BRIDGE CONTRACT No. B-7803

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION	CONTRACT NO.
I-465-(105)122	I-465-125-2377 I-465-125-2377J I-465-125-2377DR	CONTINUOUS COMPOSITE STEEL BEAM	44'-0; 2@61'-0; 44'-0 2377J 44'-0; 2@53'-6; 44'-0 2377DR 43'-0; 3@-0; 43'-0	NORFOLK & WESTERN RAILWAY AND RAMP "F"	2377 & 2377J LINE "A" STA. 996+83.50 2377DR RAMP "E" STA. 13+79.16	B-7803

SHEET NO.	SHEET DESIGNATION	SUBJECT	B.P.R. APPROVAL
1		INDEX AND TITLE SHEET	
		STRUCTURES I-465-125-2377 & 2377J	
2	BRIDGE SHEET	TEST BORING DATA — STR. 2377 & 2377J	
3	S1	LAYOUT — STR. 2377 & 2377J	
4	S2	GENERAL PLAN — STR. 2377 & 2377J	
5	S3	BENT No. 1 DETAILS — STR. 2377	
6	S4	BENT No. 2 DETAILS — STR. 2377	
7	S5	BENT No. 3 AND No. 4 DETAILS — STR. 2377	
8	S6	BENT No. 5 DETAILS — STR. 2377	
9 & 10	S7-8-S8	BENT No. 1 DETAILS — STR. 2377J	
11	S9	BENT No. 2 DETAILS — STR. 2377J	
12	S10	BENT No. 3 DETAILS — STR. 2377J	
13	S11	BENT No. 4 DETAILS — STR. 2377J	
14 & 15	S12 & S13	BENT No. 5 DETAILS — STR. 2377J	
16	S14	FRAMING PLAN AND STEEL DETAILS — STR. 2377 & 2377J	
17	S15	STEEL DETAILS — STR. 2377 & 2377J	
18	S16	EXPANSION JOINT DETAILS — STR. 2377 & 2377J	
19	S17	FLOOR DETAILS — STR. 2377 & 2377J	
20	S18	FLOOR DETAILS — STR. 2377J & 2377	
21	S19	SCREED ELEVATIONS — STR. 2377 & 2377J	
		STRUCTURE I-465-125-2377DR	
22	BRIDGE SHEET	TEST BORING DATA	
23	S20	LAYOUT	
24	S21	GENERAL PLAN	
25	S22	BENT No. 1 DETAILS	
26	S23	BENT No. 2 AND No. 3 DETAILS	
27	S24	BENT No. 4 DETAILS	
28	S25	FRAMING PLAN AND STEEL DETAILS	
29	S26	STEEL DETAILS	
30	S27	FLOOR DETAILS	
31	S28	SCREED ELEVATIONS AND SHOE SETTING DATA	
32	BRIDGE SHEET	SUMMARY	
1a & b	ROAD B-7272 No. 18819	PLAN & PROFILE LINE "A"	ROAD PROJ. I-465-4(119)122
1c	ROAD SHEET No. 59	INTERCHANGE LINE DATA, STATE RTE. 37	
1d	ROAD SHEET No. 628-43	INTERCHANGE PLAN-OF-N. W. STATE STR. 32	
1e	ROAD SHEET No. 69	PROFILES: RAMP "E"	

STATE OF INDIANA
INDIANA STATE HIGHWAY COMMISSION

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON

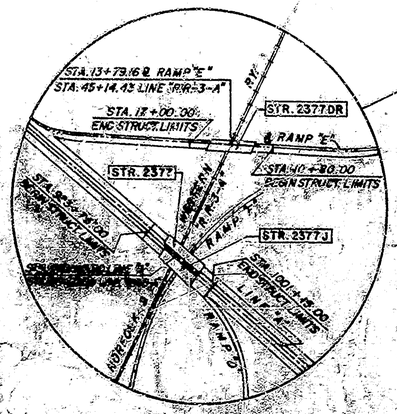
F.A. PROJECT No. I-465-4 (105)122 P.E. (139)122 R/W (150)122 CONSTR.

I-465 OVER NORFOLK & WESTERN RY. AND RAMP "F" AND RAMP "E" OVER NORFOLK & WESTERN RY.

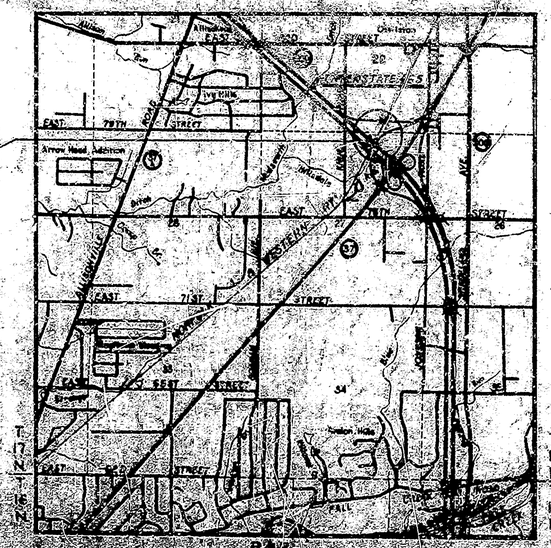
BRIDGES I-465-125-2377 AND 2377J BEGINNING AT A POINT ON LINE "A" OF THE PROPOSED I-465 APPROXIMATELY 330.00 FT. NORTHWEST OF ITS INTERSECTION WITH LINE "RR-3-A" OF EXIST. NORFOLK & WESTERN RY. AND EXTENDING SOUTHEASTERLY AND EXTENDING SOUTHERLY DIRECTION TO A POINT ON LINE "A" APPROXIMATELY 831.00 FT. SOUTHEAST OF ITS INTERSECTION WITH LINE "RR-3-A", ALL IN SECTION 27, T17N., R4E., LAWRENCE TOWNSHIP, MARION COUNTY.

BRIDGE I-465-125-2377DR BEGINNING AT A POINT ON Q OF PROPOSED RAMP "E" APPROX. 299.16 FT. EAST OF ITS INTERSECTION WITH LINE "RR-3-A" OF EXISTING NORFOLK & WESTERN RY. AND EXTENDING WEST A DISTANCE OF APPROXIMATELY 429.70 FT. TO A POINT ON Q OF PROPOSED RAMP "E" APPROXIMATELY 130.17 FT. WEST OF ITS INTERSECTION WITH LINE "RR-3-A", ALL IN SECTION 28, T17N, R4E, LAWRENCE TOWNSHIP, MARION COUNTY.

STRUCTURE	ROADWAY LENGTH	BRIDGE LENGTH	TOTAL LENGTH	MAX. GRADE
I-465-125-2377	0.150 MI.	0.080 MI.	0.150 MI.	3.00%
I-465-125-2377J	0.108 MI.	0.038 MI.	0.108 MI.	3.00%
I-465-125-2377DR	0.090 MI.	0.021 MI.	0.217 MI.	4.20%



STRUCTURE LIMITS



REVISIONS	
DAT	SHEET NO
6-25-68	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 59, 69, TITLE ADD.
1-10-69	14, 16

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

SUBMITTED FOR APPROVAL, DATE 6-25-68
H. W. LOCHNER, INC.
ENGINEERS
30 N. WACKER DR. CHICAGO

BRIDGES OVER 20' SPAN

SHEET NO.	STATE	ROAD NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
4	IND.	B-7272 B-7803	1965	2	47

INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	B.P.R. APPROVAL	INDIANA STATE HIGHWAY COMMISSION APPROVAL
33A			7-11-67	8-17-67
44			11-2-67	8-17-67
59A			10-8-68 8-3-67	8-17-67 2-23-68

TRAFFIC DATA I-465	
A.D.T. (1962)	31,700 V.P.D.
A.D.T. (1982 PROJECTED)	75,000 V.P.D.
TRUCKS	7 %
DESIGN SPEED	70 M.P.H.
ACCESS CONTROL	FULL

TRAFFIC DATA RAMP "E"	
A.D.T. (1962)	4,510 V.P.D.
A.D.T. (1982 PROJECTED)	7,900 V.P.D.
TRUCKS	10 %
DESIGN SPEED	60 M.P.H.
ACCESS CONTROL	FULL

REVIEWED
W. G. Dukes
ASSISTANT ENGINEER OF PLANS AND SPECIFICATIONS

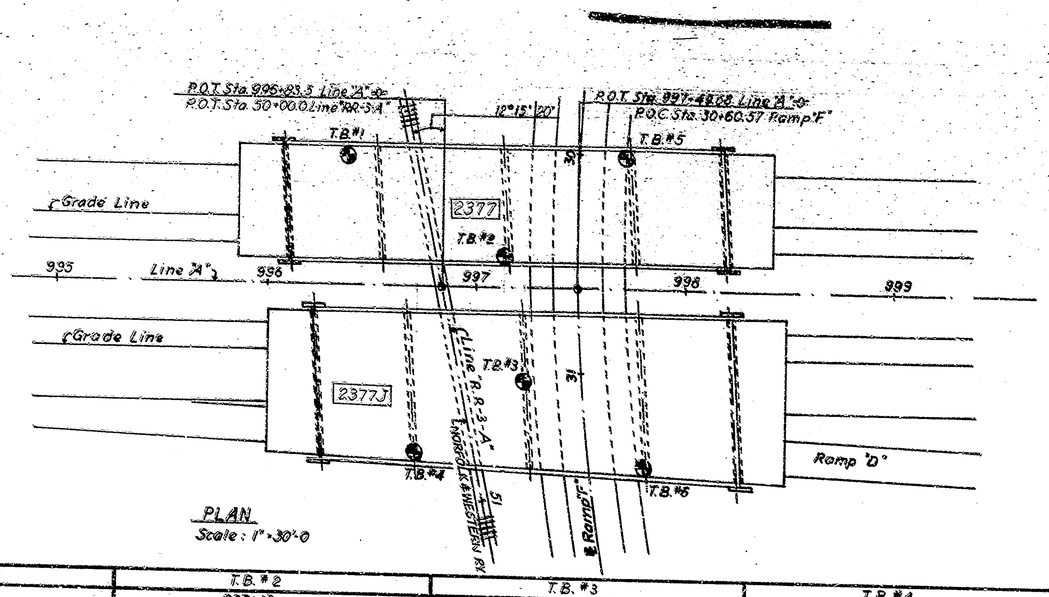
RECOMMENDED FOR APPROVAL 7-2-68

APPROVED 7-2-68
CHIEF HIGHWAY ENGINEER — INDIANA STATE HIGHWAY COMMISSION

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:
DIVISION ENGINEER

JOHN A. MEISSNER
REGISTERED
No. 10240
STATE OF INDIANA
REGISTERED PROFESSIONAL ENGINEER

REVISIONS	
DAT	SHEET NO
7-2-68	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 59, 69, TITLE ADD.
8-17-68	14, 16



PLAN
Scale: 1" = 30'-0

NOTE

℄ Indicates Ground Water Table
N Indicates the number of blows required to drive a 1⅜" I.D. 2" O.D. Split Spoon Sampler 12" by means of a 140# weight falling 30".

Boring	T.B. #1	T.B. #2	T.B. #3	T.B. #4	T.B. #5	T.B. #6
Station	996+37.4	997+13	997+23	996+71	997+71	997+81
Offset	59.0' Lt.	15.0' Lt.	43.0' Rt.	76.0' Rt.	60.0' Lt.	81.0' Rt.
Ground El.	815.5'	812.9'	813.0'	814.2'	811.7'	814.3'

Sample No.	El.	N	DESCRIPTION
	815.5		(Ground Level
	814.6		TOPSOIL
1	813.0	15	Brown moist very stiff to medium stiff sandy CLAY LOAM
2	810.5	12	
3	808.5	8	
	806.0		
4	802.3	18	Brown moist to wet loose SAND and GRAVEL
	800.0		
5	798.5	36	Brown moist very stiff CLAY LOAM
	796.0		
6	794.5	12	Gray moist very stiff to stiff silty LOAM (hardpan)
			very stiff at 25.0'
7	790.3	18	stiff at 29.0'
			very stiff to hard below 33.0'
8	786.5	11	
9	782.8	30	
10	778.5	21	
11	773.5	21	
12	768.5	80	
13	763.5	171	Gray moist very dense SAND with trace of GRAVEL
	762.5		End of boring Depth of boring 53.0'

Sample No.	El.	N	DESCRIPTION
	812.9		(Ground Level
	811.4		TOPSOIL
1	810.4	4	Brown moist very loose to loose sandy LOAM
2	807.9	6	
3	803.9	8	
4	798.9	38	Gray moist hard silty LOAM (hardpan)
5	795.9	50	
6	791.9	29	very stiff below 21.0'
7	787.9	17	
8	783.9	23	
9	781.4	23	
	779.9		End of boring Depth of boring 33.0'

Sample No.	El.	N	DESCRIPTION
	813.0		(Ground Level
	811.5		TOPSOIL
1	810.0	9	Brown moist loose sandy CLAY LOAM
2	808.0	6	
3	804.5	11	medium dense at 9.0'
4	800.0	23	
5	796.0	49	Gray moist very stiff silty LOAM (hardpan) hard at 17.0'
6	792.0	23	very stiff below 21.0'
7	788.0	28	
8	784.0	18	hard below 37.0'
9	780.0	17	
10	776.0	42	
11	771.0	68	
12	766.0	151	
13	764.5	202	
	763.0		End of boring Depth of boring 30.0'

Sample No.	El.	N	DESCRIPTION
	814.2		(Ground Level
	812.7		TOPSOIL
1	811.2	12	Brown moist medium stiff to very stiff sandy LOAM
2	809.2	16	
3	805.2	21	
4	801.2	19	
	799.0		
5	797.2	33	Brown and gray moist medium stiff sandy LOAM (hardpan)
6	793.2	36	Gray moist hard to very stiff sandy LOAM (hardpan)
7	789.2	19	
	786.0		End of boring Dep' boring 30.0'

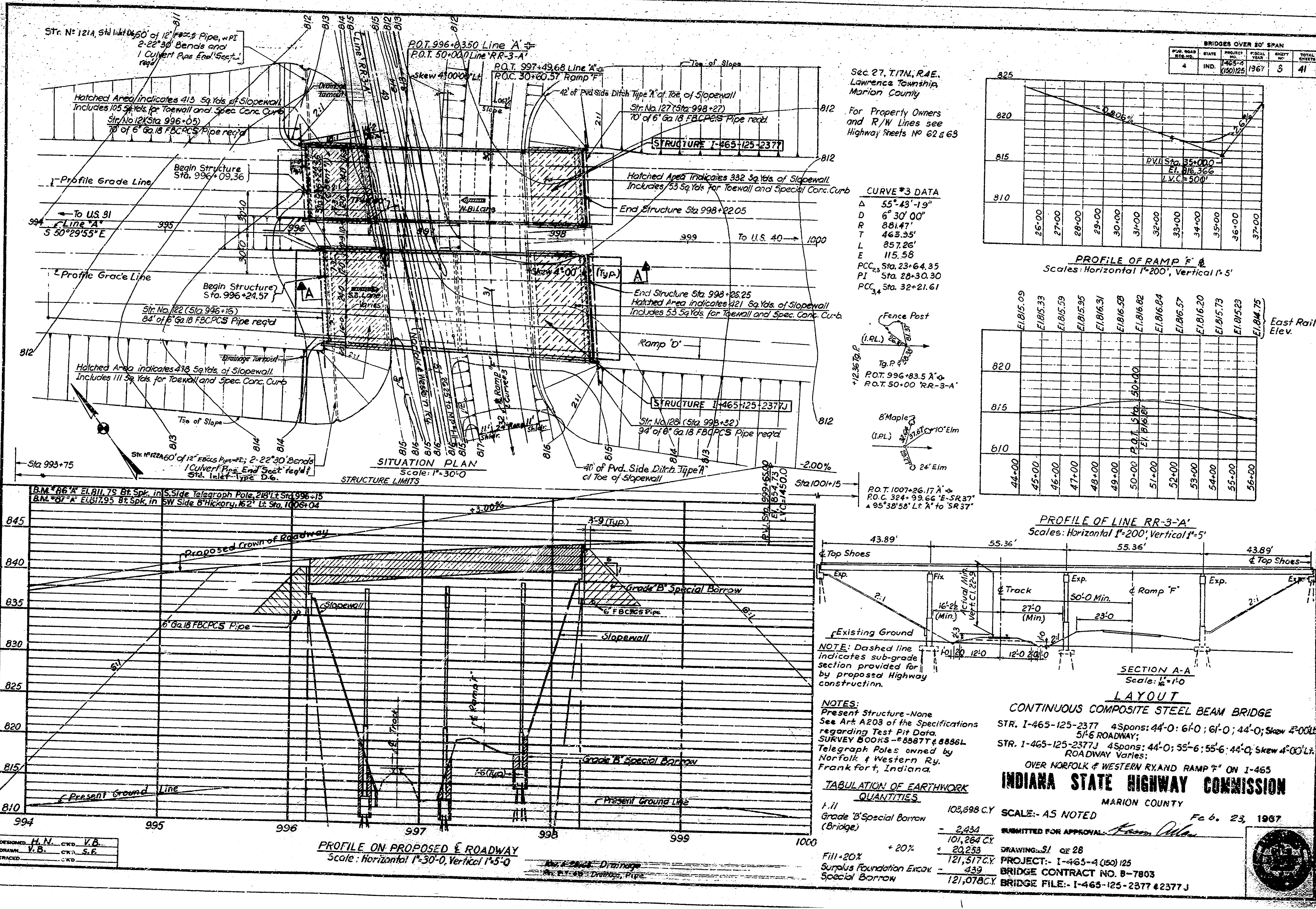
Sample No.	El.	N	DESCRIPTION
	811.7		(Ground Level
	810.0		TOPSOIL
1	808.7	9	Brown moist medium stiff sandy LOAM stiff at 5.0'
2	806.7	11	
3	802.7	16	very stiff 9.0'
4	798.7	34	Gray moist hard sandy LOAM (hardpan)
5	794.7	48	very stiff 17.0' to 22.5'
6	790.7	18	stiff at 25.0'
			very stiff at 28.5'
7	786.7	15	
8	782.2	23	
	781.7		End of boring Depth of boring 30.0'

Sample No.	El.	N	DESCRIPTION
	814.3		(Ground Level
	811.8		TOPSOIL
1	811.3	21	Brown moist very stiff sandy CLAY LOAM stiff at 5.0'
2	809.3	15	
3	805.3	18	
4	801.3	736	
5	800.3	34	
6	797.3	48	Brown wet dense SAND and GRAVEL
			Gray moist hard silty LOAM (hardpan)
7	793.3	21	very stiff 21.0' to 26.5'
			stiff at 28.5'
8	789.3	17	
9	785.3	15	
	784.3		End of boring Depth of boring 30.0'

TEST BORING DATA

SCALE: As Noted
SUBMITTED FOR APPROVAL Feb. 23, 1967

PROJECT: I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE I-465-95-2377 & 2377J

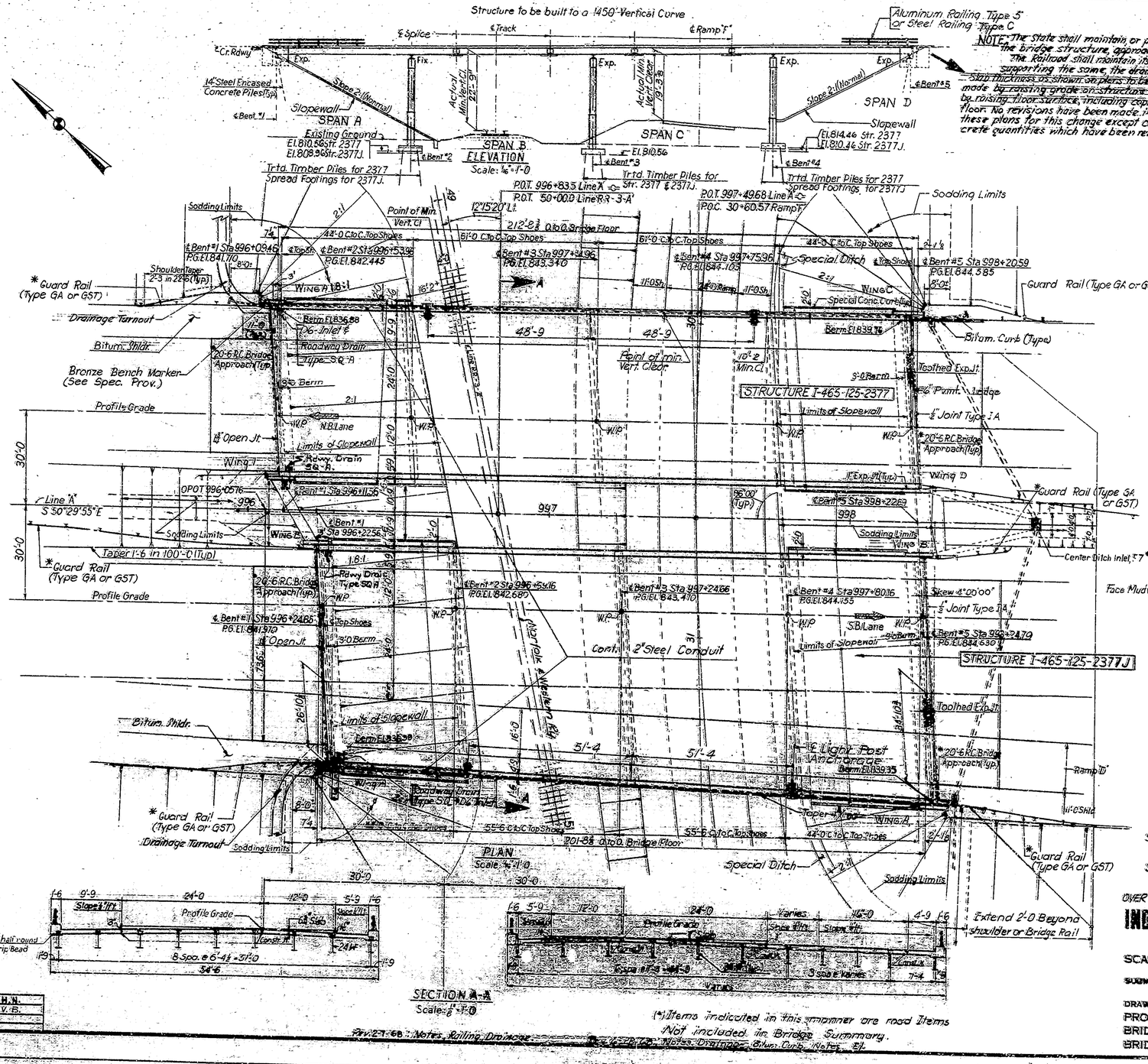


BRIDGES OVER 20' SPAN
4 IND. I-465-4 (150)125 1967 3 41
Sec. 27, T.17N., R.4E., Lawrence Township, Marion County
For Property Owners and R/W Lines see Highway Sheets Nº 62 & 63
STRUCTURE I-465-125-2377
STRUCTURE I-465-125-2377J
Begin Structure Sta. 996+09.36
End Structure Sta. 998+22.05
Begin Structure Sta. 996+24.57
End Structure Sta. 998+25.25
P.O.T. 996+83.50 Line 'A'
P.O.T. 50+00.0 Line 'RR-3-A'
P.O.T. 997+49.68 Line 'A'
P.O.C. 30+60.57 Ramp 'F'
Skew 4°00'00" Lt.
Hatched Area indicates 413 Sq. Yds. of Slopewall. Includes 105 Sq. Yds. for Toewall and Spec. Conc. Curb
Hatched Area indicates 382 Sq. Yds. of Slopewall. Includes 53 Sq. Yds. for Toewall and Special Conc. Curb
Hatched Area indicates 421 Sq. Yds. of Slopewall. Includes 53 Sq. Yds. for Toewall and Spec. Conc. Curb
Hatched Area indicates 418 Sq. Yds. of Slopewall. Includes 111 Sq. Yds. for Toewall and Spec. Conc. Curb
Str. No. 127 (Sta. 998+27) 70' of 6" Ga. 18 FBCPCS Pipe req'd.
Str. No. 12K Sta. 996+05) 70' of 6" Ga. 18 FBCPCS Pipe req'd
Str. No. 122 (Sta. 996+16) 84' of 6" Ga. 18 FBCPCS Pipe req'd
Str. No. 128 (Sta. 998+32) 94' of 6" Ga. 18 FBCPCS Pipe req'd
Line 'A' S 50°29'55" E
To U.S. 31
To U.S. 40
Profile Grade Line
Ramp 'D'
Toe of Slope
Sta. 993+75
Sta. 1001+15
STRUCTURE LIMITS
SITUATION PLAN
Scale: 1"=30'-0
40' of Pvd. Side Ditch Type 'A' at Toe of Slopewall
CURVE #3 DATA
Δ 55°-43'-19"
D 6° 30' 00"
R 881.47'
T 465.35'
L 857.26'
E 115.58
PCC Sta. 23+64.35
PI Sta. 28+30.30
PCC Sta. 32+21.61
P.O.T. 996+83.5 'A'
P.O.T. 50+00 'RR-3-A'
P.O.T. 1007+26.17 'A'
P.O.C. 324+99.66 'E-SR37'
P.V.I. Sta. 35+00.0
El. 816.366
L.V.C. = 500'
PROFILE OF RAMP 'F'
Scales: Horizontal 1"=200', Vertical 1"=5'
East Rail Elev.
PROFILE OF LINE RR-3-'A'
Scales: Horizontal 1"=200', Vertical 1"=5'
B.M. #86 'A' El. 811.79 Bt. Spk. in S. Side Telegraph Pole, 218' Lt. Sta. 996+15
B.M. #87 'A' El. 817.95 Bt. Spk. in SW Side 8" Hickory, 162' Lt. Sta. 1006+04
P.V.I. Sta. 999+65.00 El. 854.73 L.V.C. = 1450.0
+3.00%
-2.00%
Proposed Crown of Roadway
Grade 'B' Special Borrow
Slopewall
6" Ga. 18 FBCPCS Pipe
Present Ground Line
PROFILE ON PROPOSED ℄ ROADWAY
Scale: Horizontal 1"=30'-0, Vertical 1"=5'-0
43.89' 55.36' 55.36' 43.89'
℄ Top Shoes
℄ Track
℄ Ramp 'F'
Existing Ground
NOTE: Dashed line indicates sub-grade section provided for by proposed Highway construction.
SECTION A-A
NOTES:
Present Structure - None
See Art. A203 of the Specifications regarding Test Pit Data.
SURVEY BOOKS - #8887T & 8886L
Telegraph Poles owned by Norfolk & Western Ry. Frankfort, Indiana.
TABULATION OF EARTHWORK QUANTITIES
Fill 103,898 C.Y.
Grade 'B' Special Borrow (Bridge) - 2,434
101,264 C.Y.
+20% + 20,253
Fill +20% 121,517 C.Y.
Surplus Foundation Excav. - 439
Special Borrow 121,078 C.Y.
LAYOUT
CONTINUOUS COMPOSITE STEEL BEAM BRIDGE
STR. I-465-125-2377 4 Spans: 44'-0; 61'-0; 61'-0; 44'-0; Skew 4°00' Lt. 51'-6 ROADWAY;
STR. I-465-125-2377J 4 Spans: 44'-0; 55'-6; 55'-6; 44'-0; Skew 4°00' Lt. ROADWAY Varies;
OVER NORFOLK & WESTERN RY. AND RAMP 'F' ON I-465
INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY
SCALE:- AS NOTED
Feb. 23, 1967
SUBMITTED FOR APPROVAL:
DRAWING: 31 OF 28
PROJECT:- I-465-4 (150) 125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 & 2377 J
DESIGNED H.N. CKD. V.B.
DRAWN V.B. CKD. S.E.

PUB. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	4	41

BRIDGES OVER 20' SPAN

Structure to be built to a 1450' Vertical Curve



NOTE: The State shall maintain, or provide for the maintenance of the bridge structure, approach grades, and all other highway facilities. The Railroad shall maintain its own roadway and track, the structures supporting the same, the drainage thereof, and all other railroad facilities.

Slab thickness as shown on plans to be increased 1" 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 effected 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 except concrete quantities which have been revised.

DESIGN DATA

Designed for H5-20-44 Loading in accordance with 1965 AASHO. Specifications.
Checked for special loading of 2-24000# axles spaced @ 4'-0 O.C.

GENERAL NOTES

4 Standard type SQ-A roadway drains to be placed as shown on this drawing.
No present structure at proposed bridge site.
Depth of footings to be extended if found necessary.
See Art. B 403.2(a) of the specifications.
Piles shall have minimum bearing value shown on detail drawings.
Determine Pile Lengths by Art. F 103 and F 203 of the specifications.
For details of steel encased concrete Piles, see Br. Std. C1, the special Provisions and applicable articles in the specifications.
Piles shall be driven to Elevation necessary to obtain desired bearing.
Tolerance in position of pile head maximum 2".
Reinforcing steel covering shall be 1½" in top and 1" in bottom of floor slabs, 3" in footing except bottom steel which shall be 4" and 2" in all other parts, unless noted.
Concrete in footings and collision walls to be class "E".
Concrete in superstructure and bent caps to be class "F".
Concrete in structure not noted above, in steel encased concrete piles and concrete slopewall to be class "D".
Continuous concrete pours shall be required between construction Joints as shown on detail plans.
Bevel Forms ¾" under copings and chamfer exposed edges 1" unless noted.
All railings to be constructed perpendicular to grade.
The back of mudwall and wingwalls at end bents shall be waterproofed.
Construct slopewall at locations shown on Layout.

STANDARD DRAWINGS

SHEET BRIDGE STANDARDS
D .... Roadway Drain Type SQ
C1 .... Reinf. bar notes & details, field splice of pile shells, notch at end of beams, ¾" dia. I.A
BR1 ... Aluminum railing
BR2 ... Aluminum railing details
BE3 ... Steel railing
S24 ... Steel railing Details
E2A ... Bridge Lighting Details, 6 Sets
S2 .... Grade B Spl. Borrow

SHEET ROAD STANDARDS
Ma .... Pavement offsets
Ms2 ... Slopewall, Ditch at Toe of Slope
ME2 ... Pipe End Sections
MB .... Paved Side Ditch (Type A)
MC .... Type 6 Inlet Coating
MB4 ... Plan No 2
MD .... Type D Inlet

GENERAL PLAN

CONTINUOUS COMPOSITE STEEL BEAM BRIDGE

STR. I-465-125-2377 4 Spans: 44-0; 61-0; 61-0; 44-0; Skew 4°-00" Lt.
51'-6 ROADWAY

STR. I-465-125-2377 J 4 Spans: 44-0; 55-6; 55-6; 44-0; Skew 4°-00" Lt.
ROADWAY varies

OVER NORFOLK & WESTERN RY. AND RAMP "F" ON I-465

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- AS NOTED — Feb. 23, 1967

SUBMITTED FOR APPROVAL:- Karen Utter

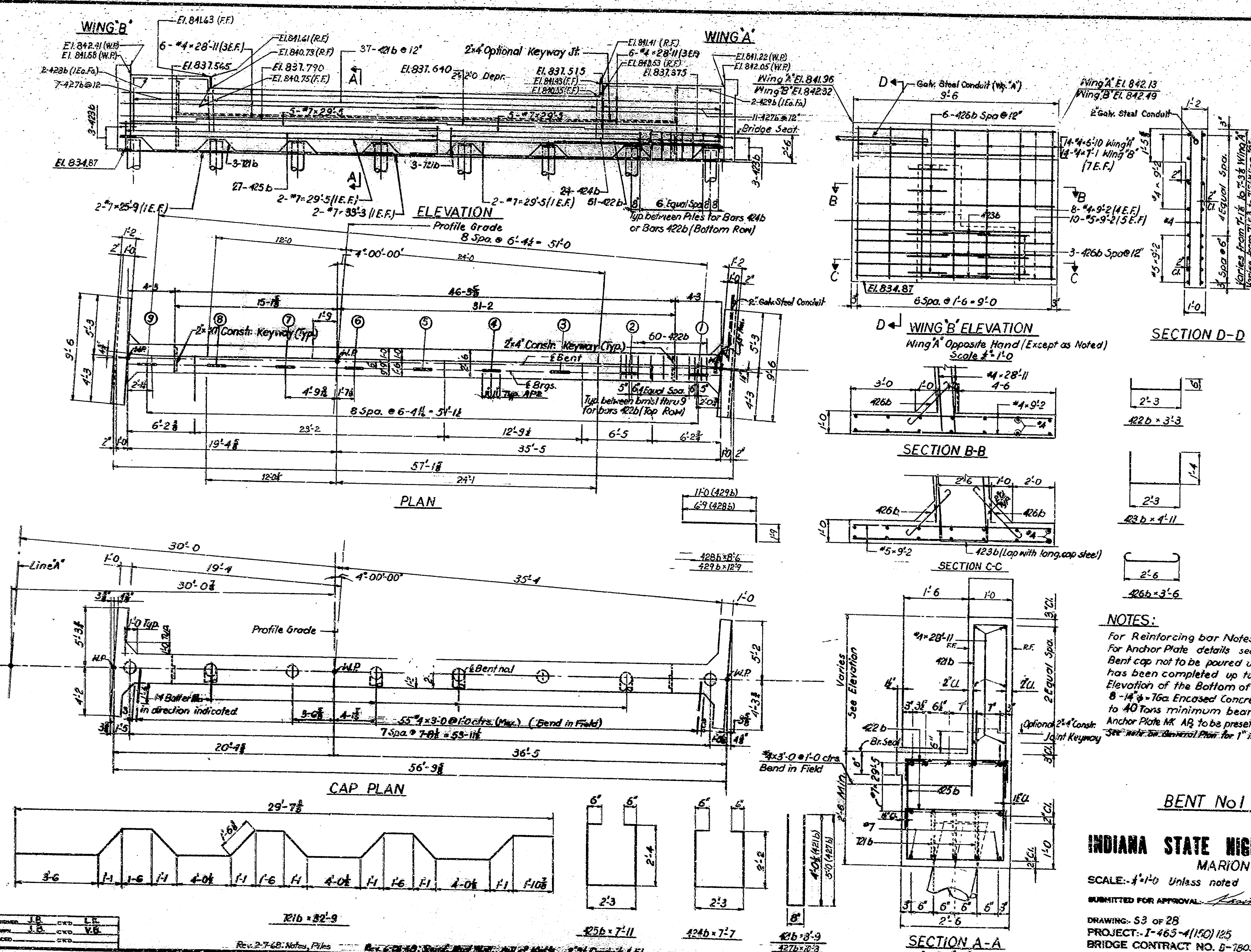
DRAWING:- 52 OF 28
PROJECT:- I-465-4 (150) 125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 & 2377 J

DESIGNED V.B. CK'D H.N.
DRAWN H.B. CK'D V.B.
TRACED CK'D

(*) Items indicated in this manner are road Items Not included in Bridge Summary.

BRIDGES OVER 20' SPAN

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4(150)125	1967	5	41



BILL OF MATERIAL			
Size or Mark	No. of Bars	Length	Weight
721 b	6	32'-9	
#7	14	29'-5	
#7	2	33'-3	
#7	2	25'-9	
		Total #7	1485
#5	20	9'-2	
		Total #7	191
427b	18	10'-8	
421b	55	8'-9	
422b	111	3'-3	
423b	6	4'-11	
424b	24	7'-7	
425b	27	7'-11	
426b	18	3'-6	
#4	12	28'-11	
#4	16	9'-2	
#4	14	7'-1	
#4	14	6'-10	
#4	55	3'-0	
428b	2	8'-6	
429b	2	12'-9	
		Total #4	2261
Total Steel			3937 Lbs
Concrete			
Class "F" Concrete			25.9 Cu. Yds.
Miscellaneous			
8 Steel Encased Conc. Piles 14"φ × 7Ga. × 61'-0±			488 Lin. Ft.
Anchor Plates MK AP2			9 Each

NOTES:

For Reinforcing bar Notes see Br. Std. C1.
For Anchor Plate details see Drawing S4.
Bent cap not to be poured until after Fill has been completed up to approximate Elevation of the Bottom of the Cap.
8 - 14"φ × 7Ga. Encased Concrete Piles driven to 40 Tons minimum bearing.
Anchor Plate MK AP2 to be preset in concrete.
See note on General Plan for 1" increase in slab thickness.

