BRIDGE CONTRACT No. 3289

INDEX

PROJECT NO.	STRUCTURE NO.	TYPE	SPAN	OVER	STATION	CONTRACT NO.
F-645(3)	39-A-3108	CONT. ST. & GIRDER ST. BEAM & R.C. GIRDER	40', 2@65'; 100'; 4@130', 100'; 2@65', 40'	WEST FORK WHITE RIVER	11+25.00	3289

SHEET NO.	SHEET DESIGNATION	SUBJECT	
1		INDEX & TITLE SHEET	
2	ROAD STD. D-11-GR	STANDARD PAVEMENT SECTIONS	(Rev. 5-13-49)
3-4	ROAD PLAN SHEETS NO.3&4	ROAD PLAN & PROFILE - RD. PROJ. NO. F-645(4)	
5	ONE SHEET	WATERWAY CLEARING	
6	ONE SHEET	TEST BORINGS	
7	S1 (STR. 39-A-3108)	LAYOUT	
8	S2	GENERAL PLAN	
9	S3	BENT Nº1 & BENT Nº13 DETAILS & BILL OF MATERIALS	
10	S4	PIER Nº2 & PIER Nº 12 DETAILS	
11	S5	PIER Nº3 & PIER Nº 11 DETAILS	
12	S6	PIER Nº4 & PIER Nº10 DETAILS	
13	S7	PIER Nº5 & PIER Nº9 DETAILS	
14	S8	PIER Nº6 & PIER Nº 8 DETAILS	
15	S9	PIER Nº7 DETAILS	
16	S10	BILL OF MATERIALS PIERS Nº 2,4,5,9,10 & 12	
17	S11	BILL OF MATERIALS PIERS Nº 6,7 & 8	
18	S12	SUPERSTRUCTURE DETAILS SPANS A & M	
19	S13	SUPERSTRUCTURE DETAILS SPANS A & M	
20	S14	CONCRETE HANDRAIL DETAILS; SPANS A & M BILL OF MATERIALS	
21	S15	DESIGN DATA	
22	S16	ERECTION PLAN SPANS B,C,D,E & F	
23	S17	ERECTION PLAN SPANS G,H,J,K & L	
24	S18	STEEL DETAILS SPANS B,C,K & L	
25	S19	GIRDER DETAILS G1 & G22	
26	S20	GIRDER DETAILS G1 & G22	
27	S21	GIRDER DETAILS G2 & G21	
28	S22	GIRDER DETAILS G2 & G21	
29	S23	GIRDER DETAILS G3 & G20	
30	S24	GIRDER DETAILS G3 & G20	
31	S25	GIRDER DETAILS G4 & G19	
32	S26	GIRDER DETAILS G4 & G19	
33	S27	GIRDER DETAILS G5,G6,G9,G10,G13,G14,G17 & G18	
34	S28	GIRDER DETAILS G5,G6,G9,G10,G13,G14,G17 & G18	
35	S29	GIRDER DETAILS G7,G8,G11,G12,G15 & G16	
36	S30	GIRDER DETAILS G7,G8,G11,G12,G15 & G16	
37	S31	SPLICE DETAILS, BILLS OF MATERIALS & REQUIRED LISTS	
38	S32	FLOOR BEAM DETAILS	
39	S33	FLOOR BEAM & STRINGER DETAILS	
40	S34	FLOOR BEAM, BRACKET & DRAIN SUPPORT DETAILS	
41	S35	BOTTOM LATERAL & SWAY FRAME DETAILS	
42	S36	SHOE DETAILS	
43	S37	HANDRAIL DETAILS & BILL OF MATERIALS	
44	S38	EXPANSION JOINT DETAILS	
45	S39	STRUCT. STEEL BILL OF MAT'LS, BY SHIPPING PIECES - SPANS D,E,F,G,H & J	
46	S40	FLOOR DETAILS SPANS B,C,K & L	
47	S41	FLOOR DETAILS SPANS D,E,F,G,H & J	
48	S42	FLOOR DETAILS & BILL OF MATERIALS	
49	S43	FLOOR DETAILS	
50	S44	SCREEDS	
51	S45	SCREEDS	
52	S46	SCREEDS	
53	S47	SHOE SETTING AND ERECTION DATA	
54	ONE SHEET	SUMMARY	
55	BRIDGE STD. C	STANDARD MISCELLANEOUS DETAILS	(Rev. 5-14-49)
56	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAIN	(Jan. 3, 1950)
57	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS	(Rev. 4-17-50)
58	ROAD STD. SHEET MB	MISCELLANEOUS STANDARDS	(Rev. 5-23-50)
59	ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS	(Rev. 1-2-50)
60	BRIDGE STD. G	STANDARD THICKENED PAVEMENT DETAILS	(Rev. 7-15-47)
61	BRIDGE STD. H5	TYP. DETAILS OF THICK. PAVEMENT & LOC. TOE SLOPE	(Rev. 10-1-44)
62	BRIDGE STD. M1	MISCELLANEOUS APPROACH DETAILS	(Rev. 8-31-48)
63	BRIDGE STD. M2	MISCELLANEOUS APPROACH DETAILS	(Aug. 1, 1949)
64	BRIDGE STD. S1	TYPICAL DETAILS FOR PLACING SPECIAL FILLING MATERIAL	(June 15, 1939)
65	BRIDGE STD. Z SHEET A	STANDARD DETOUR SIGNS	(Rev. 12-10-40)
66	BRIDGE STD. Z SHEET B	STANDARD DETOUR SIGNS	(Rev. 3-26-43)

STATE OF INDIANA

STATE HIGHWAY COMMISSION

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON STATE ROAD NO. 39 SECTION A

F.A. PROJECT NO. F-645(3)

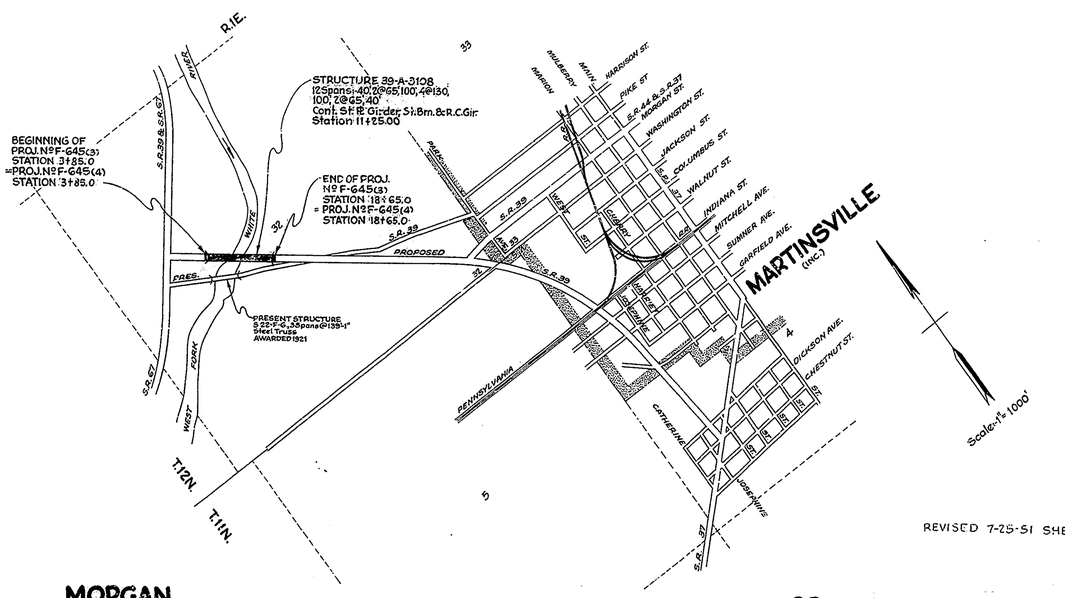
S.R.39 WEST OF MARTINSVILLE

BEGINNING AT A POINT ON PROPOSED S.R.39 APPROX. 385.0' SOUTHEAST OF THE CENTERLINE OF S.R.67 AND EXTENDING SOUTHEAST A DISTANCE OF APPROX. 1480.0' TO A POINT ON PROPOSED S.R.39 APPROX. 1865.0' SOUTHEAST OF THE CENTERLINE OF S.R.67, ALL IN SECTION 32-T.12N.-R.1E., IN MORGAN COUNTY.

ROADWAY LENGTH = 0.077 MI.
BRIDGE LENGTH = 0.203 MI.
TOTAL LENGTH = 0.280 MI.

MAX. GRADE = 1.600%

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	1	66



REVISED 7-25-51 SHEET Nº44

APPROVED AND ADOPTED BY STATE HIGHWAY COMMISSION OF INDIANA — DATE 9/7/50

Samuel C. Hadden
CHAIRMAN, STATE HIGHWAY COMMISSION OF INDIANA

APPROVED — DATE Sept 7, 1950

Frank H. Bowers
CHIEF ENGINEER & STATE HIGHWAY COMMISSION OF INDIANA

RECOMMENDED FOR APPROVAL — DATE

DISTRICT ENGINEER
BUREAU OF PUBLIC ROADS
DEPARTMENT OF COMMERCE

APPROVED — DATE

DIVISION ENGINEER
BUREAU OF PUBLIC ROADS
DEPARTMENT OF COMMERCE

BRIDGE FILE - 39-A-3108

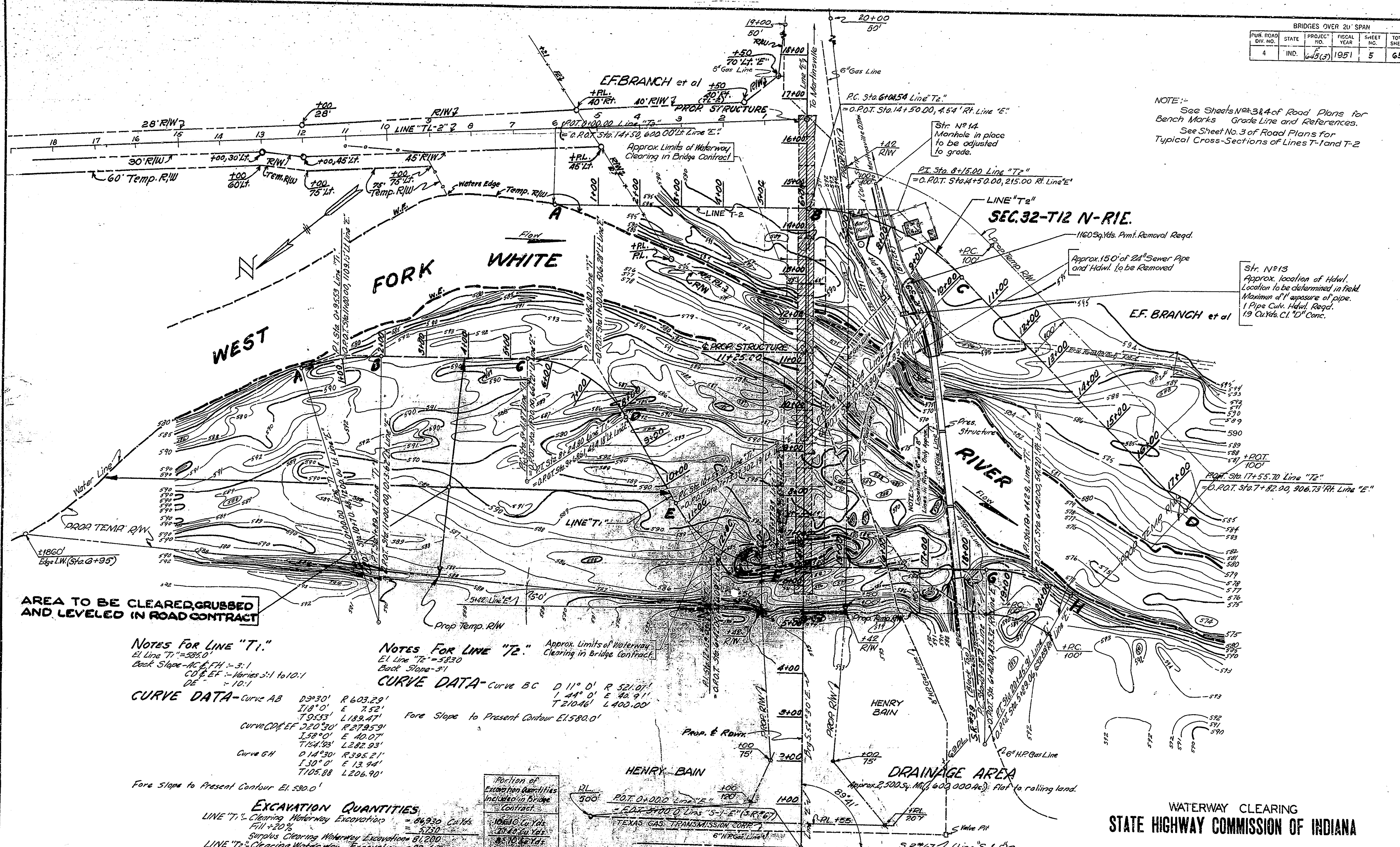
STATE HIGHWAY COMMISSION OF INDIANA
1946 STANDARD ROAD AND BRIDGE SPECIFICATIONS
TO BE USED WITH THESE PLANS

RECOMMENDED FOR APPROVAL — DATE 8-24-50

J. V. Smythe
ENGINEER OF BRIDGE DESIGN, STATE HIGHWAY COMMISSION OF INDIANA

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F645(3)	1951	5	65

NOTE:-
See Sheets No. 3&4 of Road Plans for Bench Marks Grade Line and References.
See Sheet No. 3 of Road Plans for Typical Cross-Sections of Lines T-1 and T-2



NOTES FOR LINE "T1."
El. Line "T1" = 585.0'
Back Slope - AC & FH :- 3:1
CD & EF :- Varies 3:1 to 10:1
DE :- 10:1

CURVE DATA - Curve AB D 9°30' R 603.29'
I 18°0' E 7.52'
T 95.53' L 189.47'
Curve CD & EF D 20°30' R 279.59'
I 58°0' E 40.07'
T 154.93' L 282.93'
Curve GH D 14°30' R 395.21'
I 30°0' E 13.94'
T 105.88 L 206.90'

Fore Slope to Present Contour El. 590.0'

NOTES FOR LINE "T2."
El. Line "T2" = 583.0
Back Slope - 3:1

CURVE DATA - Curve BC D 11°0' R 521.01'
I 44°0' E 40.91'
T 210.46' L 400.00'

Fore Slope to Present Contour El. 580.0'

EXCAVATION QUANTITIES

		Portion of Excavation Quantities Included in Bridge Contract
LINE "T1":- Clearing Waterway Excavation	= 86,930 Cu. Yds.	10610 Cu. Yds.
Fill + 20%	= 5,730 " "	2140 Cu. Yds.
Surplus Clearing Waterway Excavation	= 81,200 " "	8470 Cu. Yds.
LINE "T2":- Clearing Waterway Excavation	= 92,450 " "	22,800 Cu. Yds.
TOTAL SURPLUS CLEARING WATERWAY EXC. LINES "T1" & "T2"	= 173,650 " "	31280 Cu. Yds.

NOTE:- FIELD NOTES - Book Br. 1345 Pages 45-58

NOTE: R/W REVISED AS PER ROAD DEPT. AUG. 7, 1950

DESIGNED ____ CK'D ____
DRAWN R.G. 11-4-49 CK'D R.E.B. 11-9-49
TRACED R.E.B. 11-10-49 CK'D E.C.G. 11-10-49

WATERWAY CLEARING

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 1" = 100'-0" AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J.V. Smythe, ENGINEER OF BRIDGE DESIGN

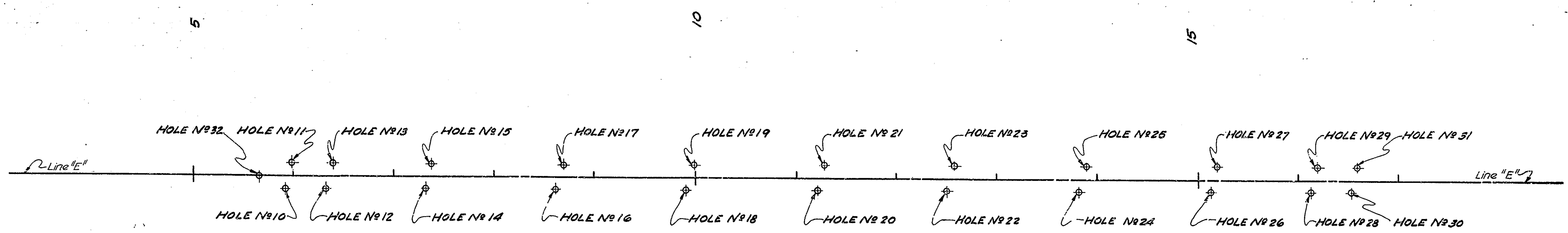
PROJECT:- F-645 (3) STATION:- 11+25.00

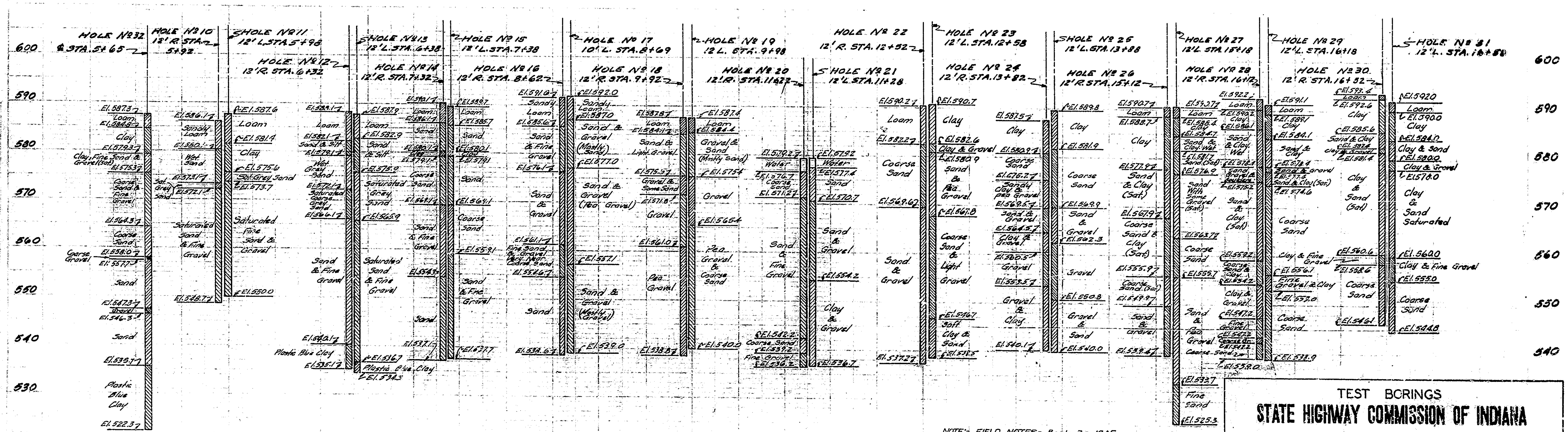
BRIDGE CONTRACT NO. 3289

BRIDGE FILE

BRIDGES OVER 20' SPAN

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	6	65





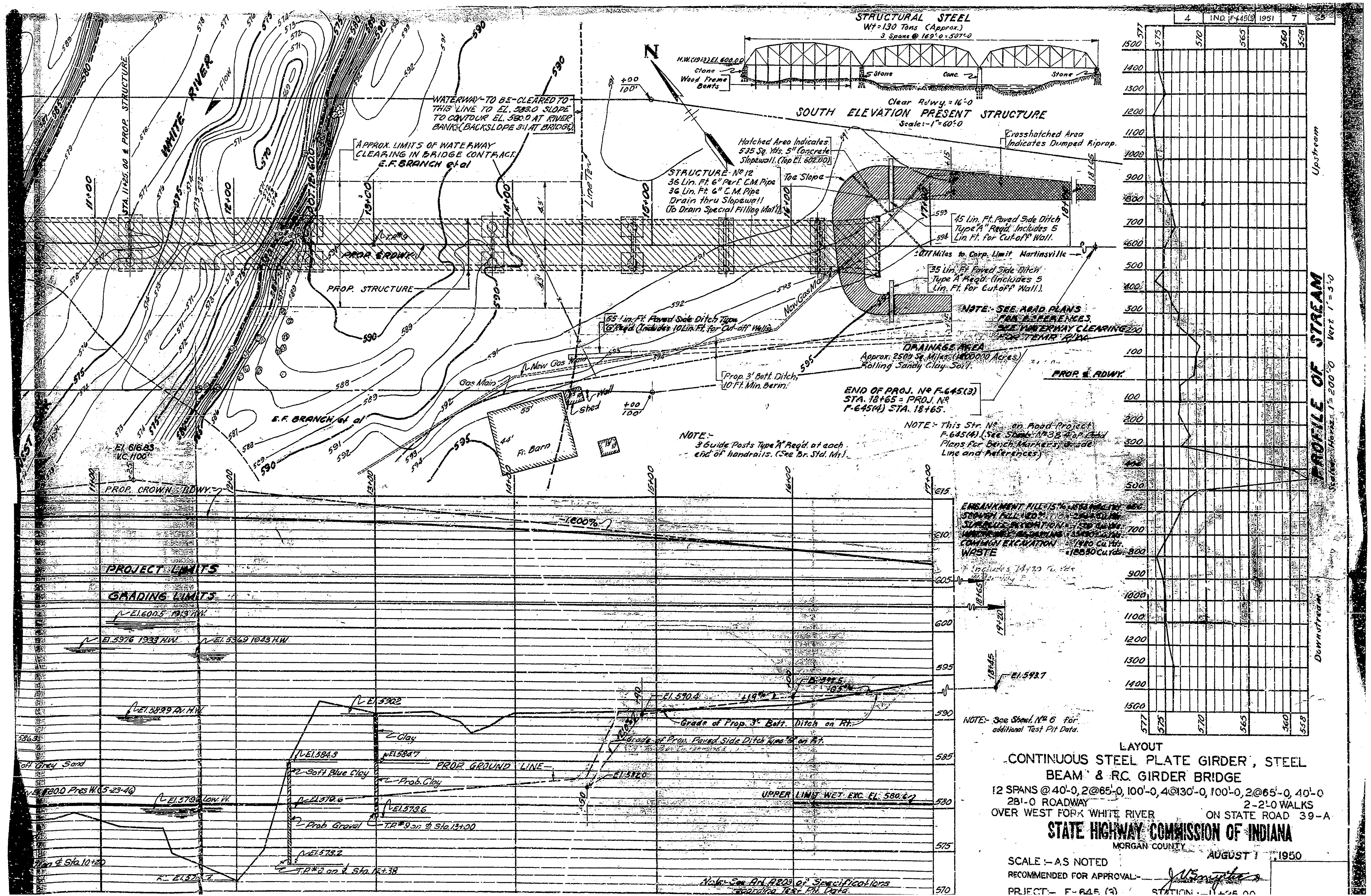
NOTE:- FIELD NOTES- Book Br. 1345 Pages 59-68

TEST BORINGS

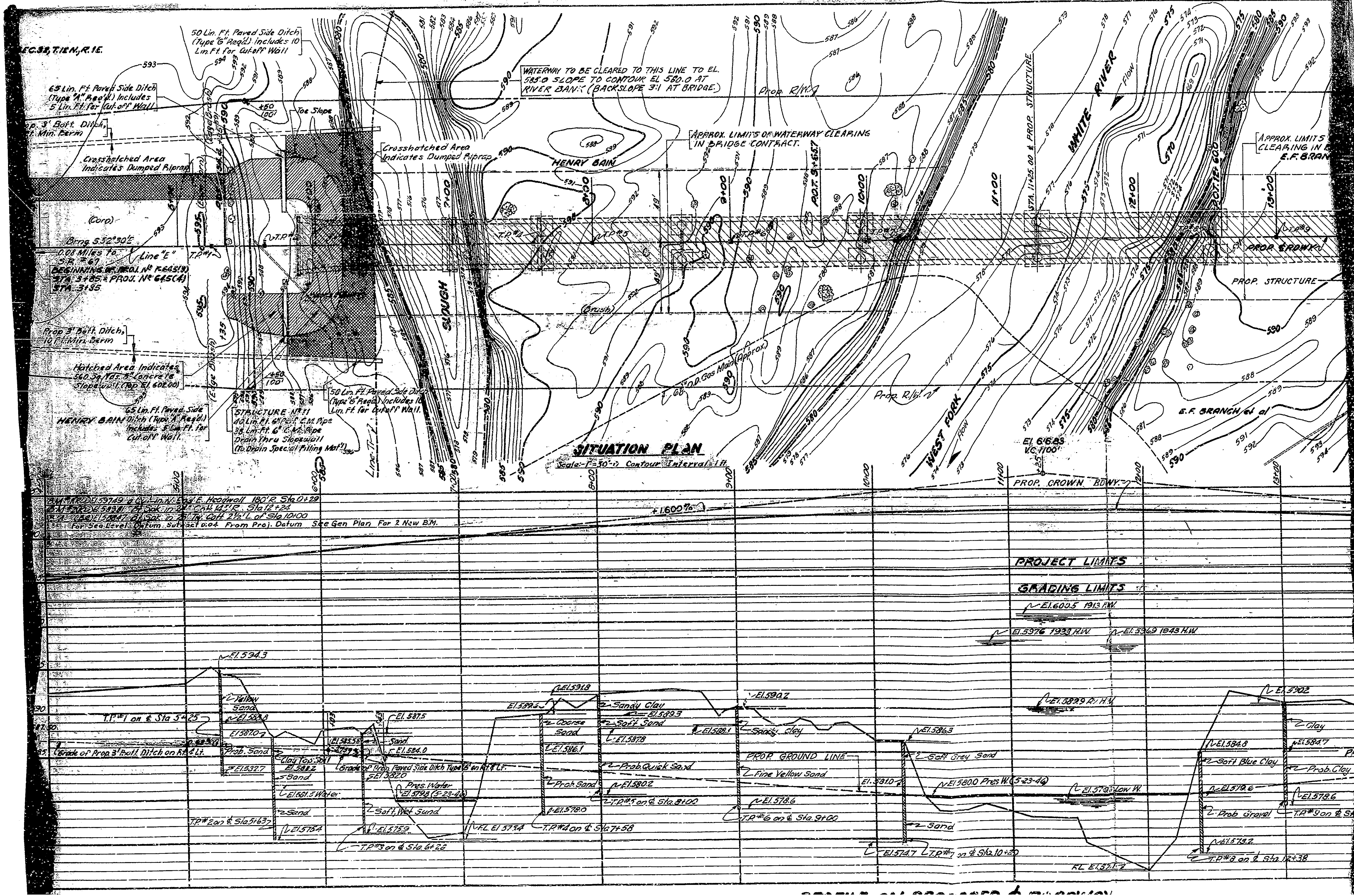
STATE HIGHWAY COMMISSION OF INDIANA

RECOMMENDED FOR APPROVAL:- AUGUST 1, 1950

PROJECT:- F-645 (3)
STATION:- 11+25.00
BRIDGE CONTRACT NO. 3289
BRIDGE FILE:- 39-A-3108


4 IND. F-645(3) 1951 7 53
STRUCTURAL STEEL
Wt = 130 Tons (Approx.)
3 Spans @ 169'-0 = 507'-0
SOUTH ELEVATION PRESENT STRUCTURE
Scale:- 1" = 60'-0
Clear Rdwy. = 16'-0
WHITE RIVER
Flow
WATERWAY TO BE CLEARED TO THIS LINE TO EL. 585.0 SLOPE TO CONTOUR EL. 580.0 AT RIVER BANKS (BACKSLOPE 3:1 AT BRIDGE)
APPROX. LIMITS OF WATERWAY CLEARING IN BRIDGE CONTRACT.
E.F. BRANCH et al
PROP. CROWN
PROP. STRUCTURE
STRUCTURE - Nº 12
36 Lin. Ft. 6" Perf. C.M. Pipe
36 Lin. Ft. 6" C.M. Pipe
Drain thru Slopewall
(To Drain Special Filling Mat'l)
Hatched Area Indicates 535 Sq. Yds. 5" Concrete Slopewall. (Top El. 602.00)
Toe Slope
Crosshatched Area Indicates Dumped Riprap.
45 Lin. Ft. Paved Side Ditch Type "A" Req'd. Includes 5 Lin. Ft. for Cut-off Wall.
35 Lin. Ft. Paved Side Ditch Type "A" Req'd. (Includes 5 Lin. Ft. for Cut-off Wall.)
65 Lin. Ft. Paved Side Ditch Type "B" Req'd. (Includes 10 Lin. Ft. for Cut-off Walls)
0.77 Miles to Corp. Limit Martinsville
NOTE:- SEE ROAD PLANS FOR REFERENCES. SEE WATERWAY CLEARING FOR TEMP. R/W.
DRAINAGE AREA
Approx. 2509 Sq. Miles (1605000 Acres)
Rolling Sandy Clay Soil.
Prop. 3' Bott. Ditch, 10 Ft. Min. Berm.
END OF PROJ. Nº F-645(3) STA. 18+65 = PROJ. Nº F-645(4) STA. 18+65.
NOTE:- This Str. Nº on Road Project F-645(4). (See Sheet Nº 38 R.of Add Plans for Bench Markers, Grade Line and References.)
NOTE:- 3 Guide Posts Type "A" Req'd. at each end of handrails. (See Br. Std. M1)
PROP. ℄ RDWY.
New Gas Main
Gas Main
Wall
Shed
Fr. Barn
EL. 616.83 V.C. 1100'
PROP. CROWN RDWY.
-1.600%
PROJECT LIMITS
GRADING LIMITS
EL. 600.5 1913 H.W.
EL. 597.6 1933 H.W.
EL. 596.9 1943 H.W.
EL. 589.9 Av. H.W.
EL. 590.2
EL. 590.4
EL. 584.8
EL. 584.7
EL. 582.0
EL. 579.6
EL. 573.6
EL. 575.2
EL. 593.7
Clay
Soft Blue Clay
Prob. Clay
Prob. Gravel
Soft Grey Sand
PROP. GROUND LINE
Grade of Prop. 3' Bott. Ditch on Rt.
Grade of Prop. Paved Side Ditch Type "B" on Rt.
UPPER LIMIT WET EXC. EL. 580.6
EL. 580.0 Pres. W. (5-23-49)
EL. 579.3 Low W.
T.P. #9 on ℄ Sta. 13+00
T.P. #2 on ℄ Sta. 12+38
Note:- See Art. A203 of Specifications Regarding Test Pit Data.
NOTE:- See Sheet Nº 6 for additional Test Pit Data.
EMBANKMENT FILL
COMMON EXCAVATION 1480 Cu. Yds.
WASTE 18850 Cu. Yds.
PROFILE OF STREAM
Scales: Horiz. 1" = 200'-0 Vert. 1" = 5'-0
Upstream
Downstream

LAYOUT
CONTINUOUS STEEL PLATE GIRDER, STEEL BEAM & R.C. GIRDER BRIDGE
12 SPANS @ 40'-0, 2@65'-0, 100'-0, 4@130'-0, 100'-0, 2@65'-0, 40'-0
28'-0 ROADWAY 2-2'-0 WALKS
OVER WEST FORK WHITE RIVER ON STATE ROAD 39-A
STATE HIGHWAY COMMISSION OF INDIANA
MORGAN COUNTY AUGUST 1 1950
SCALE:- AS NOTED
RECOMMENDED FOR APPROVAL:-
PROJECT:- F-645 (3) STATION:- 14+25.00

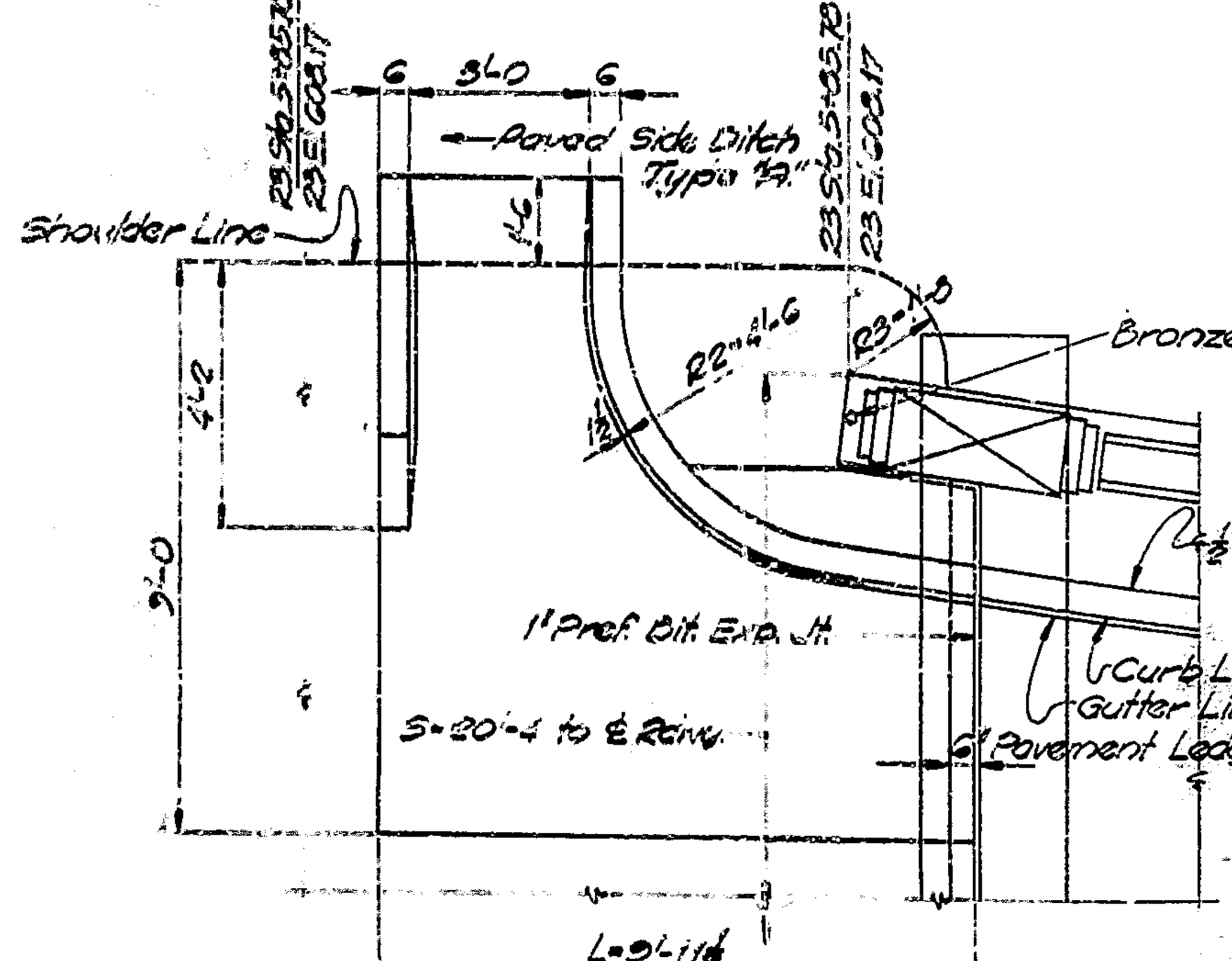


SITUATION PLAN
Scale: 1" = 30' Contour Interval: 1 ft.
WATERWAY TO BE CLEARED TO THIS LINE TO EL. 585.0 SLOPE TO CONTOUR EL. 580.0 AT RIVER BANK (BACKSLOPE 3:1 AT BRIDGE)
APPROX. LIMITS OF WATERWAY CLEARING IN BRIDGE CONTRACT.
Crosshatched Area Indicates Dumped Riprap
Hatched Area Indicates 560 Sq. Yds. 5" Concrete Slopewall (Top El. 602.00)
50 Lin. Ft. Paved Side Ditch (Type "B" Req'd.) Includes 10 Lin. Ft. for Cutoff Wall
65 Lin. Ft. Paved Side Ditch (Type "A" Req'd.) Includes 5 Lin. Ft. for Cutoff Wall
STRUCTURE No. 11
HENRY BAIN
SLOUGH
WHITE RIVER
WEST FORK
Flow
E.F. BRANCH et al
Prop. R/W
PROP. STRUCTURE
PROP. CROWN RDWY.
O.D. Gas Main (Approx)
Toe Slope
+1.600%
PROJECT LIMITS
GRADING LIMITS
El. 600.5 1913 H.W.
El. 597.6 1937 H.W.
El. 596.9 1943 H.W.
El. 594.3
El. 591.8
El. 590.2
Sandy Clay
Soft Sand
Coarse Sand
Prob. Quick Sand
Prob. Sand
Fine Yellow Sand
Soft Grey Sand
Soft Blue Clay
Prob. Clay
Prob. Gravel
Clay
Sand
Soft, Wet Sand
Pres. Water
El. 580.0 Pres. W. (5-23-46)
El. 579.6 Low W.
PROP. GROUND LINE
T.P. #1 on ℄ Sta 5+25
T.P. #2 on ℄ Sta 5+63
T.P. #3 on ℄ Sta 6+20
T.P. #4 on ℄ Sta 7+58
T.P. #5 on ℄ Sta 8+00
T.P. #6 on ℄ Sta 9+00
T.P. #7 on ℄ Sta 10+20
T.P. #8 on ℄ Sta 12+38
T.P. #9 on ℄ Sta
For Sea Level Datum Subtract 0.04 From Proj. Datum. See Gen. Plan For 2 New B.M.

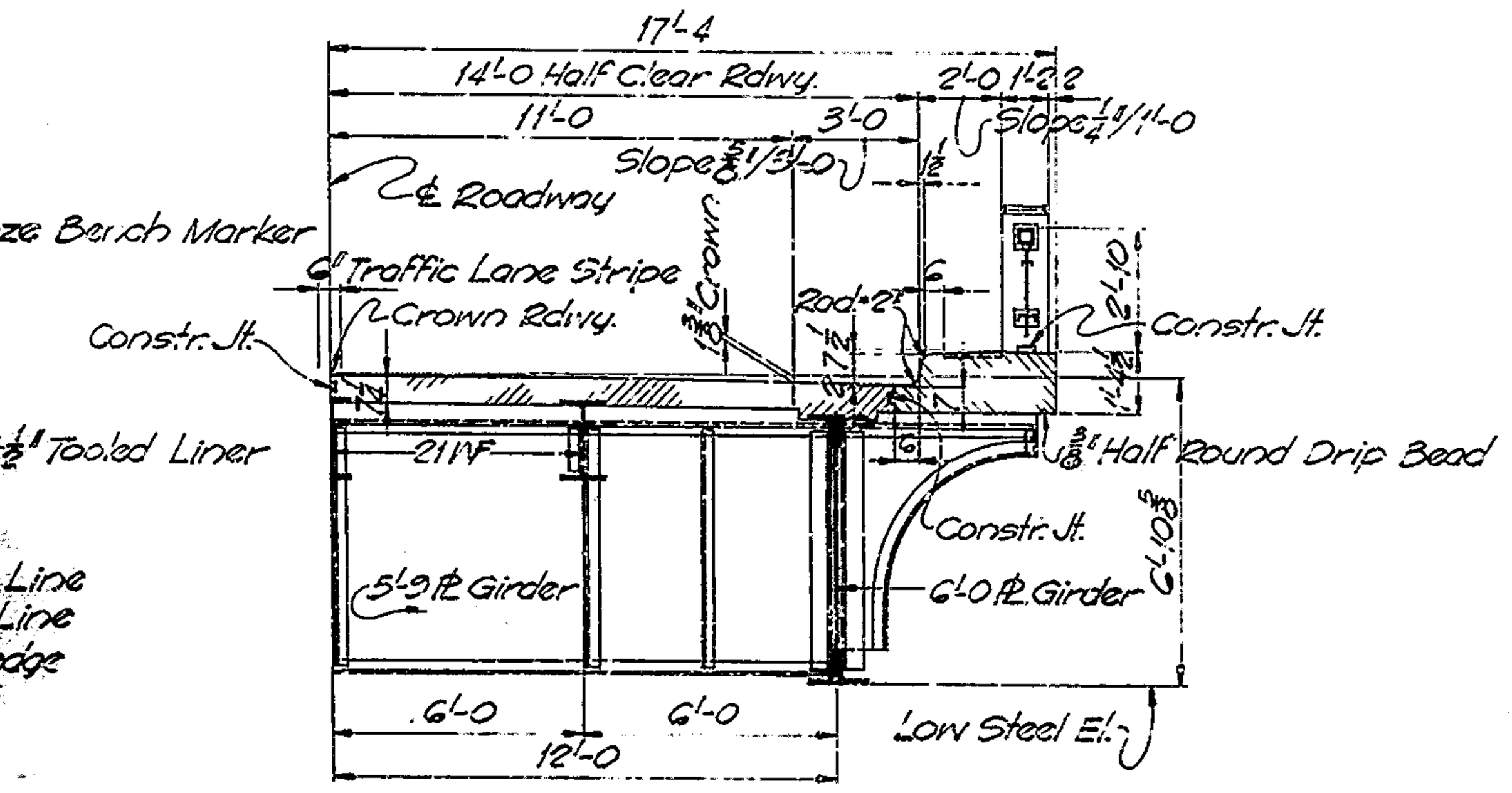
BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	8	65

ELEVATION

PLAN



PLAN OF THICKENED PAVEMENT NORTH END OF BENT Nº 1
(TYPICAL EXCEPT FOR BRONZE BENCH MARKER)
Scale:- 3/8" = 1'-0"



HALF SECTION - SPANS D TO J INCL.
Scale:- 1/4" = 1'-0"

GENERAL NOTES

Present structure approximately 300 ft. downstream to be removed.

Depth of footings to be extended if found necessary. See Art. B403.2 of Specifications.

Untreated timber piles shall have minimum bearing value shown on Detail Drawings. Determine pile lengths by Art. F103 of Specifications.

Steel Encased concrete piles shall have minimum bearing value shown on Detail Drawing. Determine pile lengths by Art. F203 of Specifications.

Reinforcing steel covering shall be 1 inch in floor slabs, 3 inches in footings, except bottom steel which shall be 4 inches, and 2 inches in all other parts unless noted.

All dimensions on Details and Bending Diagrams for Reinforcing Bars are measured on centerlines of bars.

Concrete in footings and piers to be Class "E".

Concrete in bent caps to be Class "D".

Concrete in Superstructure including handrail to be Class "F".

Continuous concrete pours shall be required between construction joints as shown on detail plans.

Bevel forms 1/4 inch under copings; and chamfer exposed edges 1 inch unless noted.

48 Std. 6" Cast Rdwy. Drains, Type I, to be placed as shown on this drawing.

Construct 5" concrete slopewall on embankment slopes. See Drwg. S1 for location.

Streambanks and slopes to be riprapped. See Drwg. S1 for location.

Tolerance in position of Steel Encased concrete pile heads minimum 2 inches for trestle piles.

3" Preformed Bituminous Expansion Joint to be placed in approach pavement approximately 60' from each end of bridge floor.

See Special Provisions for items included in this contract.

Handrail and Posts to be built ⊥ to grade.

DESIGN DATA

Designed for H20-S16 loading in accordance with 1949 A.A.S.H.O. Specifications.

JOINT LEGEND

Jt. "A" indicates a vertical 3/4" Open Jt. in handrail only.

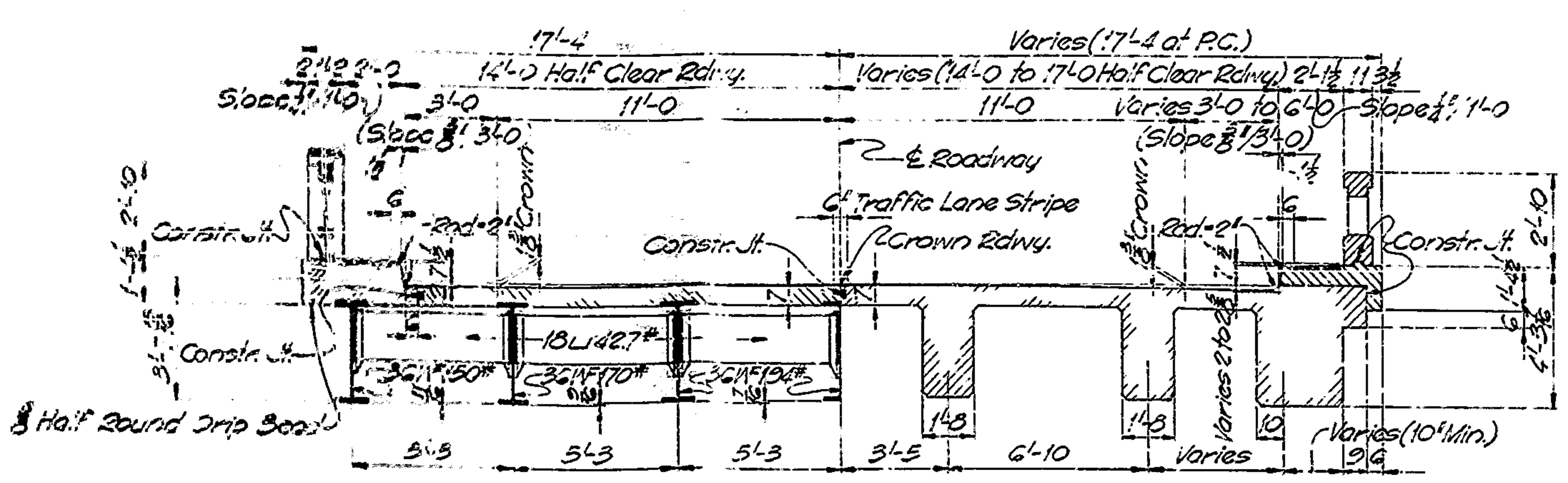
Jt. "B" indicates 1/4" pref. bit. exp. material under front 6" of R.C. Girders at Bents Nº 1 and Nº 13.

Jt. "C" indicates 1" pref. bit. exp. material at outside end of depressed keyway and one layer of roofing felt, medium weight, under entire superstructure bearing area (including vert. faces of keyway) outside of Girder Mk CG2.

Jt. "D" indicates one layer of roofing felt medium weight under full width of St. Bm. Superstr. bearing area and 1" pref. bit. exp. material between R.C. Girder and St. Bm. Superstr. extending from Rdwy. and sidewalk surfaces down to St. Bm. bearing area and 1" open joint between R.C. Girder and St. Bm. Superstr. beyond St. Bm. bearing area.

STANDARD DRAWINGS

STANDARD BRIDGE	STANDARD ROAD	DATE	PURPOSE
C		Rev. 5-14-49	Test Bar Samples, Notch in Slab at End of Beams and Splicing Pile Shells in Field
D		1-3-50	6" Roadway Drains
G		Rev. 7-15-47	Thickened Pavement
H3		Rev. 10-1-44	Thickened Pavement and Locating Toe Slope
M1		Rev. 8-31-48	Pvmt. Offsets, Sodded Shoulder and Guide Posts
M2		8-1-49	Concrete Slopewall and 3" Pref. Bit. Exp. Jt.
S1		6-15-39	Special Filling Material
Z(A)		Rev. 12-10-40	Detour Signs
Z(B)		Rev. 3-23-43	Detour Signs
	D-11-GR	Rev. 5-13-49	Pavement Section
	A	Rev. 4-17-50	Pavement Exp. Jts. (Type D1, D4 & D5), Longit. Jt. and Keyway Jt.
	MB	Rev. 3-23-50	R/W Markers
	ME	2-15-49	Pipe Culv. Hdwl.



HALF SECTION SPANS B, C, K, & L

HALF SECTION SPANS A & M

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

TYPICAL CROSS SECTION

Standard D-11-GR with Subgrade Treatment. See Summary Sheet for Typical Detail Subgrade Treatment.

GENERAL PLAN

CONTINUOUS STEEL PLATE GIRDER, STEEL BEAM & R.C. GIRDER BRIDGE

12 SPANS:- 40'-0, 2@65'-0, 100'-0, 4@130'-0, 100'-0, 2@65'-0, 40'-0

28'-0 ROADWAY 2, 2'-0 WALKS

OVER WEST FORK OF WHITE RIVER ON STATE ROAD 39-A

STATE HIGHWAY COMMISSION OF INDIANA

MORGAN COUNTY

SCALE:- 1/32" = 1'-0" UNLESS NOTED AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J.V. Smythe, ENGINEER OF BRIDGE DESIGN

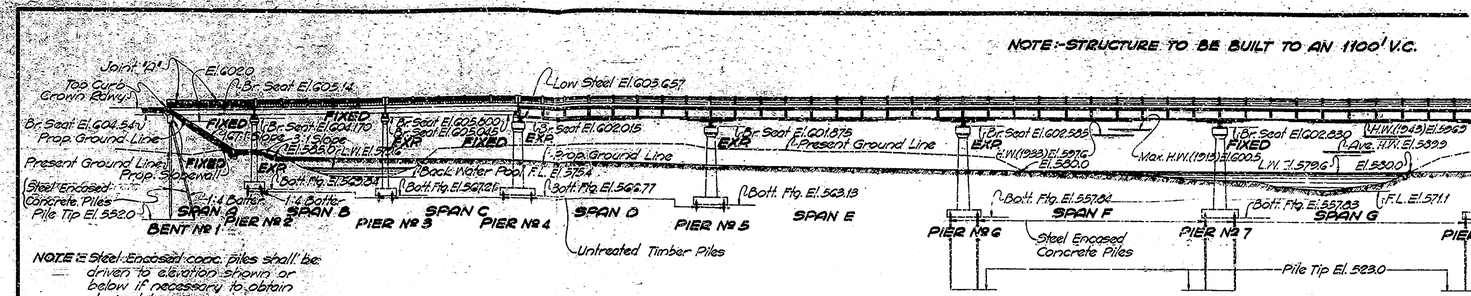
PROJECT:- F-645(3) STATION:- 11+25.00

DRAWING:- S2 OF 47

BRIDGE CONTRACT NO. 3289

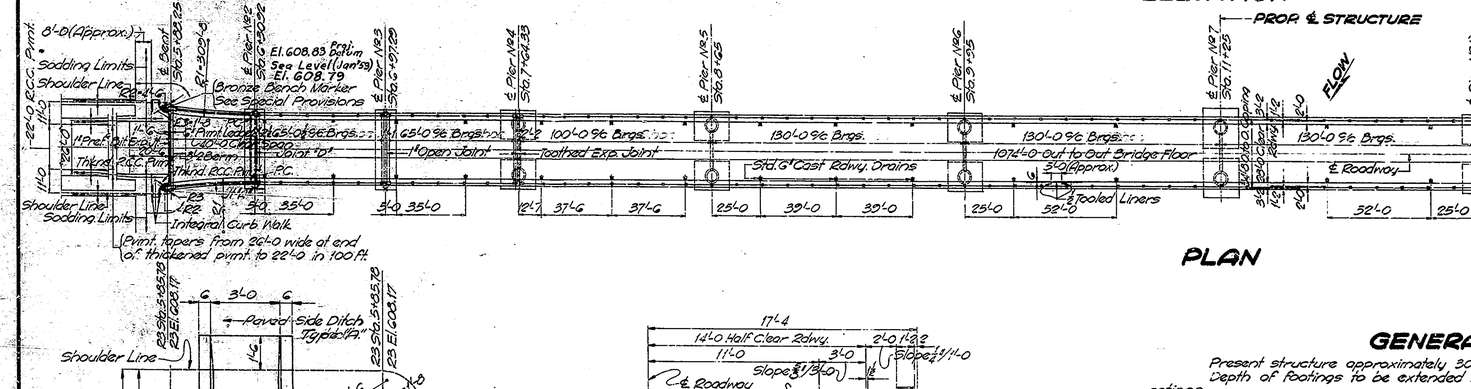
BRIDGE FILE: 39-A-2108

NOTE:-STRUCTURE TO BE BUILT TO AN 1100' V.C.



NOTE:- Steel Encased conc. piles shall be driven to elevation shown or below if necessary to obtain desired bearing.

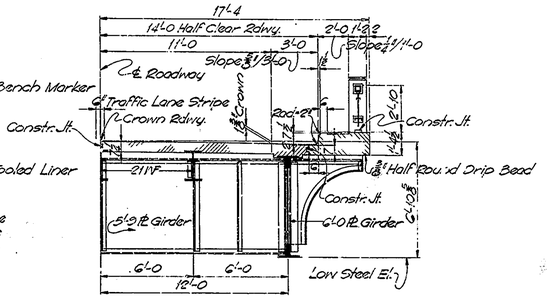
ELEVATION



PLAN

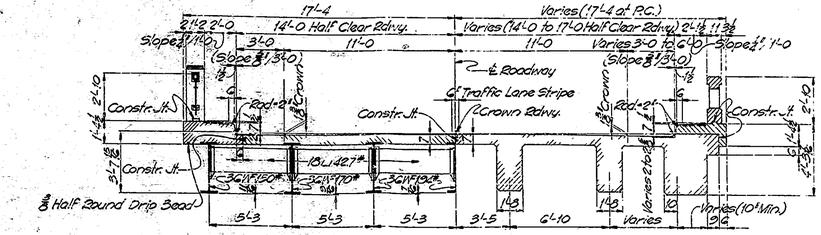
PLAN OF THICKENED PAVEMENT NORTH END OF BENT No 1 (TYPICAL EXCEPT FOR BRONZE BENCH MARKER)

Scale:- ⅜" = 1'-0



HALF SECTION - SPANS D TO J INCL.

