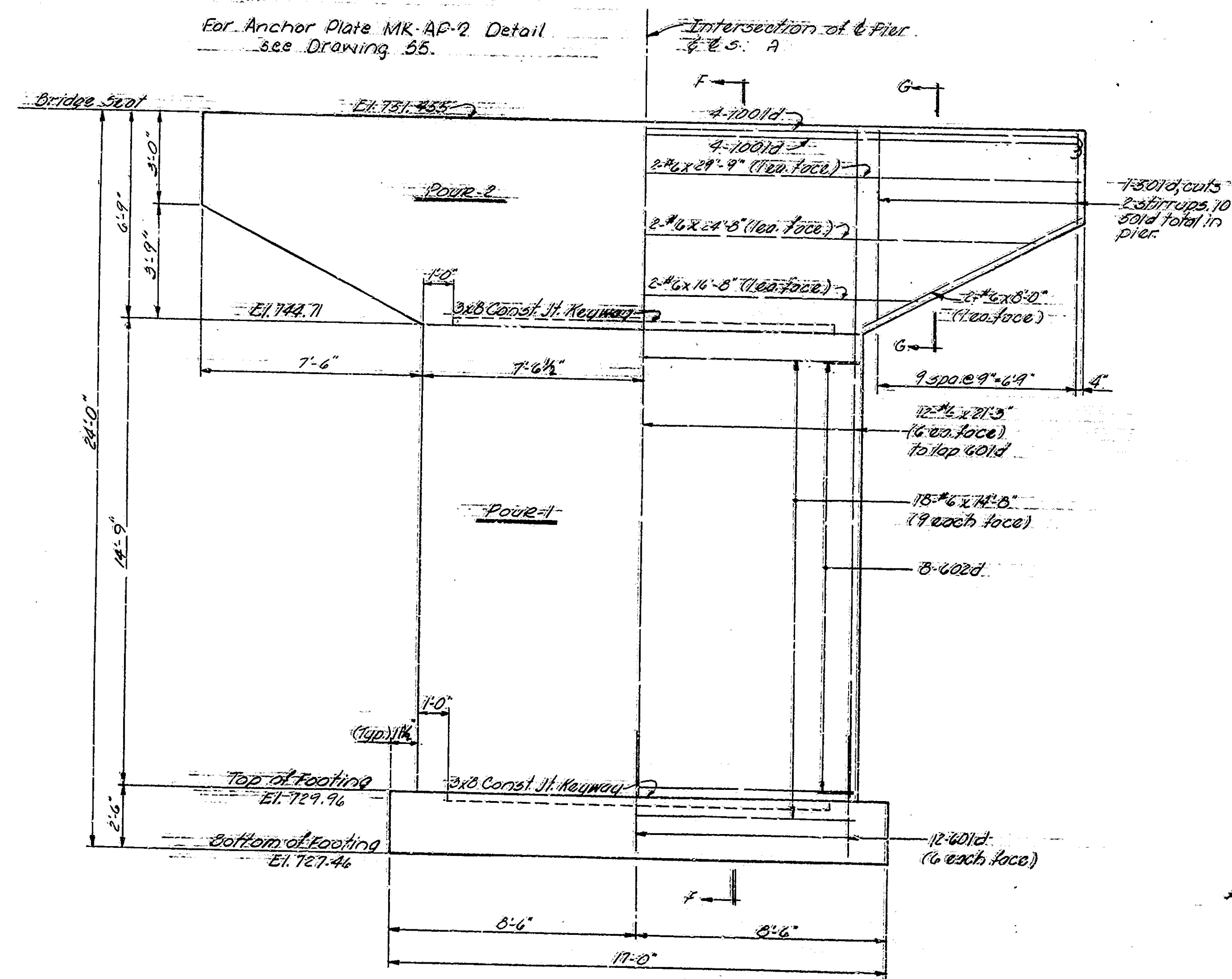
DESIGNED	CKD	GEA
DRAWN	CKD	GEA
TRACED	CKD	

NOTES:
 ANCHOR PLATES: Anchor plates Mk-AP-2 to be pre-set in the concrete.
 REINFORCING STEEL: For reinforcing BAR notes see Bridge Standard C₁.
 GENERAL NOTES: See Drawing 5-2 for General Notes.

BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-A (129)127	1965	8	22



NOTE
NOTES: See Drawing 3-5 for notes.
For Anchor Plate MK-AP-2 Detail see Drawing 55.



BILL OF MATERIALS
PIER NO. 3

REINFORCING STEEL			
SIZE and MARK	NO OF BARS	LENGTH	WEIGHT LBS.
#1001d	8	32.7	1122
#9	24	11.4	425
#601d	22	4.10	
#602d	16	5.0	
#6	18	14.8	
#6	22	21.9	
#6	4	8.0	
#6	2	14.0	
#6	2	24.8	
#6	2	24.9	
#6	7	16.4	
	Total #6		1028
#501d	10	23.9	243
#501d	40	2.8	84
	Total Steel		4209
CONCRETE			
Footing, Class "E"			18.9 cys.
Pour No. 1, Class "E"			16.4 cys.
Pour No. 2, Class "F"			13.2 cys.
MISCELLANEOUS			
Anchor Plates MK-AP-2			4.00

DESIGNED: FNG CKD: G.E.A.
DRAWN: BKB CKD: G.E.A.
TRACED: CKD

INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted

APR 15, 1965

SUBMITTED FOR APPROVAL: Tom J. [Signature], P.E.

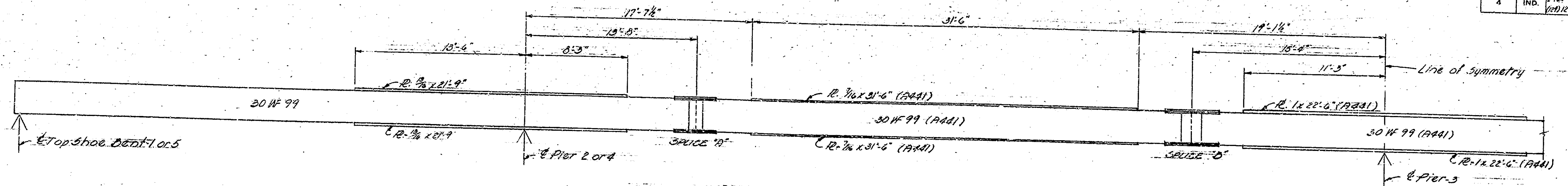
DRAWING: 56 OF 15

PROJECT: I-465-A (129)127

BRIDGE CONTRACT NO. 2-7391

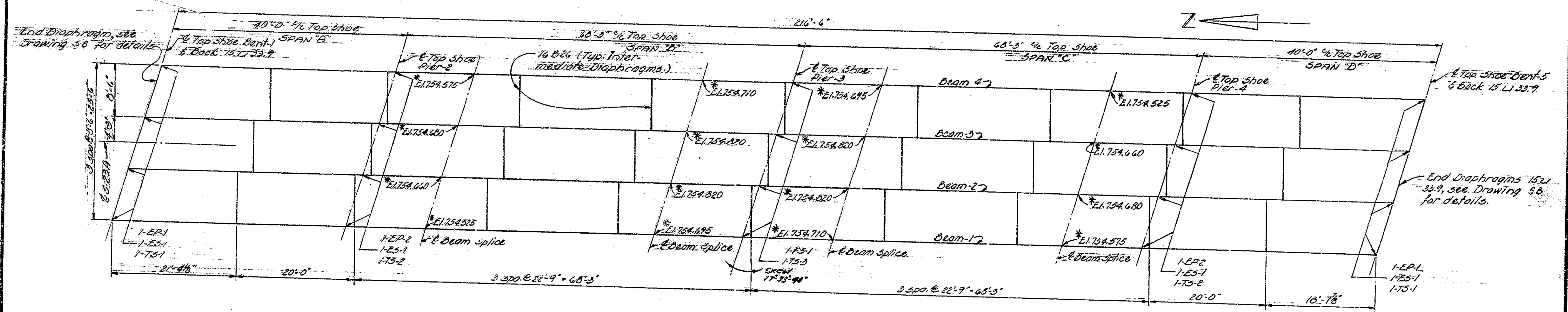
BRIDGE FILE: I-465-127-3278

BRIDGES OVER 20' SPAN					
PUB. ROAD	STATE	PROJECT	FISCAL	SHEET	TOTAL
NO.		NO.	YEAR	NO.	SHEETS
4	IND.	I-465-A	1965	9	22



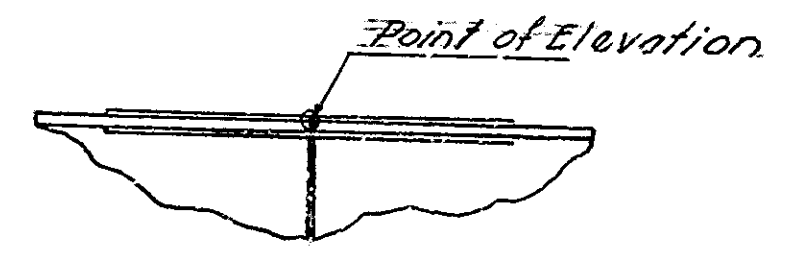
BEAM ELEVATION
Scale: 1/4" = 1'-0"

NOTE:
For splice and cover plate details
see Drawing 58



FRAMING PLAN
Scale: 1/8" = 1'-0"

	TABLE OF MOMENTS and REACTIONS													
	Max. Pos. Mom. @ Pt. Spans A & B kips-ft.		Max. Pos. Mom. @ Pt. Spans C & D kips-ft.		Neg. Mom. @ Piers 2 & 4 kips-ft.		Neg. Mom. @ Pier 3 kips-ft.		Reaction @ Piers 1 & 5 kips		Reaction @ Piers 2 & 4 kips		Reaction @ Pier 3 kips	
	Int. Em.	Ext. Em.	Int. Em.	Ext. Em.	Int. Em.	Ext. Em.	Int. Em.	Ext. Em.	Int. Em.	Ext. Em.	Int. Em.	Ext. Em.	Int. Em.	Ext. Em.
Dead Load	84.5	87.7	270.9	278.3	351.3	394.3	561.5	570.4	18.2	18.6	74.5	72.1	90.0	92.2
Live Load	276.0	243.0	402.4	410.4	312.3	225.8	401.5	300.5	31.4	29.8	45.5	42.2	51.0	47.2
Impact	82.8	74.3	119.2	107.0	88.8	79.7	104.0	93.4	9.0	10.7	10.1	11.2	11.2	10.5
Total	443.3	410.0	820.5	793.7	782.4	759.8	1067.0	1024.3	58.6	58.6	130.1	124.4	152.2	150.9



*NOTE: All elevations given are at the top of the beam flange.
Indicated elevations may vary by 0.02'

NOTE:
See Drawing 58 for Notes

DESIGNED: *[Signature]* CKD GEA
DRAWN: *[Signature]* CKD GEA
TRACED: CKD

FRAMING PLAN
INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted
SUBMITTED FOR APPROVAL: *[Signature]*, P.E.

April 15, 1965
DRAWING: 57 OF 13
PROJECT: I-465-A (129) 127
BRIDGE CONTRACT NO. B-7391
BRIDGE FILE: I-465-127-5875

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

SUPERSTRUCTURE GENERAL NOTES

STRUCTURAL STEEL: All structural steel shall conform to ASTM A36, unless otherwise noted.

BOLTS: High Strength Bolts shall be 7/8 inch diameter and holes 1/4 inch diameter, unless noted.

RIVETS: Rivets shall not be used in the assembly of structural steel.

TOP SHOE CONNECTION: Diameter of holes in all material connecting top shoes to beam flanges shall be 1/8 inch.

BOLTS: Bolts connecting beam flange to top shoe shall extend into top shoe a minimum of 1 inch.

HOLES FOR BEAM SPICES: Holes for beam splices shall be sub-punched or subdrilled and reamed to size while assembled. See Article E1103.18(d) of the specifications.

FLANGE SPICE 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.

GENERAL NOTES: See Drawing 5-2 for General Notes.

SHOP DETAILS: The shop details shall show a plan of match-marking for all reamed pieces.

SPICE 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.

SHIMS: Shims between beams and top shoes may be built up. No shim shall be less than 1/8 inch in thickness.

PAINTING: All paint shall be in accordance with current State Highway Specifications.

Shop Paint: Basic Lead Silico Chromate. (See Special Provisions)

Field Paint: 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 chattered paint or foreign matter and completely covered with one coat of shop paint.

FIELD SPICES: All structural steel is to be erected using full size drift pins in a minimum of fifty per cent (50%) of the flange splice holes and fifty per cent (50%) of the web splice holes. The elevations shall be checked before bolting field splices and the structural steel unsupported by falsework.

CAMBER: Beams shall be cambered to a smooth curve when required as indicated on the No Load Camber and Reaming Diagram, Drawing 5-9. In cases no camber is required but camber exists, layout beams with camber up. Camber must be checked while beams are supported in such a way as to have no bending moment in direction of camber.

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

DIAPHRAGM CONNECTION: Diaphragm connections may be bolted in lieu of field welded connections. If this contract elects to use connections other than shown in the detail plans, the contractor shall submit details to the Engineer for approval. He 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.