BENT No 1 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- 1/4"=1'-0 Unless noted

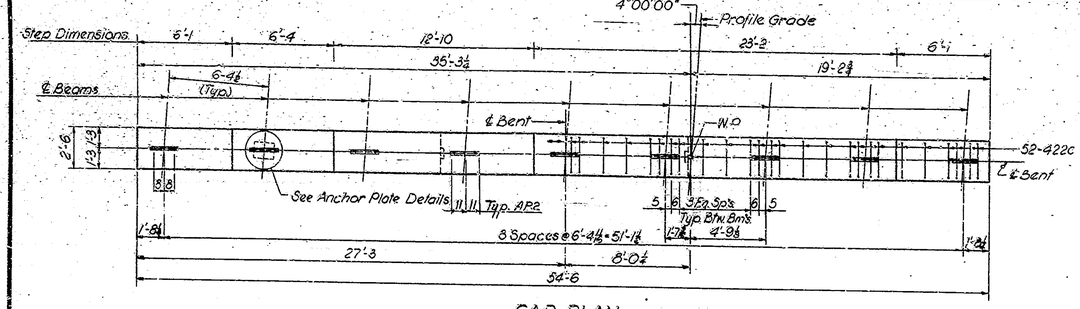
Feb. 23, 1967

SUBMITTED FOR APPROVAL:- [signature]

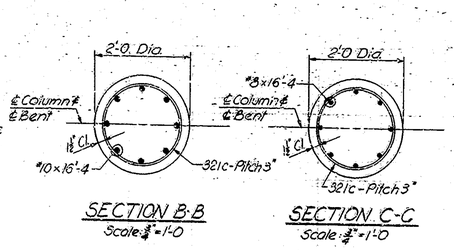
DRAWING:- S3 OF 28
PROJECT:- I-465-4(150) 125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377

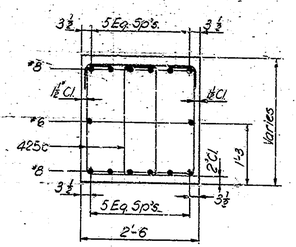
DESIGNED	J.B.	CKD.	L.R.
DRAWN	J.B.	CKD.	V.B.
TRACED		CKD.	

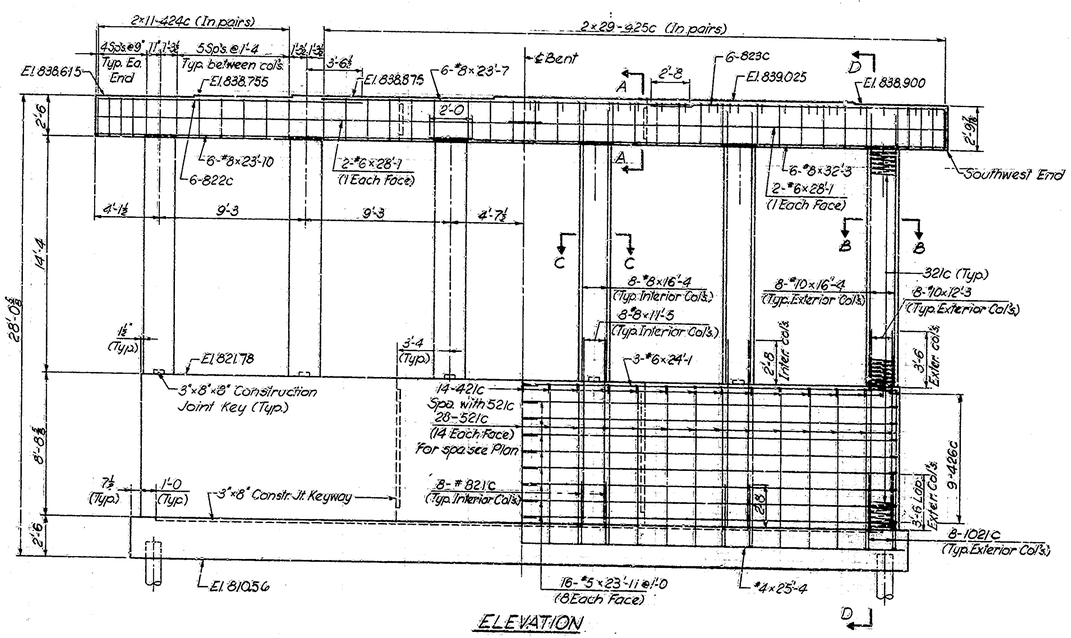
Rev. 2-7-68: Notes, Piles

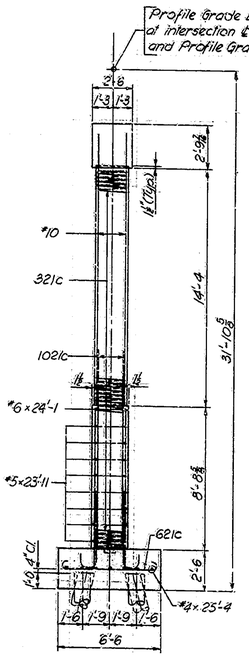


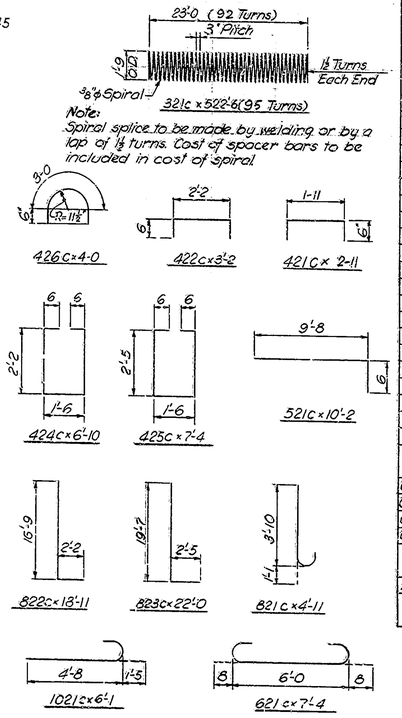
CAP PLAN











BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR.	SHEET NO.	TOTAL SHEETS
4	IND.	F-465-4 (150) 125	1967	6	41

BILL OF MATERIAL

REINFORCING BARS

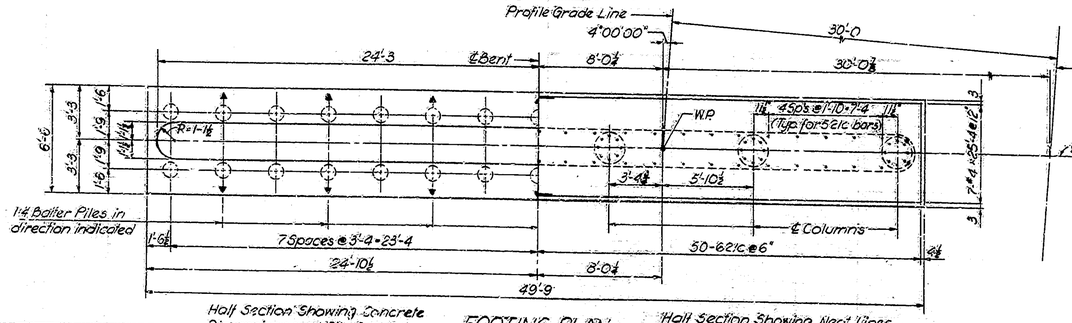
SIZE OR MARK	NO. OF BARS	LENGTH	WEIGHT (LBS)
1021c	16	6'-1	
#10	16	16'-4	
#10	16	12'-3	2,367
		Total #10	
821c	32	4'-11	
822c	6	18'-11	
823c	6	22'-0	
#8	6	23'-10	
#8	6	23'-7	
#8	6	32'-3	
#8	32	16'-4	
#8	32	11'-5	
		Total #8	5,150
621c	99	7'-4	
#6	6	24'-1	
#6	4	28'-1	
		Total #6	1,485
521c	54	10'-2	
#5	32	23'-11	
		Total #5	1,404
421c	27	2-11	
422c	52	3'-2	
426c	18	4-0	
424c	22	6'-10	
425c	58	7'-4	
#4	14	25'-4	
		Total #4	815
321c	6	522'-6	
		Total #3	1,179
	TOTAL STEEL		12,420

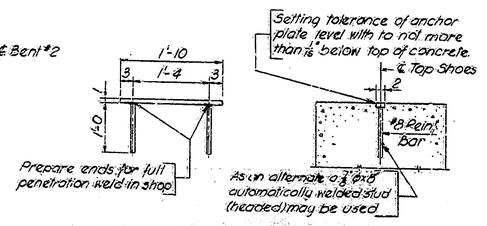
CONCRETE

Class 'E' Concrete in Footing	291 Cu.Y.
Class 'E' Concrete in Wall	352 Cu.Y.
Class 'D' Concrete in Columns	100 Cu.Y.
Class 'F' Concrete in Cap	141 Cu.Y.

MISCELLANEOUS

Anchor Plates "NK AP2"	9 Each
30 Treated Timber Piles 24'-0 Long (Approx.)	720 Lin.Ft.





NOTE:
For reinforcing bar notes see Bridge Std Cl.
For General Notes see Drawing 32.
30 Treated Timber Piles - 25 Ton Bearing Capacity Min.
Anchor Plates "NK AP2" to be preset in concrete.

BENT NO. 2 DETAILS (N.B.)

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- ¾"=1'-0 Unless noted

Feb. 23, 1967

SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- 54 OF 28

PROJECT:- F-465-4(150)125

BRIDGE CONTRACT NO. B-7803

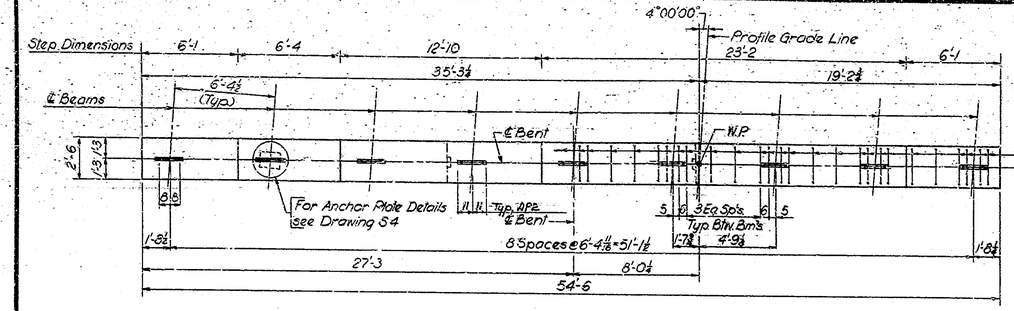
BRIDGE FILE:- F-465-125-2377

DESIGNED J.B. C'K'D L.K.
DRAWN E.F. C'K'D V.B.
TRACED C'K'D

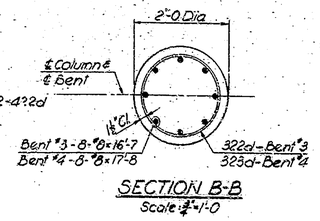
Rev. 2-7-68 E.J.C. W.P.G.
Rev. 6-28-68 H.F.A. (GES) W.P.G.

Rev. 2-7-68 W.P.G. Rev. 6-28-68 : APP., E.F.

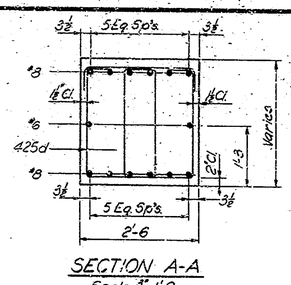
BRIDGES OVER 20' SPAN.					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	7	41



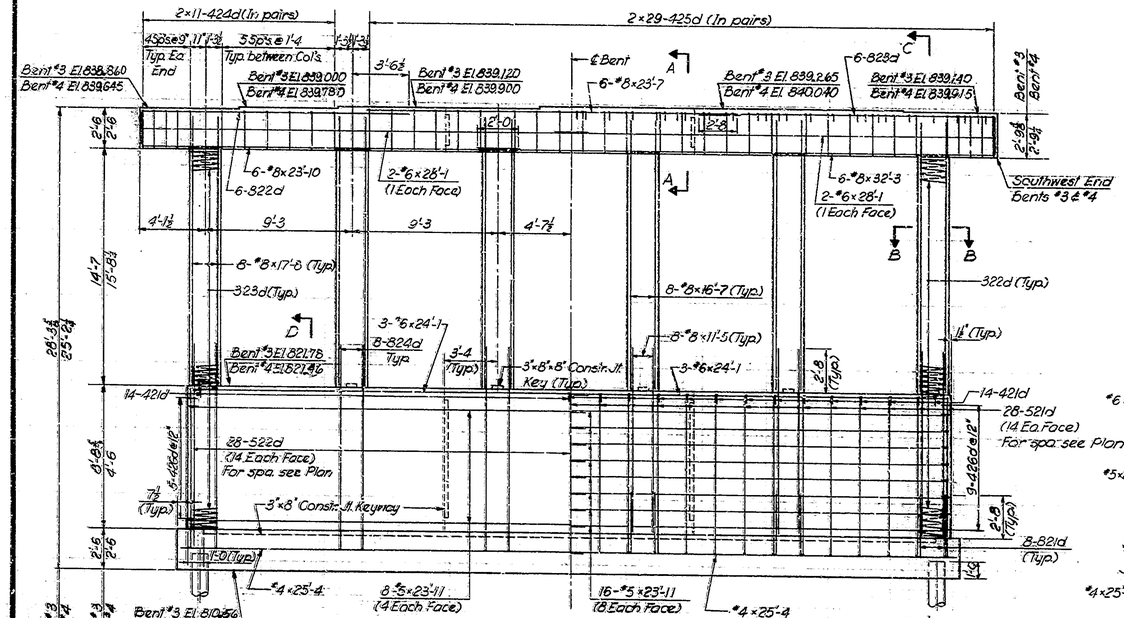
CAP PLAN



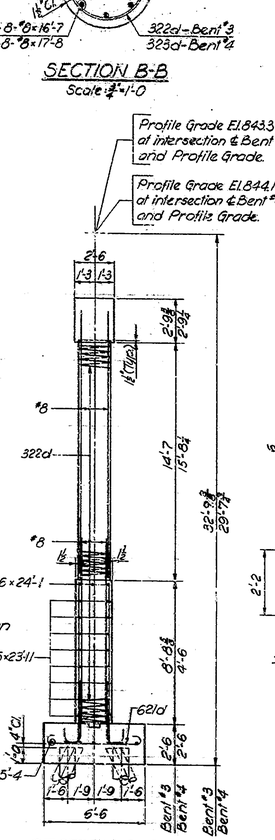
SECTION B-B
Scale: ¾"=1'-0



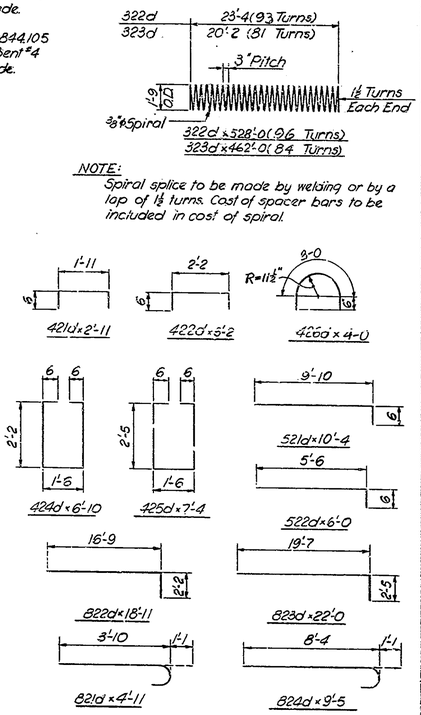
SECTION A-A
Scale: ¾"=1'-0



ELEVATION



SECTION C-C



NOTE:
Spiral splice to be made by welding or by a lap of 1½ turns. Cost of spacer bars to be included in cost of spiral.

BILL OF MATERIAL

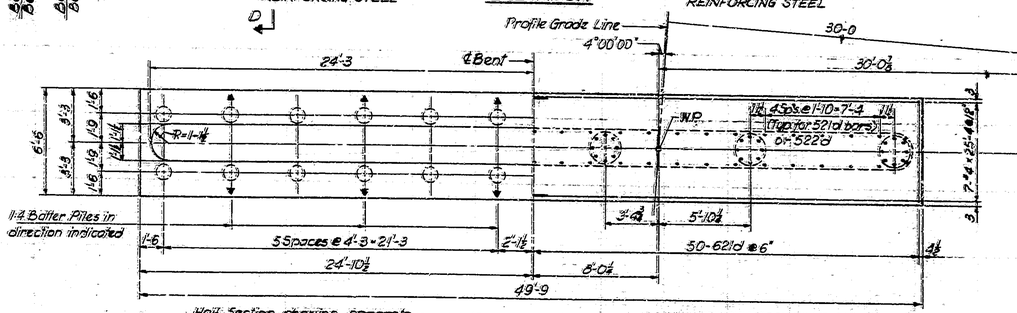
REINFORCING BARS

SIZE OR MARK	NO. OF BARS Bent No.3	Bent No.4	LENGTH	WEIGHT (Lbs.)
821d	48		4'-11	
822d	6	6	18'-11	
823d	6	6	22'-0	
824d		48	9'-5	
#8	48		16'-7	
#8	48		11'-5	
#8	6	6	32'-3	
#8	6	6	23'-10	
#8	6	6	23'-7	
#8		48	17'-8	
		Total #8	Bent #3	6,137
		Total #8	Bent #4	5,398
621d	99	99	7'-4	
#6	6	6	24'-1	
#6	4	4	28'-1	
		Total #6	Bent #3	1,485
		Total #6	Bent #4	1,485
521d	54		10'-4	
522d		54	6'-0	
#5	32	16	23'-11	
		Total #5	Bent #3	1,414
		Total #5	Bent #4	754
421d	27	27	2'-11	
422d	52	52	3'-2	
426d	18	10	4'-0	
424d	22	22	6'-10	
425d	58	58	7'-4	
#4	14	14	25'-4	
		Total #4	Bent #3	815
		Total #4	Bent #4	800
322d	6		528'-0	
323d		6	462'-0	
		Total #3	Bent #3	1,191
		Total #3	Bent #4	1,042
Total Steel Bent #3				11,042
Total Steel Bent #4				9,479

CONCRETE	Bent #3	Bent #4
Class 'E' Concrete in Footing	29.2 Cu.Y.	29.2 Cu.Y.
Class 'E' Concrete in Wall	35.2 Cu.Y.	18.2 Cu.Y.
Class 'D' Concrete in Columns	9.8 Cu.Y.	11.0 Cu.Y.
Class 'F' Concrete in Cap	14.0 Cu.Y.	14.0 Cu.Y.

MISCELLANEOUS	Bent #3	Bent #4
Anchor Plates MK AP 2	9 Each	9 Each
24 Treated Timber Piles ea: ×37'-0 (Approx.) Bent #3 ×32'-0 (Approx.) Bent #4	888 Lin.Ft.	768 Lin.Ft.

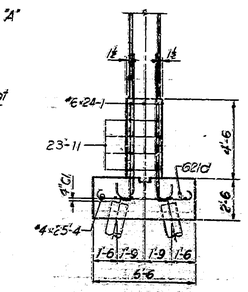
NOTE:
For reinforcing bar notes see Bridge Std. C.1.
For General Notes see Drawing S2.
24 Treated Timber Piles - 25 Ton Capacity MIN.
Anchor Plates MK-AP2 to be preset in concrete.
For Anchor Plate MK-AP2 Details see Dwg. S4.



Half Section showing concrete dimensions and pile spacing.

FOOTING PLAN

Half Section showing neat lines and reinforcing bars.



SECTION D-D
Showing Bent #4

DESIGNED J.J.B. CK'D L.L.
DRAWN E.F. CK'D V.B.
TRACED CK'D

Rev 2-7-68 Note Revised A.P.D. El

Rev 9-27-68 E.J.C. W.F.G.
Rev 6-28-68 J.A.H. E.S.J. W.F.G.

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

BENT NO. 3 & 4 DETAILS (N.B.)

SCALE:- ¼"=1'-0 Unless noted

Feb. 23 1967

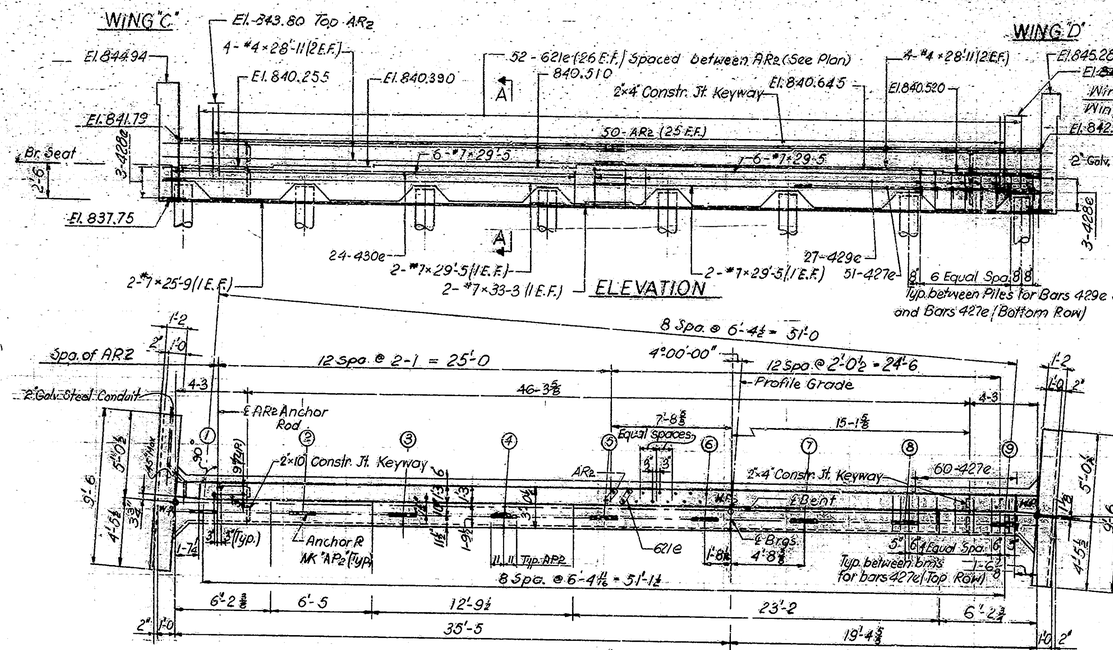
SUBMITTED FOR APPROVAL:

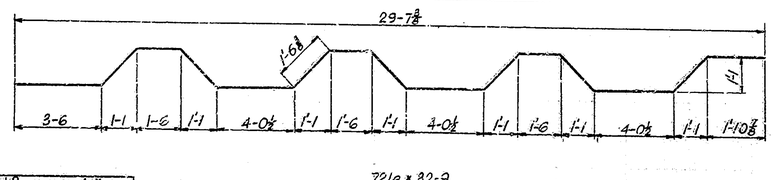
DRAWING: 35 OF 28
PROJECT:- I-465-4(150) 125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377

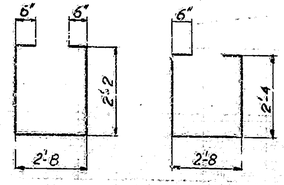
PUB. ROAD REQ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4(150)125	1967	8	41

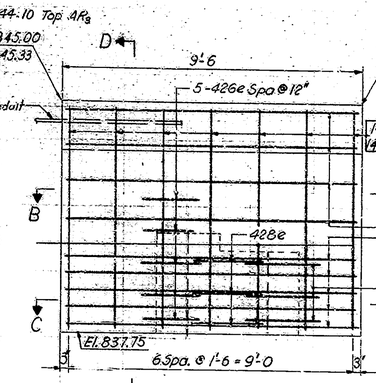
BRIDGES OVER 20' SPAN

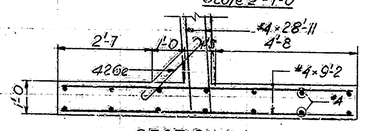
Rev. 11-2-68: Misc. Rwds, E.I.C
Rev. 4-28-68: Misc. Rwds, Q.E.S.; W.F.G.
12-10-66: F.L.D. T.M.H.

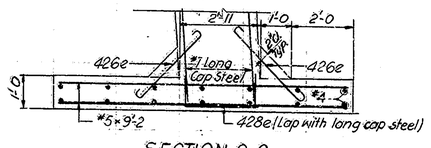


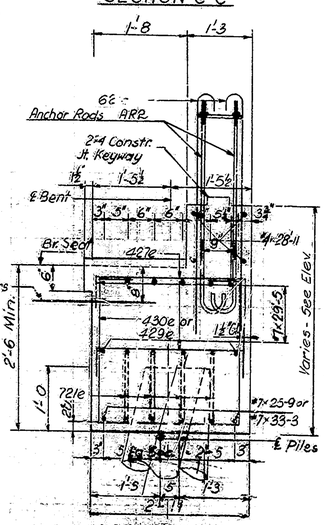


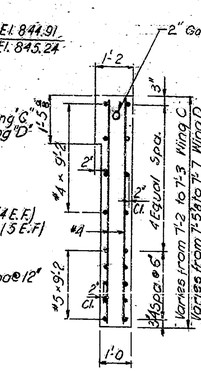


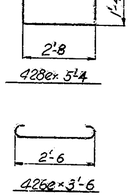






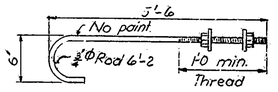






BILL OF MATERIAL

Size or Mark	No. of Bars	Length	Weight
721e	8	32-9	
#7	16	29'-5	
#7	2	33-3	
#7	2	25-9	
		Total #7	1739
621e	52	5'-8	
		Total #6	443
#5	20	9'-2	
		Total #5	191
426e	"	3'-6	
427e	111	3'-8	
428e	6	5'-4	
429e	27	8'-4	
430e	24	8'-0	
#4	8	28'-11	
#4	16	9'-2	
#4	14	7'-1	
#4	14	5'-10	
#4	56	3-0	
		Total #4	1102
Total Steel			3475 Lbs.
Concrete			
Class "F" Concrete			25.8 Cu. Yds.
Miscellaneous			
8 Steel Encased Conc. Piles 14"ø×.79a. × 66'-5"			531 Lin. Ft.
Anchor Plates MK AP2			9 Each
Anchor Rods MK AR2			30 Each



NOTES:

For Reinforcing bar Notes see Br. Std. C.
For Anchor Plate details see Drawing S4.
Bent cap not to be poured until after fill has been completed up to approximate Elevation of the Bottom of the Cap.
8-14"ø×.79a. Encased Concrete Piles driven to 40 Tons minimum bearing.
Anchor Plate MK AP2 & Anchor Rods AR2 to be preset in concrete.
See note on General Plans for 1" increase in Slab Thickness.

BENT No. 5 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- ½"=1'-0 Unless noted Feb. 23, 1967

SUBMITTED FOR APPROVAL:-

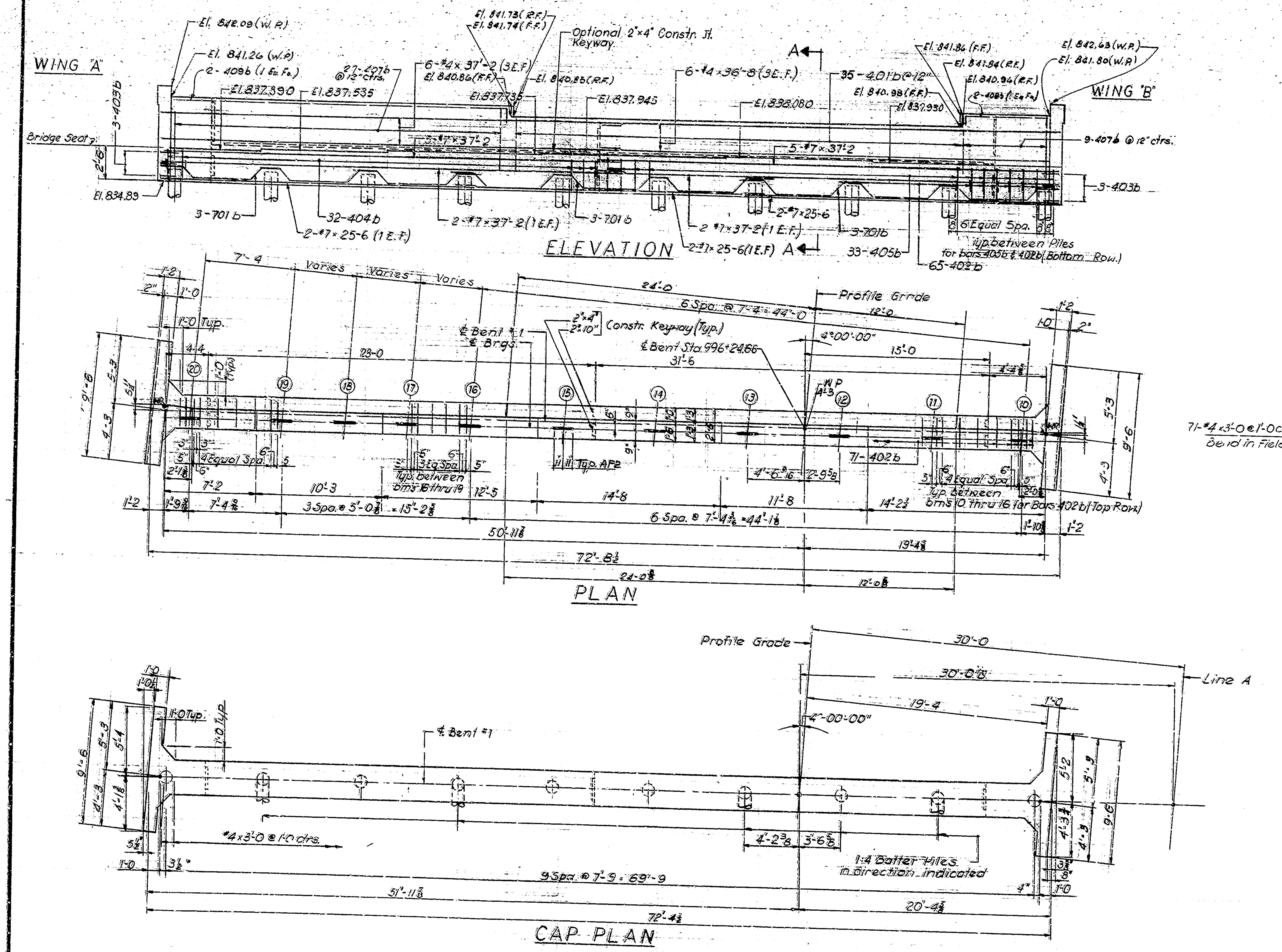
DRAWING:- 56 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377

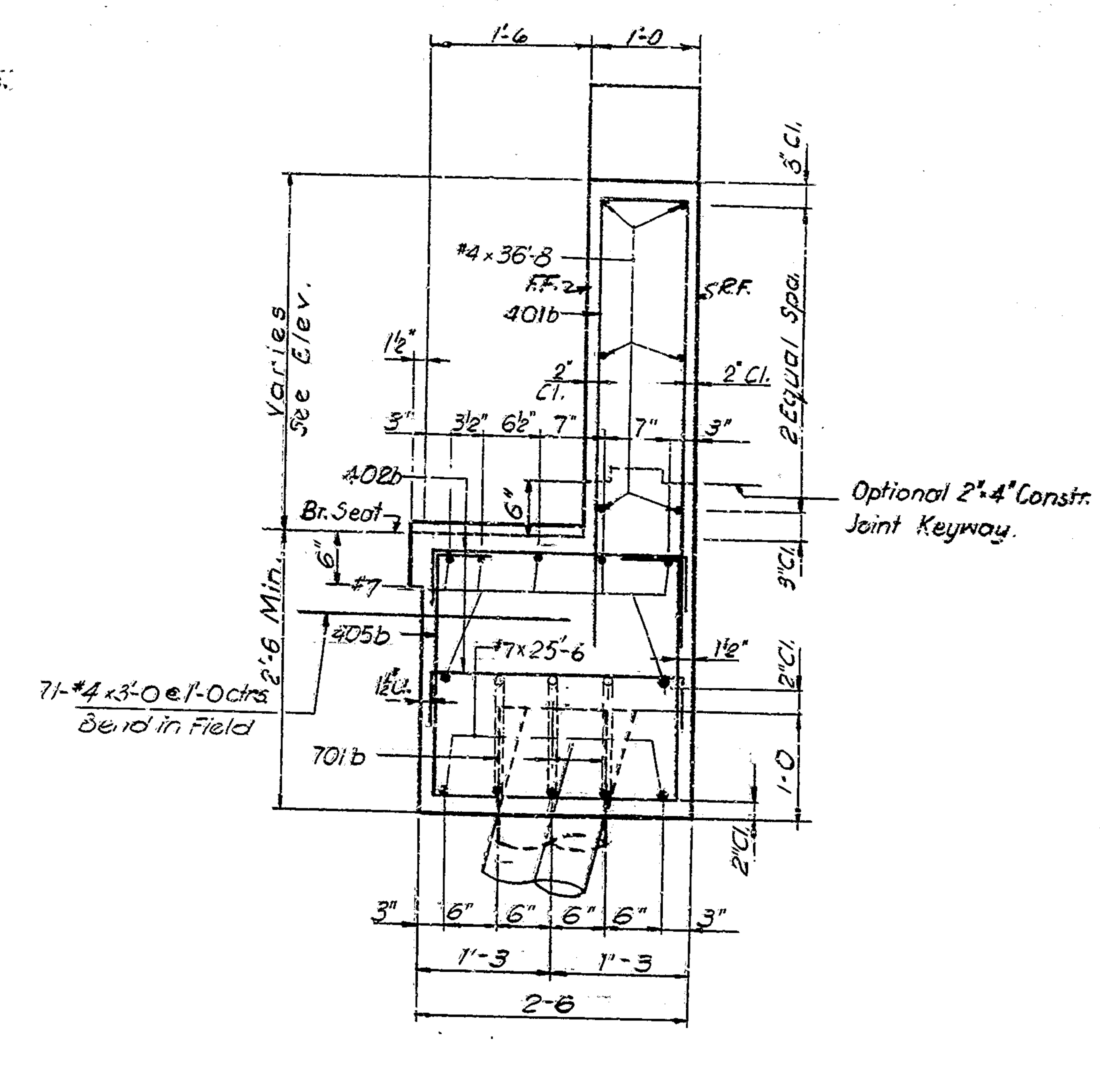
DESIGNED J.B. CK'D L.K.
DRAWN J.B. CK'D V.B.
TRACED CK'D

Rev. 12/10/69: El. AR2
Rev. 6-28-68: Notes, Reinf., 2"st. Conduit, AP2 & Bill of Mat'ls.
Rev. 2-7-68: Notes, Bill of Mats., Piles, El.

Fed. Road Reg. No.	State	Project No.	Fiscal Year	Sheet No.	Total Sheets
4	IND.	I-465-4(150)125	1967	9	41

BRIDGES OVER 20' SPAN





SECTION A-A

Scale: 1" = 1'-0

NOTES:

For Reinforcing bar Notes see Br. Std. C1.
For Anchor Plate details see Drawing 58
Bent cap not to be poured until after Fill has been completed up to approximate Elevation of the Bottom of the Cap.
10-14"ϕ×7Ga. Encased Concrete Piles driven to 40 Tons minimum bearing.
Anchor Plate MK AP3 to be preset in concrete.

BENT No.1 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- ¼" = 1'-0 Unless noted

Feb. 23, 1967

SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- 57 OF 28

PROJECT:- I-465-4(150)125

BRIDGE CONTRACT NO. B-7803

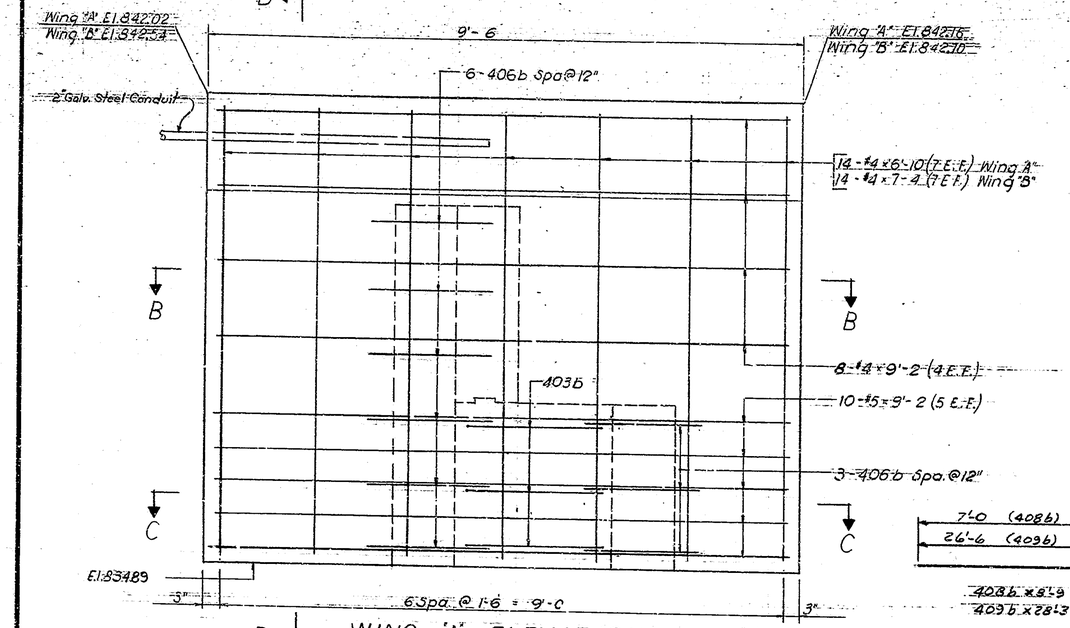
BRIDGE FILE:- I-465-125-2377J

DESIGNED S.E. CK'D L.K.
DRAWN R.M. CK'D V.B.
TRACED CK'D

Rev. 2-7-68 Piles — Rev. 2-28-68 Mud Wall, Reinf. St., AP2 & El.