Scale:- ½" = 1'-0



HALF SECTION SPANS B, C, K, & L

HALF SECTION SPANS A & M

Scale:- ½" = 1'-0

DESIGNED		CHKD.	
DRAWN	RMS. 11-30-49	CHKD.	JDM 12-8-49
TRACED	CMP. 1-3-50	CHKD.	J.M. 1-3-50

GENERA

Present structure approximately 30
Depth of footings to be extended
cations.
Untreated timber piles shall have
ings. Determine pile lengths by Art. F103 o
Steel Encased concrete piles shall have
Determine pile lengths by Art. F203 of Spe
Reinforcing steel covering shall be
cept bottom steel which shall be 4 inches
All dimensions on Details and Bend
on center-lines of bars.
Concrete in footings and piers to be
Concrete in bent caps to be Class
Concrete in Superstructure includin
Continuous concrete pours shall
shown on detail plans.
Bevel forms ¾ inch under copings
48 Std. 6" Cast Rdwy. Drains, Type 2,
Construct 5' concrete slopewall on
for location.
Streambanks and slopes to be ri
Tolerance in position of Steel Encased
3" Preformed Bituminous Expansion
approximately 50' from each end of brid
See Special Provisions for items in
Handrail and Posts to be built 1 in or

DESIGN

Designed for H20-S16 loading in acc

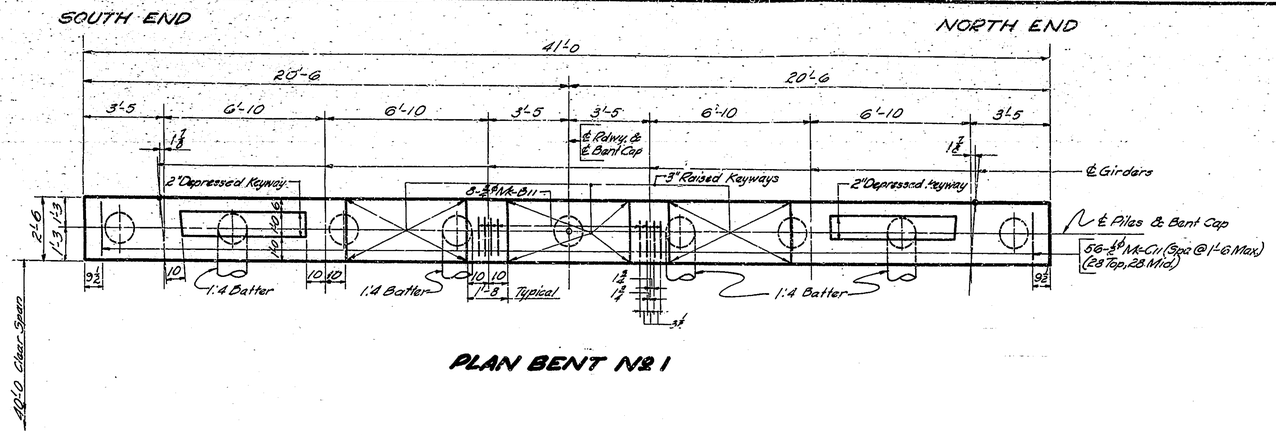
JOINT L

Jt. 'A' indicates a vertical ¾" Open Jt.
Jt. 'B' indicates a 1" pref. bit. exp. mater
and No 13.
Jt. 'C' indicates 1" pref. bit. exp. mate
one layer of roofing felt, medium weight,
(including vert. faces of keyway) outside of
Jt. 'D' indicates one layer of roofing
Superstr. bearing area and 1" pref. bit. ex
Superstr. extending from Rdwy. and sidew
1" open joint between R.C. Girder and St.

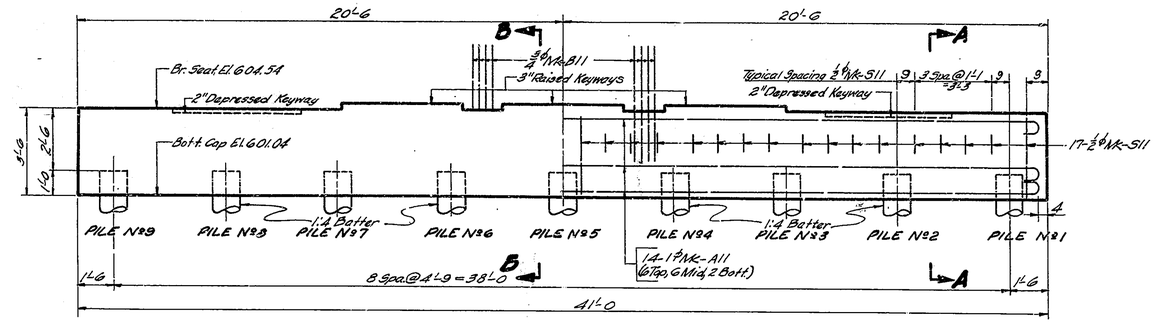
TYPICAL CROS

Standard D-11-GR with Subgrade Tr
Detail Subgrade Treatment.

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	9	65



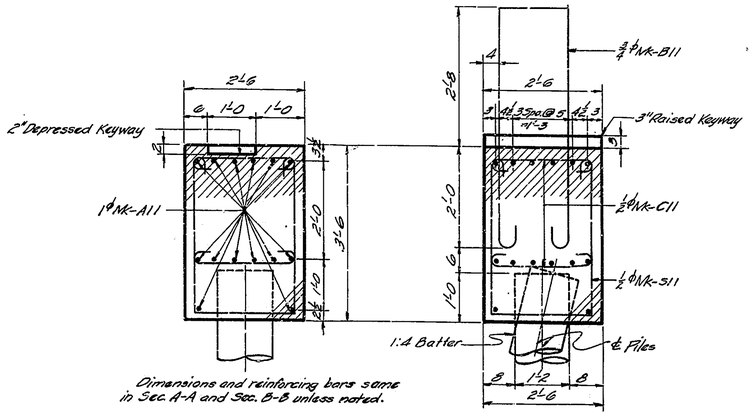
PLAN BENT Nº 1



EAST ELEVATION BENT Nº 1

BENT Nº 13 SAME BY 180° ROTATION

STEEL ENCASED CONCRETE PILES
BENT Nº 1 = 9
BENT Nº 13 = 9
All piles to be driven to 30 Ton minimum bearing.

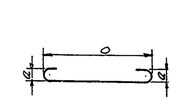


SECTION A-A

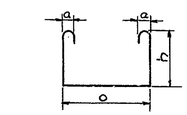
Scale:- ¾" = 1'-0

SECTION B-B

Scale:- ¾" = 1'-0



Mark	Size	o	a	Length
A11	1ϕ	40'-4	6	42'-0
C11	½ϕ	2'-2⅛	3	3'-0



Mark	Size	o	a	h	Length
B11	¾ϕ	1'-5½	4½	4'-8	12'-3
S11	½ϕ	2'-2½	3	3'-1½	9'-3

BILL OF MATERIALS BENT Nº 1 (BENT Nº 13 SAME)

REINFORCING STEEL						
MARK	Nº PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
A11	14	1ϕ	42'-0	Longit. Cap	588'-0	1570 lbs
B11	8	¾ϕ	12'-3	Girder Ties	98'-0	147 lbs
C11	56	½ϕ	3'-0	Transv. Cap	168'-0	
S11	34	½ϕ	9'-3	Stirrups	314'-6	
				Total ½ϕ	482'-6	322 lbs
				TOTAL STEEL		2039 lbs
CONCRETE						
Class "D" Cap						13.6 Cu Yds
MISCELLANEOUS						
9 Steel Encased Concrete Piles (14" x 30'-0 - Nº 7 gauge)						450 Lin. Ft.

NOTES:-

End bent caps not to be poured until after fill has been completed up to approx. elevation of the bottom of the cap.

All dimensions on details and bending diagrams for reinforcing bars are measured on the centerlines of bars.

See Summary Sheet for Bill of Splice Bars.

Piles Nº 2, 4, 6 & 8 to be battered 1:4 toward ℄ Structure.

See Bridge Standard "C" for Sketch showing method of splicing Pile Shells in field.

DESIGNED EMS. 1-10-50 C'K'D J.B.M. 1-23-50
DRAWN R.C.G. 1-28-50 C'K'D M.R.C. 1-28-50
TRACED R.E.S. 2-13-50 C'K'D M.R.C. 2-16-50

BENT NO. 1 & BENT NO. 13 DETAILS AND BILL OF MATERIALS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 3" = 1'-0" UNLESS NOTED AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. W. Smythe ENGINEER OF BRIDGE DESIGN

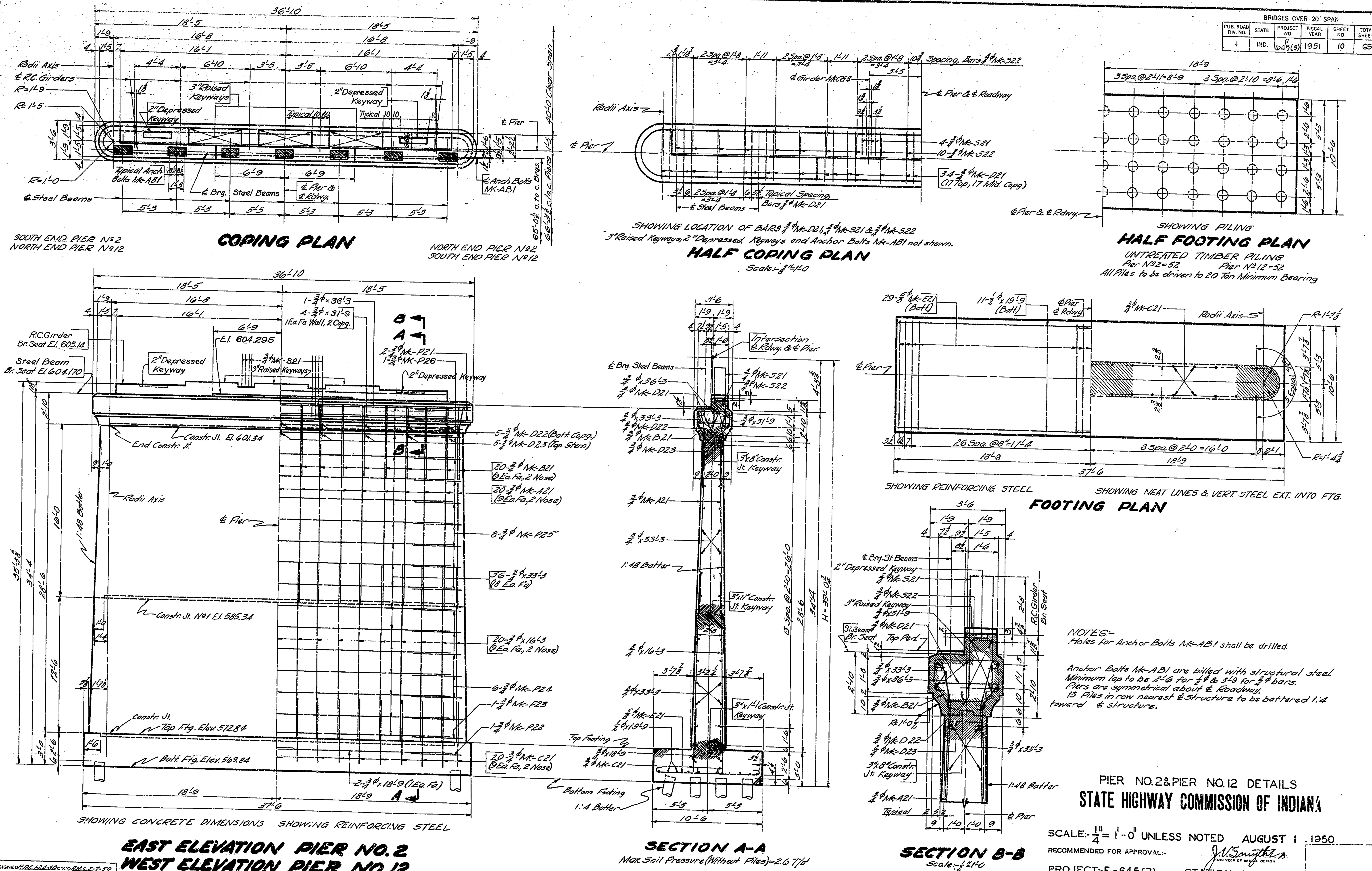
PROJECT:- F-645 (3) STATION:- 11+25.00

DRAWING:- S3 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	10	65



NOTES:-
Holes for Anchor Bolts Mk-AB1 shall be drilled.

Anchor Bolts Mk-AB1 are billed with structural steel.
Minimum lap to be 2'-6 for ⅝ϕ & 3'-9 for ¾ϕ bars.
Piers are symmetrical about ℄ Roadway.
13 Piles in row nearest ℄ Structure to be battered 1:4 toward ℄ structure.

DESIGNED	H.D.C. 1-2-4-50	CK'D	R.M.C. 2-7-50
DRAWN	J.R.M. 2-10-50	CK'D	H.H.L. 2-17-50
TRACED	R.E.B. 3-3-50	CK'D	H.D.C. 3-3-50

EUGENE DIETZGEN CO.

PIER NO.2 & PIER NO.12 DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- $\frac{1}{4}$" = 1'-0" UNLESS NOTED AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- [signature] ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25.00

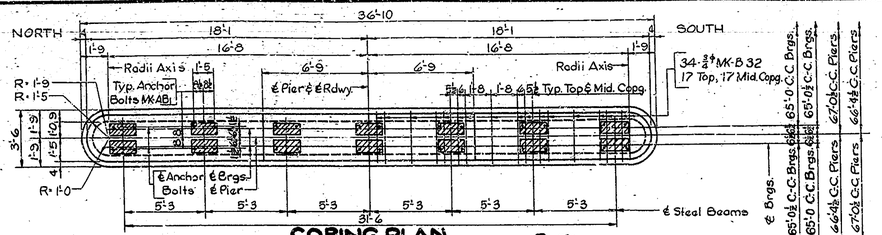
DRAWING: S4 OF 47

BRIDGE CONTRACT NO. 3289

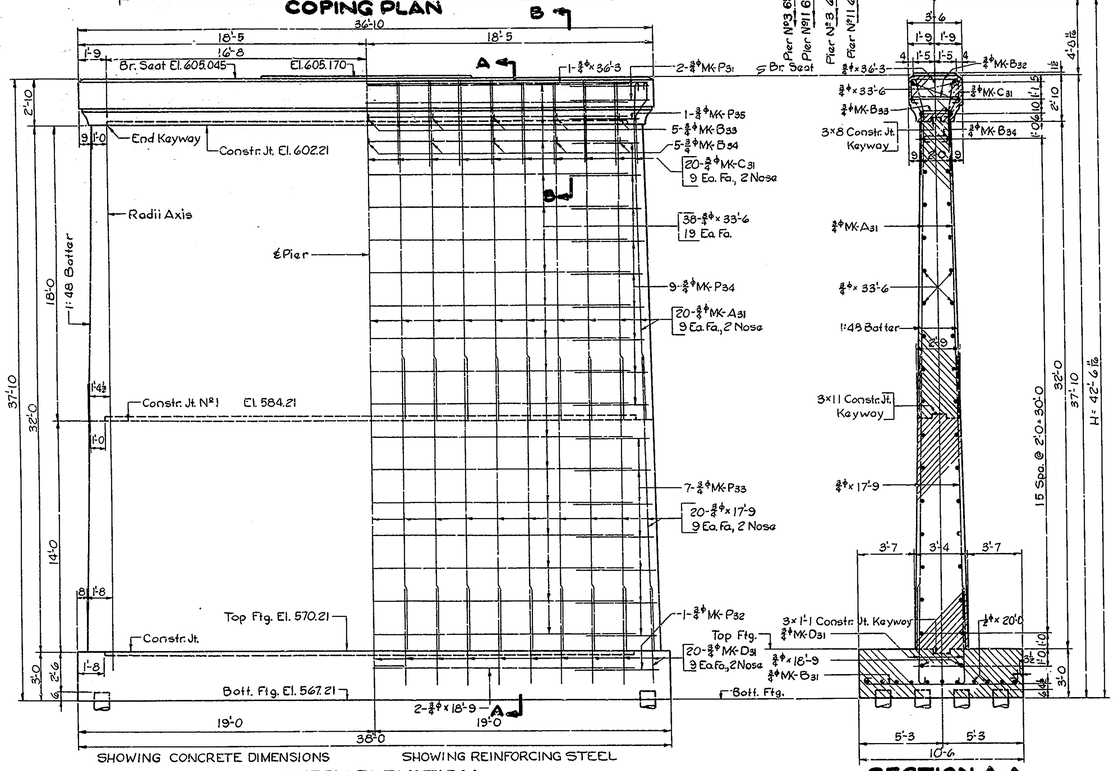
BRIDGE FILE:- 39-A-3108

BRIDGES OVER 20' SPAN

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	11	65



COPING PLAN

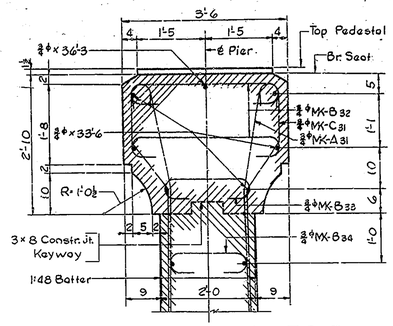


SHOWING CONCRETE DIMENSIONS

WEST ELEVATION

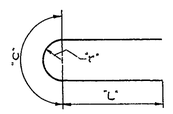
SECTION A-A

Max. Soil Pressure (Without Piles) = 2.6 T/s.f.



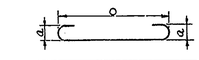
COPING DETAIL - SECT. B-B

Scale ¾" = 1'-0

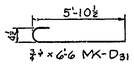


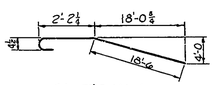
as "r" varies by successive increments of ½"
"c" varies by successive increments of 1½"
"L" varies by successive decrements of ⅝"

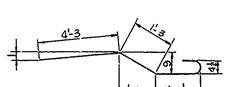
Mark	Size	"r"	"c"	"L"	Length
P31	¾"ϕ	1'-5⅜	4'-6½	3'-9⅜	12'-3
P32	"	1'-4⅞	4'-5	3'-9⅜	12'-0
P33	"	1'-1⅛ to 1'-4⅞	3'-6½ to 4'-3½	4'-2½ to 3'-10⅜	12'-0
P34	"	9⅜ to 1'-1⅛	2'-9½ to 3'-4½	4'-5⅛ to 3'-9⅜	11'-0
P35	"	10⅝	2'-8½	3'-9⅜	10'-3



Mark	Size	o	a	Length
B31	¾"ϕ	9'-11	4½	11'-3
B32	"	3'-1½	4½	4'-6
B33	"	1'-10	4½	3'-3
B34	"	1'-7½	4½	3'-0







BILL OF MATERIALS
PIER N°3 (PIER N°11 SAME)

REINFORCING STEEL

MARK	N° PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
A31	38	¾"ϕ	21'-3	Vert. Stem & Copg.	807'-6	
B31	51	"	11'-3	Transv. Ftg.	573'-9	
B32	68	"	4'-6	" Copg.	306'-0	
B33	9	"	3'-3	" "	29'-3	
B34	9	"	3'-0	" Top Stem	27'-0	
C31	38	"	7'-3	Vert. Copg.	275'-6	
D31	38	"	6'-6	Ftg. Stubs	247'-0	
P31	4	"	12'-3	Horiz. Copg. Nose	49'-0	
P32	2	"	12'-0	" Ftg.	24'-0	
P33	14	"	12'-0	" Stem Nose	168'-0	
P34	18	"	11'-0	" " "	198'-0	
P35	2	"	10'-3	" Copg. "	20'-6	
	1	"	36'-3	Longit. Copg.	36'-3	
	38	"	33'-6	" " & Stem	1273'-0	
	4	"	18'-9	" Ftg.	75'-0	
	38	"	17'-9	Vert. Stem & Nose	674'-6	
				Total ¾"ϕ	4764'-3	7186#
	22	½"ϕ	20'-0	Longit. Ftg.	440'-0	294 #
				TOTAL STEEL		7480#

CONCRETE

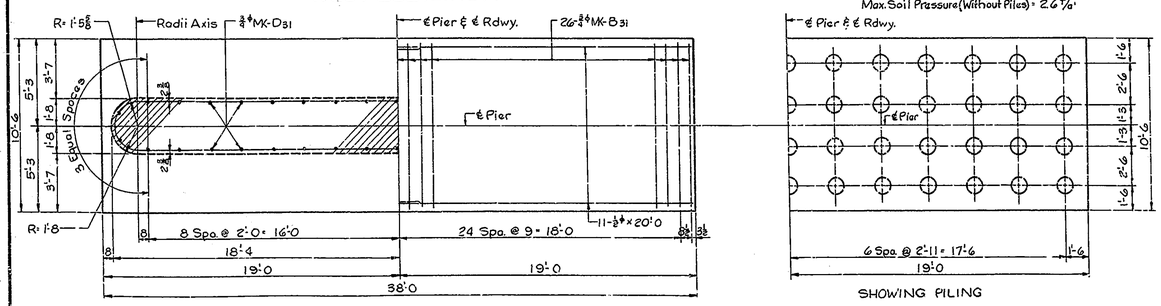
Class "E" - Above Ftg. - Top Ftg. to Constr. Jt. N°1	56.4 Cu.Yds.	
Constr. Jt. N°1 to Bott. Copg.	35.8 " "	
Copg.	12.2 " "	
Total Class "E" Above Ftg.		124.4 Cu.Yds.
Class "E" - In Ftg.		44.3 Cu.Yds.

MISCELLANEOUS

52 Untreated Timber Piles (20'-0 Approx.)	1040 Lin. Ft.

NOTES:-
Holes for Anchor Bolts MK AB1 shall be drilled.

Anchor Bolts MK-AB1 are billed with Structural Steel.
Minimum lap to be 2'-6 for ½"ϕ & 3'-9 for ¾"ϕ bars.
All dimensions on Details & Bending Diagrams for Reinforcing Bars are measured on centerlines of bars.
See Summary Sheet for Bill of Splice Bars.
Piers are symmetrical about ℄ Rdwy.
Pier N°11 same as Pier N°3 unless noted.



SHOWING NEAT LINES & VERT. STEEL EXTENDING INTO FOOTING

SHOWING REINFORCING STEEL

FOOTING PLAN

SHOWING PILING

HALF FOOTING PLAN

UNTREATED TIMBER PILING
Foundation N° 3 = 52
Foundation N° 11 = 52
All piles to be driven to 20 ton minimum bearing.

PIER NO. 3 & PIER NO. 11 DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 1¼" = 1'-0" UNLESS NOTED AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J.V. Smythe
ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645 (3) STATION:- 11+25.00

DRAWING:- S5 OF 47

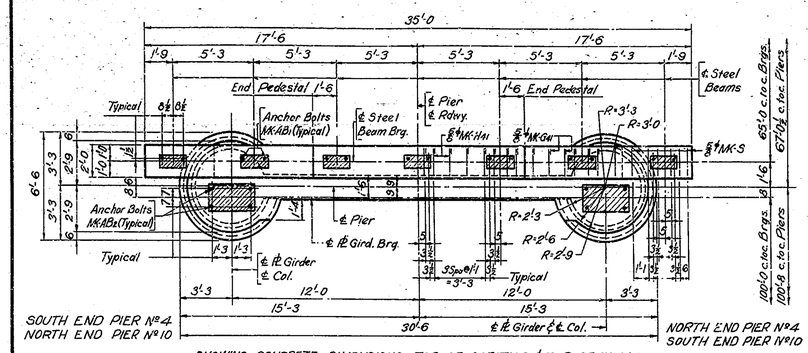
BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

DESIGNED	H.H.J. 1-20-50	C'K'D	H.R.C. 1-25-50
DRAWN	H.R.C. 1-27-50	C'K'D	J.D.M. 2-1-50
TRACED	P.C.C. 2-9-50	C'K'D	H.R.C. 2-10-50

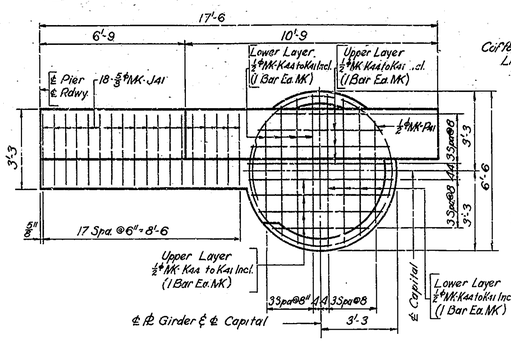
EUGENE DIETZGEN CO. NO. 119

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	12	65



SHOWING CONCRETE DIMENSIONS TOP OF CAPITALS & TOP OF WALLS
RIGHT HALF SHOWING REINFORCING STEEL AT BR. SEAT ELEV. 605.800

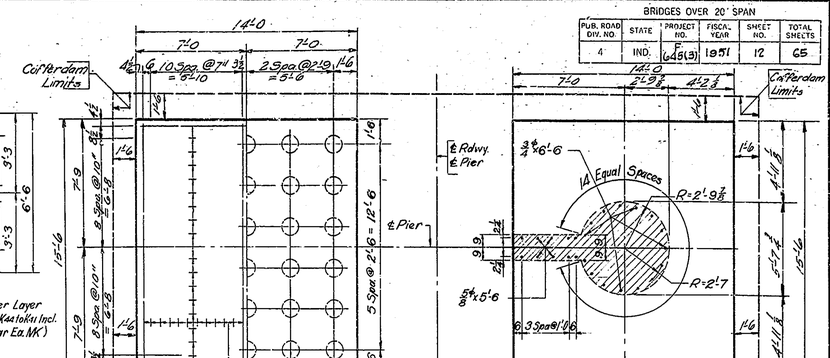
PLAN



SHOWING REINFORCING STEEL AT BR. SEAT ELEV. 602.015

HALF PLAN

Scale:- ⅜" = 1'-0



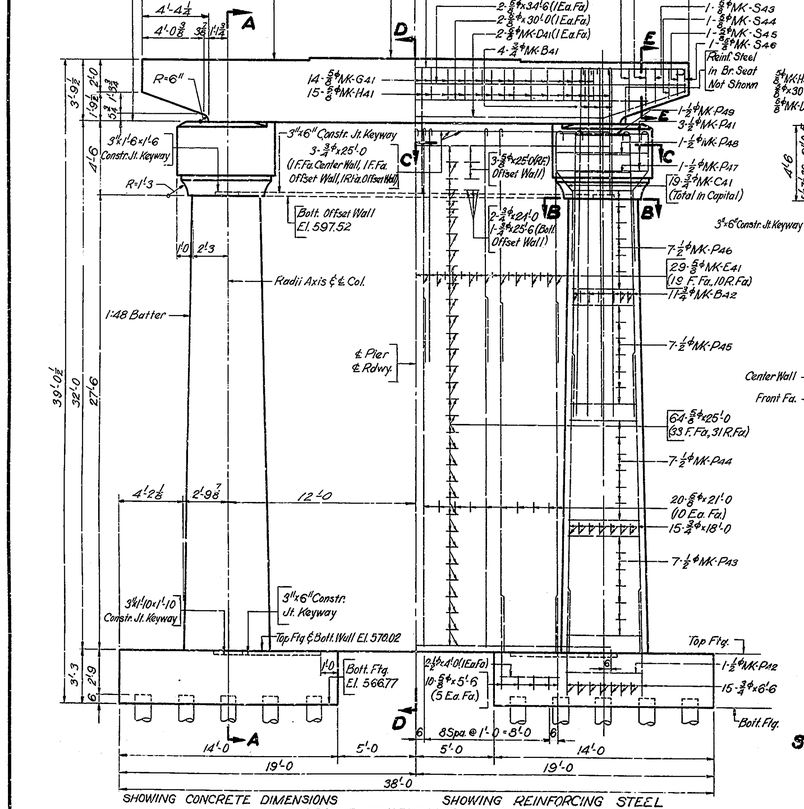
SHOWING REINFORCING STEEL

SHOWING PILING

SHOWING NEAT LINES & VERT. STEEL EXT. INTO FTG.

FOOTING PLAN

UNTREATED TIMBER PILING
60 Piles Total in Foundation (30 Piles Ea. Ftg.)
All Piles to be driven to 20 Ton Minimum Bearing



SHOWING CONCRETE DIMENSIONS
SHOWING REINFORCING STEEL

EAST ELEVATION PIER No 4
WEST ELEVATION PIER No 10

SECTION D-D

Reinf. Bars in Walls not Shown. See SECTION D-D

SECTION A-A

MAX. SOIL PRESSURE (WITHOUT PILES) 2.7 T/s'

Reinf. Bars in Walls not Shown. See Section D-D

PART SECTION A-A

Scale:- ½" = 1'-0

SECTION C-C

Scale:- ⅜" = 1'-0

SHOWING ¾ϕ MK-C41 & ⅝ϕ MK-E41

SECTION B-B

Scale:- ⅜" = 1'-0

SECTION E-E

Scale:- ½" = 1'-0

NOTES:-

Minimum lap to be 2'-6 for ½ϕ, 3'-3 for ⅝ϕ & 3'-9 for ¾ϕ Bars.
Holes For Anchor Bolts MK-AB1 & MK-AB2 shall be drilled.

Anchor Bolts MK-AB1 & MK-AB2 are billed with Structural Steel.
Piers are symmetrical about ℄ Rdwy.

DESIGNED J.D.M. 12-7-50 C'K'D H.H.L. 1-30-50
DRAWN M.S.E. 2-27-50 C'K'D J.D.M. 3-7-50
TRACED P.C.G. 3-20-50 C'K'D J.D.M. 3-21-50

PIER NO. 4 & PIER NO. 10 DETAILS
STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 1" = 1'-0" UNLESS NOTED AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. B. Smythe, ENGINEER OF BRIDGE DESIGN

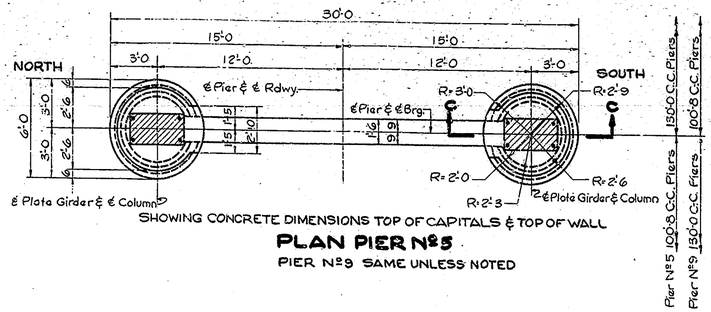
PROJECT:- F-645(3) STATION:- 11+25.00

DRAWING:- S6 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

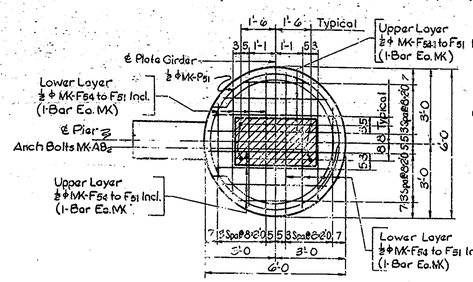
BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	13	65



SHOWING CONCRETE DIMENSIONS TOP OF CAPITALS & TOP OF WALL

PLAN PIER №5

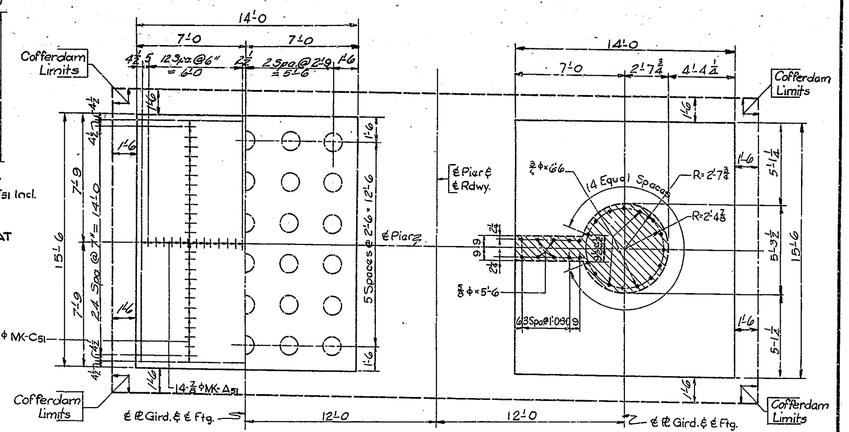
PIER №9 SAME UNLESS NOTED



SHOWING ANCHOR BOLT SPACING & REINF STEEL IN BRIDGE SEAT

PLAN OF CAPITAL

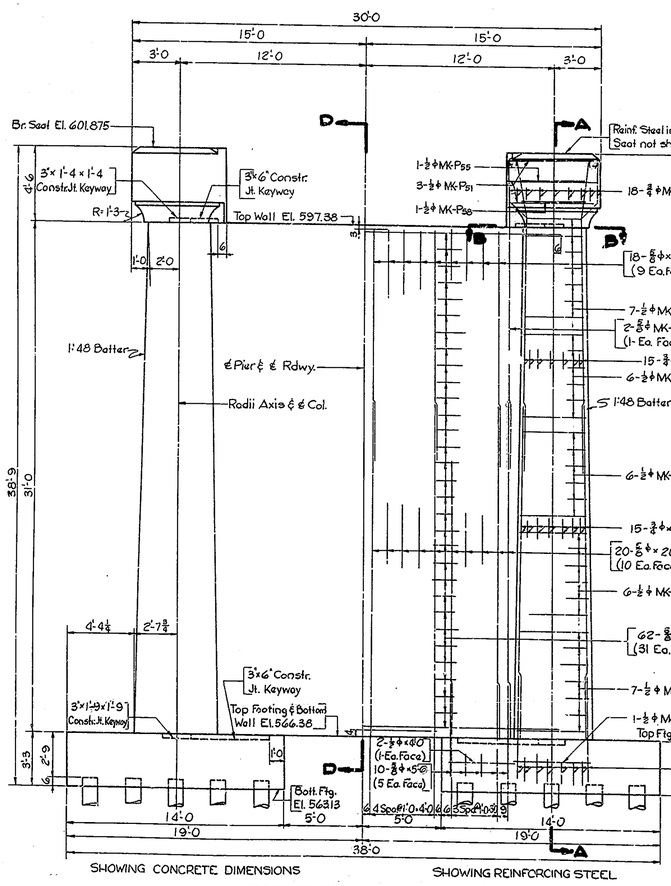
Scale: ½" = 1'-0



SHOWING REINFORCING STEEL—SHOWING PILING SHOWING NEAT LINES & VERT. STEEL EXT. INTO FTG.

FOOTING PLAN

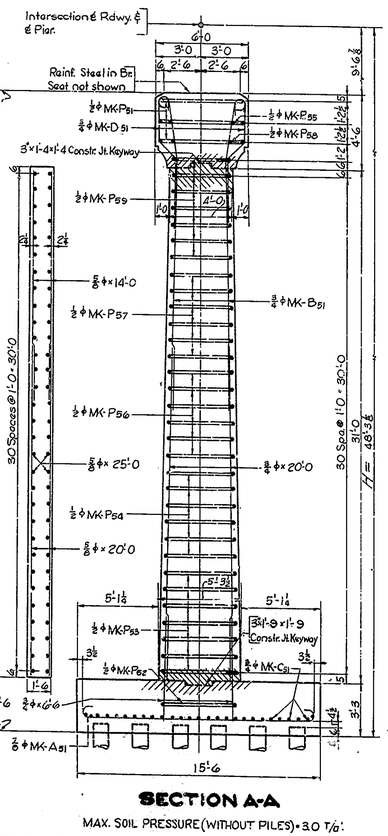
UNTREATED TIMBER PILING
60 Piles total in Foundation (30 Piles Ea. Ftg.)
All Piles to be driven to 22 Ton Minimum Bearing.



SHOWING CONCRETE DIMENSIONS SHOWING REINFORCING STEEL

WEST ELEVATION PIER №5

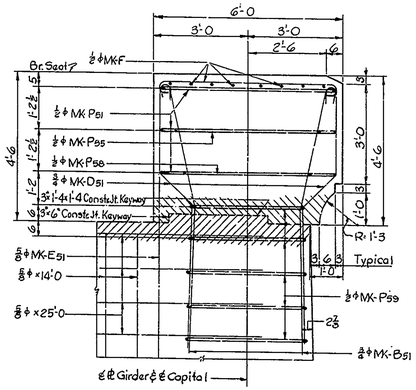
PIER №9 SAME



SECTION A-A

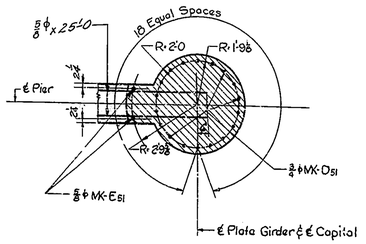
MAX. SOIL PRESSURE (WITHOUT PILES) = 3.0 T/□'

SECTION D-D



SECTION C-C

Scale: ½" = 1'-0



SHOWING ¾ ϕ MK-D51 & ⅝ ϕ MK-E51

SECTION B-B

Scale: ½" = 1'-0

NOTES:-
Minimum lap to be 2'-6 for ½ ϕ, 3'-3 for ⅝ ϕ & 3'-9 for ¾ ϕ Bars.
Holes for Anchor Bolts MK-AB2 *shall be drilled.*

Anchor Bolts MK-AB2 are billed with Structural Steel.
Piers are symmetrical about ℄ Rdwy.

PIER NO. 5 & PIER NO. 9 DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¼" = 1'-0" UNLESS NOTED AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. K. Smythe
ENGINEER OF BRIDGE DESIGN

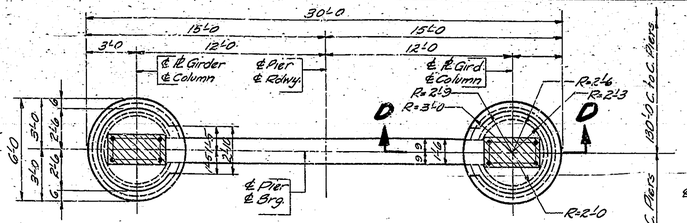
PROJECT:- F-645 (3) STATION:- 11+25.00

DRAWING:- S7 OF 47

BRIDGE CONTRACT NO. 3289

DESIGNED J.D.M. 11-25-49 C'K'D H.R.C. 1-26-50
DRAWN H.H. 2-1-50 C'K'D J.D.M. 2-8-50
TRACED R.C.G. 2-15-50 C'K'D H.R.C. 2-17-50

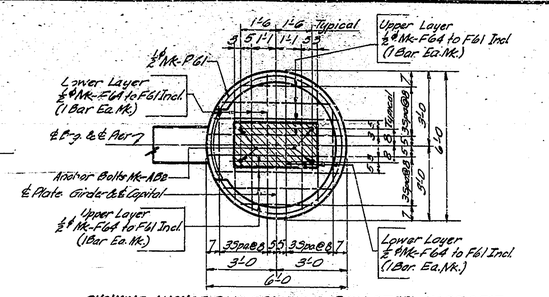
BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
4	IND.	F 645(3)	1951	14	65



SHOWING CONCRETE DIMENSIONS TOP OF CAPITALS & TOP OF WALL

PLAN PIER Nº6

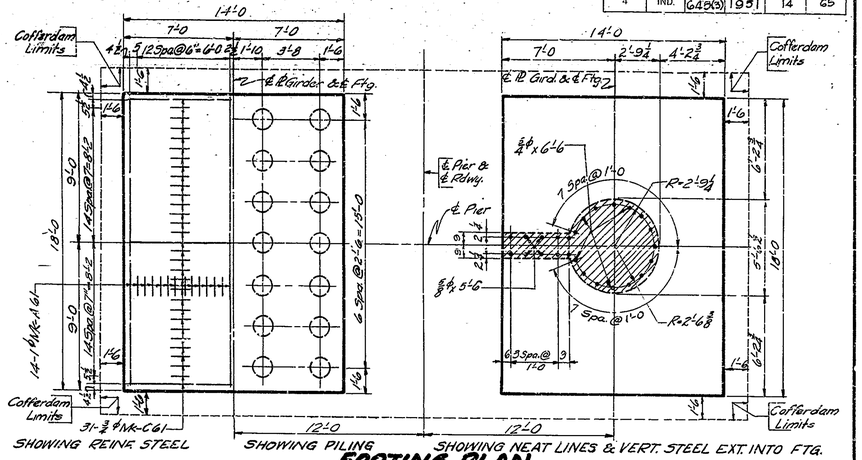
PIER Nº 8 SAME



SHOWING ANCHOR BOLT SPACING & REIN. STEEL IN BR. SEAT

PLAN OF CAPITAL

Scale:- ⅜"=1'-0"



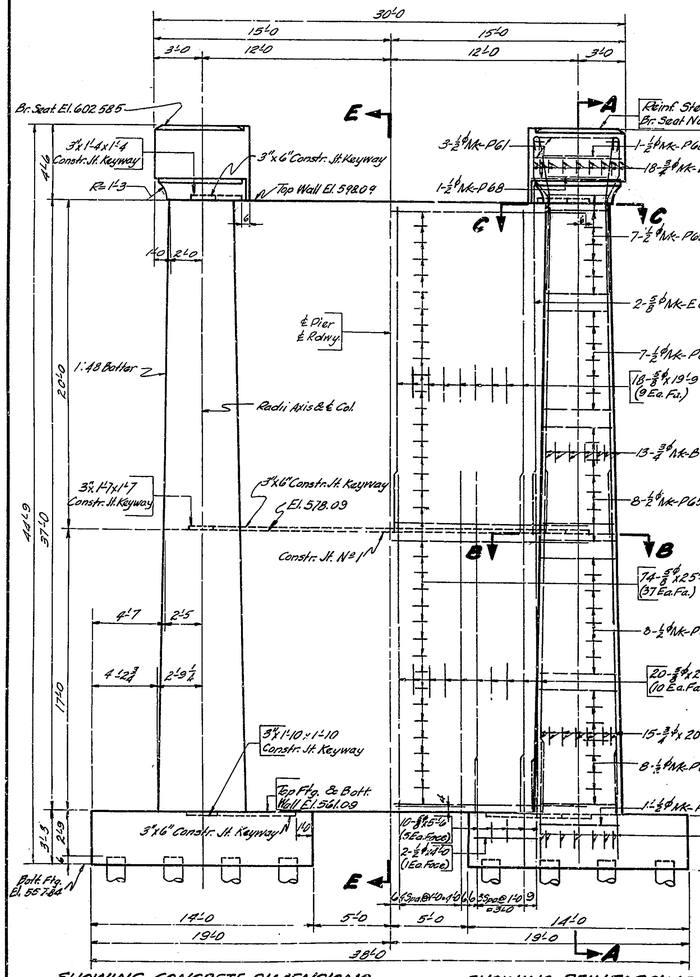
SHOWING REINF. STEEL — SHOWING PILING — SHOWING NEAT LINES & VERT. STEEL EXT. INTO FTG.

FOOTING PLAN

STEEL ENCASED CONCRETE PILING

56 Piles Total in Foundation (28 Piles Ea. Ftg.)

All Piles to be driven to 30 Ton Minimum Bearing and to 30 Ft. Minimum Penetration



SHOWING CONCRETE DIMENSIONS — SHOWING REINFORCING STEEL

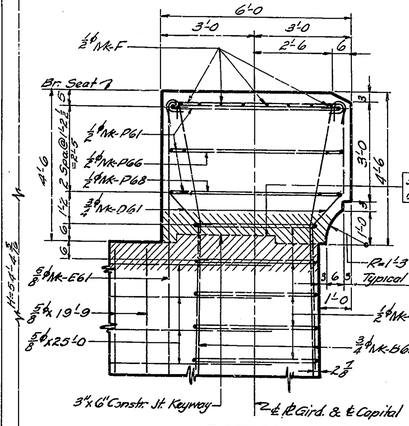
ELEVATION PIER Nº 6

PIER Nº 8 SAME

SECTION E-E

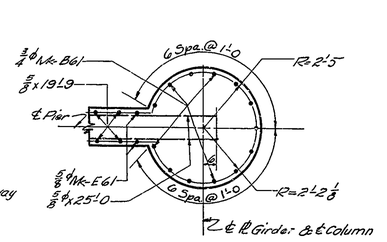
SECTION A-A

MAX. SOIL PRESSURE (WITHOUT PILES) = 3.1 T/s'



SECTION D-D

Scale ½"=1'-0



SECTION B-B

Scale:- ⅜"=1'-0

NOTES:-

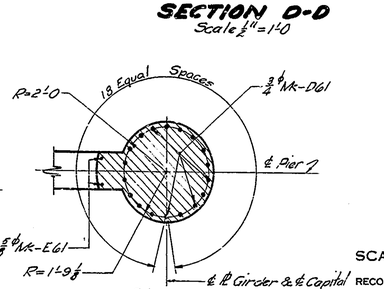
Minimum lap to be 2'-6 for ½ϕ, 3'-3 for ⅝ϕ & 3'-9 for ¾ϕ Bars.

Holes for Anchor Bolts Mk-AB2 shall be drilled.

Anchor Bolts Mk-AB2 are Billed with Structural Steel

Piers are symmetrical about ℄ Roadway

In Sec. B-B bars projecting above Constr. Jts. Nº 1 from below, not shown.



SHOWING ¾ϕ Mk-D61 & ⅝ϕ Mk-E61

SECTION C-C

Scale ⅜"=1'-0

PIER NO. 6 & PIER NO. 8 DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¼"=1'-0" UNLESS NOTED — AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. W. Smythe, ENGINEER OF BRIDGE DESIGN

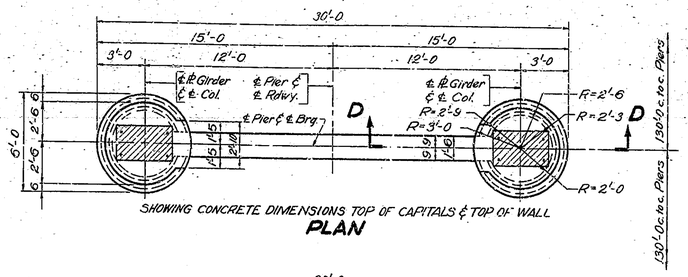
PROJECT:- F-645 (3) — STATION:- 11+25.00

DRAWING:- S8 OF 47

BRIDGE CONTRACT NO. 3289

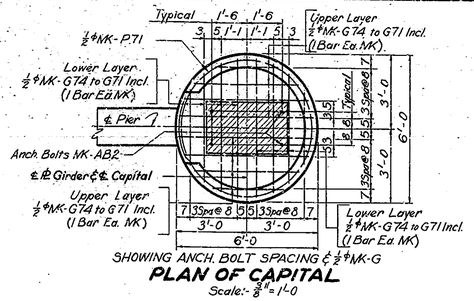
DESIGNED	H.E.C. 12-20-50	C'K'D J.D.M. 1-26-50
DRAWN	S.S.E. 1-23-50	C'K'D J.A.S. 2-1-50
TRACED	C.E.A. 2-11-50	C'K'D H.H.L. 3-3-50

BRIDGES OVER [illegible] SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO	[illegible]	SHEET NO	TOTAL SHEETS
4	IND.	F 645(3)	1951	15	65



SHOWING CONCRETE DIMENSIONS TOP OF CAPITALS ℄ TOP OF WALL

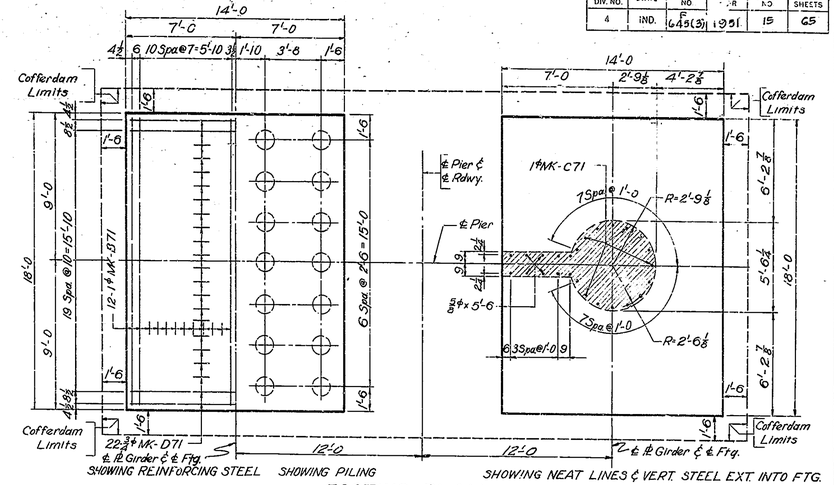
PLAN



SHOWING ANCH. BOLT SPACING ℄ ½ ϕ MK-G

PLAN OF CAPITAL

Scale:- $\frac{3}{8}$" = 1'-0



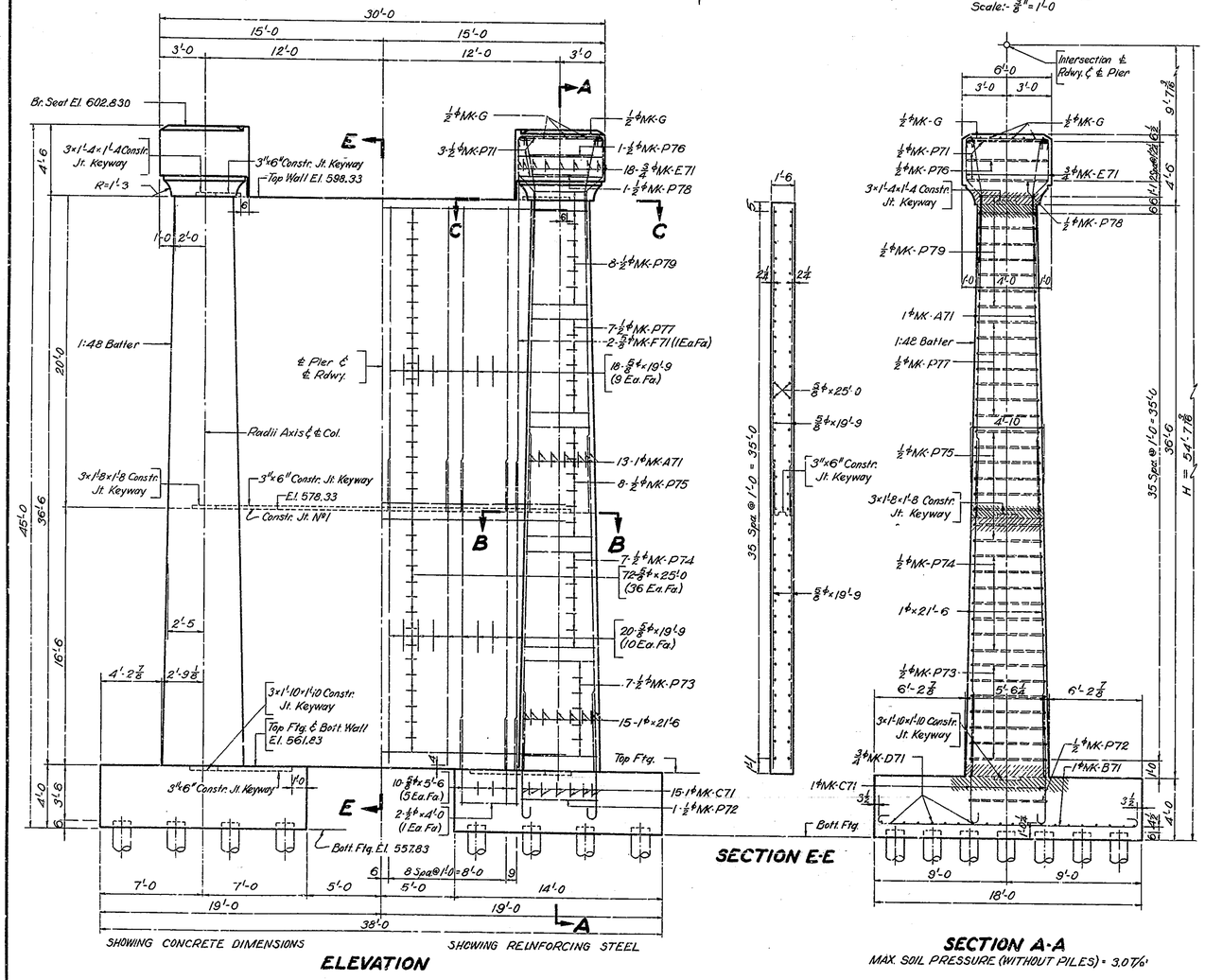
SHOWING REINFORCING STEEL SHOWING PILING SHOWING NEAT LINES ℄ VERT. STEEL EXT. INTO FTG.

FOOTING PLAN

STEEL ENCASED CONCRETE PILES

56 Piles total in foundation (28 Piles Ea. Ftg)

All piles to be driven to 30 Ton Minimum Bearing and to 30 ft. minimum penetration.



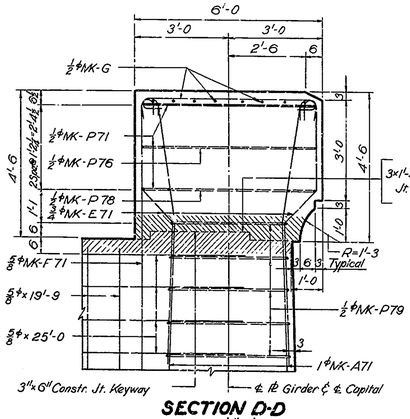
SHOWING CONCRETE DIMENSIONS SHOWING REINFORCING STEEL

ELEVATION

SECTION E-E

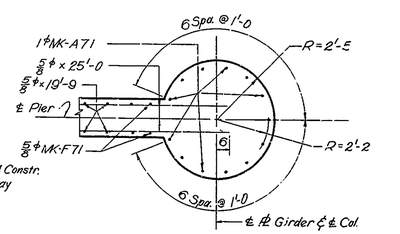
SECTION A-A

MAX. SOIL PRESSURE (WITHOUT PILES) = 3.0 T/sq.ft.



SECTION D-D

Scale:- $\frac{1}{2}$" = 1'-0



SECTION B-B

Scale:- $\frac{3}{8}$" = 1'-0

NOTES:-

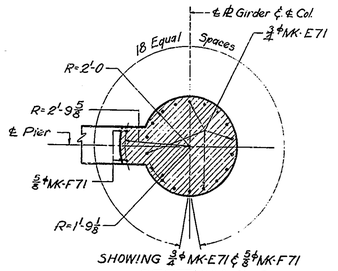
Minimum lap to be 2'-6 for ½ ϕ, 3'-3 for ⅝ ϕ, 3'-9 for ¾ ϕ & 5'-0 for 1 ϕ Bars.

Holes for Anchor Bolts MK-AB2 shall be drilled.

Anchor Bolts MK-AB2 are billed with Structural Steel.

Pier is symmetrical about ℄ Rdwy.

In Section B-B, bars projecting above Constr. Jt. No 1 from below, not shown.