*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 = 126,000 pounds
ASTM A36 = 108,000 pounds
ASTM A441 = 18,000 pounds
Total = 126,000 pounds

DESIGNED	END	CKD	GFA
DRAWN	BWD	CKD	GFA
TRACED		CKD	

DATA USED FOR DESIGN AND DETAILS

LIVE LOAD: HS20 - #A loading with impact and distribution of loads in accordance with 1985 AASHTO specifications.

DEAD LOAD: Actual weight plus 35 pounds per square foot of roadway to provide for future wearing surface.

SLAB: Designed for 14,000 pound wheel plus impact, and with 1/2" monolithic wearing surface.

UNIT STRESSES (Structural Steel)

Bending, Tension or Compression

A-36
A441 (3/4 inch and under)
A441 (3/4 inch to 1 1/2 inch incl.)

Shear in Fillet Welds (A36)

Shear on High Strength Bolts

26,000 #/a"
27,000 #/a"
24,000 #/a"

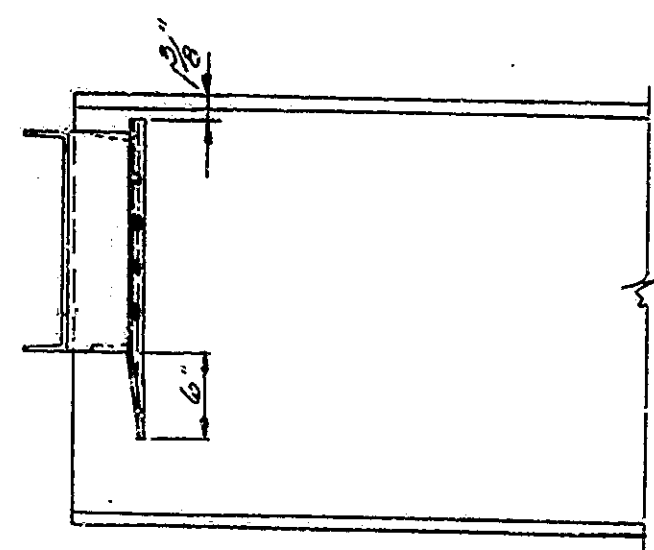
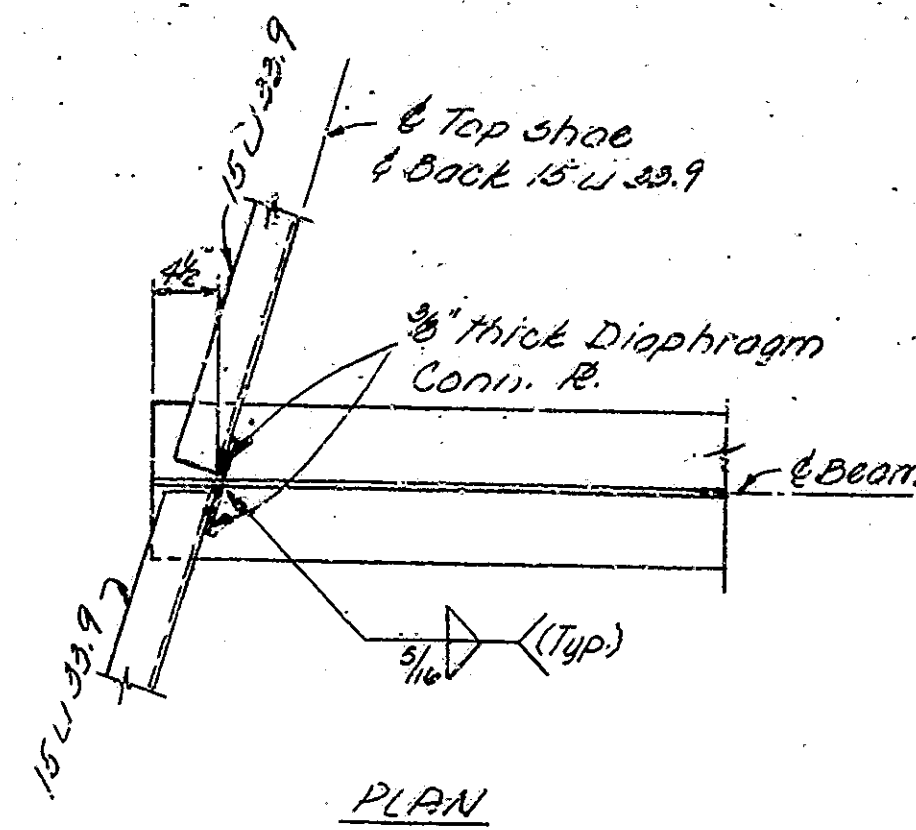
12,400 #/a"
16,500 #/a"

Bearing steel on Concrete (Including Overturning and Eccentric Loading)

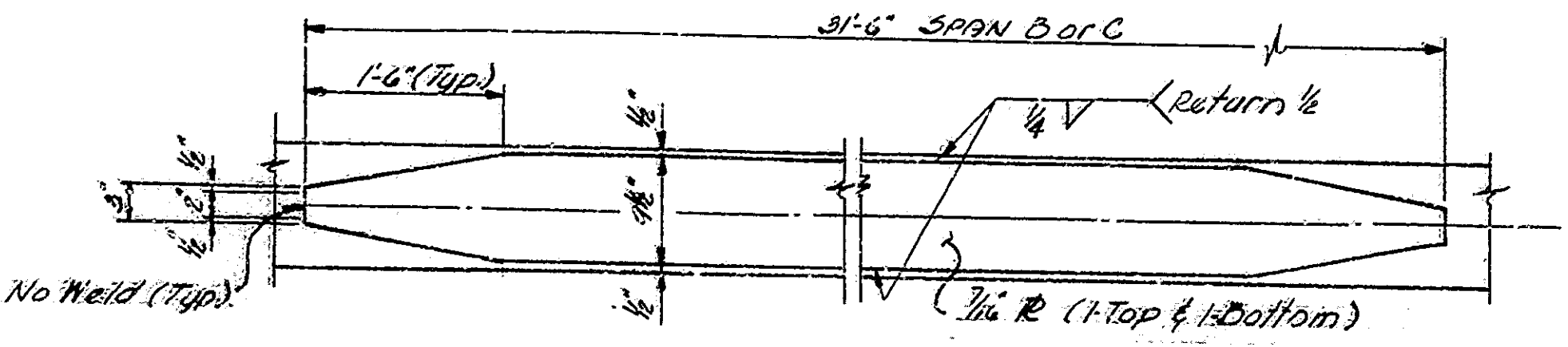
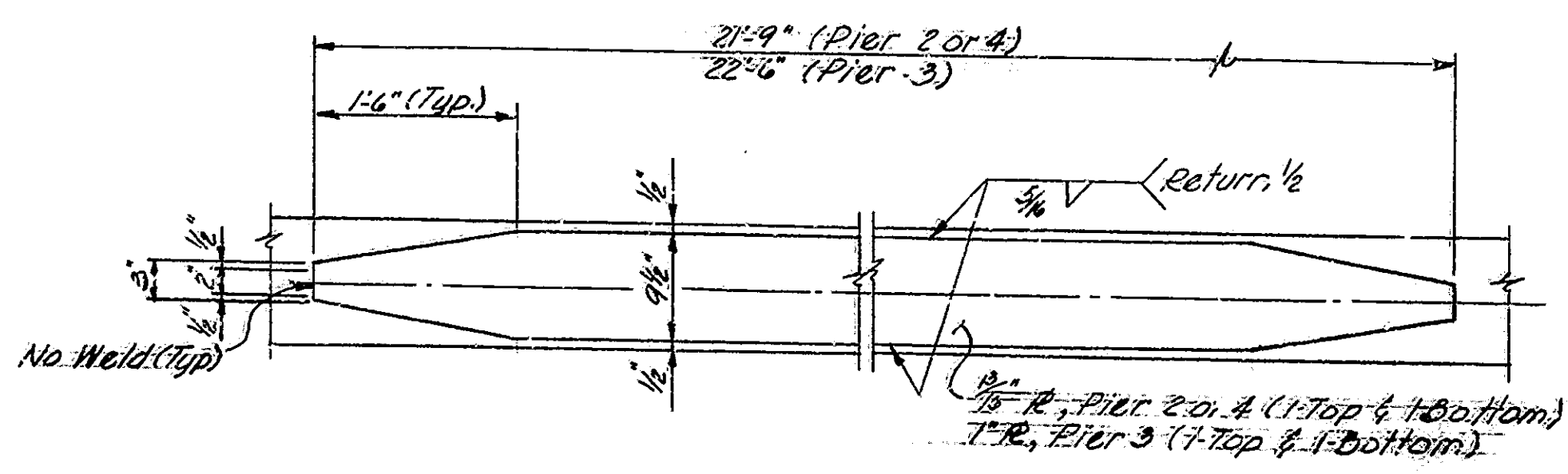
Reinforcing Steel (Tension)

Concrete (Compression)

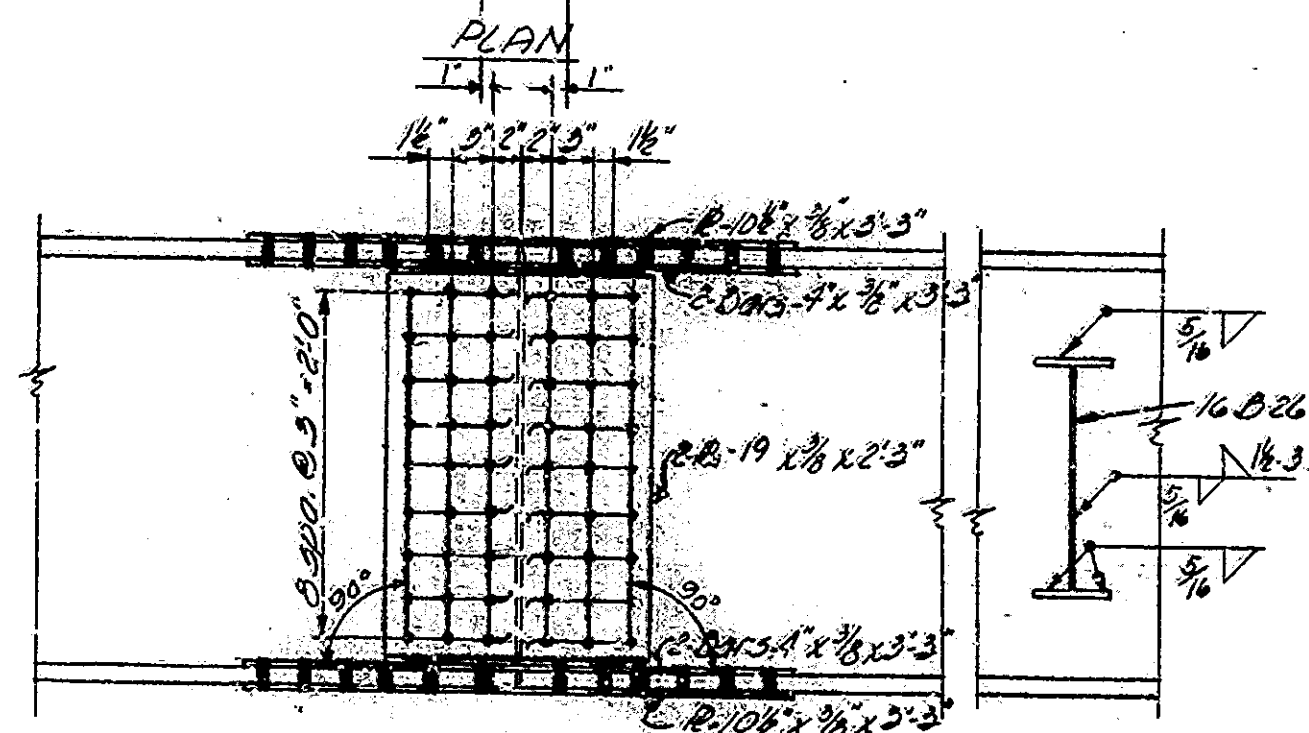
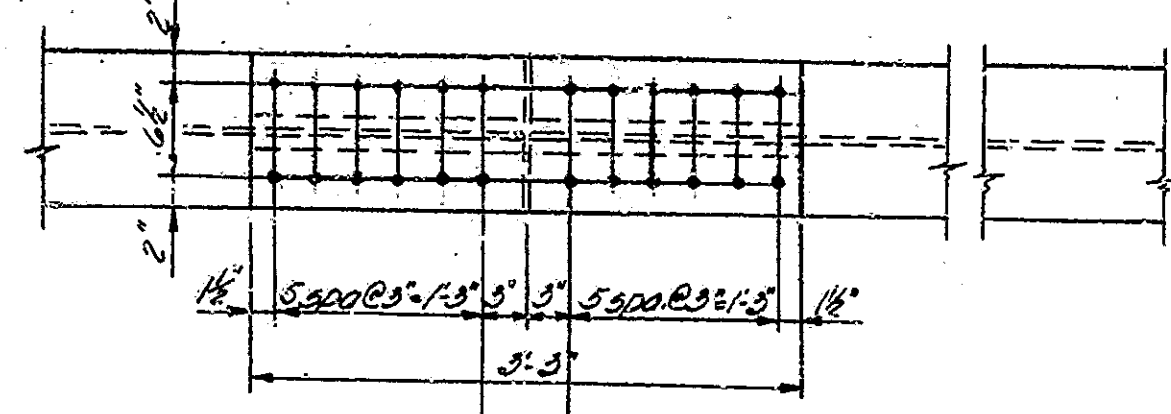
7,000 #/a"
20,000 #/a"
4,200 #/a"