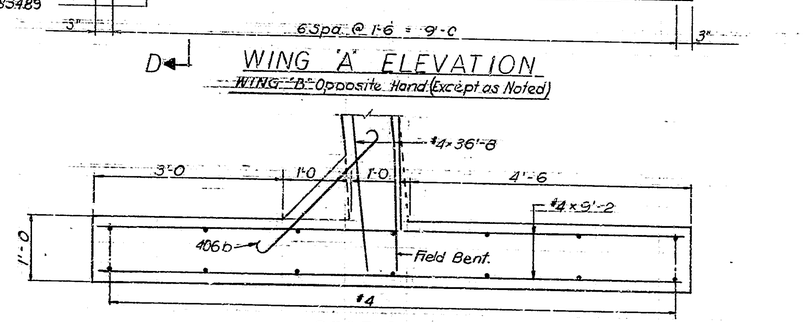
Rev. 2-7-68 EJC, WFG
Rev. 6-28-68 JFA, GES, WFG, TAM

BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465 4(150)125	1967	10	41

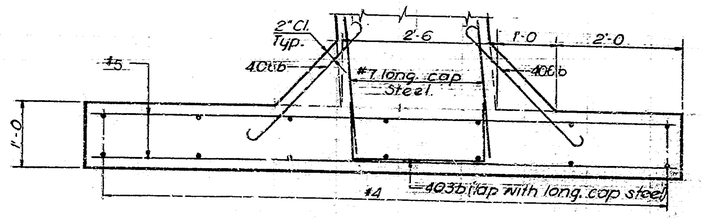


D WING "A" ELEVATION

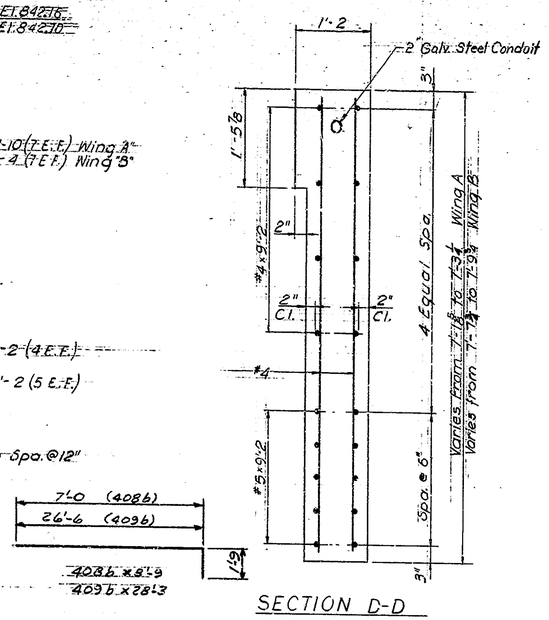
WING "B" Opposite Hand (Except as Noted)



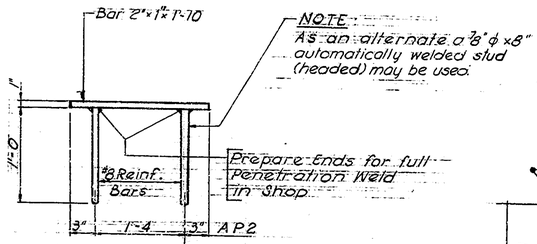
SECTION B-B



SECTION C-C



SECTION D-D

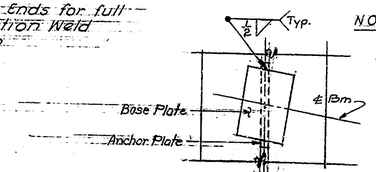


ANCHOR PLATE

AP2 DETAIL

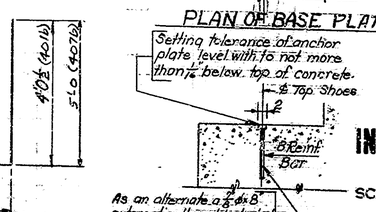
NOTE

As an alternate a 7/8" ϕ x 8" automatically welded stud (headed) may be used.



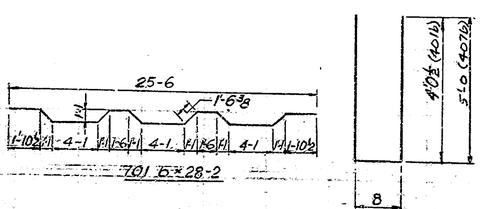
PLAN OF BASE PLATE

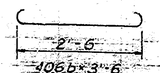
Setting tolerance of anchor plate level with to not more than 1/4" below top of concrete.

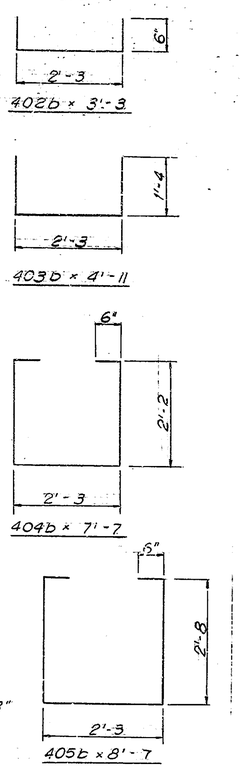


ANCHOR PLATE MK AP2

Scale: 3/4"=1'-0







BILL OF MATERIAL			
Size or Mark	No. of bars	Length	Weight
701 b	9	28'-2	
#7	14	37'-2	
#7	6	25-6	
		Total #7	1894#
#5	20	9'-2	
		Total #5	191#
401 b	36	8'-9	
402 b	136	3'-3	
403b	6	4'-11	
404b	32	7'-7	
405b	33	8'-7	
406b	18	3'-6	
407b	35	10'-8	
408b	2	8'-9	
409b	2	28'-3	
#4	12	34'-8	
#4	16	9'-2	
#4	14	6'-10	
#4	14	7'-4	
#4	71	3'-0	
		Total #4	1884#
		Total Steel	3969 Lbs.
Concrete			
Class "A" Concrete			32.4 Cu Yds.
Miscellaneous			
10 Steel Encased Concr. Piles			
14"ϕ-7Ga. x 61'-0 ±			610 Lin. Ft.
Anchor Plates MK AP2			11 Each.

NOTES:

For Reinforcing bar Notes see Br. Std. C1
For Addit... Details see Drawing No. S7
See note on u... Plans for 1" increase in slab thickness.

BENT No.1 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- 1"=1'-0

Feb. 23, 1968

SUBMITTED FOR APPROVAL:-

DRAWING:- 38 OF 28

PROJECT:- I-465-4(150)125

BRIDGE CONTRACT NO. B-7803

BRIDGE FILE:- I-465-125-2377J

DESIGNED	S.F.	CK'D	L.K.
DRAWN	T.M.	CK'D	V.B.
TRACED		CK'D	

Rev. 2-26-68: Pile Conduit, Reinf. Bill of Matls. Notes

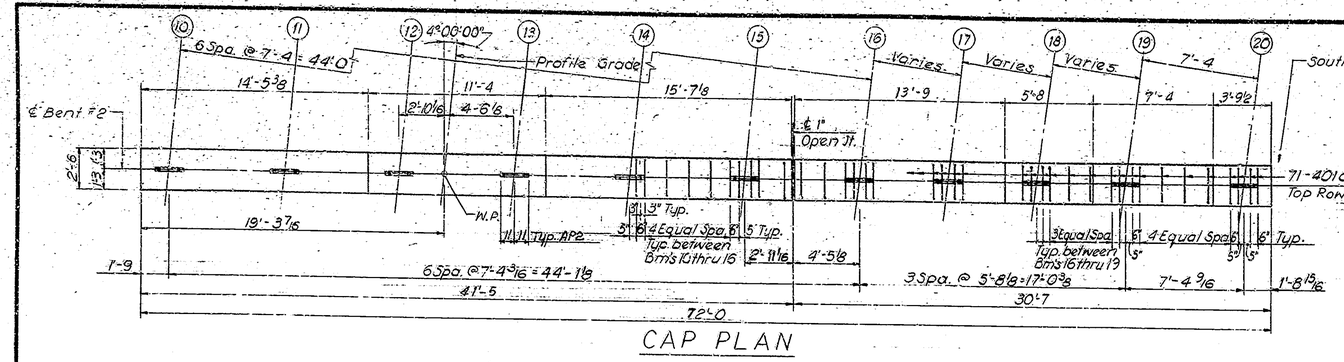
Rev. 2-7-68: Notes, Bill of Matls. El.

Rev. 2-7-68: JLC, RWB, EJC-
Buildings: JFA, GES, WTG

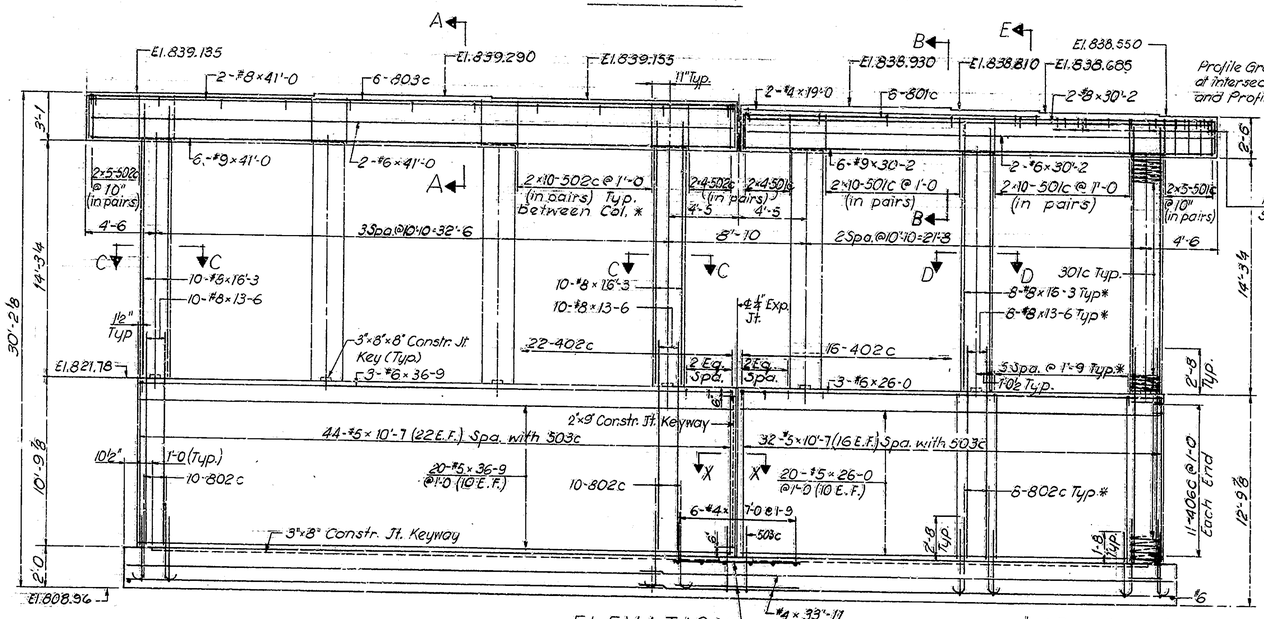
Note: Anchor Plates MK AP2 to be preset in concrete.

PUB. ROAD REQ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	11	41

BRIDGES OVER 20' SPAN

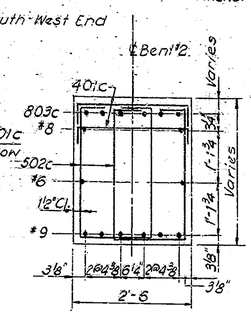


CAP PLAN

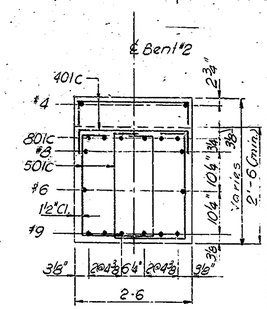


ELEVATION

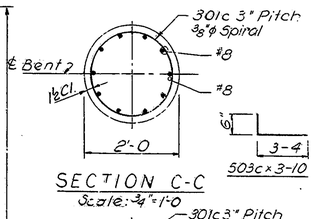
Max. Design Soil Pressure 2.5 T/s'



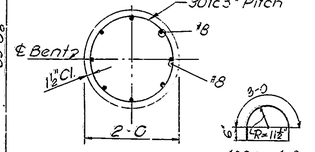
SECTION A-A
Scale: ¾" = 1'-0



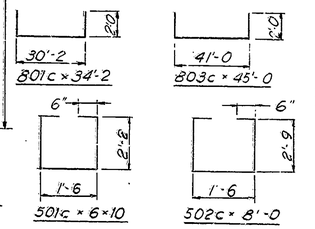
SECTION B-B
Scale: ¾" = 1'-0

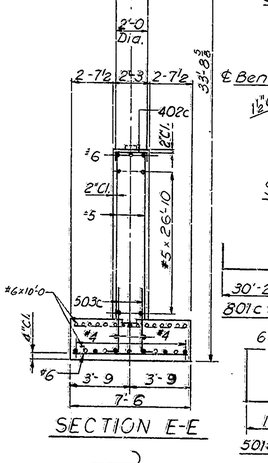


SECTION C-C
Scale: ¾" = 1'-0

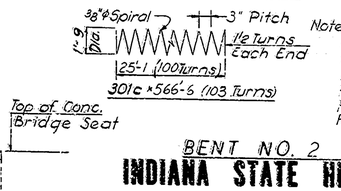


SECTION D-D
Scale: ¾" = 1'-0

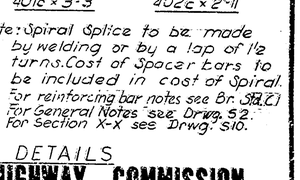




SECTION E-E



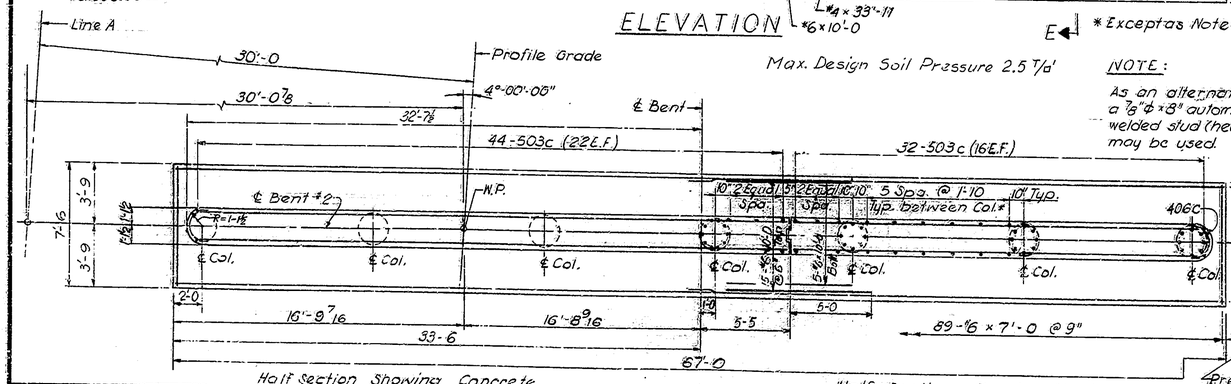
Note: Spiral Splice to be made by welding or by a lap of 1½ turns. Cost of Spacer Bars to be included in cost of Spiral.
For reinforcing bar notes see Dr. Std. C.
For General Notes see Drwg. S2.
For Section X-X see Drwg. S10.



BILL OF MATERIAL

Mark or Size	No. Req'd	Length	Weight
#9	6	41-0	
#9	6	30-2	
		Total #9	1,452
801c	6	34-2	
802c	60	5'-5	
803c	6	45'-0	
#8	60	16-3	
#8	60	13-6	
#8	2	41-0	
#8	2	30-2	
		Total #8	7,282
#6	20	10-0	
#6	89	7-0	
#6	2	41-0	
#6	2	30-2	
#6	3	36-9	
#6	3	26-0	
		Total #6	1740
501c	58	6-10	
502c	78	8-0	
503c	76	3-10	
#5	20	36-9	
#5	20	26-0	
#5	76	10-7	
		Total #5	3,552
401c	90	3-3	
402c	38	2-11	
#4	16	33-11	
#4	2	19-0	
#4	6	7-0	
406c	22	4-0	
		Total #4	724
301c	7	566'-6	
		Total #3	1,491
		Total Steel	16,241

Concrete	
Class 'E' (Footing)	37.2 Cu. Y.
Class 'E' (Above Footing)	58.8 Cu. Y.
Class 'D' (Columns)	11.6 Cu. Y.
Class 'F' (Cap)	19.8 Cu. Y.
Anchor Plate AP2	11 Each

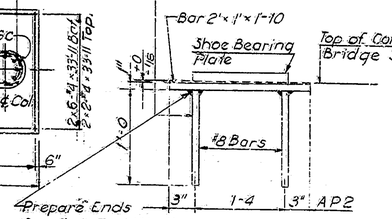


Half Section Showing Concrete Dimensions

FOOTING PLAN

Half Section Showing Neat Lines and Reinforcing Bars.

NOTE:
As an alternate a "6"ϕ×8" automatically welded stud (headed) may be used.



ANCHOR PLATE AP2 DETAIL
Scale: 1"=1'-0

BENT NO. 2 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- 4"=1'-0 (Unless noted)

Feb. 23, 1967

SUBMITTED FOR APPROVAL:- Kevin Arthur

DRAWING:- 39 OF 28
PROJECT:- I-465-4 (150) 125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377J

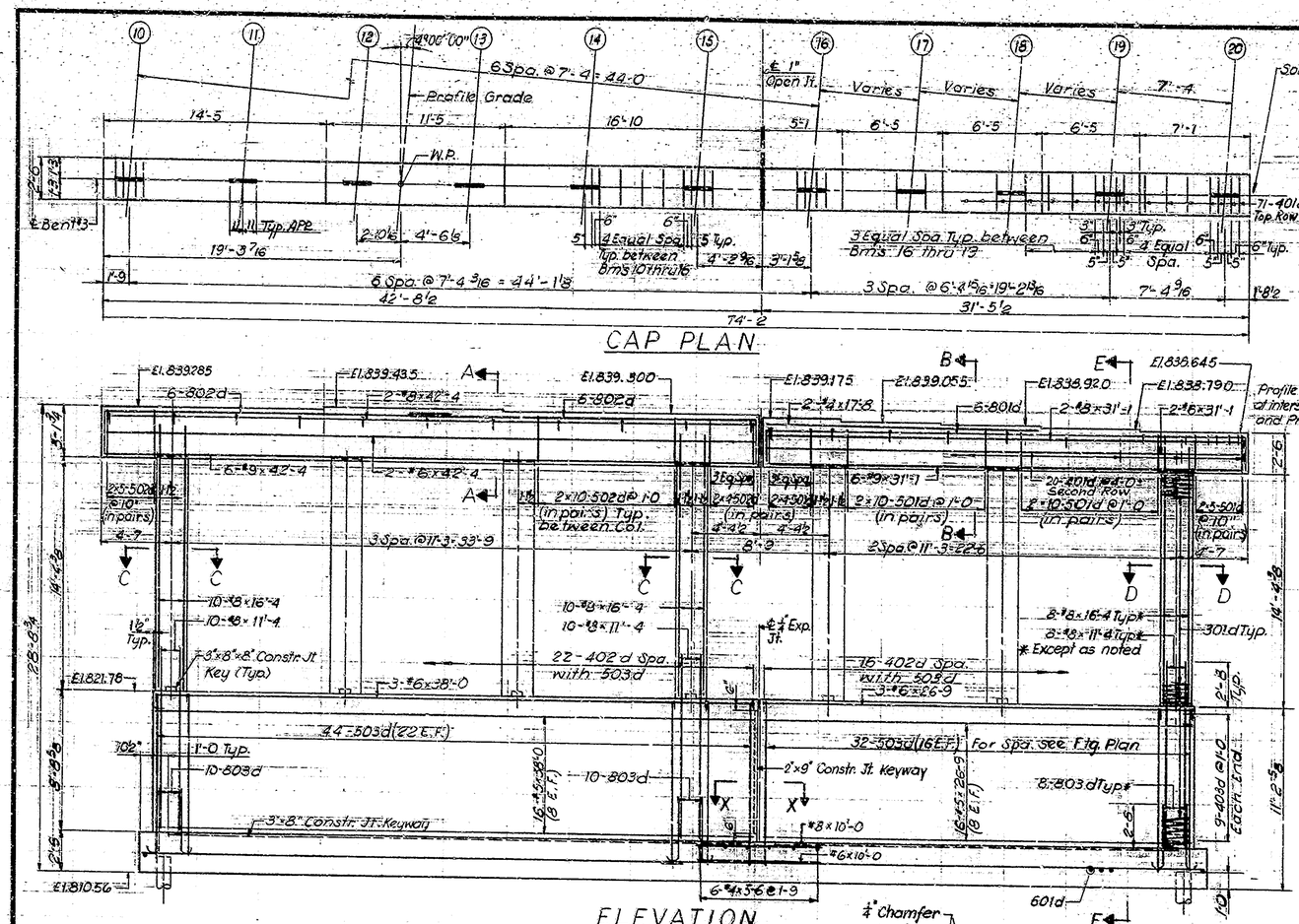
DESIGNED S.F. C'K'D L.K.
DRAWN I.M. C'K'D Y.P.
TRACED C'K'D

Rev. 2-26-68 AP2 etc.

Rev. 2-7-68 Note

Rev. 2-7-68 E.J.C. WFC
Rev. 4-28-68 JFH GEY W.F.G.

Rev. 2-7-68 EJC, WFG
Rev. 12-26-67, 1-19-68, GES, WFG.



BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	12	41

BILL OF MATERIAL

Mark or Size	No. Req'd	Length	Weight Lbs.
#9	6	42'-4	
#9	6	31'-1	
		Total #9	= 1,498
801d	6	35'-1	
802d	12	24'-6	
803d	60	5'-0	
#8	2	42'-4	
#8	2	31'-1	
#8	60	16'-4	
#8	80	11'-4	
#8	9	10'-0	
		Total #8	= 7,213
601d	138	6'-10	
#6	3	38'-0	
#6	2	31'-1	
#6	2	42'-4	
#6	3	26'-9	
#6	5	10'-0	
		Total #6	= 2011
501d	58	6'-10	
502d	78	8'-0	
503d	76	10'-2	
#5	16	26'-9	
#5	16	38'-0	
		Total #5	= 2978
401d	91	3'-3	
402d	38	2'-11	
403d	18	4'-0	
#4	12	34'-11	
#4	6	5'-6	
		Total #4	= 605
301d	7	522'-6	
		Total #5	1,375
	Total Steel		15,680

Concrete

Class 'E' (footing)	37.4 Yds.
Class 'E' (Above Footing)	48.8 Yds.
Class 'D' (Columns)	11.7 Yds.
Class 'T' (Cap)	20.9 Yds.
Anchor Plate AP2	11 Each
32'-Treated timber Piles - 33'-0 (Approx)	10356 Lin.Ft.

NOTES: For General Notes see Drawing S2.
For Anchor Plate Detail see Drawing S9
For reinforcing bar notes see Bridge Std. C1
32'-Treated timber piles 25 Tons Capacity.

BENT NO 3 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- 1/4" = 1'-0 (Unless noted.) Feb. 23 1967

SUBMITTED FOR APPROVAL:

DRAWING:- 510 OF 28

PROJECT:- I-465-4 (150) 125

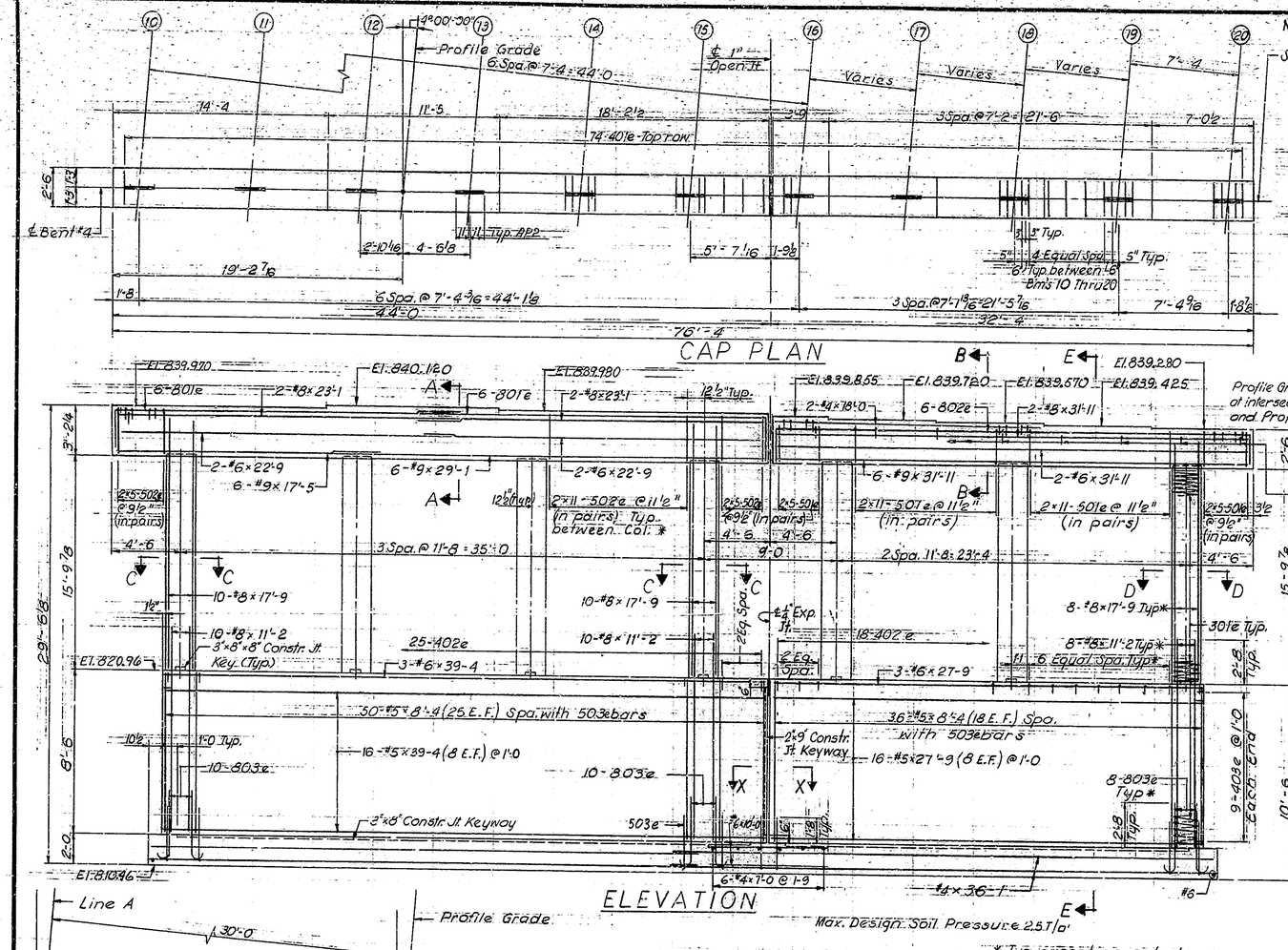
BRIDGE CONTRACT NO. B-7803

BRIDGE FILE:- I-465-125 "23777"

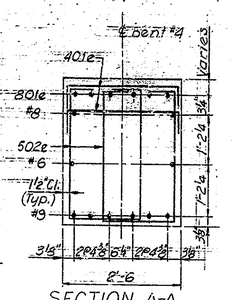
DESIGNED	S.E.	CK'D	E.K.
DRAWN	T.M.	CK'D	V.B.
TRACED		CK'D	

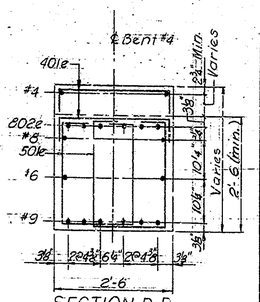
Rev 2-7-68 EJC, WFG
Rev 6-28-68 JFA/GES/WFG

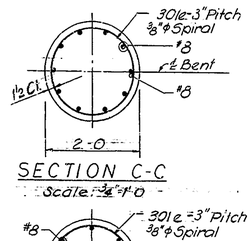
BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I 465-4 (150) 125	1967	13	41

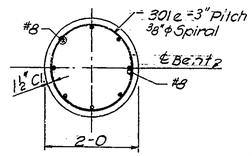


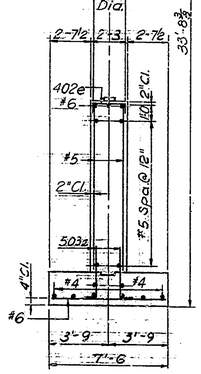
Note: Anchor Plates MKAP2 to be preset in concrete.

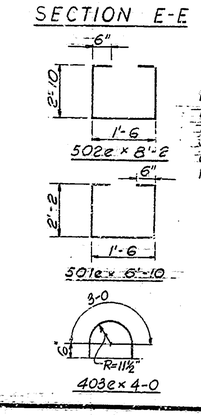


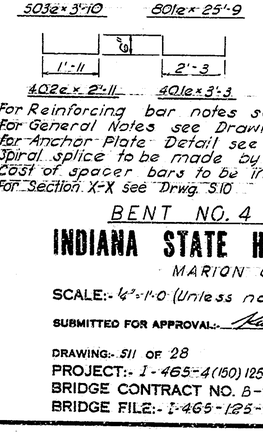












BILL OF MATERIAL			
Mark or Size	No. Req'd.	Length	Weight Lbs.
#9	6	17-5	
#9	6	29-1	
#9	6	31-11	
		Total #9	1,600
801e	12	25-9	
802e	6	35-11	
803e	60	5-5	
#8	60	17-9	
#8	4	23-1	
#8	2	31-11	
#8	60	11-2	
		Total #8	7,319
#6	4	22'-9	
#6	2	31'-11	
#6	3	39-4	
#6	3	27-9	
#6	95	7'-0	
#6	20	10-0	
		Total #6	1,641
501e	64	6-10	
502e	86	8-2	
503e	86	5-10	
#5	86	8-4	
#5	16	39-4	
#5	16	27-9	
		Total #5	3,426
401e	93	3-3	
402e	86	2-11	
403e	18	4-0	
#4	2	18-0	
#4	16	36-1	
#4	6	7-0	
		Total #4	755
301e	7	550'-0	
		Total #3	1,448
	Total Steel		16,389
Concrete			
Class "E" (Footing)			39.6 Cu. Yds.
Class "E" (Above Footing)			49.2 Cu. Yds.
Class "D" (Columns)			12.9 Cu. Yds.
Class "F" (Cap)			21.4 Cu. Yds.
Anchor Plate AP2			11 Ea.

For Reinforcing bar notes see Bridge Std C1
For General Notes see Drawing S2
For Anchor Plate Detail see Drawing S3
Spiral splice to be made by welding or by a lap of 1½ turns.
Cost of spacer bars to be included in cost of Spiral.
For Section X-X see Drwg. S10

BENT NO. 4 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- ½"=1'-0 (Unless noted)

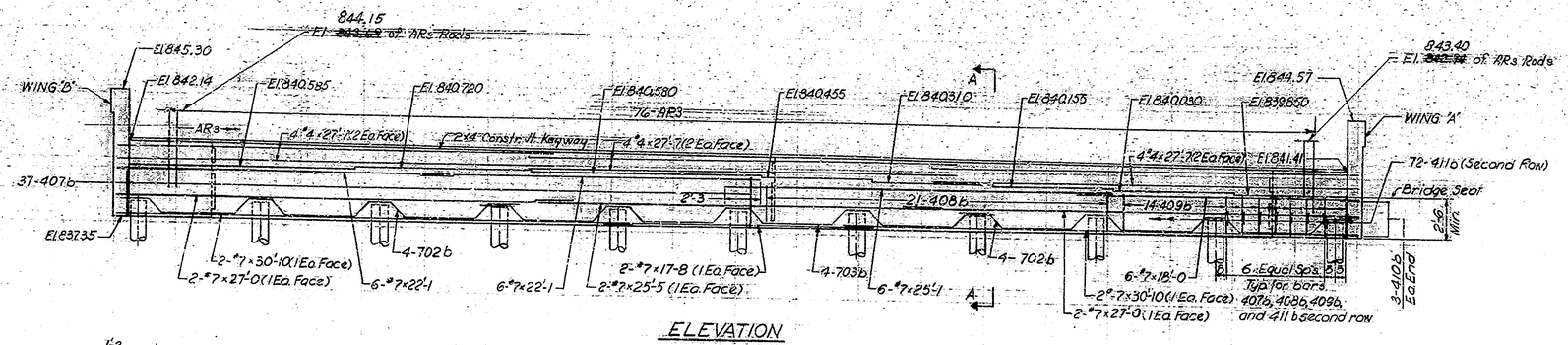
Feb. 23, 1967

SUBMITTED FOR APPROVAL:- Kasim Attia

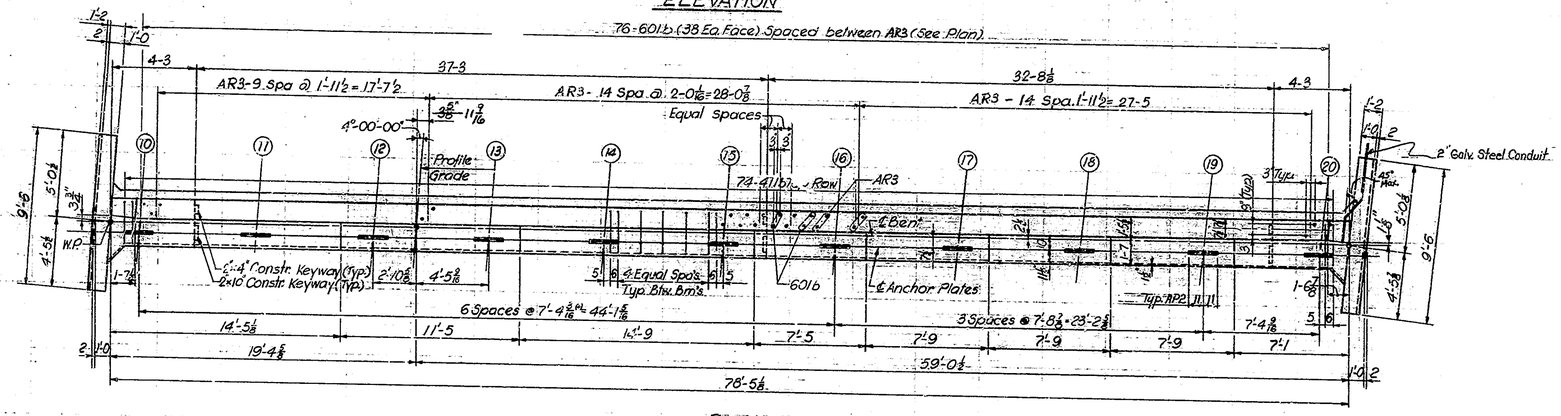
DRAWING:- S11 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 J

DESIGNED	S.F.	CK'D	L.K.
DRAWN	I.M.	CK'D	V.B.
TRACED		CK'D	

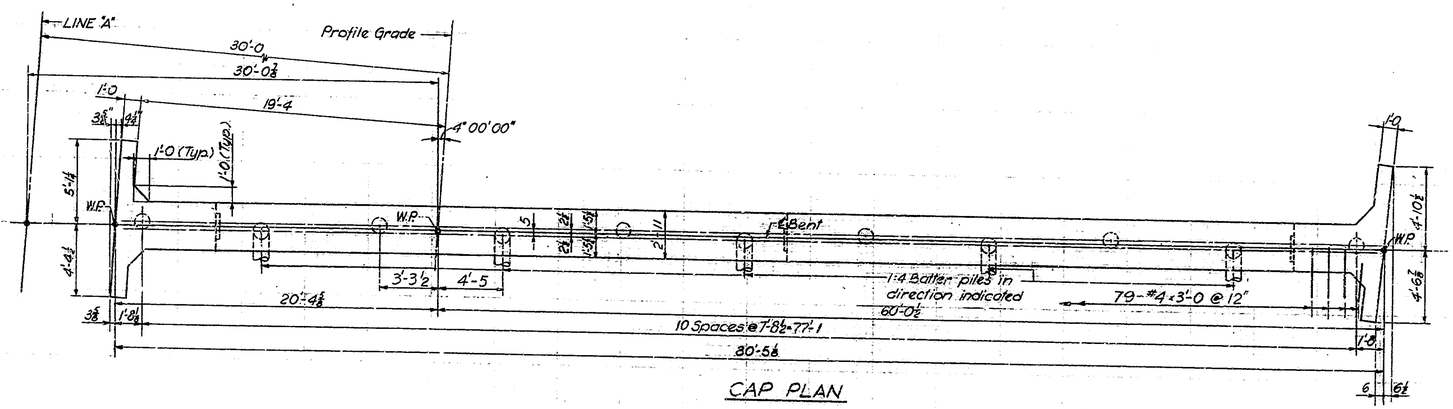
BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	14	41



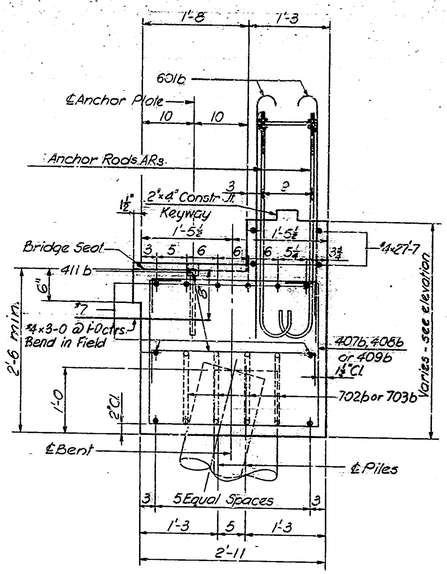
ELEVATION



PLAN



CAP PLAN



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

NOTE:
For Reinforcing Bar Notes see Bridge Standard C1.
For Anchor Plate Details see Dwg. S8.
For additional Details see Dwg. S13.