SHOWING ¾ ϕ MK-E71 ℄ ⅝ ϕ MK-F71

SECTION C-C

Scale:- $\frac{3}{8}$" = 1'-0

PIER NO. 7 DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- $\frac{1}{4}$" = 1'-0" UNLESS NOTED AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. L. Smythe Jr. ENGINEER OF BRIDGE DESIGN

PROJECT:- F - 645(3) STATION:- 11+25.00

DRAWING:- S9 OF 47

BRIDGE CONTRACT NO. 3289

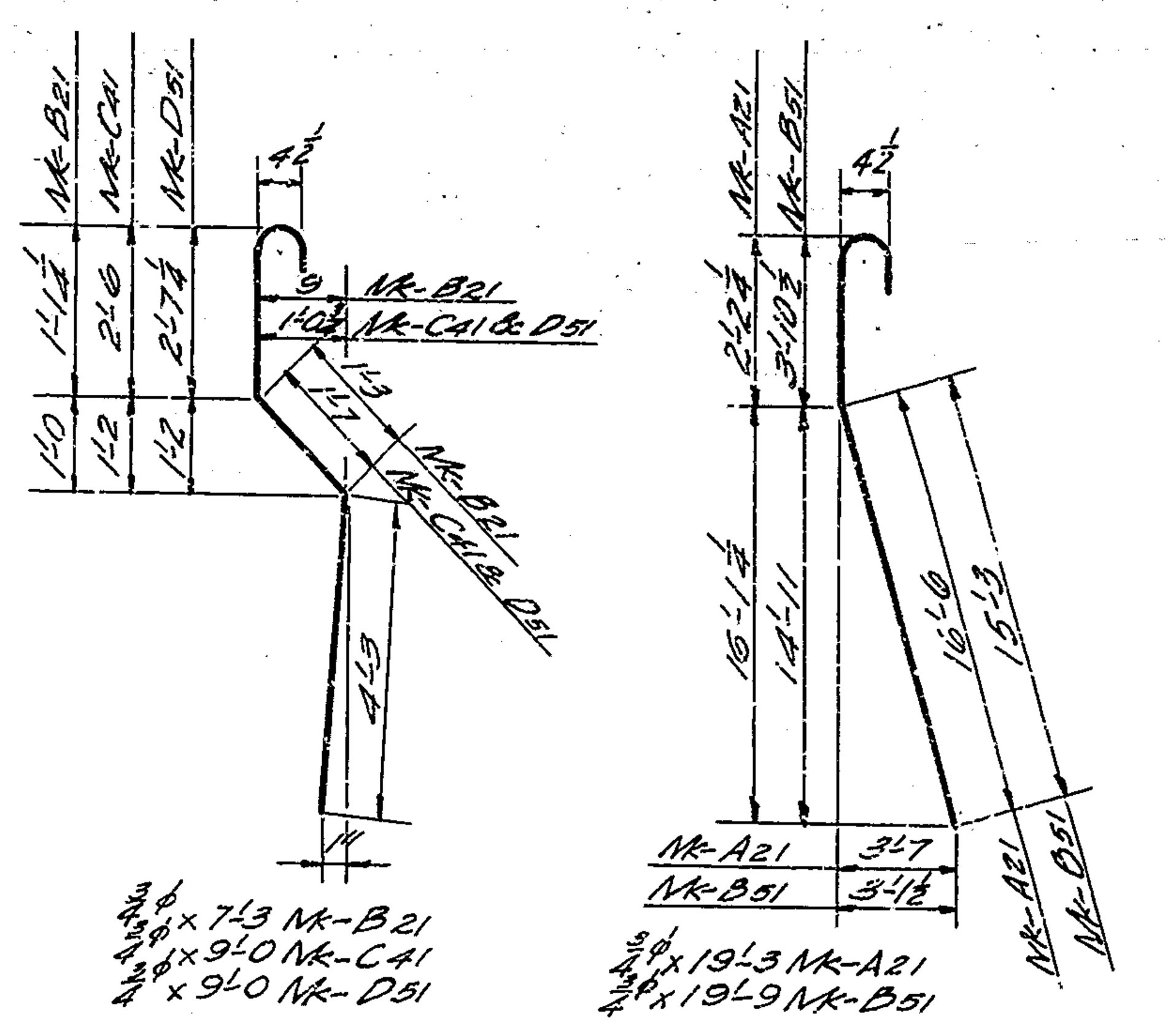
BRIDGE FILE:- 39-A-3108

DESIGNED		C'K'D	
DRAWN	PCG 1-26-50	C'K'D	HPC 2-14-50
TRACED	PCG 2-17-50	C'K'D	HLL 3-3-50

EUGENE DIETZGEN CO. INC. 111

BILL OF MATERIALS

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	16	65



PIER NO. 2 (PIER NO. 12 SAME)

REINFORCING STEEL

MARK	Nº PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
A21	38	3/4φ	19'-3	Vert. Stem & Copg.	731'-6	
B21	38	"	7'-3	" Copg.	275'-6	
C21	38	"	6'-6	Footing Stubs	247'-0	
D21	68	"	4'-6	Transv. Copg.	306'-0	
D22	9	"	3'-3	" "	29'-3	
D23	9	"	3'-0	" Top Stem	27'-0	
P21	4	"	12'-3	Horiz. Copg. Nose	49'-0	
P22	2	"	11'-9	" Footing	23'-6	
P23	2	"	11'-9	" Stem Nose	23'-6	
P24	12	"	11'-9	" " "	141'-0	
P25	16	"	10'-9	" " "	172'-0	
P26	2	"	10'-3	" Copg. Nose	20'-6	
S21	8	"	14'-0	Girder Anch. Stirrups	112'-0	
S22	20	"	7'-0	Wall Stirrups	140'-0	
	1	"	36'-3	Longit. Copg.	36'-3	
	36	"	33'-3	" " & Stem	1197'-0	
	4	"	31'-9	" " & Wall	127'-0	
	4	"	18'-9	" Footing	75'-0	
	38	"	16'-3	Vert. Stem	617'-6	
				Total 3/4φ	4350'-0	6534#
E21	57	5/8φ	11'-0	Transv. Footing	627'-0	654#
	22	1/2φ	19'-9	Longit. Footing	434'-6	290#
				TOTAL STEEL		7478#
				CONCRETE		
Class "E":-Above Ftg:-Top Ftg. to Constr. Jt. Nº 1					48.3 Cu. Yds.	
Constr. Jt. Nº 1 to Bott. Copg.					48.6 " "	
Coping & Wall					14.1 " "	
Total Class "E" Above Ftg.						111.0 Cu. Yds.
Class "E" In Footing						43.8 Cu. Yds.
				MISCELLANEOUS		
52 Untreated Timber Piles (20'-0 Approx.)						1040 Lin. Ft.

PIER NO. 4 (PIER NO. 10 SAME)

REINFORCING STEEL

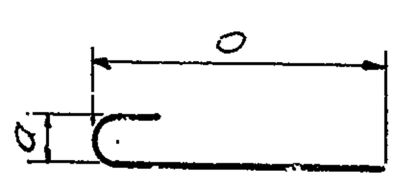
MARK	Nº PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
A41	5	3/4φ	35'-9	Horiz. Offset Wall	178'-9	
A42	48	"	16'-3	Longit. Ftg.	780'-0	
A43	38	"	14'-9	Transv. "	560'-6	
B41	8	"	22'-0	Vert. Col. & Offset Wall	176'-0	
B42	22	"	18'-0	" "	396'-0	
C41	38	"	9'-0	" Capital	342'-0	
	1	"	25'-6	Horiz. Offset Wall	25'-6	
	3	"	25'-0	" " " & Center Wall	75'-0	
	2	"	24'-0	" " "	48'-0	
	30	"	18'-0	Vert. Column	540'-0	
	30	"	6'-6	" " Stubs	195'-0	
				Total 3/4φ	3316'-9	4982#
D41	2	5/8φ	35'-0	Horiz. Offset Wall	70'-0	
E41	57	"	15'-0	Vert. Center "	855'-0	
G41	28	"	11'-9	L-Bars Offset Wall	329'-0	
H41	30	"	10'-6	L- " " "	315'-0	
J41	35	"	4'-0	Transv. Center Wall & Offset Wall	140'-0	
S41	2	"	8'-6	Offset Wall Stirrups	17'-0	
S42	2	"	7'-9	" " "	15'-6	
S43	2	"	7'-6	" " "	15'-0	
S44	2	"	7'-0	" " "	14'-0	
S45	2	"	6'-6	" " "	13'-0	
S46	2	"	6'-3	" " "	12'-6	
	2	"	34'-6	Horiz. Offset Wall	69'-0	
	2	"	30'-0	" " "	60'-0	
	67	"	25'-0	Horiz. Center Wall & Offset Wall	1675'-0	
	40	"	21'-0	Vert. Center Wall	840'-0	
	20	"	5'-6	" " " Stubs	110'-0	
				Total 5/8φ	4550'-0	4740#
K41	8	1/2φ	7'-0	Transv. & Longit. in Br. St.	56'-0	
K42	8	"	6'-6	" " " " " "	52'-0	
K43	8	"	6'-0	" " " " " "	48'-0	
K44	8	"	4'-9	" " " " " "	38'-0	
P41	6	"	21'-6	Capital Ties	129'-0	
P42	2	"	19'-3	Col. Stub Ties in Ftg.	38'-6	
P43	14	"	19'-0	Col. Ties	266'-0	
P44	14	"	18'-3	" "	255'-6	
P45	14	"	17'-3	" "	241'-6	
P46	14	"	16'-3	" "	227'-6	
P47	2	"	15'-3	Capital Ties	30'-6	
P48	2	"	15'-3	" "	30'-6	
P49	2	"	15'-0	" "	30'-0	
	4	"	4'-0	Wall Stub Ties in Ftg.	16'-0	
				Total 1/2φ	1459'-0	975#
				TOTAL STEEL		10,703#
				CONCRETE		
Class "E":-Above Ftg:-						
Top Ftg. to Bott. Col. Capitals					70.4 Cu. Yds.	
Bott. Col. Capitals to Top Bridge Seats					29.3 " "	
Total Class "E" above Ftg.						99.7 Cu. Yds.
Class "E" In Footing:-2@26.1 Cu. Yds.						52.2 Cu. Yds.
				MISCELLANEOUS		
60 Untreated Timber Piles (20'-0 Approx.)						1200 Lin. Ft.

PIER NO. 5 (PIER NO. 9 SAME)

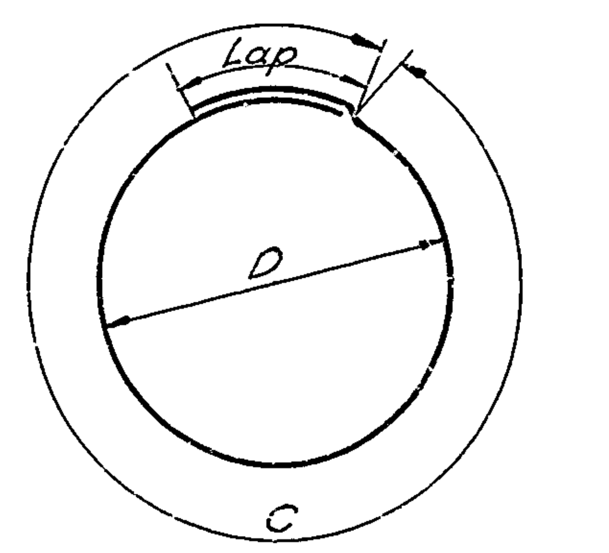
REINFORCING STEEL

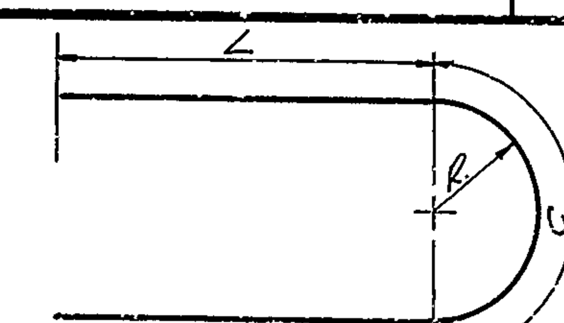
MARK	Nº PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
A51	56	7/8φ	16'-6	Longit. Footing	924'-0	1889#
B51	30	3/4φ	19'-9	Vert. Column	592'-6	
C51	54	"	14'-9	Transv. Footing	796'-6	
D51	36	"	9'-0	Vert. Capital	324'-0	
	30	"	20'-0	" Column	600'-0	
	30	"	6'-6	" " Stubs	195'-0	
				Total 3/4φ	2508'-0	3767#
E51	4	5/8φ	19'-0	Vert. Wall & Capital	76'-0	
	62	"	25'-0	Horiz. Wall	1550'-0	
	40	"	20'-0	Vert. Wall	800'-0	
	36	"	14'-0	" "	504'-0	
	20	"	5'-6	" " Stubs	110'-0	
				Total 5/8φ	3040'-0	3171#
F51	8	1/2φ	6'-3	Transv. & Longit. in Br. St.	50'-0	
F52	8	"	6'-0	" " " " "	48'-0	
F53	8	"	5'-3	" " " " "	42'-0	
F54	8	"	3'-6	" " " " "	28'-0	
P51	6	"	20'-0	Capital Ties	120'-0	
P52	2	"	18'-0	Column Stub Ties in Ftg.	36'-0	
P53	14	"	18'-0	Column Ties	252'-0	
P54	12	"	17'-0	" "	204'-0	
P55	2	"	16'-9	Capital Ties	33'-6	
P56	12	"	16'-3	Column "	195'-0	
P57	12	"	15'-6	" "	186'-0	
P58	2	"	15'-3	Capital "	30'-6	
P59	14	"	14'-9	Column "	206'-6	
	4	"	4'-0	Wall Stub Ties in Ftg.	16'-0	
				Total 1/2φ	1447'-6	967#
				TOTAL STEEL		9794#
				CONCRETE		
Class "E":-Above Ftg:-						
Columns & Wall Top Ftg. to Bott. Col. Cap.					72.7 Cu. Yds.	
Column Capitals (2@4.3 Cu. Yds.)					8.6 Cu. Yds.	
Total Class "E" Above Ftg.						81.3 Cu. Yds.
Class "E" In Footings:-2@26.1 Cu. Yds.						52.2 Cu. Yds.
				MISCELLANEOUS		
60 Untreated Timber Piles (20'-0 Approx.)						1200 Lin. Ft.

NOTES:-
All Dimensions on Details and Bending Diagrams for Reinforcing Bars are measured on centerlines of Bars.
See Summary Sheet for Bill of Splice Bars.



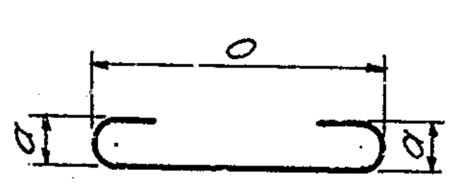
Mark	Size	O	a	Length
B41	3/4φ	21'-4	4 1/2	22'-0
B42	3/4φ	17'-5	"	18'-0
C21	3/4φ	5'-10 1/2	"	6'-6
E41	5/8φ	14'-4	4	15'-0
E51	5/8φ	18'-6	4	19'-0





As "R" Varies by Successive Increments of 1/2"
"C" Varies by Successive Increments of 1 1/2"
"L" Varies by Successive Decrements of 3/4"

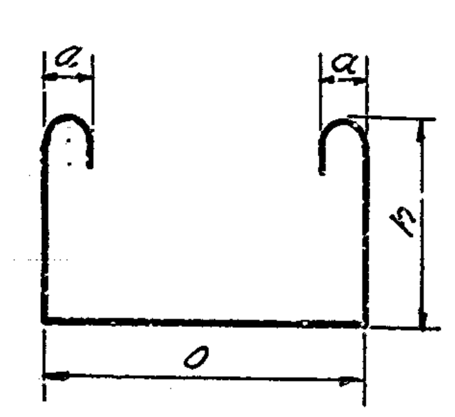
Mark	Size	R	C	L	Length
P21	3/4φ	1'-5 7/8	4'-8 1/4	3'-9 3/8	12'-3
P22	"	1'-4	4'-2 1/4	3'-9 3/8	11'-9
P23	"	1'-3 7/8	4'-1 3/4	3'-9 5/8	11'-9
P24	"	1'-1 to 1'-3 1/2	3'-4 3/4 to 4'-0 1/4	4'-2 5/8 to 3'-10 1/8	11'-9
P25	"	9 to 1'-0 1/2	2'-4 1/4 to 3'-2 3/4	4'-2 3/8 to 3'-9 1/8	10'-9
P26	"	10 1/4	2'-8 1/4	3'-9 3/8	10'-3



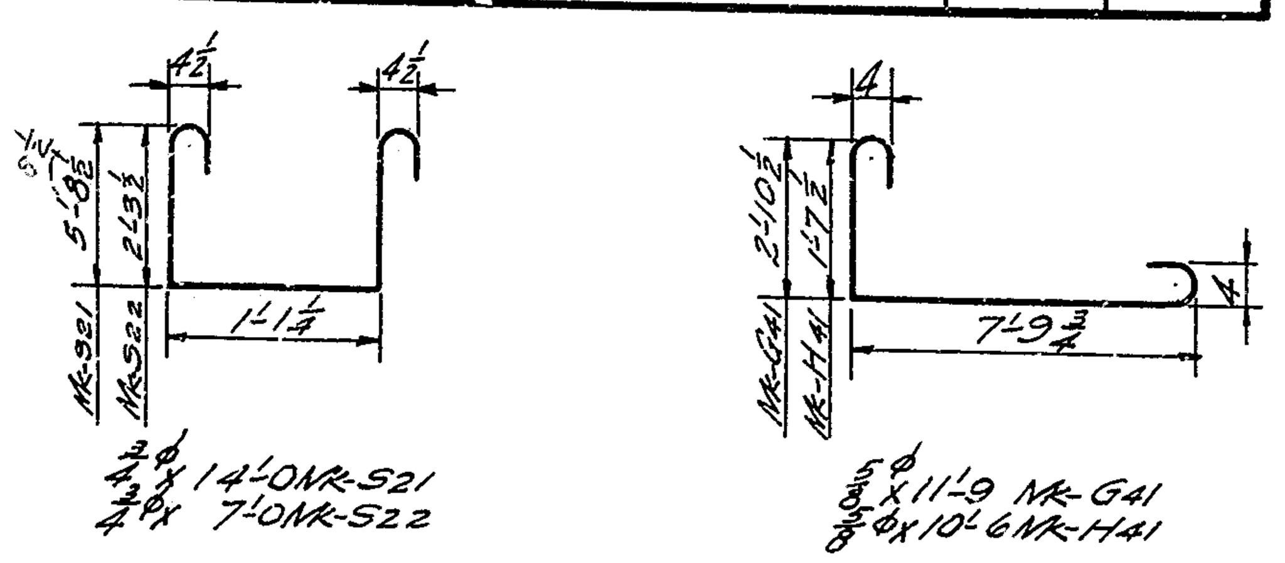
Mark	Size	O	a	Length
A51	7/8φ	14'-11	5"	16'-6
A41	3/4φ	34'-6	4 1/2	35'-9
A42	"	14'-11	4 1/2	16'-3
A43	"	13'-5	4 1/2	14'-9
C51	"	13'-5	4 1/2	14'-9
D21	"	3'-1 1/4	4 1/2	4'-6
D22	"	1'-10	4 1/2	3'-3
D23	"	1'-7 1/2	4 1/2	3'-0
E21	5/8φ	9'-11	4	11'-0
J41	5/8φ	2'-10 1/2	4	4'-0
F51	1/2φ	5'-6	3	6'-3
F52	"	5'-2	3	6'-0
F53	"	4'-4	3	5'-3
F54	"	2'-9	3	3'-6
K41	"	6'-1	3	7'-0
K42	"	5'-9	3	6'-6
K43	"	5'-1 1/2	3	6'-0
K44	"	3'-11	3	4'-9

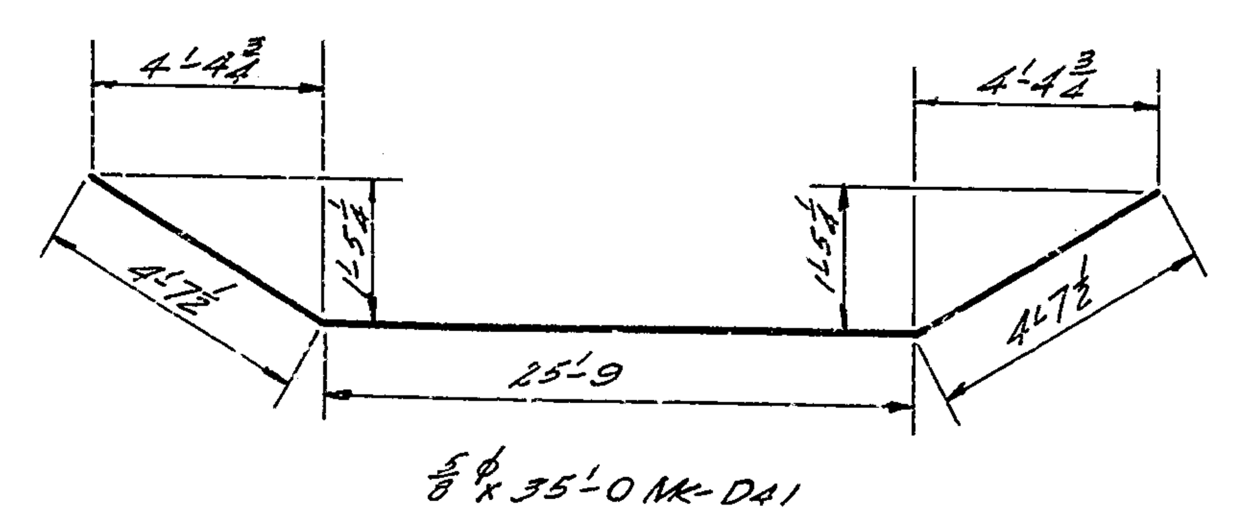
As "D" Varies by Successive Increments of 1/2"
"C" Varies by Successive Increments of 1 1/2"
Lap Varies by Successive Decrements of 1"

Mark	Size	D	Length
P41	1/2φ	6'-0	21'-6
P42	"	5'-3 1/4	19'-3
P43	"	4'-11 3/4 to 5'-2 3/4	19'-0
P44	"	4'-8 1/4 to 4'-11 1/4	18'-3
P45	"	4'-4 3/4 to 4'-7 3/4	17'-3
P46	"	4'-1 1/4 to 4'-4 1/4	16'-3
P47	"	4'-0 1/2	15'-3
P48	"	4'-0	15'-3
P49	"	3'-11 1/2	15'-0
P51	"	5'-6	20'-0
P52	"	4'-11	18'-0
P53	"	4'-7 3/4 to 4'-10 3/4	18'-0
P54	"	4'-4 3/4 to 4'-7 3/4	17'-0
P55	"	4'-6	16'-9
P56	"	4'-1 3/4 to 4'-4 3/4	16'-3
P57	"	3'-10 3/4 to 4'-1 1/4	15'-6
P58	"	4'-0 1/2	15'-3
P59	"	3'-7 1/4 to 3'-10 1/4	14'-9



Mark	Size	O	a	h	Length
S41	5/8φ	1'-7 1/2	4	2'-10 1/2	8'-6
S42	"	"	"	2'-6	7'-9
S43	"	"	"	2'-4	7'-6
S44	"	"	"	2'-0 1/2	7'-0
S45	"	"	"	1'-10 1/2	6'-6
S46	"	"	"	1'-8 1/2	6'-3





BILL OF MATERIALS
PIERS NO. 2, 4, 5, 9, 10 & 12
STATE HIGHWAY COMMISSION OF INDIANA

AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. W. Smythe, ENGINEER OF BRIDGE DESIGN

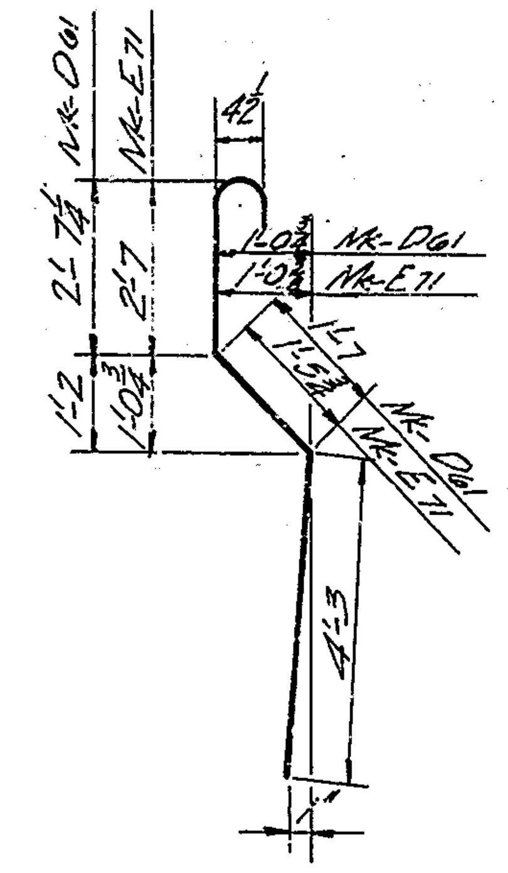
PROJECT.-F-645(3) STATION:-11+25.00
DRAWING:-S10 OF 47
BRIDGE CONTRACT NO. 3289
BRIDGE FILE:-39-A-3103

DESIGNED ______ CK'D ______
DRAWN ______ CK'D ______
TRACED R.E.B. 3-10-50 CK'D H.R.C. 3-22-50

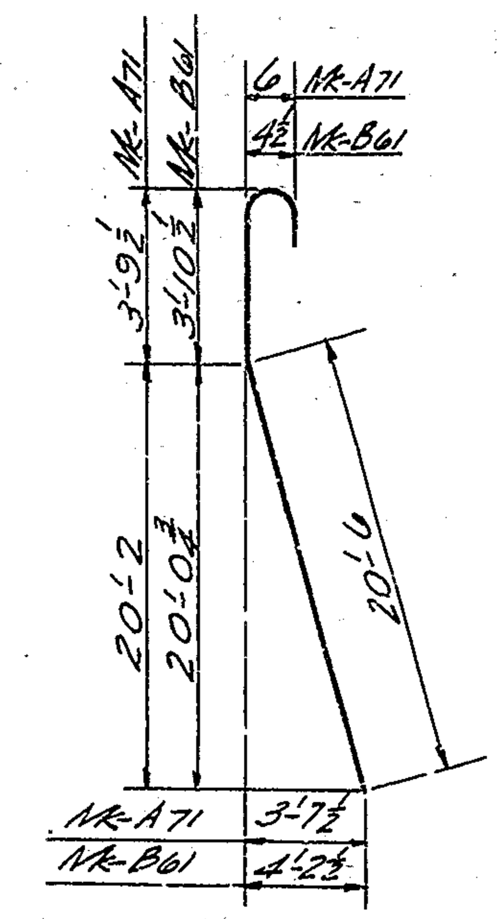
PUR. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	17	65

BRIDGES OVER 20 SPAN

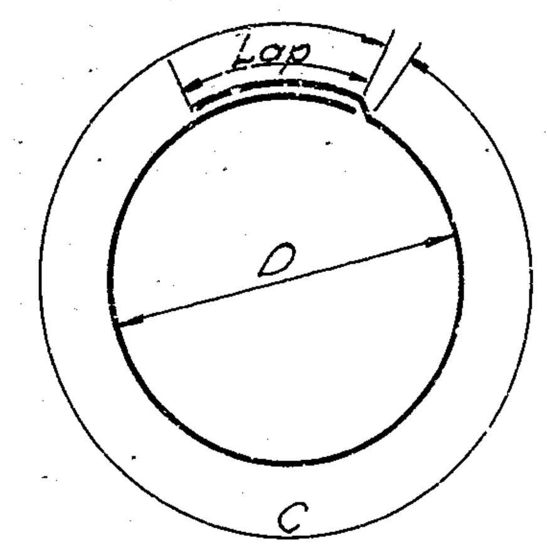
BILL OF MATERIALS



3/4φ x 9'-0 Mk-D61
3/4φ x 9'-0 Mk-E71

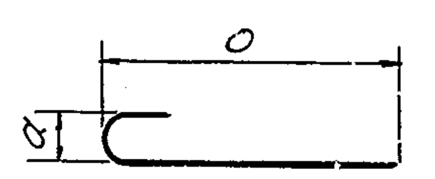


1φ x 25'-3 Mk-A71
3/4φ x 25'-0 Mk-B61

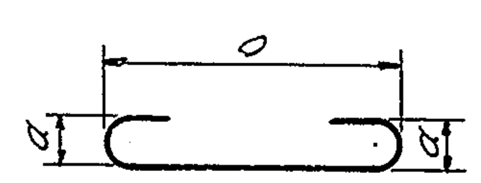


As "D" Varies by Successive Increments of 1/2"
"C" Varies by Successive Increments of 1 1/2"
Lap Varies by Successive Decrements of 3/16"

Mark	Size	D	Length
P61	1/2φ	5'-6	20'-0
P62	"	5'-2	18'-9
P63	"	5'-1¾ to 4'-10¼	18'-9
P64	"	4'-9¾ to 4'-6¼	17'-9
P65	"	4'-5¾ to 4'-2¼	16'-9
P66	"	4'-6	16'-9
P67	"	4'-1¾ to 3'-10¾	15'-9
P68	"	4'-0½	15'-3
P69	"	3'-10¼ to 3'-7¼	14'-9
P71	"	5'-5½	19'-9
P72	"	5'-1¾	18'-9
P73	"	4'-10¼ to 5'-1¼	18'-9
P74	"	4'-6¾ to 4'-9¾	17'-9
P75	"	4'-2¾ to 4'-6¼	16'-9
P76	"	4'-4	16'-3
P77	"	3'-11¼ to 4'-2¼	15'-9
P78	"	3'-11½	15'-0
P79	"	3'-7¼ to 3'-10¾	14'-9



Mark	Size	O	a	Length
C71	1φ	7'-11½	6	8'-9
E61	5/8φ	24'-3	4	24'-9
F71	5/8φ	24'-1½	4	24'-9



Mark	Size	O	a	Length
A61	1φ	17'-5	6	19'-3
B71	1φ	17'-5	6	19'-3
C61	3/4φ	13'-5	4½	14'-9
D71	3/4φ	13'-5	4½	14'-9
F61	1/2φ	5'-6	3	6'-3
F62	"	5'-2	3	6'-0
F63	"	4'-4	3	5'-3
F64	"	2'-9	3	3'-6
G71	"	5'-6	3	6'-3
G72	"	5'-2	3	6'-0
G73	"	4'-4	3	5'-3
G74	"	2'-9	3	3'-6

PIER NO. 6 (PIER NO. 8 SAME)

REINFORCING STEEL

MARK	No PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
A61	56	1φ	19'-3	Longit. Footing	1078'-0	2878#
B61	26	3/4φ	25'-0	Vert. Column	650'-0	
C61	62	"	14'-9	Transv. Ftg.	914'-6	
D61	36	"	9'-0	Vert. Capital	324'-0	
	30	"	20'-9	Vert. Column	622'-6	
	30	"	6'-6	Vert. Column Stubs	195'-0	
				Total 3/4φ	2706'-0	4064#
E61	4	5/8φ	24'-9	Vert. Wall & Capital	99'-0	
	74	"	25'-0	Horiz. Wall	1850'-0	
	40	"	20'-3	Vert. Wall	810'-0	
	36	"	19'-9	" "	711'-0	
	20	"	5'-6	" " Stubs	110'-0	
				Total 5/8φ	3580'-0	3734#
F61	8	1/2φ	6'-3	Transv. & Longit. in Br. St.	50'-0	
F62	8	"	6'-0	" " " " " "	48'-0	
F63	8	"	5'-3	" " " " " "	42'-0	
F64	8	"	3'-6	" " " " " "	28'-0	
P61	6	"	20'-0	Capital Ties	120'-0	
P62	2	"	18'-9	Col. Stub Ties in Ftg.	37'-6	
P63	16	"	18'-9	Col. Ties	300'-0	
P64	16	"	17'-9	" "	284'-0	
P65	16	"	16'-9	" "	268'-0	
P66	2	"	16'-9	Capital Ties	33'-6	
P67	14	"	15'-9	Column Ties	220'-6	
P68	2	"	15'-3	Capital Ties	30'-6	
P69	14	"	14'-9	Column Ties	206'-6	
	4	"	4'-0	Wall Stub Ties in Ftg.	16'-0	
				Total 1/2φ	1684'-6	1125#
				TOTAL STEEL		11801#

CONCRETE

Class "E" Above Ftg.		
Top of Footing to Constr. Jt. No 1	44.5 Cu. Yds.	
Constr. Jt. No 1 to Bott. Column Capitals	44.6 Cu. Yds.	
Column Capitals (2@4.3 Cu. Yds.)	8.6 Cu. Yds.	
Total Class "E" Above Ftg.		97.7 Cu. Yds.
Class "E" In Footing (2@30.3 Cu. Yds.)		60.6 Cu. Yds.

MISCELLANEOUS

56 Steel Encased Conc. Piles (14"x35'-0 No 7 Ga.)		1960 Lin. Ft.

PIER NO. 7

REINFORCING STEEL

MARK	No PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
A71	26	1φ	25'-3	Vert. Col. & Capital	656'-6	
B71	48	"	19'-3	Longit. Footing	924'-0	
C71	30	"	8'-9	Column Stubs	262'-6	
	30	"	21'-6	Vert. Column	645'-0	
				Total 1φ	2488'-0	6643#
D71	44	3/4φ	14'-9	Transv. Footing	649'-0	
E71	36	"	9'-0	Vert. Capital	324'-0	
				Total 3/4φ	973'-0	1461#
F71	4	5/8φ	24'-9	Vert. Wall & Capital	99'-0	
	72	"	25'-0	Horiz. Wall	1800'-0	
	76	"	19'-9	Vert. Wall	1501'-0	
	20	"	5'-6	" " Stubs	110'-0	
				Total 5/8φ	3510'-0	3661#
G71	8	1/2φ	6'-3	Transv. & Longit. Capital	50'-0	
G72	8	"	6'-0	" " " "	48'-0	
G73	8	"	5'-3	" " " "	42'-0	
G74	8	"	3'-6	" " " "	28'-0	
P71	6	"	19'-9	Capital Ties	118'-6	
P72	2	"	18-9	Col. Stub Ties in Ftg.	37'-6	
P73	14	"	18'-9	Column Ties	262'-6	
P74	14	"	17'-9	" "	248'-6	
P75	16	"	16'-9	" "	268'-0	
P76	2	"	16'-3	Capital Ties	32'-6	
P77	14	"	15'-9	Column Ties	220'-6	
P78	2	"	15'-0	Capital Ties	30'-0	
P79	16	"	14'-9	Column Ties	236'-0	
	4	"	4'-0	Wall Stub Ties in Ftg.	16'-0	
				Total 1/2φ	1638'-0	1094#
				TOTAL STEEL		12859#

CONCRETE

Class "E" Above Ftg.		
Top Ftg. to Constr. Jt. No 1	43.1 Cu. Yds.	
Constr. Jt. No 1 to Bott. Capitals	44.6 Cu. Yds.	
Capitals, (2@4.3 Cu. Yds.)	8.6 Cu. Yds.	
Total Class "E" Above Ftg.		96.3 Cu. Yds.
Class "E" In Footing (2@37.3 Cu. Yds.)		74.6 Cu. Yds.

MISCELLANEOUS

56 Steel Encased Conc. Piles (14"x35'-0 No 7 Ga.)		1960 Lin. Ft.

NOTES:-
All Dimensions on Details and Bending Diagrams for Reinforcing Bars are measured on centerlines of Bars.
See Summary Sheet for Bill of Splice Bars.

BILL OF MATERIALS
PIERS NO. 6, 7 & 8
STATE HIGHWAY COMMISSION OF INDIANA

AUGUST 1 1950

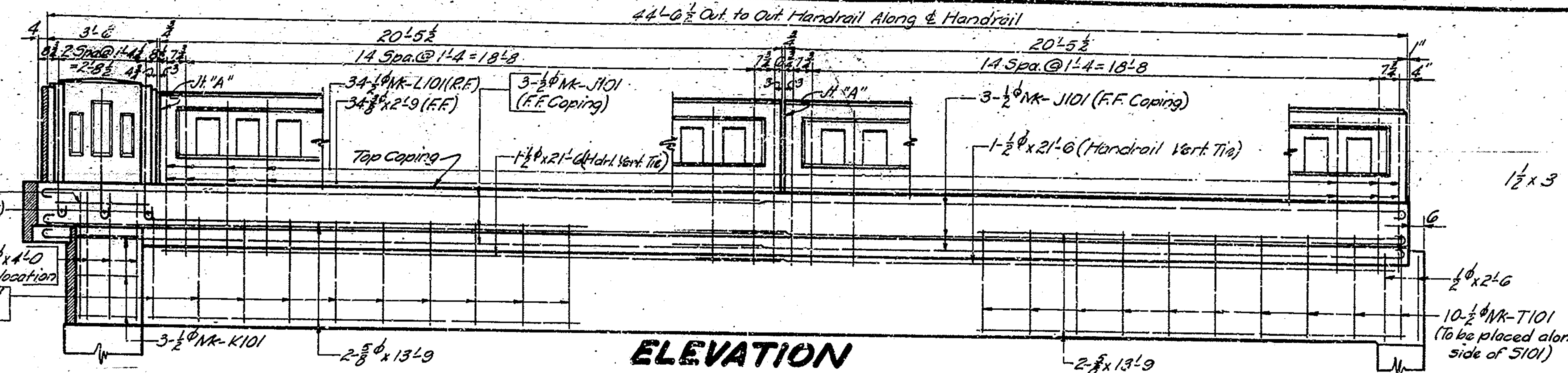
RECOMMENDED FOR APPROVAL:- J. N. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645 (3) STATION:- 11+25.00
DRAWING:- SII OF 47
BRIDGE CONTRACT NO. 3289

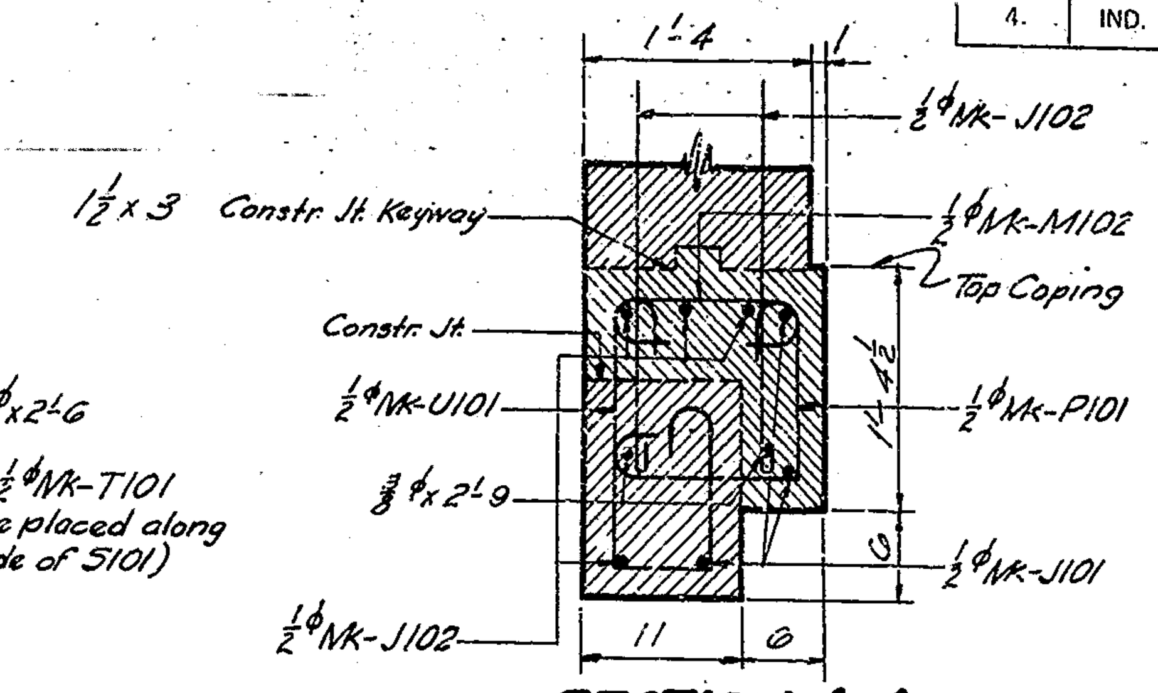
DESIGNED ____ CK'D ____
DRAWN ____ CK'D ____
TRACED E.E.B. 3-13-50 CK'D J.O.M. 3-22-50

BRIDGES OVER 20' SPAN

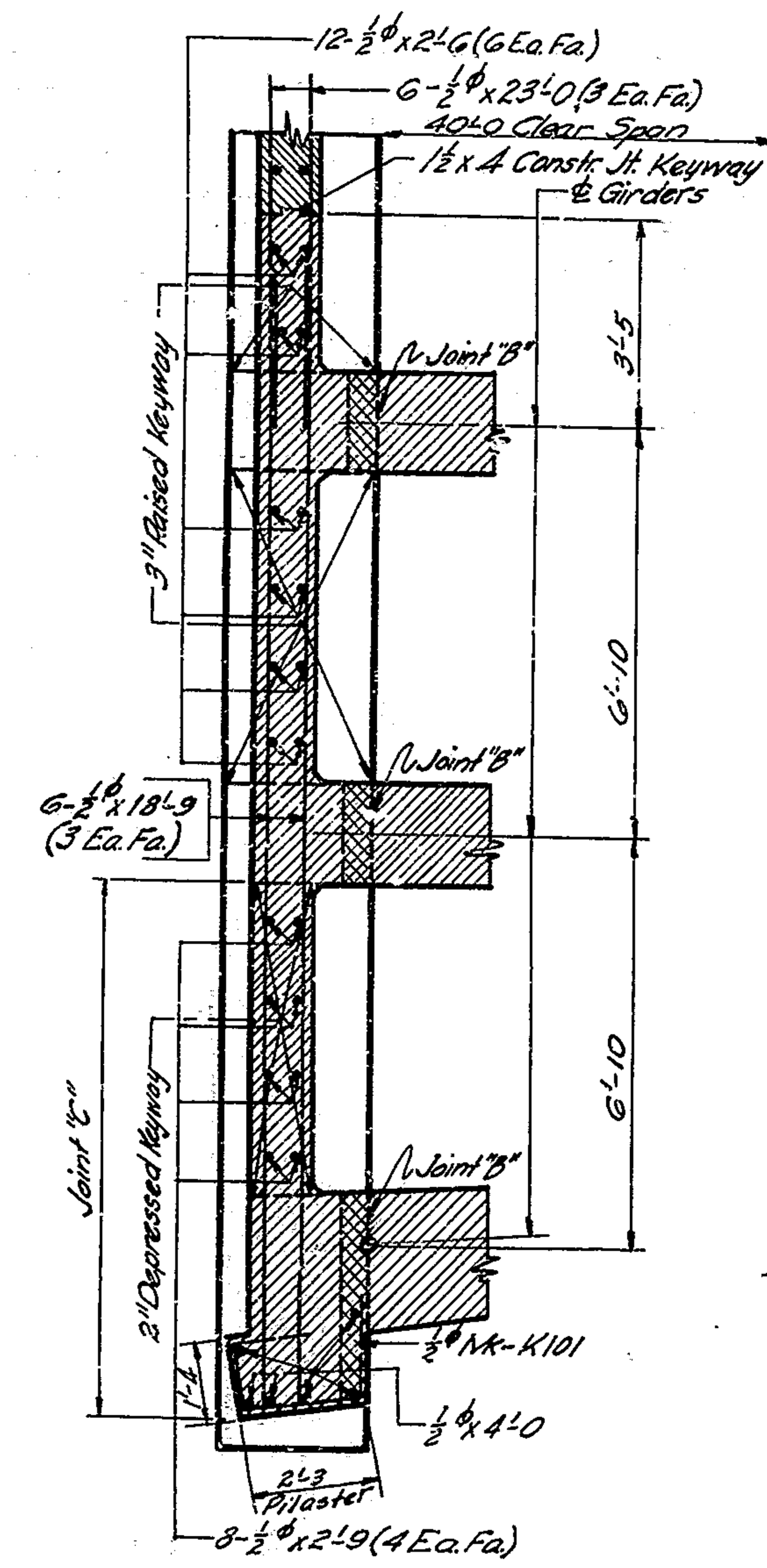
PUB ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4.	IND.	F 645(3)	1951	18	65



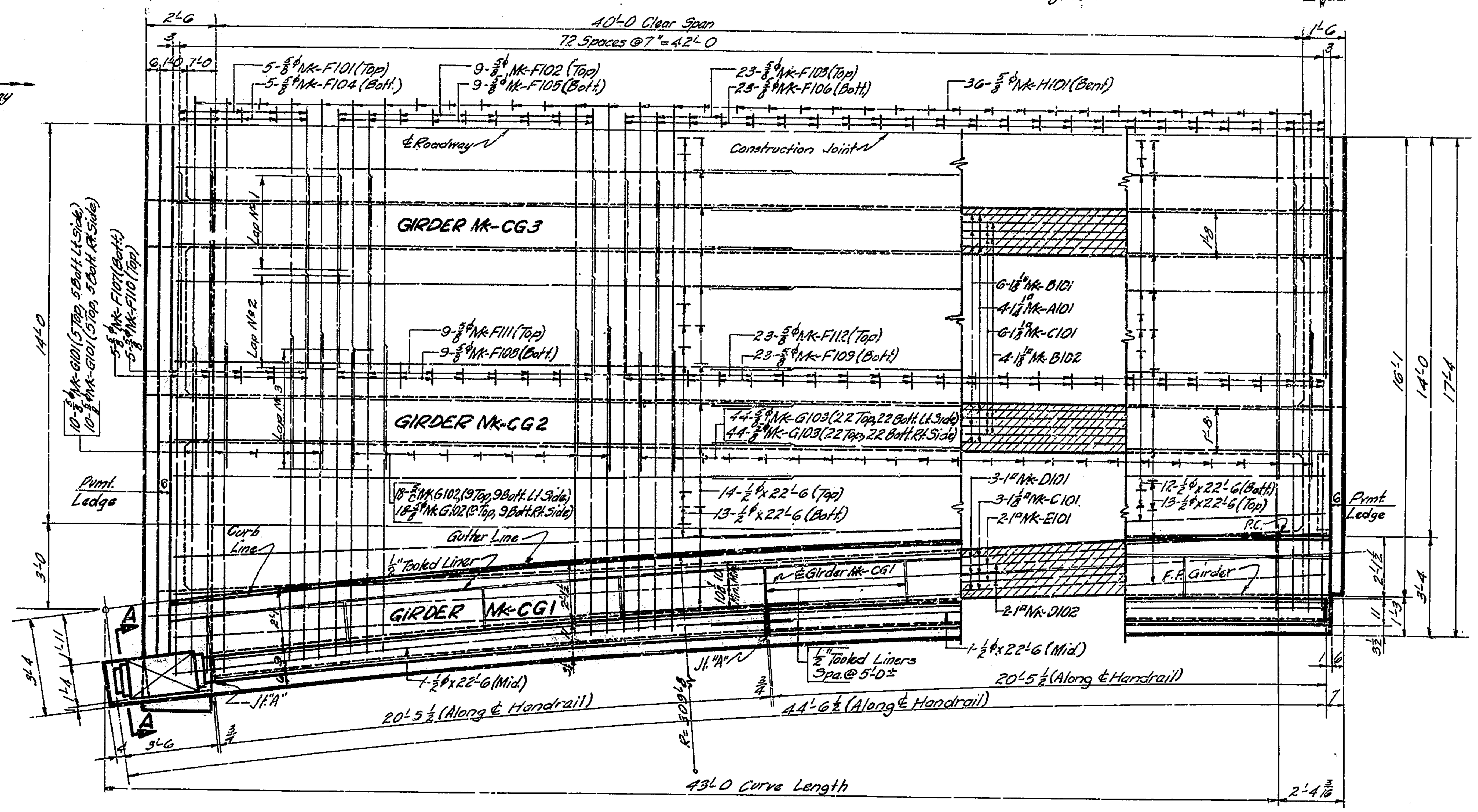
ELEVATION



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



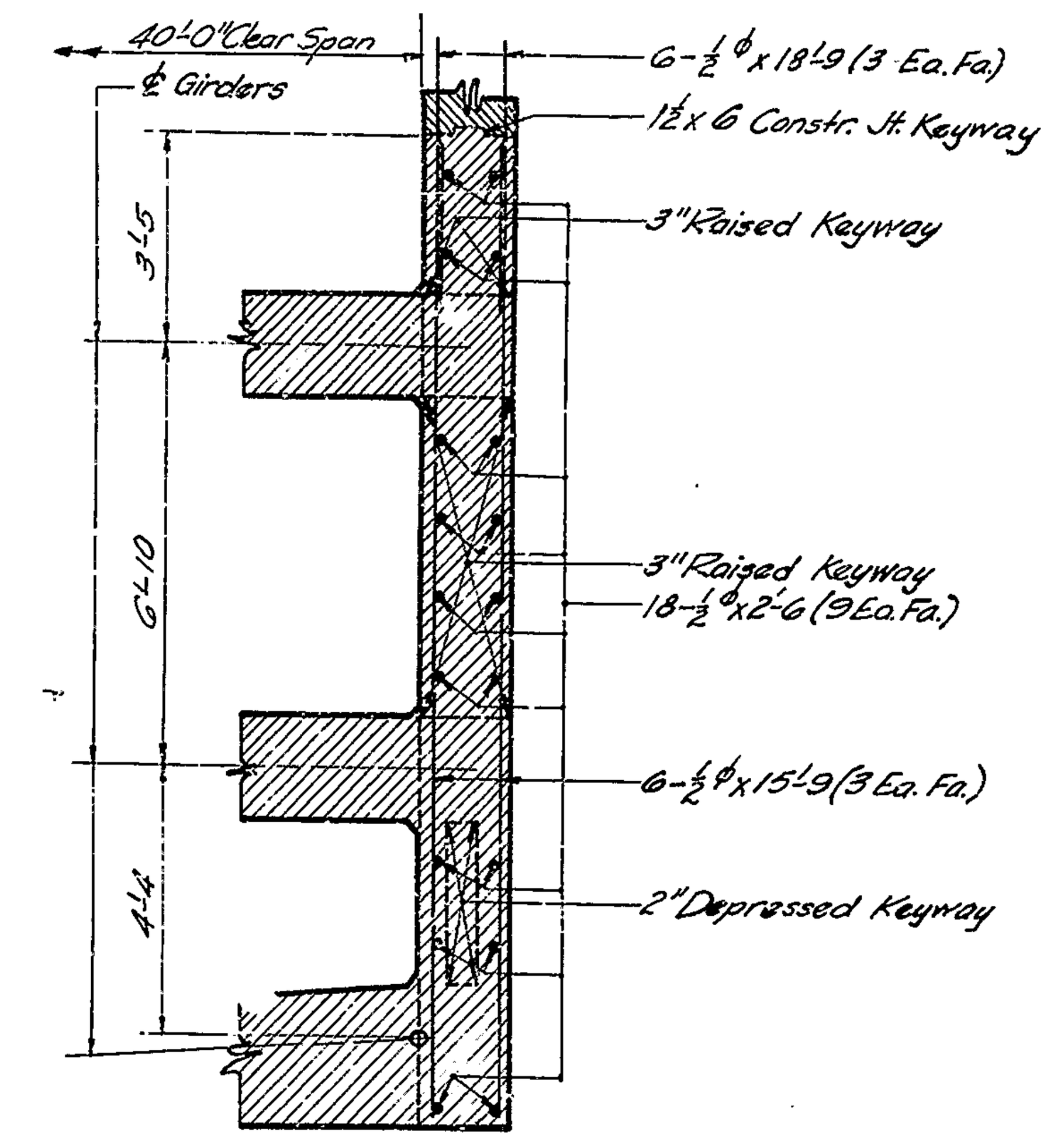
HORIZ. SECTION THRU MUDWALL AT END BENT



HALF PLAN SPAN "A"

SPAN "A" SYMMETRICAL ABOUT ℄ ROADWAY
SPAN "M" SAME EXCEPT OPP. HAND

NOTE:- Lap No. 1 indicates Lap of ⅝" Mk-F (Bott.)
" " 2 " " " " Mk-F (Top)
" " 3 " " " " Mk-G (Top) with ⅝" Mk-H (Bent)

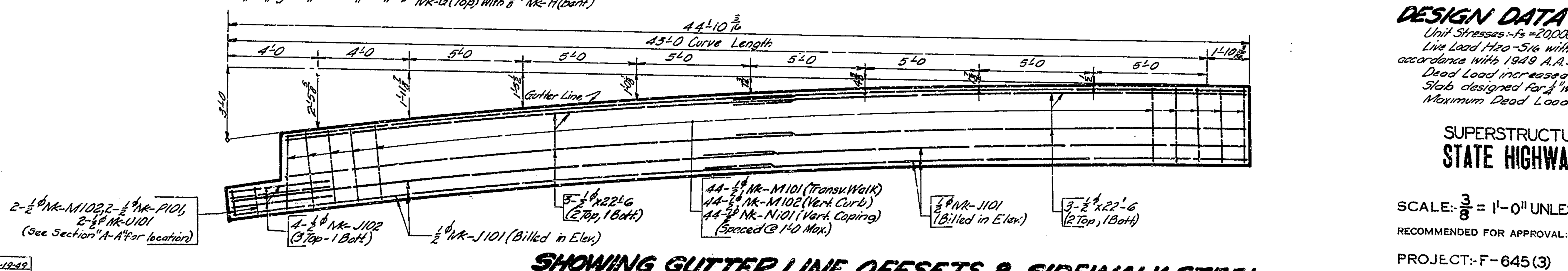


HORIZ. SECTION THRU CURTAIN WALL AT PIER

NOTE:-
Handrail & Posts to be built ⊥ to grade.
For Additional Sections See Drwg. S13.
For Joint Legend See General Plan.
For Bill of Materials See Drwg. S14.
Longitudinal Reinforcing bars in bottom of flared slab span to be equally spaced in middle half of clear span.
Minimum lap where shown to be 2'-6 for ½"ϕ and 3'-3 for ⅝"ϕ.

DESIGN DATA

Unit Stresses:- fs = 20,000 #/□": fc = 1,000 #/□".
Live Load H20-S16 with impact with distribution of loads in accordance with 1949 A.A.S.H.O. Specifications.
Dead Load increased 15 #/□' of Roadway for future wearing surface.
Slab designed for ¼" wearing surface.
Maximum Dead Load deflection = ¼".