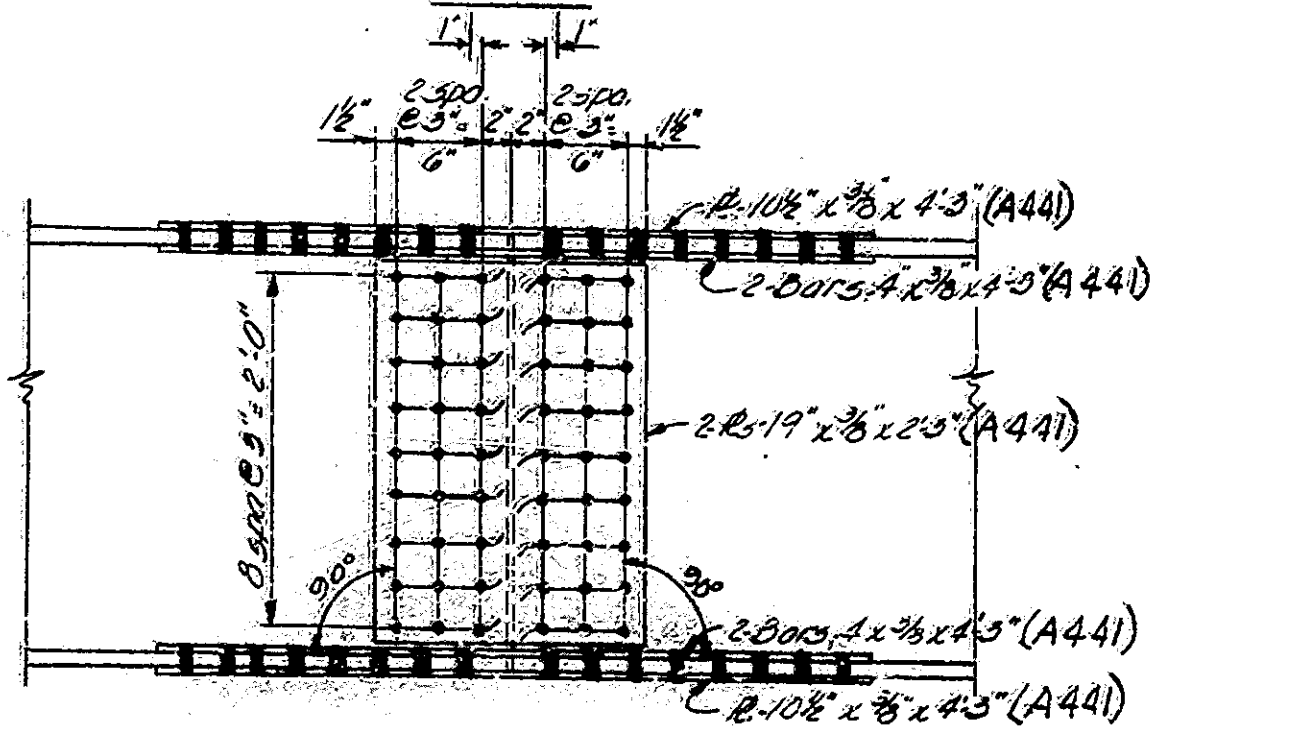
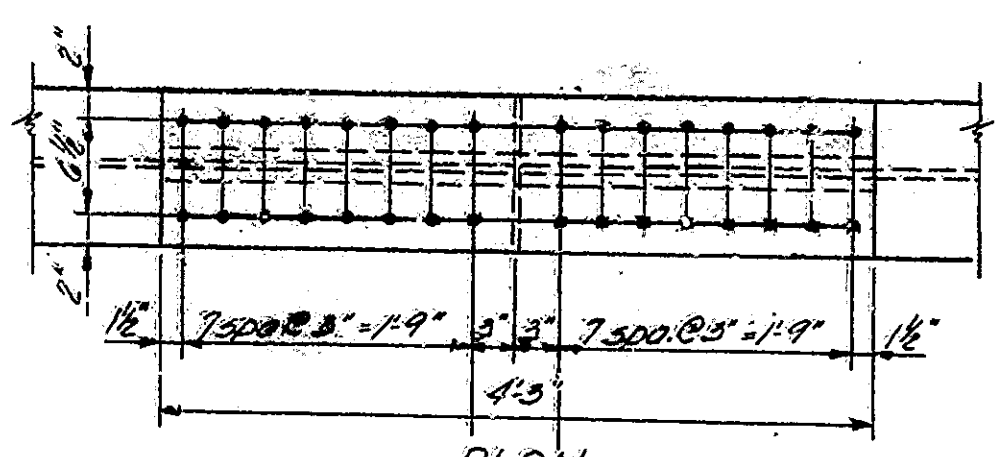
END DIAPHRAGM DETAILS
Scale: 1" = 1'-0"



COVER PLATE DETAILS
Not to scale



SPlice "A"



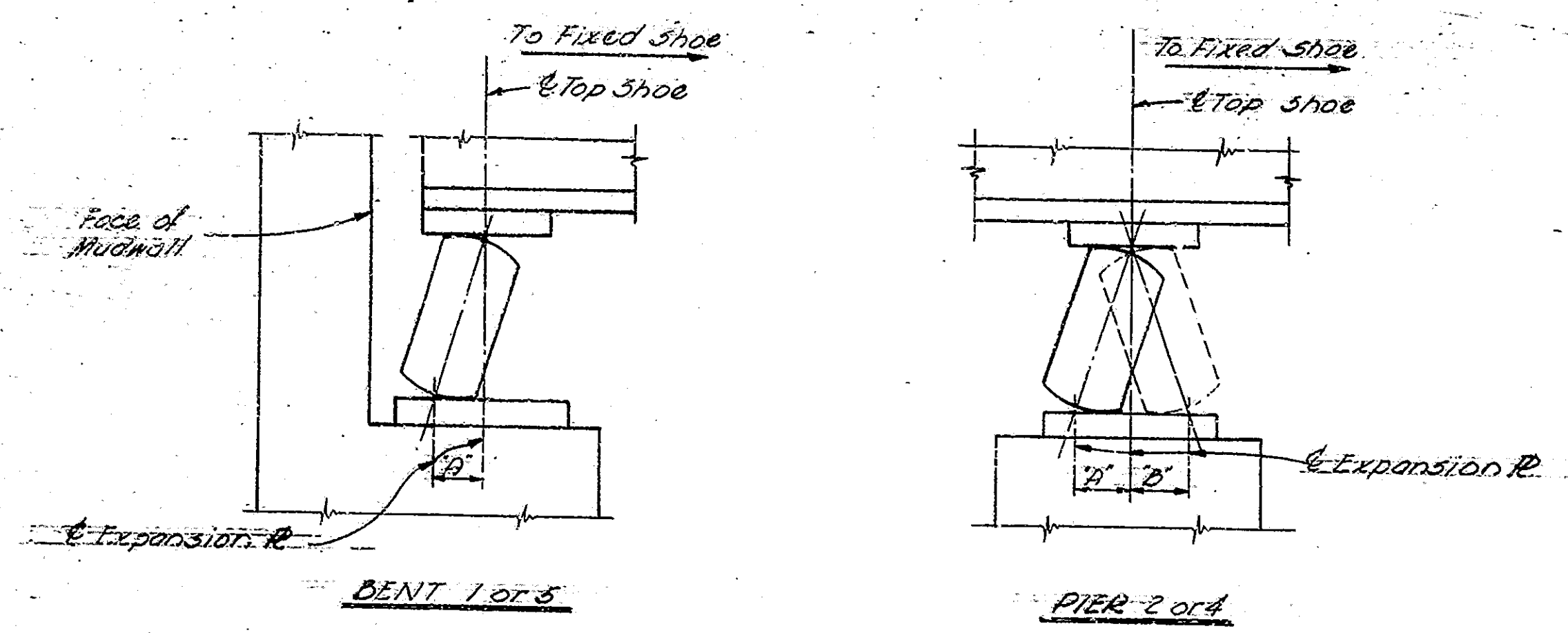
SPlice "B"
FIELD SPICE DETAILS
Scale: 1" = 1'-0"

INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted
April 15, 1965
SUBMITTED FOR APPROVAL: Tom L. Anderson, P.E.
DRAWING: 58 OF 15
PROJECT: I-465-4 (129)127
BRIDGE CONTRACT NO. 12-7391
BRIDGE FILE: I-465-127-5275

Rev. 2-15-67 Design Data
Rev. 11-2-66 Notes, A36 & A441 Steel
Rev. 5-24-66 Notes

BRIDGES OVER 20' SPAN					
PUR ROAD DISTRICT	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	E-465-2 (107) 127	1965	11	22

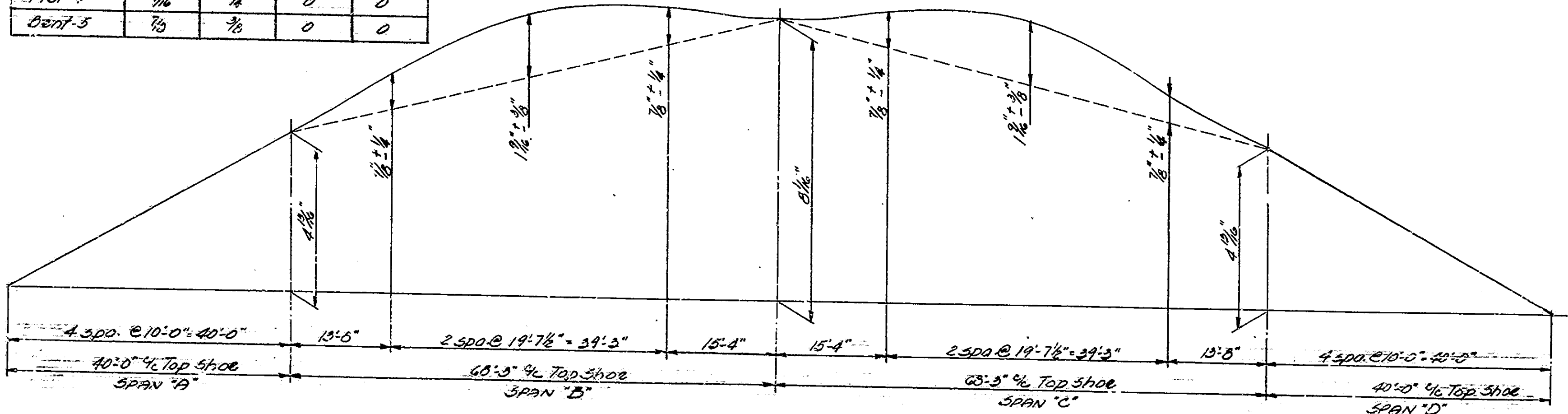


SHOE SETTING DETAIL
Not to scale

Temp.	0°	20°	40°	60°	80°	100°	120°
Dim. "A"	1"	3/4"	1/2"	1/4"	1/8"	1/16"	0

Temp.	0°	20°	40°	60°	80°	100°	120°
Dim. "A"	3/4"	3/8"	1/4"	0	0	0	0
Dim. "D"				0	1/8"	1/4"	3/8"

LOCATION	DM-1	DM-2	DM-3	DM-4
Bent-1	0	0	3/8	1/8
Pier-2	0	0	1/4	1/8
Pier-3	0	1 1/4	1 1/4	0
Pier-4	3/8	1/4	0	0
Bent-5	3/8	3/8	0	0



NOTES:
 NOTES: For additional notes see Drawing 3.0.
 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 drill bits shall be used in erection.