Anchor Plates MK-AP2 & Anchor Rods MK AR3 to be preset in concrete. Bent Cap not to be poured until after fill has been completed up to approximate elevation of the Bottom of the Cap.
11-14"ϕ x .766" Steel Encased Concrete Piles driven to 40 Ton minimum bearing capacity.
See note on General Plan for 1" increase in slab. thickness.

2-7-68 E/C WRS
Rev 6-28-68 YFH, GES, MFD.
12-10-68 FED, TFH

DESIGNED S.F. C'K'D L.K.
DRAWN E.F. C'K'D V.B.
TRACED C'K'D

Rev. 12/10/68: AR3 El.
Rev. 6-28-68 Note, AR3 - 2 St. Conduit, El.
Rev 2-7-68 Note.
Rev 1-10-67 Det. Dim. Plan

BENT NO 5 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- ¼"-1'-0 Unless noted

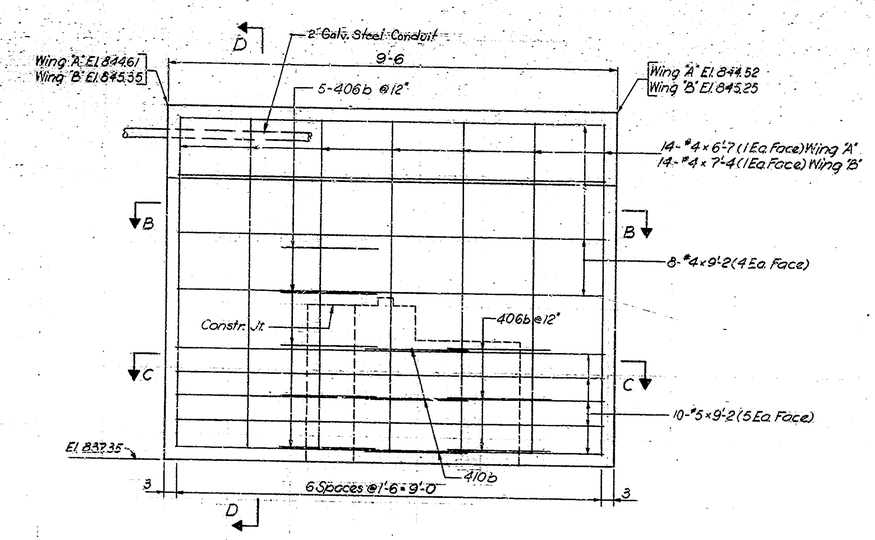
Feb. 23, 1967

SUBMITTED FOR APPROVAL:- Kevin Cutler

DRAWING:- S12 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377J.

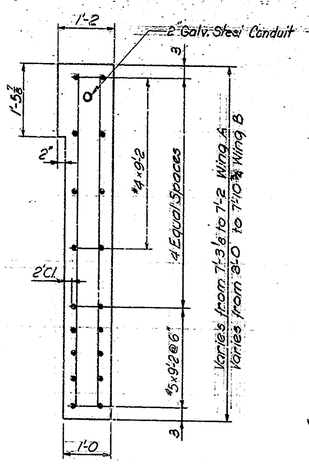
BRIDGES OVER 20' SPAN

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	15	41

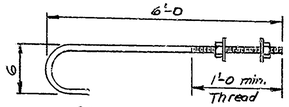


WING 'B' ELEVATION

Wing 'A' Opposite Hand (Except as Noted)

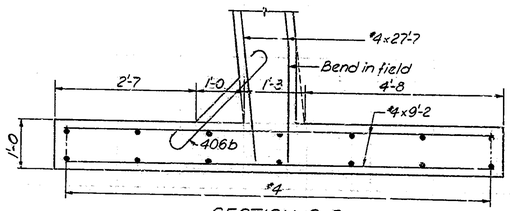


SECTION D-D

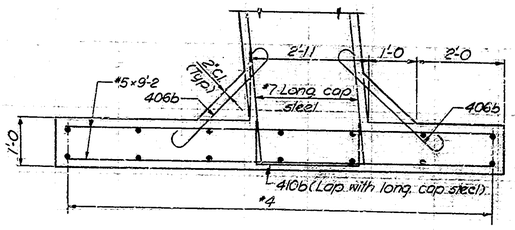


¾" ϕ rod x 6'-8; 2 hex nuts; 2 cut washers.

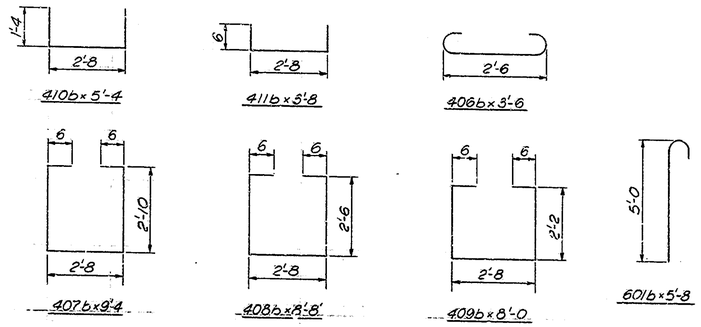
Anchor Rod MK AR 3

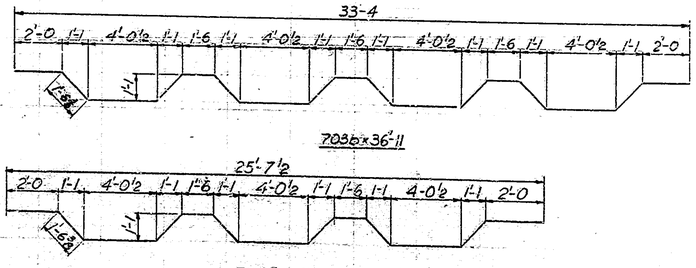


SECTION B-B



SECTION C-C





Rev. 6-12-68: Notes, 2" Conduit, etc.

Rev. 2-7-69: Notes, Bill of Matls.

BILL OF MATERIALS

REINFORCING BARS

SIZE OR MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
702b	4	36'-11	
703b	8	28-4	
#7	4	30'-10	
#7	4	27'-0	
#7	12	22'-1	
#7	2	25'-5	
#7	6	25'-1	
#7	6	18'-0	
#7	2	17-8	
		Total #7	2,484
601b	78	5'-8	
		Total #6	664
#5	20	9'-2	
		Total #5	191
406b	16	3'-6	
407b	37	9'-4	
408b	21	8'-8	
409b	14	8'-0	
410b	8	5'-4	
411b	146	3'-8	
#4	12	27'-7	
#4	14	7'-4	
#4	14	6'-7	
#4	16	9'-2	
#4	79	3-0	
		Total #4	1,451
		Total Steel	4,790

CONCRETE	
Class "F" Concrete	361 Cu.Y.

MISCELLANEOUS	
11 Steel Encased Conc. Piles 14"ϕ x 7/8" x 65'-0	715 Lin.Ft.
Anchor Plates MK AP3	11 Each
Anchor Rods MK AR3	76 Each

NOTE:

For Notes and additional Details see Drawing 512

See note on General Plans for 1" increase in Slab Thickness

BENT NO. 5 DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- ¾"-1'-0 Feb. 23, 1967

SUBMITTED FOR APPROVAL:-

DRAWING:- 513 OF 28

PROJECT:- I-465-4 (150) 125

BRIDGE CONTRACT NO. 5-7803

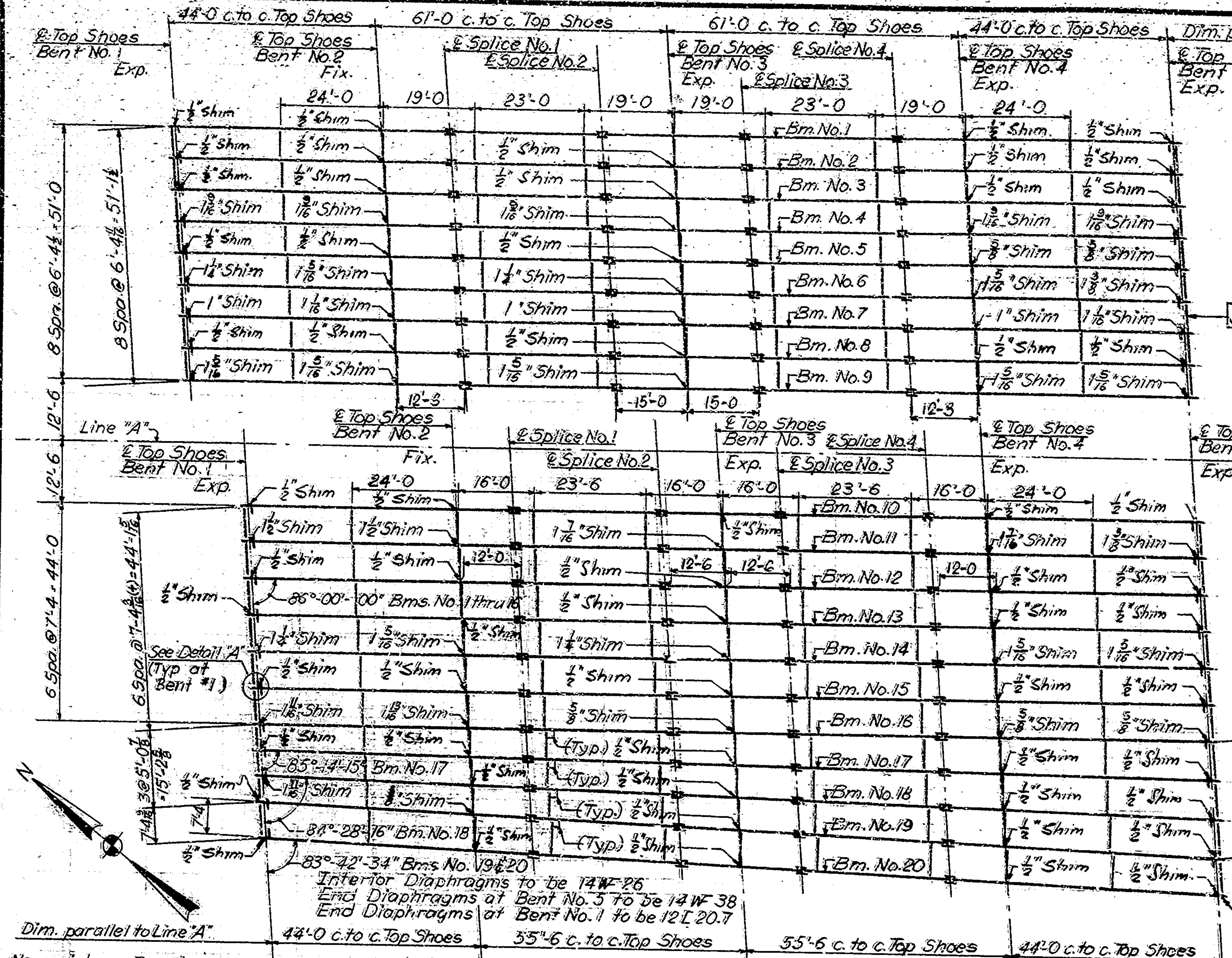
BRIDGE FILE:- I-465-125-2377J

DESIGNED	S.F.	CK'D	L.K.
DRAWN	E.F.	CK'D	V.B.
TRACED		CK'D	

Rev. 2-7-68: J.C., R.W.B., E.J.C.

Rev. 6-28-68: J.F.R./G.E.S./W.F.S.

BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	16	41



No paint on Top Flange or Shear connectors

FRAMING PLAN

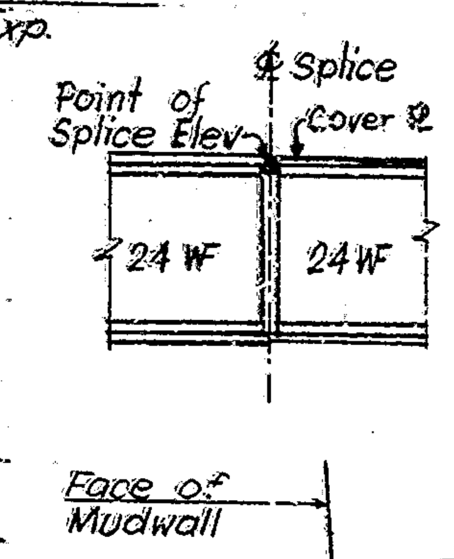
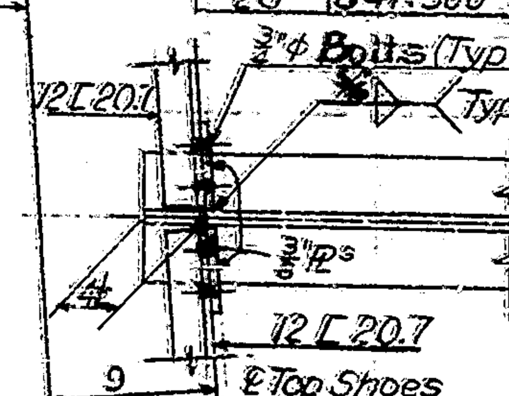


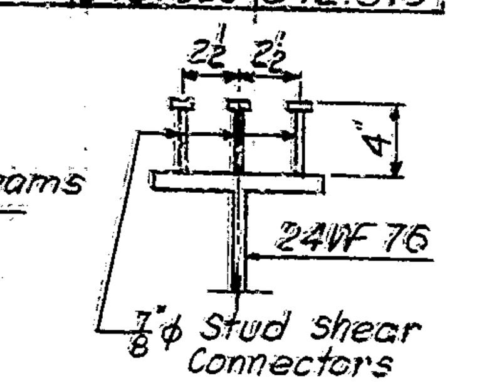
TABLE OF HORIZ. LENGTH OF BEAMS			
Beam No.	℄ Top Shoes Bent No. 1 or 5 to Splice No. 1 or 4	℄ Splice No. 1 or 4 to ℄ Splice No. 2 or 3	℄ Splice No. 2 to ℄ Splice No. 3
1 thru 9	56'-3	33'-9	30'-0
10 thru 16	56'-0	31'-0	25'-0
17	56'-0 11/16	31'-0 3/8	25'-0 5/16
18	56'-7 1/2	31'-0 13/16	25'-0 11/16
19 & 20	56'-2 7/16	31'-1 3/8	25'-1 1/16

SPLICE ELEVATIONS (TOP OF FLANGE)				
Beam No.	Splice No. 1	Splice No. 2	Splice No. 3	Splice No. 4
1	841.580	842.075	842.490	842.915
2	841.715	842.215	842.625	843.050
3	841.840	842.335	842.745	843.170
4	841.925	842.425	842.835	843.260
5	841.990	842.485	842.895	843.320
6	842.050	842.545	842.955	843.380
7	842.030	842.525	842.935	843.355
8	841.985	842.480	842.830	843.315
9	841.930	842.425	842.830	843.255
10	842.095	842.540	842.870	843.255
11	842.175	842.615	842.950	843.335
12	842.240	842.680	843.015	843.395
13	842.240	842.680	843.015	843.395
14	842.170	842.610	842.940	843.325
15	842.105	842.545	842.875	843.255
16	841.990	842.430	842.760	843.140
17	841.875	842.305	842.630	843.000
18	841.760	842.185	842.500	842.860
19	841.645	842.060	842.370	842.720
20	841.500	841.915	842.220	842.575



DETAIL "A"

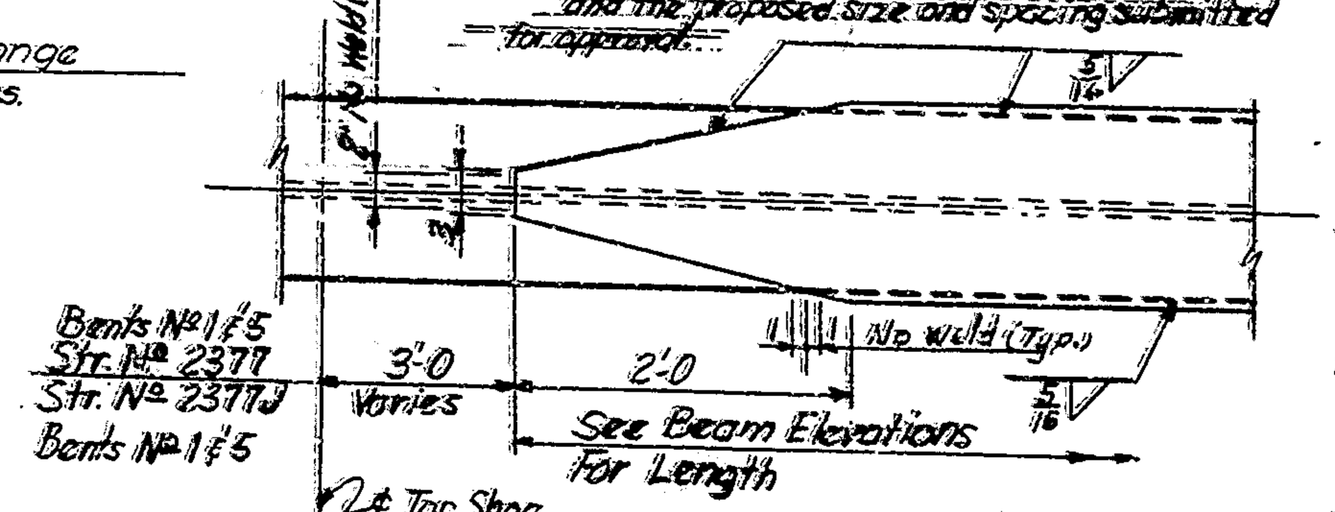
Scale: 1" = 1'-0



SECTION A-A

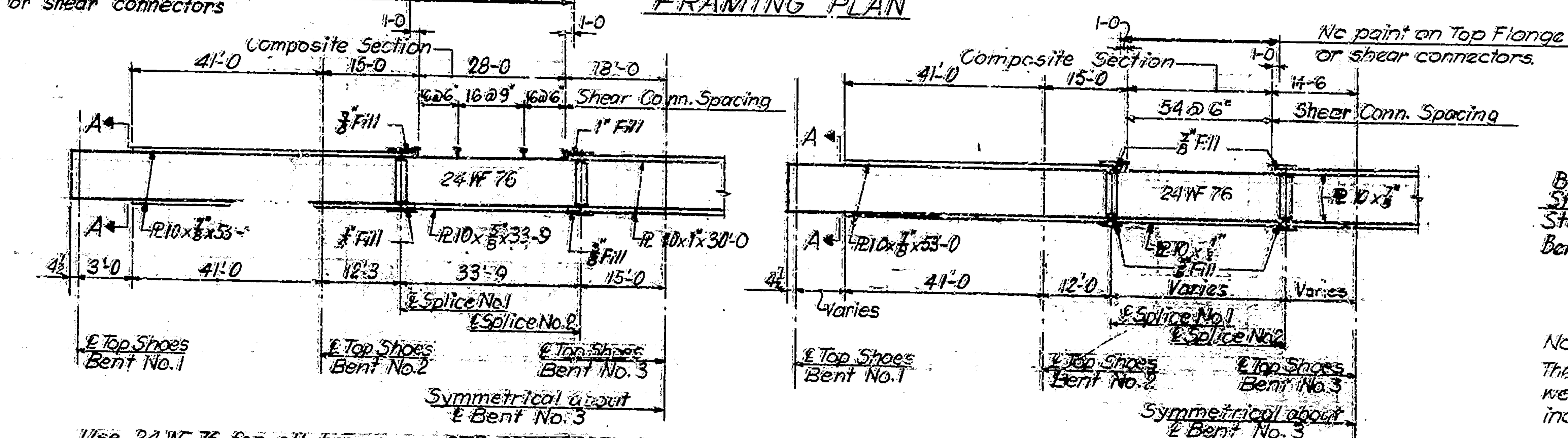
Not to Scale

~~NOTE: The Contractor may use channels or 3/4"φ studs as an alternate Shear Connector. If used, they shall have equivalent shear value and the proposed size and spacing submitted for approval.~~



COVER PLATE DETAIL

Not to Scale



Use 24WF 76 for all beams on STR. 2377 & 2377J

STR. 2377 BEAM ELEVATIONS STR. 2377J

Not to Scale

Note:

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.

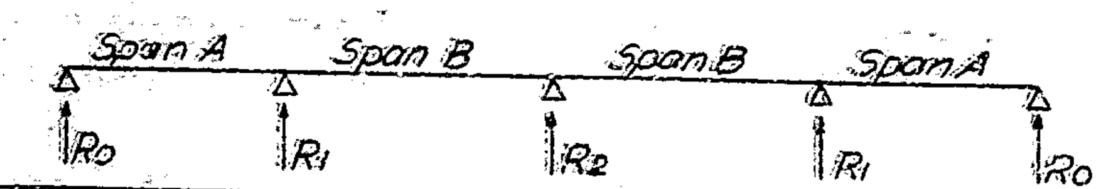


TABLE OF MOMENTS AND REACTIONS
INTERIOR AND OUTSIDE BEAMS

STR. 2377

	Moments (Ft. Kips)								Reactions (Kips)					
	.4 Span A		℄ Span B		R1		R2		Ro		R1		R2	
	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.
D.L.	90.0	69.0	112.5	86.2	259.5	198.3	292.0	223.8	12.6	9.7	48.9	37.5	52.0	39.9
S.D.L.	13.2	28.9	16.6	40.6	26.6	58.2	31.5	69.7	1.5	3.4	6.0	13.1	6.4	13.0
L.L.	257.5	262.0	292.9	298.0	213.8	217.5	220.1	224.0	31.2	31.8	39.1	40.1	41.2	41.9
I.	75.0	77.3	78.6	80.0	60.1	61.6	63.0	60.0	9.2	9.4	11.0	11.2	11.0	11.2
Total					560.0	535.8	608.0	577.5	54.5	54.3	105.3	101.9	110.6	107.6

STR. 2377J

	Moments (Ft. Kips)								Reactions (Kips)					
	.4 Span A		℄ Span B		R1		R2		Ro		R1		R2	
	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.
D.L.	107	90	96	81	237	200	240	203	14.2	12.0	48.5	41.0	48.6	41.2
S.D.L.	20	38	22	40	31	58	34	63	2.2	4.0	7.8	14.5	7.8	14.5
L.L.	274	280	286	317	200	212	214	227	34.1	35.2	42.7	45.5	43.4	46.0
I.	80	85	83	85	57	60	58	62	10.1	10.7	12.3	13.0	12.6	12.7
Total					525	530	[illegible]	555	60.6	62.9	111.3	113.8	112.0	114.4

Note to Erector

The shop plans shall indicate whether reaming or drilling is to be done in the 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 beams are shop reamed or drilled, all beams are 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 with the structural steel unsupported by falsework.

For additional Steel Details and Diagrams see Dwg S15
For General Notes see Dwg S2

Rev. 8-28-68 Notes, Studs, Cov. ℞, Shims
Rev. 2-7-68 : Notes, Cover ℞

Rev. 2-7-68 : JLC, EJC, RWB
6-28-68: GES, JFA, WFG.

GENERAL NOTES

HS Bolts 3/4"φ. Open holes 13/16"φ unless noted.
Bolts connecting beam flanges to top shoes to extend a minimum of 1" into top shoes. Shims may be built up. No shim to be less than 1/8" thick.
Holes for beam splices shall be subpunched or subdrilled and reamed to size while assembled. See Art. E1103.18(d) of the Specifications.
See table for true elevations of splices.

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

All splice plates to be removed, cleaned and deburred after reaming. Splice plates shall not extend beyond end of beam after bolting for shipment. The shop details shall show a plan of matchmarking for all reamed pieces.
Beams must be cambered to a smooth curve. Camber must be checked while beams are supported in such a way as to have no bending moment in direction of camber. Camber to be checked after cover plates are welded on beams.
The contractor shall prepare detailed working or shop Drwgs. to enable him to fabricate, erect, and construct all parts of the work in conformity with the Engineer's Drwgs. and Specifications and shall submit six (6) copies of these to the Engineer. See Art. E1103.2 of the Specifications.
~~Rivets shall not be used in the assembly of Structural Steel.~~
Top of beam flange shall be adjusted to these elevations before bolting field splice connections. These elevations are with falsework removed, carrying steel dead load only.

Structural steel to be ASTM-A-36 except as noted.

As soon as the Engineer has approved the field welds, all welds and any surface from which the shop coat has been omitted or become 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.

Diaphragm connections to beams may be bolted in lieu of field welded connections. If the contractor elects to use connections other than shown in the contract plans he 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.

Estimated weight of Structural Steel:
Structure 2377 : 280,900 Lbs Including 5,221 Lbs of ASTM-A-514 and 7,740 Lbs of Toothed Exp. Joint.
Structure 2377J : 328,400 Lbs Including 6,675 Lbs of ASTM-A-514 and 11,283 Lbs of Toothed Exp. Joint.

PAINTING STRUCTURAL STEEL

All paint shall be in accordance with current State Highway Specifications.
SHOP PAINT and FIELD PAINT : Basic Lead Silico Chromate. See Special Provisions.

DATA USED FOR DESIGN AND DETAILS

LIVE LOADS: HS20-44 loading with impact and distribution of loads in accordance with 1965 AASHO Specifications.
DEAD LOAD: Actual weight plus 35 pounds per sq. ft. of roadway to provide for future wearing surface.
SLAB: Designed for 16,000 pound wheel plus impact, and with 1" monolithic wearing surface.

Structural Steel: Bending	A-36	20,000 #/in²
Shear on Friction Type Fasteners (H.S. Bolts)		13,500 #/in²
Bearing Steel on Concrete (including overturning and eccentric loading)		1,000 #/in²
Reinforcing Steel (Tension)		20,000 #/in²
Concrete (Compression)		1,200 #/in²

FRAMING AND STEEL DETAILS

INDIANA STATE HIGHWAY COMMISSION

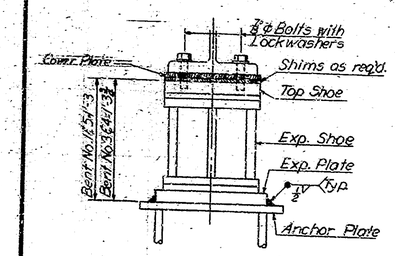
MARION COUNTY

SCALE:- AS NOTED Feb. 23, 1967

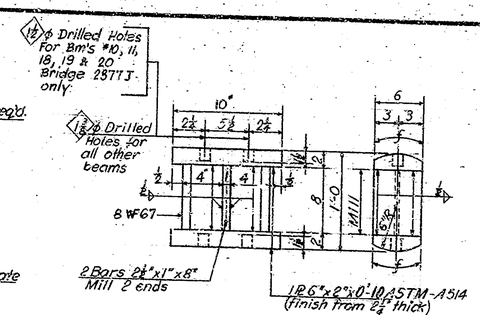
SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- S14 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 & 2377J

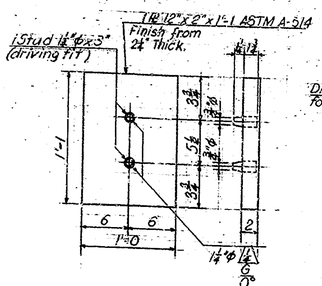
DESIGNED B.J./F.S. C'K'D L.K.
DRAWN G.S. C'K'D S.F.
TRACED C'K'D



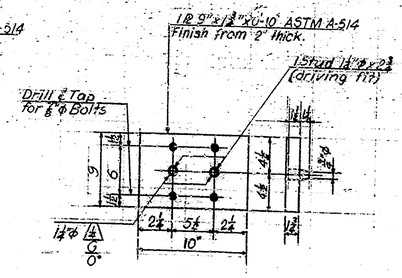
EXP. SHOE ASSEMBLY
BENT NO. 1, 3, 4 & 5
Not to Scale



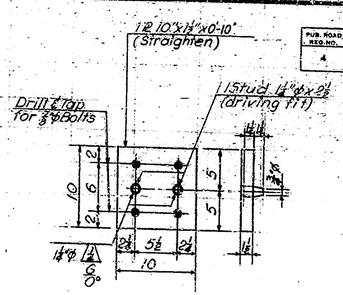
EXP. SHOE BENTS NO. 3 & 4 - 1 & 5



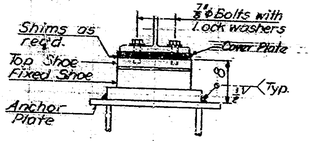
EXP. PLATE BENT NO. 3 & 4



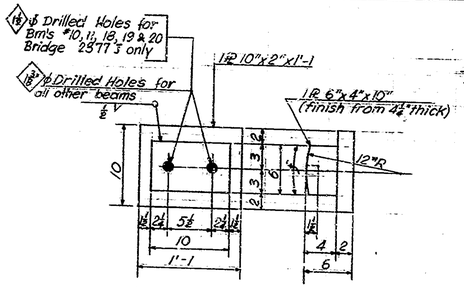
TOP SHOE BENT NO. 3 & 4



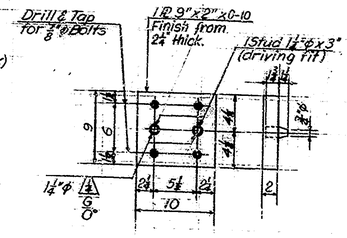
TOP SHOE BENT NO. 1 & 5



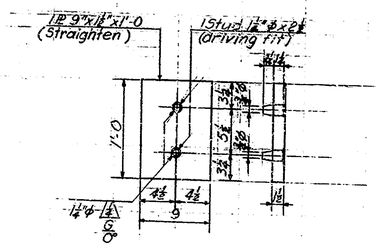
FIXED SHOE ASSEMBLY
BENT NO. 2
Not to Scale



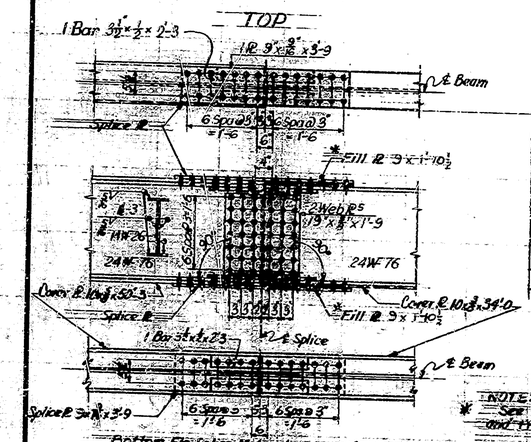
FIXED SHOE BENT NO. 2



TOP SHOE BENT NO. 2

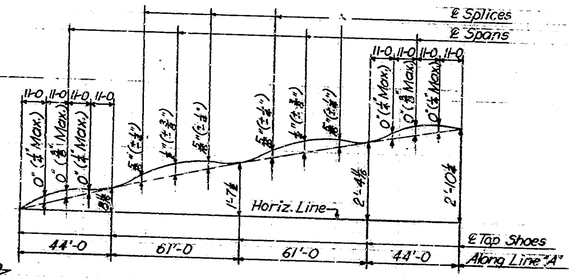


EXP. PLATE BENT NO. 1 & 5

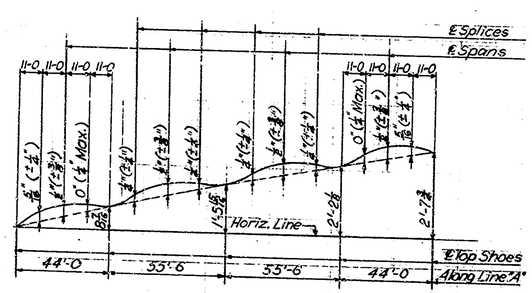


BEAM SPLICE DETAIL (Typ.)
Scale 1" = 1'-0

NOTE:
* See Drwg. S-14 for location and thickness of Filler Plates.

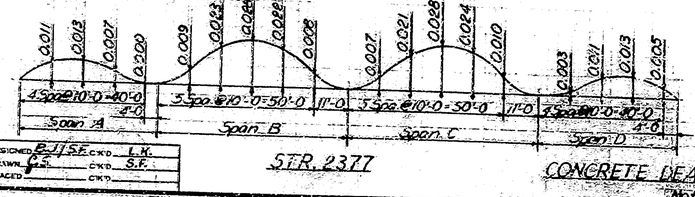


STR. 2377

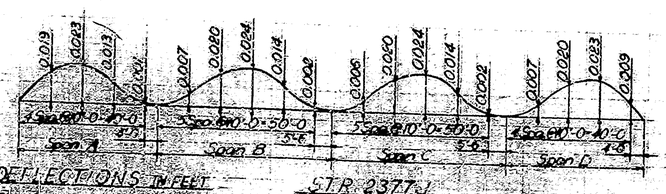


STR. 2377 J

NO LOAD CAMBER AND REAMING DIAGRAMS
Not to Scale



STR. 2377



STR. 2377 J

CONCRETE DEAD LOAD DEFLECTIONS IN FEET
Not to Scale

Note:
A.S.T.M. Designation A-36 Steel shall be used for all bearings with the exception of material marked "A-514 Steel."
Curved surfaces of shoes to be machined after weldments are completed.

NOTES:
For General Notes see Drwg. S 2.
H.S. Bolts 3/4"φ, Open holes 13/16"φ unless noted.