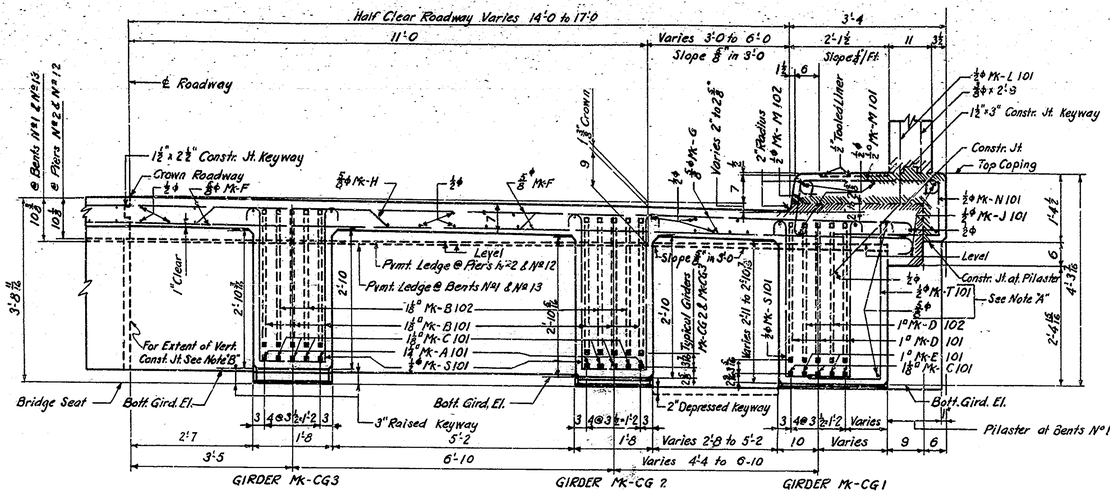
SHOWING GUTTER LINE OFFSETS & SIDEWALK STEEL
PART PLAN

SUPERSTRUCTURE DETAILS SPANS A & M
STATE HIGHWAY COMMISSION OF INDIANA

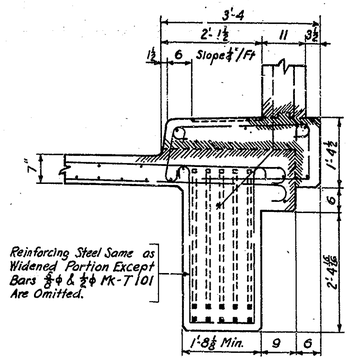
SCALE:- 3/8" = 1'-0" UNLESS NOTED   AUGUST 1, 1950
RECOMMENDED FOR APPROVAL:- J. N. Smythe, ENGINEER OF BRIDGE DESIGN
PROJECT:- F-645(3)   STATION:- 11 + 25.00
DRAWING:- S12 OF 47
BRIDGE CONTRACT NO. 3289

DESIGNED H.H.L. 12-1949 C'K'D J.R.M. 12-19-49
DRAWN R.G.G. 1-5-50 C'K'D R.M.S. 1-13-50
TRACED R.E.B. 2-6-50 C'K'D R.M.S. 2-7-50

BRIDGES OVER 20' SPAN					
PUB ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	10	65



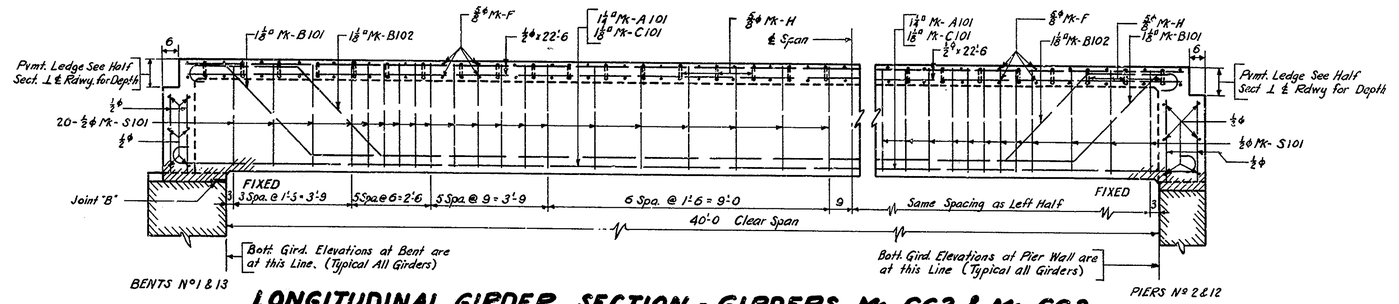
TYPICAL HALF SECTION ⊥ ℄ ROADWAY



SECTION THRU NARROW PORTION GIRDER MK-CG1

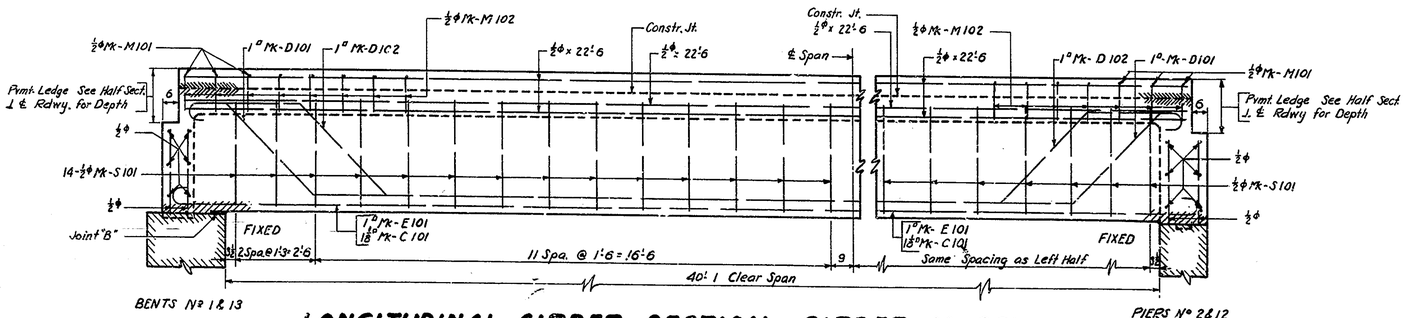
TABLE OF BOTTOM OF GIRDER ELEVATIONS

Girder	Bent N°1	Pier N° 2	Pier N°12	Bent N°13
MK-CG1	604.60	605.20	605.20	604.60
MK-CG2	604.73	605.33	605.33	604.73
MK-CG3	604.81	605.41	605.41	604.81



LONGITUDINAL GIRDER SECTION - GIRDERS MK-CG2 & MK-CG3

Scale:- ½" = 1'-0



LONGITUDINAL GIRDER SECTION - GIRDER MK-CG1

Scale:- ½" = 1'-0

Note 'A':- These bars do not extend length of girder. See Drwg. S12 for location.

Note 'B':- The Vertical Construction Joint keyway at Bents N°1 and N°13 extends from Pavement Ledge down to surface of Bent Cap and at Piers N°2 and N°12 from Pavement Ledge down to surface of Pier Wall.

NOTES:-
For Plan and Elevation Views and Additional Sections see Drwg. S12..
Laps of Transverse Slab Bars not shown. See Drwg. S12 for location.
Laps of ½ϕ x 22'-6 not shown. See Drwg. S12 for location.
For Joint Legend, See General Plan.

SUPERSTRUCTURE DETAILS SPANS A & M

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 3/4" = 1'-0" UNLESS NOTED AUGUST 1, 1950

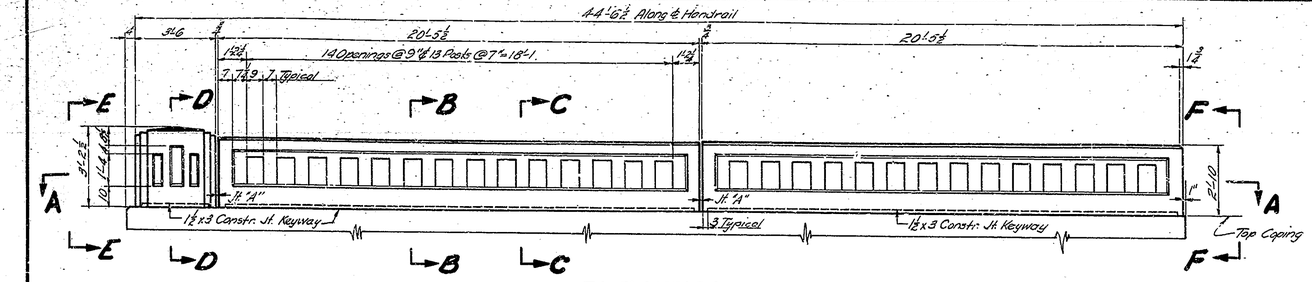
RECOMMENDED FOR APPROVAL:- J. B. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25.00

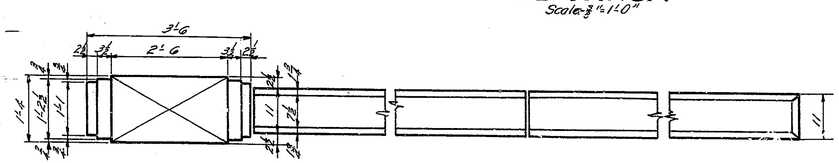
DRAWING: 13 OF 47

BRIDGE CONTRACT NO. 3289

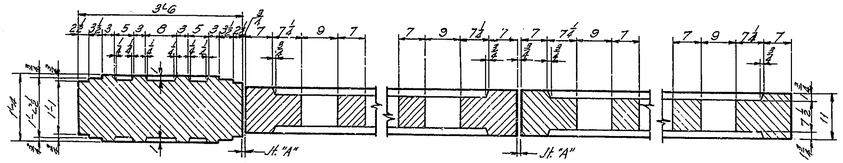
DESIGNED	HHL 12-19-49	C'K'D	JDM 12-19-49
DRAWN	JDM 1-6-50	C'K'D	RMS 1-12-50
TRACED	HHL 2-6-50	C'K'D	RMS 2-6-50



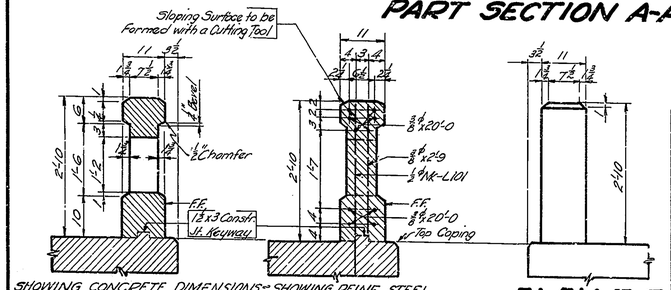
ELEVATION
Scale-¾"=1'-0"



PART PLAN

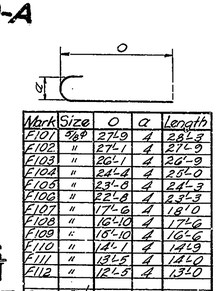


PART SECTION A-A



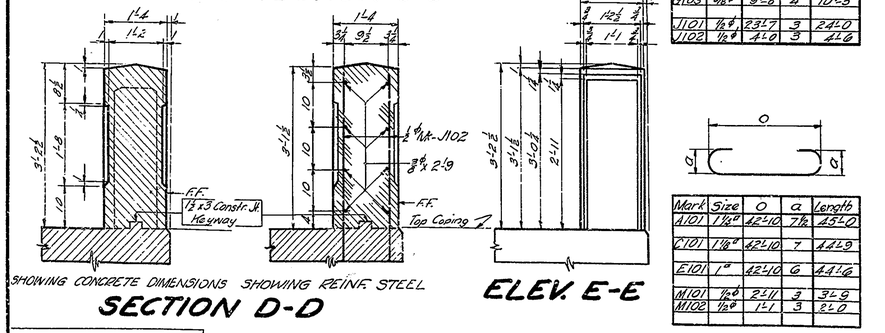
SHOWING CONCRETE DIMENSIONS — SHOWING REINF. STEEL

SECTION B-B SECTION C-C



ELEV. F-F

Mark	Size	O	a	Length
F101	⅝ø	27'-9	4	28'-3
F102	"	27'-1	4	27'-9
F103	"	26'-1	4	26'-9
F104	"	24'-8	4	25'-0
F105	"	23'-9	4	24'-3
F106	"	22'-8	4	23'-3
F107	"	17'-6	4	18'-0
F108	"	16'-10	4	17'-6
F109	"	16'-10	4	16'-6
F110	"	14'-7	4	14'-9
F111	"	13'-5	4	14'-0
F112	"	12'-5	4	13'-0
G101	⅝ø	11'-4	4	12'-0
G102	⅝ø	10'-8	4	11'-3
G103	⅝ø	9'-8	4	10'-3
J101	⅞ø	23'-7	3	24'-0
J102	⅞ø	4'-0	3	4'-6



SHOWING CONCRETE DIMENSIONS SHOWING REINF. STEEL

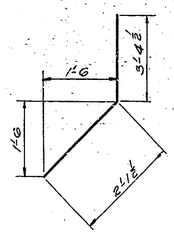
SECTION D-D

ELEV. E-E

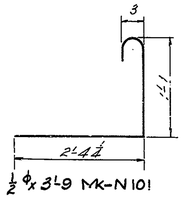
Mark	Size	O	a	Length
A101	1⅛ø	42'-10	7½	45'-0
C101	1⅛ø	42'-10	7	44'-9
E101	1"	42'-10	6	44'-6
M101	⅞ø	2'-11	3	3'-9
M102	½ø	1'-1	3	2'-0

DESIGNED ____ C'K'D ____
DRAWN W.D.M. 12-28-49 C'K'D R.E.S. 1-14-50
TRACED R.C.B. 1-26-50 C'K'D H.R.C. 1-30-50

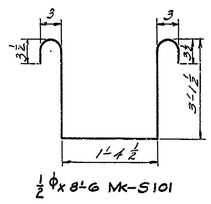
ALBERT DIETZGEN CO. NO. 111



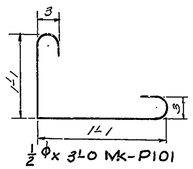
½ ø x 5'-6 Mk-L101



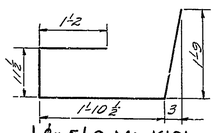
½ ø x 3'-9 Mk-N101



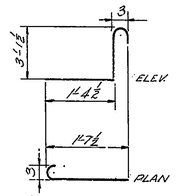
½ ø x 8'-6 Mk-S101



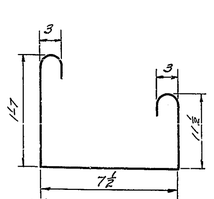
½ ø x 3'-0 Mk-P101



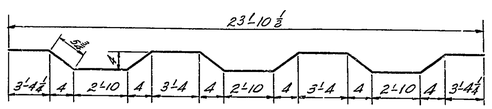
½ ø x 5'-9 Mk-K101



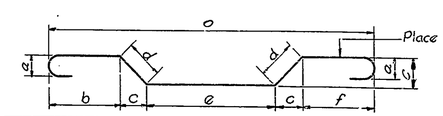
½ ø x 5'-3 Mk-T101



½ ø x 4'-0 Mk-U101



⅝ ø x 24'-9 Mk-H101



Mark	Size	O	a	b	c	d	e	f	Length
B101	1⅛ø	41'-10	7	1'-2	2'-8½	3'-9½	3'-11½	0'-8	46'-0
B102	1⅛ø	41'-10	7	3'-5½	2'-8½	3'-9½	3'-0'-1	2'-11½	46'-0
D101	1"	41'-11	6	1'-2	2'-9	3'-10⅜	3'-4'-7	0'-8	46'-0
D102	1"	41'-11	6	3'-6	2'-9	3'-10⅜	2'-5'-11	3'-0	46'-0

BRIDGES OVER 20' SPAN

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F 645(3)	1951	20	65

BILL OF MATERIALS SPAN "A"
(SPAN "M" SAME)

REINFORCING STEEL

MARK	No. PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
A101	8	1⅛ø	45'-0	Longit. Girds. Mk-CG2&CG3	360'-0	1913#
B101	12	1⅛ø	46'-0	Longit. Girds. Mk-CG2&CG3	552'-0	
B102	8	"	46'-0	" " " " " "	368'-0	
C101	18	"	44'-9	" All Girds.	805'-6	
				Total 1⅛ø	1725'-6	7425#
D101	6	1ø	46'-0	Longit. Gird. Mk-CG1	276'-0	
D102	4	"	46'-0	" " " "	184'-0	
E101	4	"	44'-6	" " " "	178'-0	
				Total 1ø	638'-0	2169#
F101	5	⅝ø	28'-3	Transv. Slab	141'-3	
F102	9	"	27'-9	" "	249'-9	
F103	23	"	26'-9	" "	615'-3	
F104	5	"	25'-0	" "	125'-0	
F105	9	"	24'-3	" "	218'-3	
F106	23	"	23'-3	" "	534'-9	
F107	5	"	18'-0	" "	90'-0	
F108	9	"	17'-6	" "	157'-6	
F109	23	"	16'-6	" "	379'-6	
F110	5	"	14'-9	" "	73'-9	
F111	9	"	14'-0	" "	126'-0	
F112	23	"	13'-0	" "	299'-0	
G101	20	"	12'-0	" "	240'-0	
G102	36	"	11'-3	" "	405'-0	
G103	88	"	10'-3	" "	902'-0	
H101	36	"	24'-9	" "	891'-0	
	8	"	13'-9	Longit. Girder Mk-CG1	110'-0	
				Total ⅝ø	5553'-0	5797#
J101	12	⅞ø	24'-0	Longit. Copg.	288'-0	
J102	20	"	4'-6	" & Vert. Hdrl. Bst	90'-0	
K101	6	"	5'-9	Horiz. Pilaster	34'-6	
L101	68	"	5'-6	Vert. Handrail	374'-0	
M101	88	"	3'-9	Transv. Sidewalk	330'-0	
M102	92	"	2'-0	Vert. Curb & Transv. Copg.	184'-0	
N101	88	"	3'-9	Vert. Coping	330'-0	
P101	4	"	3'-0	Coping	12'-0	
S101	216	"	8'-6	Stirrups	1836'-0	
T101	40	"	5'-3	Girder Mk-CG1	210'-0	
U101	4	"	4'-0	Coping	16'-0	
	6	"	23'-0	Horiz. Midwall	138'-0	
	120	"	22'-6	Longit. Slab & Sdwk.	2700'-0	
	4	"	21'-6	Longit. Gird. Mk-CG1	86'-0	
	12	"	18'-9	Horiz. Midwall & Curtain Wall	225'-0	
	6	"	15'-9	Horiz. Curtain Wall	94'-6	
	12	"	4'-0	Vertical Pilaster	48'-0	
	16	"	2'-9	Vertical Midwall	44'-0	
	60	"	2'-6	Vert. Midwall & Curtain Wall	150'-0	
				Total ⅞ø	7120'-0	4803#
	40	⅝ø	20'-0	Horizontal Handrail	800'-0	
	88	"	2'-9	Horiz. Hdrl. Bst. Vert. Hdrl. & Horiz. Coping	242'-0	
				Total ⅜ø	1042'-0	392#
				TOTAL STEEL		22,439#

CONCRETE

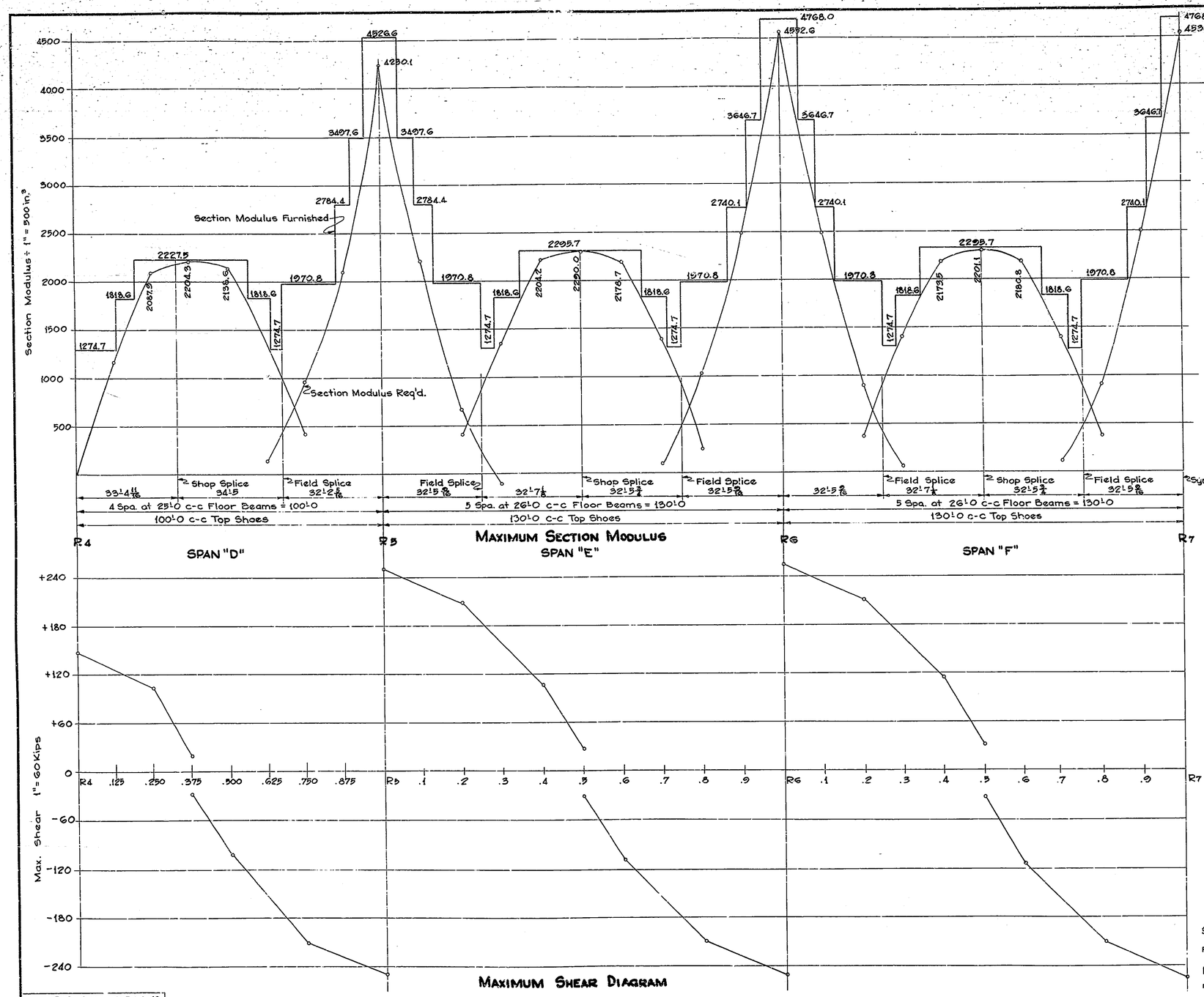
Class "F"-Center Constr. Jt. to Sdwk. Constr. Jt. (2@45.3 Cu. Yds.)	90.6 Cu. Yds.	
Sdwk. Constr. Jt. to Top Copg. (2@3.9 Cu. Yds.)	7.8 Cu. Yds.	
Total Class "F"		98.4 Cu. Yds.
Class "F"-Handrail (2@3.3 Cu. Yds.)		891 Lin. Ft.

Note:- All Dimensions on Details & Bending Diagrams for Reinforcing Bars are measured on Centerlines of Bars.

NOTES:-
Curvature of Handrail not shown. Lengths are measured on ℄ of Handrail.
See Summary Sheet for Bill of Splice Bars.

CONCRETE HANDRAIL DETAILS
SPANS A & M BILL OF MATERIALS
STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 3"/4 = 1'-0" UNLESS NOTED AUGUST 1, 1950
RECOMMENDED FOR APPROVAL:- J.W. Smythe ENGINEER OF BRIDGE DESIGN
PROJECT:- F-645 (3) STATION:- 11+25.00
DRAWING:- S14 OF 47
BRIDGE CONTRACT NO. 3289
BRIDGE FILE:- 39-A-3108



DESIGNED R.W.B. 8-6-49 CK'D C.R.E. 8-8-49
DRAWN R.W.B. 12-5-49 CK'D W.F.G. 1-4-50
TRACED M.W.S. 1-10-50 CK'D R.W.B. 1-16-50

BRIDGES OVER 20' SPAN

SUB. ROAD GIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-G45(3)	1951	21	65

SIMPLE BEAM SPANS B, C, K, & L

	MOMENT (FT. KIPS)			REACTIONS (KIPS)		
	Int. Bm.	N.O.S.Bm.	O.S. Bm.	Int. Bm.	N.O.S.Bm.	O.S. Bm.
Dead Load	393.45	380.76	353.06	24.21	23.43	34.16
Live Load	470.28	391.90	127.97	33.97	28.28	8.81
Impact	123.68	103.07	33.66	9.29	7.61	2.32
Total	987.41	875.73	716.69	68.47	60.02	45.29

℄ 36WF194 = 663.6 in.³ ℄ 36WF170 = 579.1 in.³ ℄ 36WF150 = 502.9 in.³

GIRDER SPANS

Stringers	MOMENT-25' SPANS (FT. KIPS)		MOMENT-26' SPANS (FT. KIPS)		REACTIONS (KIPS)
	Int. Stringer	O.S. Stringer	Int. Stringer	O.S. Stringer	
Dead Load	74.38	53.96	59.24	58.81	9.113
Live Load	124.300	103.60	133.00	111.00	30.203
Impact	37.30	31.08	39.90	33.30	9.060
Total	219.98	188.66	232.140	203.10	48.376

℄ 21WF73 = 150.7 in.³ ℄ 21WF68 = 139.9 in.³ ℄ 21WF62 = 126.4 in.³

Fl. Beams	26'-0 Panel		End Floor Beam
	MOMENTS (FT. KIPS)	REACTIONS (KIPS)	MOMENTS (FT. KIPS)
Dead Load	158.42	38.13	83.19
Live Load	357.43	58.87	326.40
Impact	107.23	17.66	97.92
Total	623.08	114.66	507.51

℄ Floor Beam = 495.0 in.³

DATA USED FOR DESIGN & DETAILS

LIVE LOADS:- H20-S16 loading with impact and distribution of loads in accordance with 1949 AASHO Specifications.
DEAD LOAD:- Actual weight plus 15 pounds per sq. ft. of roadway, to provide for future wearing surface.
SLAB:- Designed with impact, and with ½ inch monolithic wearing surface.
UNIT STRESSES:-

Structural Steel Bending (Tension.)	18,000#/sq.in.
Shear on Rivets	13,500#/sq.in.
Structural Steel Bearing (Including Rivets)	27,000#/sq.in.
Bearing Steel on Concrete (Including Overturning and Eccentric Loading)	1,000#/sq.in.
Reinforcing Steel (Tension)	20,000#/sq.in.
Concrete (Compression)	1,000#/sq.in.

DESIGN DATA

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- HORIZ. 1"=5'-0 AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. V. Smythe, ENGINEER OF BRIDGE DESIGN

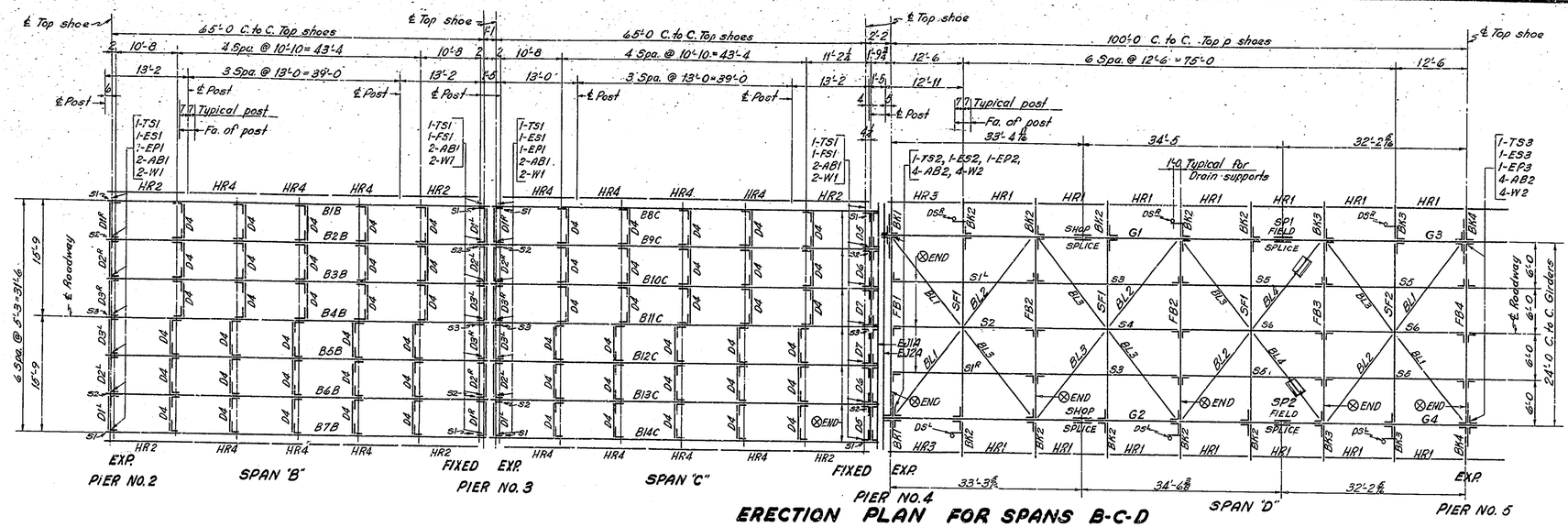
PROJECT:- F-G45(3) STATION:- 11+25

DRAWING:- 915 OF 47

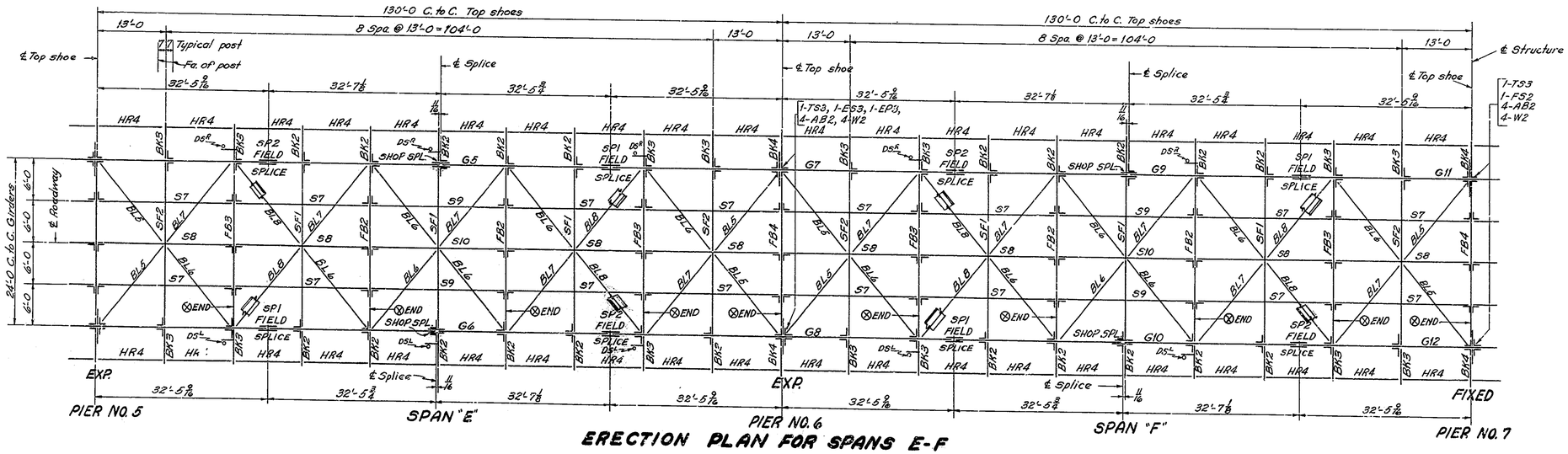
BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	22	65



ERECTION PLAN FOR SPANS B-C-D



ERECTION PLAN FOR SPANS E-F

NOTE:- See "General Notes" on Drwg. 517

DESIGNED W.L.D. 7-25-49 C'K'D R.W.B. 7-25-49
DRAWN L.W.S. 12-6-49 C'K'D J.A.T. 12-15-49
TRACED R.D.B. 1-13-50 C'K'D R.W.B. 1-13-50

EUGENE DIETZGEN CO. NO. 511

ERECTION PLAN - SPANS B, C, D, E & F

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- NONE

AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. V. Smythe ENGINEER OF BRIDGE DESIGN

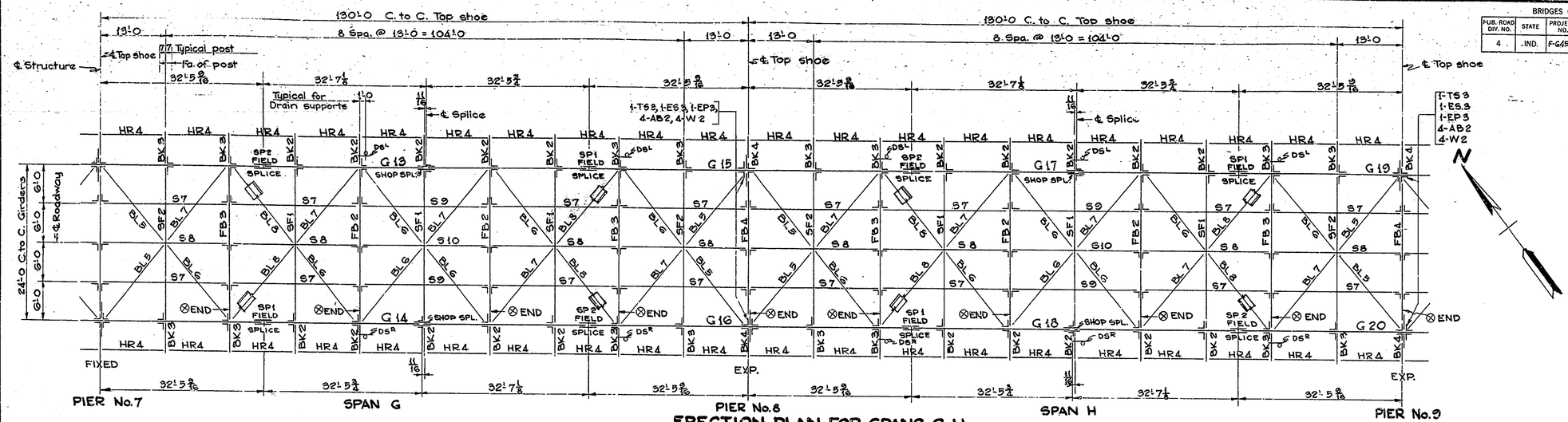
PROJECT:- F-645(3)

STATION:- 11+25

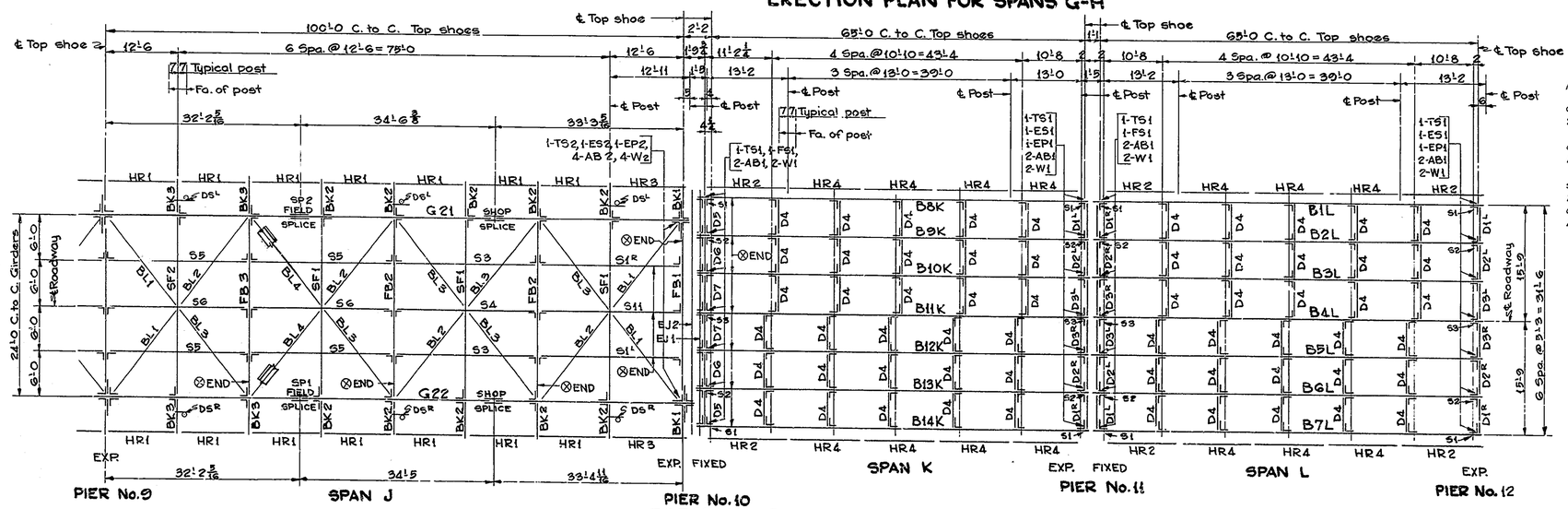
DRAWING:- 516 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108



ERECTION PLAN FOR SPANS G-H



ERECTION PLAN FOR SPANS J-K-L

GENERAL NOTES

All structural steel to be painted one coat of shop paint, except anchor bolts.

Ribbed bolts may be substituted for field rivets in diaphragm connections in Spans B, C, K and L. See Specifications.

Handrail HR1 to HR4 inclusive, to be painted one coat of brown field paint and two coats of black field paint.

If Fabricator uses these drawings for shop plans he shall check same and assume full responsibility for the accuracy of the details. The Fabricator shall contact the nearest District Engineer of the State Highway Commission of Indiana in regard to inspection.

⊗ side of EP1 and FS1 to be turned toward ℄ of span.

FIELD REAMING & RIVETING (GIRDER SPANS)

The following procedure shall be used in field reaming and riveting of the continuous girder spans.

1 - No reaming or riveting shall be done until all structural steel in Spans D, E, F, G, H and J has been erected and adjusted to elevation. (For elevations see Drawing 547

2 - No reaming or riveting shall be done until Girders are supported on their respective shoes at piers and carrying structural steel weight only.

BRIDGES OVER 20' SPAN

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	23	65

DESIGNED W.L.R 7-25-49 C'K'D R.W.B. 7-25-49
DRAWN L.W.S. 12-7-49 C'K'D J.F.T. 12-15-49
TRACED M.W.G. 1-12-50 C'K'D R.W.B. 1-12-50

ERECTION PLAN - SPANS G, H, J, K & L

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- NONE AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. L. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

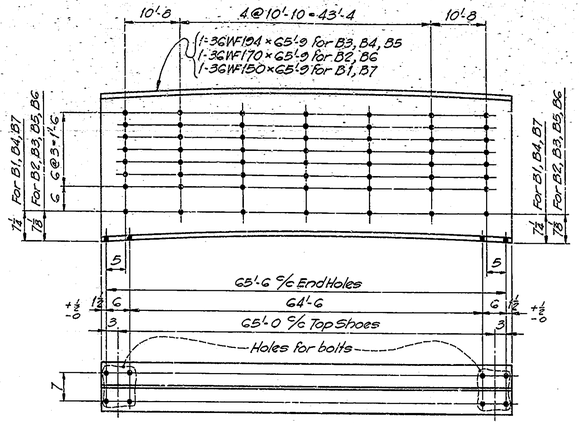
DRAWING:- 517 OF 47

BRIDGE CONTRACT NO. 3269

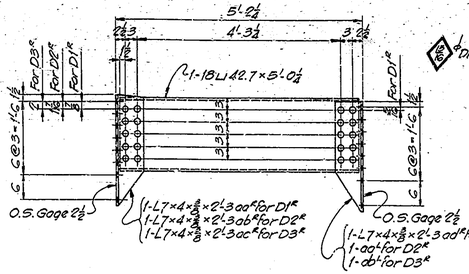
BRIDGE FILE:- 39-A-3108

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-G45(3)	1951	24	65

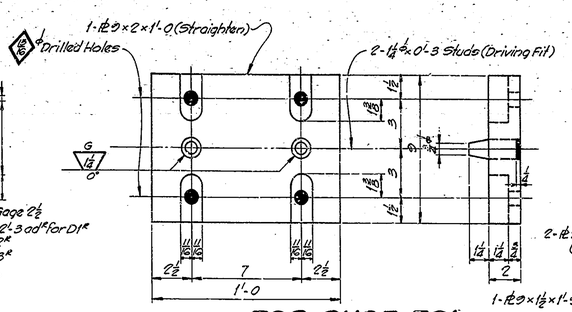
BRIDGES OVER 20' SPAN



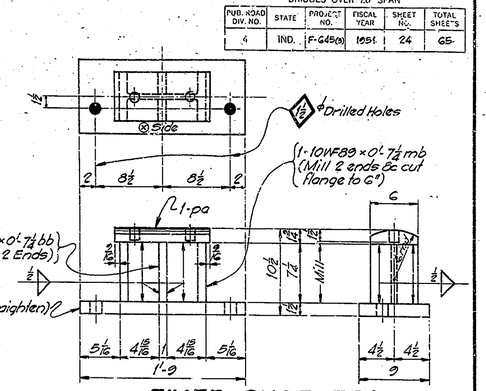
BEAMS B1B, B1L, B7B, B7L ALIKE
BEAMS B2B, B6B, B2L, B6L ALIKE
BEAMS B3B, B5B, B3L, B5L ALIKE
BEAMS B4B, B4L ALIKE



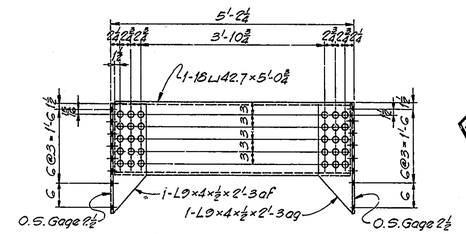
DIAPHRAGMS D1R, D2R, D3R



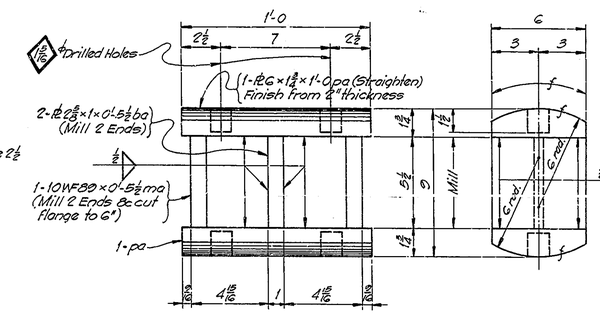
TOP SHOE TS1
(Scale:- 3 = 1'-0)



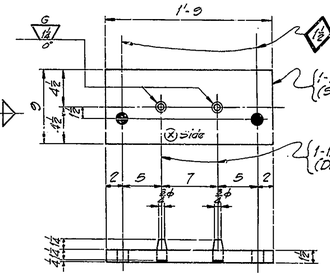
FIXED SHOE FS1
(Scale:- 1½ = 1'-0)



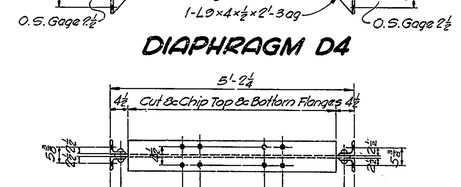
DIAPHRAGM D4



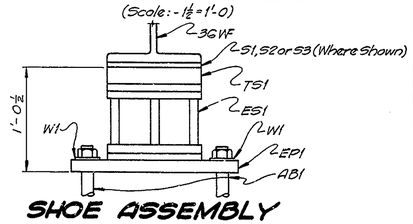
EXPANSION SHOE ES1
(Scale:- 3 = 1'-0)



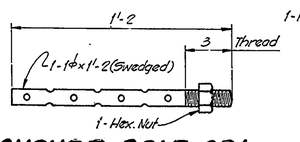
EXPANSION PLATE EP1
(Scale:- 1½ = 1'-0)



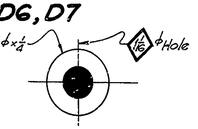
DIAPHRAGMS D5, D6, D7



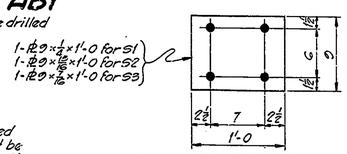
SHOE ASSEMBLY



ANCHOR BOLT AB1
Anchor bolt holes shall be drilled
(No Scale)

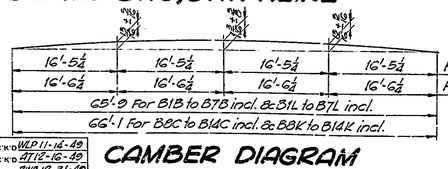


WASHER W1
(No Scale)



SHIMS S1, S2, S3
(Scale:- 1½ = 1'-0)

BEAMS B8C, B14C, B8K, B14K ALIKE
BEAMS B9C, B13C, B9K, B13K ALIKE
BEAMS B10C, B12C, B10K, B12K ALIKE
BEAMS B11C, B11K ALIKE



CAMBER DIAGRAM

NOTE :- 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.

REQUIRED		
No.	Description	Mark
One	Beam	B1B
One	"	B2B
One	"	B3B
One	"	B4B
One	"	B5B
One	"	B6B
One	"	B7B
One	"	B8C
One	"	B9C
One	"	B10C
One	"	B11C
One	"	B12C
One	"	B13C
One	"	B14C
One	"	B8K
One	"	B9K
One	"	B10K
One	"	B11K
One	"	B12K
One	"	B13K
One	"	B14K
One	"	B1L
One	"	B2L
One	"	B3L

REQUIRED		
No.	Description	Mark
One	Beam	B4L
One	"	B5L
One	"	B6L
One	"	B7L
6	Diaphragm	D1R
6	"	D1L
6	"	D2R
6	"	D2L
6	"	D3R
6	"	D3L
120	"	D4
4	"	D5
4	"	D6
4	"	D7
56	Top Shoe	TS1
28	Exp. Shoe	ES1
28	Exp. Plate	EP1
28	Fixed Shoe	FS1
16	Shim	S1
16	"	S2
8	"	S3
112	Anchor Bolt	AB1
112	Washer	W1

NOTES:-
Rivets ⅞ϕ
Open Holes 15/16 ϕ Unless Noted
See Drwg. S11 for notes regarding use of these drawings for shop plans and regarding inspection.
Gage lines on beam webs to be straight.

STEEL DETAILS - SPANS B, C, K & L

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ⅜ = 1'-0 UNLESS NOTED — AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. E. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-G45(3) — STATION:- 11+25

DRAWING:- S16 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

DESIGNED	EWD 11-10-49	C'K'D	WLP 11-16-49
DRAWN	WFG 12-19-49	C'K'D	AT 12-16-49
TRACED	MIL 12-30-49	C'K'D	EWD 12-31-49

EUGENE SIETZEN CO. NO. 111

FUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-G45(8)	195'	25	68

BRIDGES OVER 20' SPAN

SECTION H-H

VIEW G-G

SECTION J-J

GIRDER G1 & G22 (ALIKE)

TYPICAL STIFFENER SECTION F-F

GIRDER DETAILS G1 & G22

STATE HIGHWAY COMMISSION OF INDIANA

NOTE:- Work this Drwg. with Drwg. S20

SCALE:- 3/4" = 1'-0

AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. V. Smythe ENGINEER OF BRIDGE DESIGN

PROJECT:- F-G45(8) STATION:- 11+25

DRAWING:- S19 OF 47

BRIDGE CONTRACT NO. 3289

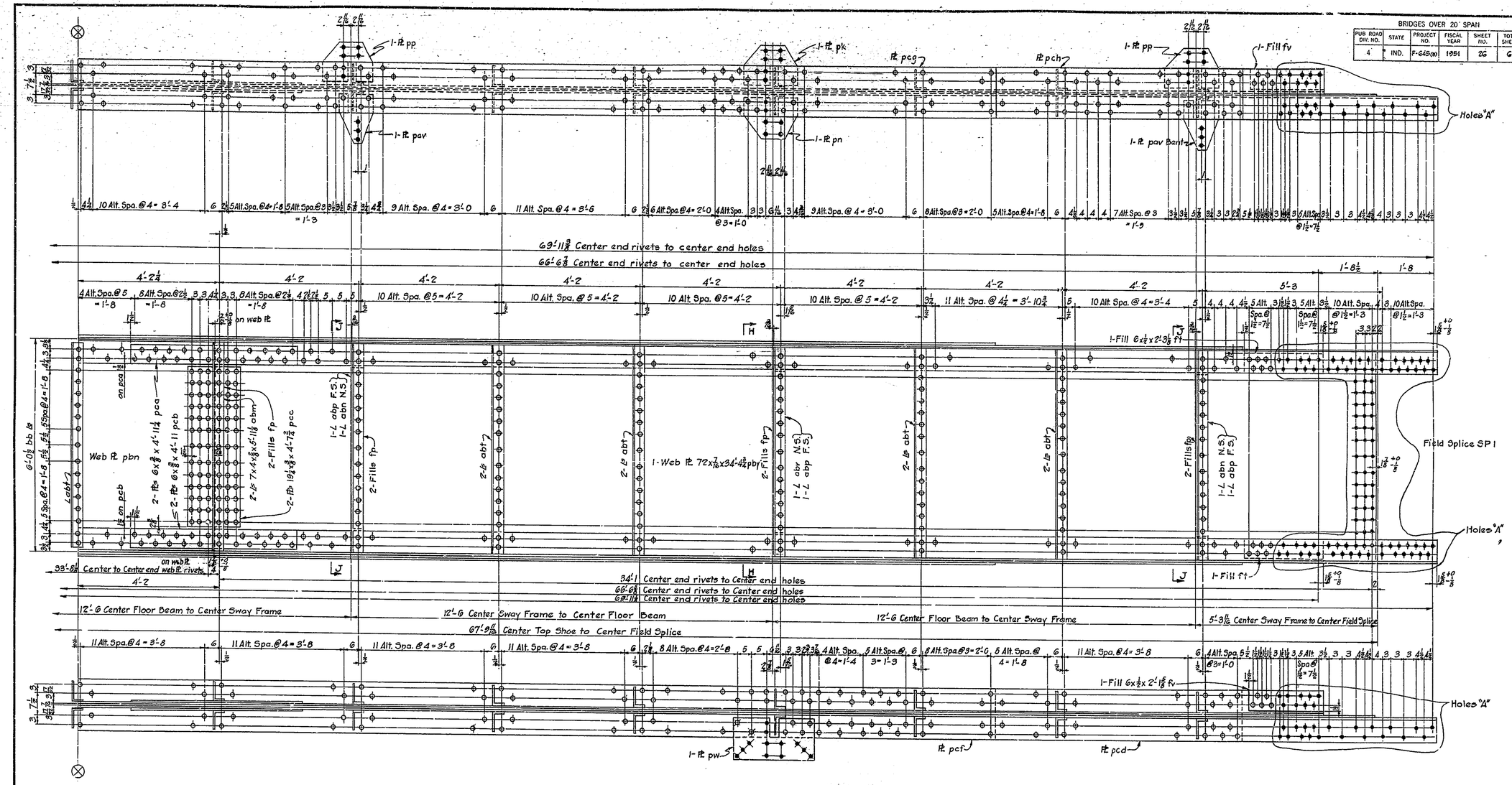
BRIDGE FILE:- 39-A-3108

DESIGNED W.L.P. 7-25-49 C'K'D R.W.B. 7-25-49

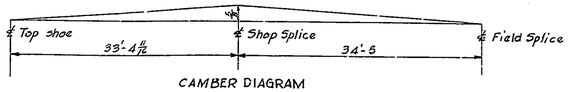
DRAWN J.A.T. 11-18-49 C'K'D W.L.P. 1-16-50

TRACED J.T.B. 2-9-50 C'K'D R.W.B. 2-10-50

BRIDGES OVER 20' SPAN					
PUB ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(8)	1951	26	65



GIRDER G1 & G22 (Alike)



CAMBER DIAGRAM

REQUIRED	
ONE Girder	G1
ONE Girder	G22

NOTES:-
Rivets ⅞ ϕ
Open Holes 15/16 ϕ unless noted
Holes "A" for girder field splice to be subpunched or subdrilled 1⅛ ϕ in the shop and reamed to 1 15/16 ϕ in the field. See Drawing S17 for note regarding field reaming and riveting. For girder splice detail, see Drawing S31.
Girder shall be checked for camber while supported in such a way as to have no bending moment in the direction of camber.
See Drawing S16 for Section F-F, H-H and J-J.
See Drawing S17 for "General Notes."
Work this Drawing with Drawing S16

DESIGNED	W.L.P. 7-25-49	C'K'D	R.W.B. 7-25-49
DRAWN	J.A.T. 11-14-49	C'K'D	W.L.P. 1-16-50
TRACED	R.D.B. 2-14-50	C'K'D	R.W.S. 2-14-50

EUGENE DIETZGEN CO. NO. 111

GIRDER DETAILS G1 & G22

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¾"=1'-0 AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J.E. Smythe ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(8) STATION:- 11+25

DRAWING:-S20 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 29-A-3108

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-G45(3)	1951	27	65

SECTION H-H

SECTION J-J

TYPICAL STIFFENER SECTION F-F

GIRDER G2 & G21 (ALIKE)

SECTION G-G

NOTE :-
Work This Drwg. With Drwg. S22

GIRDER DETAILS G2 & G21

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- $\frac{3}{4}$ = 1'-0

AUGUST 1 , 1950

RECOMMENDED FOR APPROVAL:-

ENGINEER OF BRIDGE DESIGN

PROJECT:- F-G45(3)

STATION:- 11+25

DRAWING:- S21 OF 47

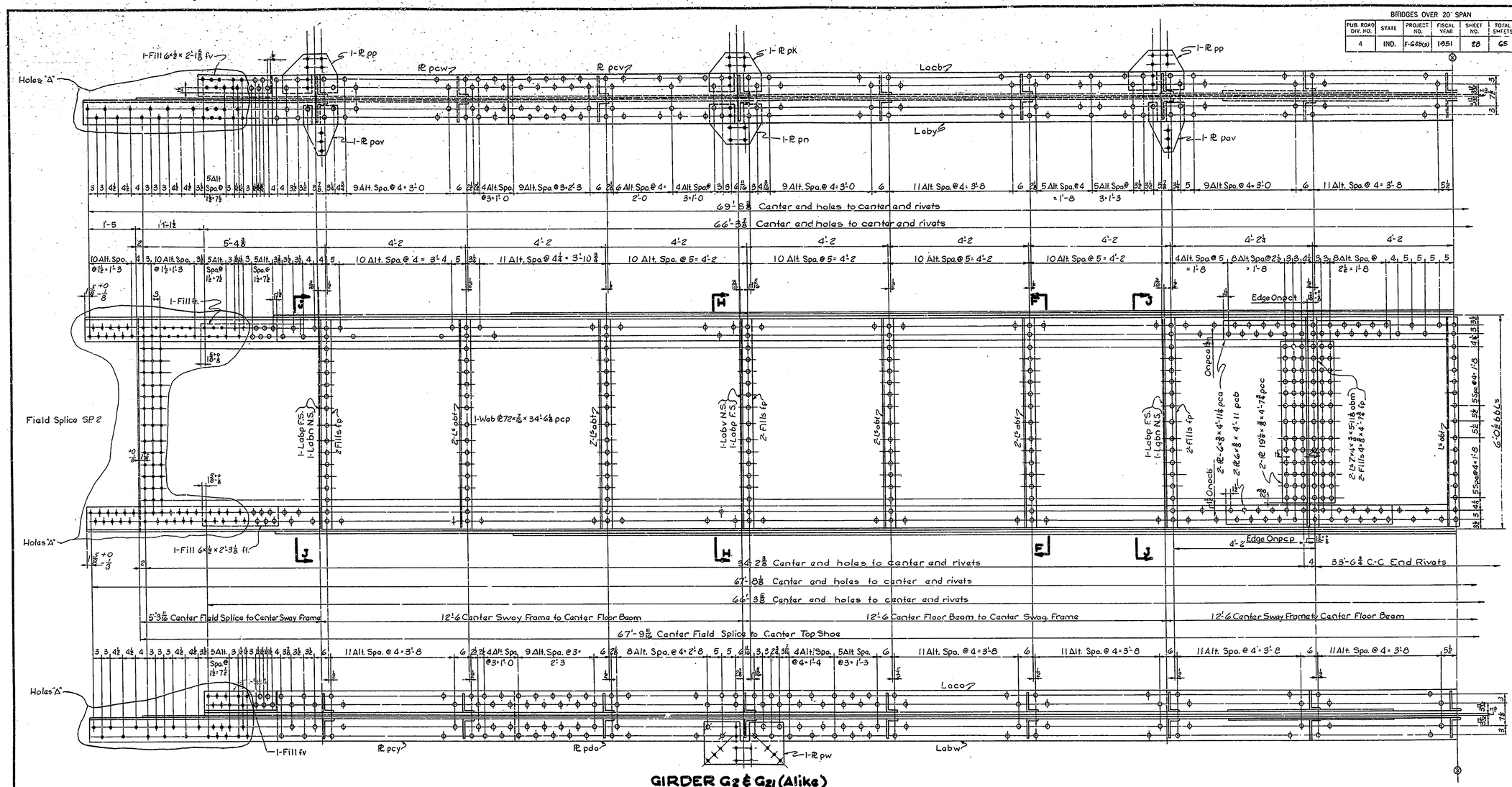
BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 30-A-3108

DESIGNED W.L.P. 7-25-49 C'K'D R.B.P. 7-25-49
DRAWN J.R.T. 11-22-49 C'K'D W.L.P. 1-30-50
TRACED R.D.R. 2-17-50 C'K'D R.B.P. 2-17-50

EUGENE DIETZGEN CO. NO. 1-11

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-G45(5)	1951	28	65



GIRDER G2 & G21 (Alike)

REQUIRED		
ONE	GIRDER	G2
ONE	GIRDER	G21

CAMBER DIAGRAM

NOTES:-

Rivets ⅞ ϕ

Open Holes 15/16 ϕ unless noted

Holes "A" for girder field splices to be subpunched or subdrilled 13/16 ϕ in the shop and reamed to 15/16 ϕ in the field. See Drawing S11 for note regarding field reaming and riveting. For girder splice detail, see Drawing S31.