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

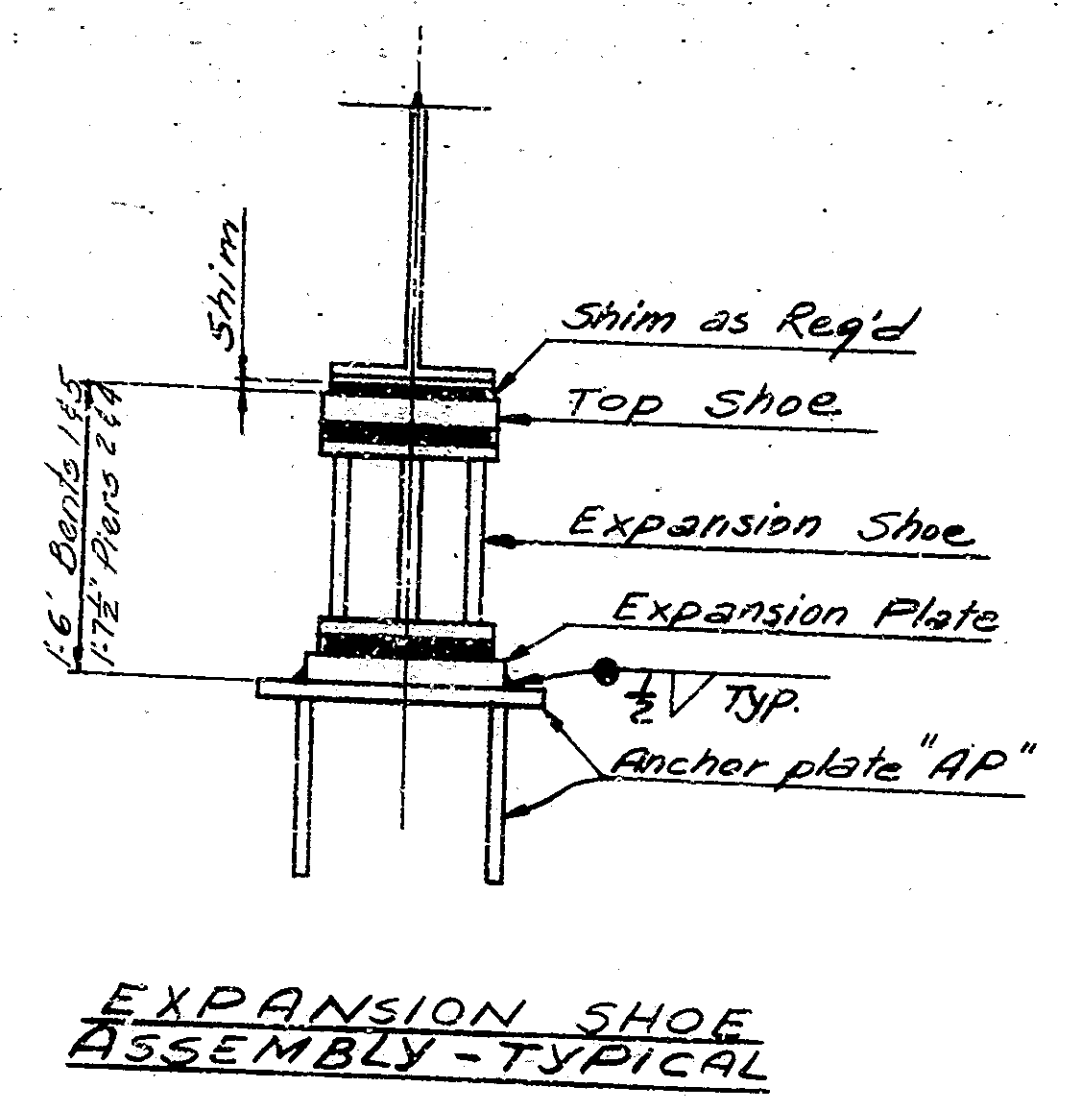
SCALE: not to scale
 SUBMITTED FOR APPROVAL: *Tom J. McDevitt, P.E.* April 15, 1965

DRAWING: 59 OF 13
 PROJECT: E-465-2 (107) 127
 BRIDGE CONTRACT NO. 12-7391
 BRIDGE FILE: E-465-27-5275

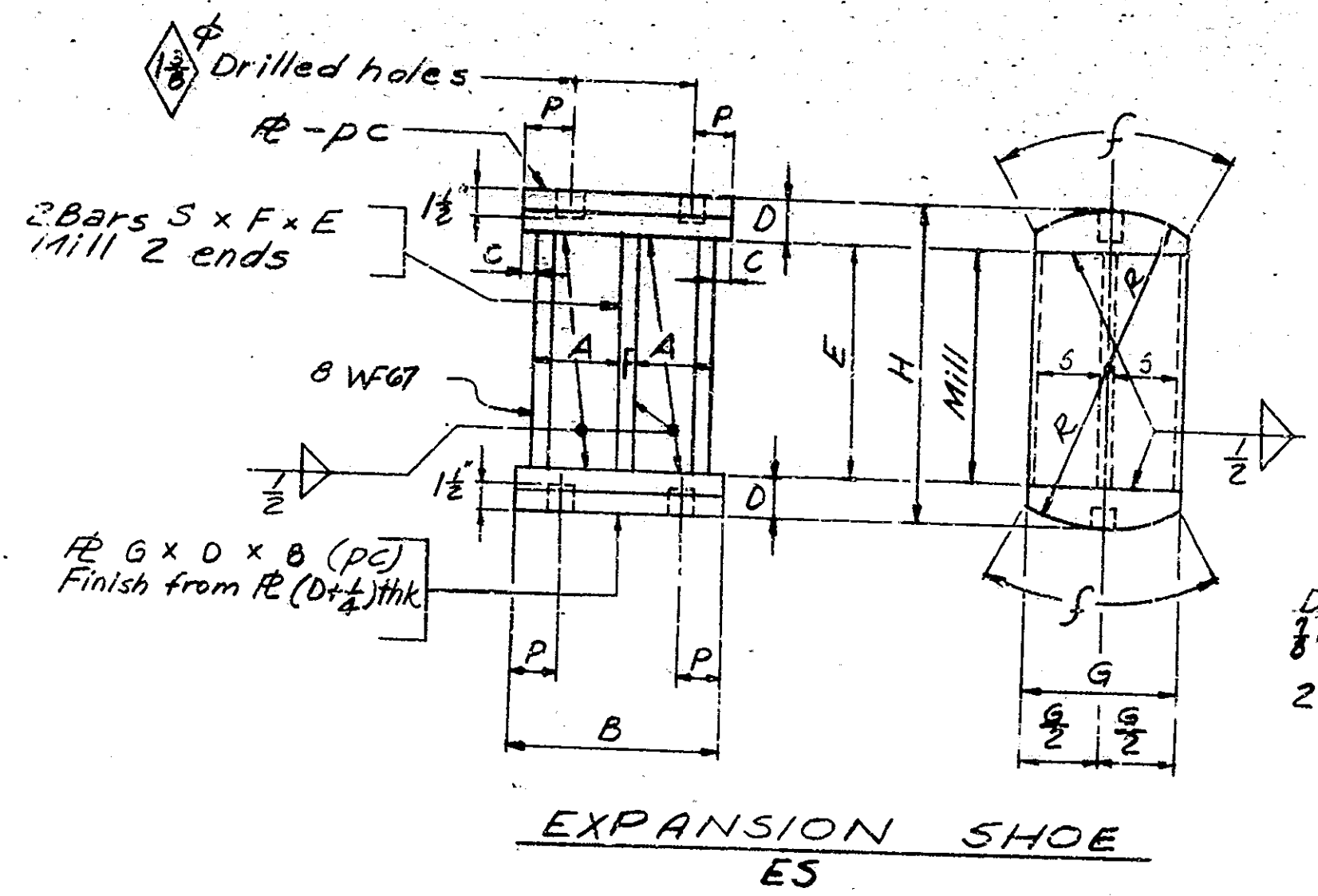
DESIGNED: *ANG* CKD GFA
 DRAWN: *PAB* CKD GFA
 TRACED: CKD

BRIDGES OVER 20' SPAN					
PLR. ROAD	STATE	PROJECT	FISCAL	QUALITY	TOTAL
SPR. NO.		NO.	YEAR	NO.	SHEETS
4	IND	2465-9	1965	12	22
		129/127			

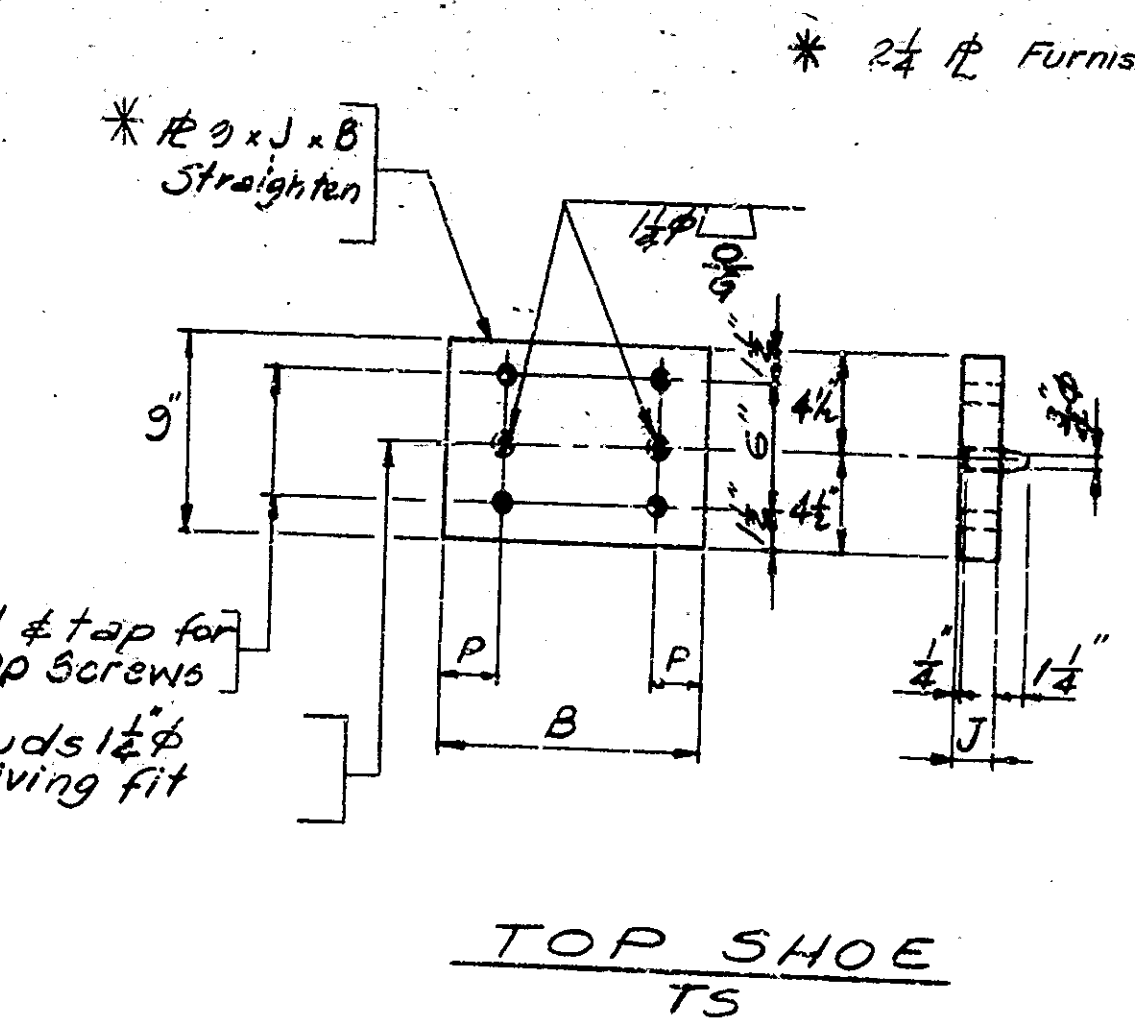
NOTE: Curved surfaces of shoes to be machined after weldments have been completed.