BRIDGES OVER 20' SPAN					
PUB. ROAD REQ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	17	41

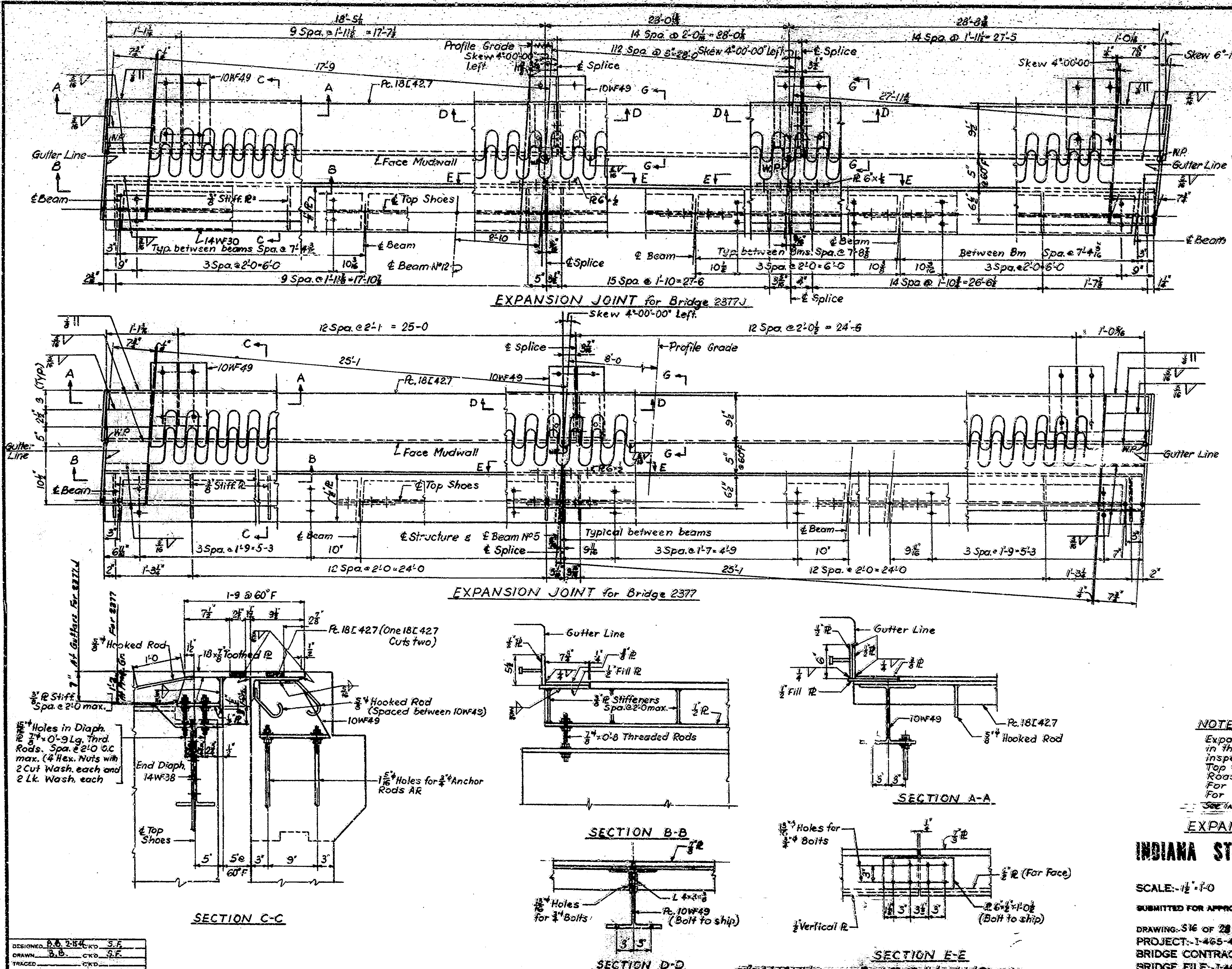
DESIGNED B.J.S.F. CK'D L.K.
DRAWN S.F. CK'D S.F.
TRACED CK'D

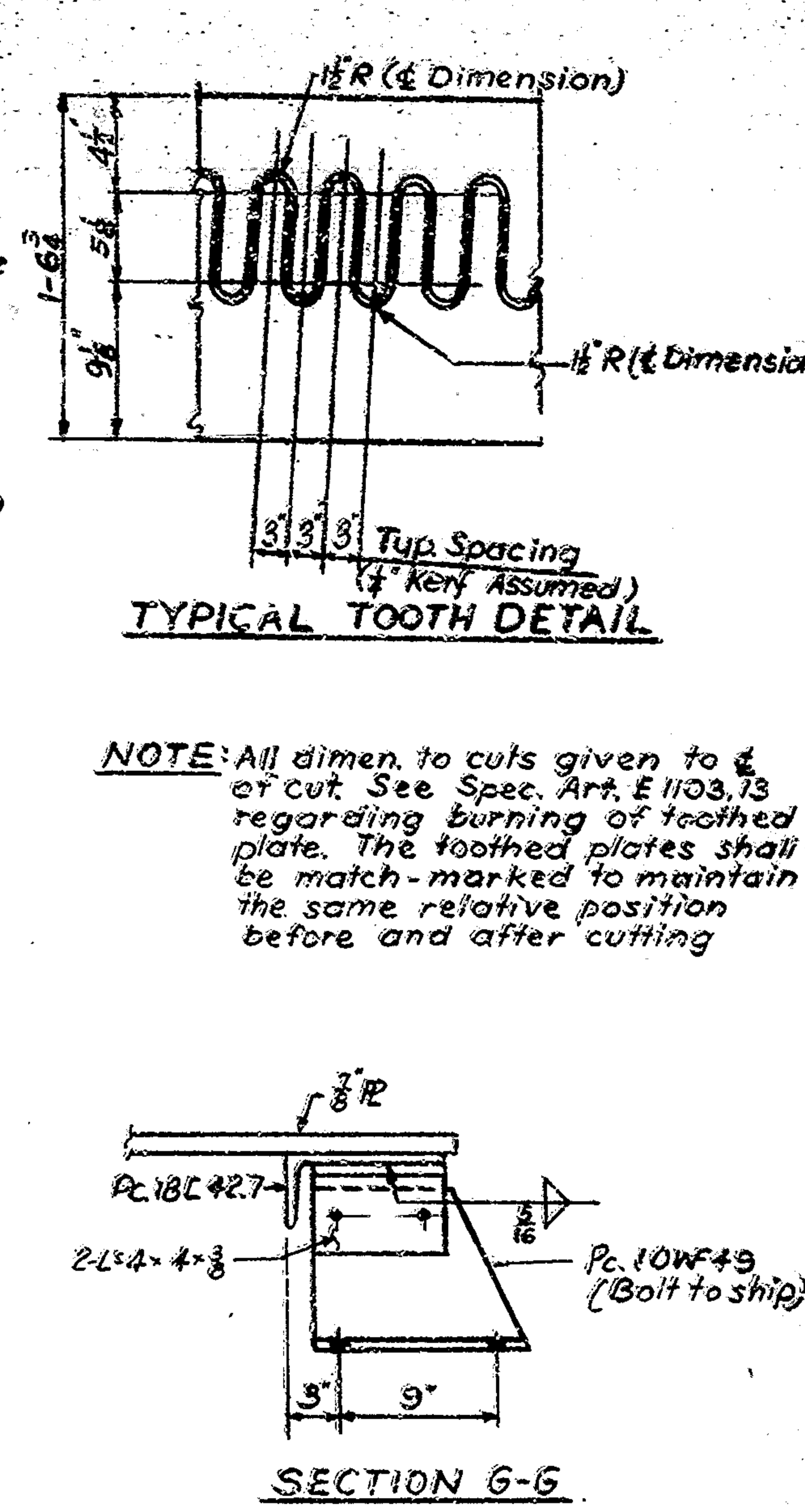
STEEL DETAILS

INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY
SCALE:- 1/2" = 1'-0 UNLESS NOTED Feb. 23, 196-
SUBMITTED FOR APPROVAL:
DRAWING: S 15 OF 26
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-25-2377 & 2377 J

Rev. 2-7-68 Dia. Eye Rod
Rev. 6-28-68, 6-25, Wire

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4(150)125	1957	18	41





NOTE: All dimen. to cuts given to ℄ of cut. See Spec. Art. E 1103.13 regarding burning of toothed plate. The toothed plates shall be match-marked to maintain the same relative position before and after cutting

NOTE to Shop:
Expansion Joints to be assembled in ~~Shop~~ in their relative erection positions and inspected for fit.
Top of expansion joint to conform to Roadway Crown Curvature.
For General Notes see Drwg. S2.
For ... in offsets see Rd. Std. MA.
~~See ... on General Plans for ½" increase in slab thickness.~~

EXPANSION JOINT DETAILS

INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY

SCALE:- 1½"=1'-0
Feb. 23, 1957

SUBMITTED FOR APPROVAL:- [signature]

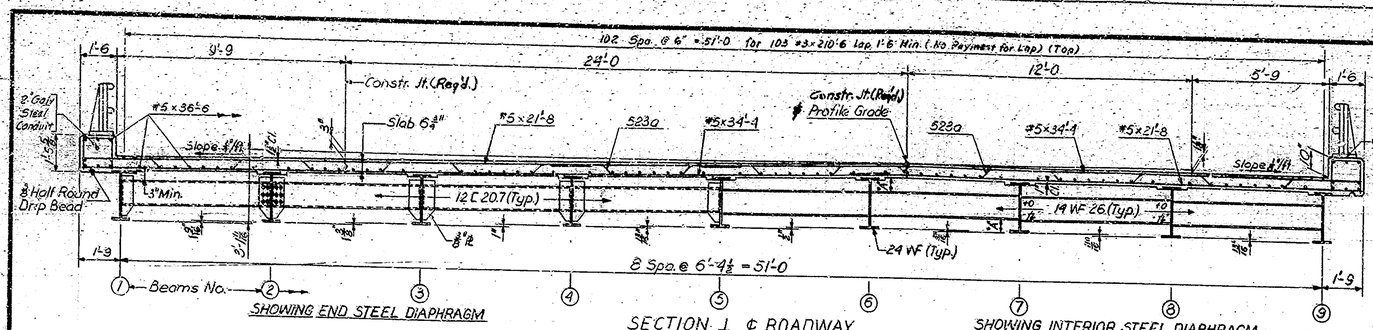
DRAWING:- S16 OF 28
PROJECT:- I-465-4(150) 125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 & 2377J

DESIGNED	R.B. 2-56	CK'D	S.F.
DRAWN	R.B.	CK'D	S.F.
TRACED		CK'D	

Rev. 2-1-66 Notes. Rev. 6-28-68 Notes, Joint Dimensions. Rev. 1-10-69 Det. Dim. 2377J

PUB. ROAD REQ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	19	41

BRIDGES OVER 20' SPAN



SHOWING END STEEL DIAPHRAGM

SECTION ⊥ ℄ ROADWAY

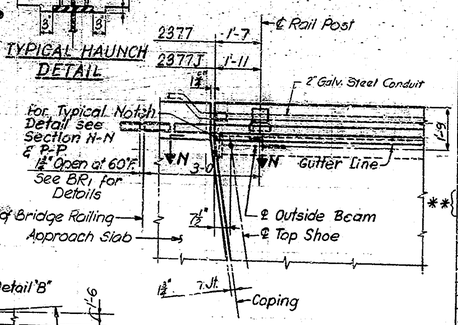
Scale: 3/8" = 1'-0

SHOWING INTERIOR STEEL DIAPHRAGM

(Beam Flg. thickness) Nominal Varies

* Smooth finish under Posts. Aluminum caulking compound of approved type (See Special Provisions)

TYPICAL HAUNCH DETAIL



STR. #2377

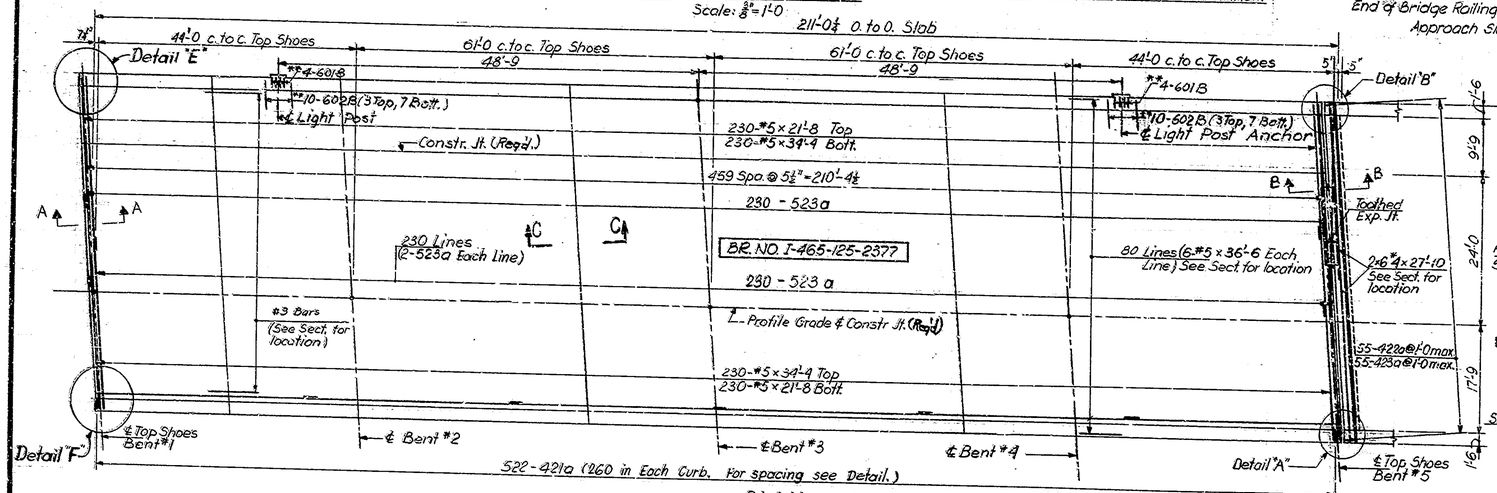
REINFORCING STEEL

Size & Mark	No. of Bars	Length	Weight Lbs.
523a	460	29'-2	
#5	460	21'-8	
#5	460	34'-4	
#5	480	36'-6	
		Total #5	59135
601B	8	4'-0	
602B	20	4'-6	
		Total #6	188
421a	522	31'-6	
422a	55	2'-6	
423a	55	3'-11	
#4	12	27'-10	
		Total #4	1669
#3	103	210'-6	3152
		TOTAL STEEL	64139

CONCRETE

CLASS "F"

	Cu. Yds.
Pour No 1	13.2
Pour No 1 Lt.	7.3
Pour No 1 Rt.	16.8
Pour No 2	34.7
Pour No 2 Lt.	19.8
Pour No 2 Rt.	31.4
Pour No 3	36.3
Pour No 3 Lt.	26.7
Pour No 3 Rt.	32.9
Pour No 4	36.3
Pour No 4 Lt.	20.6
Pour No 4 Rt.	32.8
Cap Pour	8.3
TOTAL CLASS "F" CONCRETE	306.1
MISCELLANEOUS	
RAILING TYPE "S" or "C"	454 L.Ft.
2" Steel Conduit	231 L.Ft.
Anchor Bolts AR21	8 Each

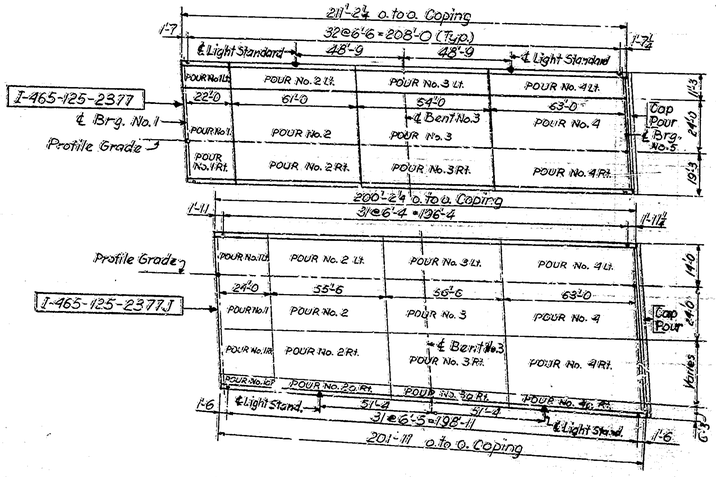


PLAN

Scale: 3/32" = 1'-0

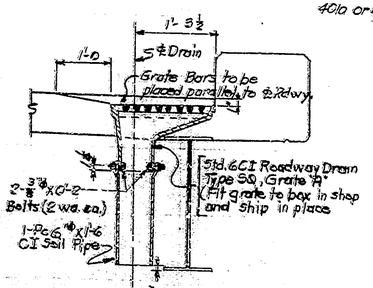
NOTE: Interior Diaphragms to be erected so that Dimension "A" (Top ℄ Bolt) will be equal ±1 inch.

DETAIL "F"



RAILPOST SPACING PLAN & POUR DIAGRAM

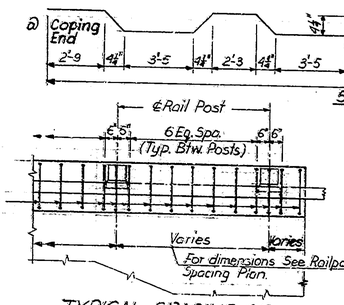
Bill of Materials Continued Miscellaneous		
Cast Iron		
2 Std. 6 CI Roadway Drains Type "S" Grate "A" @ 180 Lb. Ea.		364
2 Pcs. 1" x 1'-6" CI Soil Pipe (Extra Heavy)		56
4-3/4" x 0'-2" Bolts (2 wa. ea.)		1*
Total Cast Iron		421*



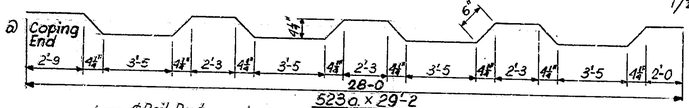
ROADWAY DRAINAGE DETAIL

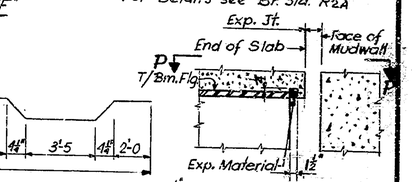
See General Plan For Location.

NOTE: See note on General Plans for 1" increase in slab thickness.

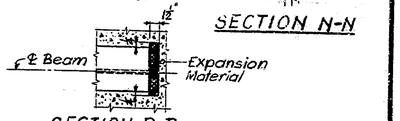


TYPICAL SPACING OF 401a OR 421a BARS IN CURB





SECTION N-N



SECTION P-P

TYPICAL NOTCH DETAIL IN SLAB AT ENDS OF BEAMS

** Additional Bars at future Light Posts For Details see Br. Std. R2A

for Notes and additional Details see Drwg. 518.

FLOOR DETAILS

Rev. 2-7-68: Jnt, Rail, Etc.
Rev. 6-28-68: Slab/Rail

DESIGNED D.D. C'K'D H.N.
DRAWN D.D. C'K'D V.B.
TRACED C'K'D

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- As Noted Feb. 23, 1967

SUBMITTED FOR APPROVAL:- Kevin Arthur

DRAWING:- 517 OF 28

PROJECT:- I-465-4(150)125

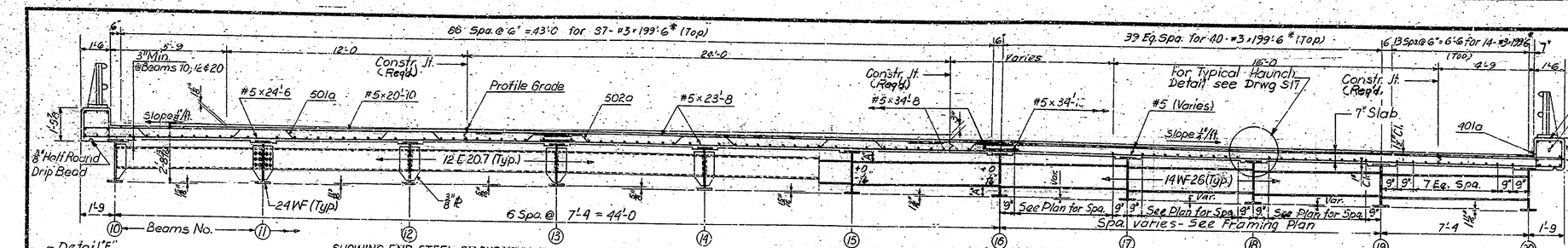
BRIDGE CONTRACT NO. B-7803

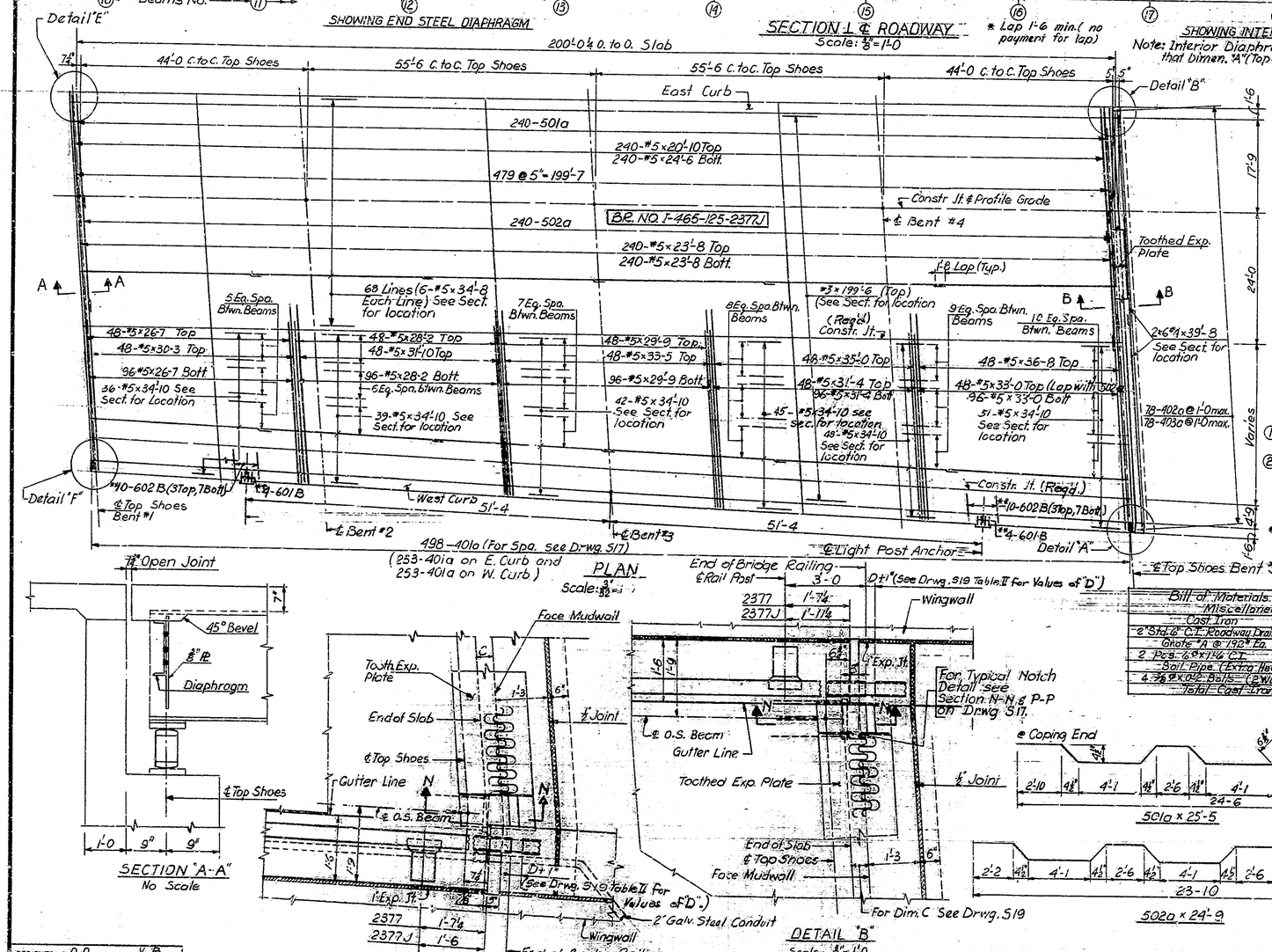
BRIDGE FILE:- I-465-125-2377 & 2377J

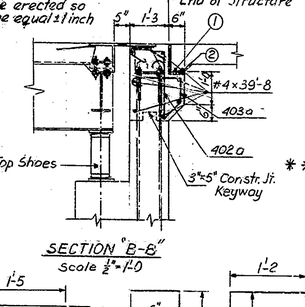
Rev. 6-28-68: Slab Reinf. Bill of Matls., & Notes, 2" Conduit
Rev. 2-7-68: Notes, Bill of Matls., Jt

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150) 125	1967	20	41

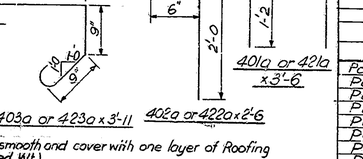
BRIDGES OVER 20' SPAN







SECTION "B-B"
Scale ½" = 1'-0



403a or 423a x 3'-11 402a or 422a x 2'-6 401a or 421a x 3'-6

① Trowel smooth and cover with one layer of Roofing felt (Med. Wt.)

② 2" x 2'-0 Depressed Keyways @ 10' max. spa. Trowel smooth and cover horizontal bearing surface with one layer of roofing felt (Med. Wt.) & provide ¾" Exp. material along vertical faces of Keyways.

* Aluminum Caulking Compound of approved type (See Special Provisions)

REINFORCING STEEL

Size & Mark	No. of bars	Length	Weight (Lbs.)
501a	240	25'-5	
502a	240	24'-9	
#5	240	20'-10	
#5	240	24'-6	
#5	480	23'-8	
#5	48	30'-3	
#5	144	26'-7	
#5	48	31'-10	
#5	144	28'-2	
#5	48	33'-5	
#5	144	29'-9	
#5	48	35'-0	
#5	144	31'-4	
#5	48	36'-8	
#5	144	33'-0	
#5	108	34'-8	
#5	261	34'-10	
#5	16	5'-6	
#5	32	3'-4	
		Total #5	90,914
601B	8	4'-0	
602B	20	4'-6	
		Total #6	183
401a	506	3'-6	
402a	18	2'-6	
403a	78	3'-11	
#4	12	39'-8	
		Total #4	4,835
#3	141	199'-6	10,377
		TOTAL STEEL	103,509

CONCRETE

CLASS "F"	Cu. Yds.
Pour No. 1	14.7
Pour No. 1 Lt.	12.0
Pour No. 1 Rt.	12.9
Pour No. 1a Rt.	5.3
Pour No. 2	32.6
Pour No. 2 Lt.	29.4
Pour No. 2 Rt.	30.7
Pour No. 2a Rt.	11.9
Pour No. 3	33.2
Pour No. 3 Lt.	29.9
Pour No. 3 Rt.	34.3
Pour No. 3a Rt.	12.0
Pour No. 4	37.2
Pour No. 4 Lt.	33.6
Pour No. 4 Rt.	42.7
Pour No. 4a Rt.	13.6
Cap Pour	11.1
Total Class "F" Concr.	398.1
MISCELLANEOUS	
Railing Type S or C	402 L. Ft.
2" Steel Conduit	822 L. Ft.
Anchor Bolts AR 21	8 Each

Bill of Materials Continued	
Miscellaneous	
Cast Iron	
2" Std. 6" C.I. Roadway Drains Type 2 Grate # A @ 192# Ea.	384
2 Pcs. 6.0 x 1.46 C.I.	
Rail Pipe (Extra Heavy)	56
4 - ⅞ Ø x 8½" Bolts (2 Wor. Sp.)	1#
Total Cast Iron	441#

Notes:

Pours shall be made in order of pour numbers.
All Superstructure Construction Joints are Optional (except as noted) and Pours may be made Continuous providing the Pours terminate at a Construction Joint shown on the Plans
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 Railing Details see Br. Std. BR1, 2, 3 & 4
For Reinforcing Bar Notes see Br. Std. C1
For additional details see Drwg. S17

** Additional Bars at Future Light Posts
For Details see Br. Std. R2A
The Contractor may change the width of pours, sequence of pours, or location of the construction Joints subject to the approval of the Engineer.
See note on General Plans for Increase in slab thickness.

FLOOR DETAILS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- As Noted

Feb. 23, 1967

SUBMITTED FOR APPROVAL:- Kevin Collins

DRAWING:- S18 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 & 2377J

DESIGNED D.D. CK'D V.B.
DRAWN D.D. CK'D
TRACED CK'D

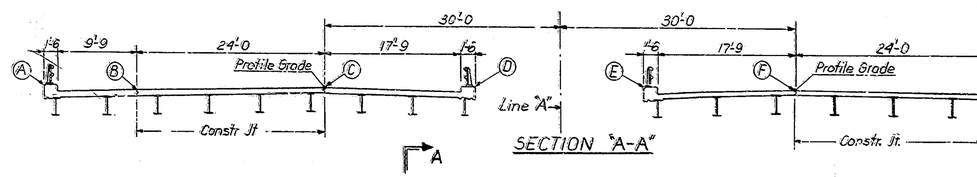
Rev. 6-28-68: Slab Reinf. Bill of Matls., Notes & Conduit
Rev. 2-7-68: Notes, Bill of Matls., Jts., Spl. Open.

Rev. 2-7-68: JLC, EVC, RVB. WFG
Rev. 6-28-68 CHM, WFG, TAM

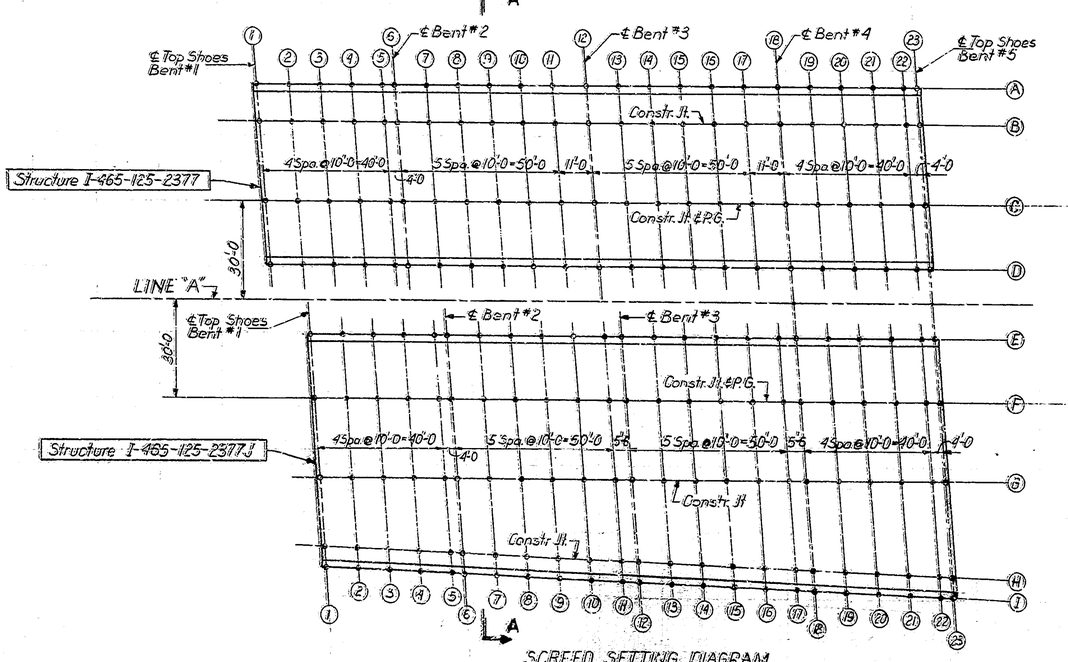
BRIDGES OVER 20'-SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	21	41

TABLE OF ELEVATIONS

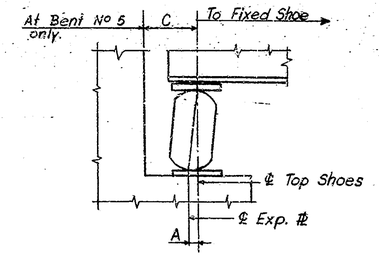
		①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓
A	ELEV. TOP OF COPING FORM	842.057	842.240	842.410	842.570	842.720	842.785	842.950	843.120	843.275	843.415	843.540	843.685	843.830	843.975	844.110	844.230	844.340	844.460	844.575	844.695	844.805	844.900	844.935
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							
B	ELEV. TOP OF COPING FORM	841.440	841.620	841.790	841.950	842.105	842.165	842.330	842.500	842.655	842.795	842.920	843.065	843.210	843.355	843.490	843.610	843.715	843.835	843.955	844.070	844.180	844.275	844.310
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							
C	ELEV. TOP OF COPING FORM	841.720	841.900	842.070	842.225	842.380	842.445	842.610	842.775	842.930	843.065	843.195	843.340	843.480	843.625	843.760	843.880	843.985	844.105	844.220	844.340	844.450	844.545	844.580
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							
D	ELEV. TOP OF COPING FORM	842.420	842.605	842.770	842.930	843.080	843.145	843.310	843.475	843.630	843.765	843.895	844.035	844.180	844.325	844.455	844.575	844.685	844.800	844.915	845.035	845.145	845.235	845.270
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							
E	ELEV. TOP OF COPING FORM	842.635	842.820	842.985	843.135	843.280	843.340	843.495	843.655	843.805	843.935	844.060	844.130	844.270	844.410	844.540	844.650	844.755	844.820	841.940	845.060	845.170	845.255	845.285
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							
F	ELEV. TOP OF COPING FORM	841.975	842.160	842.325	842.475	842.620	842.680	842.835	842.995	843.145	843.275	843.400	843.470	843.605	843.750	843.875	843.965	844.095	844.155	844.275	844.395	844.500	844.590	844.620
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							
G	ELEV. TOP OF COPING FORM	841.755	841.940	842.105	842.250	842.395	842.455	842.610	842.770	842.915	843.045	843.170	843.240	843.380	843.520	843.645	843.755	843.860	843.925	844.040	844.160	844.270	844.355	844.385
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							
H	ELEV. TOP OF COPING FORM	841.350	841.525	841.685	841.825	841.960	842.015	842.160	842.315	842.450	842.570	842.690	842.755	842.880	843.015	843.135	843.235	843.330	843.385	843.495	843.610	843.710	843.785	843.815
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							
I	ELEV. TOP OF COPING FORM	842.095	842.270	842.425	842.565	842.700	842.755	842.905	843.055	843.190	843.315	843.430	843.495	843.610	843.755	843.875	843.975	844.070	844.125	844.235	844.350	844.447	844.525	844.550
	ELEV. TOP OF BEAM																							
	DISTANCE TOP OF BM. TO TOP COPING FORM																							



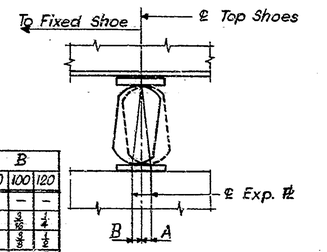
SECTION "A-A"



SCREED SETTING DIAGRAM
Not to Scale



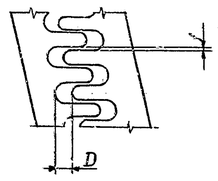
BENTS N° 1 & 5



BENTS N° 3 & 4

TABLE I

Dimensions	A						B		
Temperatures	0	20	40	60	80	100	120	80	100	120
℄ Brg to ℄ Exp. ⊭ Bent #1	1 1/16	7/8	5/8	1/2	3/16	1/16	–	–	–	–
℄ Brg to ℄ Exp. ⊭ Bent #3	1/4	1/8	1/16	0	–	–	–	1/8	3/16	1/4
℄ Brg to ℄ Exp. ⊭ Bent #4	1/2	3/8	3/16	0	–	–	–	3/16	3/8	1/2
℄ Brg to ℄ Exp. ⊭ Bent #5	1 5/16	1	5/8	1/2	1/4	0	–	–	0	5/16



TOOTHED PLATE AT BENT N° 5

TABLE II

Temperature	0	20	40	60	80	100	120
Dimension "C"	10 15/16"	10 5/8"	10 1/4"	10"	9 3/4"	9 3/8"	9 1/16"
Dimension "D"	5 5/16"	5"	2 3/4"	2 1/2"	2 1/4"	2"	1 11/16"

General Procedure:

1. After all bolts have been tightened and welding completed, adjust the superstructure longitudinally so that dimension "C", from ℄ Top Shoe to the face of the Mudwall at Bent #5, equals dimension "C" as shown in Table II. for prevailing temperature.
2. With the superstructure in the adjusted position called for in (1), weld the fixed shoes to the anchor plates at Bent #2.
3. Adjust the expansion plate under each expansion shoe in accordance with dimension "A" or "B" in Table I for the prevailing temperature. Note that dimension "A" is always the distance from a vertical line through the ℄ bearing in a direction away from the fixed shoe. Weld the expansion plates to the anchor plates.
4. Set the steel expansion joint and adjust it to correct elevation using double nuts on the anchor rods and threaded rods on the diaphr[illegible]
5. Adjust the steel expa[illegible] joint laterally so that the openings "J" between the teeth are equal and longitudinally so that openings "D" correspond to the values "D" in Table II for the prevailing temperature.
6. After the shoes are set, take elevations at all screed points on top of beam adjacent to screed point. Subtract these elevations from the tabulated elevations and use the resulting dimension as the height for setting the screed form above that point. This dimension remains constant regardless of how much or in what order the concrete is poured. Do not set screeds by leveling.
7. No concrete in the floor is to be poured until the above operations are complete.
8. See note on General Plans for 1" increase in slab thickness.