Girder shall be checked for camber while supported in such a way as to have no bending moment in the direction of camber.

See Drawing S11 for "General Notes".

See Drawing S21 for Sections F-F, G-G, H-H and J-J.

Work this Drawing with Drawing S21.

GIRDER DETAILS G2 & G21

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¾" = 1'-0

AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:-

J. L. Smythe
ENGINEER OF BRIDGE DESIGN

PROJECT:- F-G45(5)

STATION:- 11+25

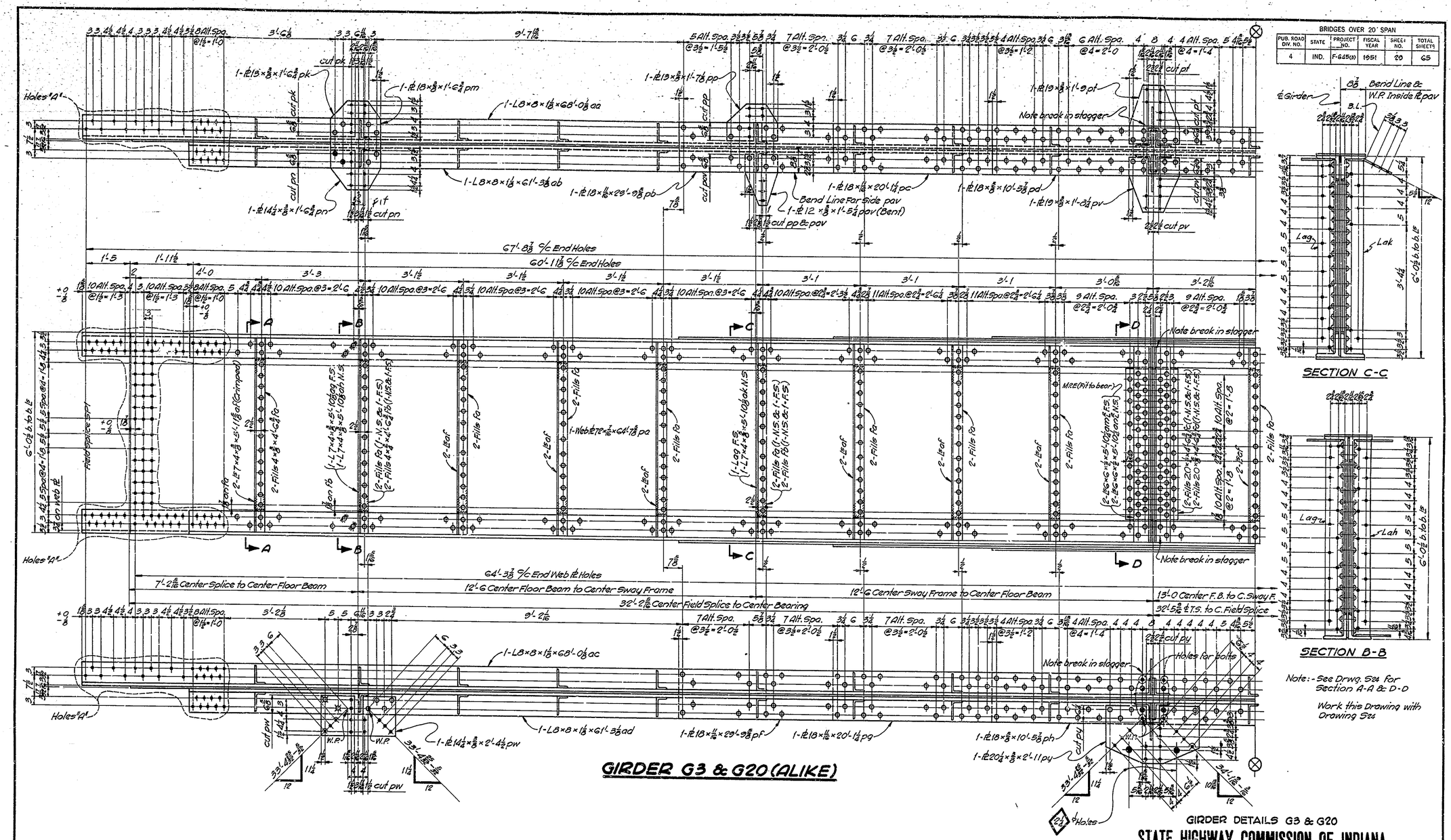
DRAWING:- 522 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 30-A-3108

DESIGNED	W.L.P. 7-25-49	CK'D	R.W.B. 7-25-49
DRAWN	J.A.T. 11-22-49	CK'D	W.L.P. 1-20-50
TRACED	R.H.S. 2-17-50	CK'D	R.W.B. 2-20-50

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	20	65



Note:- See Drwg. 52a for Section A-A & D-D

Work this Drawing with Drawing 52a

GIRDER DETAILS G3 & G20

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¾" = 1'-0

AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. V. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

DRAWING:-52b OF 47

BRIDGE CONTRACT NO. 3289

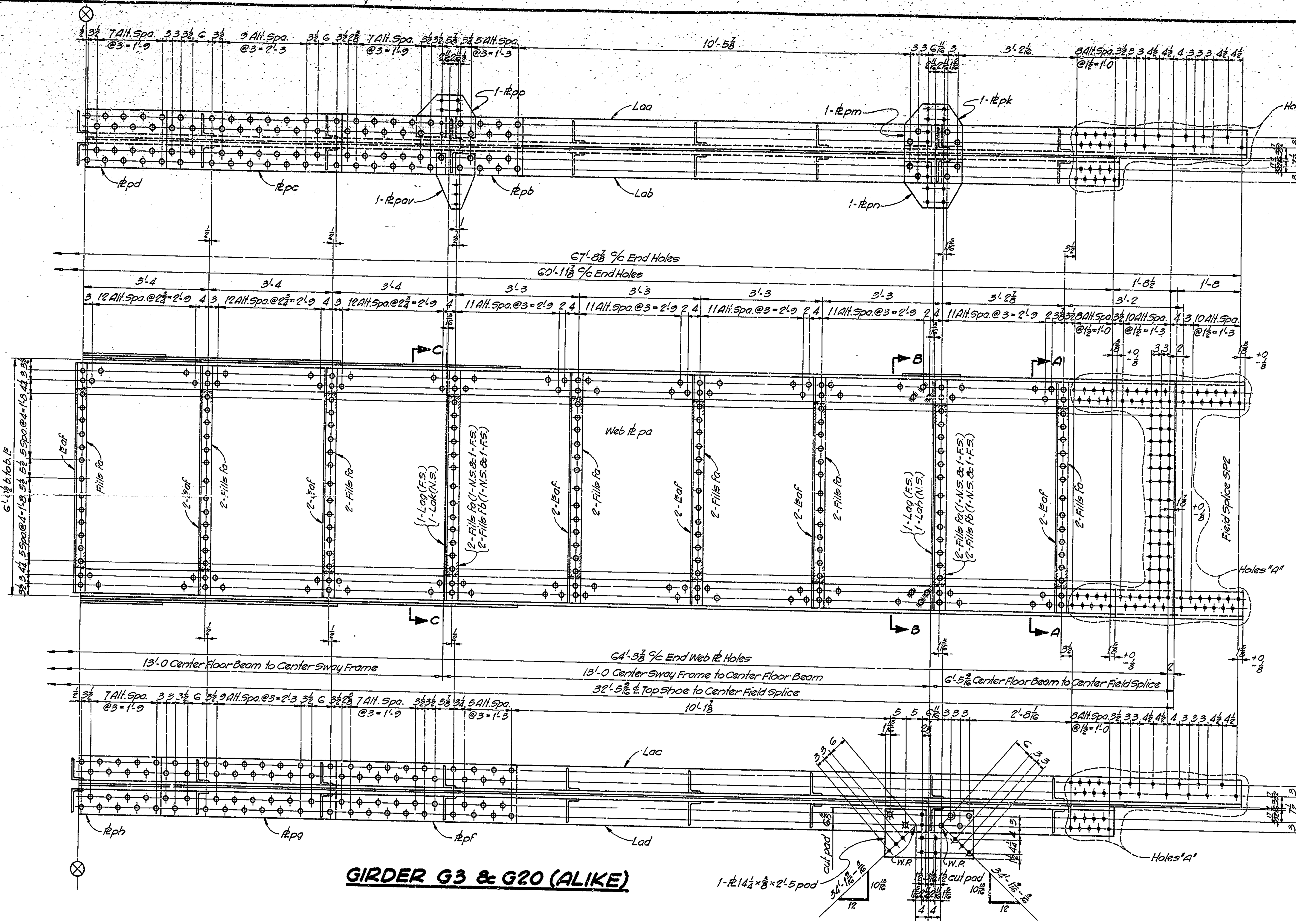
BRIDGE FILE:- 39-A-3108

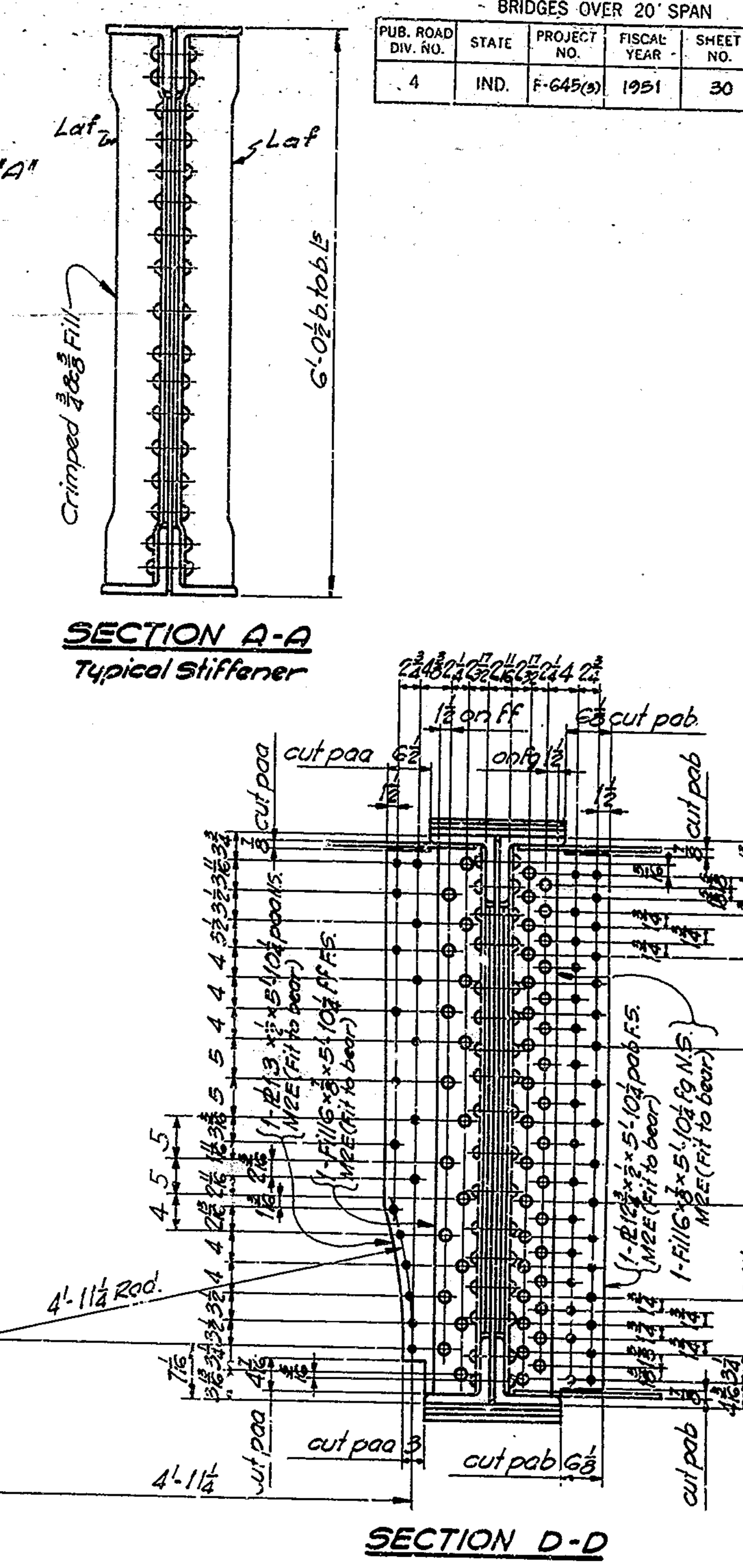
DESIGNED	WLP 7-25-49	C'K'D	EWB 7-25-49
DRAWN	JAT 10-19-49	C'K'D	WLP 12-9-49
TRACED	WJL 1-26-50	C'K'D	EWB 2-2-50

EUGENE DIETZGEN CO. NO. 113

BRIDGES OVER 20' SPAN

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	30	65





NOTES:-

Rivets $\frac{7}{8}\phi$

Open Holes $\frac{15}{16}\phi$ unless noted

Holes "A" for girder field splices to be subpunched or subdrilled $\frac{11}{16}\phi$ in the shop and reamed to $\frac{15}{16}\phi$ in the field. See Drawing S17 for note regarding field reaming and riveting. For girder splice detail, see Drawing S31.

See Drawing S23 for Sections B-B & C-C

See Drawing S17 for "General Notes"

Work this Drawing with Drawing S23

REQUIRED		
One	Girder	G3
One	"	G20

GIRDER DETAILS G3 & G20

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 3/4 = 1'-0 AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J.V. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

DRAWING:- S24 OF 47

BRIDGE CONTRACT NO. 3289

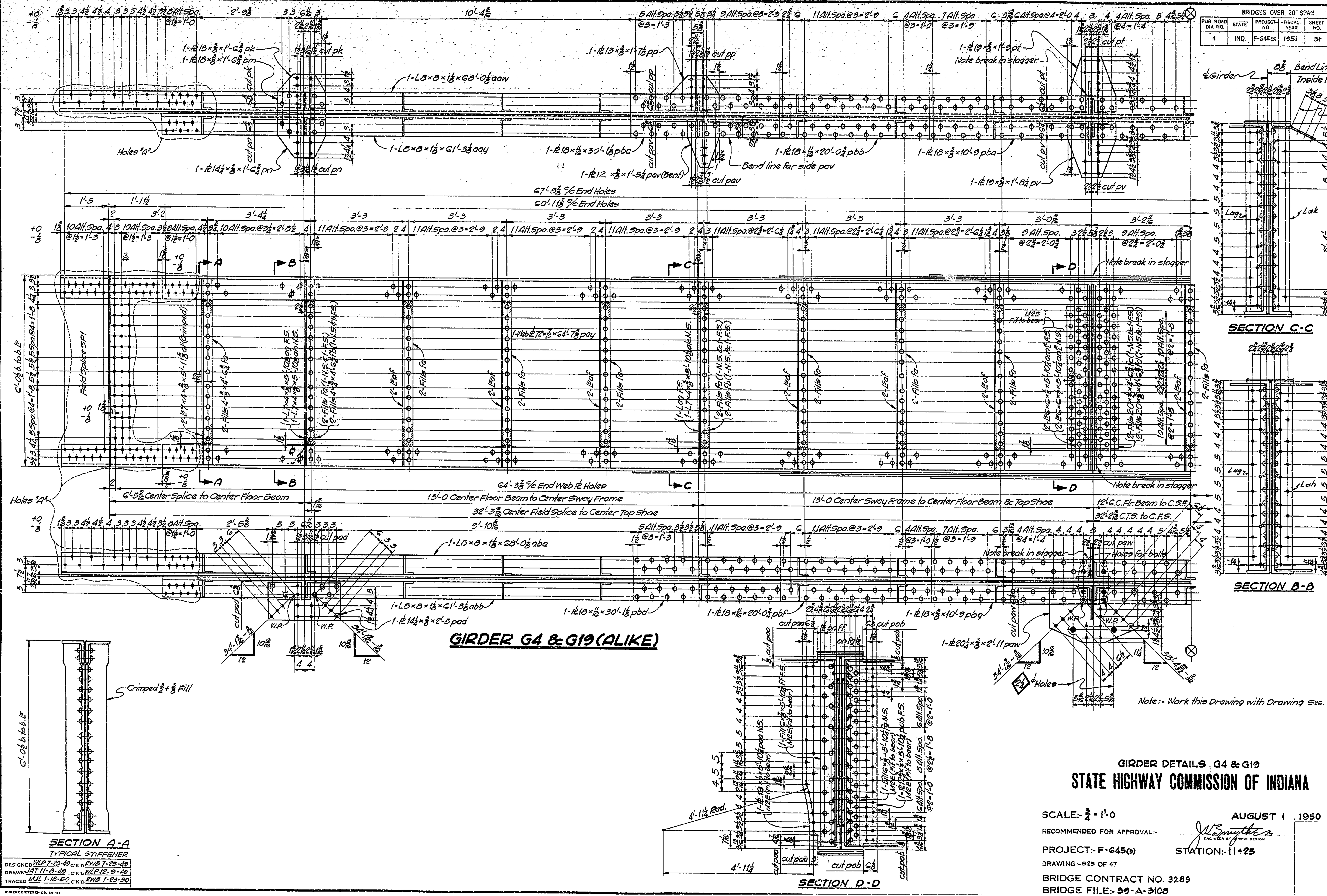
BRIDGE FILE:- [illegible]

DESIGNED WLP 7-25-49	C'K'D RWB 7-25-49
DRAWN JAT 10-21-49	C'K'D WLP 12-14-49
TRACED MJL 2-1-50	C'K'D RWB 2-2-50

EUGENE DIETZGEN CO. NO. 131

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(5)	1951	31	65

BRIDGES OVER 20' SPAN



GIRDER DETAILS, G4 & G19

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 3/4 = 1'-0 AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J.W. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(5) STATION:- 11+25

DRAWING:- 925 OF 47

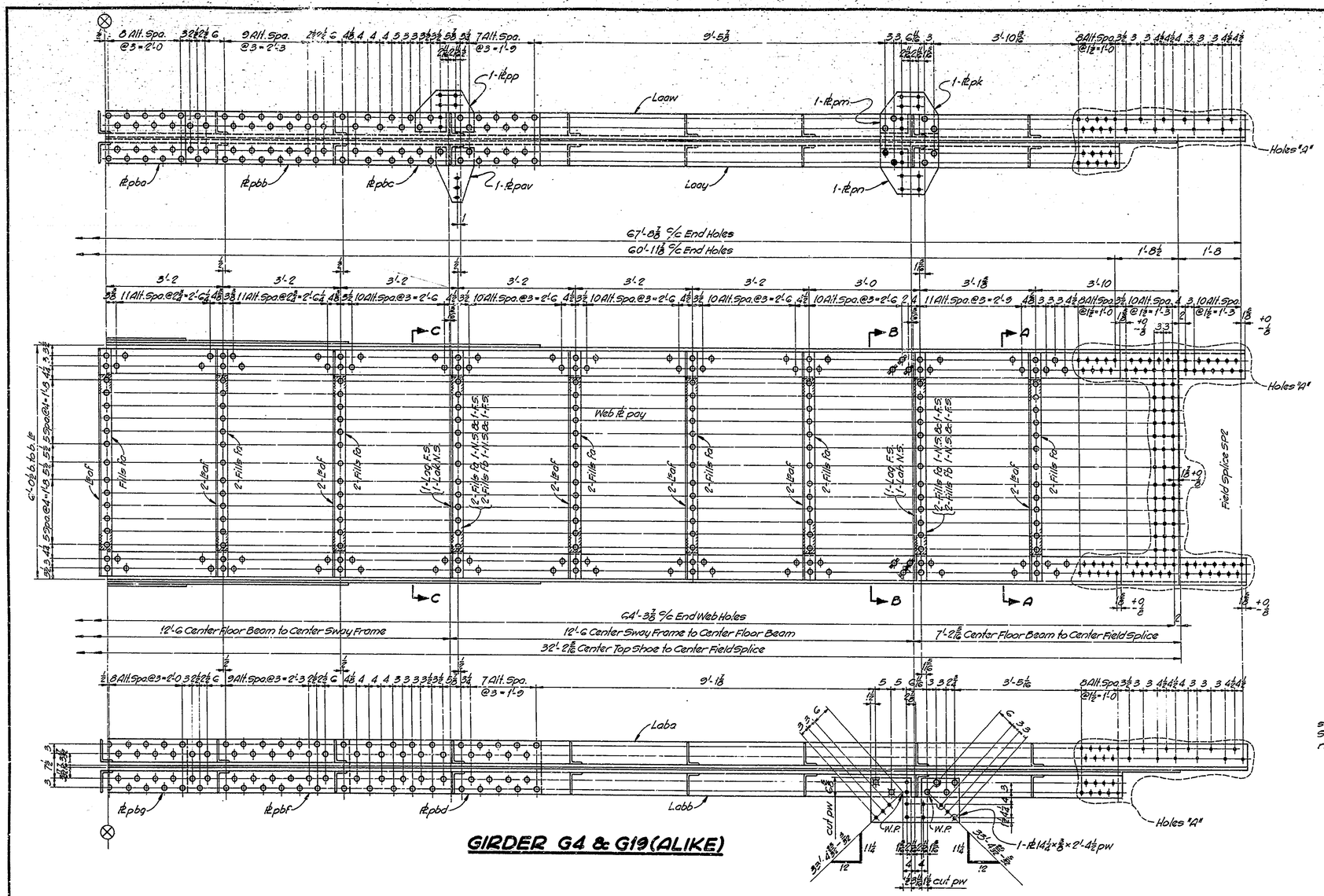
BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

DESIGNED WLP 7-25-49 CK'D RWB 7-25-49
DRAWN JAT 11-8-49 CK'D WLP 12-9-49
TRACED MJL 1-18-50 CK'D RWB 1-23-50

BRIDGES OVER 20' SPAN

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	32	65



GIRDER G4 & G19 (ALIKE)

REQUIRED		
One	Girder	G4
One	"	G19

NOTES:-
Rivets 3/4"ϕ
Open Holes 15/16"ϕ unless noted
Holes "A" for girder field splices to be subpunched or subdrilled 13/16"ϕ in the shop and reamed to 15/16"ϕ in the field. See Drawing S17 for note regarding field reaming and riveting. For girder splice detail, see Drawing S31.
See Drawing S25 for Sections A-A, B-B and C-C
See Drawing S17 for "General Notes"
Work this Drawing with Drawing S25.

GIRDER DETAILS G4 & G19

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 1/4" = 1'-0 AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. C. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

DRAWING:- 32G OF 47

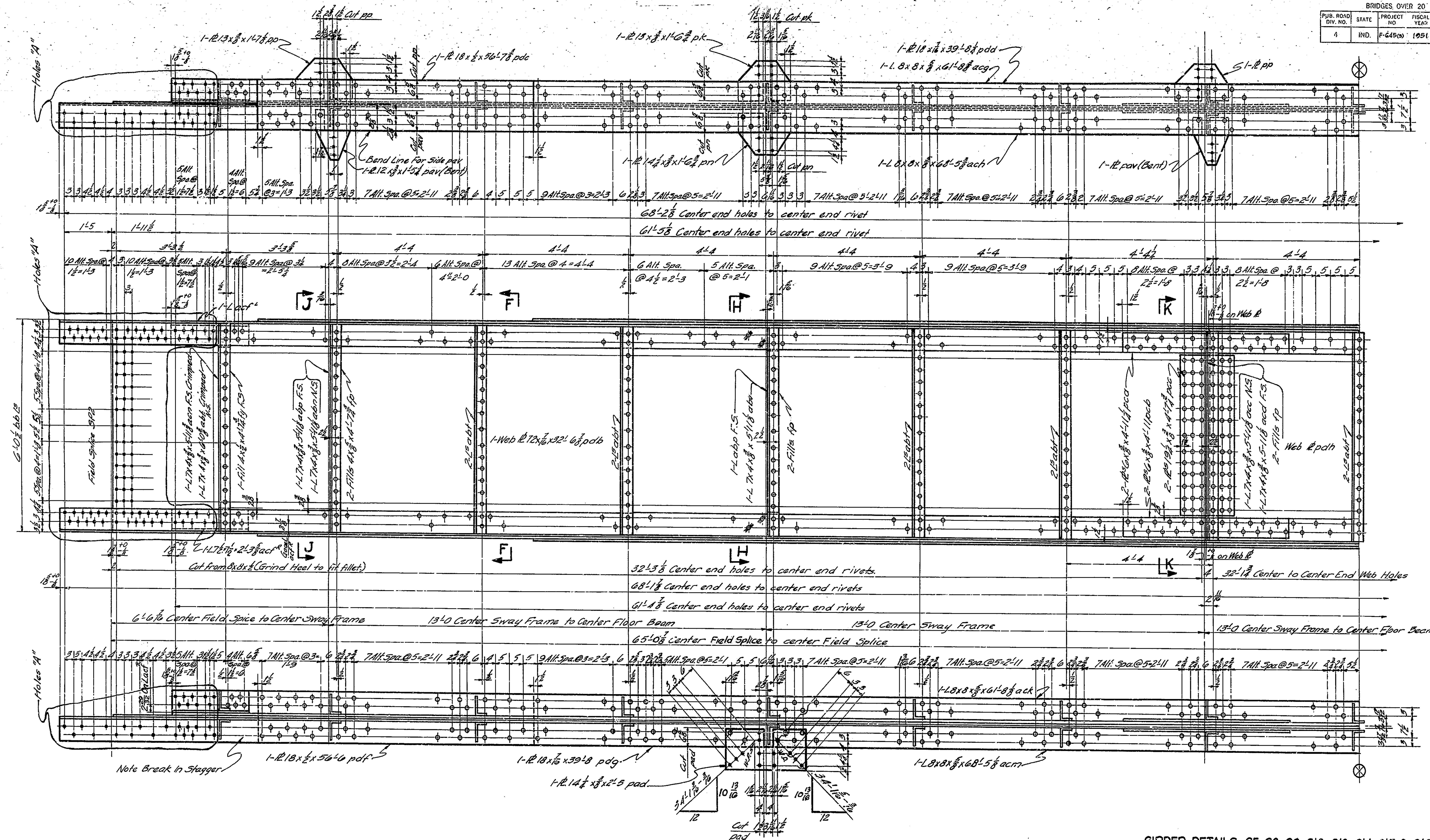
BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

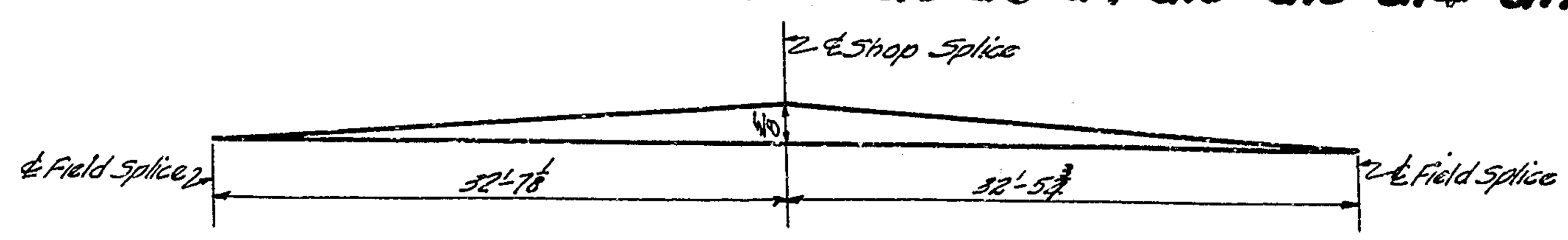
DESIGNED	WLP 7-25-49	C'K'D	RWB 7-25-49
DRAWN	JAT 11-9-49	C'K'D	WLP 12-9-49
TRACED	W.J.L 1-20-50	C'K'D	RWB 1-25-50

EUGENE DIETZGEN CO. NO. 111

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	33	65



GIRDER G5-G6-G9-G10-G13-G14-G17 & G18 (Alike)



CAMBER DIAGRAM

NOTES:-
For Sections F-F, H-H, J-J, & K-K See Drawing 528
Work This Drawing with Drawing 528

GIRDER DETAILS G5, G6, G9, G10, G13, G14, G17 & G18

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 3/4 = 1'-0

AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. N. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3)

STATION:- 11+25

DRAWING:- 527 OF 47

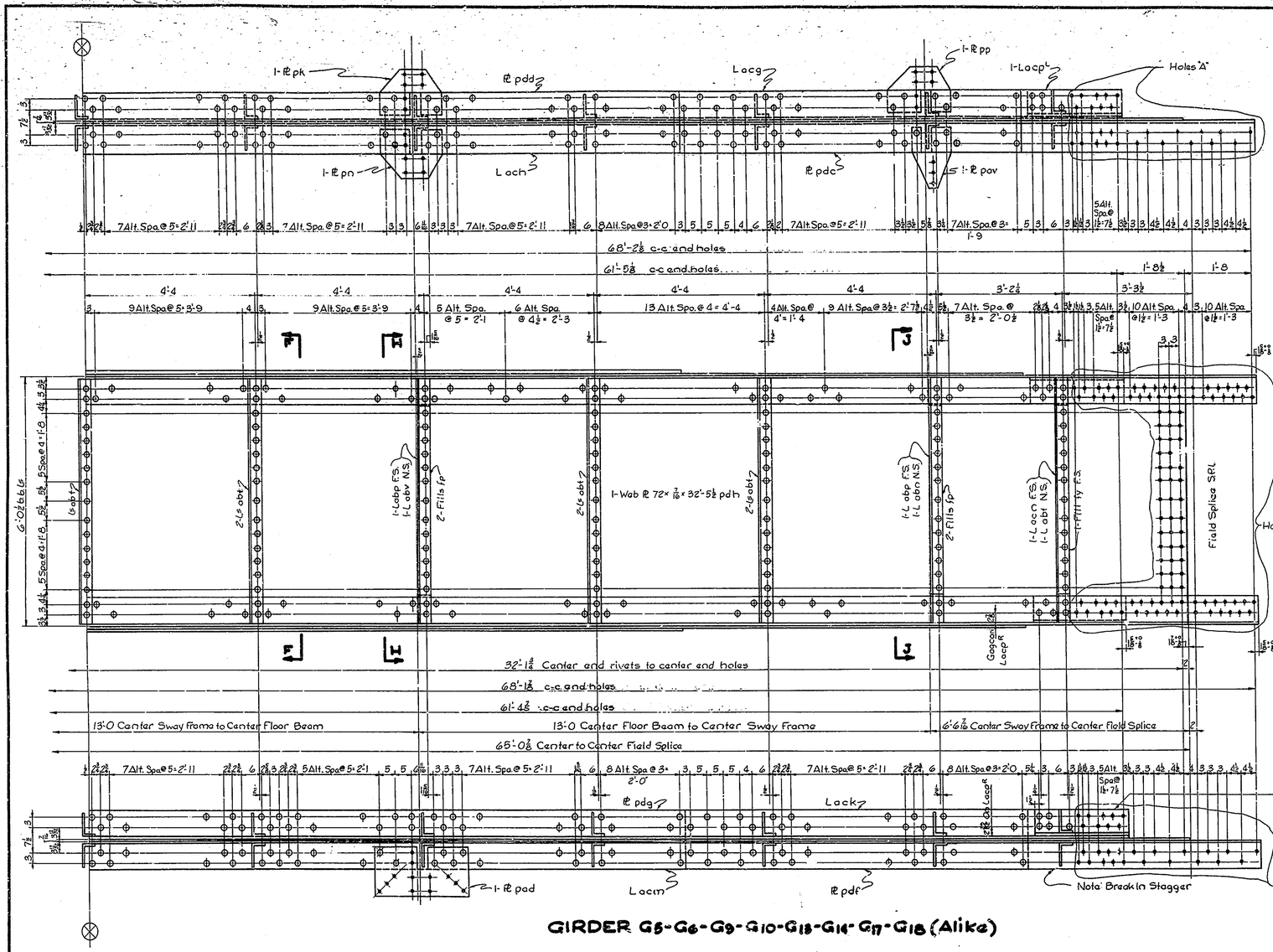
BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

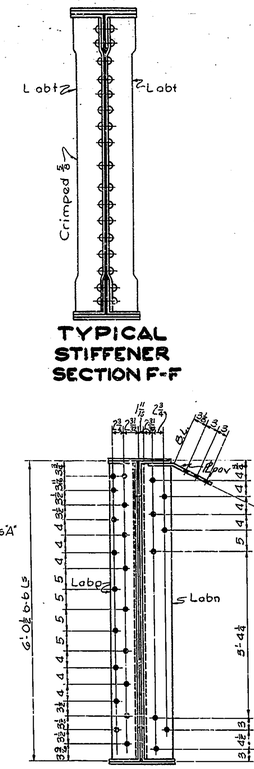
DESIGNED W.L.P. 7-5-49 C'K'D R.W.B. 7-?-49
DRAWN L.A.T. 11-30-49 C'K'D W.L.P. 2-7-50
TRACED R.E.A. 2-25-49 C'K'D B.F.L. 2-28-50

BRIDGES OVER 20' SPAN

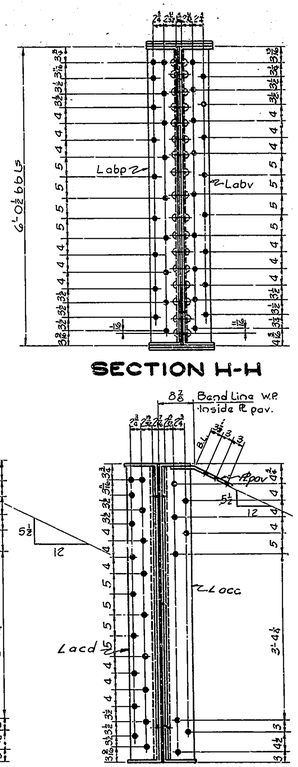
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(9)	1951	34	65



GIRDER G5-G6-G9-G10-G13-G14-G17-G18 (Alike)



TYPICAL STIFFENER SECTION F-F



SECTION H-H

SECTION J-J

SECTION K-K

REQUIRED		
One	Girder	G5
One	"	G6
One	"	G9
One	"	G10
One	"	G 13
One	"	G 14
One	"	G 17
One	"	G 18

NOTES:-

Rivets ⅞ ϕ

Open Holes 15/16 ϕ unless noted

Holes "A" for girder field splices to be subpunched or subdrilled 1⅝ ϕ in the shop and reamed to 15/16 ϕ in the field. See Drawing S11 for note regarding field reaming and riveting. For girder splice detail, see Drawing S31.

Girder shall be checked for camber while supported in such a way as to have no bending moment in the direction of camber.

See Drawing S11 for "General Notes"

Work this Drawing with Drawing S27.

GIRDER DETAILS G5, G6, G9, G10, G13, G14, G17 & G18

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¾"=1'-0 AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. V. Smythe ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(9) STATION:- 11+25

DRAWING:-528 OF 47

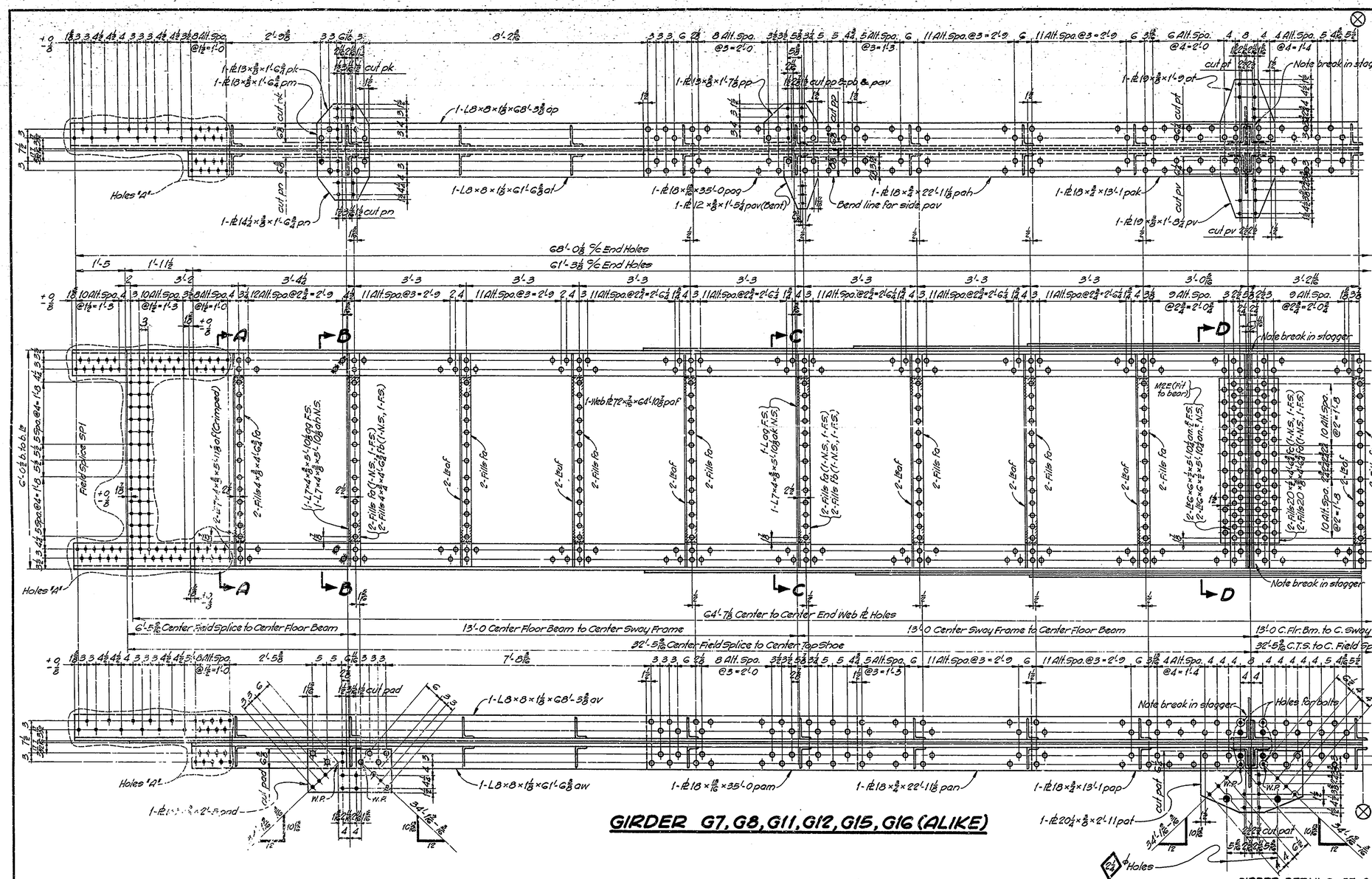
BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 39-A-3108

DESIGNED W.I. P. 7-25-49 C'K'D R.W.B. 7-26-49.
DRAWN J.A.T. 12-1-49 C'K'D W.I.P. 2-2-50
TRACED P.C.G. 2-20-50 C'K'D R.W.B. 2-21-50

EUGENE DIETZGEN CO. NO. 111

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR.	SHEET NO.	TOTAL SHEETS
4	IND.	F-G45(3)	1951	35	65



GIRDER DETAILS G7, G8, G11, G12, G15 & G16

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 3/4" = 1'-0 AUGUST 1 1950

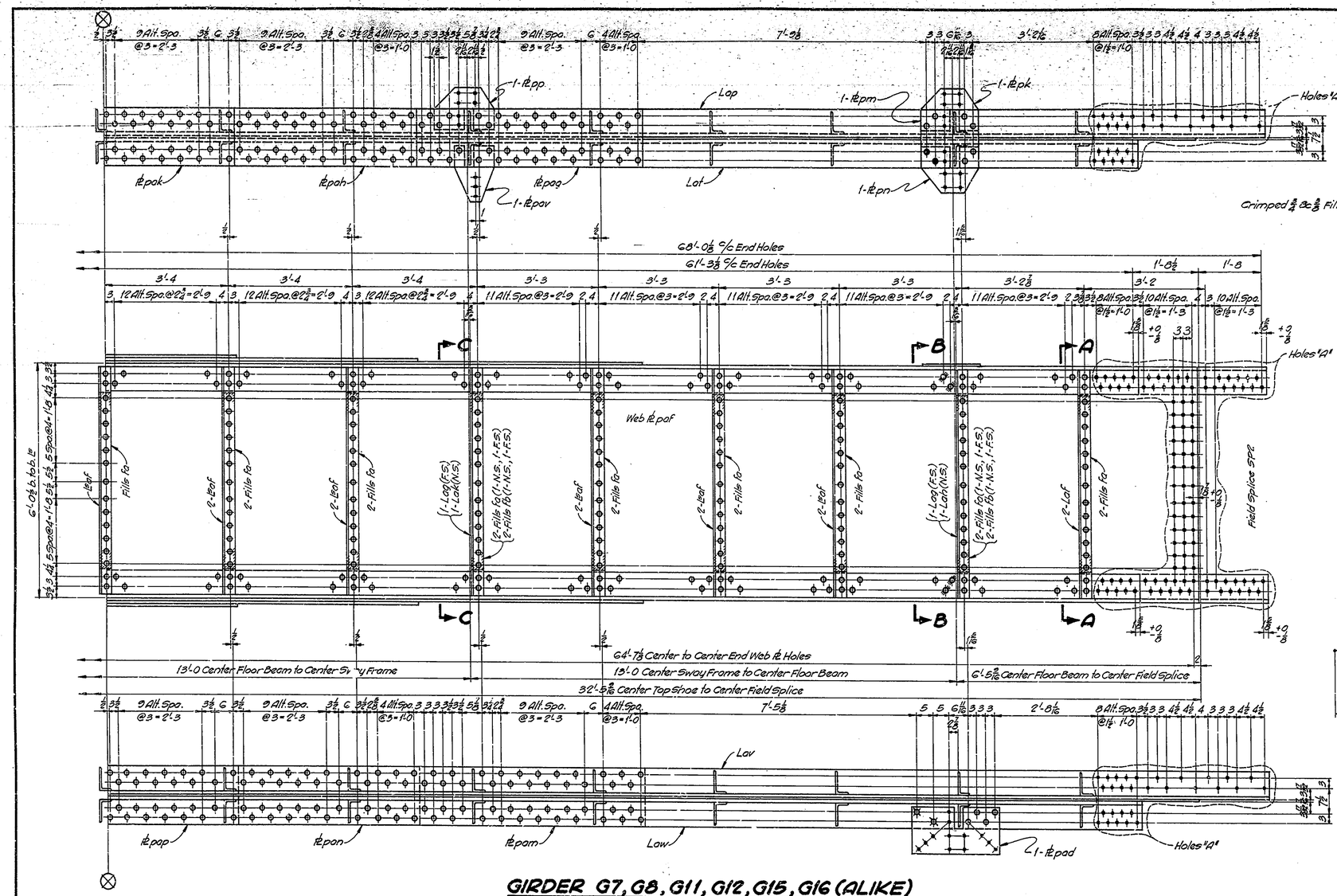
RECOMMENDED FOR APPROVAL:- J. M. Snyder
ENGINEER OF BRIDGE DESIGN

PROJECT:- F-G45(3) STATION:- 11+25

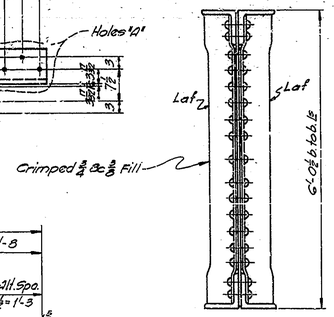
DRAWING:- S29 OF 47

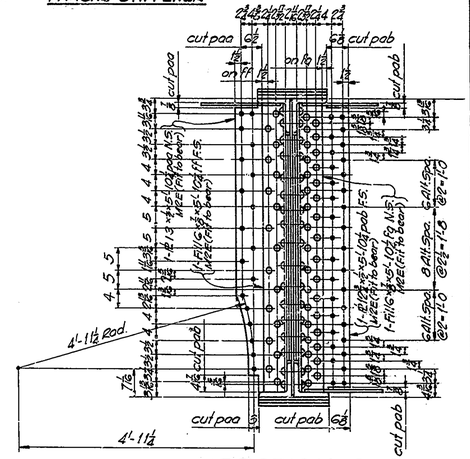
DESIGNED H.C.P. 7-25-49 C'K'D E.W.B. 7-25-49

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	36.	65



GIRDER G7, G8, G11, G12, G15, G16 (ALIKE)





NOTES:-
Rivets ⅞ ϕ
Open Holes 1⅛ ϕ unless noted
Holes "A" for girder field splices to be subpunched or subdrilled ¾ ϕ in the shop and reamed to ⅞ ϕ in the field. See Drawing S17 for note regarding field reaming and riveting. For girder splice detail, see Drawing S31.
See Drawing S28 for Sections B-B and C-C
See Drawing S17 for "General Notes"
Work this Drawing with Drawing S29.

REQUIRED		
One	Girder	G7
One	"	G8
One	"	G11
One	"	G12
One	"	G15
One	"	G16

GIRDER DETAILS G7, G8, G11, G12, G15 & G16

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¾ = 1'-0 AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. V. Smythe
ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

DRAWING:- S30 OF 47

DESIGNED HLPT-25-49 DRAWN RHST-25-49

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	37	65

STRUCTURAL STEEL - EXP. JOINT BY SHIPPING PIECES

No. Pcs.	Section	Length	Location	Total Weight
			EXPANSION JOINT EJ1; EJ1A	
12	Pc. 21WF68	0'-9	2-tc, 2-td, 2-tf, 2-tg, 2-th, 2-tk (1-21WF68 × 0'-9 cuts 2)	306
2	Pc. 14WF68	0'-9 1/2	ta (1-14WF68 × 0'-9 1/2 cuts 2)	54
5	Pc. 14WF68	0'-9	2-tm, 2-tn, 1-tp (1-14WF68 × 0'-9 cuts 2)	128
1	L9×4×1/2	28'-0	aa	596
2	L4×3×3/8	1'-8	ab R/L	28
1	PL 21×7/8	26'-7	pm or pma*	499
2	PL 9×1/2	3'-2 5/8	pd R/L (Bent)	99
2	PL 13 7/8×3/8	1'-11 1/2	pb	68
2	PL 3 1/2×3/8	1'-10 1/8	ph R/L (Bent)	16
2	PL 3 1/2×3/8	1'-4 1/2	pa R/L (Raised Pattern)	13
14	PL 7 3/4×3/16	0'-10 1/8	Shim sh	58
24	PL 7 1/2×3/16	0'-8 3/4	" sf	84
14	PL 7 3/4×1/8	0'-10 1/8	" sk	39
24	PL 7 1/2×1/8	0'-8 3/4	" sg	56
16	3/4 φ Rods	2'-3	8-ra R, 8-ra L (Bent)	54
4	3/4 φ Rods	2'-0	rb (Bent) 2-hex. nuts & 1-lk. wa. ea.	14
132	3/4 φ	~	Shop Rivets	36
			TOTAL WEIGHT - ONE PIECE	2,144
*1-PL 21×7/8×26'-7 cuts 1-pm & 1-pk or 1-pma & 1-pka				
			EXPANSION JOINT EJ2; EJ2A	
16	Pc. 21WF68	1'-1	2-tb, 2-tt, 2-tv, 2-tw, 2-ty, 2-taa 2-tab, 2-tac (1-21WF68 × 1'-1 cut 2)	589
2	Pc. 14WF68	1'-2	tad (1-14WF68 × 1'-2 cuts 2)	79
2	L4×3×1/2	28'-0	ad	622
4	L4×3×3/8	1'-7 1/2	ac	55
1	PL 21×7/8	26'-7	pk or pka*	1,161
1	PL 10 3/4×1/2	28'-0	pf	512
2	PL 8 1/4×1/2	0'-10 7/8	pc	25
2	PL 18×3/8	1'-11	pn	88
2	PL 17 3/8×3/8	1'-10 1/8	pg R/L (Bent)	82
2	PL 16×3/8	1'-5 3/8	pp R/L (Raised Pattern)	63
4	PL 10×3/16	0'-11 1/4	Shim sa	24
32	PL 8 1/4×3/16	0'-8 1/2	" sc	119
4	PL 10×1/8	0'-11 1/4	" sb	16
32	PL 8 1/4×1/8	0'-8 1/2	" sd	79
15	3/4 φ Rods	2'-3	7-ra R, 8-ra L (Bent)	51
4	3/4 φ Rods	2'-0	rb (Bent) 2-hex. nuts & 1-lk. wa. ea.)	14
189	3/4 φ	~	Shop Rivets	45
			TOTAL WEIGHT - ONE PIECE	3,624
*1-PL 21×7/8×26'-7 cuts 1-pm & 1-pk or 1-pma & 1-pka				

STRUCTURAL STEEL - SPANS B, C, K & L

No. Pcs.	Section	Length	Location	Total Weight
6	36WF194	66'-1	B10C, B11C, B12C, B10K, B11K, B12K	76,921
6	36WF194	65'-9	B3B, B4B, B5B, B3L, B4L, B5L	76,533
4	36WF170	66'-1	B9C, B13C, B9K, B13K	44,937
4	36WF170	65'-9	B2B, B6B, B2L, B6L	44,710
4	36WF150	66'-1	B8C, B14C, B8K, B14K	39,650
4	36WF150	65'-9	B1B, B7B, B1L, B7L	39,450
12	18WF50	5'-0 1/4	D5, D6, D7	3,013
28	10WF89	0'-7 1/4	mb (Mill 2 Ends, cut Flg. to 6")	1,506
28	10WF89	0'-5 1/2	ma (" " " , " " " ")	1,142
120	18[42.7	5'-0 3/4	D4	25,940
36	18[42.7	5'-0 1/4	D1 R/L, D2 R/L, D3 R/L	7,718
48	L4×4×3/8	2'-3	ah, ak, am, an	1,058
240	L9×4×1/2	2'-3	af, ag	11,502
72	L7×4×3/8	2'-3	aa R/L, ab R/L, ac R/L, ad R/L	2,203
56	PL 9×2	1'-0	TS1 (Straighten) 2-1 1/4 φ × 0'-3 studs ea.	3,544
84	PL 6×1 3/4	1'-0	pa (") Finish from 2" th'k.	3,427
28	PL 9×1 1/2	1'-9	EP1 (") 2-1 1/4 φ × 0'-2 1/2 studs ea.	2,299
28	PL 9×1 1/2	1'-9	FS1 (")	2,249
56	PL 2 5/8×1	0'-7 1/4	bb (Mill 2 Ends)	302
56	PL 2 5/8×1	0'-5 1/2	ba (" " ")	229
16	PL 9×15/16	1'-0	S2	459
8	PL 9×7/16	1'-0	S3	107
16	PL 9×1/4	1'-0	S1	122
112	PL 3 1/2 φ×1/4	~	W1 (1 1/16 φ hole)	69
112	1 φ Bolt	1'-2	AB1 (Swedged) 1-hex. nut ea.	381
4440	7/8 φ	~	Shop Rivets	1,598
1680	7/8 φ	~	Field Rivets	605
64	7/8 φ Bolt	0'-4	B2, B6, B9, B13 (1-lk. wa. ea.)	77
32	7/8 φ Bolt	0'-3 1/2	B4, B11 (1-lk. wa. ea.)	36
64	7/8 φ Bolt	0'-3 1/4	B3, B5, B10, B12 (1-lk. wa. ea.)	68
64	7/8 φ Bolt	0'-3	B1, B7, B8, B14 (1- " " ")	66
			TOTAL STRUCTURAL STEEL	391,921

DESIGNED N.L.P. 7-25-49 C'K'D R.W.B. 7-25-49
DRAWN J.A.T. 11-28-49 C'K'D W.L.P. 12-15-49
TRACED R.O.R. 1-19-50 C'K'D R.W.B. 1-19-50

REQUIRED LIST

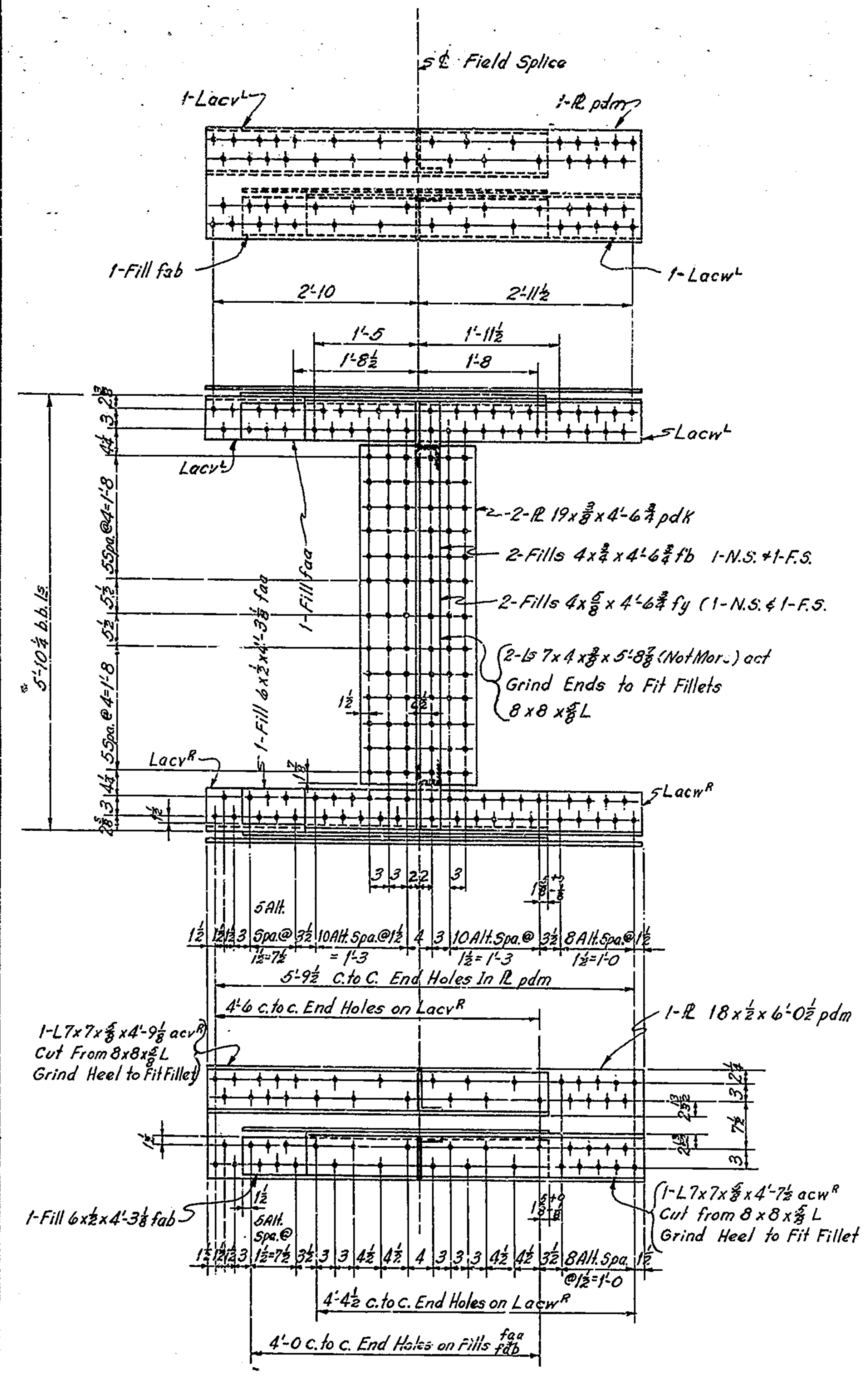
STRUCTURAL STEEL - SPANS D, E, F, G, H, J

No. Pcs.	Description	Mark	Drwg. No.	Weight One Pc.	Total Weight
2	Girders	G1, G22		26844	53688
2	"	G2, G21		26745	53490
2	"	G3, G20		33359	66718
2	"	G4, G19		33409	66818
8	"	G5, G6, G9, G10, G13, G14, G17, G18		25402	203216
6	"	G7, G8, G11, G12, G15, G16		35269	211614
10	Field Splice	SP1		1705	17050
10	" "	SP2		1705	17050
2	Floor Beams	FB1		4693	9386
12	" "	FB2		3408	40896
10	" "	FB3		3340	33400
5	" "	FB4		4106	20530
4	Stringers	S1 R/L (2-S1 R, 2-S1 L)		1540	6160
One	"	S2		1813	1813
4	"	S3		1540	6160
2	"	S4		1813	3626
8	"	S5		1540	12320
4	"	S6		1813	7252
32	"	S7		1757	56224
16	"	S8		1886	30176
8	"	S9		1757	14056
4	"	S10		1886	7544
One	"	S11		1813	1813
4	Brackets	BK1		428	1712
60	"	BK2		499	29940
40	"	BK3		474	18960
10	"	BK4		403	4030
8	Bottom Laterals	BL1		133	1064
8	" "	BL2		195	1560
12	" "	BL3		134	1608
4	" "	BL4		143	572
16	" "	BL5		137	2192
28	" "	BL6		137	3836
20	" "	BL7		200	4000
16	" "	BL8		146	2336
18	Sway Frames	SF1		1189	21402
10	" "	SF2		1182	11820
32	Drain Supports	DS R/L (16-DS R, 16-DS L)		16	512
4	Top Shoes	TS2		137	548
10	" "	TS3		239	2390
4	Exp. Plates	EP2		565	2260
8	" "	EP3		1052	8416
4	Exp. Shoes	ES2		438	1752
8	" "	ES3		1107	8856
2	Fixed Shoes	FS2		2452	4904
56	Anchor Bolts	AB2		10	560
56	Washers	W2		0.6	34
13,530	Field Rivets	~			4871
12	Bolts 7/8 φ × 0'-7	1-Lk. Wa. Ea. T.S. to Girder at R6, R7, R8			21
8	" 7/8 φ × 0'-6 3/4	1- " " " " " " " R5, R9			13
12	" 7/8 φ × 0'-6 1/2	1- " " " " " " " R6, R7, R8			20
8	" 7/8 φ × 0'-6 1/4	1- " " " " " " " R5, R9			13
8	" 7/8 φ × 0'-3 3/4	1- " " " " " " " R4, R10			9
8	" 7/8 φ × 0'-3 1/4	1- " " " " " " " R4, R10			9
		TOTAL WEIGHT			1,081,220
		MISCELLANEOUS			
	5/16" Fillet Weld (Field)				16 Lin. Ft.