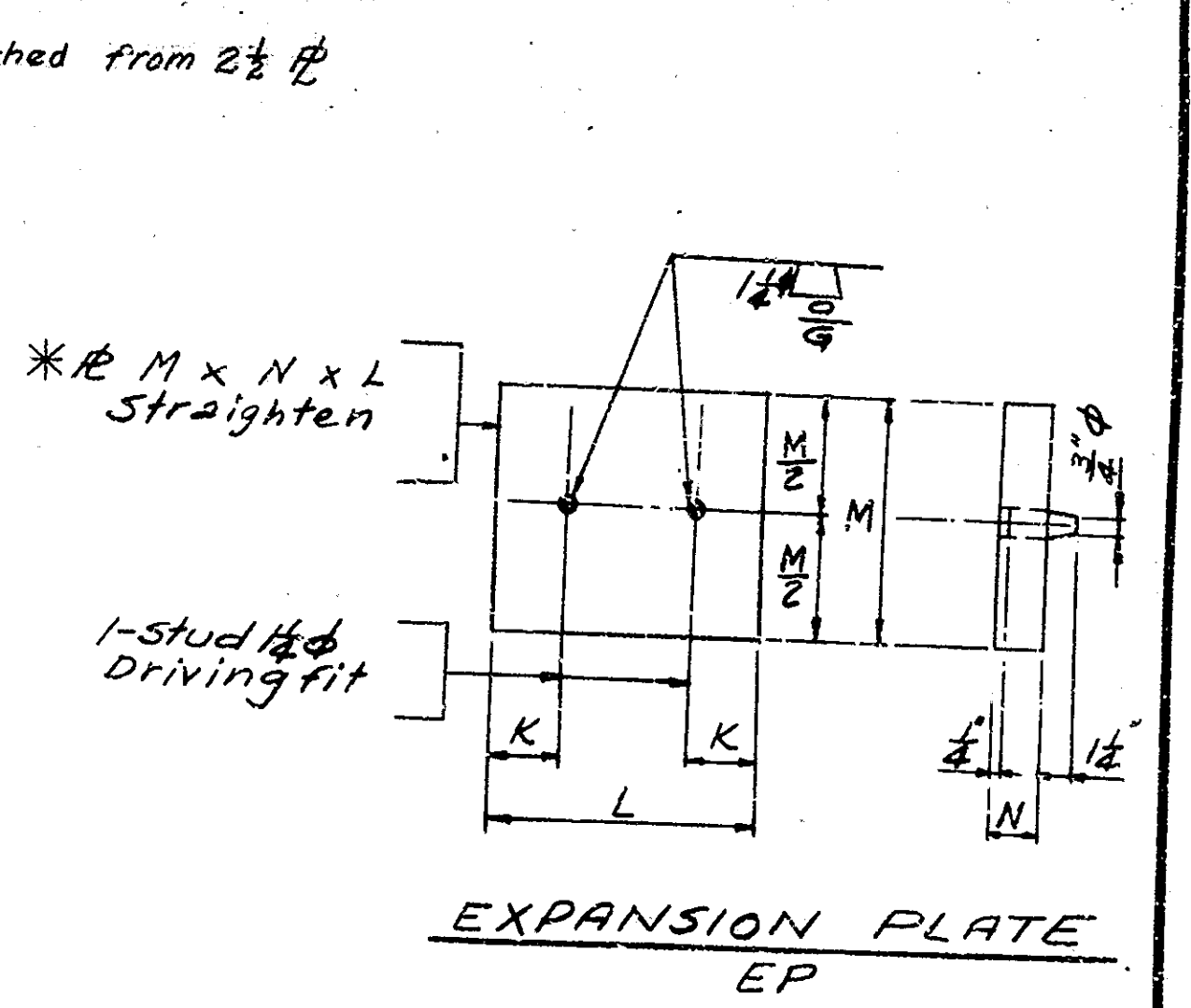
EXPANSION SHOE ASSEMBLY-TYPICAL



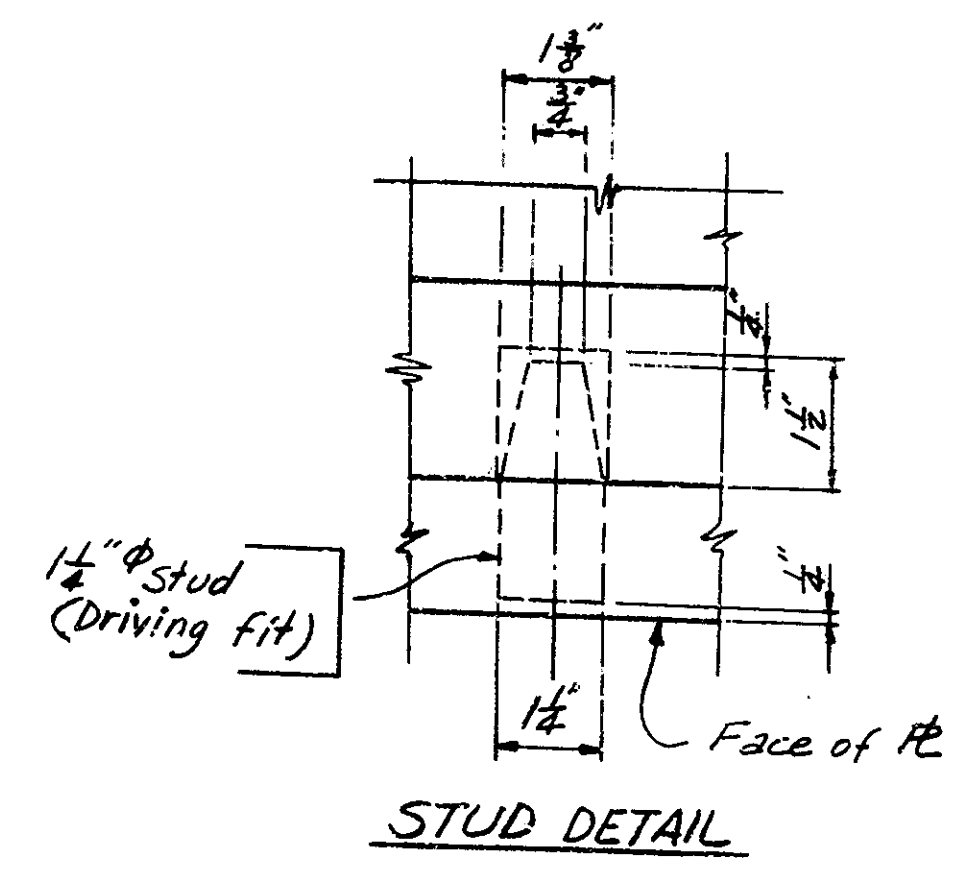
EXPANSION SHOE ES



TOP SHOE TS



EXPANSION PLATE EP



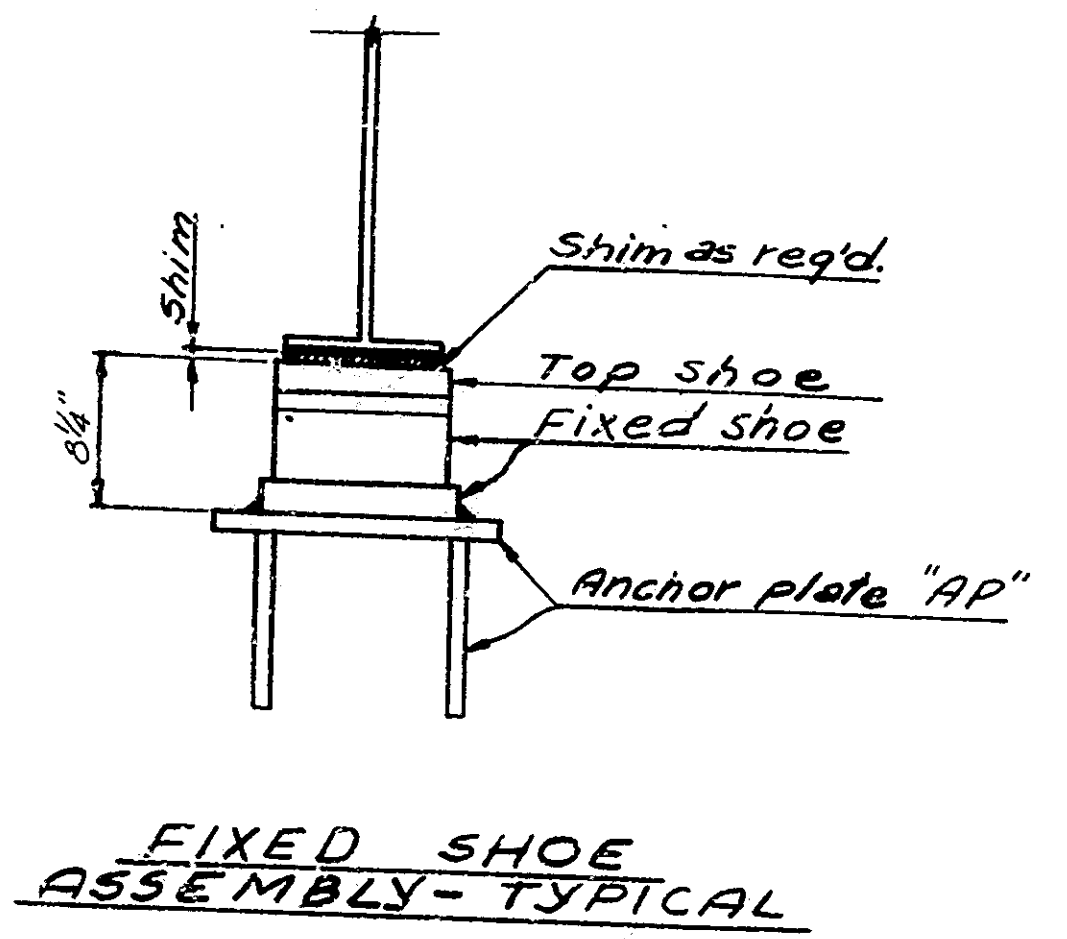
STUD DETAIL

MARK	EXPANSION SHOE DIMENSIONS (inches)										
	A	B	C	D	E	F	G	H	P	R	S
ES-1	4	10 1/2	3/4	2	11	1	8 1/4	15	2 1/2	7 1/2	3 1/2

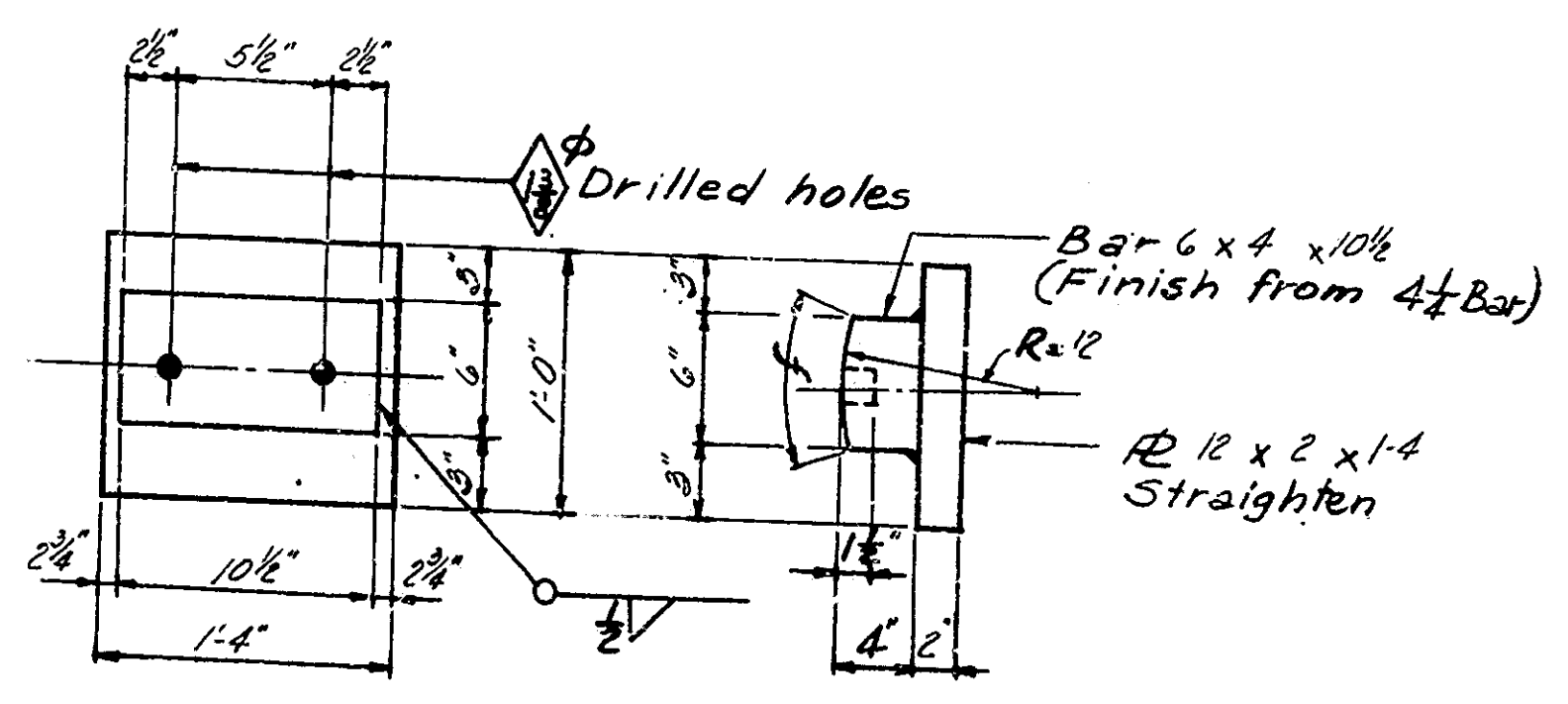
MARK	TOP SHOE DIM. (in.)		
	B	J	P
TS-1	10 1/2	1 1/2	2 1/2
TS-2	10 1/2	2 1/4	2 1/2
TS-3	10 1/2	2 1/4	2 1/2

MARK	EXPANSION R-bar DIM. (in.)			
	K	L	M	N
EP-1	3 3/4	13	9	1 1/2
EP-2	5 1/4	16	12	2 1/2

See Drawing 5 B for Notes.