SCREED ELEVATIONS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- As Noted — Feb. 23, 1967

SUBMITTED FOR APPROVAL: [signature]

DRAWING:- S 19 OF 28

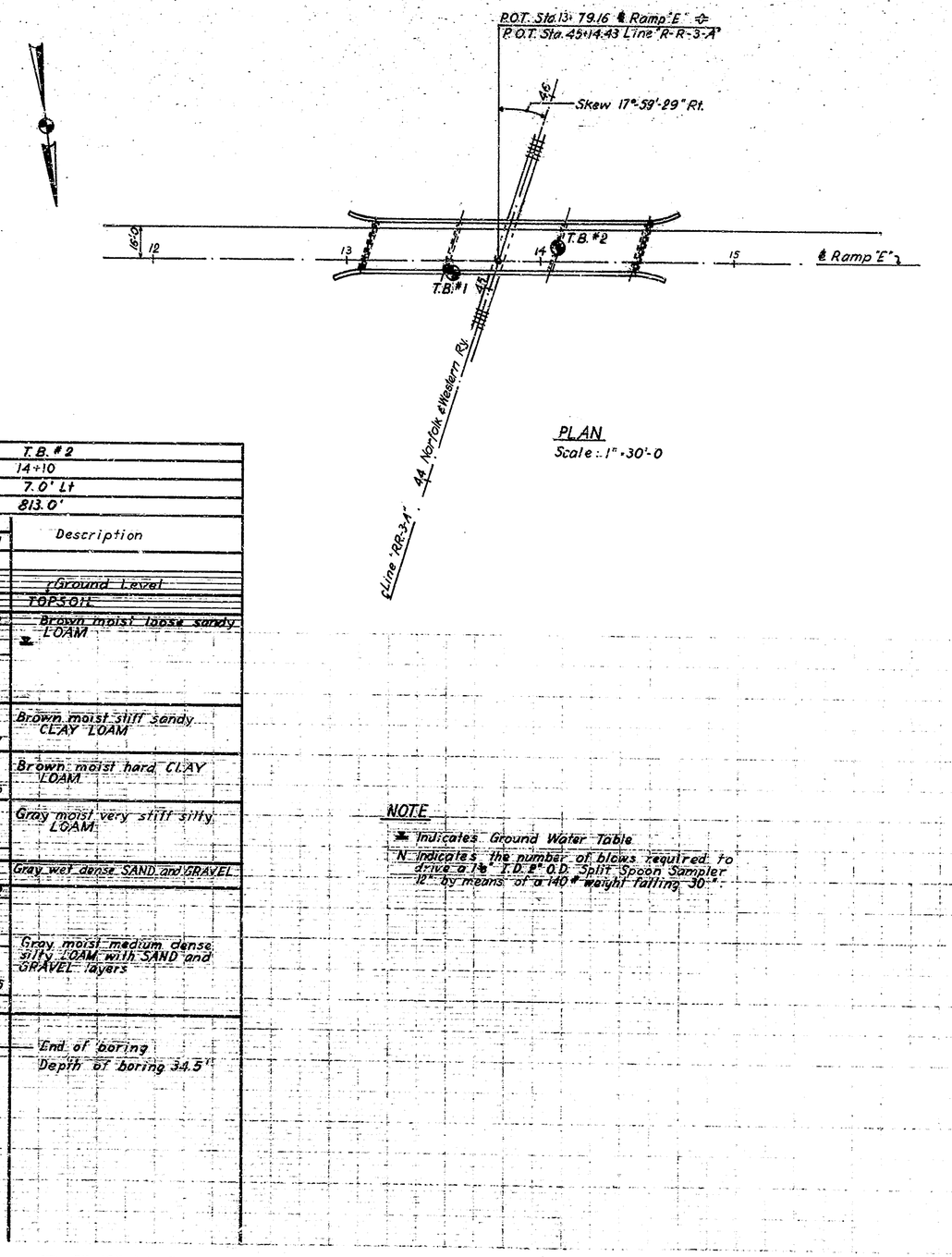
PROJECT:- I-465-4(150)125

BRIDGE CONTRACT NO. B-7803

BRIDGE FILE:- I-465-125-2377 & 2377J

DESIGNED _____ C'K'D _____
DRAWN D.D. C'K'D S.E.
TRACED _____ C'K'D _____

Rev. 6-28-68: Notes.
Rev. 7-1-68: Notes.



PLAN
Scale: 1" = 30'-0

Boring	T.B. # 1	T.B. # 2
Station	13+55	14+10
Offset	6.0' Rt.	7.0' Lt
Ground El.	811.7'	813.0'

Sample No.	El.	N	Description
	811.7		Ground Level
	810.2		TOPSOIL
1	809.2	7	Brown moist medium stiff CLAY LOAM
2	806.7	4	▼ soft at 5.0'
	804.2		
3	802.7	14	Brown moist stiff sandy CLAY LOAM
4	798.7	26	
			Gray moist very stiff to hard silty LOAM (hardpan)
5	794.7	77	very stiff at 21.0'
6	790.7	22	
7	786.7	29	
	784.2		Gray wet medium dense SAND with trace of GRAVEL
8	782.7	24	
	779.7		
9	778.7	15	Gray moist very stiff silty LOAM (hardpan)
10	773.7	17	
11	768.7	54	
	768.2		Gray wet very dense to dense SAND with trace of GRAVEL
12	763.2	46	End of boring
	761.7		Depth of boring 50.0'

Sample No.	El.	N	Description
	813.0		Ground Level
	811.5		TOPSOIL
1	810.5	6	Brown moist loose sandy LOAM
2	808.0	6	▼
3	804.0	11	
			Brown moist stiff sandy CLAY LOAM
4	800.5	37	
			Brown moist hard CLAY LOAM
5	796.0	25	
			Gray moist very stiff silty LOAM
6	792.0	21	
	791.5		
	789.0		Gray wet dense SAND and GRAVEL
7	788.0	22	
8	784.0	18	Gray moist medium dense silty LOAM with SAND and GRAVEL layers
9	780.0	25	
	778.5		
			End of boring
			Depth of boring 34.5'

NOTE
▼ Indicates Ground Water Table
N Indicates the number of blows required to drive a 1⅜" I.D. 2" O.D. Split Spoon Sampler 12" by means of a 140# weight falling 30".

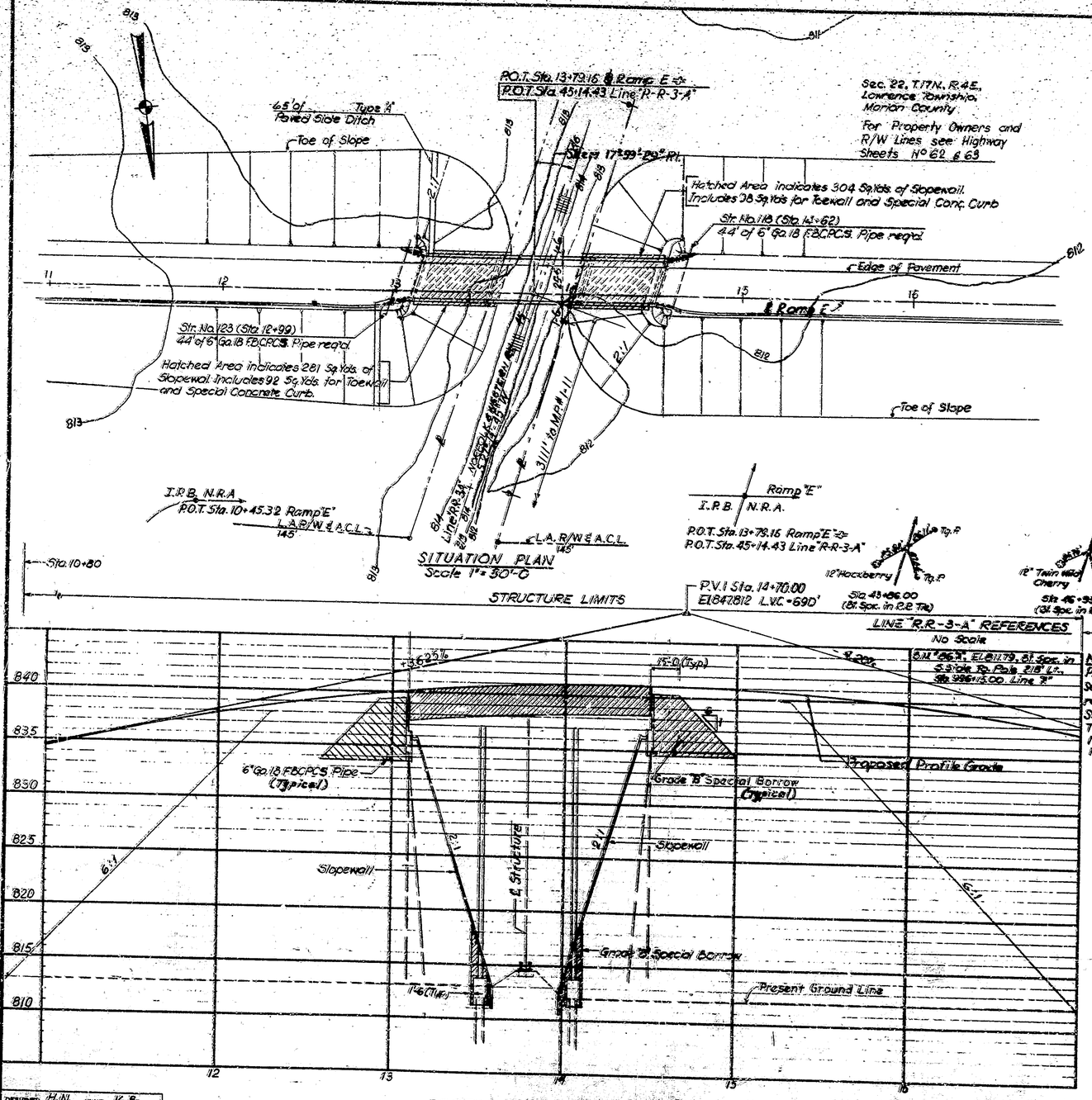
TEST BORING DATA

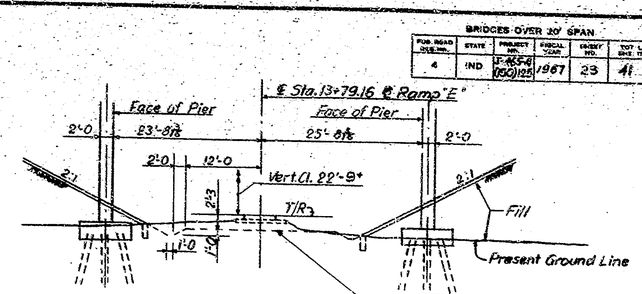
SCALE: As Noted
SUBMITTED FOR APPROVAL Feb. 23, 1967
Kevin Cullen

PROJECT: I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE: I-465-125-2377DR

November 1, 1965

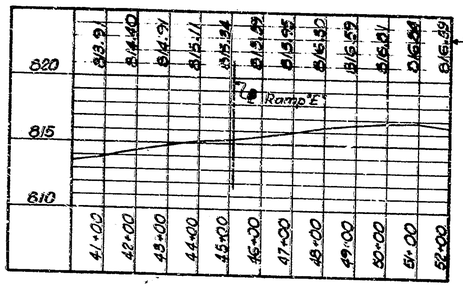
BRIDGES OVER 20' SPAN					
FOR ROAD CLASS. NO.	STATE	PROJECT NO.	FISCAL YEAR	INDEX NO.	TOT. SHT. NO.
4	IND	I-465-4 (150)125	1967	23	41





SECTION NORMAL TO ℄ TRACK
Scale 1" = 2'-0

NOTE
Dashed Lines indicate Sub-Grade Section provided for by proposed Highway Construction.



PROFILE OF NORFOLK & WESTERN RY
Scale: Horiz. 1" = 200'-0; Vert. 1" = 5'-0

NOTE
For typical Ramp Section see Std. 10 inch Section adopted August 1954

TABULATION OF EARTHWORK QUANTITIES
Ramp E

Fill	
Grade 'B' Special Borrow (Bridge)	42,845 Cu Yds.
	− 583
	42,262 Cu Yds.
+20%	+ 8,452
Fill + 20%	50,714 Cu Yds.
Surplus Foundation Excavation	− 30
Special Borrow	50,684 Cu Yds.

LAYOUT
CONTINUOUS COMPOSITE STEEL BEAM BRIDGE
3 Spans: 43'-0 ; 54'-0 ; 43'-0
Skew 17°-59'-29" Rt.
25'-6" Roadway
Over Norfolk and Western Ry. on Ramp 'E'

INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY

SCALE:- AS SHOWN — Feb. 23 1967

SUBMITTED FOR APPROVAL

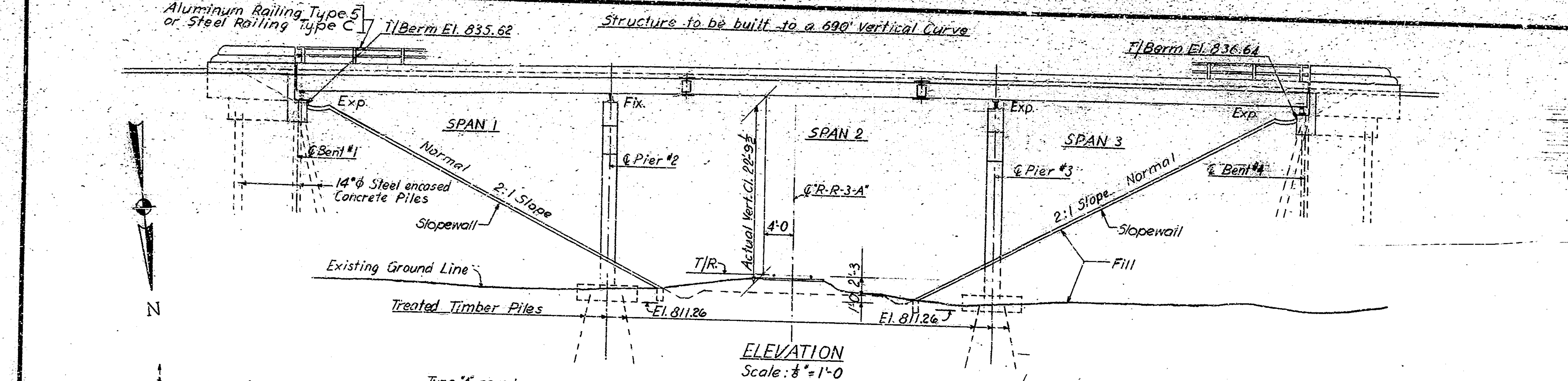
DESIGNED H.N. C'K'D V.B.
DRAWN E.G. C'K'D V.B.
TRACED C'K'D

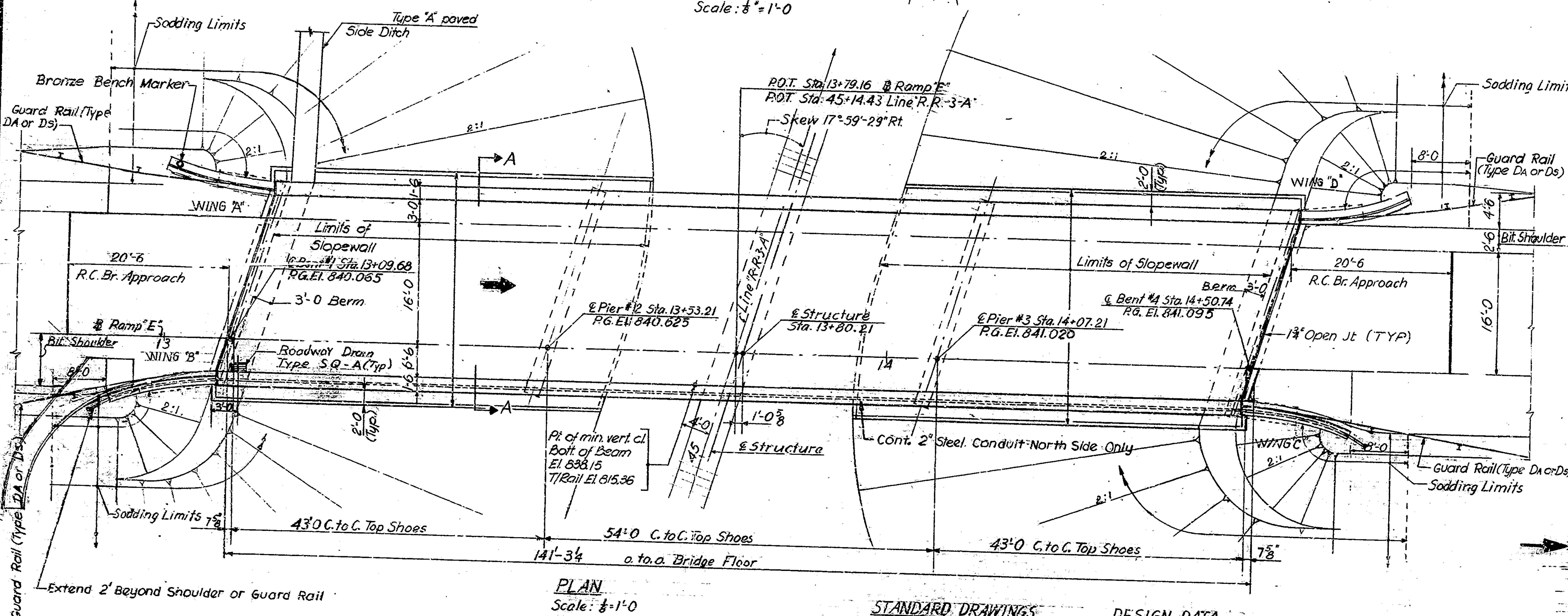
DRAWING S-20 OF 28
PROJECT:- I-465-4 (150) 125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2371 DR

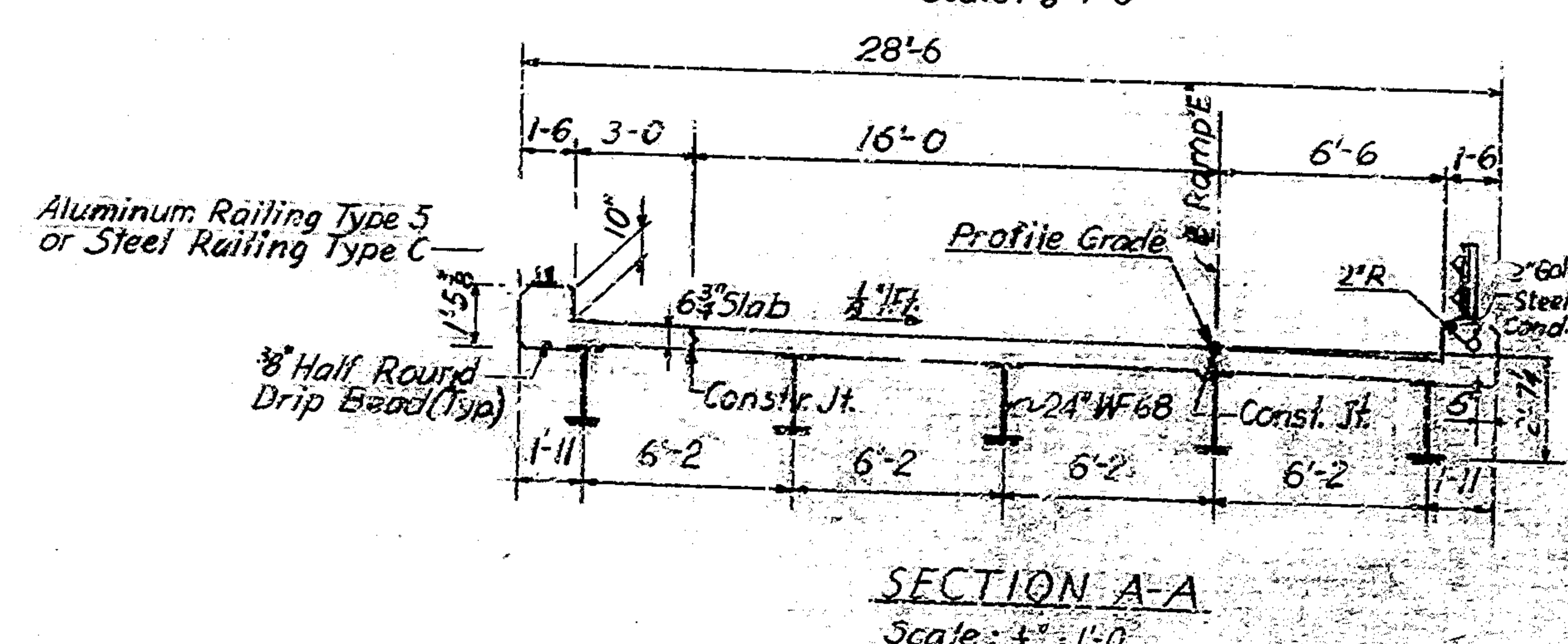
Rev. 2-8-68 EJC; WFG
Rev. 6-28-68 JEH/EES/WFG
Rev. 2-7-68 Typ. of R.R. Slope Details

BRIDGES OVER 20' SPAN					
FED. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4(150)125	1967	24	41

NOTE:
~~The State shall maintain, or provide for the maintenance of the bridge structure, approach grades, and all other highway facilities.~~
~~The Railroad shall maintain its own roadway and track, the structures supporting the same, the drainage thereof, and all other railroad facilities.~~







GENERAL NOTES

No present structure at proposed bridge site.
Depth of footings to be extended if found necessary. See Art. B-403.2(a) of specifications.
Piles shall have minimum bearing value shown on detail drawings.
Determine pile lengths by Art. F103 & F203 of the specifications. For detail of steel encased concrete piles see Br. Std. C1, the special provisions, and applicable articles in the specifications.
Reinforcing steel covering shall be 1½" in top and 1" in bottom in floor slabs, 3" in footings except bottom steel which shall be 4" and 2" in all other parts unless noted.
Dimensions on bending diagrams of reinforcing bars are measured out to out of bars.
Concrete in footings and pier stems above footing to construction joint No. 1 to be class "E".
Concrete in superstructure, including railing, bent caps, pier above construction joint No. 1 to be class "F".

Concrete in Slopewall and in Steel encased concrete Piles to be class "D".
Continuous concrete pours shall be required between constr. joints as shown on detail plans.
Bevel forms ¼" under copings and chamfer exposed edges 1" unless noted.

Tolerance in position of pile head maximum 2".

All railing to be constructed perpendicular to grade.
Waterproof back of mudwalls and bent wingwalls in accordance with the specifications.
See special provisions for items included in this contract. Bridge seats and face of mudwalls of Bents Nos. 1 & 4 to be sealed with 2 coats of Epoxy Resin. See Special Provisions.

For Pay Items Covering this Structure see Bridge Summary.

~~Slab thickness as shown on plans to be increased 1" to provide 2" top cover on slab steel. This change shall be made by raising grade on structure 1". No change in structure elevations is required except those affected by raising floor surface, including coping and wings. The approach grade to be warped to match bridge. No revisions have been made in these plans for this change except concrete quantities which have been revised.~~

STANDARD DRAWINGS

Sheet	
C1	Bridge Standards. Reinforcing bar notes and details. Field splice of pile shells. Notch at ends of beams.
D	Roadway Drain - Type SQ-A
BR1	Aluminum railing
BR2	Aluminum Railing Details
BR3	Steel Railing
BR4	Steel Railing Details
R2A	Bridge Lighting Details
MB	Type "A" paved Side Ditch
S2	Placing Grade "B" Spl. Borrow, & 6" Dia. pipe
MB2	Slopewall

DESIGN DATA

Designed for HS 20-44 loading in accordance with 1965 A.A.S.H.O. specifications.

For typical Section see Std. 10 inch Section adopted Aug. 1964.

GENERAL PLAN

CONTINUOUS COMPOSITE STEEL BEAM BRIDGE
3 SPANS: 43'-0; 54'-0; 43'-0. SKEW 17°59'29" Rt.
25'-6 ROADWAY
RAMP "E" OVER "R-R-3-A"

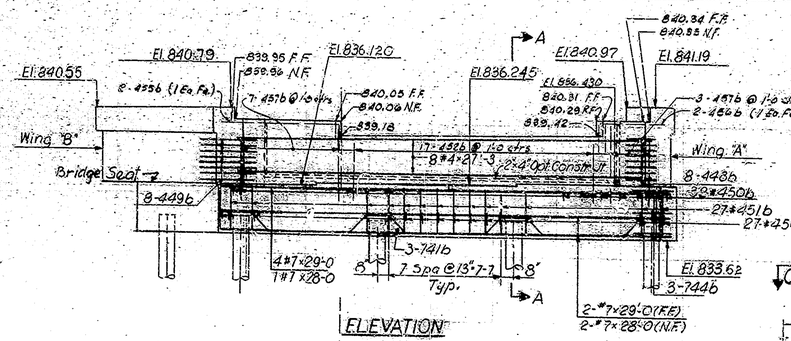
INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY

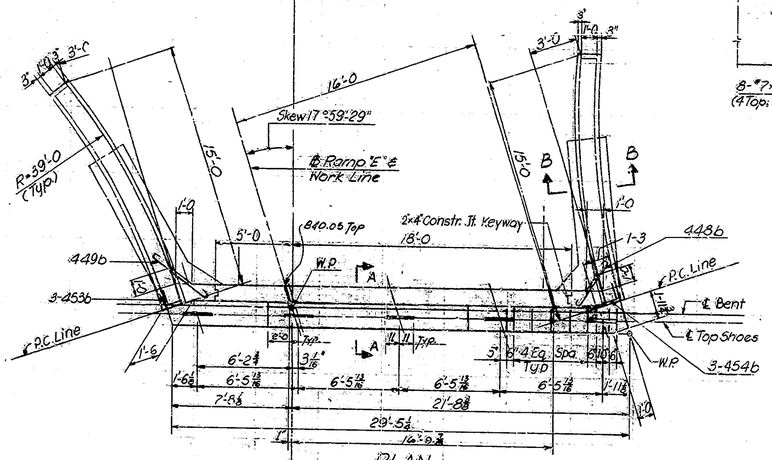
SCALE:- As Noted
Feb. 23, 1967
SUBMITTED FOR APPROVAL:- [signature]

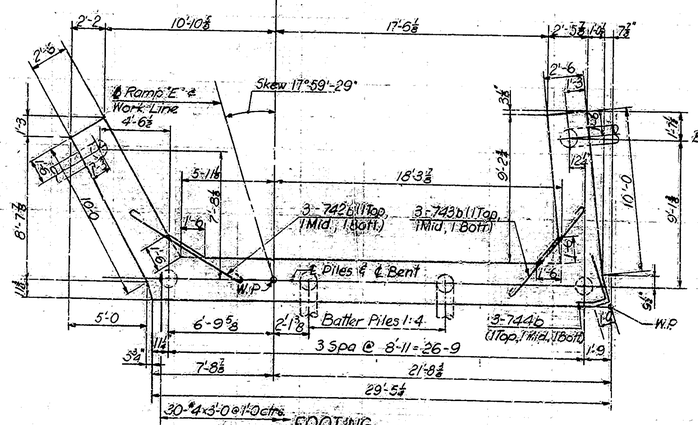
DRAWING:- S 21 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 DR

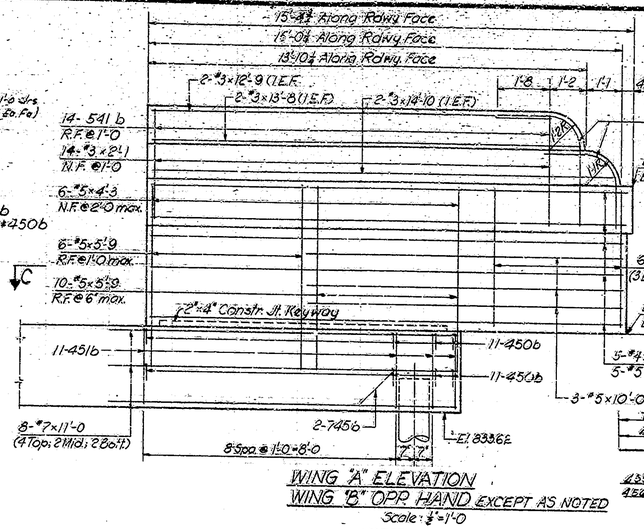
DESIGNED	H.N.	CKD.	V.B.
DRAWN	G.S.	CKD.	V.B.
TRACED		CKD.	

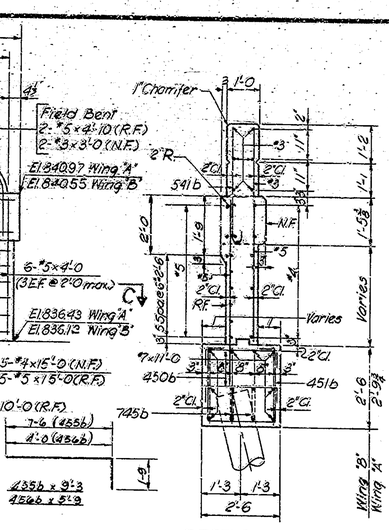
Rev. 2-1-68: JLC; ENC. RW/B.
Rev. 6-28-68: VAH; GBS; MFC.
Rev. 6-28-68 Sq. Drain, Notes, & Conduit & El.
Rev. 2-1-68 Notes, Std. Dwgs.

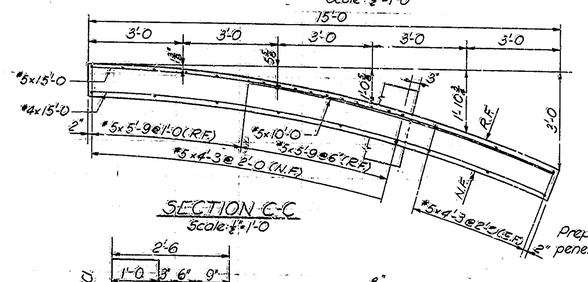


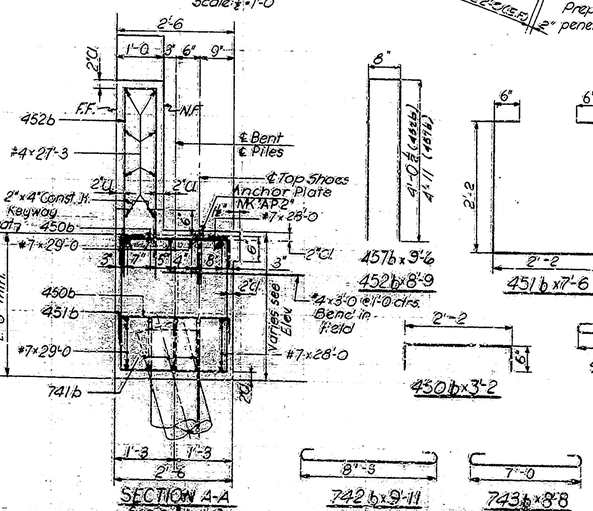


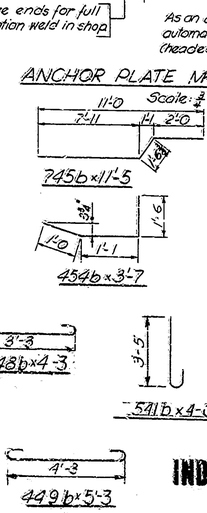


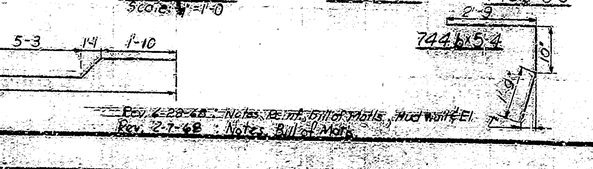


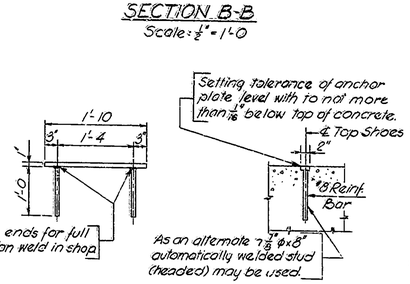












NOTE:
Bent Cap not to be poured until after fill has been completed up to approx. elev. of bottom of cap.
6-14"ϕ x 79# Steel encased concrete piles driven to 40 Ton minimum bearing capacity.
Anchor Plates "MK-AP2" to be preset in concrete.
For General Notes see Drawing 521.
E.F. indicates each face.
F.F. indicates far face.
N.F. indicates near face.
R.F. indicates roadway face.
See note on General Plans for 1" increase in slab thickness.

BENT NO. 1 DETAILS

BRIDGES OVER 20' SPAN

FED. ROAD REQ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150) 125	1967	25	41

BILL OF MATERIAL

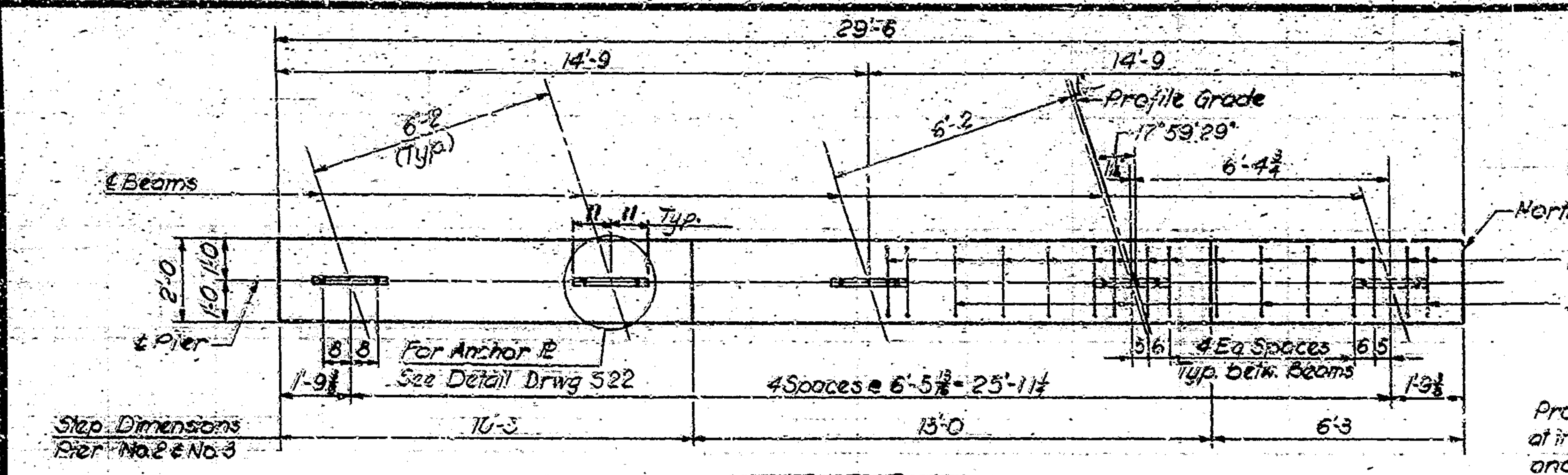
SIZE OR MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
741b	3	31'-7	
742b	3	9'-11	
743b	3	8'-8	
744b	3	5'-4	
745b	4	11'-5	
#7	6	29'-0	
#7	3	28'-0	
#7	16	11'-0	
		Total #7	4320
#5	10	15'-0	
#5	6	10'-0	
#5	32	5'-9	
#5	12	4'-0	
#5	28	3'-6	
#5	1	4'-10	
#5	12	4'-3	
541b	28	4'-0	
		Total #5	452
455b	2	9'-3	
456b	2	5'-9	
457b	10	9'-6	
448b	3	4'-3	
449b	8	5'-3	
450b	103	3'-2	
451b	49	7'-6	
452b	17	8'-9	
453b	3	2'-0	
454b	3	3'-7	
#4	8	27'-3	
#4	10	15'-0	
#4	30	3'-0	
		Total #4	1015
#3	4	14'-10	
#3	4	13'-8	
#3	4	12'-9	
#3	4	3'-0	
#3	28	2'-1	
		Total #3	88
Total Steel			3075
CONCRETE			Cu. Yds.
Class "F" Concrete: Cap			144
Wg. "A" to Jt.			8.6
Wg. "B" to Jt.			9.5
TOTAL CL. "F" CONC.			21.5
RAILING CONC. 20"			2.4
MISCELLANEOUS			
Anchor Plates MK-AP2			5 Each
14" Steel Encased Conc. Piles 14"ϕ x 79# x 40'-0"			386 L.Ft.

INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY
SCALE: 1/4"=1'-0 Unless noted
Feb. 23, 1967
SUBMITTED FOR APPROVAL:
DRAWING: 522 OF 28
PROJECT: I-465-4(150) 125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE: I-465-125-2377 Dk

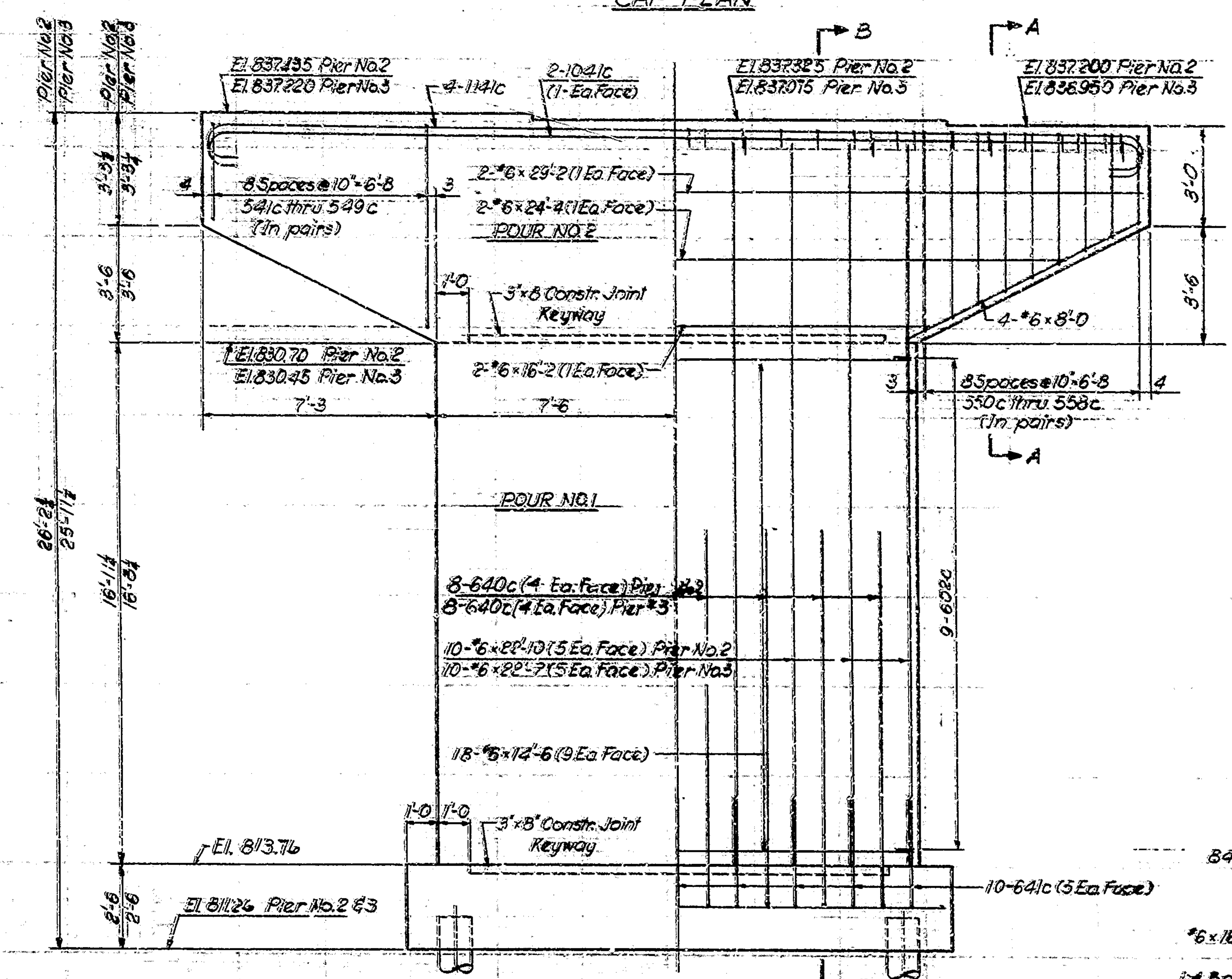
DESIGNED S.F. CK'D L.K.
DRAWN E.C. CK'D V.B.
TRACED CK'D

Rev. 2-7-68 : Notes, Bill of Mats., Hold Wall El.
Rev. 2-28-68 : J.M.K. W.P.G. & W.M.

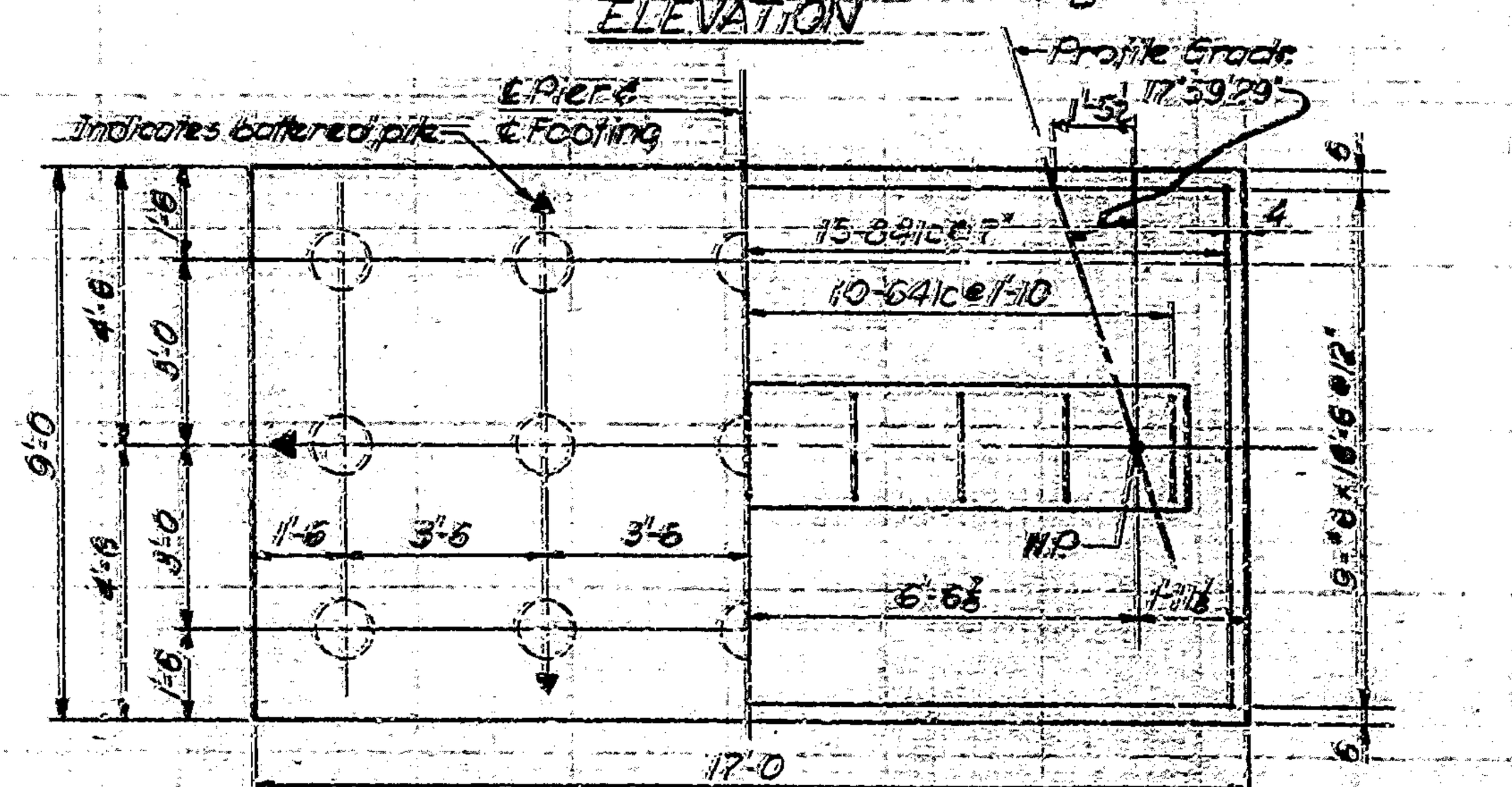
BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1957	26	41



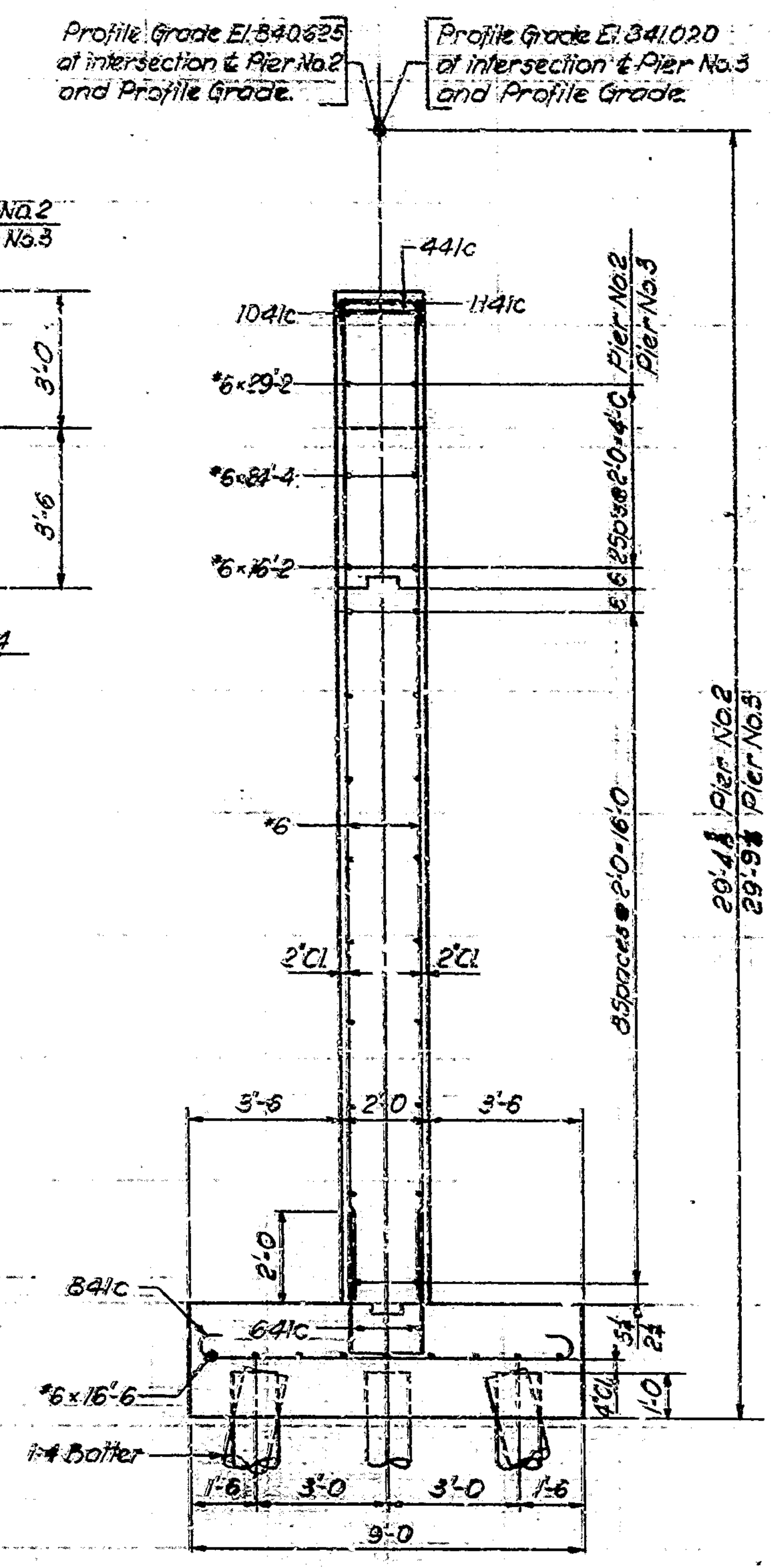
CAP PLAN



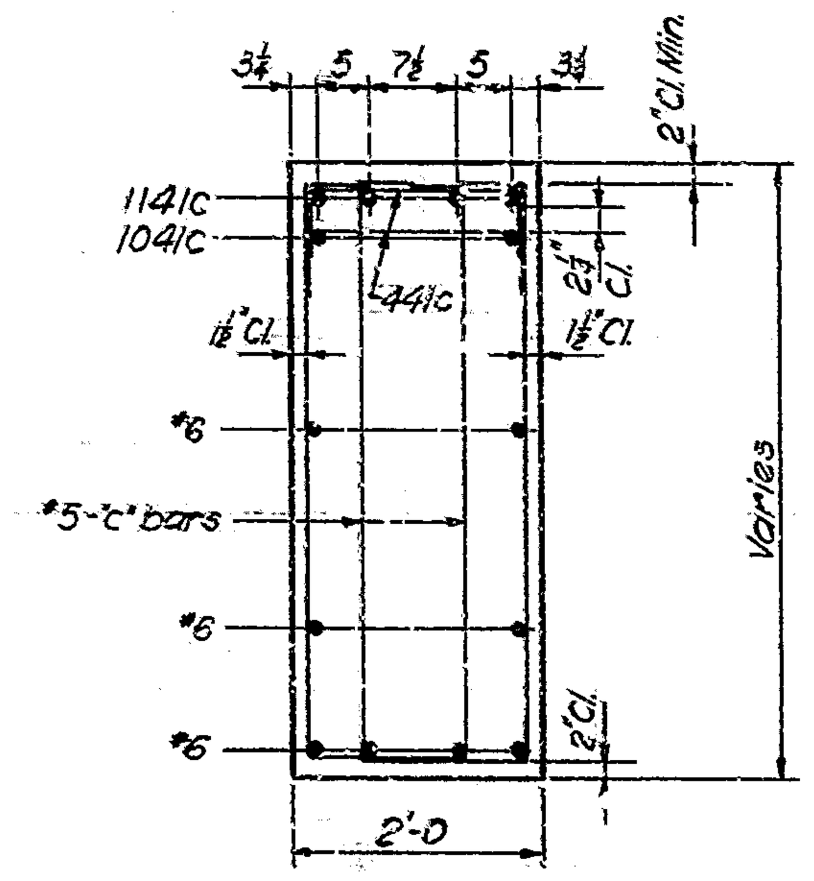
ELEVATION



FOOTING PLAN

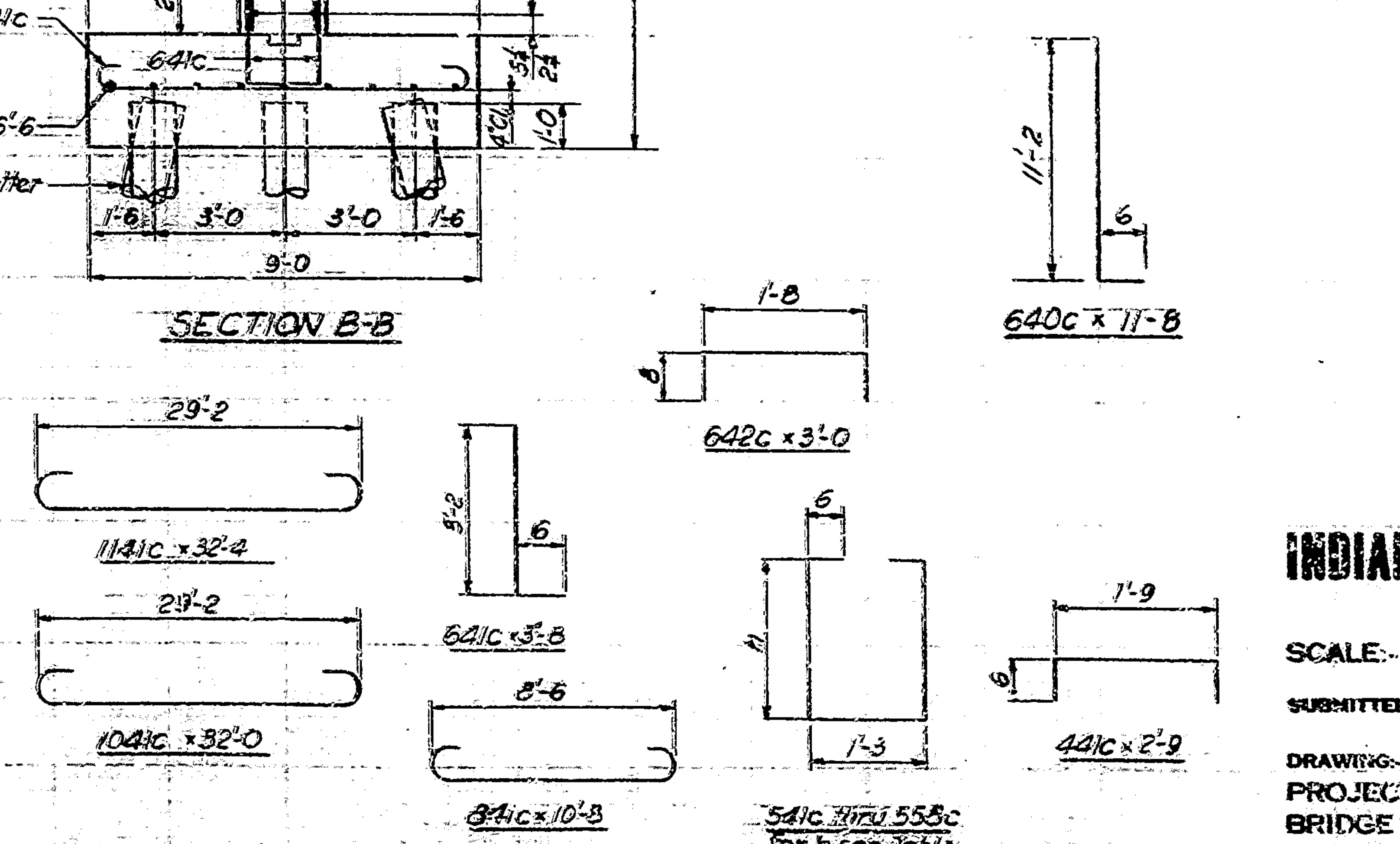


SECTION B-B



SECTION A-A
Scale: ¾" = 1'-0

MARK	h	LENGTH
541c	2'-11½	8'-2
542c	3'-4	8'-11
543c	3'-9	9'-9
544c	4'-1½	10'-6
545c	4'-6½	11'-4
546c	4'-11	12'-1
547c	5'-4	12'-11
548c	5'-8½	13'-8
549c	6'-1	14'-5
550c	2'-8½	7'-8
551c	3'-1½	8'-6
552c	3'-6½	9'-4
553c	3'-11½	10'-2
554c	4'-4½	11'-0
555c	4'-9½	11'-10
556c	5'-2½	12'-8
557c	5'-7½	13'-6
558c	6'-0½	14'-4



BILL OF MATERIAL

SIZE OR MARK	NO. OF BARS Pier No.2	NO. OF BARS Pier No.3	LENGTH	WEIGHT (Lbs.) Pier No.2	WEIGHT (Lbs.) Pier No.3
1141c	4	4	32'-4		
			Total #11	687	687
1041c	2	2	32'-0		
			Total #10	275	275
841c	29	29	10'-8		
			Total #8	826	826
640c	16	16	11-8		
641c	18	18	3'-8		
642c	18	18	3'-0		
#6	9	9	16'-6		
#6	18	18	14'-6		
#6	18		22'-10		
#6		18	22'-7		
#6	2	2	29'-2		
#6	2	2	24'-4		
#6	2	2	16'-2		
#6	8	8	8'-0		
			Total #8	1,998	1,991
541c	2	2	8'-2		
542c	2	2	8'-11		
543c	2	2	9'-9		
544c	2	2	10'-6		
545c	2	2	11'-4		
546c	2	2	12'-1		
547c	2	2	12'-11		
548c	2	2	13'-8		
549c	2	2	14'-5		
550c	2	2	7'-8		
551c	2	2	8'-6		
552c	2	2	9'-4		
553c	2	2	10'-2		
554c	2	2	11'-0		
555c	2	2	11'-10		
556c	2	2	12'-8		
557c	2	2	13'-6		
558c	2	2	14'-4		
			Total #5	419	419
441c	40	40	2'-9		
			Total #4	73	73
TOTAL STEEL				4,278	4,271
CONCRETE					
Class "E" (Footing)				13.7 C.Y.	13.7 C.Y.
Class "E" (Above Footing) Pour No.1				18.8 C.Y.	18.5 C.Y.
Class "F" (Cap) Pour No.2				12.6 C.Y.	12.6 C.Y.
MISCELLANEOUS					
Anchor Plates "MK AP2"				5 Each	5 Each
15 Treated Timber Piles each Pier x 32'-0 (Approx.)				480 L.F.	480 L.F.

NOTE:
For Reinforcing Bar Notes see Bridge Std. C1.
For General Notes see Drawing S 21.
15 Treated Timber Piles each pier driven to 25 Ton minimum bearing capacity.
Anchor Plate MK-"AP2" to be preset in concrete.
For Anchor Plate MK-"AP2" Details see Dwg. S22.

PIER NO.2 & NO.3 DETAILS

INDIANA STATE HIGHWAY COMMISSION

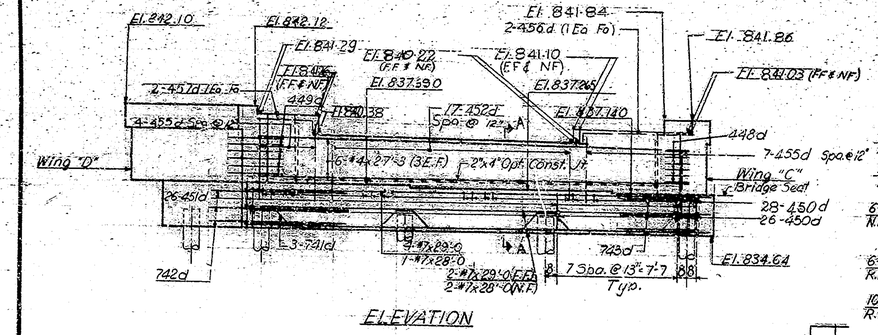
MARION COUNTY

SCALE:- ⅜" = 1'-0 Unless Noted Feb. 23, 1963

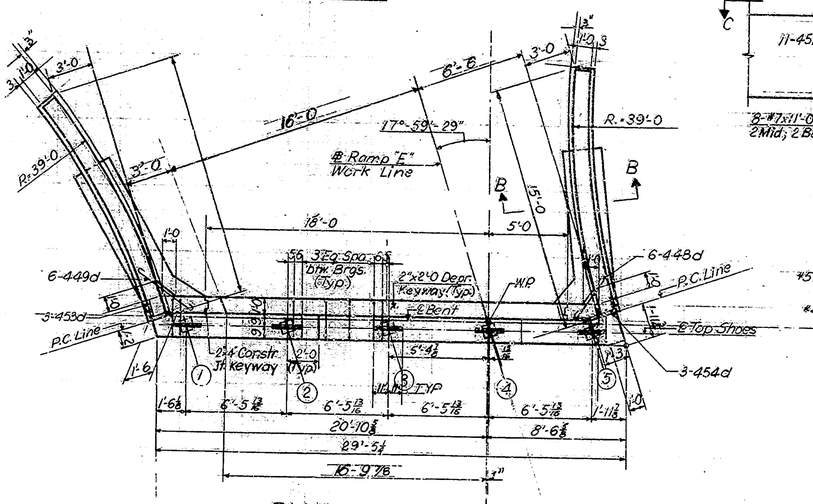
SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- S23 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 DR

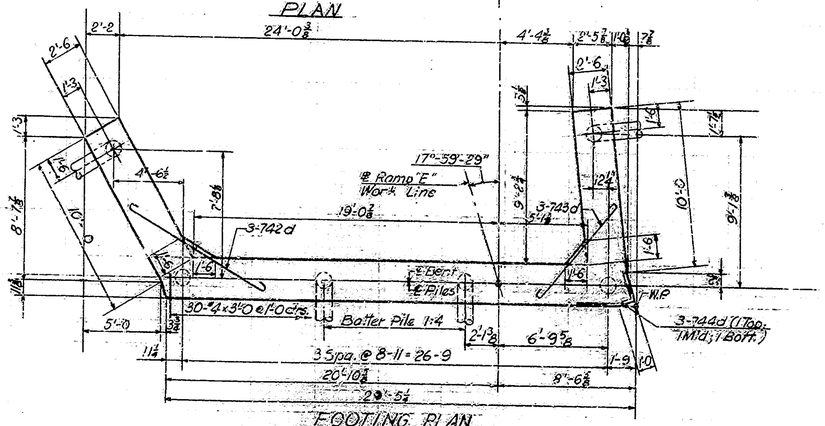
BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	27	41



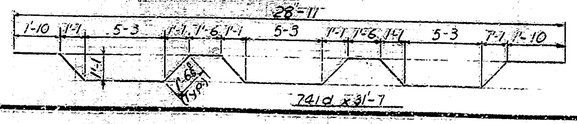
ELEVATION

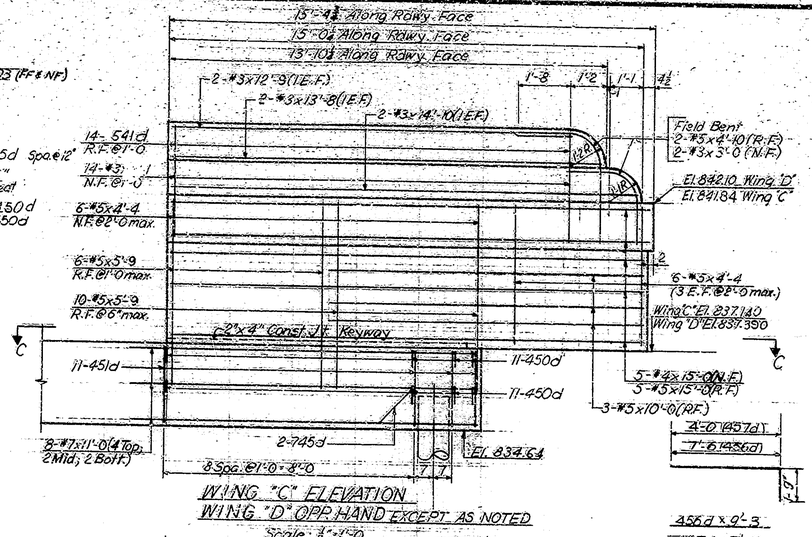


PLAN

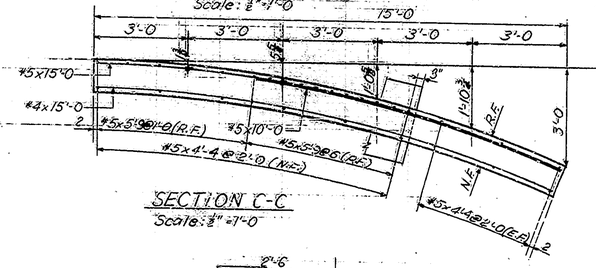


FOOTING PLAN





WING "C" ELEVATION
WING "D" OPP. HAND EXCEPT AS NOTED
Scale: ½"=1'-0



SECTION C-C
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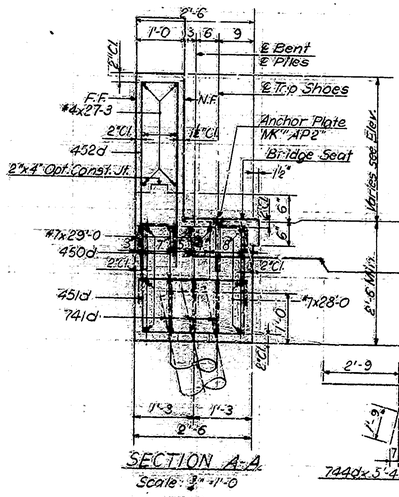
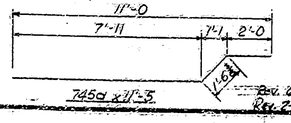
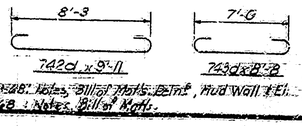
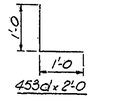
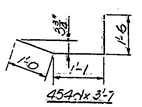


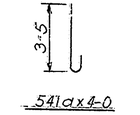
SECTION A-A
Scale: ½"=1'-0

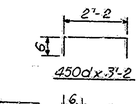


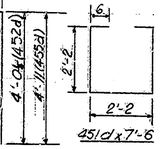


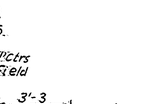


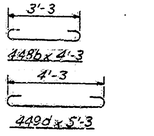


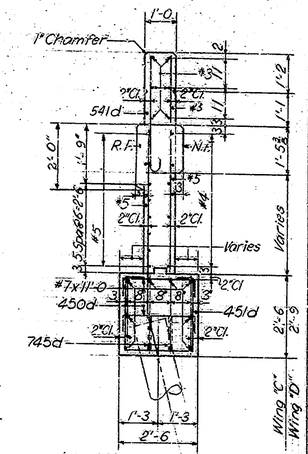












SECTION B-B
Scale: ½"=1'-0

BILL OF MATERIAL
BENT NO. 4

REINFORCING STEEL

Size of Mark	No. of Bars Req'd.	Length	Weight (Lbs.)
741d	3	31'-7	
742d	3	9'-11	
743d	3	8'-8	
744d	3	5'-4	
745d	2	11'-5	
#7	6	29'-0	
#7	3	28'-0	
#7	16	11'-0	
		Total #7	1,320
#5	10	15'-0	
#5	6	10'-0	
#5	32	5'-9	
#5	24	4'-4	
#5	4	4'-10	
541d	28	4'-0	
		Total #5	657
453d	3	2'-0	
448d	6	4'-3	
449d	6	5'-3	
450d	98	3'-2	
451d	48	7'-6	
452d	17	8'-9	
#3	6	27'-3	
#4	10	15'-0	
454d	3	3'-7	
#3	30	3'-0	
455d	11	10'-6	
456d	2	9'-3	
457d	2	5'-9	
		Total #3	963
#3	28	21'-1	
#3	4	14'-10	
#3	4	13'-8	
#3	1	12'-9	
#3	4	3'-0	
		Total #3	88
		Total Steel	3028
CONCRETE			Cu Yds
Class "F" Concrete Cap			14.4
Wing "C"			3.5
Wing "D"			3.6
TOTAL CLASS "F" CONC.			21.5
RAILING CONC. #6 I.2			2.1
MISCELANEOUS			
6 Steel Encased Conc. Piles			40'-2L.Ft.
14"ø x 7Ga. x 67'-0"			5 Each
Anchor Plates Mk AP2			

NOTES:

Anchor Plate Mk "AP2" to be preset in concrete. For Detail see Drwg. S-22
For General Notes see Drwg. S-21
E.F. indicates Each Face
F.F. indicates Far Face
N.F. indicates Near Face
R.F. indicates Roadway Face
See note on General Plans for 1. increase in slab thickness.
Bent Cap not to be poured until after Fill has been completed up to approx. Elev. of bottom of cap.
6-1 "ø x 7Ga. Encased Concrete Piles driven to 40 Tons minimum bearing capacity.

BENT NO. 4 DETAILS

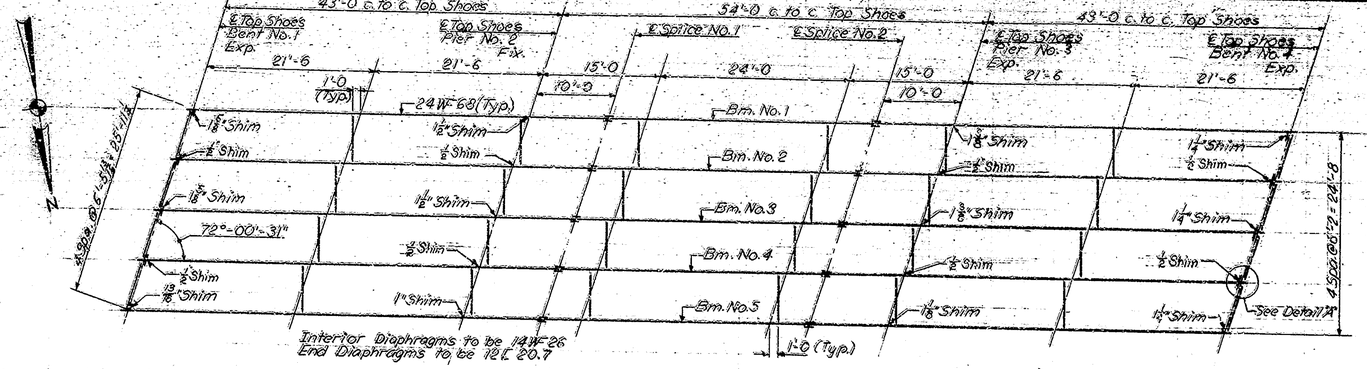
INDIANA STATE HIGHWAY COMMISSION

SCALE:- ½"=1'-0 UNLESS NOTED
SUBMITTED FOR APPROVAL:- Kevin Parker
Feb. 23, 1967
DRAWING:- S-24 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2377 DR

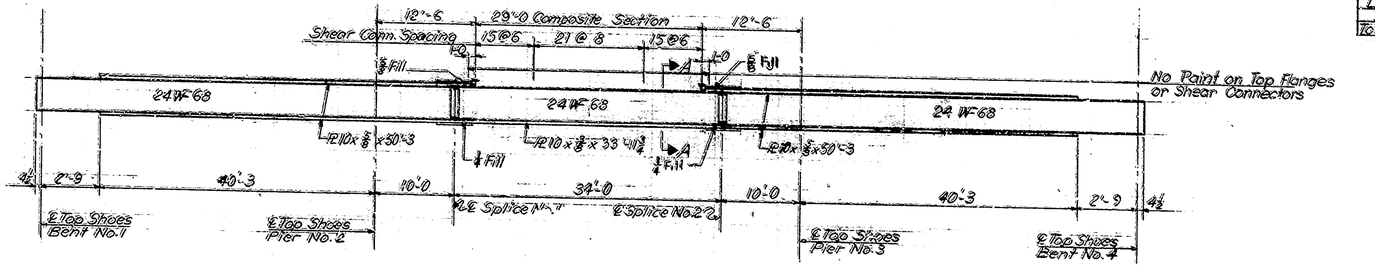
DESIGNED S.F. CK'D L.K.
DRAWN G.S. CK'D V.B.
TRACED CK'D

Rev. 2-7-68: Misc. Revs.
Rev. 6-28-68: Chg. Elevs. in P.C.

Rev. 6-28-68: Notes, Bill of Mats. Bent, Mud Wall Elev.
Rev. 2-7-68: Notes, Bill of Matl.

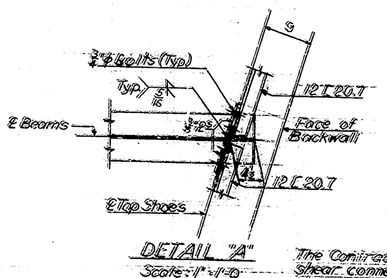


FRAMING PLAN
Scale: ⅛" = 1'-0

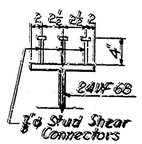


No Paint on Top Flanges or Shear Connectors

BEAM ELEVATION
Not to Scale

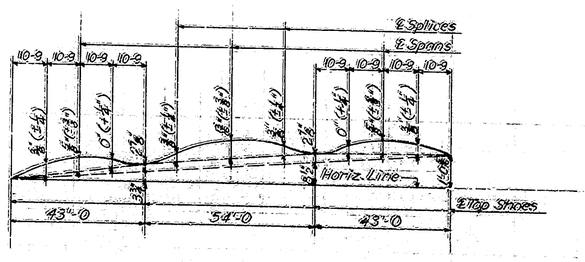


DETAIL "A"
Scale: 1" = 1'-0



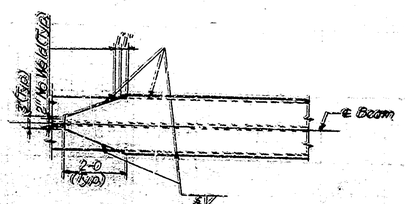
SECTION A-A
Not to Scale

The Contractor may use channels or ¾" studs as an alternate shear connector. If used, they shall have equivalent shear value and the proposed size and spacing submitted for approval.