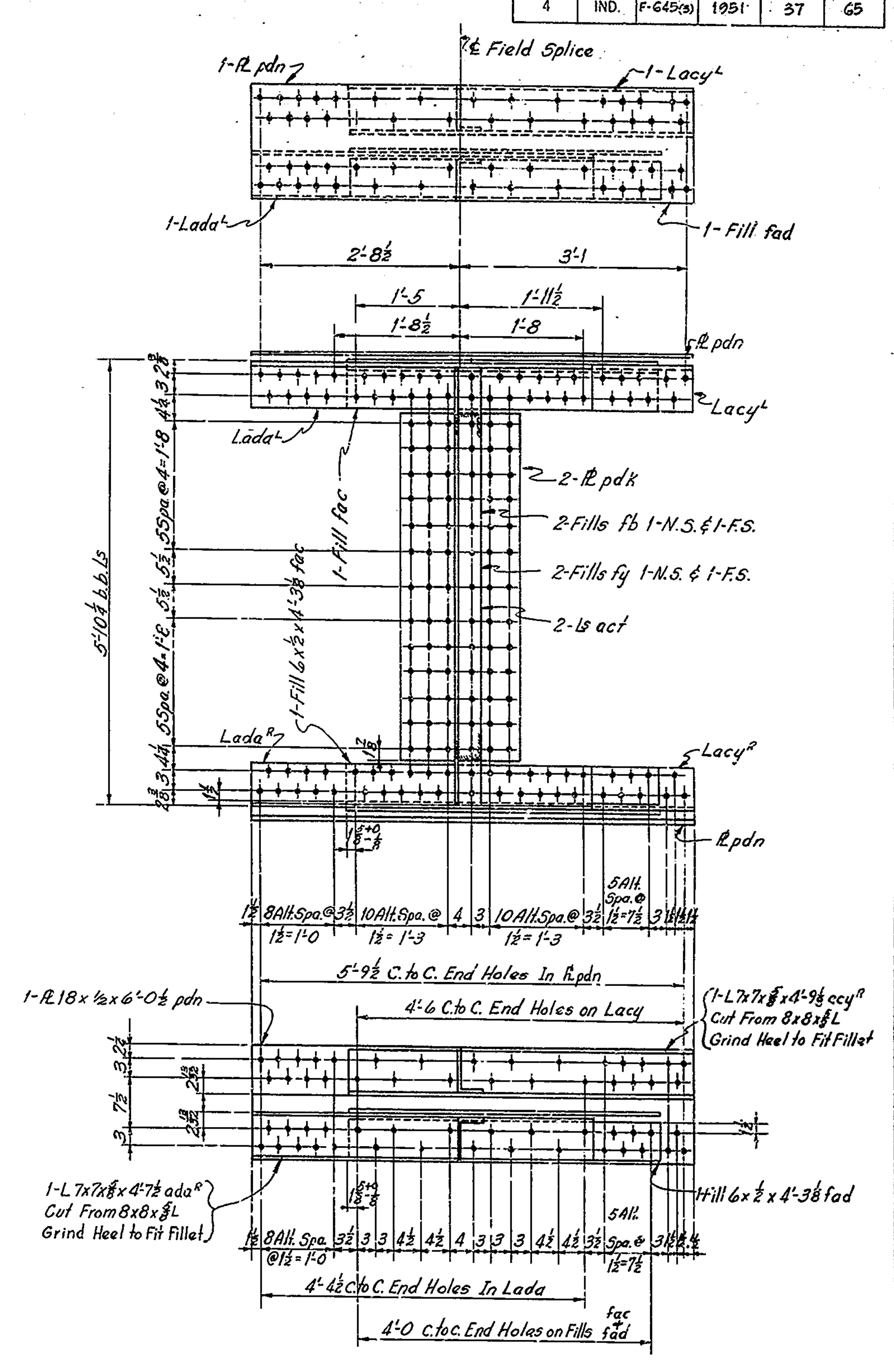
REQUIRED LIST

STRUCTURAL STEEL - EXPANSION JOINTS

No. Pcs.	Description	Mark	Drwg. No.	Weight One Pc.	Total Weight
2	Expan. Joint	One EJ1; One EJ1A		2144	4288
2	" "	One EJ2; One EJ2A		3624	7248
40	Bolts 7/8 φ × 0'-3 3/4	1-Cut Wa., 1-Lk. Wa. Ea. EJ1 to B10, B11, B12 EJ2 to G1, G2, G21, G22			53
48	" 7/8 φ × 0'-3 1/2	1- " " , 1- " " " EJ1 to B8, B9, B13, B14 EJ2 to FB1			61
16	" 7/8 φ × 0'-3 1/4	1- " " , 1- " " " EJ2 to BK1			20
176	" 7/8 φ × 0'-3	1- " " , 1- " " " EJ1 to Diaphragm EJ2 to FB1			208
16	" 7/8 φ × 0'-2 3/4	1- " " , 1- " " " EJ2 to BK1			18
		TOTAL WEIGHT			11,896



FIELD SPLICE SP1
(Bolt to Ship)



FIELD SPLICE SP2
(Bolt to Ship)

NOTES:-
All holes in girder splices shall be subpunched or subdrilled 11/16 φ in shop and reamed to 15/16 φ in field.
See Drawing S17 for "General Notes"

SPLICE DETAILS, BILLS OF MATERIALS & REQUIRED LISTS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 3/4 = 1'-0 AUGUST 1, 1950

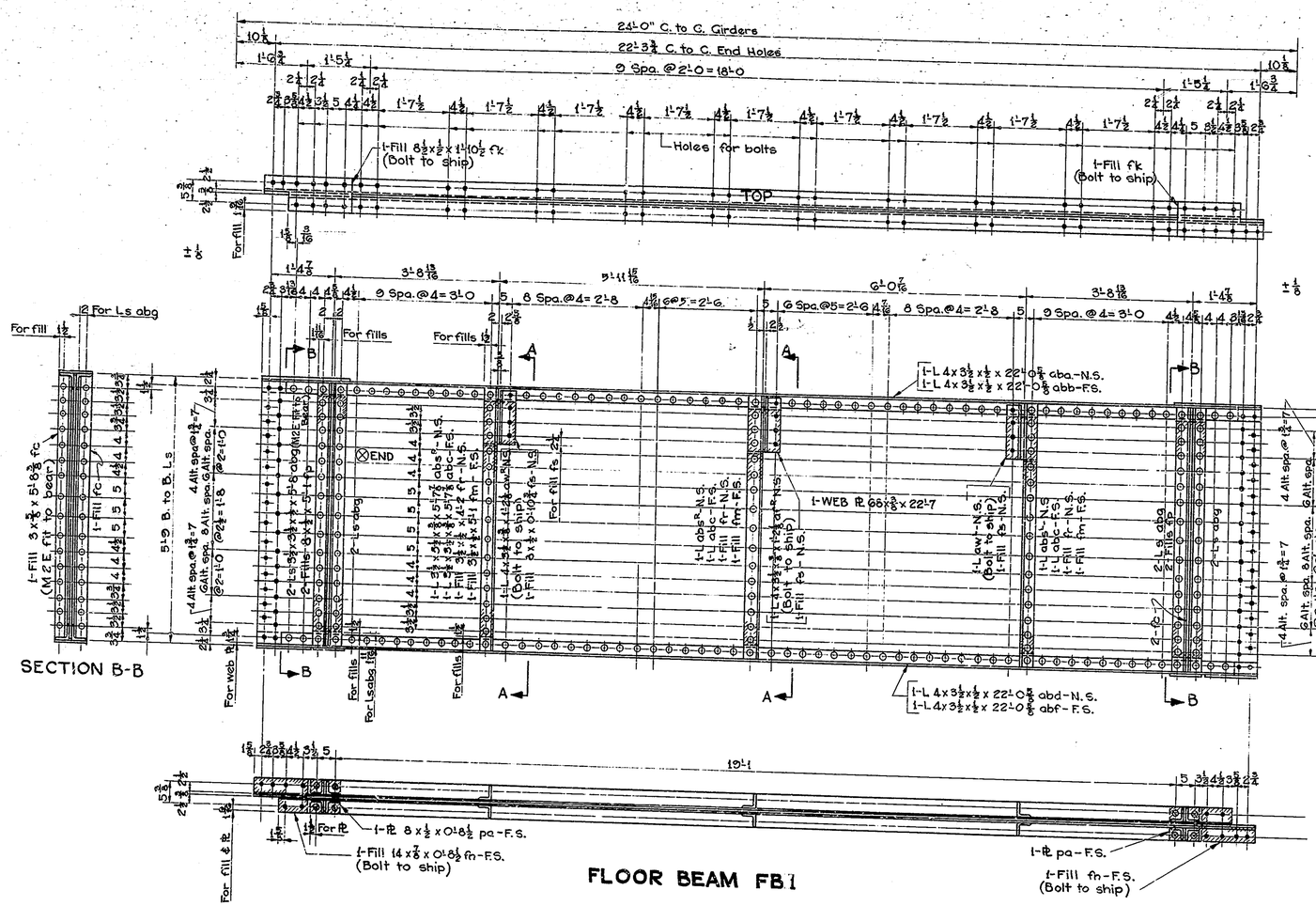
RECOMMENDED FOR APPROVAL:- J. V. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

DRAWING:- S31 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGES OVER 20' SPAN					
FUB ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	38	65



NOTE :-
Rivets ⅞ ϕ
Open holes 15/16 ϕ
See Drwg. S17 for notes regarding use of these drawings for shop plans and regarding inspection.

REQUIRED		
No:	DESCRIPTION	MARK
2	Floor beams	FB1

DESIGNED	W.L.P. 7-25-49	CK'D	R.W.B. 7-25-49
DRAWN	L.W.S. 11-2-49	CK'D	J.A.T. 12-5-49
TRACED	M.W.S. 1-5-50	CK'D	R.W.B. 1-5-50

EUGENE DIETZGEN CO. NO. 113

FLOOR BEAM DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¾ = 1'-0

AUGUST 1 , 1950

RECOMMENDED FOR APPROVAL:-

J. V. Smythe
ENGINEER OF BRIDGE DESIGN

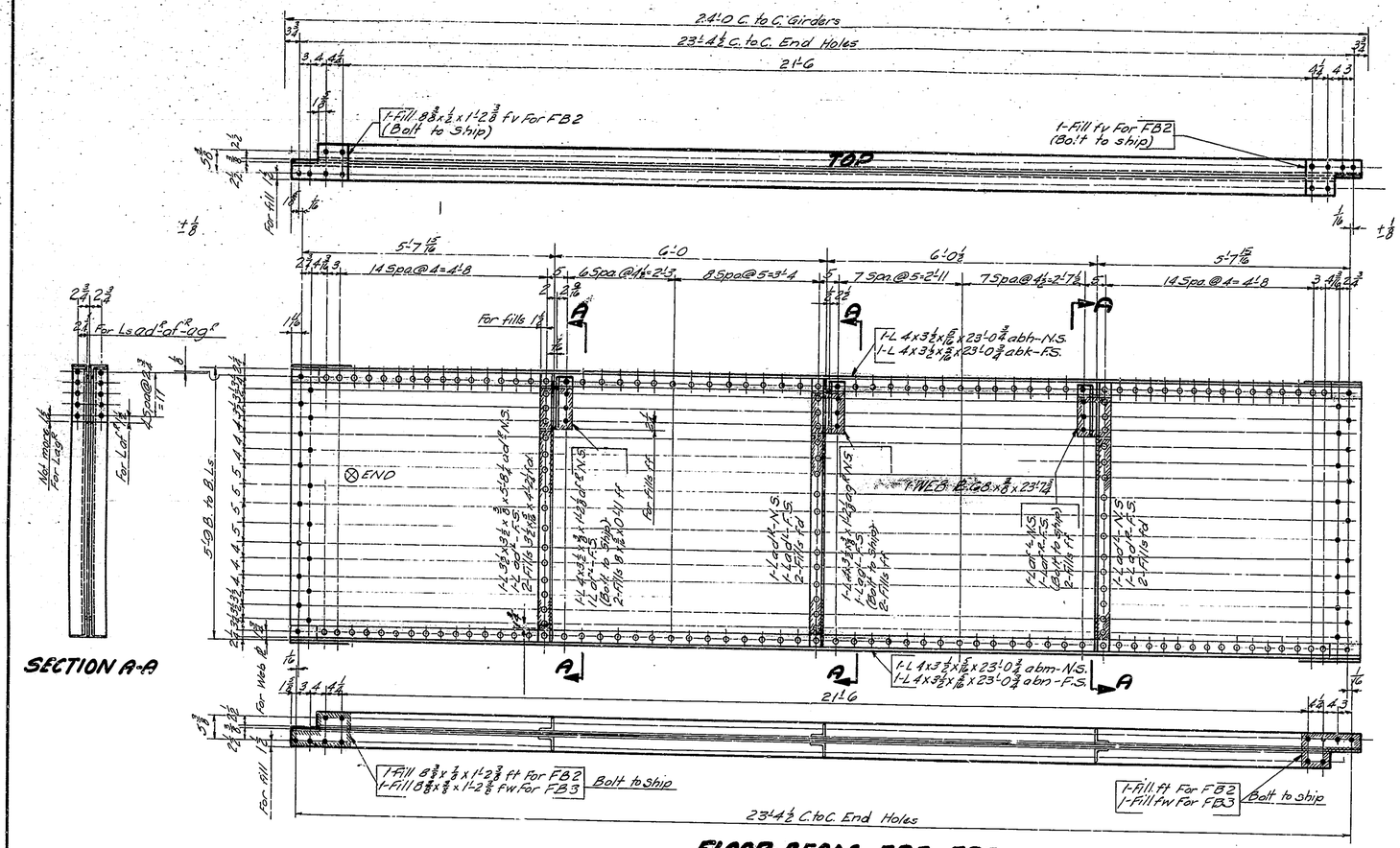
PROJECT:- F-645(3)

STATION:- 11+25

DRAWING:- 552 OF 47

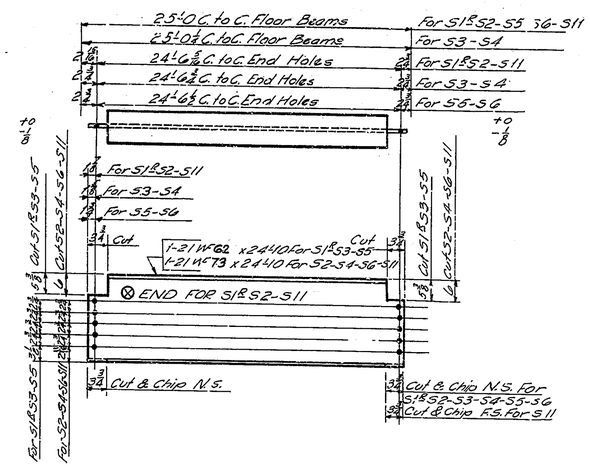
BRIDGE CONTRACT NO. 3289

BRIDGES OVER 20' SPAN					
PUB ROAD DIV NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(6)	1951	39	65

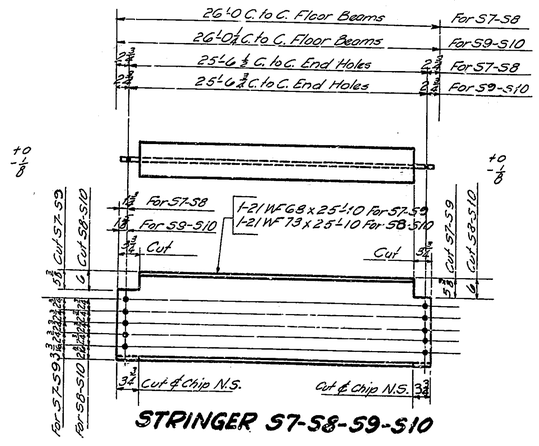


SECTION A-A

FLOOR BEAM FB2-FB3



STRINGERS S1 & S2-S3-S4-S5-S6-S11



STRINGER S7-S8-S9-S10

REQUIRED		
NO.	DESCRIPTION	MARK
12	Floor Beams	FB2
10	" "	FB3
2	Stringers	S1 & S2
2	"	S1 & S2
One	"	S2
4	"	S3
2	"	S4
8	"	S5
4	"	S6
32	"	S7
16	"	S8
8	"	S9
4	"	S10
One	"	S11

NOTE:-
Rivets ⅞ ϕ
Open holes 15/16 ϕ
See Drwg. S1 for notes regarding use of these drawings for shop plans and regarding inspection.

FLOOR BEAM & STRINGER DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¾" = 1'-0

AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. W. Smythe ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(5)

STATION:- 11+25

DRAWING:- S5S OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 30-A-2408

DESIGNED WL 8-25-49 CK'D DRW'G 7-25-49

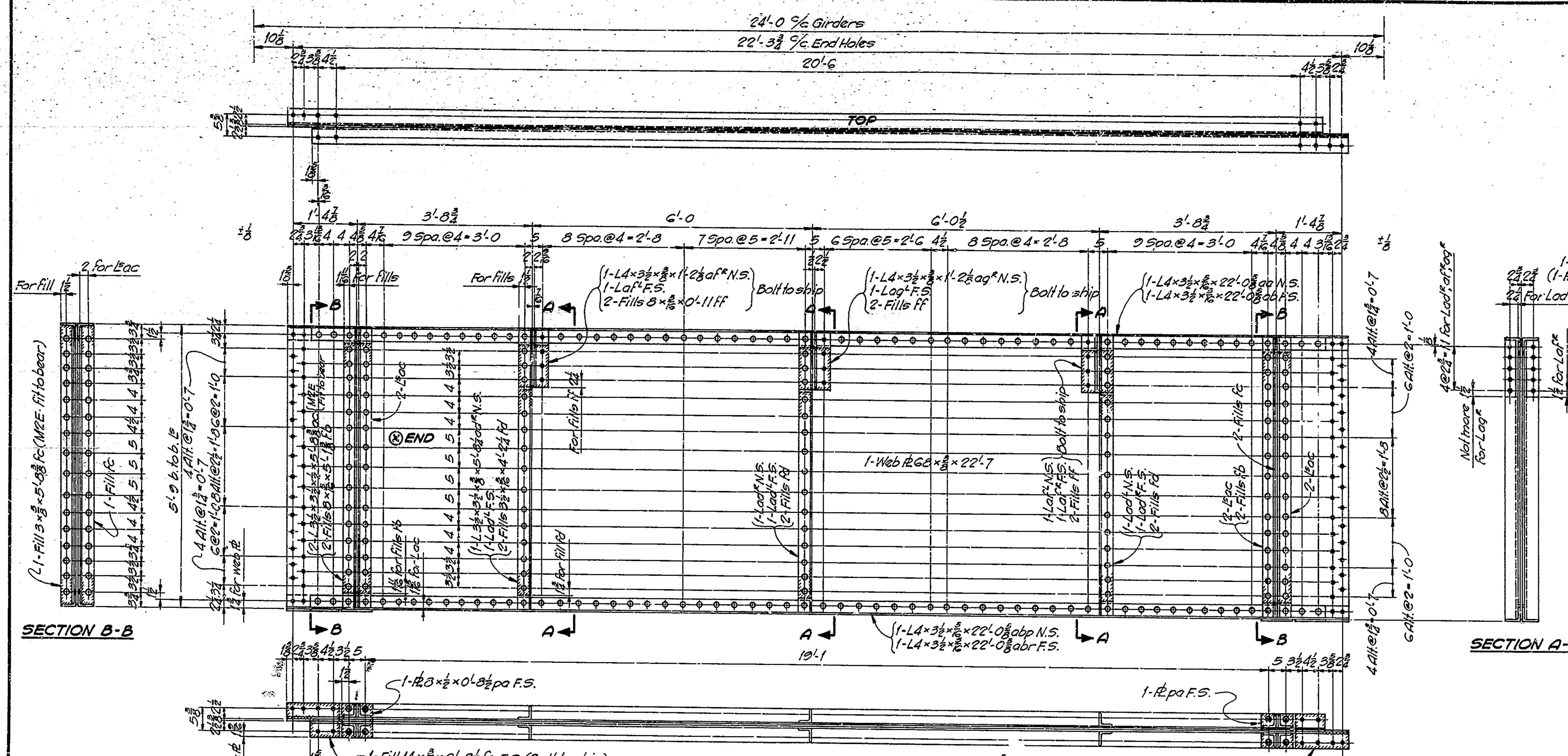
DRAWN LWS 11-2-49 CK'D JEF 11-2-49

TRACED RAB 1-6-50 CK'D REB 1-7-50

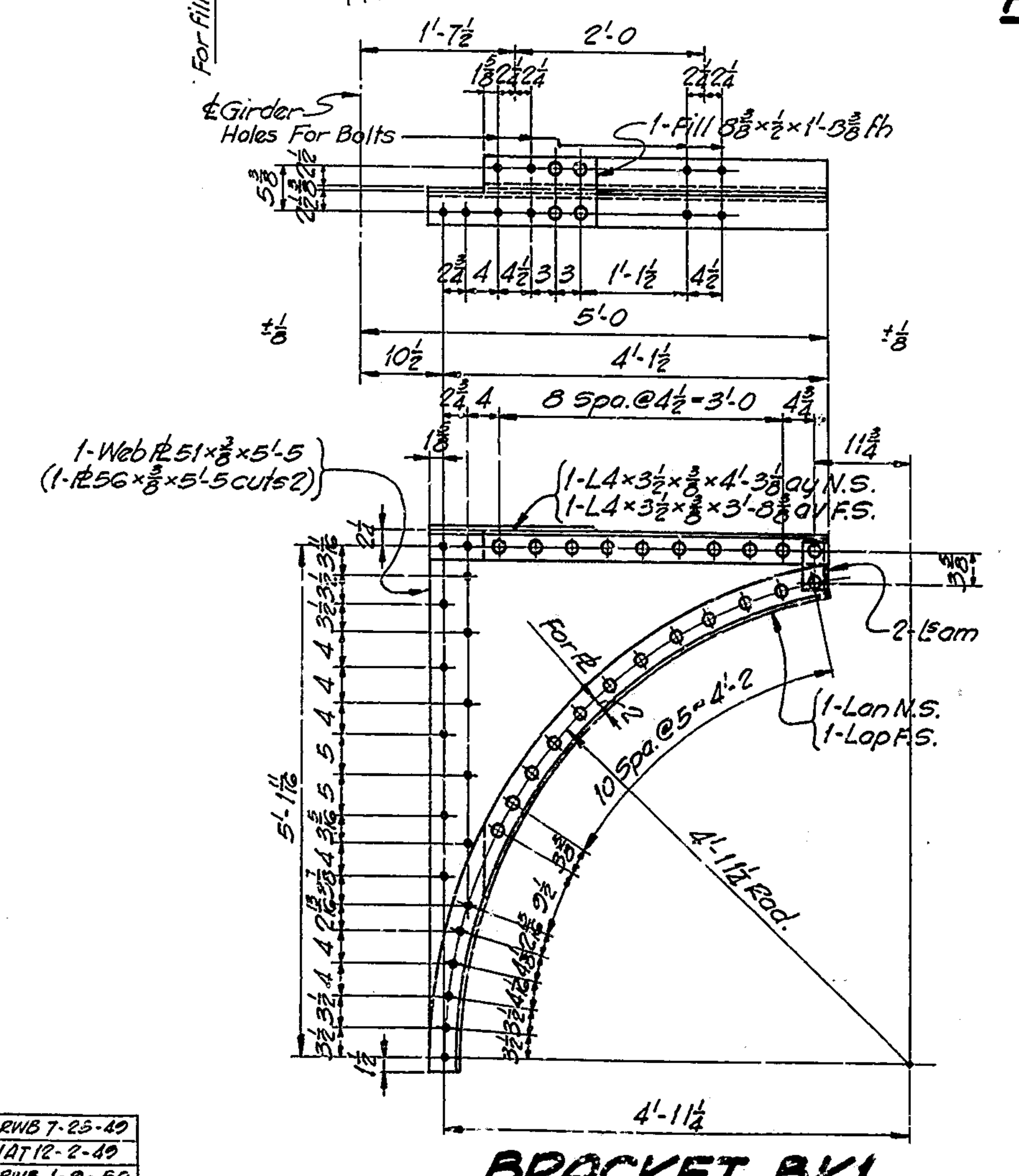
EUGENE DIETZGEN CO. NO. 113

BRIDGES OVER 20' SPAN

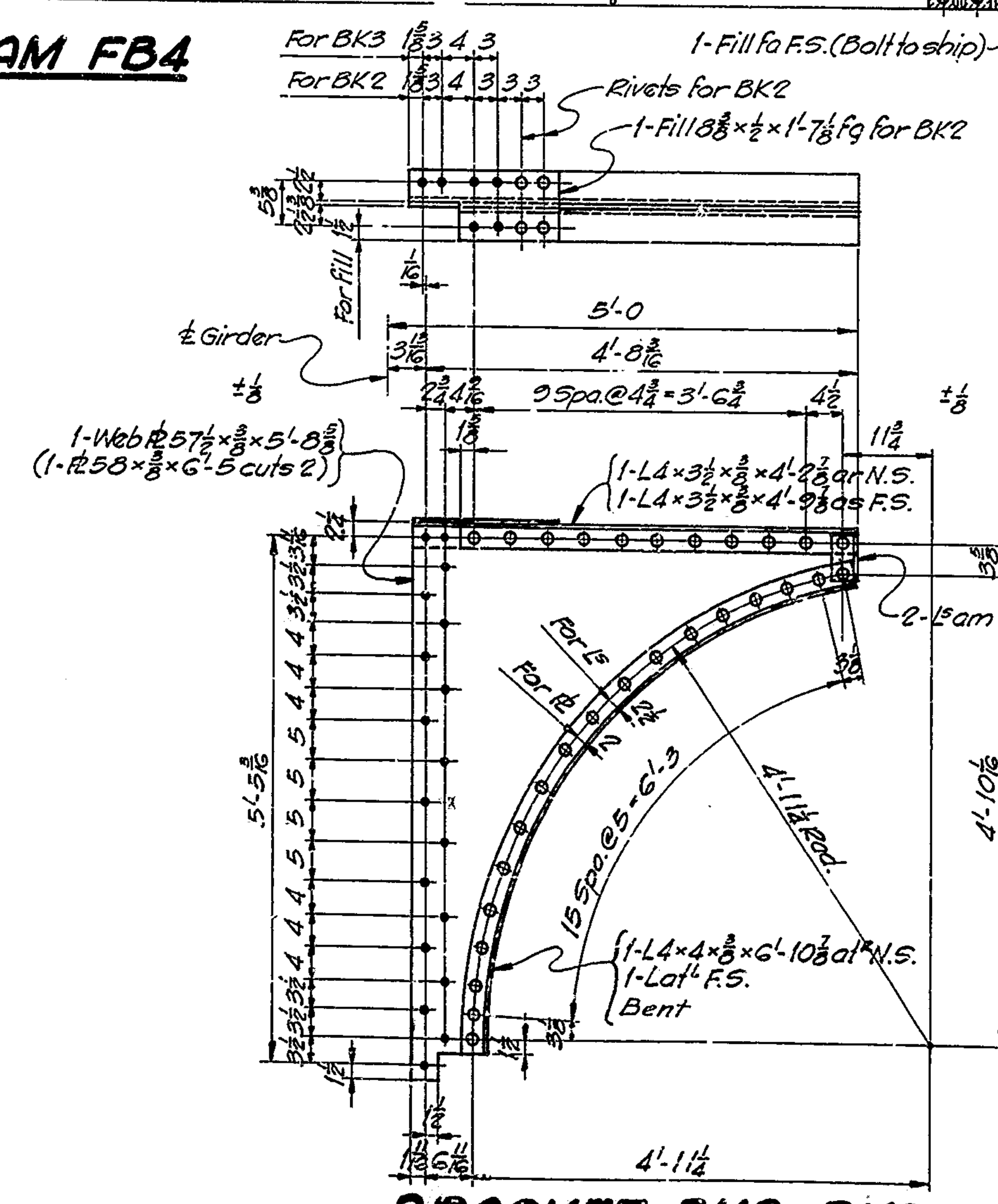
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	40	65



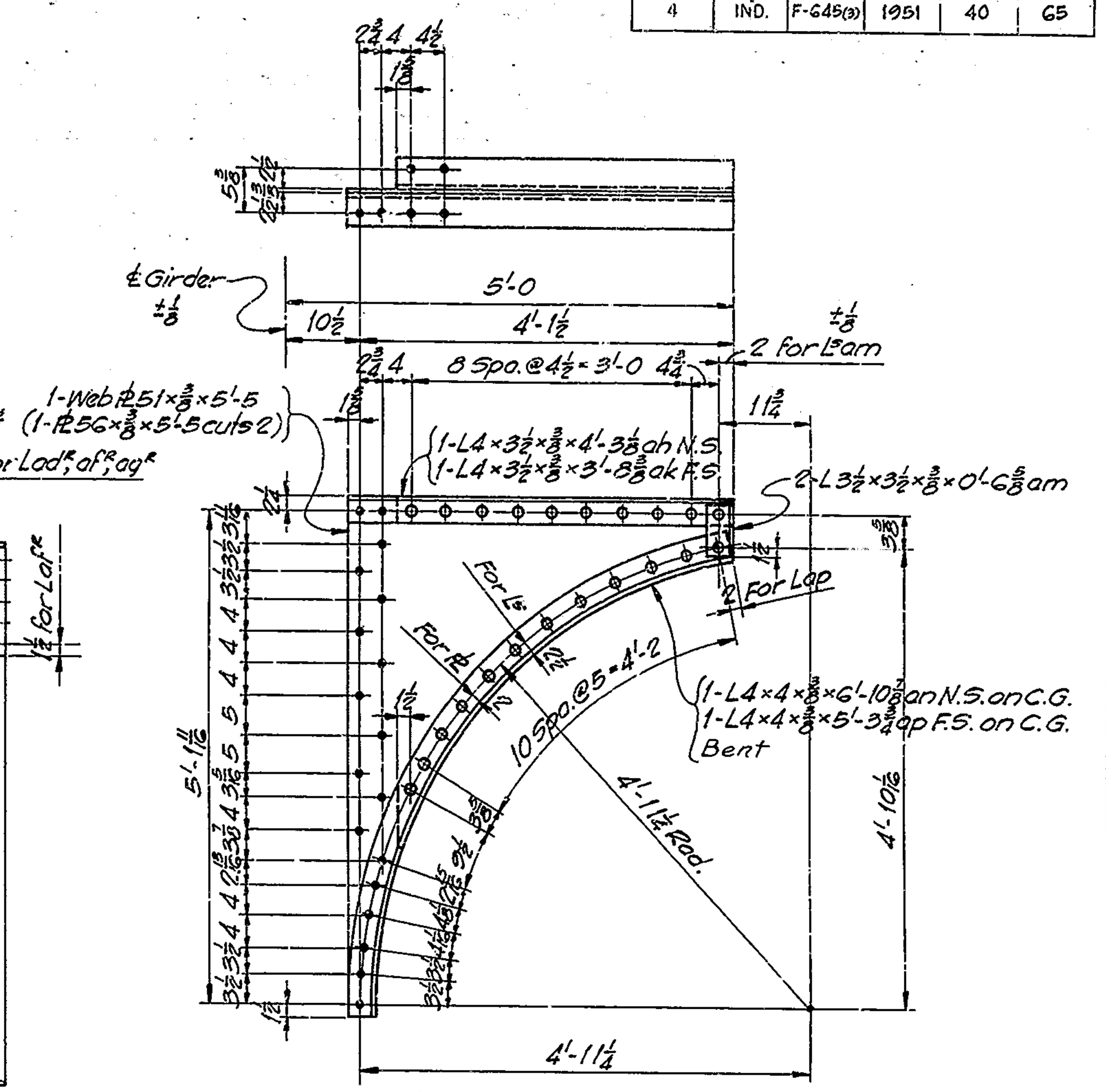
FLOOR BEAM FB4



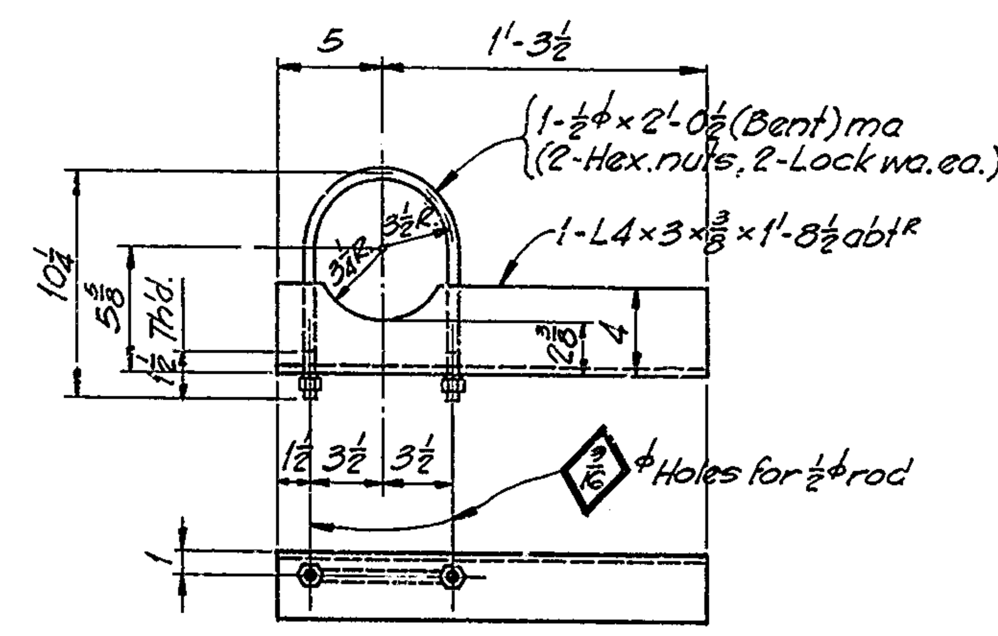
BRACKET BK1



BRACKET BK2, BK3



BRACKET BK4



DRAIN SUPPORT DS[R]

Scale:- 1½=1'-0

NOTES

Rivets ⅞φ

Open Holes 15/16φ unless noted

See Drawing S17 for notes regarding use of these drawings for shop plans and regarding inspection.

If curves in plates and angles are flame cut they shall be ground smooth.

REQUIRED

No.	Description	Mark
5	Floor Beam	FB4
4	Bracket	BK1
60	"	BK2
40	"	BK3
10	"	BK4
16	Drain Support	DS[R]
16	" "	DS[L]

DESIGNED WLP 7-25-49	C'K'D RWB 7-25-49
DRAWN LWS 10-28-49	C'K'D JAT 12-2-49
TRACED MJL 1-7-50	C'K'D RWB 1-9-50

FLOOR BEAM, BRACKET & DRAIN SUPPORT DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ¾=1'-0 AUGUST 1, 1950

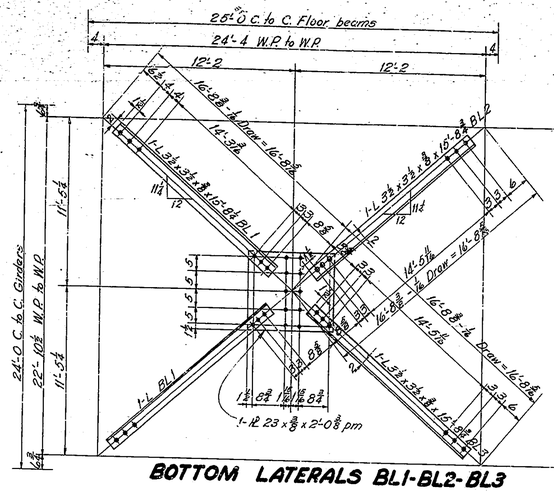
RECOMMENDED FOR APPROVAL:- J.W. Smythe — ENGINEER OF BRIDGE DESIGN

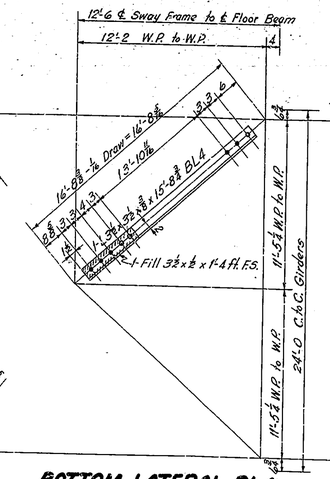
PROJECT:- F-645(3) STATION:- 11+25

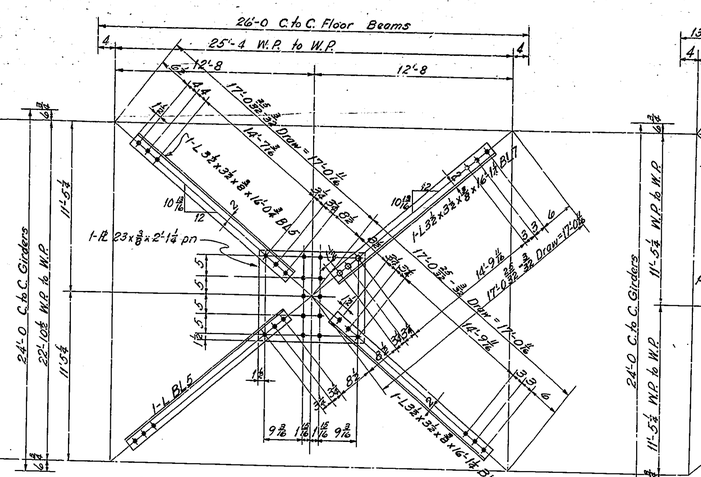
DRAWING:- S34 OF 47

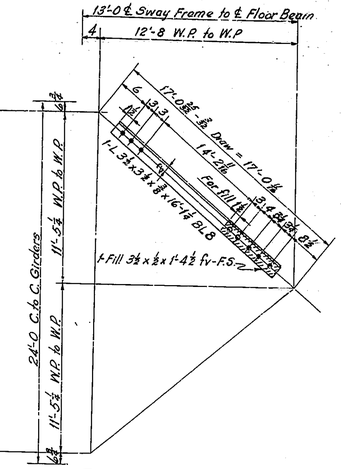
BRIDGE CONTRACT NO. 3289

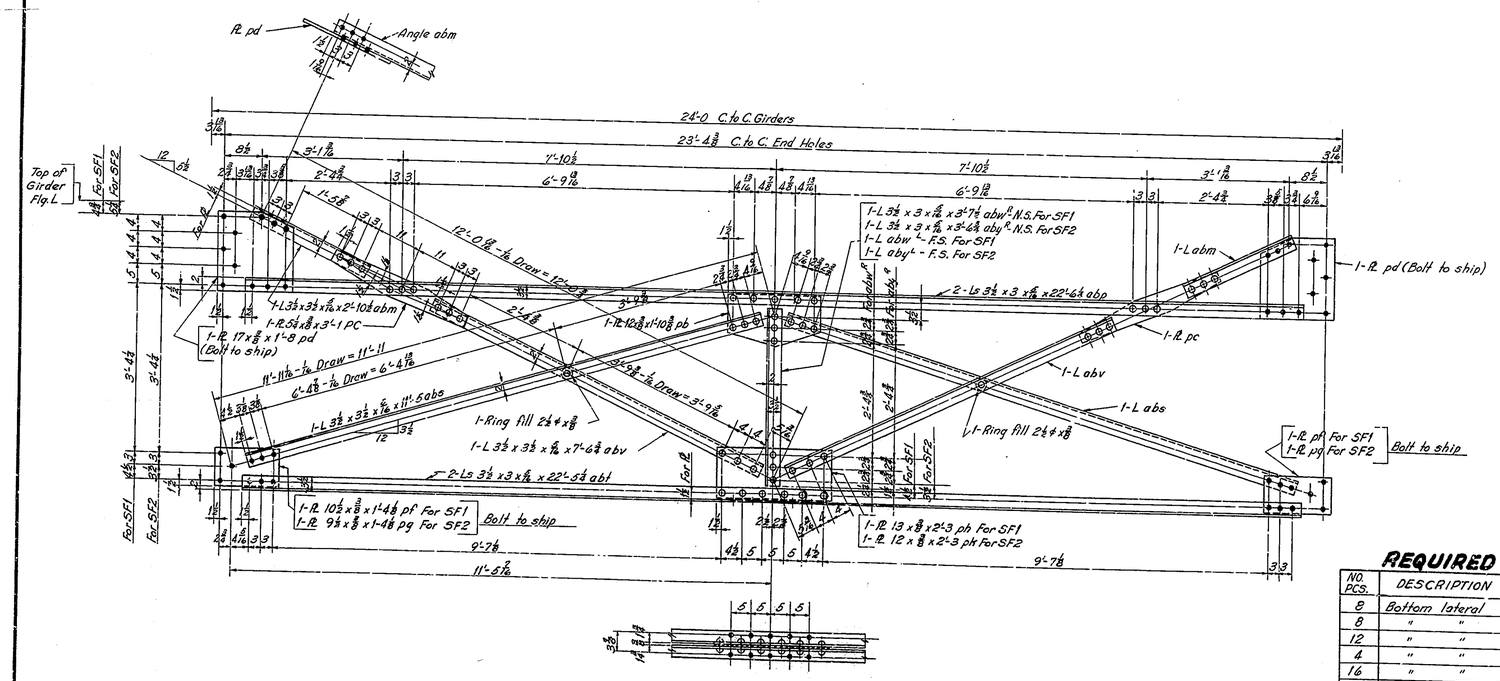
BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	41	65











SWAY FRAME SF1-SF2

Scale:- ⅜ = 1'-0

NOTE:-

Rivets ⅞ ϕ
Open holes 1⅛ ϕ
See Drwg. 517 for notes regarding use of these drawing for shop plans and regarding inspections.

REQUIRED

NO. PCS.	DESCRIPTION	MARK
8	Bottom lateral	BL1
8	" "	BL2
12	" "	BL3
4	" "	BL4
16	" "	BL5
28	" "	BL6
20	" "	BL7
16	" "	BL8
18	Sway frame	SF1
10	" "	SF2

DESIGNED W.L.P. 7-25-49 C'K'D R.W.R. 7-25-49
DRAWN L.W.S. 11-15-49 C'K'D W.L.P. 2-9-50
TRACED R.L.R.2-28-50 C'K'D K.W.R.2-24-50
EUGENE DIETZGEN CO. NO. 111

BOTTOM LATERAL & SWAY FRAME DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- ½ = 1'-0 UNLESS NOTED AUGUST 1 1950

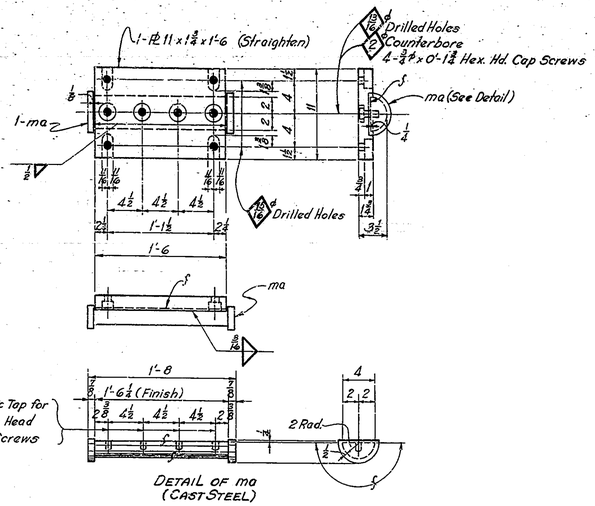
RECOMMENDED FOR APPROVAL:- J. L. Smythe
ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

DRAWING:-535 OF 47

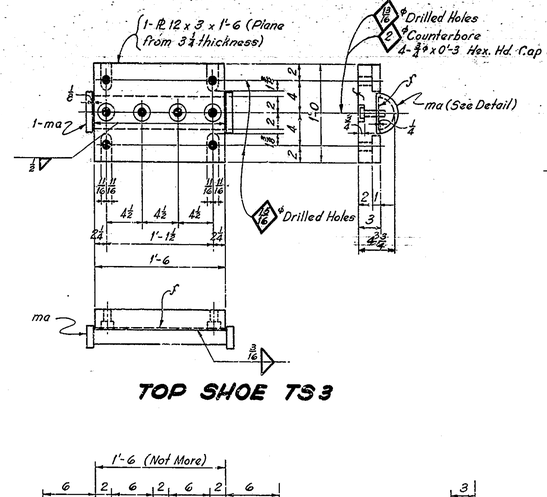
BRIDGE CONTRACT NO. 3289

BRIDGES OVER 20' SPAN					
PUB. ROADS DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	42	65

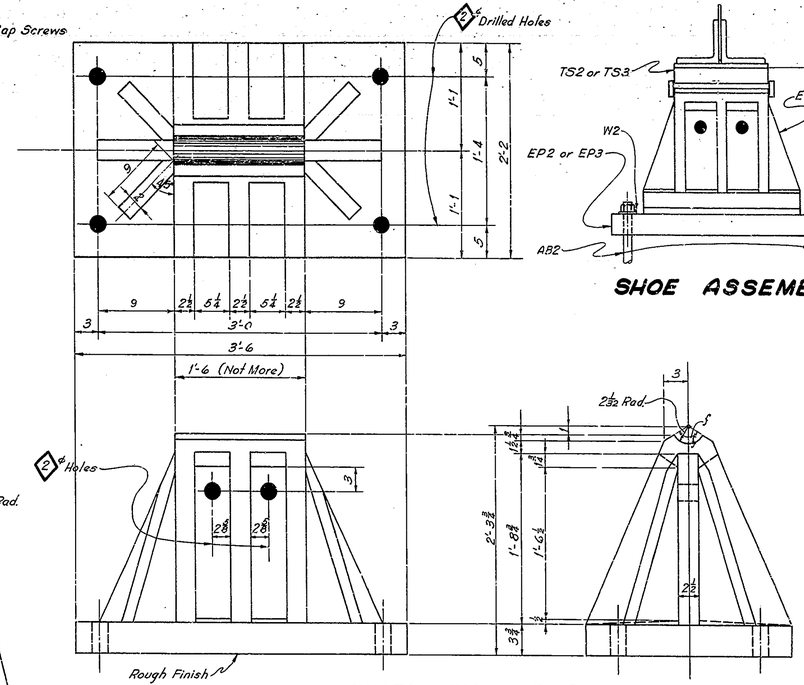


DETAIL OF ma (CAST STEEL)

TOP SHOE TS2



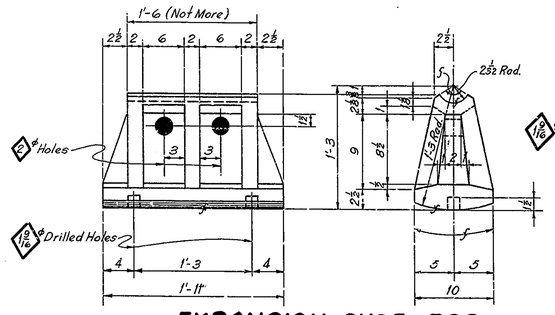
TOP SHOE TS3



SHOE ASSEMBLY

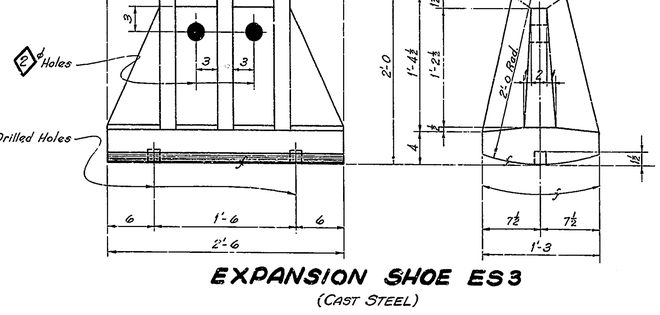
FIXED SHOE FS2

(CAST STEEL)



EXPANSION SHOE ES2

(CAST STEEL)



EXPANSION SHOE ES3

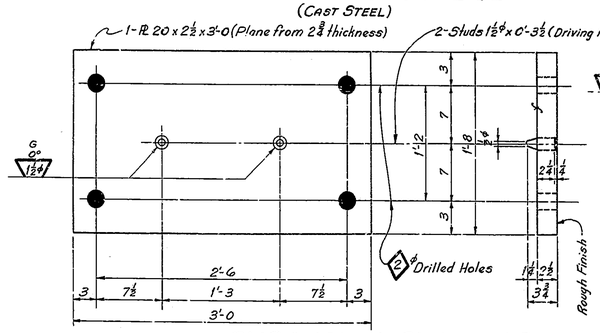
(CAST STEEL)

ANCHOR BOLT AB2

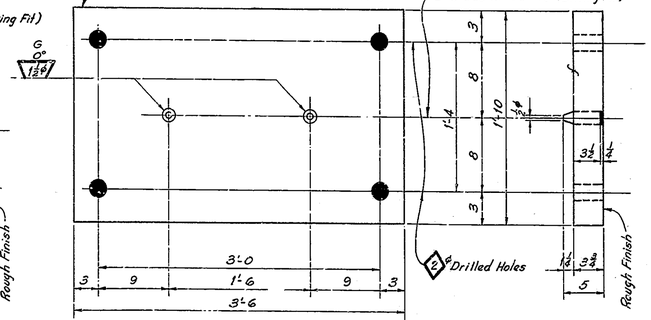
Scale:- 3 = 1'-0

WASHER W2

Scale:- 3 = 1'-0



EXPANSION PLATE EP2



EXPANSION PLATE EP3

REQUIRED		
No.	Description	Mark
4	Top Shoe	TS2
10	" "	TS3
4	Expansion Shoe	ES2
8	" "	ES3
2	Fixed Shoe	FS2
4	Expansion Plate	EP2
8	" "	EP3
56	Anchor Bolt	AB2
56	Washer	W2

NOTES

Open Holes as noted.

Edges of casting to be rounded to 1/4 radius and corners to have fillets of 1/4 radius except as noted.

See Drwg. S17 for notes regarding use of these drawings for shop plans and regarding inspection.