FIXED SHOE ASSEMBLY-TYPICAL



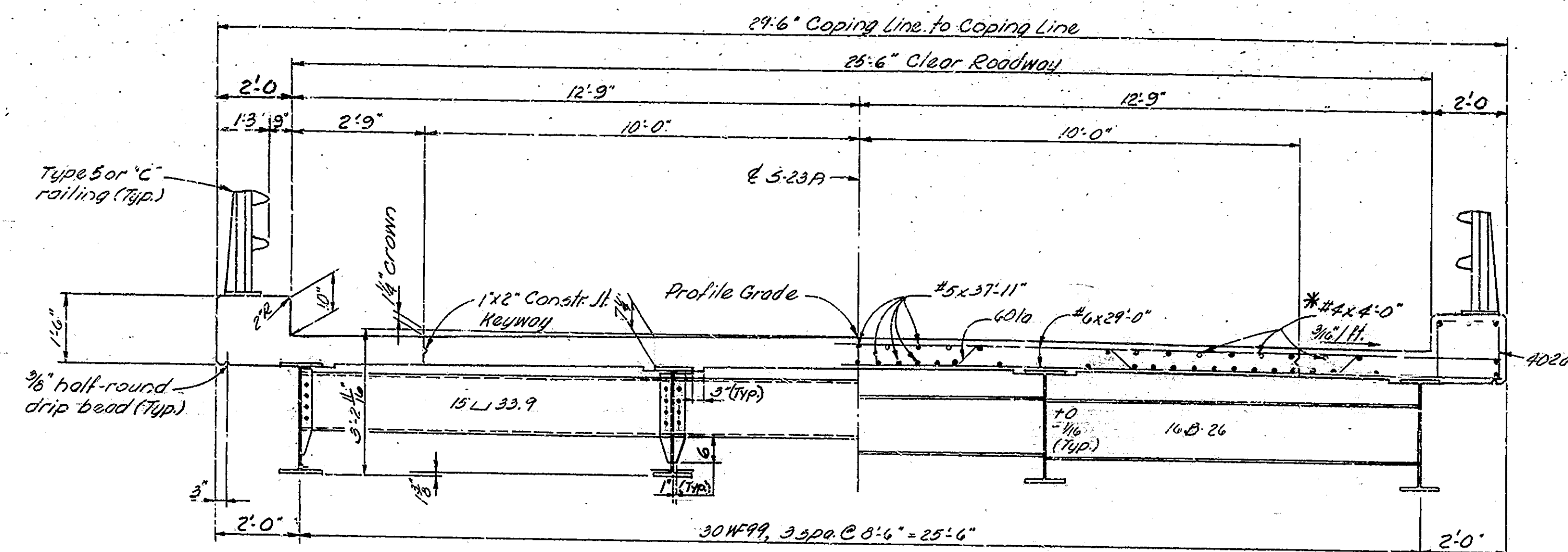
FIXED SHOE FS

DESIGNED: IND CKD: GEA
 DRAWN: PRD CKD: GEA
 TRACED: _____ CKD: _____

SUPERSTRUCTURE BEARING DETAILS
 INDIANA STATE HIGHWAY COMMISSION

SCALE: NO SCALE
 April 15, 1965
 SUBMITTED FOR APPROVAL: Tom R. [Signature], P.E.
 DRAWING: 5.12 OF 13
 PROJECT: I-465-9(129) 127
 BRIDGE CONTRACT NO. B-7391
 BRIDGE FILE: I-465-RT-3215

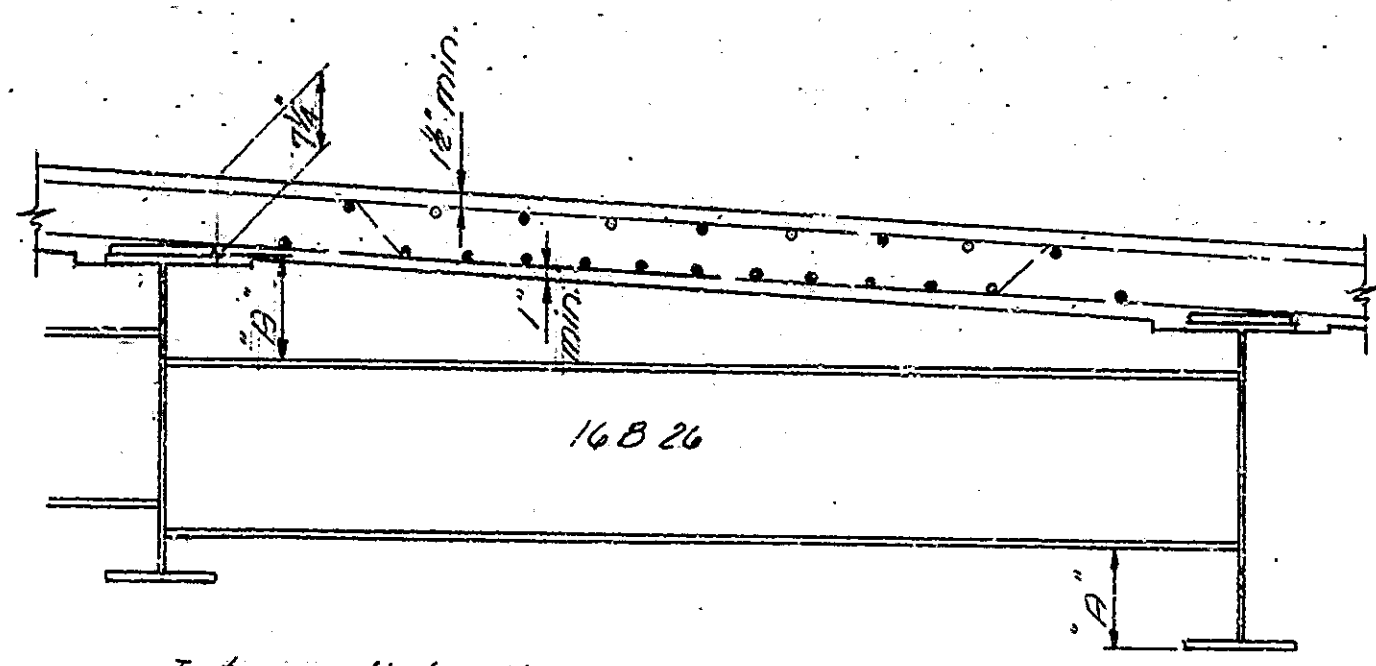
BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (129) 27	1965	13	22



HALF-SECTION SHOWING END DIAPHRAGMS AND GENERAL DIMENSIONS

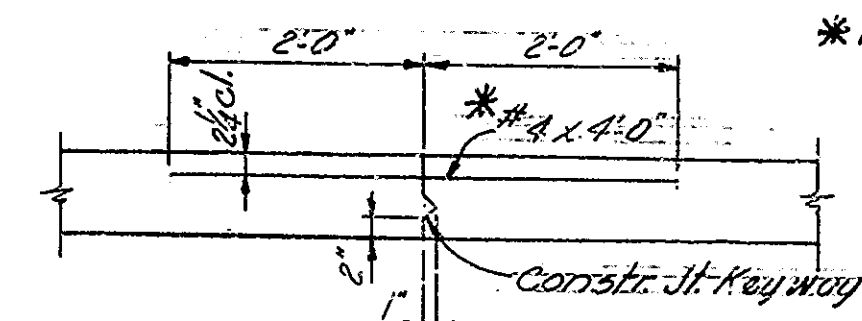
HALF-SECTION SHOWING INTERMEDIATE DIAPHRAGMS AND STEEL PLACEMENT.

TRANSVERSE SECTION
Scale: 1/2" = 1'-0"

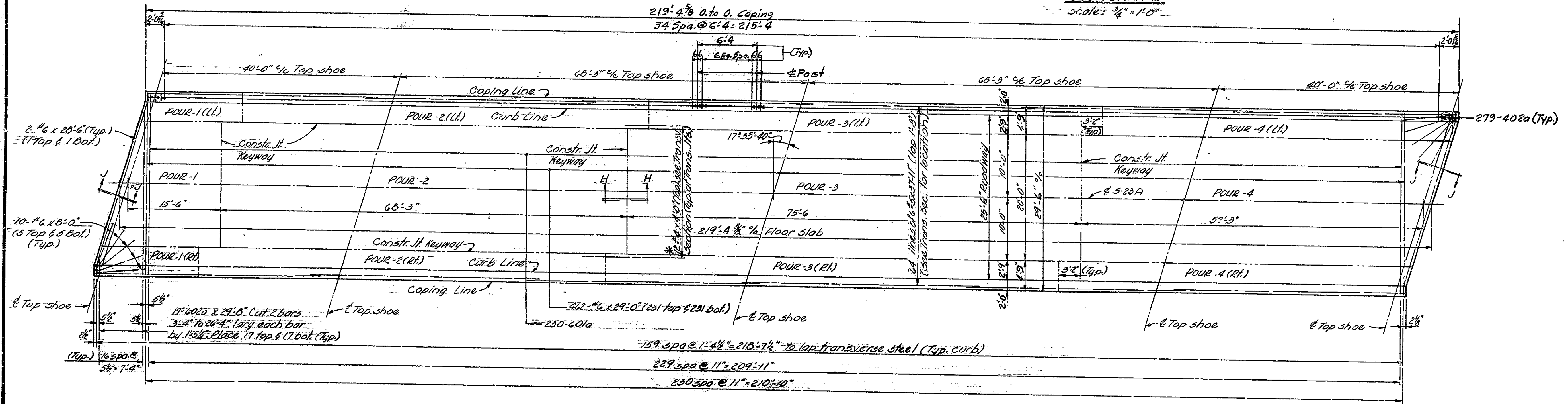


Intermediate diaphragms to be erected so that dimension 17" is equal top and bottom (±1)

INTERMEDIATE DIAPHRAGMS
Not to scale



SECTION H-H
Scale: 1/4" = 1'-0"



DECK PLAN
Scale: 1/8" = 1'-0"

NOTES

POUR SEQUENCE: Sequence of pours to be made in the order of pour numbers. All superstr. construction joints are optional and pours may be continuous provided the pour terminates at a construction joint indicated on the plan.

NOTES: See Drawing 5-3 for notes.

CORNER DETAILS: For corner details, see Drawing 5-12
For reinforcing bar notes see Bridge Standard C.

CONCRETE FORMS: After structural steel has been erected, concrete forms shall not be blocked against the expansion end of the steel in making any pours adjacent to steel spans.

For additional details see Drawings 5-12 & 5-13.