NO LOAD CAMBER AND REAMING DIAGRAM
Not to Scale

Note to Erector: The shop plans shall indicate wether reaming or drilling is to be done in the shop or field. If shop reaming or drilling is used, the beams shall be assembled in accordance with the above diagram. If beams are shop reamed or drilled, all beams are 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 with the structural steel unsupported by falsework.



COVER PLATE DETAIL
Not To Scale

Rev. 6-28-68: Notes, Shear Connectors & Shims
Rev. 2-7-68: Notes, Cover P.

Rev. 2-7-68: HC, LOC, PMB
Rev. 6-28-68: JMA, OES, JAK, WEB

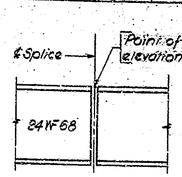
Note: Top of beam flange shall be adjusted to these elevations before bolting field splice connections. These elevations are with falsework removed, carrying steel dead load only.

SPLICE ELEVATIONS (TOP OF FLANGE)

BEAM NO.	SPLICE NO.1	SPLICE NO.2
1	840.400	840.685
2	840.320	840.555
3	840.240	840.390
4	840.155	840.405
5	840.075	840.330

BRIDGES OVER 20' SPAN

PUB. ROAD SER. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150) 125	1967	28	41



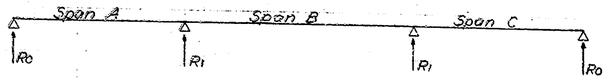


TABLE OF MOMENTS AND REACTIONS
INTERIOR AND OUTSIDE BEAMS

	MOMENTS (Ft. Kips)						REACTIONS (Kips)			
	℄ Span A or C		℄ Span B		R1		Ro		R1	
	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.	O.S.	Int.
D.L.	101	74	93	68	208	152	13.0	9.5	44.4	32.5
S.D.L.	17	12	13	9	35	24	1.9	1.5	6.5	4.2
L.L.	238	240	246	248	166	167	30.0	30.3	37.2	37.6
I	77	78	68	69	48	48	8.9	9.0	10.7	10.8
Total					447	415	53.8	50.3	98.8	93.1

NOTES:
For General Framing Plan Notes see Drwg. 514
For Bearing and Splice Details see Drawing 526
For General Notes See Drwg. 521
Structural steel to be ASTM-A-36 except as noted.
Estimated weight of Structural Steel: 84800 Lbs including 1816 Lbs of ASTM-A-514.

FRAMING AND STEEL DETAILS

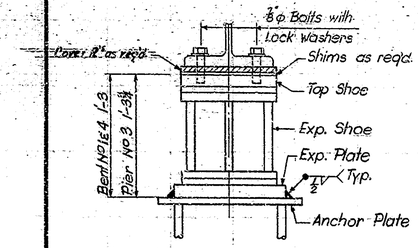
INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY

SCALE:- AS NOTED
Feb. 23, 1967
SUBMITTED FOR APPROVAL: Kenneth Miller
DRAWING:- 525 or 28
PROJECT:- I-465-4(150) 125
BRIDGE CONTRACT NO. B-7503
BRIDGE FILE:- I-465-125-2377 DR

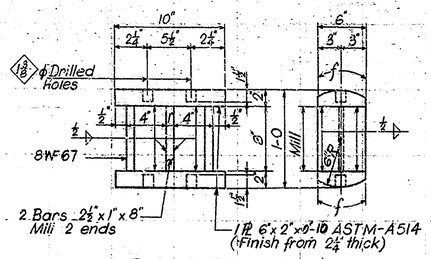
DESIGNED S.H. C'K'D W.K.
DRAWN S.S. C'K'D V.B.
TRYCED C'K'D

BRIDGES OVER 20' SPAN

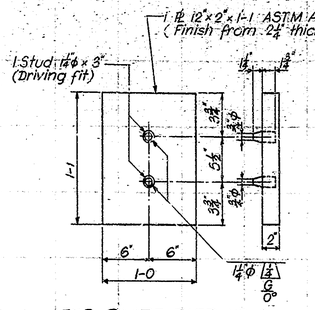
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150) 125	1967	29	41



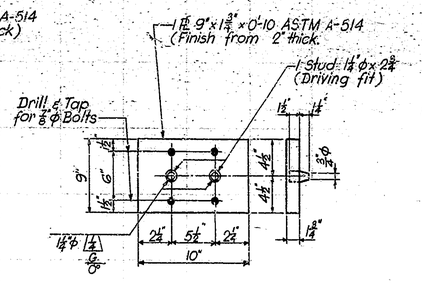
EXP. SHOE ASSEMBLY
BENT No 1, 4 & PIER No 3
Not to Scale



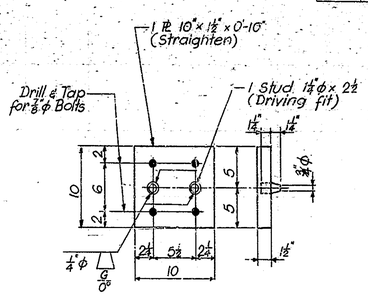
EXP. SHOE PIER No 3 & BENTS No 1 & 4



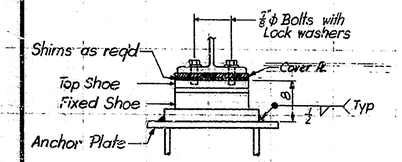
EXP. PLATE PIER No 3



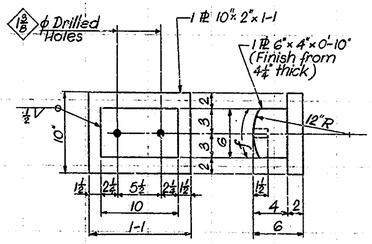
TOP SHOE PIER No 3



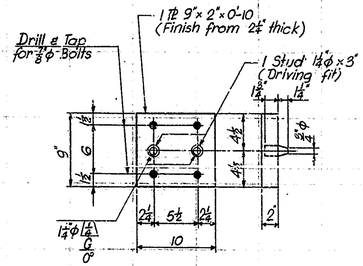
TOP SHOE BENT No 1 & 4



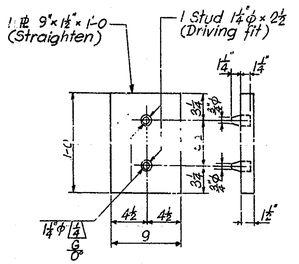
FIXED SHOE ASSEMBLY
PIER No 2
Not to scale



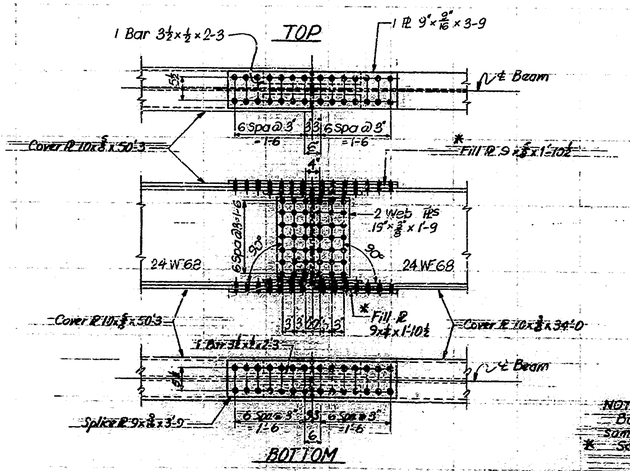
FIXED SHOE PIER No 2



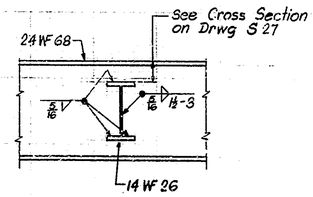
TOP SHOE PIER No 2



EXP. PLATE BENT No 1 & 4



BEAM SPLICE DETAIL (Typ)
Scale: ½" = 1-0



INTERIOR DIAPHRAGM DETAIL
Scale: ¾" = 1-0

NOTE:
Bottom Flange Splice material same as for Top Flange except Fill Mat'l.
* See Drwg S 25 for location of Fill Mat'l.

Note:
A.S.T.M. Designation A-36 Steel shall be used for all bearings with the exception of material marked "A-514 Steel"

NOTES:
For General Notes see Drwg. S 14.

STEEL DETAILS

INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY
SCALE:- ½" = 1-0 UNLESS NOTED
SUBMITTED FOR APPROVAL:- Kevin Potts
Dec. 23, 1966

DRAWING:- S 26 OF 28
PROJECT:- I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE:- I-465-125-2877.DR

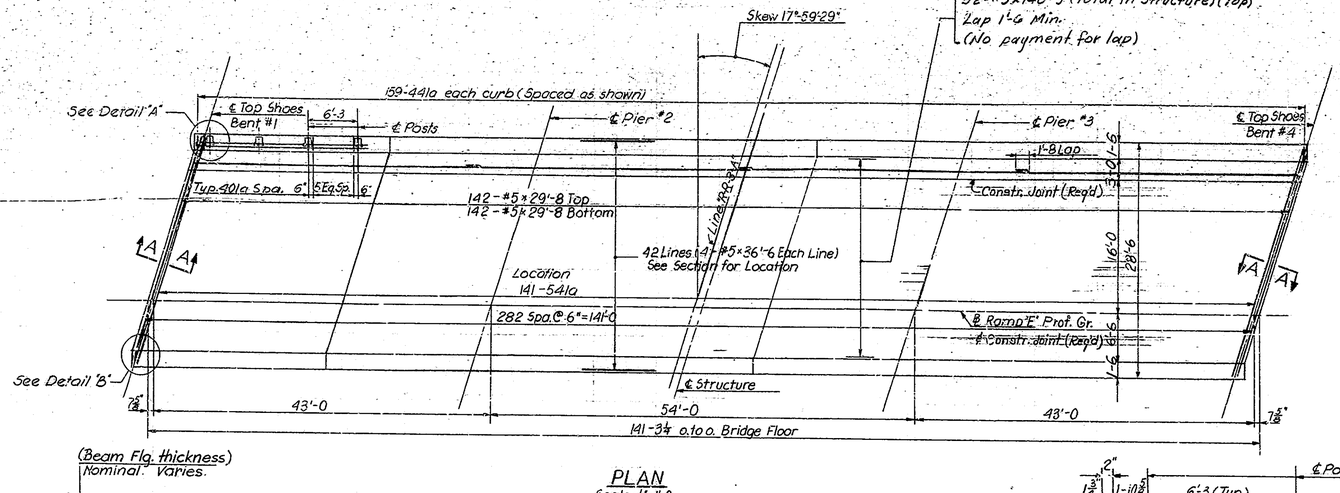
DESIGNED B.J./S.F. C'K'D L.K.
DRAWN L.F. C'K'D S.F.
TRACED C'K'D

Rev. 2-1-68 : Notes, Cover R", Splice.

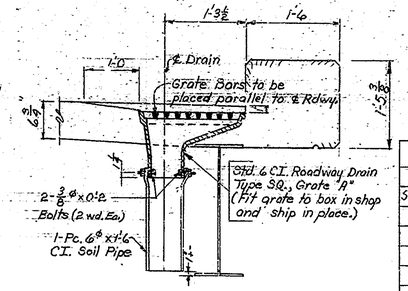
Rev. 2-1-68 : Ucc, E.U.C, R.W.S

BRIDGES OVER 20' SPAN

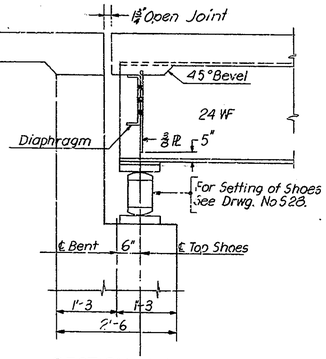
PUB. ROAD REQ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4.	IND.	I-465-4 (150)125	1967	30	41



PLAN
Scale: ⅛"=1'-0



ROADWAY DRAIN DETAILS
See General Plan for Location



BILL OF MATERIALS

REINFORCING STEEL

Size & Mark	No of Bars	Length	Weight (Lbs)
541a	141	30'-9	
#5	284	29'-8	
#5	168	36'-6	
		Total #5	19,705
441a	318	3-6	
		Total #4	743
#3	52	140'-9	
		Total #3	2,752
	Total	Steel	23,200

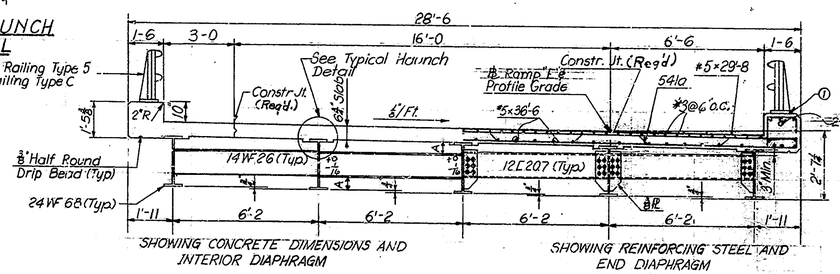
CONCRETE

Class "F"	Cu. Yds.
Pour No 1	9.4
Pour No 2	20.4
Pour No 3	23.5
Pour No 1 Left	4.0
Pour No 2 Left	8.9
Pour No 3 Left	10.1
Pour No 1 Right	6.2
Pour No 2 Right	13.5
Pour No 3 Right	15.1
Total Class "F" Concrete	111.1
Railing Type 5 or C	282.0 Lin. Ft.
2" Steel Conduit	181 L. Ft.
Cast Iron	
1 Std. 6" C.I. Roadway Drains Type SQ Grate "A" @ 192# Ea.	192
1 Pcs. 6ϕ x 1'-6 C.I. Soil Pipe (Extra Heavy)	28
2-⅜ϕ x 0'-2 Bolts (2 Wa. Ea)	1#
Total Cast Iron	221#

(Beam Flg. thickness)
Nominal. Varies.

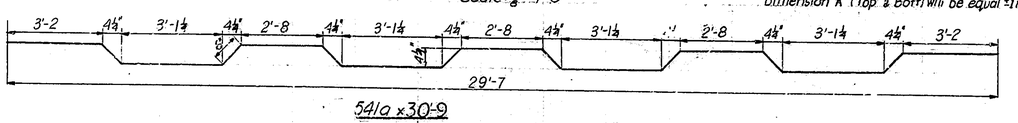
TYPICAL HAUNCH DETAIL

Aluminum Railing Type 5 or Steel Railing Type C



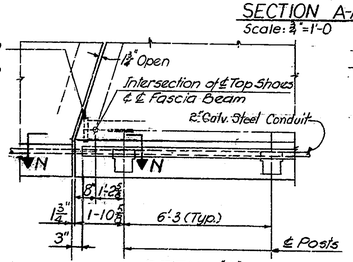
SECTION L TO ℄ RAMP 'E'
Scale: ⅜"=1'-0

Note: Interior Diaphragms to be erected so that Dimension A (Top & Bott) will be equal ± 1 inch.



541a x 30'-9

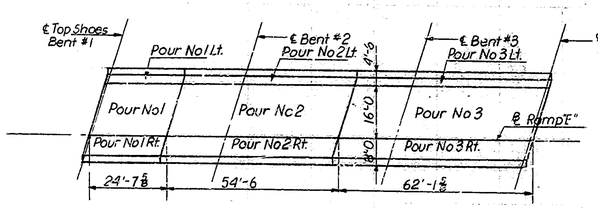
DETAIL 'A'
Scale: ⅜"=1'-0



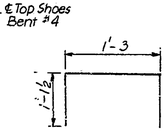
DETAIL 'B'
Scale: ⅜"=1'-0

NOTES:

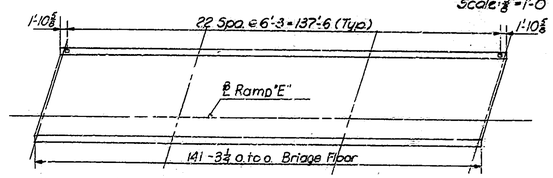
For Reinforcing Bar Notes see Br Std CI.
For screed elevations see Dwg 528.
Sequence of pours to be made in order of pour numbers.
All superstructure construction joints are optional, except as noted, and pours may be made continuous provided the pour terminates at a construction joint indicated on the plans.
The Contractor may change the width of pours, sequence of pours, or location of construction joints subject to the approval of the Engineer.
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 Railing Details see Br Std. BR 1, 2, 3 & 4.
For General Notes see Drwg 521.
For Section N-N & P-P see Drwg 517.
See note on General Plans for 1" increase in slab thickness.
① Aluminum Caulking Compound of approved type of Railing Post.



POURING PLAN



441a x 4'-0



RAILPOST SPACING PLAN

FLOOR DETAILS, BILL OF MATERIALS

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- AS NOTED

Feb. 22, 1967

SUBMITTED FOR APPROVAL:

DRAWING:- 527 OF 28

PROJECT:- I-465-4 (150) 125

BRIDGE CONTRACT NO. B-7803

BRIDGE FILE:- I-465-125-2377 DR

DESIGNED E.G. C'K'D V.B.
DRAWN E.G. C'K'D V.B.
TRACED C'K'D

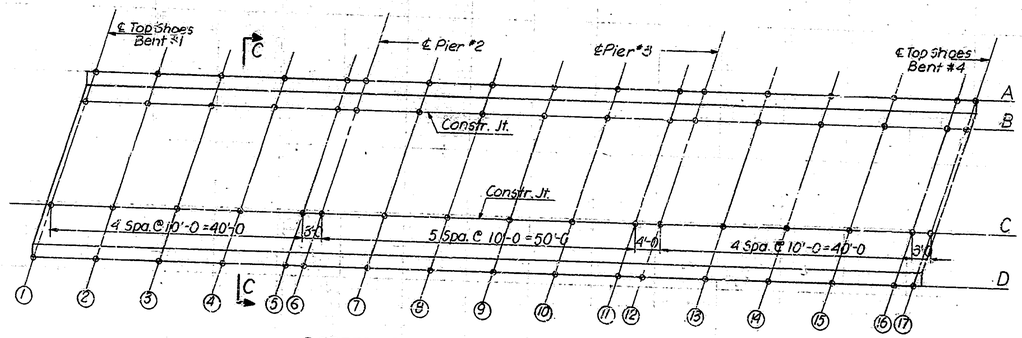
Rev. 6-28-68: Notes, Bill of Matls., Reinf. ℄ Conduit, F.S.Q. Drains
Rev. 2-7-68: Notes, Bill of Matls., Jts.

Rev. 2-7-68 : JLC, E.J.C., R.V.B.
Rev. 6-28-68 : J.F.A., G.E.S., W.F.A.

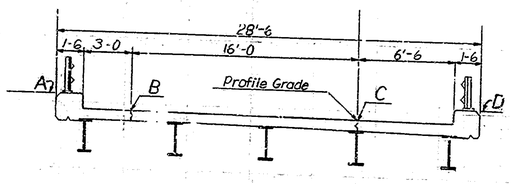
BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4 (150)125	1967	31	41

TABLE OF ELEVATIONS

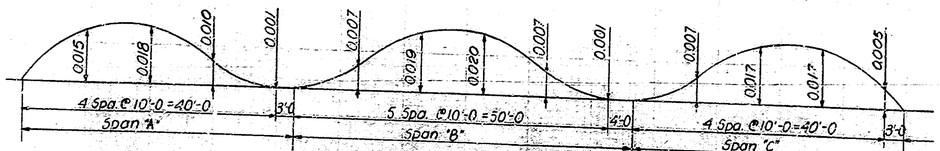
		①	②	③	④	⑤	⑥	⑦	⑨	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰
A	Elev. Top of Coping Form	841.205	841.360	841.390	841.600	841.695	841.720	841.820	841.910	841.930	842.025	842.060	842.075	842.110	842.140	842.145	842.130	842.120
	Elev. Top of Beam																	
	Distance Top of Bm. to Top Coping Form																	
B	Elev. Top of Coping Form	840.320	840.475	840.605	840.715	840.815	840.845	840.945	841.035	841.105	841.150	841.190	841.205	841.245	841.275	841.260	841.265	841.260
	Elev. Top of Beam																	
	Distance Top of Bm. to Top Coping Form																	
C	Elev. Top of Coping Form	840.075	840.235	840.375	840.490	840.595	840.625	840.730	840.830	840.905	840.955	841.005	841.020	841.065	841.100	841.115	841.105	841.095
	Elev. Top of Beam																	
	Distance Top of Bm. to Top Coping Form																	
D	Elev. Top of Coping Form	840.635	840.800	840.940	841.060	841.165	841.195	841.305	841.405	841.485	841.540	841.590	841.605	841.655	841.695	841.710	841.705	841.700
	Elev. Top of Beam																	
	Distance Top of Bm. to Top Coping Form																	



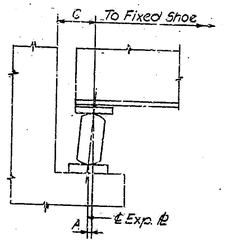
SCREED SETTING DIAGRAM



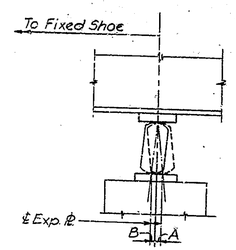
SECTION C-C



CONCRETE DL. DEFLECTION (IN FEET)



BENT NO. 1 & 4



PIER NO. 3

SHOE SETTING

TABLE I

	Dimension "A"					
Temperature	0°	20°	40°	60°	80°	100°	120°
Bent No. 1	11/16"	9/16"	7/16"	1/2"	7/16"	3/8"	5/16"
Bent No. 4	15/16"	13/16"	5/8"	1/2"	3/8"	5/16"	1/4"
	Dim. "A"				Dim. "B"		
Pier No. 3	1/4"	3/16"	1/16"	0	1/16"	3/16"	1/4"

NOTES:

GENERAL PROCEDURE

1. After all bolts have been fastened adjust the superstructure longitudinally so that dimensions "C" from the line of the center line of the top shoe to the face of the mudwall at Bents No. 1 and No. 4 are equal.
2. With the superstructure at the adjusted position called for in (1), weld the fixed shoes to the Anchor Plates at Pier No. 2.
3. Adjust the expansion plates under each expansion shoe in accordance with dimension "A" or "B" in table I for the prevailing temperature. Note that dimension "A" is always the distance from a vertical line thru the ℄ of top shoe in a direction away from the fixed shoe. Weld Expansion plates to Anchor Bs MK AP2 at Bents No. 1, No. 3 and No. 4.
4. After the shoes are set, take elevations at all screed points on top of adjacent beam. Enter these elevations in "Table of Elevations," subtract these elevations from the tabulated elevations and use the resulting dimension as the height for setting the screed form above that point. This dimension remains constant regardless of how much or in what order the concrete is poured. Do not set screeds by leveling.
5. No concrete in the floor is to be poured until the above operations are complete.

6. See note on General Plan for 1" increase in slab thickness.

SCREED ELEVATIONS, SHOE SETTING DATA, CONCRETE DEFLECTION

INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY

SCALE:- NO SCALE

Feb. 23, 1967

SUBMITTED FOR APPROVAL:- Kenneth Otte

DRAWING:- S28 OF 28
PROJECT:- I-465-4-(150) 125
BRIDGE CONTRACT NO. B-7503
BRIDGE FILE:- I 465 125 2377 DR

DESIGNED	E.G.	CK'D	V.B.
DRAWN	E.G.	CK'D	V.B.
TRACED		CK'D	

Rev. 2-28-68 Notes
Rev. 2-7-68 Notes

Rev. 2-7-68: Jct. Ent. Ramps
Rev. 6-28-68: VFA, GES, W.F.G.

BRIDGE FILE

STRUCTURE QUANTITIES

ITEM	CONCRETE CLASS F CU YDS	CONCRETE CLASS D CU YDS	CONCRETE CLASS E ABOVE FTG CU YDS	CONCRETE CLASS E IN FTG CU YDS	RAILING CONCRETE CLASS F CU YDS	RAILING CONCRETE CLASS F LIN FT	REINFORCING STEEL #11 LBS	#10 LBS	#9 LBS	#8 LBS	#7 LBS	#6 LBS	#5 LBS	#4 LBS	#3 LBS	FOR SPIRALS ** LBS
STR I-465-125-2377																
SUBSTRUCTURE																
Bent No.1	25.9															
Bent No.2	14.1	10.0	35.2	29.1				2,387		5,150	1,485	1,404	615			1,179
Bent No.3	14.0	9.8	35.2	29.2						6,137		1,485	1,414	615		1,191
Bent No.4	14.0	11.0	18.2	29.2						5,998		1,485	754	800		1,042
Bent No.5	25.9															
SUPERSTRUCTURE	306.1										1,739	443	191	1,102		
												185	6,131	1,669		
TOTALS	399.9	30.8	88.6	87.5				2,387		16,685	3,224	5,081	11,085	6,069		3,412
STR I-465-125-2377J																
SUBSTRUCTURE																
Bent No.1	32.4										1,894		191	1,790		
Bent No.2	19.8	11.6	58.8	37.2					1,452	7,282		1,740	3,552	724		1,491
Bent No.3	20.9	11.7	48.8	37.4					1,498	7,213		2,011	2,978	605		1,375
Bent No.4	21.4	12.9	49.2	39.6					1,600	7,319		1,941	3,426	755		1,448
Bent No.5	36.1										2,484	664	191	1,951		
SUPERSTRUCTURE	378.1											183	10,420	1,435		
TOTALS	528.7	36.2	156.8	114.2					4,550	21,814	4,378	6,439	21,758	7,150		4,314
STR I-465-125-2377DR																
SUBSTRUCTURE																
Bent No.1	21.5			2.4							1,320		625	980	88	
No.2	12.6		18.8	13.7			687	275		826		1,995	419	73		
No.3	12.6		18.5	13.7			687	275		826		1,991	419	73		
Bent No.4	21.5			2.4							1,320		657	932	88	
SUPERSTRUCTURE	111.1												22,295	744		
TOTALS	179.3		37.3	27.4	4.8		1,374	550		1,652	2,640	3,989	24,442	2,752	176	
Reinf. Steel for Approach Structures																
Reinf. Steel for R. C. Bridge Approaches																
Reinf. Steel for Lip Curb, Vent, Tapers etc.																
GRAND TOTALS	1107.9	67.0	282.7	229.1	4.8		1,374	2,937	4,550	40,151	10,242	16,509	58,285	16,972	176	7,926

ITEM	STRUCTURAL STEL XXX LBS	BRONZE BEARING PLATES LBS	ANCHOR PLATES (MK-AR) EACH	ANCHOR RODS (MK-AR) EACH	CAST IRON LBS	RAILING TYPE 50R TYPE 'C' LIN. FT.	ANCHOR RODS MK-AR3 EACH	PILES TREATED TIMBER LIN FT	PILES STEEL ENCASED CONCRETE SQ FT	PILES STEEL H BEARING LIN FT	2" STEEL CONDUIT	ANCHOR BOLTS AR 21
STR I-465-125-2377												
SUBSTRUCTURE												
Bent No.1												
Bent No.2			9						8 488			
Bent No.3			9					30 720				
Bent No.4			9					24 688				
Bent No.5			9					24 768				
SUPERSTRUCTURE			9	50					8 591			
TOTALS	280,900		45	50	441	428		78 2376	16 1079		231	8
STR I-465-125-2377J												
SUBSTRUCTURE												
Bent No.1			11									
Bent No.2			11						10 610			
Bent No.3			11									
Bent No.4			11					32 1056				
Bent No.5			11									
SUPERSTRUCTURE			11				76		11 715			
TOTALS	328,400		55		441	402	76	32 1056	21 1325		222	8
STR I-465-125-2377DR												
SUBSTRUCTURE												
Bent No.1			5						6 396			
No.2			5					16 480				
No.3			5					16 480				
Bent No.4			5						6 402			
SUPERSTRUCTURE			5									
TOTALS	84,800		20		221	282		30 960	12 798		181	
Reinf. Steel for Approach Structures												
Reinf. Steel for R. C. Bridge Approaches												
Reinf. Steel for Lip Curb, Vent, Tapers etc.												
GRAND TOTALS	694,100		120	50	1103	1112	76	140 4332	99 3142		634	16

APPROACH STRUCTURES

STRUCT. No.	LOCATION	DESCRIPTION SIZE	DESCRIPTION KIND	LENGTH LIN. FT.	C. U. CONC IN STRUCT. CU YDS	REINF. STEEL LBS	CAST IRON LBS	REMARKS
121A	Lt. Sta. 335+11 Ln. A	12"	Pipe, FBCCS w PI (Ga. 16)	50				One Culv. Pipe End Sect Req'd
		12"	2 - 22°30' Bends	4				
			1 Std. Inlet Type D-6					
122A	Rt. Sta. 995+30 Ln. A	12"	Pipe, FBCCS w PI (Ga. 16)	60				One Culv. Pipe End Sect Req'd
		12"	2 - 22°30' Bends	4				
			1 Std. Inlet Type D-6					
118	Sta. 14+62 & Ramp E	6"	FBCPCS Pipe (Ga. 18)	44'				
121	Lt. Sta. 336+05 Line A	6"	FBCPCS Pipe (Ga. 18)	70'				
122	Rt. Sta. 996+16 Line A	6"	FBCPCS Pipe (Ga. 18)	84'				
123	Sta. 12+99 & Ramp E	6"	FBCPCS Pipe (Ga. 18)	44'				
127	Lt. Sta. 998+27 Line A	6"	FBCPCS Pipe (Ga. 18)	70'				
128	Rt. Sta. 998+52 Line A	6"	FBCPCS Pipe (Ga. 18)	98'				
				TOTALS				Total of Reinforcing Steel carried to "Structure Quantities"

BARRICADES, BARRIERS, TRAFFIC SIGNS AND LIGHTS

ITEM	UNIT	QUANTITY	ASSEMBLY	BRIDGE FILE	TOTALS
TYPICAL SIGN STANDARDS	Each		Signs XW-1		
			Signs XW-2		
			Signs XW-3		
			Signs XW-4		
			Signs W-4B, W-35A		
			Torches		
STANDARD BARRICADES (TYPE A)	Each		Barricades (Type A)		
			Signs XR-1		
			Signs M-10A		
			Lanterns		
STANDARD BARRICADES (TYPE B)	Each		Barricades (Type B)		
			Signs XR-1		
			Lanterns		
STANDARD SIGNS	Each		Signs W-1		
			Signs W-35A		
			Torches		
SUITABLE BRIDGE BARRIERS	Each		* Suit[illegible] riers		
			* Lante[illegible] orches		
CONSTRUCTION IDENTIFICATION SIGNS	Each		* Signs XM-6		
			* Signs XM-7		
			* Signs XM-8		

BILL OF SPLICE BARS

REINFORCING STEEL — BRIDGE FILE

SIZE	LENGTH	WEIGHT EACH	Nº PIECES	WEIGHT LBS	Nº PIECES	WEIGHT LBS	Nº PIECES	WEIGHT LBS	TOTAL WEIGHT LBS
# 11	10'-3"	68.4							
# 10	10'-6"	45.2							
# 9	8'-6"	37.3							
# 8	8'-9"	25.4							
* # 7	6'-0"	16.4							
* # 6	7'-6"	11.9							
* # 5	8'-9"	7.0							
* # 4	6'-0"	4.0							
* # 3	5'-6"	2.1							
TOTAL SPLICE BARS									

SUBMITTED V.B. ...
TRACED E.E. ... CHK. V.B.

NOTE: For Test Bar Samples see Bridge Std. C1

BILL OF MATERIALS FOR R.C. BRIDGE APPROACHES

REINFORCING STEEL — BRIDGE FILE

SIZE & MARK	NUMBER PIECES	LENGTH LIN. FT	WEIGHT LBS	WEIGHT LBS	WEIGHT LBS	TOTAL WEIGHT LBS

* Not a Pay Item. Place as directed by the Engineer. "W-35A" sale speed to be determined by the Engineer. When sign standards are used in unpaved areas the contractor may use two posts set (3) three feet in the ground. Directional, advisory or warning signs shall be right hand or left hand as the location of the sign requires.

** Weight of spirals includes weight of 1½ extra turns top and bottom. Spacers and 1½ turns at laps included in cost of spiral.

*** The weight of structural steel is approximate only, and it shall be the contractors responsibility to determine the weight on which he bases his bid.

Drawing Not Legible

Rev. 6-28-68: Items 1, 6, 44, 51, 53, 54, 55, 56 Added
Rev. 2-7-68 Item 1, 51, 52, 53, Deleted 38, 50; Added 55

BRIDGES OVER 20' SPAN

FED. ROAD SYS. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-465-4(150)125	1967	32	41

SUMMARY

ITEM	DESCRIPTION	UNIT	QUANTITIES BRIDGE FILE I-465-125-2377	I-465-125-2377J	I-465-125-2377DR	TOTALS
1	Class F Concrete	Cu.Yds.	399.9	528.7	179.3	1107.9
2	Class D Concrete	Cu.Yds.	30.8	36.2	6.7	67.7
3	Class E Concrete above Footings	Cu.Yds.	88.6	156.8	37.3	282.7
4	Class E Concrete in Footings	Cu.Yds.	87.5	114.2	27.4	229.1
5	Railing Concrete	Cu.Yds.			4.8	4.8
6	Reinforcing Steel	Lbs.	109,492	140,678	37,852	308,022
7	Structural Steel (2377)	Lump Sum	1			1
8	Anchor Plates (MK-AR)	Each	45	55	20	120
9	Cast Iron	Lbs.	441	441	221	1103
10	Railing (Type 5 or Type C)	Lin. Ft.	428	502	282	1112
11	Untreated Timber Piles Furnished	Lin.Ft.				
12	Untreated Timber Piles Driven	Lin.Ft.				
13	Steel Pile Shells Furnished & Driven (14")	Lin.Ft.	1,019	1,325	798	3142
14		Lin.Ft.				
15	Furnishing Equipment for Driving Piles (2377)	Lump Sum	1			1
16	Wet Excavation	Cu. Yds.				
17	Waterway Excavation	Cu. Yds.				
18	Common Excavation	Cu. Yds.				
19	Special Borrow	Cu. Yds.	60,539	60,539	50,684	171,762
20	Grade B Special Borrow	Cu. Yds.	1,138	1,296	583	3,017
21	Sodding	Sq. Yds.	851	852	1490	3193
22	Mulched Seeding	Sq. Yds.				
23	Plain Cement Concrete Pavement (")	Sq. Yds.				
24	Reinforced Cement Concrete Pavement (")	Sq. Yds.				
25	Aggregate for Compacted Aggregate Base	Tons				
26	Compacted Aggregate Shoulder	Tons				
27	Subbase	Cu. Yds.				
28	Removal Present Structure	Lump Sum				
29	Temporary Bridge and Approaches	Lump Sum				
30	Typical Sign Standards	Each				
31	Standard Barricades (Type A)	Each				
32	Standard Barricades (Type B)	Each				
33	Standard Signs	Each				
34	R/W Markers	Each				
35	Slopewall	Sq.Yds.	745	899	585	2,229
36	"Expansion Joint	Lin.Ft.				
37	Straight Beam Guard Rail	Lin.Ft.				
38	Class D Concrete in Structures	Cu. Yds.				
39	Structural Steel (2377 J)	Lump Sum			1	1
40	Structural Steel (2377 DR)	Lump Sum				1
41	Furnishing Equipment for Driving Piles (2377 J)	Lump Sum			1	1
42	Furnishing Equipment for Driving Piles (2377 DR)	Lump Sum				1
43						
44	Anchor Rods MK-AR3	Each	50			50
45	Anchor Bolts AR 21	Each	8	8		16
46	2" Steel Conduit	Lin.Ft.	231	222	181	634
47	Foundation Excavation (Unclassified)	Cu.Yds.	106	333	30	469
48	Treated Timber Piles Furnished	Lin.Ft.	2,376	1,056	960	4,392
49	Treated Timber Piles Driven	Lin.Ft.	2,376	1,056	960	4,392
50	Anchor Assembly AS1	Each				
51	12" Pipe, FBCCS w PI (Ga. 16)	Lin.Ft.	64	64		128
52	6" Perf. FBCPCS Pipe (Ga. 18)	Lin.Ft.	140	178	88	406
53	Type "A" paved Side Ditch	Lin.Ft.	42	140	45	147
54	Std. Inlet Type D-6	Each	1	1		2
55	12" Culv. Pipe End Section	Each	1	1		2
56	Anchor Rods MK-AR3	Each		76		76
57						
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SUMMARY

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SUBMITTED FOR APPROVAL: Kevin Clarke Feb. 23, 1967

PROJECT I-465-4(150)125
BRIDGE CONTRACT NO. B-7803
BRIDGE FILE I-465-125-2377, 2377J & 2377DR