SHOE DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 1/2 = 1'-0

AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:-

J. V. Smythe
ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3)

STATION:- 11+25

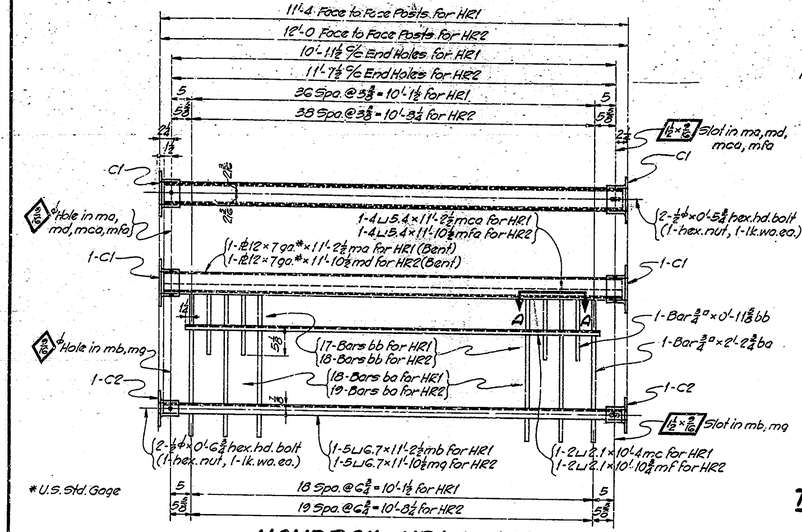
DRAWING:- 936 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 33-A-3108

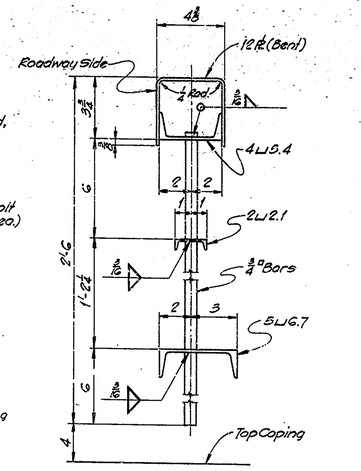
DESIGNED	R.W.B. 7-27-49	C'K'D	W.L.D. 7-28-49
DRAWN	M.H. 10-14-49	C'K'D	W.L.D. 11-22-49
TRACED	R.D.R. 1-6-50	C'K'D	R.W.B. 1-6-50

EUCLID SIXTEEN CO. INC. IND.



HANDRAIL HR1 & HR2

Scale: - 1" = 1'-0



TYPICAL CROSS SECTION THRU HANDRAIL

Scale: - 3" = 1'-0

REQUIRED LIST

STRUCTURAL STEEL - HANDRAIL

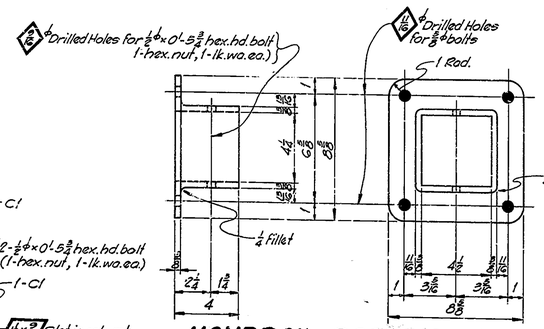
No. Rqs.	Description	Mark	Dwng. No.	Weight One Pc.	Total Weight
28	Handrail	HR1		407	11396
12	"	HR2		411	8124
4	"	HR3		415	1660
108	"	HR4		416	44928
1136	Anchor Bolt	AB3		1.7	1931
160	" "	AB4		1.5	240
	TOTAL WEIGHT - HANDRAIL				68279

BRIDGES OVER 20' SPAN

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	43	65

STRUCTURAL STEEL - HANDRAIL BY SHIPPING PIECES

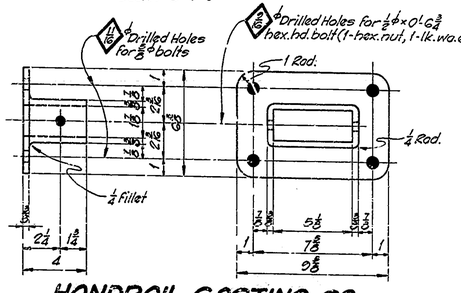
No. Rqs.	Section	Length	Location	Total Wt.
			HANDRAIL HR1	
1	5 L G. 7	11'-2⅞	mb	75
1	4 L 5.4	11'-2⅞	mca	61
1	2 L 2.1	10'-4	mc	22
1	PL 12 × 7 ga.	11'-2⅞	ma (Bent) U.S. Std. Gage	84
19	Bars ⅞" ϕ	2'-2⅞	ba	81
18	Bars ⅞" ϕ	0'-11⅝	bb	33
2	—	—	Castings C1 (Malleable Iron)	26
2	—	—	" C2 (" ")	23
2	¾ϕ	0'-6¾	Hex. Hd. Bolt (1-hex. nut; 1-lk. wa. ea.)	1
2	¾ϕ	0'-5⅞	" " " (1- " " ; 1- " " ")	1
			TOTAL WEIGHT - ONE PIECE	407
			HANDRAIL HR2	
1	5 L G. 7	11'-10⅜	mg	80
1	4 L 5.4	11'-10⅜	mfa	64
1	2 L 2.1	10'-10¾	mf	23
1	PL 12 × 7 ga.	11'-10⅜	md (Bent) U.S. Std. Gage	89
20	Bars ⅞" ϕ	2'-2⅞	ba	85
19	Bars ⅞" ϕ	0'-11⅝	bb	35
2	—	—	Castings C1 (Malleable Iron)	26
2	—	—	" C2 (" ")	23
2	¾ϕ	0'-6¾	Hex. Hd. Bolt (1-hex. nut; 1-lk. wa. ea.)	1
2	¾ϕ	0'-5⅞	" " " (1- " " ; 1- " " ")	1
			TOTAL WEIGHT - ONE PIECE	467
			HANDRAIL HR3	
1	5 L G. 7	11'-7⅞	mn	78
1	4 L 5.4	11'-7⅞	mma	63
1	2 L 2.1	10'-8¾	mm	22
1	PL 12 × 7 ga.	11'-7⅞	mb (Bent) U.S. Std. Gage	87
19	Bars ⅞" ϕ	2'-2⅞	ba	81
18	Bars ⅞" ϕ	0'-11⅝	bb	33
2	—	—	Casting C1 (Malleable Iron)	26
2	—	—	" C2 (" ")	23
2	¾ϕ	0'-6¾	Hex. Hd. Bolt (1-hex. nut; 1-lk. wa. ea.)	1
2	¾ϕ	0'-5⅞	" " " (1- " " ; 1- " " ")	1
			TOTAL WEIGHT - ONE PIECE	415
			HANDRAIL HR4	
1	5 L G. 7	11'-8½	mp	78
1	4 L 5.4	11'-8½	mmb	63
1	2 L 2.1	10'-8½	mm	22
1	PL 12 × 7 ga.	11'-8½	mk (Bent) U.S. Std. Gage	88
19	Bars ⅞" ϕ	2'-2⅞	ba	81
18	Bars ⅞" ϕ	0'-11⅝	bb	33
2	—	—	Casting C1 (Malleable Iron)	26
2	—	—	" C2 (" ")	23
2	¾ϕ	0'-6¾	Hex. Hd. Bolt (1-hex. nut; 1-lk. wa. ea.)	1
2	¾ϕ	0'-5⅞	" " " (1- " " ; 1- " " ")	1
			TOTAL WEIGHT - ONE PIECE	416
			MISCELLANEOUS	
1	⅞ϕ	1'-5	AB3 (2-hex. nuts; 2-lk. wa. ea.)	1.7
1	⅞ϕ	1'-4	AB4 (Bent) 1-hex. nut; 1-lk. wa. ea.)	1.5



HANDRAIL CASTING C1

MALLEABLE IRON

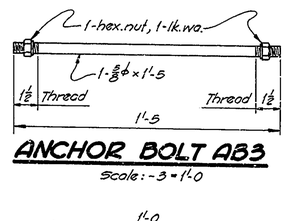
Scale: - 3" = 1'-0



HANDRAIL CASTING C2

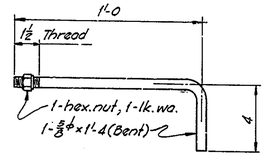
MALLEABLE IRON

Scale: - 3" = 1'-0



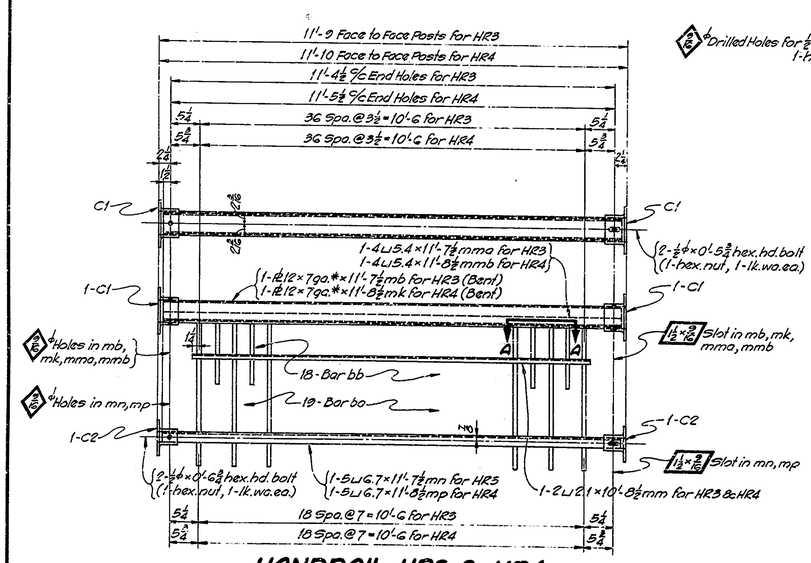
ANCHOR BOLT AB3

Scale: - 3" = 1'-0



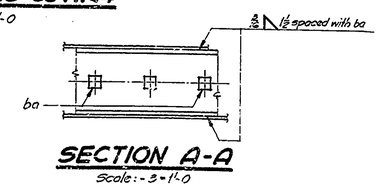
ANCHOR BOLT AB4

Scale: - 3" = 1'-0



HANDRAIL HR3 & HR4

Scale: - 1" = 1'-0



SECTION A-A

Scale: - 3" = 1'-0

NOTES:-
Open Holes as noted
All welding on guardrail to be neatly done and ground smooth. Rough edges and sharp corners to be ground smooth.
Bars marked "b" to have rolled or planed edges.
See Drawing 517 for "General Notes"

HANDRAIL DETAILS & BILL OF MATERIALS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- AS NOTED — AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:-

PROJECT:- F-645(3) — STATION:- 11+25

DRAWING:- 557 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 30-A-2108

DESIGNED	WJL 11-21-49	C'K'D	JAT 11-21-49
DRAWN	WJL 11-25-49	C'K'D	JAT 12-5-49
TRACED	WJL 2-16-50	C'K'D	WLP 2-20-50

EUGENE DIETZGEN CO. No. 111

PUR. ROAD DIV. NO	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND	FG45(3)	1951	44	65

BRIDGES OVER 20' SPAN

Mark	lm	ln	lp
h	1⅛	4	4

1-14WF68x0'-9 cuts 2

STIFFENER DETAILS

Mark	lc	ld	lf	lg	lh	lk
h	6⅞	6⅝	7/16	7/16	8	8⅛

1-21WF68x0'-9 cuts 2

STIFFENER DETAILS

Mark	ll	lv	lw	ly	laa	lab	lac
h	7⅝	8¾	9/16	9⅜	10	10¼	10⅜

1-21WF68x1'-1 cuts 2

STIFFENER DETAILS

DESIGNED M.L.L. 11-20-49 C'K'D E.W.B. 11-27-49

DRAWN M.L.L. 12-10-49 C'K'D A.T. 12-27-49

TRACED R.E.B. 1-18-50 C'K'D R.W.B. 1-20-50

EUGENE DIETZGEN CO. No. 111

EXPANSION JOINT EJ1 & EJ1A (ALIKE)

EXPANSION JOINT EJ2 & EJ2A (ALIKE)

PLATE pd R SHOWN DEVELOPED

PLATE pg R SHOWN DEVELOPED

PLATE ph R SHOWN DEVELOPED

DETAIL "A" Scale:-1½=1'-0

DETAIL "B" Scale:-1½=1'-0

DETAIL of tad

EXPANSION PLATE DETAILS

NOTE:- All dimensions to cuts are given to ℄ cut. See Specifications Art E703.2 (d) regarding the burning of toothed plates

NOTES:-

Rivets ¾ ϕ

Open Holes 1/16 ϕ unless noted.

Expansion joints EJ1, EJ1A, EJ2 & EJ2A are to be assembled in the shop in their relative erection positions and inspected for fit.

EJ1 & EJ1A shall be stiffened for shipment. See Drawing S11 for "General Notes."

REQUIRED		
No	Description	Mark
One	Expansion Joint	EJ 1
One	" "	EJ 2
One	" "	EJ1A
One	" "	EJ2A

EXPANSION JOINT DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 1=1'-0 UNLESS NOTED

AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:-

J. M. Smythe, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3)

STATION:- 11+25

DRAWING:- 938 OF 47

BRIDGE CONTRACT NO. 3289

Revised 7-25-51

No.Pcs.	Section	Length	Location	Total Wt.
			GIRDER G1 & G22 (DRWG. S19 & S20)	
1	L8×8×⅝	70'-2½	aba	2296
1	L8×8×⅝	70'-2¼	abg	2295
1	L8×8×⅝	66'-10	abc	2185
1	L8×8×⅝	66'-9½	abf	2185
4	L6×6×½	5'-11¼	abb$^{R}_{L}$, abk$^{R}_{L}$ (M2E)	466
18	L7×4×⅜	6'-0⅜	abt (Crimped)	1476
12	L7×4×⅜	5'-11⅛	5-abp, 3-abn, 2-abv, 2-abm	967
1	PL6×⅜	5'-11¼	fm (M2E)	106
1	PL11×¾	1'-6	pbp	42
2	PL17×⅜	4'-7¾	fn	335
1	PL6×⅜	5'-11¼	fk (M2E)	76
12	PL4×⅜	4'-7¾	fp	474
1	PL18×½	52'-7⅜	pcg	1609
1	PL18×½	50'-10	pcd	1555
1	PL13¾×½	5'-11¼	pbv (M2E)	139
1	PL13¼×½	5'-11¼	pbw (M2E)	134
2	PL6×½	2'-3⅛	ft	46
2	PL6×½	2'-1⅜	fv	44
1	PL72×7/16	34'-4¾	pby	3680
1	PL72×7/16	33'-11½	pbn	3634
1	PL20¼×⅜	1'-10	pbt	47
2	PL19¼×⅜	4'-7¾	pcc	228
1	PL18×⅜	36'-10½	pch	848
1	PL18×⅜	36'-10	pcf	847
1	PL17×⅜	1'-9	pbh	38
1	PL17×⅜	1'-8¼	pbm	37
1	PL17×⅜	1'-6	pbk	33
2	PL14¼×⅜	2'-4½	pw	86
2	PL14¼×⅜	1'-6¾	pn	57
3	PL13×⅜	1'-7⅛	pp	79
2	PL13×⅜	1'-6¾	pk	52
3	PL12×⅜	1'-5¼	pav (Bent)	66
2	PL6×⅜	4'-11½	pca	76
2	PL6×⅜	4'-11	pcb	75
1474	⅞φ	~	Shop Rivets	531
			TOTAL WEIGHT-ONE PIECE	26844
			GIRDER G2 & G21 (DRWG. S21 & S22)	
1	L8×8×⅝	69'-11½	aby	2288
1	L8×8×⅝	69'-11¼	abw	2287
1	L8×8×⅝	66'-7	acb	2177
1	L8×8×⅝	66'-6¾	aca	2177
4	L6×6×½	5'-11¼	abh$^{R}_{L}$, abk$^{R}_{L}$ (M2E)	466
18	L7×4×⅜	6'-0⅜	abt (Crimped)	1476
12	L7×4×⅜	5'-11⅛	5-abp, 3-abn, 2-abv, 2-abm	967
1	PL6×⅜	5'-11¼	fm (M2E)	106
1	PL11×¾	1'-6	pbp	42
2	PL17×⅜	4'-7¾	fn	335
1	PL6×⅜	5'-11¼	fk (M2E)	76
12	PL4×⅜	4'-7¾	fp	474
1	PL18×½	52'-2⅜	pcv	1597
1	PL18×½	50'-5⅜	pcy	1545
1	PL13¾×½	5'-11¼	pbv (M2E)	139
1	PL13¼×½	5'-11¼	pbw (")	134
2	PL6×½	2'-3⅛	ft	46
2	PL6×½	2'-1⅜	fv	44
1	PL72×7/16	34'-6⅛	pcp	3693
1	PL72×7/16	32'-10⅛	pct	3514
1	PL20¼×⅜	1'-10	pcn	47
2	PL19¼×⅜	4'-7¾	pcc	228
1	PL18×⅜	38'-4¼	pcw	882
1	PL18×⅜	38'-4	pda	882
1	PL17×⅜	1'-9	pck	38
1	PL17×⅜	1'-8¼	pcm	37
1	PL17×⅜	1'-6	pbk	33
2	PL14¼×⅜	2'-4½	pw	86
2	PL14¼×⅜	1'-6¾	pn	57
3	PL13×⅜	1'-7⅛	pp	79
2	PL13×⅜	1'-6¾	pk	52
3	PL12×⅜	1'-5¼	pav (Bent)	66
2	PL6×⅜	4'-11½	pca	76
2	PL6×⅜	4'-11	pcb	75
1456	⅞φ	~	Shop Rivets	524
			TOTAL WEIGHT-ONE PIECE	26745
			GIRDER G3 & G20 (DRWG. S23 & S24)	
2	L8×8×1⅛	68'-0⅛	aa, ac	7740
2	L8×8×1⅛	61'-3⅛	ab, ad	6971
4	L6×6×½	5'-10¼	am$^{R}_{L}$, an$^{R}_{L}$ (M2E)	459
28	L7×4×⅜	5'-11⅛	af (Crimped)	2273
8	L7×4×⅜	5'-10⅛	4-ag, 2-ah, 2-ak	636
2	PL6×⅞	5'-10¼	ff, fg (M2E)	210
8	PL4×¾	4'-6¾	fb	372
2	PL18×11/16	29'-9⅜	pb, pf	2509
2	PL18×11/16	20'-1¼	pc, pg	1693
2	PL20×⅝	4'-6¾	fd	388
2	PL18×⅝	10'-5⅜	pd, ph	803
2	PL20×½	4'-6¾	fc	310
1	PL13×½	5'-10¼	paa (M2E)	129
1	PL12¾×½	5'-10¼	pab (")	127
1	PL72×7/16	64'-7⅜	pa	6916
1	PL20¼×⅜	2'-11	py	75
1	PL19×⅜	1'-9	pt	42
1	PL19×⅜	1'-8¼	pv	41
2	PL18×⅜	1'-6¾	pm	72
1	PL14¼×⅜	2'-5	pad	44

DESIGNED RWB 2-28-50 CK'D WFG 2-28-50
DRAWN MJL 3-1-50 CK'D RWB 3-2-50

No.Pcs.	Section	Length	Location	Total Wt.
			GIRDER G3 & G20 (CONTINUED)	
1	PL14¼×⅜	2'-4½	pw	43
2	PL14¼×⅜	1'-6¾	pn	57
2	PL13×⅜	1'-7⅛	pp	53
2	PL13×⅜	1'-6¾	pk	52
2	PL12×⅜	1'-5¼	pav (Bent)	44
36	PL4×⅜	4'-6¾	fa	838
1282	⅞φ	~	Shop Rivets	462
			TOTAL WEIGHT-ONE PIECE	35359
			GIRDER G4 & G19 (DRWG. S25 & S26)	
2	L8×8×1⅛	68'-0⅛	aaw, aba	7740
2	L8×8×1⅛	61'-3⅛	aay, abb	6971
4	L6×6×½	5'-10¼	1-am^{R}, 1-am^{L}, 1-an^{R}, 1-an^{L} (M2E)	459
28	L7×4×⅜	5'-11⅛	af (Crimped)	2273
8	L7×4×⅜	5'-10⅛	4-ag, 2-ah, 2-ak	636
2	PL6×⅞	5'-10¼	ff, fg (M2E)	210
8	PL4×¾	4'-6¾	fb	372
2	PL18×11/16	30'-1⅛	pbc, pbd	2534
2	PL18×11/16	20'-0¾	pbb, pbf	1689
2	PL20×⅝	4'-6¾	fd	388
2	PL18×⅝	10'-9	pba, bbg	823
2	PL20×½	4'-6¾	fc	310
1	PL13×½	5'-10¼	paa (M2E)	129
1	PL12¾×½	5'-10¼	pab (")	127
1	PL72×7/16	64'-7⅜	pay	6916
1	PL20¼×⅜	2'-11	paw	75
1	PL19×⅜	1'-9	pt	42
1	PL19×⅜	1'-8¼	pv	41
2	PL18×⅜	1'-6¾	pm	72
1	PL14¼×⅜	2'-5	pad	44
1	PL14¼×⅜	2'-4½	pw	43
2	PL14¼×⅜	1'-6¾	pn	57
2	PL13×⅜	1'-7⅛	pp	53
2	PL13×⅜	1'-6¾	pk	52
2	PL12×⅜	1'-5¼	pav (Bent)	44
36	PL4×⅜	4'-6¾	fa	838
1308	⅞φ	~	Shop Rivets	471
			TOTAL WEIGHT-ONE PIECE	33409
			GIRDER G5, G6, G9, G10, G13, G14, G17, G18 (DRWG. S27 & S28)	
1	L8×8×⅝	68'-5⅜	ach	2238
1	L8×8×⅝	68'-5⅛	acm	2238
1	L8×8×⅝	61'-8⅜	acg	2018
1	L8×8×⅝	61'-8⅛	ack	2017
2	L7½×7½×½	2'-4⅜	acp$^{R}_{L}$ (Cut from L8×8×½) Grind	126
2	L7½×7½×½	2'-3⅝	acf$^{R}_{L}$ (" " ") "	122
18	L7×4×⅜	6'-0⅜	abt (Crimped)	1476
2	L7×4×⅜	5'-11⅛	acn (")	162
10	L7×4×⅜	5'-11⅛	1-acc, 1-acd, 4-abp, 2-abn, 2-abv	806
10	PL4×⅜	4'-7¾	fp	395
1	PL18×½	56'-7⅜	pdc	1732
1	PL18×½	56'-6	pdf	1729
2	PL4×½	4'-7¾	fy	63
1	PL72×7/16	32'-6⅞	pdb	3485
1	PL72×7/16	32'-5½	pdh	3473
1	PL18×7/16	39'-8¼	pdd	1064
1	PL18×7/16	39'-8	pdg	1063
2	PL19¼×⅜	4'-7¾	pcc	228
2	PL14¼×⅜	2'-5	pad	88
2	PL14¼×⅜	1'-6¾	pn	57
3	PL13×⅜	1'-7⅛	pp	79
2	PL13×⅜	1'-6¾	pk	52
3	PL12×⅜	1'-5¼	pav (Bent)	66
2	PL6×⅜	4'-11½	pca	76
2	PL6×⅜	4'-11	pcb	75
1317	⅞φ	~	Shop Rivets	474
			TOTAL WEIGHT-ONE PIECE	25402
			GIRDER G7, G8, G11, G12, G15, G16 (DRWG. S29 & S30)	
2	L8×8×1⅛	68'-3⅜	ap, av	7770
2	L8×8×1⅛	61'-6⅜	at, aw	7002
4	L6×6×½	5'-10¼	am$^{R}_{L}$, an$^{R}_{L}$ (M2E)	459
28	L7×4×⅜	5'-11⅛	af (Crimped)	2273
8	L7×4×⅜	5'-10⅛	4-ag, 2-ah, 2-ak	636
2	PL6×⅞	5'-10¼	ff, fg (M2E)	210
2	PL18×13/16	35'-0	pag, pam	3479
2	PL18×¾	22'-11⅛	pah, pan	2105
2	PL18×¾	13'-1	pak, pap	1201
8	PL4×¾	4'-6¾	fb	372
2	PL20×⅝	4'-6¾	fd	388
2	PL20×½	4'-6¾	fc	310
1	PL13×½	5'-10¼	paa (M2E)	129
1	PL12¾×½	5'-10¼	pab (")	127
1	PL72×7/16	64'-10⅛	paf	6945
1	PL20¼×⅜	2'-11	pat	75
1	PL19×⅜	1'-9	pt	42
1	PL19×⅜	1'-8¼	pv	41
2	PL18×⅜	1'-6¾	pm	72
2	PL14¼×⅜	2'-5	pad	88
2	PL14¼×⅜	1'-6¾	pn	57
2	PL13×⅜	1'-7⅛	pp	53
2	PL13×⅜	1'-6¾	pk	52
2	PL12×⅜	1'-5¼	pav (Bent)	44
36	PL4×⅜	4'-6¾	fa	838
1392	⅞φ	~	Shop Rivets	501
			TOTAL WEIGHT-ONE PIECE	35269

No.Pcs.	Section	Length	Location	Total Wt.
			FIELD SPLICE SP1 (DRWG. S31)	
2	L7×7×⅝	4'-9⅛	acv$^{R}_{L}$ (Cut from L8×8×⅝) Grind	311
2	L7×7×⅝	4'-7½	acw$^{R}_{L}$ (" " ") "	302
2	L7×4×⅝	5'-8⅜	act (Grind Ends)	156
2	PL4×¾	4'-6¾	fb	93
2	PL4×⅝	4'-6¾	fy	78
2	PL18×½	6'-0½	pdm	370
4	PL6×½	4'-3⅛	2-fab, 2-faa	174
2	PL19×⅜	4'-6¾	pdk	221
			TOTAL WEIGHT-ONE PIECE	1705
			FIELD SPLICE SP2 (DRWG. S31)	
2	L7×7×⅝	4'-9⅛	acy$^{R}_{L}$ (Cut from L8×8×⅝) Grind	311
2	L7×7×⅝	4'-7½	ada$^{R}_{L}$ (" " ") "	302
2	L7×4×⅝	5'-8⅜	act (Grind Ends)	156
2	PL4×¾	4'-6¾	fb	93
2	PL4×⅝	4'-6¾	fy	78
2	PL18×½	6'-0½	pdn	370
4	PL6×½	4'-3⅛	2-fac, 2-fad	174
2	PL19×⅜	4'-6¾	pdk	221
			TOTAL WEIGHT-ONE PIECE	1705
			FLOOR BEAM FB1 (DRWG. S32)	
8	L3½×3½×½	5'-8	abg (M2E)	503
6	L3½×3½×⅜	5'-7⅞	abs$^{R}_{L}$, abc	288
4	L4×3½×½	22'-0⅜	aba, abb, abd, abf	1050
3	L4×3½×⅜	1'-2⅛	aw$^{R}_{L}$, af^{R}	32
2	PL14×⅜	0'-8½	fn	59
4	PL3×⅜	5'-8⅜	fc (M2E)	145
2	PL8½×½	1'-10½	fk	54
4	PL8×½	5'-1	fp	277
3	PL8×½	0'-10¾	fs	37
2	PL8×½	0'-8½	pa	19
3	PL3½×½	5'-1	fm	91
3	PL3½×½	4'-2	fr	74
1	PL68×⅜	22'-7	Web PL	1958
294	⅞φ	~	Shop Rivets	106
			TOTAL WEIGHT-ONE PIECE	4693
			FLOOR BEAM FB2 (DRWG. S33)	
6	L3½×3½×⅜	5'-8¼	ad$^{R}_{L}$	290
6	L4×3½×⅜	1'-2⅛	af$^{R}_{L}$, ag$^{R}_{L}$	64
4	L4×3½×5/16	23'-0¾	abh, abk, abm, abn	710
2	PL8⅜×⅞	1'-2⅜	ft	60
2	PL8⅜×½	1'-2⅜	fv	34
1	PL68×⅜	23'-7¾	Web PL	2050
6	PL8×5/16	0'-11	ff	47
6	PL3½×5/16	4'-2¼	fd	93
166	⅞φ	~	Shop Rivets	60
			TOTAL WEIGHT-ONE PIECE	3408
			FLOOR BEAM FB3 (DRWG. S33)	
6	L3½×3½×⅜	5'-8¼	ad$^{R}_{L}$	290
6	L4×3½×⅜	1'-2⅛	af$^{R}_{L}$, ag$^{R}_{L}$	64
4	L4×3½×5/16	23'-0¾	abh, abk, abm, abn	710
1	PL68×⅜	23'-7¾	Web PL	2050
2	PL8⅜×⅜	1'-2⅜	fw	26
6	PL8×5/16	0'-11	ff	47
6	PL3½×5/16	4'-2¼	fd	93
166	⅞φ	~	Shop Rivets	60
			TOTAL WEIGHT-ONE PIECE	3340
			FLOOR BEAM FB4 (DRWG. S34)	
8	L3½×3½×½	5'-8⅜	ac (M2E)	506
6	L3½×3½×⅜	5'-8¼	ad$^{R}_{L}$	290
6	L4×3½×⅜	1'-2⅛	af$^{R}_{L}$, ag$^{R}_{L}$	64
4	L4×3½×5/16	22'-0⅜	aa, ab, abp, abr	679
4	PL3×⅝	5'-8⅜	fc (M2E)	145
2	PL8×½	0'-8½	pa	19
1	PL68×⅜	22'-7	Web PL	1958
2	PL14×⅜	0'-8½	fa	25
4	PL8×5/16	5'-1⅜	fb	174
6	PL8×5/16	0'-11	ff	47
6	PL3½×5/16	4'-2¼	fd	93
294	⅞φ	~	Shop Rivets	106
			TOTAL WEIGHT-ONE PIECE	4106
			STRINGER S1$^{R}_{L}$, S3, S5 (DRWG. S33)	
1	21WF62	24'-10	S1$^{R}_{L}$, S3, S5	1540
			STRINGER S2, S4, S6, S11 (DRWG. S33)	
1	21WF73	24'-10	S2, S4, S6, S11	1813
			STRINGER S7, S9 (DRWG. S33)	
1	21WF68	25'-10	S7, S9	1757
			STRINGER S8, S10 (DRWG. S33)	
1	21WF73	25'-10	S8, S10	1886
			BRACKET BK1 (DRWG. S34)	
1	L4×4×⅜	6'-10⅞	an	68
1	L4×4×⅜	5'-3¾	ap	52
2	L3½×3½×⅜	0'-6⅜	am	9
1	L4×3½×⅜	4'-3⅛	ay	39
1	L4×3½×⅜	3'-8⅜	av	34
1	PL8⅜×½	1'-8⅜	fh	24
1	PL51×⅜	5'-5	Web PL (1-PL56×⅜×5'-5 cuts 2)	193
26	⅞φ	~	Shop Rivets	9
			TOTAL WEIGHT-ONE PIECE	428

No.Pcs.	Section	Length	Location	Total Wt.
			BRACKET BK2 (DRWG. S34)	
2	L4×4×⅜	6'-10⅞	at$^{R}_{L}$	135
2	L3½×3½×⅜	0'-6⅜	am	9
1	L4×3½×⅜	4'-9⅛	as	44
1	L4×3½×⅜	4'-2⅞	ar	39
1	PL8⅜×½	1'-7⅞	fg	23
1	PL57½×⅜	5'-8⅜	Web PL (1-PL58×⅜×6'-5 cuts 2)	237
33	⅞φ	~	Shop Rivets	12
			TOTAL WEIGHT-ONE PIECE	499
			BRACKET BK3 (DRWG. S34)	
2	L4×4×⅜	6'-10⅞	at$^{R}_{L}$	135
2	L3½×3½×⅜	0'-6⅜	am	9
1	L4×3½×⅜	4'-9⅛	as	44
1	L4×3½×⅜	4'-2⅞	ar	39
1	PL57½×⅜	5'-8⅜	Web PL (1-PL58×⅜×6'-5 cuts 2)	237
29	⅞φ	~	Shop Rivets	10
			TOTAL WEIGHT-ONE PIECE	474
			BRACKET BK4 (DRWG. S34)	
1	L4×4×⅜	6'-10⅞	an	68
1	L4×4×⅜	5'-3¾	ap	52
2	L3½×3½×⅜	0'-6⅜	am	9
1	L4×3½×⅜	4'-3⅛	ah	39
1	L4×3½×⅜	3'-8⅜	ak	34
1	PL51×⅜	5'-5	Web PL (1-PL56×⅜×5'-5 cuts 2)	193
22	⅞φ	~	Shop Rivets	8
			TOTAL WEIGHT-ONE PIECE	403
			BOTTOM LATERAL BL1 (DRWG. S35)	
1	L3½×3½×⅜	15'-8¼	BL1	133
			BOTTOM LATERAL BL2 (DRWG. S35)	
1	L3½×3½×⅜	15'-8¾	BL2	134
1	PL23×⅜	2'-0⅜	pm	60
3	⅞φ	~	Shop Rivets	1
			TOTAL WEIGHT-ONE PIECE	195
			BOTTOM LATERAL BL3 (DRWG. S35)	
1	L3½×3½×⅜	15'-8¾	BL3	134
			BOTTOM LATERAL BL4 (DRWG. S35)	
1	L3½×3½×⅜	15'-8¾	BL4	134
1	PL3½×½	1'-4	ft	8
2	⅞φ	~	Shop Rivets	1
			TOTAL WEIGHT-ONE PIECE	143
			BOTTOM LATERAL BL5 (DRWG. S35)	
1	L3½×3½×⅜	16'-0¾	BL5	137
			BOTTOM LATERAL BL6 (DRWG. S35)	
1	L3½×3½×⅜	16'-1¼	BL6	137
			BOTTOM LATERAL BL7 (DRWG. S35)	
1	L3½×3½×⅜	16'-1¼	BL7	137
1	PL23×⅜	2'-1¼	pn	62
3	⅞φ	~	Shop Rivets	1
			TOTAL WEIGHT-ONE PIECE	200
			BOTTOM LATERAL BL8 (DRWG. S35)	
1	L3½×3½×⅜	16'-1¼	BL8	137
1	PL3½×½	1'-4½	fv	8
2	⅞φ	~	Shop Rivets	1
			TOTAL WEIGHT-ONE PIECE	146
			SWAY FRAME SF1 (DRWG. S35)	
2	L3½×3½×5/16	11'-5	abs	164
2	L3½×3½×5/16	7'-6¾	abv	109
2	L3½×3½×5/16	2'-10½	abm	41
2	L3½×3×5/16	22'-6¼	abp	297
2	L3½×3×5/16	22'-5¼	abt	296
2	L3½×3×5/16	3'-7½	abw$^{R}_{L}$	48
2	PL17×⅜	1'-8	pd	72
1	PL13×⅜	2'-3	ph	37
1	PL12×⅜	1'-10⅜	pb	29
2	PL10½×⅜	1'-4⅛	pf	36
2	PL5¼×⅜	3'-1	pc	41
2	PL2½φ×⅜	~	Ring Fills	1
49	⅞φ	~	Shop Rivets	18
			TOTAL WEIGHT-ONE PIECE	1189

BRIDGES OVER 20' SPAN

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	45	65

No.Pcs.	Section	Length	Location	Total Wt.
			SWAY FRAME SF2 (DRWG. S35)	
2	L3½×3½×5/16	11'-5	abs	164
2	L3½×3½×5/16	7'-6¾	abv	109
2	L3½×3½×5/16	2'-10½	abm	41
2	L3½×3×5/16	22'-6¼	abp	297
2	L3½×3×5/16	22'-5¼	abt	296
2	L3½×3×5/16	3'-6¾	aby$^{R}_{L}$	47
2	PL17×⅜	1'-8	pd	72
1	PL12×⅜	2'-3	pk	34
1	PL12×⅜	1'-10⅜	pb	29
2	PL9½×⅜	1'-4⅛	pg	33
2	PL5¼×⅜	3'-1	pc	41
2	PL2½φ×⅜	~	Ring Fills	1
49	⅞φ	~	Shop Rivets	18
			TOTAL WEIGHT-ONE PIECE	1182
			DRAIN SUPPORT DS^{R} (DRWG. S34)	
1	L4×3×⅜	1'-8½	abt^{R}	14.5
1	½φ	2'-0½	ma (Bent) 2-hex. nuts; 2-lk. wa. ea.	1.5
			TOTAL WEIGHT-ONE PIECE	16.0
			TOP SHOE TS2 (DRWG. S36)	
1	PL11×1¾	1'-6	TS2 (Straighten)	98
1	~	~	ma (Cast Steel)	38
4	¾φ	0'-1¾	Hex. Hd. Cap Screw	1
			TOTAL WEIGHT-ONE PIECE	137
			TOP SHOE TS3 (DRWG. S36)	
1	PL12×3	1'-6	TS3 (Plane from 3¼ th'kn's.)	199
1	~	~	ma (Cast Steel)	38
4	¾φ	0'-3	Hex. Hd. Cap Screw	2
			TOTAL WEIGHT-ONE PIECE	239
			EXPANSION PLATE EP2 (DRWG. S36)	
1	PL20×2½	3'-0	EP2 (Plane from 2¾ th'kn's.)	561
2	1½φ	0'-3½	Studs (Driving Fit)	4
			TOTAL WEIGHT-ONE PIECE	565
			EXPANSION PLATE EP3 (DRWG. S36)	
1	PL22×3¾	3'-6	EP3 (Plane from 4 th'kn's.)	1047
2	1½φ	0'-4¾	Studs (Driving Fit)	5
			TOTAL WEIGHT-ONE PIECE	1052
			CASTINGS (DRWG. S36)	
1	~	~	ES2 (Cast Steel)	438
1	~	~	ES3 (" ")	1107
1	~	~	FS2 (" ")	2452
			MISCELLANEOUS (DRWG. S36)	
1	1½φ	1'-6	AB2 (Swedged) 1-Hex. Nut	10
1	PL3½φ×¼	~	W2	0.6

STRUCTURAL STEEL BILL OF MATERIALS
BY SHIPPING PIECES - SPANS D, E, F, G, H, J

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- NONE

AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J.V. Smythe, ENGINEER OF BRIDGE DESIGN

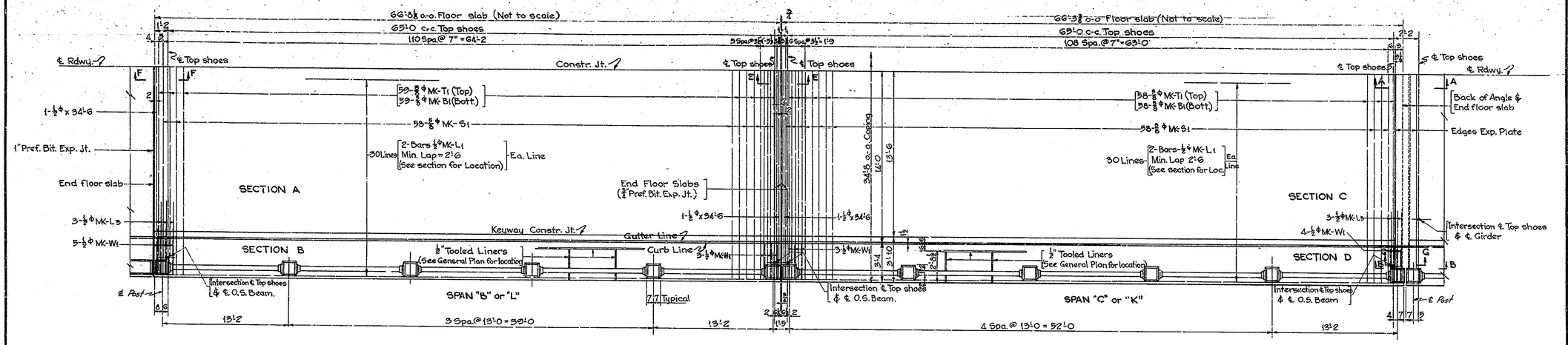
PROJECT:- F-645(3)

STATION:- 11+25

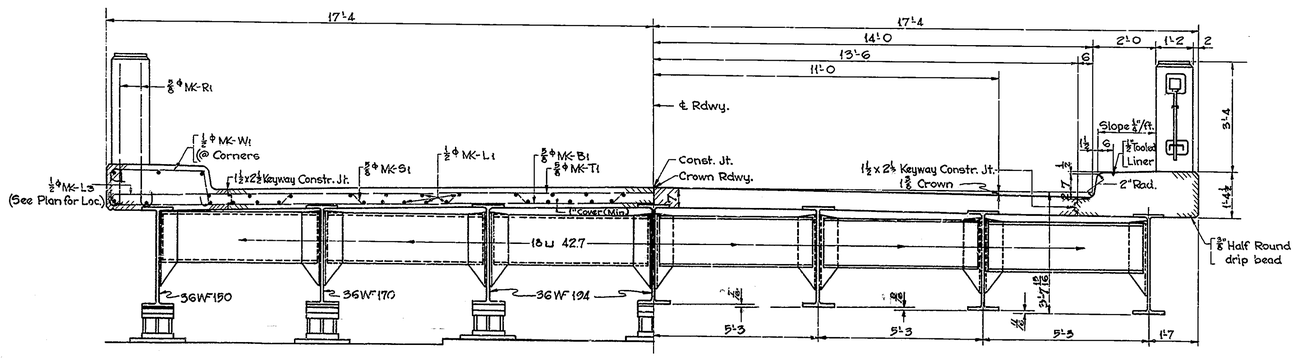
DRAWING:- S39 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-G45(8)	1951	46	65



HALF PLAN
Scale: ¼" = 1'-0



SHOWING REINFORCING STEEL & END STEEL DIAPHRAGMS — SHOWING DIMENSIONS & INTERIOR STEEL DIAPHRAGMS

SECTION ⊥ TO ℄ ROADWAY
Scale :- ½" = 1'-0

NOTE:-
Work this Drwg. with Drwgs. S41, S42 & S43

FLOOR DETAILS - SPANS B, C, K & L

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- AS SHOWN — AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J. V. Brownlee, ENGINEER OF BRIDGE DESIGN

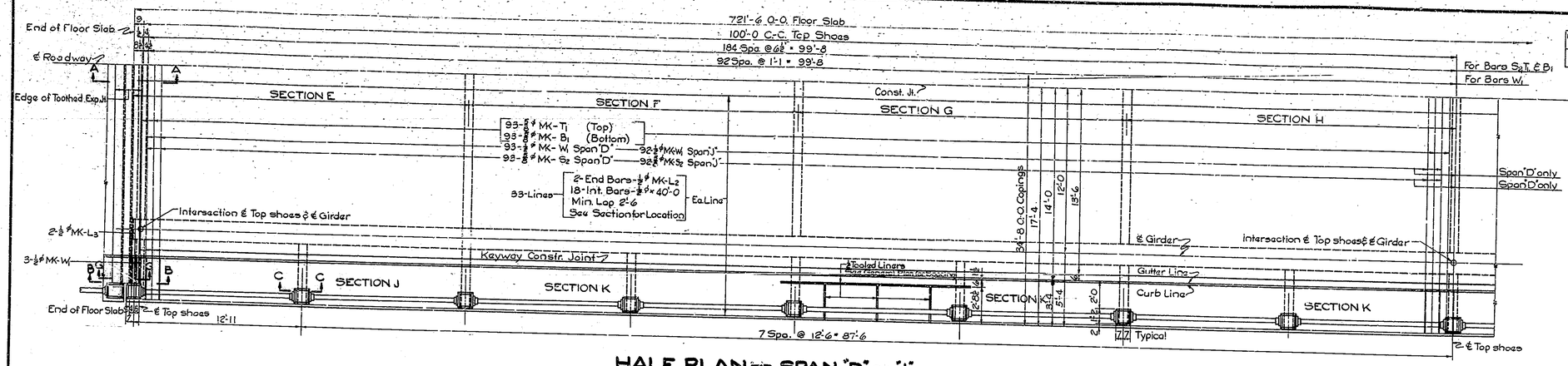
PROJECT:- F-G45(8) — STATION:- 11+25

DRAWING:- S40 OF 47

BRIDGE CONTRACT NO. 3289

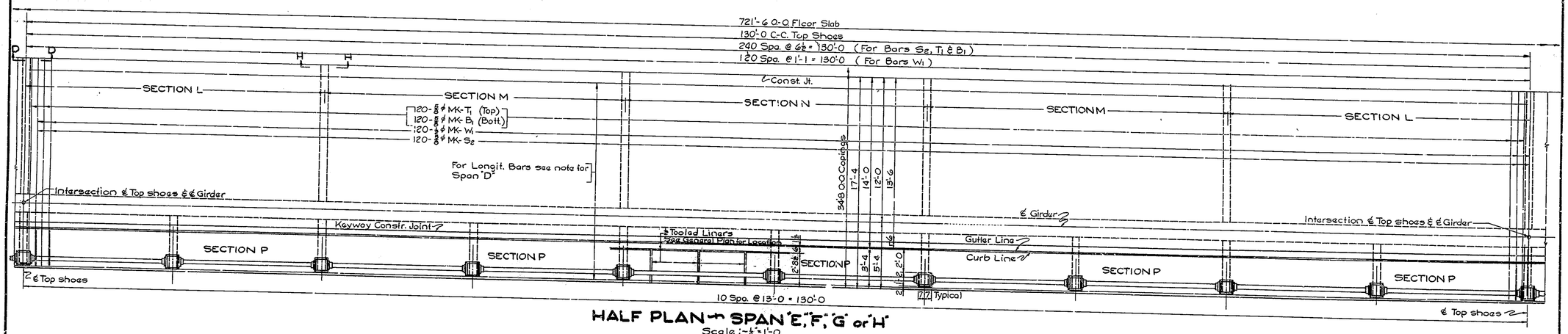
DESIGNED R.W.B. 9-4-49 — CK'D W.L.P. 10-10-49
DRAWN R.D.B. 12-10-49 — CK'D J.T.B. 1-3-50
TRACED M.W.S. 1-27-50 — CK'D J.T.B. 1-30-50

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	47	65



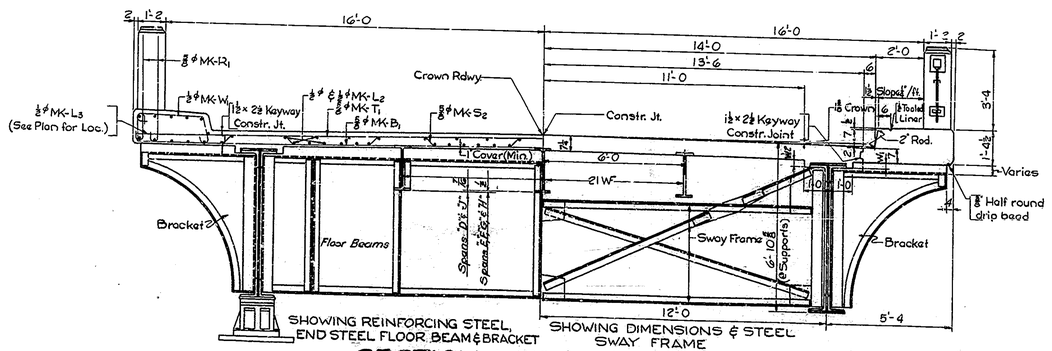
HALF PLAN — SPAN "D" or "J"

Scale :- ¼" = 1'-0



HALF PLAN — SPAN "E", "F", "G" or "H"

Scale :- ⅛" = 1'-0



SECTION ⊥ TO ℄ ROADWAY

Scale :- ½" = 1'-0

NOTE:-
Work this Drwg. with Drwgs. S40, S42 & S43

DESIGNED R.W.B. 5-1-49 C'K'D W.L.P. 5-10-49
DRAWN R.D.B. 12-1-49 C'K'D J.T.B. 1-5-50
TRACED R.C.G. 1-26-50 C'K'D J.T.B. 1-31-50

EUGENE DIETZGEN CO. No. 111

FLOOR DETAILS - SPANS D, E, F, G, H & J

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- AS SHOWN AUGUST 1 1950

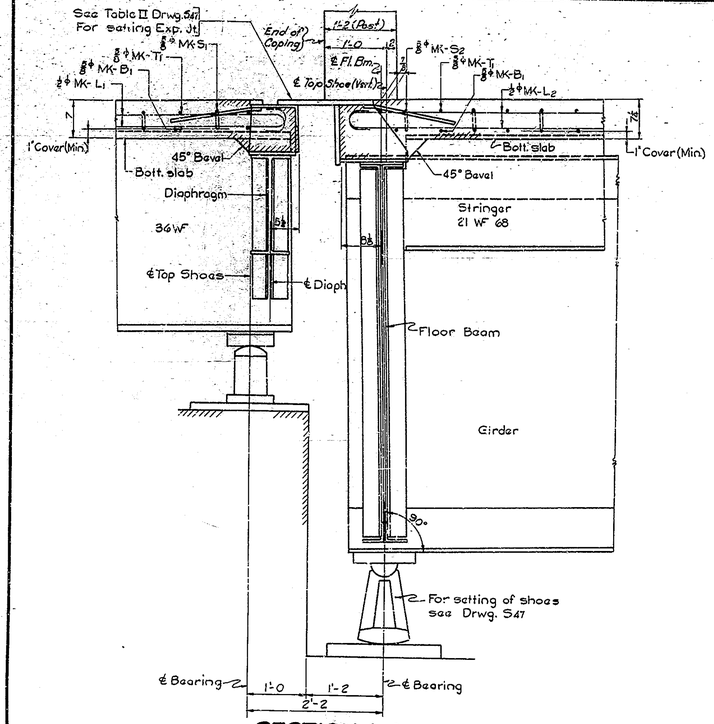
RECOMMENDED FOR APPROVAL:- J. V. Smith, ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

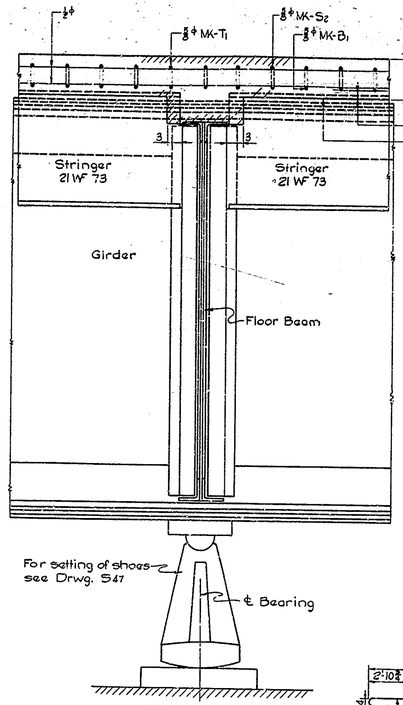
DRAWING:- 41 OF 47

BRIDGE CONTRACT NO. 3289

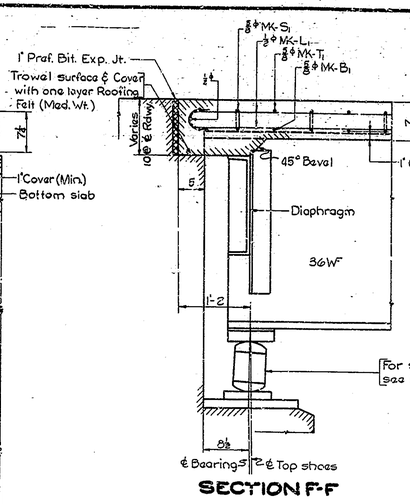
BRIDGE FILE:- 32-A-3108



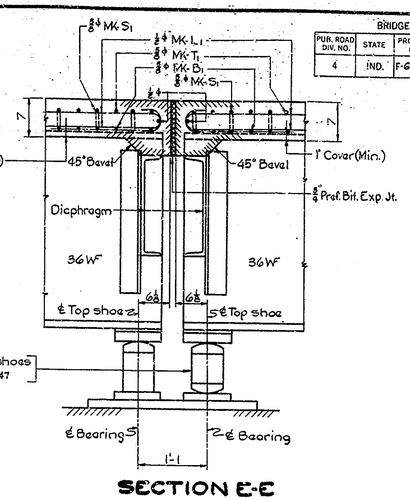
SECTION A-A



SECTION D-D



SECTION F-F



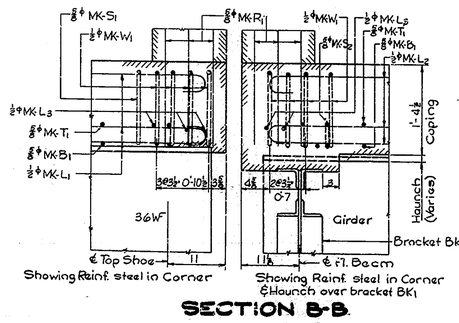
SECTION E-E

BRIDGES OVER 20' SPAN					
PUR. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	48	65

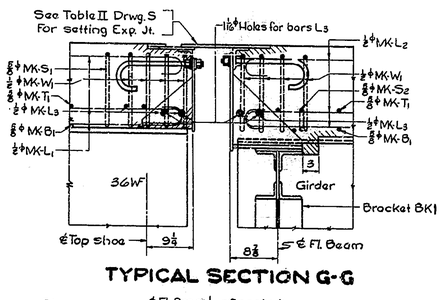
BILL OF MATERIALS

REINFORCING STEEL

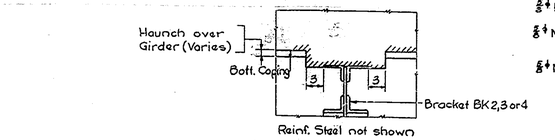
MARK	NO. PIECES	SIZE	LENGTH	LOCATION	TOTAL LENGTH	WEIGHT
B1	900	⅞ ϕ	37'-6	Transv. Slab (Bott.)	33,975-0	
R1	972	"	8'-0	Vert. Posts	7,860-0	
S1	232	"	38'-6	Transv. Slab	8932-0	
S2	665	"	37'-0	" "	24605-0	
T1	900	"	35'-6	" " (Top)	31,950-0	
				TOTAL ⅞ ϕ	104,322-0	108,608#
L1	480	½ ϕ	35'-0	Longit. Slab & Walk	16,800-0	
L2	132	"	24'-9	" " " "	3,267-0	
L3	32	"	6'-6	Transv. " Corners	208-0	
R2	648	"	4'-3	Horiz. H.R. Posts	2754-0	
W1	1390	"	4'-9	Transv. Sidewalk	6602-6	
	1188	"	40'-0	Longit. Slab & Walk	47520-0	
	6	"	34'-6	Transv. Slab Ends	207-0	
				TOTAL ½ ϕ	77,338-6	5167.5#
				TOTAL STEEL		113,783#
CONCRETE						
Class "F" Superstructure						
Section "A" (Between Constr. Jts.)				4 @ 19.00 =	76.00 Cu. Yds.	
" "B" (Outside " ")				4 @ 11.65 =	46.6 " "	
" "C" (Between " ")				4 @ 18.85 =	75.4 " "	
" "D" (Outside " ")				4 @ 11.55 =	46.2 " "	
" "E" (Between " ")				4 @ 8.30 =	33.2 " "	
" "F" " " ")				4 @ 7.95 =	31.8 " "	
" "G" " " ")				4 @ 8.00 =	32.0 " "	
" "H" " " ")				4 @ 7.90 =	31.6 " "	
" "J" (Outside " ")				4 @ 4.65 =	18.6 " "	
" "K" " " ")				12 @ 4.50 =	54.0 " "	
" "L" (Between " ")				16 @ 8.25 =	132.0 " "	
" "M" " " ")				16 @ 8.35 =	133.6 " "	
" "N" " " ")				4 @ 8.30 =	66.4 " "	
" "P" (Outside " ")				40 @ 4.65 =	186.0 " "	
Total Class "F" (Except H.R. Posts)						934 Cu. Yds.
Class "F" Handrail Posts						264 Cu. Yds.
MISCELLANEOUS						
46-6' C.I. Roadway Drains (Type I with Grate "A") @ 192# =					9216#	
32-Pos. 6' ϕ Single Hub C.I. Soil Pipe - 90° Length @ 95# =					3040#	
8-Pos. 6' ϕ Dbl. Hub C.I. Soil Pipe (1-5'-0 Lgth. Double Hub Cut 2) @ 100#					800#	
32-Pos. 6' ϕ x 0'-10 C.I. Soil Pipe Extension @ 20# =					640#	
224-¾ ϕ x 0'-8 Bolts (1 Lock Wa. Ea.) =					26#	
TOTAL CAST IRON:						13,722#



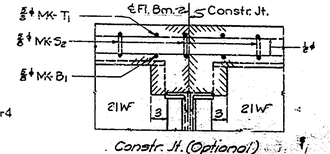
SECTION B-B



TYPICAL SECTION G-G

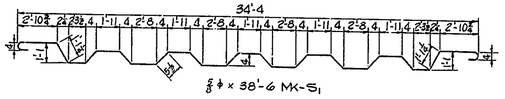


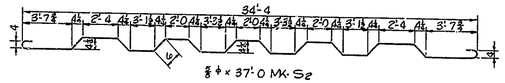
TYPICAL SECTION C-C

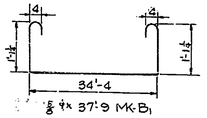


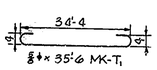
TYPICAL SECTION H-H

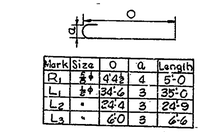
Note:- Transverse construction joints in spans D, E, F, G, H & J may be used over any floor beam.