DECK PLAN and TRANSVERSE SECTION
INDIANA STATE HIGHWAY COMMISSION

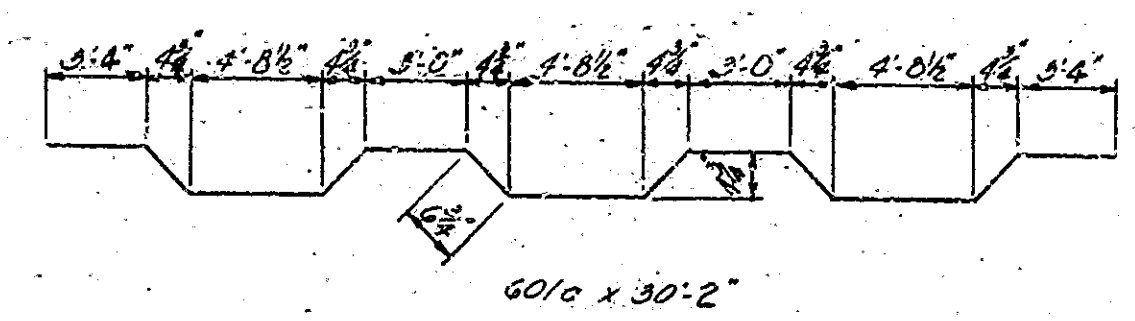
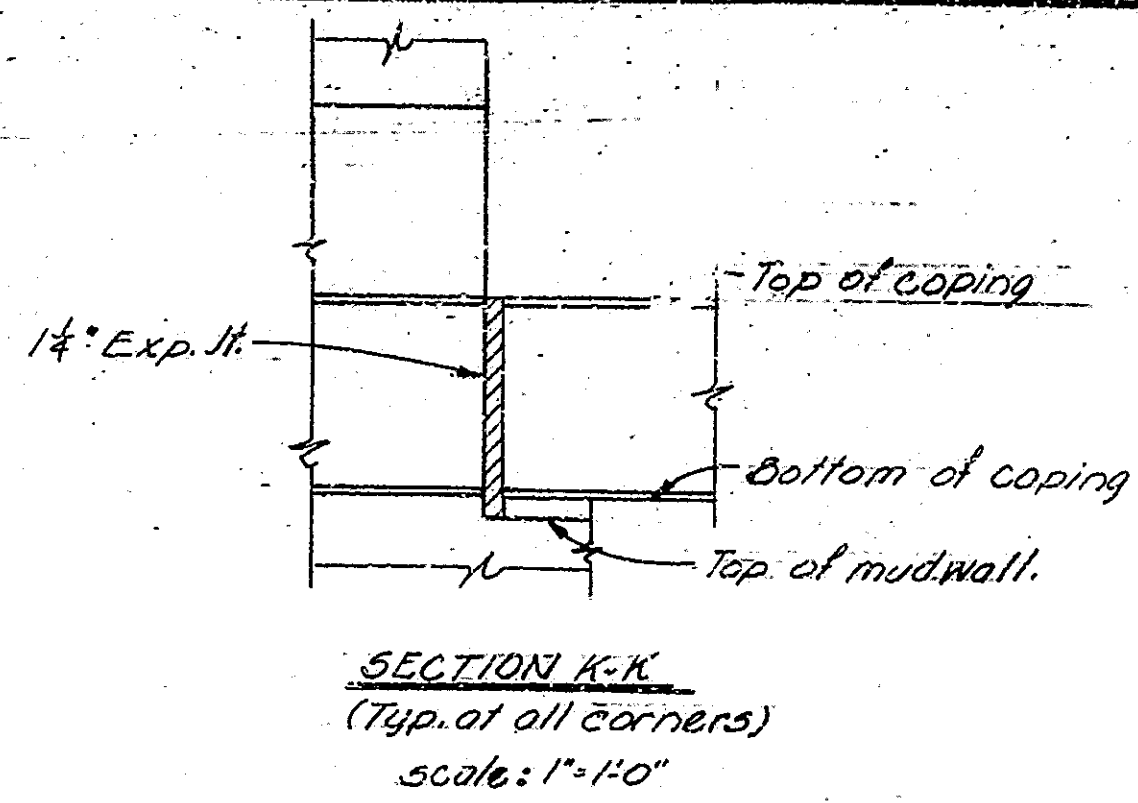
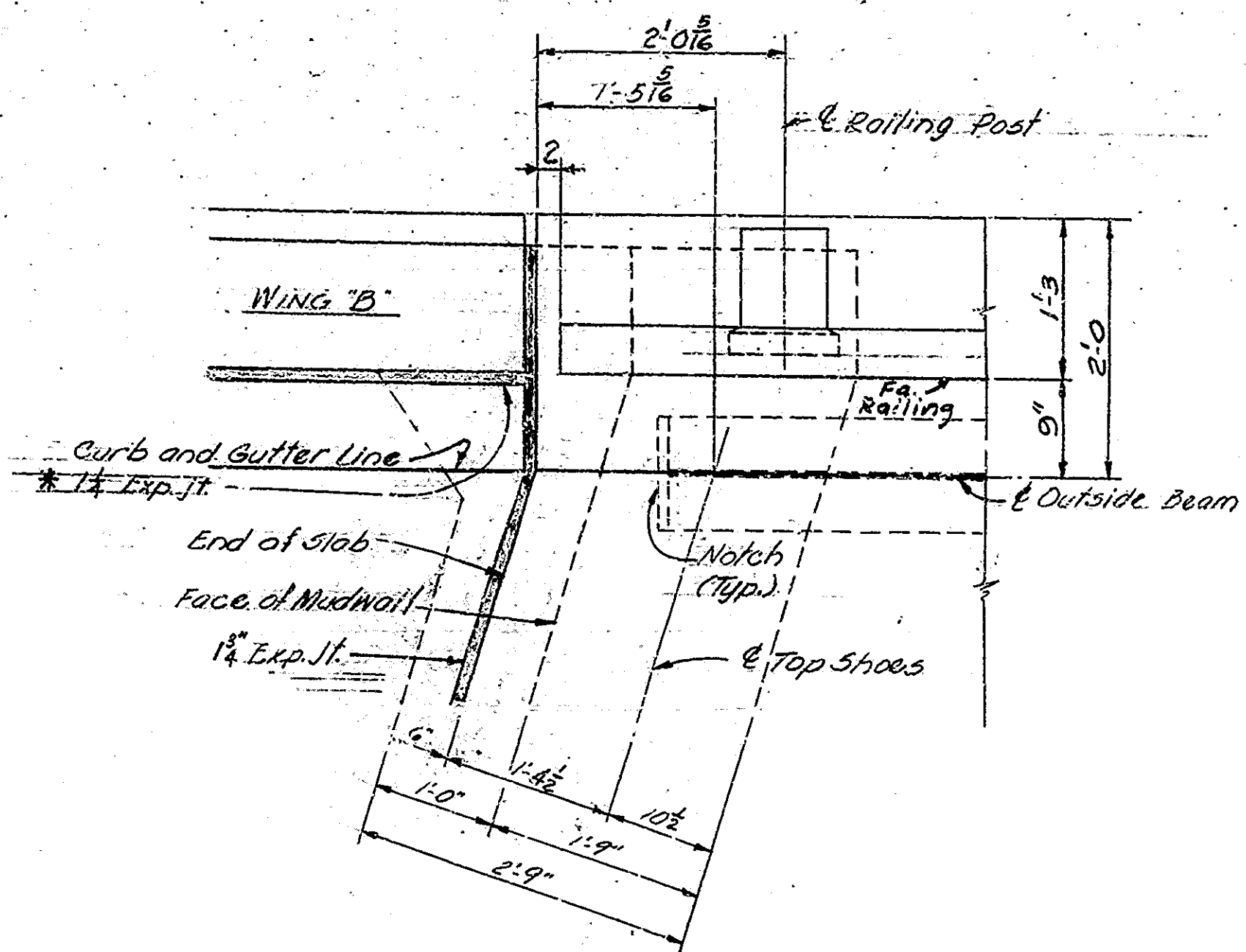
SCALE: as noted April 15, 1965

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

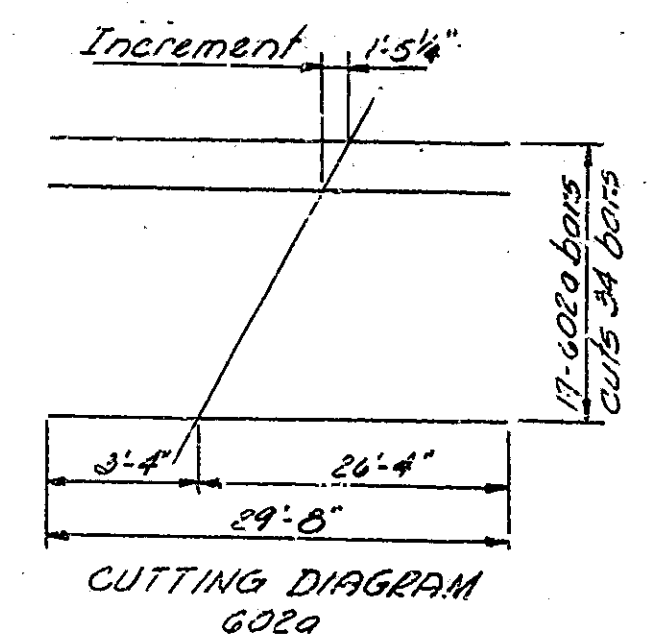
DRAWING: 5 11 OF 13
PROJECT: I-465-4 (129) 27
BRIDGE CONTRACT NO. R-7391
BRIDGE FILE: I-465-27-5275

Rev. 2-15-67 Br. Hunches
Rev. 3-24-66 Railing

DESIGNED: FWD	CKD: GEA
DRAWN: GEA	CKD: GEA
TRACED: CKD	



BRIDGES OVER 20' SPAN					
P.L.A. ROAD	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	1-465-4 (129)127	1965	14	22

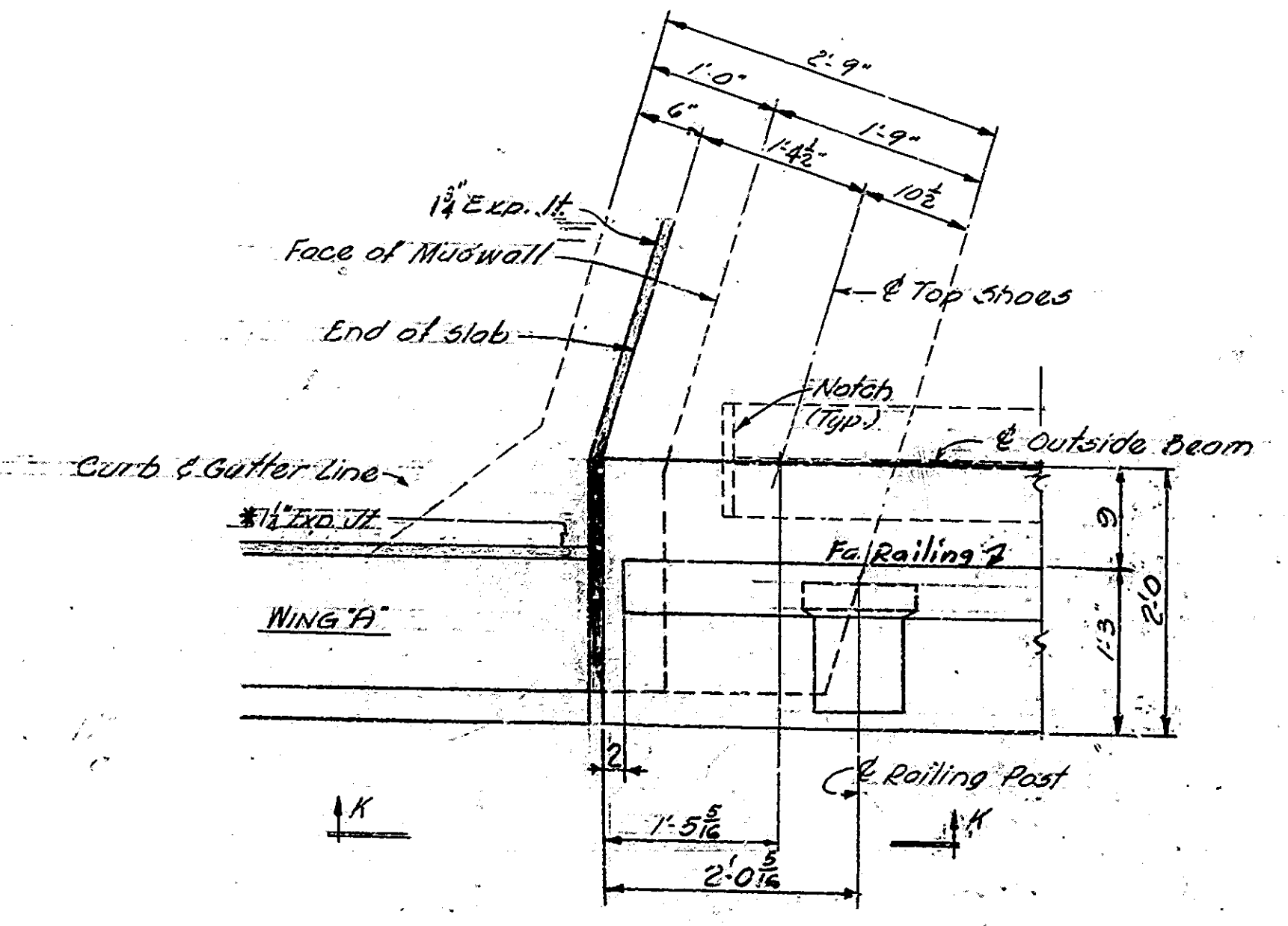


NOTES

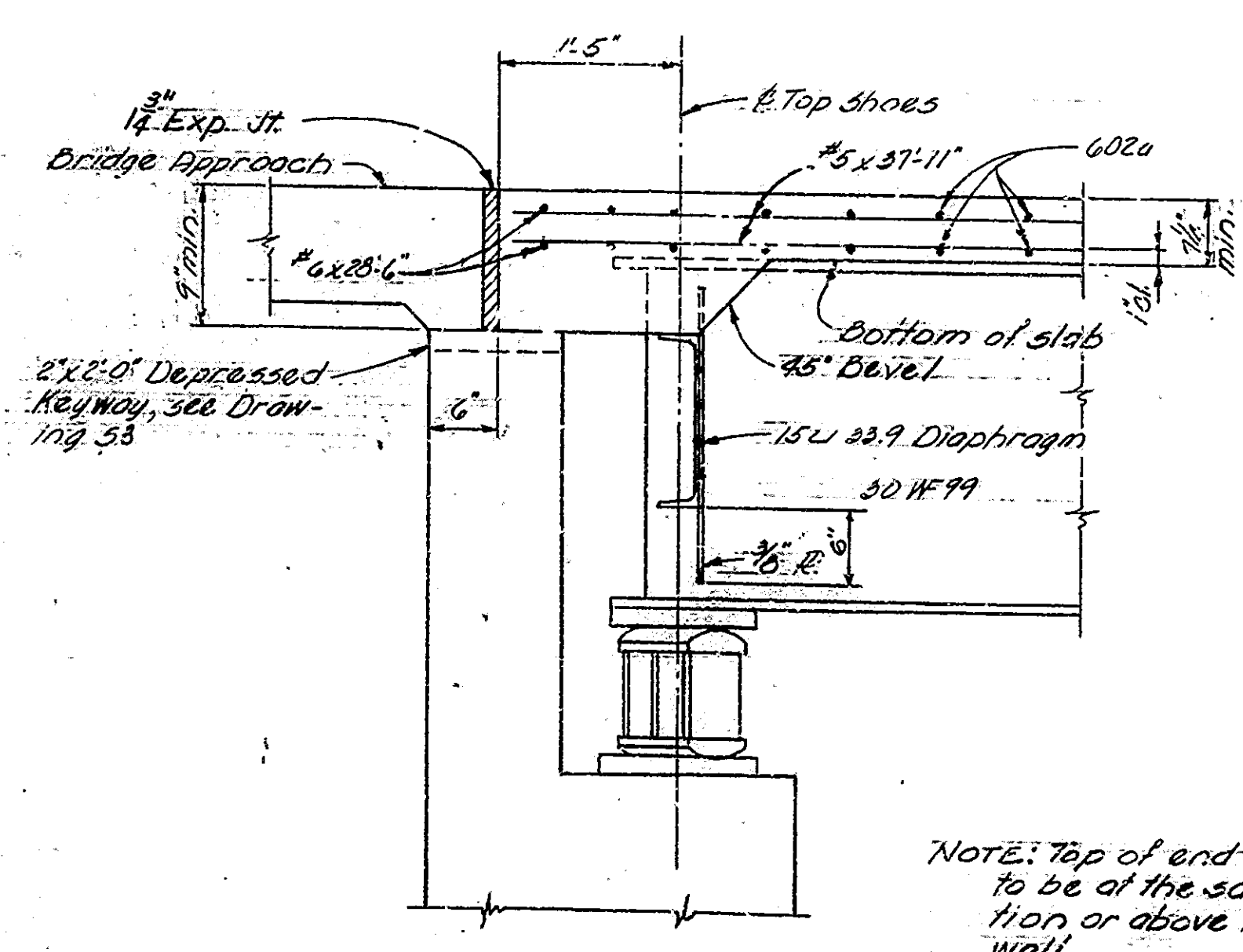
For notch in slab at end of beam see Bridge Standard C.

* Not included in Bridge Contract

For armored joint details see Bridge Standard J.



CORNER DETAILS
scale: 1"=1'-0"



NOTE: Top of end diaphragm to be at the same elevation or above top of midwall.

**BILL OF MATERIALS
SUPERSTRUCTURE**

REINFORCING STEEL			
SIZE and MARK	N ^o OF BARS	LENGTH	WEIGHT LBS
601a	230	30'-2"	12,421
602a	34	29'-8"	1515
#6	442	29'-0"	20,124
#6	4	20'-6"	171
#6	20	8'-0"	340
	Total #6		32,471
#5	384	37'-11"	15,186
402a	558	4'-0"	1,491
	Total Steel		49,148

CONCRETE	
Class F - Superstructure	
Pour #1	79 CVY
Pour #2	326 CVY
Pour #3	32.0 CVY
Pour #4	26.2 CVY
Pour #1 (LL)	3.0 CVY
Pour #1 (RL)	2.9 CVY
Pour #2 (LL) 2 @ 11.8	23.6 CVY
Pour #3 (LL) 2 @ 13.0	26.0 CVY
Pour #4 (LL)	10.0 CVY
Pour #4 (RL)	10.0 CVY
Total Class F except railing	174.2 CVY

* Included in cost of other items.

INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted April 15, 1965

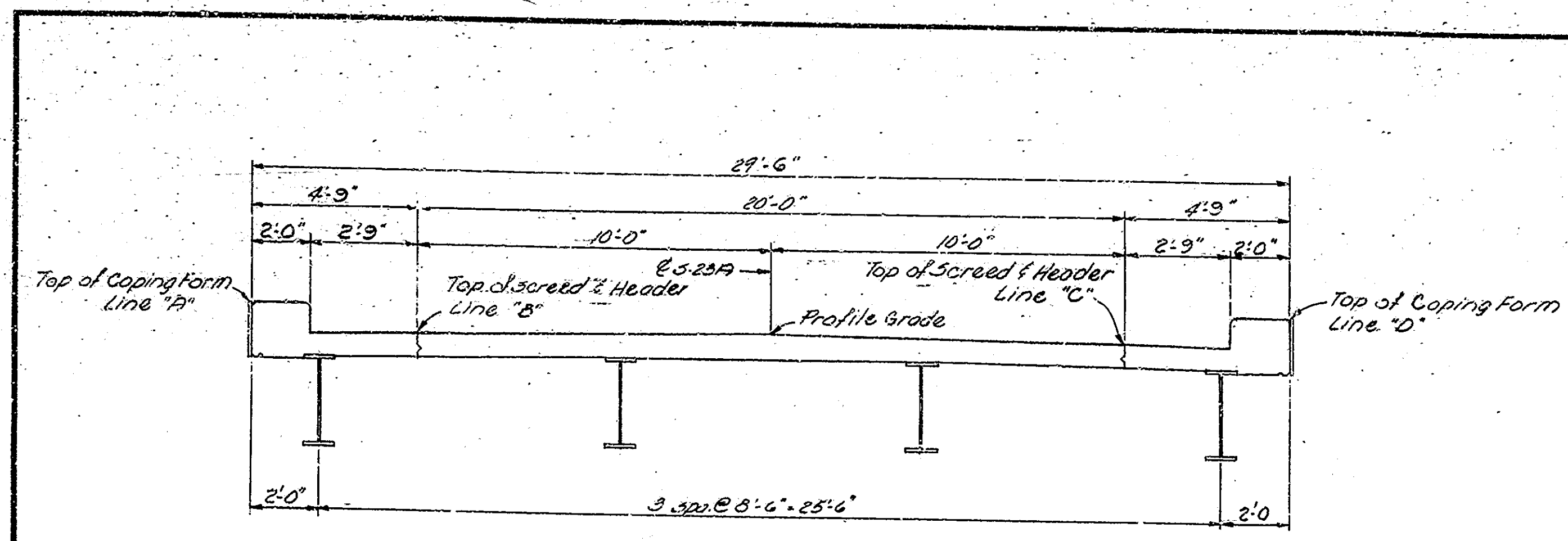
SUBMITTED FOR APPROVAL: Tom P. Woodard, P.E.

DRAWING: 5 R of 13
PROJECT: I-465-4 (129) 127
BRIDGE CONTRACT NO. R-7391
BRIDGE FILE: I-465-127-5275

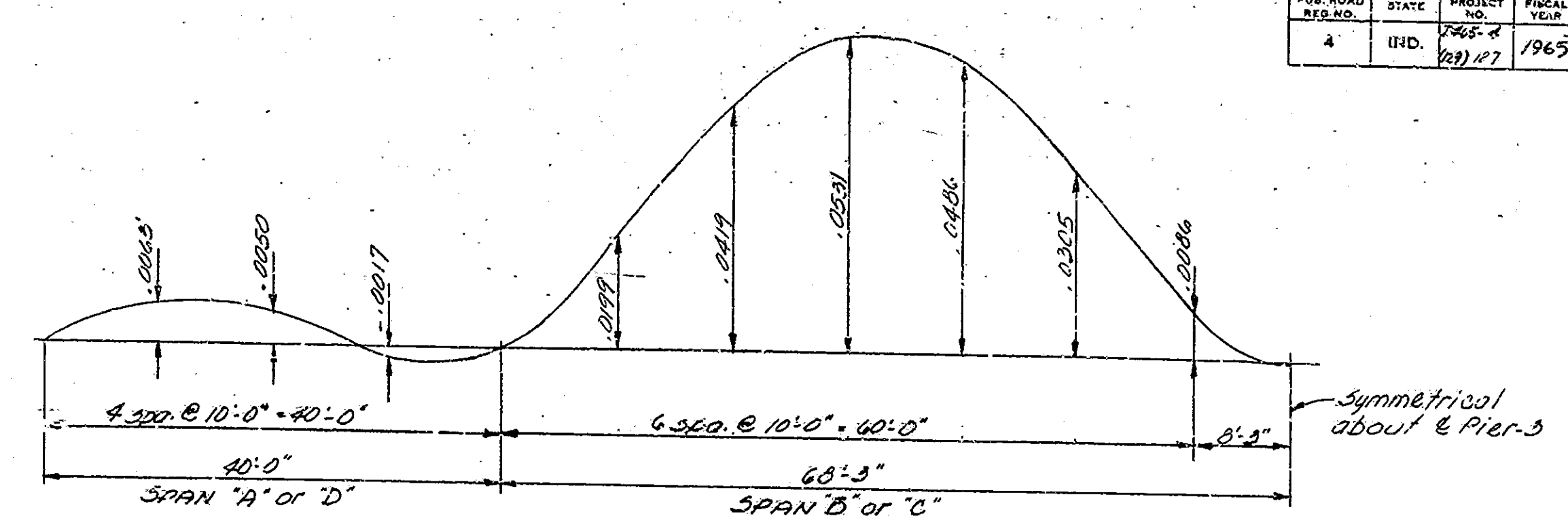
DESIGNED: <u>AWD</u>	CKD: <u>GEA</u>
DRAWN: <u>AWD</u>	CKD: <u>GEA</u>
TRACED: <u>AWD</u>	CKD: <u>GEA</u>

Rev. 2-15-67 Exp. Jts, Bill of Matls.
Rev. 5-24-66 Railing, Sand, Diags, Bill of Matls.

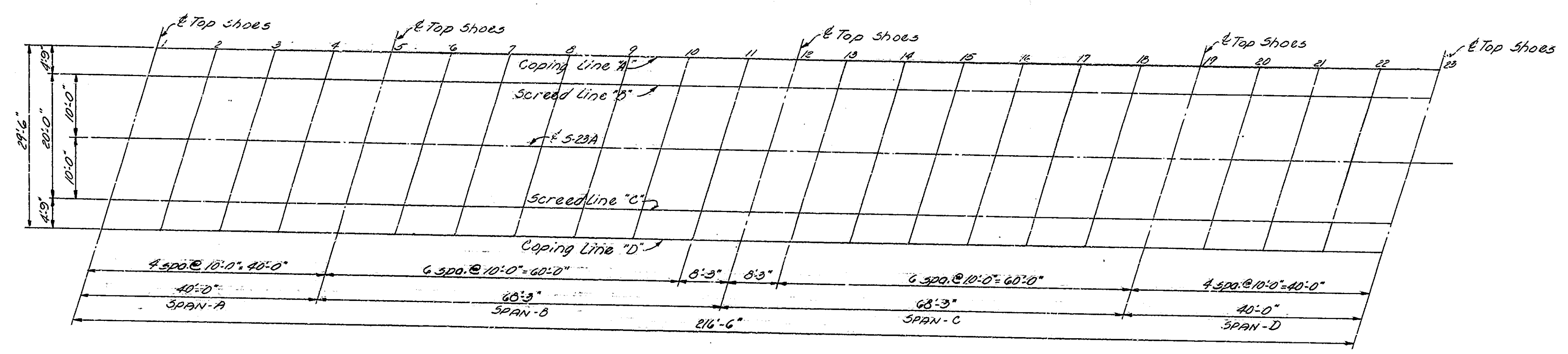
BRIDGES OVER 30' SPAN					
PUB. ROAD	STATE	PROJECT	FISCAL	SHEET	TOTAL
NO.		NO.	YEAR	NO.	SHEETS
4	IND.	7465-2 (29) 127	1965	15	22



CROSS-SECTION FOR SCREEDS
scale: 1/8" = 1'-0"



CONCRETE D.L. DEFLECTION
scale: horizontal 1" = 40'-0"
vertical 1" = 0.20"



PLAN FOR SCREEDS
scale: 1/8" = 1'-0"

... SUPERSTRUCTURE GENERAL PROCEDURE

- After the structural steel is erected, adjust the superstructure longitudinally so that the distance from the centerline of top shoe to the face of mud-wall is equal at bents 1 and 5.
- With the superstructure in the adjusted position called for in (1) above, weld the anchor plates for the fixed shoes of Pier 3.
- Adjust the expansion plates under each expansion shoe in accordance with Dimension "A" or "B" shown on Drawing 5-9 for the prevailing temperature. Note that Dimension "A" is always the distance from vertical line through the centerline of top shoe in a direction away from the fixed shoe. Weld the anchor plates.
- After the shoes are set, take elevations of all screed points on top of adjacent beams. Enter these elevations in "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 screeds or coping forms by leveling.
- No concrete in the floor is to be poured until the above operations are completed.

Notes: See Drawing 5-8 for notes.

		TABLE OF SCREED ELEVATIONS																						
		SPAN - A					SPAN - B					SPAN - C					SPAN - D							
LINE	POINT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	Elev. @ Top of coping form	755.520	755.646	755.740	755.820	755.900	755.990	756.065	756.120	756.150	756.150	756.140	756.130	756.130	756.135	756.120	756.080	756.015	755.925	755.830	755.740	755.645	755.535	755.405
	Elev. @ Top of exterior beam																							
	H																							
B	Elev. @ Top of screed form	754.715	754.835	754.925	755.020	755.105	755.190	755.270	755.330	755.360	755.365	755.345	755.345	755.350	755.340	755.300	755.235	755.150	755.055	754.965	754.875	754.765	754.635	
	Elev. @ Top of interior beam																							
	H																							
C	Elev. @ Top of screed form	754.625	754.765	754.875	754.965	755.055	755.150	755.235	755.300	755.340	755.350	755.345	755.345	755.345	755.340	755.330	755.270	755.190	755.105	755.020	754.935	754.835	754.715	
	Elev. @ Top of interior beam																							
	H																							
D	Elev. @ Top of coping form	755.405	755.535	755.645	755.740	755.830	755.925	756.015	756.080	756.120	756.135	756.130	756.130	756.140	756.150	756.120	756.065	755.990	755.900	755.820	755.740	755.640	755.520	
	Elev. @ Top of exterior beam																							
	H																							

NOTE - H is the distance from top of beam to the top of coping form or screed form.

SCREED DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: as noted
 SUBMITTED FOR APPROVAL: *Tom L. Anderson, P.E.*
 DRAWING: 5-13 OF 13
 PROJECT: I-465-2 (129) 127
 BRIDGE CONTRACT NO. R-7391
 BRIDGE FILE: I-465-27-5225

DESIGNED: *And* CKD: GEA
 DRAWN: *And* CKD: GEA
 TRACED: CKD:

Rev. 5-24-66 Dim.