Mark	Size	O	Q	Length
R1	⅞ ϕ	4'4½	4	5'-0
L1	½ ϕ	34'-6	3	35'-0
L2	"	24'-6	3	24'-9
L3	"	6'0	3	6'-6

NOTE:- Work this Drwg. with Drwgs. S40, S41 & S43
See Summary Sheet for Bill of Splice Bars.
All dimensions on details and banding diagrams for reinforcing bars are measured on centerline of bars.

DESIGNED RWB 12-19-49 C'K'D W.L.P. 2-10-50
DRAWN R.D.D. 12-20-49 C'K'D J.T.B. 1-9-50
TRACED R.G.G. 2-1-50 C'K'D J.T.B. 2-3-50

EUGENE DIETZGEN CO. NO. 111

FLOOR DETAILS & BILL OF MATERIALS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 1 = 1'-0

AUGUST 1, 1950

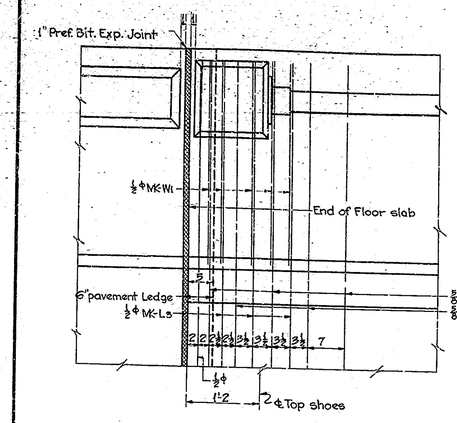
RECOMMENDED FOR APPROVAL:- J. M. Smythe, ENGINEER OF BRIDGE DESIGN

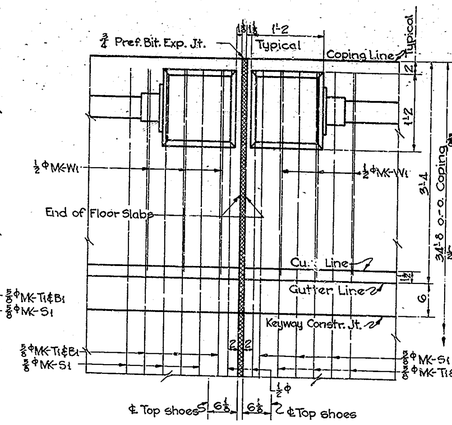
PROJECT:- F-645(3) STATION:- 11+25

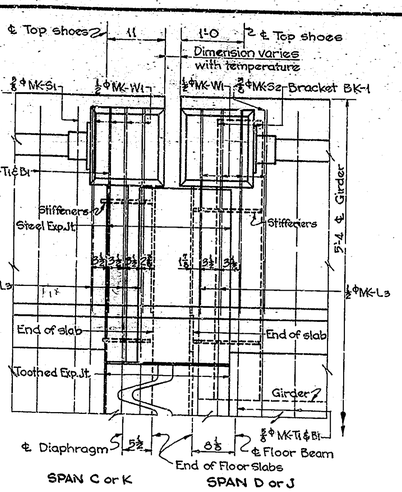
DRAWING:- S42 OF 47

BRIDGE CONTRACT NO. 3289

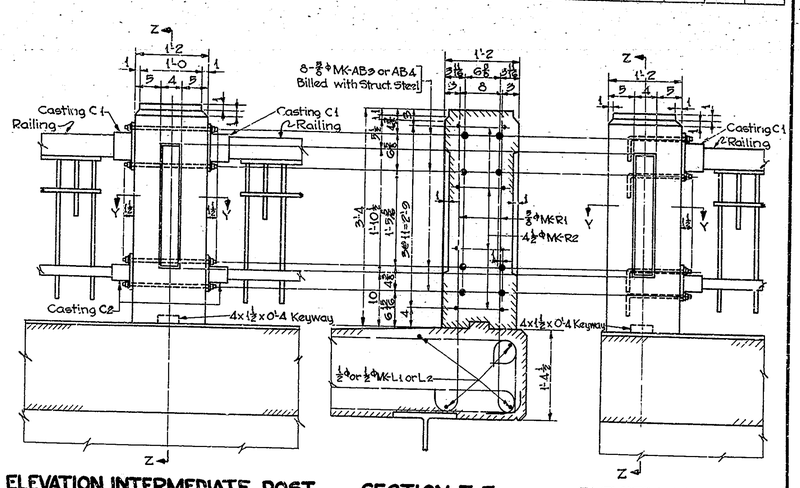
BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(2)	1951	49	65

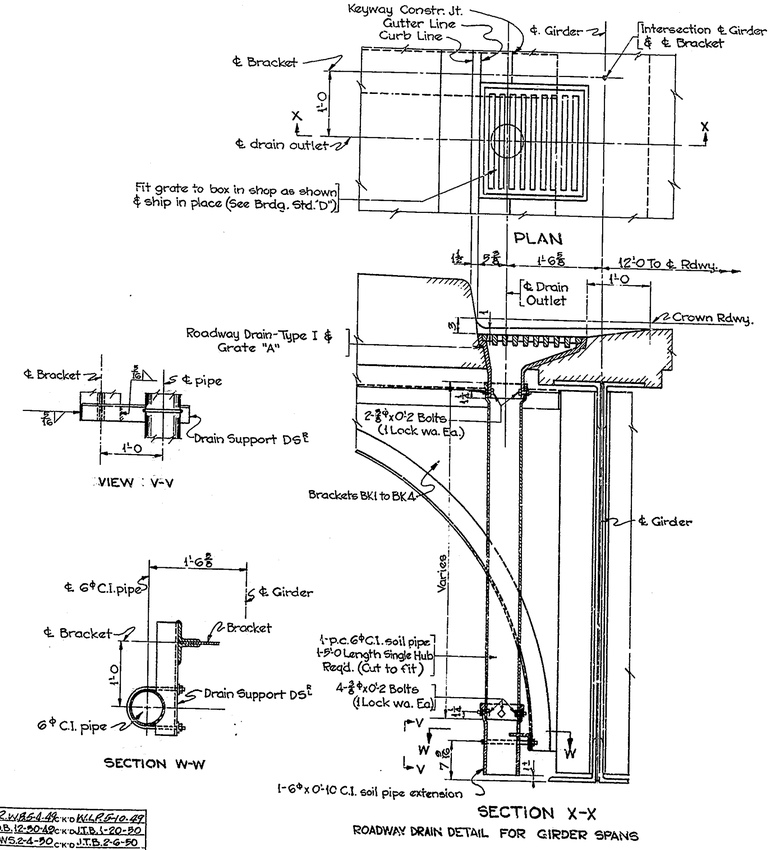


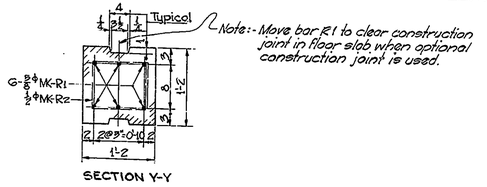


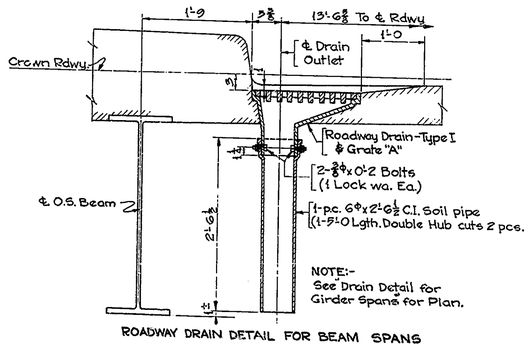


CORNER DETAILS









NOTE:-

All exposed corners on posts to be chamfered ½".
Anchor Bolts AB3 & AB4 to be preset in handrail posts.

All dimensions on details and Bending Diagrams for reinforcing bars are measured on centerline of bars.
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.
Work this Drwg. with Drwgs. S40, S41 & S42.

DESIGNED R.W.B. 6-1-49 CK'D W.L.R. 6-10-49
DRAWN R.D.B. 12-30-49 CK'D J.T.B. 1-20-50
TRACED M.W.S. 2-4-50 CK'D J.T.B. 2-6-50

EUGENE DIETZGEN CO. NO. 1-1

FLOOR DETAILS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- 1" = 1'-0 AUGUST 1, 1950

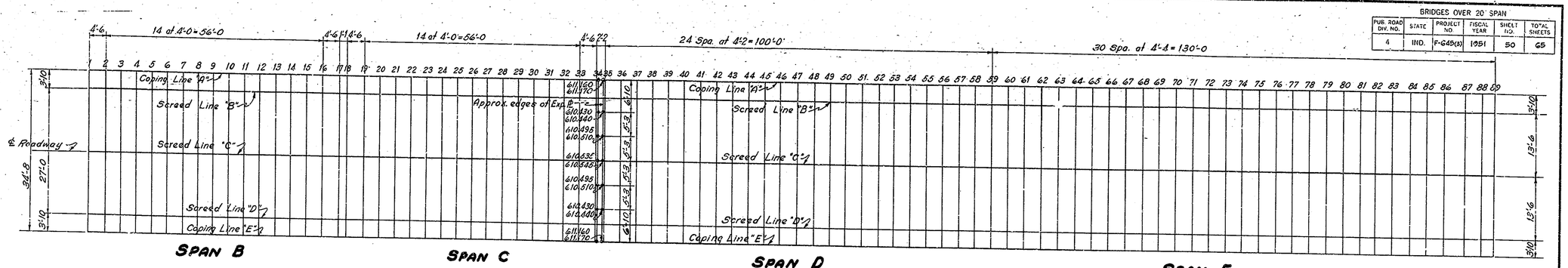
RECOMMENDED FOR APPROVAL:- J. T. Smythe ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(2) STATION:- 11+25

DRAWING:- S43 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-G45(3)	1951	50	65



PLAN OF SCREEDS

N

TABLE OF ELEVATIONS

Point		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	33	34
A	Elev. Top of Coping Form	609.515	609.595	609.660	609.730	609.795	609.855	609.915	609.975	610.025	610.080	610.130	610.175	610.220	610.265	610.305	610.345	610.390	610.400	610.470	610.530	610.590	610.645	610.700	610.755	610.805	610.850	610.895	610.940	610.975	611.015	611.045	611.080	611.110	611.150
	Elev. Top of O.S. Beam																																		
	Dist. Top O.S.Bm. to Top Coping																																		
B	Elev. Top of Screed	608.735	608.810	608.880	608.945	609.010	609.075	609.135	609.190	609.245	609.295	609.345	609.390	609.440	609.480	609.520	609.560	609.605	609.620	609.690	609.750	609.805	609.865	609.920	609.970	610.020	610.070	610.115	610.155	610.195	610.230	610.265	610.300	610.330	610.365
	Elev. Top of Beam																																		
	Dist. Top of Beam to Top Screed																																		
C	Elev. Top of Screed	608.890	608.970	609.035	609.105	609.170	609.230	609.290	609.350	609.400	609.455	609.505	609.550	609.595	609.640	609.680	609.720	609.765	609.775	609.845	609.905	609.965	610.020	610.075	610.130	610.180	610.225	610.270	610.315	610.350	610.390	610.420	610.455	610.490	610.526
	Elev. Top of Beam																																		
	Dist. Top of Beam to Top of Screed																																		
D	Elev. Top of Screed	608.735	608.810	608.880	608.945	609.010	609.075	609.135	609.190	609.245	609.295	609.345	609.390	609.440	609.480	609.520	609.560	609.605	609.620	609.690	609.750	609.805	609.865	609.920	609.970	610.020	610.070	610.115	610.155	610.195	610.230	610.265	610.300	610.330	610.365
	Elev. Top of Beam																																		
	Dist. Top of Beam to Top of Screed																																		
E	Elev. Top of Coping Form	609.515	609.595	609.660	609.730	609.795	609.855	609.915	609.975	610.025	610.080	610.130	610.175	610.220	610.265	610.305	610.345	610.390	610.400	610.470	610.530	610.590	610.645	610.700	610.755	610.805	610.850	610.895	610.940	610.975	611.015	611.045	611.080	611.110	611.150
	Elev. Top of O.S. Beam																																		
	Dist. Top O.S.Bm. to Top of Coping																																		

Point		35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
A	Elev. Top of Coping Form	611.170	611.225	611.275	611.326	611.375	611.425	611.470	611.510	611.550	611.590	611.630	611.670	611.705	611.740	611.770	611.800	611.835	611.865	611.890	611.920	611.950	611.980	612.010	612.040	612.075	612.105	612.140	612.175	612.215	612.250	612.285	612.320	612.355	612.390	612.425	612.455	612.485	612.515	612.545
	Elev. Top of Girder																																							
	Dist. Top of Girder to Top of Coping																																							
B	Elev. Top of Screed	610.390	610.440	610.490	610.540	610.590	610.640	610.685	610.730	610.770	610.810	610.845	610.885	610.920	610.955	610.985	611.020	611.050	611.080	611.110	611.140	611.170	611.195	611.225	611.260	611.290	611.325	611.360	611.395	611.430	611.465	611.505	611.540	611.575	611.610	611.640	611.675	611.705	611.730	611.760
	Elev. Top of Girder																																							
	Dist. Top of Girder to Top of Screed																																							
C	Elev. Top of Screed	610.545	610.605	610.660	610.710	610.760	610.805	610.845	610.890	610.935	610.975	611.015	611.050	611.080	611.120	611.155	611.185	611.220	611.245	611.265	611.300	611.335	611.365	611.395	611.420	611.450	611.485	611.525	611.565	611.600	611.630	611.660	611.700	611.740	611.780	611.810	611.840	611.860	611.895	611.930
	Elev. Top of Stringer																																							
	Dist. Top of Stringer to Top of Screed																																							
D	Elev. Top of Screed	610.390	610.440	610.490	610.540	610.590	610.640	610.685	610.730	610.770	610.810	610.845	610.885	610.920	610.955	610.985	611.020	611.050	611.080	611.110	611.140	611.170	611.195	611.225	611.260	611.290	611.325	611.360	611.395	611.430	611.465	611.505	611.540	611.575	611.610	611.640	611.675	611.705	611.730	611.760
	Elev. Top of Girder																																							
	Dist. Top of Girder to Top of Screed																																							
E	Elev. Top of Coping Form	611.170	611.225	611.275	611.325	611.375	611.425	611.470	611.510	611.550	611.590	611.630	611.670	611.706	611.740	611.770	611.800	611.835	611.865	611.890	611.920	611.950	611.980	612.010	612.040	612.075	612.105	612.140	612.175	612.215	612.250	612.285	612.320	612.355	612.390	612.425	612.455	612.485	612.515	612.545
	Elev. Top of Girder																																							
	Dist. Top of Girder to Top of Coping																																							
	Dimension W1 For Slab Haunch	1 3/4	1 13/16	1 7/8	1 7/8	1 15/16	1 15/16	1 15/16	1 7/8	1 3/4	1 13/16	1 7/8	1 15/16	1 7/8	1 15/16	1 7/8	1 7/8	2 1/16	2 1/16	2 1/16	2 1/16	2 1/16	2 1/16	2 1/16	2	2	2	2	2	2 1/16	2 1/16	2 1/8	2 1/16	2 1/16	1 15/16	1 7/8	1 7/8	1 15/16	1 15/16	1 7/8	1 13/16
	Dimension W2 For Slab Haunch	2 1/4	2 3/16	2 1/8	2 1/8	2 1/16	2 1/16	2 1/16	2 1/8	2 1/4	2 3/16	2 1/8	2 1/16	2 1/16	2 1/16	2 1/8	2 1/8	2 1/16	2 1/16	2 1/16	2 1/16	2 1/8	2 1/8	2 3/16	2 1/4	2 1/4	2 1/4	2 1/2	2 1/2	2 1/8	2 1/8	2 1/8	2 1/16	2 1/16	2 1/16	2 1/8	2 1/8	2 1/8	2 1/16	2 1/16	2 3/16

Point		74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89
A	Elev. Top of Coping Form	612.565	612.590	612.615	612.635	612.650	612.670	612.685	612.700	612.715	612.725	612.740	612.755	612.765	612.780	612.795	612.810
	Elev. Top of Girder																
	Dist. Top of girder to top of Coping																
B	Elev. Top of Screed	611.785	611.805	611.830	611.850	611.870	611.885	611.900	611.915	611.930	611.945	611.955	611.970	611.985	612.000	612.010	612.030
	Elev. Top of Girder																
	Elev. Top of Girder to top of Screed																
C	Elev. Top of Screed	611.965	611.975	611.995	612.010	612.035	612.055	612.070	612.085	612.095	612.100	612.120	612.140	612.150	612.165	612.175	612.185
	Elev. Top of Stringer																
	Dist. Top of Stringer to top of Screed																
D	Elev. Top of Screed	611.785	611.805	611.830	611.850	611.870	611.885	611.900	611.915	611.930	611.945	611.955	611.970	611.985	612.000	612.010	612.030
	Elev. Top of Girder																
	Dist. Top of Girder to top of Screed																
E	Elev. Top of Coping Form	612.565	612.590	612.615	612.635	612.650	612.670	612.685	612.700	612.715	612.725	612.740	612.755	612.765	612.780	612.795	612.810
	Elev. Top of Girder																
	Dist. Top of Girder to top of Coping																
	Dimension W1 For Slab Haunch	1 3/4	1 13/16	1 7/8	1 15/16	1 15/16	1 15/16	1 7/8	1 7/8	2 1/16	2 1/16	2 1/16	2 1/16	2 1/16	2	2	2
	Dimension W2 For Slab Haunch	2 1/4	2 3/16	2 1/8	2 1/16	2 1/16	2 1/16	2 1/8	2 1/8	2 1/16	2 1/8	2 1/16	2 1/8	2 1/16	2 1/2	2 1/2	2 1/2

DESIGNED	R.D.B. 11-29-49 C'K'D R.W.B. 12-1-49
DRAWN	R.W.B. 12-10-49 C'K'D M.E.G. 12-19-49
TRACED	R.D.B. 1-9-50 C'K'D E.G.R. 1-9-50

EUGENE DIETZGEN CO. NO. 111

SCREEDS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- NONE

AUGUST 1 1950

RECOMMENDED FOR APPROVAL:-

J. L. Smythe
ENGINEER OF BRIDGE DESIGN

PROJECT:- F-G45(3)

STATION:- 11+25

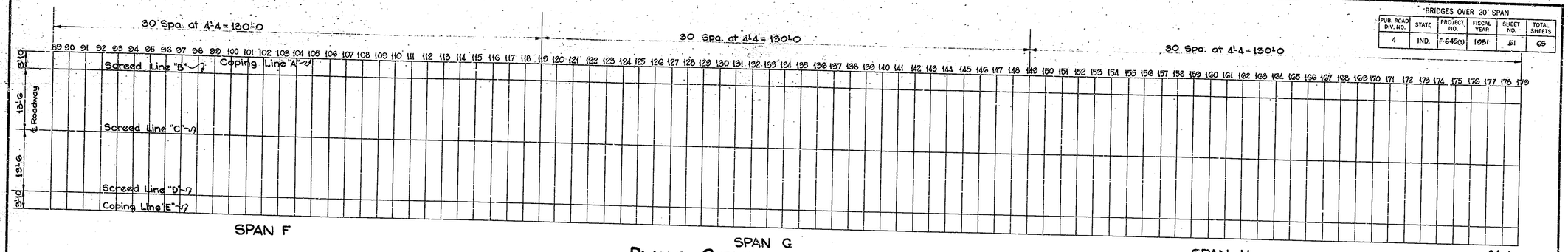
DRAWING:- 544 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGE FILE:- 30-A-3108

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	51	65

"BRIDGES OVER 20' SPAN"



PLAN OF SCREEDS

TABLE OF ELEVATIONS

Point		90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
A	Elev. Top of Coping Form	612.830	612.845	612.865	612.885	612.900	612.925	612.940	612.960	612.980	612.995	613.010	613.025	613.035	613.045	613.055	613.060	613.065	613.070	613.075	613.075	613.075	613.075	613.075	613.075	613.070	613.065	613.060	613.060	613.060	613.055	613.055	613.055	613.060	613.060	613.060	613.065	613.070	613.075	613.075
	Elev. Top of Girder																																							
	Dist. Top of Gird. to Top of Coping																																							
B	Elev. Top of Screed	612.045	612.065	612.080	612.100	612.120	612.140	612.160	612.180	612.195	612.210	612.225	612.240	612.255	612.265	612.270	612.280	612.285	612.290	612.290	612.295	612.295	612.295	612.290	612.285	612.285	612.280	612.275	612.275	612.275	612.275	612.275	612.275	612.275	612.280	612.285	612.285	612.290	612.295	612.295
	Elev. Top of Girder																																							
	Dist. Top of Gird. to Top of Screed																																							
C	Elev. Top of Screed	612.210	612.230	612.250	612.270	612.285	612.300	612.320	612.345	612.365	612.380	612.390	612.400	612.415	612.430	612.440	612.445	612.450	612.445	612.455	612.460	612.460	612.460	612.455	612.445	612.445	612.445	612.445	612.445	612.440	612.430	612.440	612.445	612.445	612.445	612.445	612.445	612.455	612.460	612.460
	Elev. Top of Stringer																																							
	Dist. Top of Str. to Top of Screed																																							
D	Elev. Top of Screed	612.045	612.065	612.080	612.100	612.120	612.140	612.160	612.180	612.195	612.210	612.225	612.240	612.255	612.265	612.270	612.280	612.285	612.290	612.290	612.295	612.295	612.295	612.290	612.285	612.285	612.280	612.275	612.275	612.275	612.275	612.275	612.275	612.275	612.280	612.285	612.285	612.290	612.295	612.295
	Elev. Top of Girder																																							
	Dist. Top of Gird. to Top of Screed																																							
E	Elev. Top of Coping	612.830	612.845	612.865	612.885	612.900	612.925	612.940	612.960	612.980	612.995	613.010	613.025	613.035	613.045	613.055	613.060	613.065	613.070	613.075	613.075	613.075	613.075	613.075	613.075	613.070	613.065	613.060	613.060	613.060	613.055	613.055	613.055	613.060	613.060	613.060	613.065	613.070	613.075	613.075
	Elev. Top of Girder																																							
	Dist. Top of Gird. to Top of Coping																																							
	Dimension W1 for Slab Haunch	2	2	2 1/16	2 1/8	2 2/16	2 1/4	2 3/16	1 15/16	1 7/8	1 13/16	1 15/16	1 7/8	1 7/8	1 13/16	1 3/4	1 11/16	1 7/8	1 13/16	1 15/16	1 13/16	1 7/8	1 13/16	2 3/16	2 1/4	2 3/16	2 1/8	2 1/16	2	2	2	2 1/16	2 1/16	2 1/8	2 3/16	2 1/4	2 3/16	2 1/16	1 13/16	1 7/8
	Dimension W2 for Slab Haunch	2 1/2	2 1/2	2 3/16	2 3/8	2 1/16	2 1/4	2 3/16	2 3/8	2 3/16	2 3/16	2 1/16	2 3/16	2 1/4	2 3/16	2 1/4	2 5/16	2 3/8	2 3/16	2 3/16	2 1/4	2 3/16	2 1/8	2 1/16	2 1/8	2 1/16	2 1/16	2 1/8	2 1/8	2 1/16	2 1/16	2 1/8	2 1/8	2 1/16	2 1/16	2 1/8	2 1/16	2 3/16	2 1/4	2 3/16	2 1/16

Point		129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167
A	Elev. Top of Coping Form	613.075	613.075	613.070	613.065	613.060	613.055	613.045	613.035	613.025	613.010	612.995	612.980	612.960	612.940	612.925	612.900	612.885	612.865	612.845	612.830	612.810	612.795	612.780	612.765	612.755	612.740	612.725	612.715	612.700	612.685	612.670	612.650	612.635	612.615	612.590	612.565	612.545	612.515	612.485
	Elev. Top of Girder																																							
	Dist. Top of Gird. to Top of Coping																																							
B	Elev. Top of Screed	612.295	612.290	612.290	612.285	612.280	612.270	612.265	612.255	612.240	612.225	612.210	612.195	612.180	612.160	612.140	612.120	612.100	612.080	612.065	612.045	612.030	612.010	612.000	611.983	611.970	611.955	611.945	611.930	611.915	611.900	611.885	611.870	611.850	611.830	611.805	611.785	611.760	611.730	611.705
	Elev. Top of Girder																																							
	Dist. Top of Gird. to Top of Screed																																							
C	Elev. Top of Screed	612.460	612.455	612.445	612.450	612.445	612.440	612.430	612.415	612.400	612.390	612.380	612.365	612.345	612.320	612.300	612.285	612.270	612.250	612.230	612.210	612.185	612.175	612.165	612.150	612.140	612.120	612.100	612.095	612.085	612.070	612.055	612.035	612.010	611.995	611.975	611.955	611.930	611.895	611.860
	Elev. Top of Stringer																																							
	Dist. Top of Str. to Top of Screed																																							
D	Elev. Top of Screed	612.295	612.290	612.290	612.285	612.280	612.270	612.265	612.255	612.240	612.225	612.210	612.195	612.180	612.160	612.140	612.120	612.100	612.080	612.065	612.045	612.030	612.010	612.000	611.983	611.970	611.955	611.945	611.930	611.915	611.900	611.885	611.870	611.850	611.830	611.805	611.785	611.760	611.730	611.705
	Elev. Top of Girder																																							
	Dist. Top of Gird. to Top of Screed																																							
E	Elev. Top of Coping Form	613.075	613.075	613.070	613.065	613.060	613.055	613.045	613.035	613.025	613.010	612.995	612.980	612.960	612.940	612.925	612.900	612.885	612.865	612.845	612.830	612.810	612.795	612.780	612.765	612.755	612.740	612.725	612.715	612.700	612.685	612.670	612.650	612.635	612.615	612.590	612.565	612.545	612.515	612.485
	Elev. Top of Girder																																							
	Dist. Top of Gird. to Top of Coping																																							
	Dimension W1 For Slab Haunch	1 7/8	1 15/16	1 13/16	1 7/8	1 15/16	1 3/4	1 11/16	1 7/8	1 7/8	1 13/16	1 15/16	1 7/8	1 7/8	2 1/16	2 1/4	2 3/16	2 1/4	2 1/16	2	2	2	2	2	2 1/16	2 1/8	2 3/16	2 1/4	2 3/16	1 7/8	1 7/8	1 13/16	1 15/16	1 15/16	1 7/8	1 13/16	1 3/4	1 13/16	1 7/8	1 13/16
	Dimension W2 For Slab Haunch	2 3/8	2 3/16	2 7/16	2 3/8	2 3/16	2 1/4	2 7/16	2 3/8	2 3/8	2 7/16	2 7/16	2 3/8	2 3/8	2 11/16	2 7/8	2 11/16	2 5/8	2 9/16	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 9/16	2 5/8	2 11/16	2 3/4	2 13/16	2 3/8	2 3/8	2 7/16	2 7/16	2 7/16	2 3/8	2 7/16	2 1/4	2 7/16	2 3/8	2 7/16

Point		168	169	170	171	172	173	174	175	176	177	178	179
A	Elev. Top of Coping Form	612.455	612.425	612.390	612.355	612.320	612.285	612.250	612.215	612.175	612.140	612.105	612.075
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Coping												
B	Elev. Top of Screed	611.675	611.640	611.610	611.575	611.540	611.505	611.465	611.430	611.395	611.360	611.325	611.290
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Screed												
C	Elev. Top of Screed	611.840	611.810	611.780	611.740	611.700	611.660	611.630	611.600	611.565	611.525	611.485	611.450
	Elev. Top of Stringer												
	Dist. Top of Str. to Top of Screed												
D	Elev. Top of Screed	611.675	611.640	611.610	611.575	611.540	611.505	611.465	611.430	611.395	611.360	611.325	611.290
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Screed												
E	Elev. Top of Coping Form	612.455	612.425	612.390	612.355	612.320	612.285	612.250	612.215	612.175	612.140	612.105	612.075
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Coping												
	Dimension W1 for Slab Haunch	1 13/16	1 7/8	1 7/8	1 13/16	2 1/4	2 3/16	2 1/4	2 1/4	2 1/8	2	2	2
	Dimension W2 for Slab Haunch	2 7/16	2 3/8	2 3/8	2 7/16	2 3/4	2 11/16	2 5/8	2 5/8	2 9/16	2 1/2	2 1/2	2 1/2

DESIGNED R.O.B. 11-22-49 CK'D R.W.B. 12-1-49
DRAWN R.W.B. 12-13-49 CK'D W.F.G. 12-19-49
TRACED M.W.S. 1-7-50 CK'D W.F.G. 1-9-50

EUGENE DIETZGEN CO. NO. 131

SCREEDS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- NONE AUGUST 1 1950

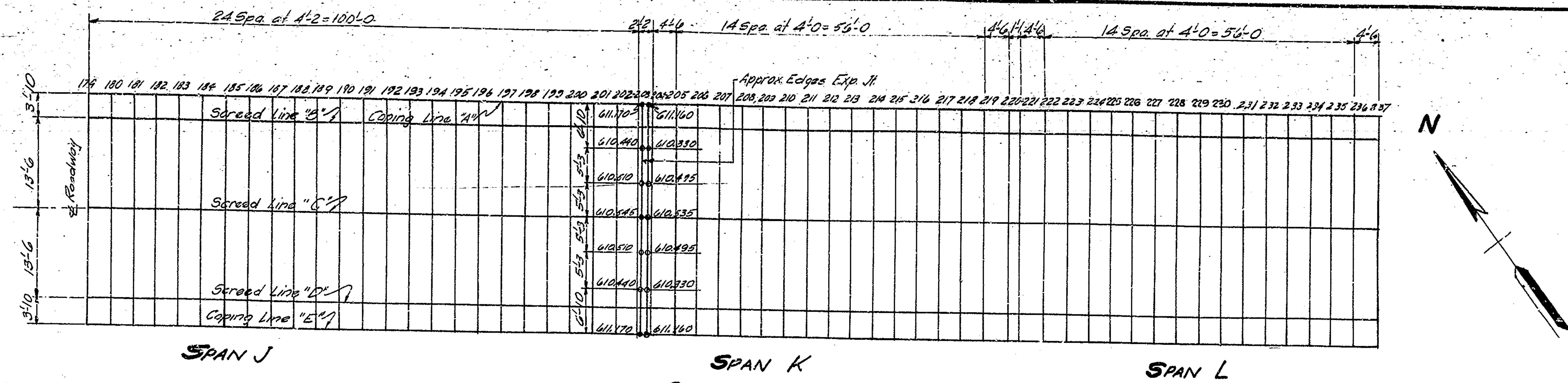
RECOMMENDED FOR APPROVAL:- J. V. Smythe ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

DRAWING:- S45 OF 47

BRIDGE CONTRACT NO. 3289

BRIDGES OVER 20' SPAN					
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	52	65



PLAN OF SCREEDS

TABLE OF ELEVATIONS

Point		180	181	182	183	184	185	186	187	188	189	190	191
A	Elev. Top of Coping Form	612.040	612.010	611.980	611.950	611.920	611.890	611.865	611.835	611.800	611.770	611.740	611.705
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Coping												
B	Elev. Top of Screed	611.260	611.225	611.195	611.170	611.140	611.110	611.080	611.050	611.020	610.985	610.955	610.920
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Screed												
C	Elev. Top of Screed	611.420	611.395	611.365	611.335	611.300	611.265	611.245	611.220	611.185	611.155	611.120	611.080
	Elev. Top of ℄ Stringer												
	Dist. Top of ℄ Str. to Top of Screed												
D	Elev. Top of Screed	611.260	611.225	611.195	611.170	611.140	611.110	611.080	611.050	611.020	610.985	610.955	610.920
	Elev. Top of Girder												
	Dist. Top of Girder to Top of Screed												
E	Elev. Top of Coping Form	612.040	612.010	611.980	611.950	611.920	611.890	611.865	611.835	611.800	611.770	611.740	611.705
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Coping												
	Dimension W_1 For Slab Haunch	2	2	2 1/16	2 1/8	2 1/8	2 3/16	2 1/4	2 5/16	1 7/8	1 7/8	1 15/16	1 15/16
	Dimension W_2 For Slab Haunch	2 1/2	2 1/2	2 9/16	2 5/8	2 5/8	2 11/16	2 3/4	2 5/16	2 3/8	2 3/8	2 7/16	2 7/16

Point		192	193	194	195	196	197	198	199	200	201	202	203
A	Elev. Top of Coping Form	611.670	611.630	611.590	611.550	611.510	611.470	611.425	611.375	611.325	611.275	611.225	611.170
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Coping												
B	Elev. Top of Screed	610.885	610.845	610.810	610.770	610.730	610.685	610.640	610.590	610.540	610.490	610.440	610.590
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Screed												
C	Elev. Top of Screed	611.050	611.015	610.975	610.935	610.890	610.845	610.805	610.760	610.710	610.660	610.605	610.545
	Elev. Top of ℄ Stringer												
	Dist. Top of ℄ Str. to Top of Screed												
D	Elev. Top of Screed	610.885	610.845	610.810	610.770	610.730	610.685	610.640	610.590	610.540	610.490	610.440	610.390
	Elev. Top of Girder												
	Dist. Top of Girder to Top of Screed												
E	Elev. Top of Coping Form	611.670	611.630	611.590	611.550	611.510	611.470	611.425	611.375	611.325	611.275	611.225	611.170
	Elev. Top of Girder												
	Dist. Top of Gird. to Top of Coping												
	Dimension W_1 For Slab Haunch	1 15/16	1 7/8	1 13/16	1 3/4	1 7/8	1 15/16	1 15/16	1 15/16	1 7/8	1 7/8	1 13/16	1 3/4
	Dimension W_2 For Slab Haunch	2 7/16	2 3/8	2 5/16	2 1/4	2 3/8	2 7/16	2 7/16	2 7/16	2 3/8	2 3/8	2 5/16	2 1/4

Point		204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
A	Elev. Top of Coping Form	611.150	611.115	611.080	611.045	611.015	610.975	610.940	610.895	610.850	670.805	610.755	610.700	610.645	610.590	610.530	610.470	610.400
	Elev. Top of O.S. Beam																	
	Dist. Top of O.S. Bm. to Top of Coping																	
B	Elev. Top of Screed	610.365	610.330	610.300	610.265	610.230	610.195	610.155	610.115	610.070	610.020	609.970	609.920	609.865	609.805	609.750	609.690	609.620
	Elev. Top of Beam																	
	Dist. Top of Bm. to Top of Screed																	
C	Elev. Top of Screed	610.525	610.490	610.455	610.420	610.390	610.350	610.315	610.270	610.225	610.180	610.130	610.075	610.020	609.965	609.905	609.845	609.775
	Elev. Top of Beam																	
	Dist. Top of Bm. to Top of Screed																	
D	Elev. Top of Screed	610.365	610.330	610.300	610.265	610.230	610.195	610.155	610.115	610.070	610.020	609.970	609.920	609.865	609.805	609.750	609.690	609.620
	Elev. Top of Beam																	
	Dist. Top of Bm. to Top of Screed																	
E	Elev. Top of Coping Form	611.150	611.115	611.080	611.045	611.015	610.975	610.940	610.895	610.850	610.805	610.755	610.700	610.645	610.590	610.530	610.470	610.400
	Elev. Top of O.S. Bm.																	
	Dist. Top of O.S. Bm. to Top of Coping																	

Point		221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237
A	Elev. Top of Coping Form	610.390	610.345	610.305	610.265	610.220	610.175	610.130	610.080	610.025	609.975	609.916	609.855	609.795	609.730	609.660	609.595	609.513
	Elev. Top of O.S. Beam																	
	Dist. Top of O.S. Bm. to Top of Coping																	
B	Elev. Top of Screed	609.605	609.560	609.520	609.480	609.440	609.390	609.345	609.295	609.245	609.190	609.135	609.075	609.010	608.945	608.880	608.810	608.735
	Elev. Top of Beam																	
	Dist. Top of Bm. to Top of Screed																	
C	Elev. Top of Screed	609.765	609.720	609.680	609.640	609.595	609.550	609.505	609.455	609.400	609.350	609.290	609.230	609.170	609.105	609.035	608.970	608.890
	Elev. Top of Beam																	
	Dist. Top of Bm. to Top of Screed																	
D	Elev. Top of Screed	609.605	609.560	609.520	609.480	609.440	609.390	609.345	609.295	609.245	609.190	609.135	609.075	609.010	608.945	608.880	608.810	608.735
	Elev. Top of Beam																	
	Dist. Top of Bm. to Top of Screed																	
E	Elev. Top of Coping Form	610.390	610.345	610.305	610.265	610.220	610.175	610.130	610.080	610.025	609.975	609.915	609.855	609.795	609.730	609.660	609.595	609.515
	Elev. Top of O.S. Bm.																	
	Dist. Top of O.S. Bm. to Top of Coping																	

DESIGNED R.O.A. 11-29-49 C'K'D R.W.B. 11-29-49
DRAWN R.W.B. 12-16-49 C'K'D W.E.B. 12-19-49
TRACED R.E.B. 1-10-50 C'K'D R.W.B. 1-10-50

SCREEDS

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- NONE

AUGUST 1, 1950

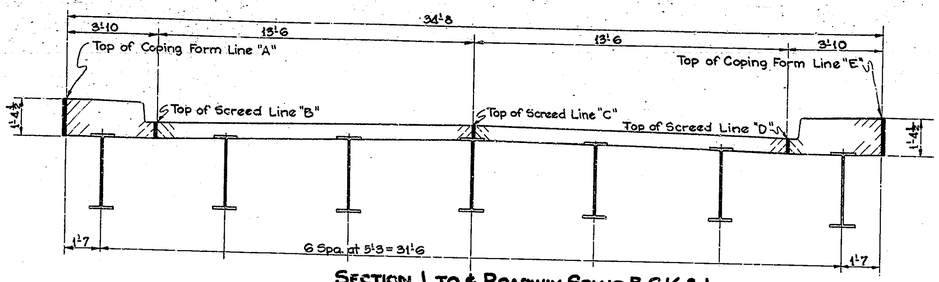
RECOMMENDED FOR APPROVAL:- J.V. Smythe — ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3) STATION:- 11+25

DRAWING:- S46 OF 47

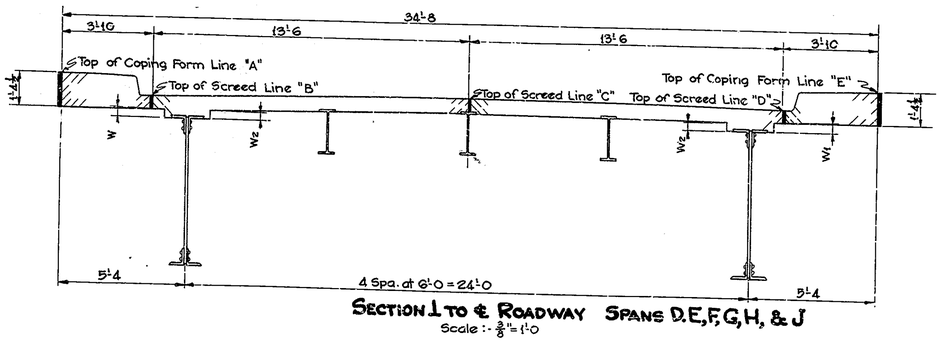
BRIDGE CONTRACT NO. [illegible]

BRIDGES OVER 20' SPAN					
F... ROAD ... NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-645(3)	1951	53	65



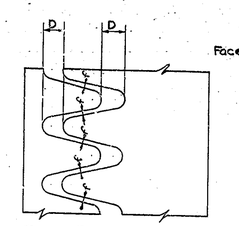
SECTION ⊥ TO ℄ ROADWAY SPANS B,C,K & L

Scale:- ⅜"=1'0

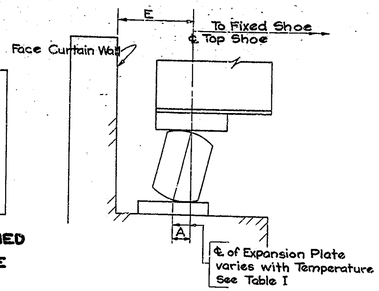


SECTION ⊥ TO ℄ ROADWAY SPANS D,E,F,G,H, & J

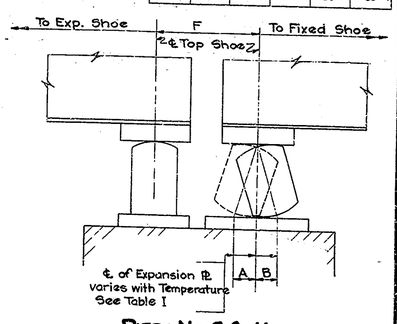
Scale:- ⅜"=1'0



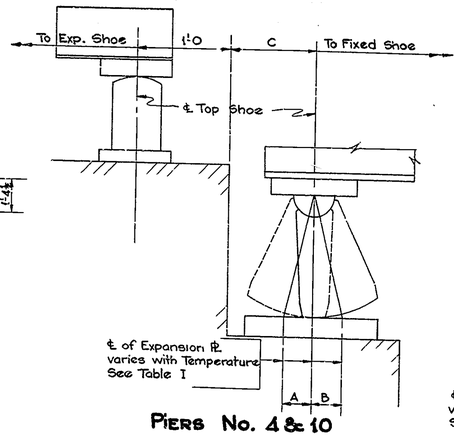
PART PLAN OF TOOTHED EXPANSION PLATE



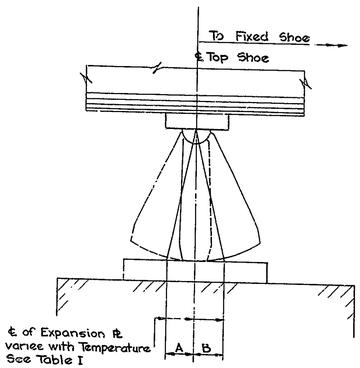
PIERS No. 2 & 12



PIERS No. 3 & 11



PIERS No. 4 & 10



PIERS No. 5, 6, 8, & 9

SECTION A-A (TYPICAL)

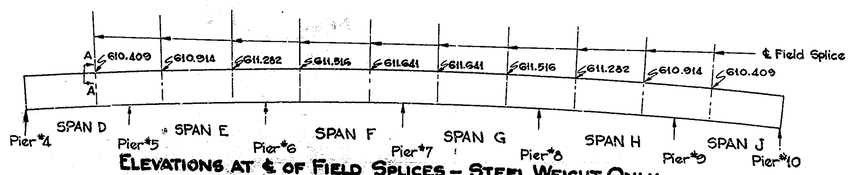
TABLE I

Temperature	Dimension A							Dimension B		
	0°	20°	40°	60°	80°	100°	120°	80°	100°	120°
℄ Top Shoe to ℄ Exp. Pl. Piers 2 & 12	19/16	11/16	3/8	1/4	3/8	7/16	3/8	—	—	—
℄ Top Shoe to ℄ Exp. Pl. Piers 3 & 11	7/8	7/8	1/4	0	—	—	—	1/4	3/8	5/16
℄ Top Shoe to ℄ Exp. Pl. Piers 4 & 10	1 3/4	1 11/16	5/8	0	—	—	—	9/16	1 3/16	1 1/2
℄ Top Shoe to ℄ Exp. Pl. Piers 5 & 9	1 1/4	1 3/16	7/16	0	—	—	—	7/16	1/2	1/4
℄ Top Shoe to ℄ Exp. Pl. Piers 6 & 8	5/8	7/16	3/16	0	—	—	—	3/16	7/16	1/4

TABLE II

Temperature	0°	20°	40°	60°	80°	100°	120°
Dimension C	1'-3 7/16	1'-3 3/16	1'-2 15/16	1'-2	1'-1 7/16	1'-0 13/16	1'-0 1/4
Dimension E	2 15/16	2 13/16	2 5/8	2	1 7/8	1 13/16	1 11/16
Dimension F	1'-1 15/16	1'-1 13/16	1'-1 5/8	1'-1	1'-0 7/16	1'-0 5/16	1'-0 3/16
* Dimension D	4 7/16	3 5/8	3	2 7/16	1 15/16	1 1/4	11/16

* For weight of Structural Steel only



ELEVATIONS AT ℄ OF FIELD SPLICES – STEEL WEIGHT ONLY

(See Drawing 517 for note regarding riveting of girder spans)

NOTES:-

Plan of screeds shows location of screeds. "TABLE OF ELEVATIONS" shows data for setting bottom slab forms, screeds and coping forms so that the slab and coping will be at the final grade elevations after all concrete has been poured.

"TABLE I" shows data for setting expansion plates.

"TABLE II" shows data for setting toothed expansion joints and data for locating spans.

GENERAL PROCEDURE:-

1- After all rivets have been driven and superstructure has been located in accordance with dimensions shown in "TABLE II", set anchor bolts for fixed shoes.

2- Adjust expansion plates under each expansion shoe in accordance with dimensions "A" or "B" in "TABLE I" for the prevailing temperature. Note that dimension "A" is always the distance from a vertical line through the ℄ of top shoe in a direction away from the fixed shoe. Set anchor bolts.

3- Set steel expansion joints and adjust them to elevations shown on "PLAN OF SCREEDS" using shims on diaphragms and floor beams.

4- Adjust the expansion joints horizontally to make the opening "E" between the teeth equal and openings "D" to the dimension shown in "TABLE II" for the prevailing temperature.

5- Set forms for bottom of slab in Spans D, E, F, G, H and J in accordance with W1 and W2 dimensions as shown in "TABLE OF ELEVATION" and as indicated on cross sections.

6- After the shoes are set, take elevations at all screeds points on top of adjacent beams, stringers or girder. Enter these elevations in "TABLE OF ELEVATION". Substract the elevations from the tabulated elevations and use the resulting dimension as the height for setting the screed or coping form above that point. This dimension remains constant regardless of how much or in what order the concrete is poured. Do not set screeds or coping forms by leveling.

7- No concrete in the floor to be poured until the above operations are complete.

DESIGNED R.W.B. 12-15-49 C'K'D W.F.G. 12-27-49
DRAWN R.W.B. 12-22-49 C'K'D W.F.G. 12-27-49
TRACED M.W.S. 1-9-50 C'K'D R.W.B. 1-9-50

KUEHNE DIETZGEN CO. NO. 115

SHOE SETTING AND ERECTION DATA

STATE HIGHWAY COMMISSION OF INDIANA

SCALE:- NONE

AUGUST 1 1950

RECOMMENDED FOR APPROVAL:- J. W. Smythe ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3)

STATION:- 11+25

DRAWING:- 547 OF 47

BRIDGE CONTRACT NO. 3289

Pub. Road Div. No.	State	Project No.	Fiscal Year	Sheet No.	Total Sheets
4	IND.	F 645(3)	1951	54	65

BRIDGES OVER 20' SPAN

STRUCTURE QUANTITIES

ITEM	CONCRETE: CLASS F CU. YDS.	CLASS D CU. YDS.	CLASS E ABOVE FTG. CU. YDS.	CLASS E FTG. CU. YDS.	CLASS F HANDRAIL & POSTS CU. YDS.	REINFORCING STEEL (1934 STD. WTS.): 1¼□ LBS.	1⅛□ LBS.	1□ LBS.	1φ LBS.	⅞φ LBS.	¾φ LBS.	⅝φ LBS.	½φ LBS.	⅜φ LBS.	¼φ LBS.	TOTALS LBS.
SUBSTRUCTURE																
Bent Nº 1		13.6							1570		147		322			2039
Pier Nº 2			111.0	43.8							6534	654	290			7478
Pier Nº 3			124.4	44.3							7186		294			7480
Pier Nº 4			96.7	52.2							4982	4746	975			10703
Pier Nº 5			81.3	52.2						1889	3767	3171	967			9794
Pier Nº 6			97.7	60.6					2878		4064	3734	1125			11801
Pier Nº 7			96.3	74.6					6643		1461	3661	1094			12859
Pier Nº 8			97.7	60.6					2878		4064	3734	1125			11801
Pier Nº 9			81.3	52.2						1889	3767	3171	967			9794
Pier Nº 10			99.7	52.2							4982	4746	975			10703
Pier Nº 11			124.4	44.3							7186		294			7480
Pier Nº 12			111.0	43.8							6534	654	290			7478
Bent Nº 13		13.6							1570		147		322			2039
SUPERSTRUCTURE																
Spans A & M	196.8				13.2	3826	14850	4338				11594	9606	784		44998
Spans B thru L inclusive	963.4				26.4							108808	51675			160483
SPLICE BARS						82	62	44	35	25	79	99	32	8		466
Integral Curb Walk	1.5															
Reinf. Steel from "Approach Structs." column																
Reinf. Steel for Thickened Pavement												3624	150			3774
Reinf. Steel for Lip Gutter, Pvmt. Tapers, etc.																
TOTALS	1161.7	27.2	1124.5	580.8	39.6	3908	14912	4382	15574	3803	54900	152396	70503	792		321170

ITEM	CAST IRON LBS.	UNTREATED TIMBER PILES Nº	UNTREATED TIMBER PILES LIN. FT.	STEEL ENCASED CONCRETE PILES Nº	STEEL ENCASED CONCRETE PILES LIN. FT.	STRUCTURAL STEEL: SPANS B,C,K,& L LBS.	SPANS D,E,F,G,H,& J LBS.	HANDRAIL LBS.	EXPANSION JOINTS LBS.
Bent Nº 1				9	450				
Pier Nº 2		52	1040						
Pier Nº 3		52	1040						
Pier Nº 4		60	1200						
Pier Nº 5		60	1200						
Pier Nº 6				56	1960				
Pier Nº 7				56	1960				
Pier Nº 8				56	1960				
Pier Nº 9		60	1200						
Pier Nº 10		60	1200						
Pier Nº 11		52	1040						
Pier Nº 12		52	1040						
Bent Nº 13				9	450				
Spans B thru L inclusive	13722					391921	1081220	65279	11896
TOTALS	13722	448	8960	186	6780	391921	1081220	65279	11896

BILL OF SPLICE BARS

REINFORCING STEEL

Bent	Straight	Mark	Nº Pcs.	Size	Length	Location	Total Length	Weight
	✓		1	1¼□	15'-6	To splice 1¼□ cut for test	15'-6	82#
	✓		1	1⅛□	14'-6	" " 1⅛□ " " "	14'-6	62#
	✓		1	1□	13'-0	" " 1□ " " "	13'-0	44#
	✓		1	1φ	13'-0	" " 1φ " " "	13'-0	35#
	✓		1	⅞φ	12'-0	" " ⅞φ " " "	12'-0	25#
	✓		5	¾φ	10'-6	" " ¾φ " " "	52'-6	79#
	✓		10	⅝φ	9'-6	" " ⅝φ " " "	95'-0	99#
	✓		6	½φ	8'-0	" " ½φ " " "	48'-0	32#
	✓		3	⅜φ	7'-0	" " ⅜φ " " "	21'-0	8#
						TOTAL STEEL		466#

Note:- For Test Bar Samples, see Br. Std. "C"

BILL OF MATERIALS FOR THICKENED PAVEMENT

REINFORCING STEEL

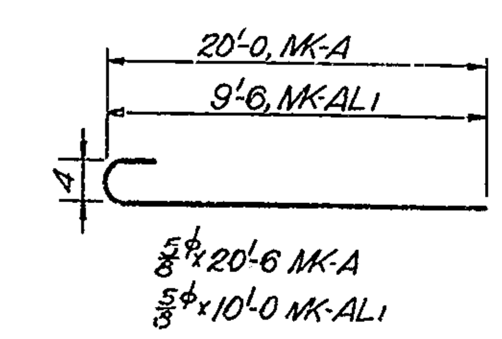
Bent	Straight	Mark	Nº Pcs.	Size	Length	Location	Total Length	Weight
✓		A	104	⅝φ	20'-6	Longit. Thknd. Pvmt.	2132'-0	
	✓	B	22	"	25'-6	Transv. " "	561'-0	
✓		AL1	48	"	10'-0	Longit. " "	480'-0	
	✓	AT1	20	"	10'-0	Transv. " "	200'-0	
	✓	AT2	12	"	5'-0	" " "	60'-0	
	✓	AT3	12	"	3'-6	" " "	42'-0	
						Total ⅝φ	3475'-0	3624#
✓		AC	40	½φ	2'-0	Vert. Integral Curb Walk	80'-0	
	✓	AD	48	"	3'-0	Dowels Thknd. Pvmt.	144'-0	
						Total ½φ	224'-0	150#
						TOTAL STEEL		3774#

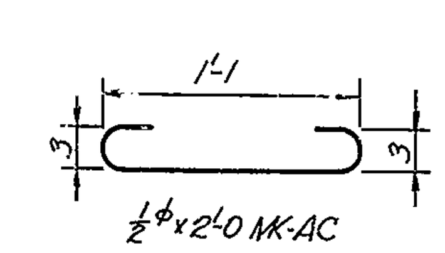
BARRICADES, BARRIERS, TRAFFIC SIGNS, & LIGHTS

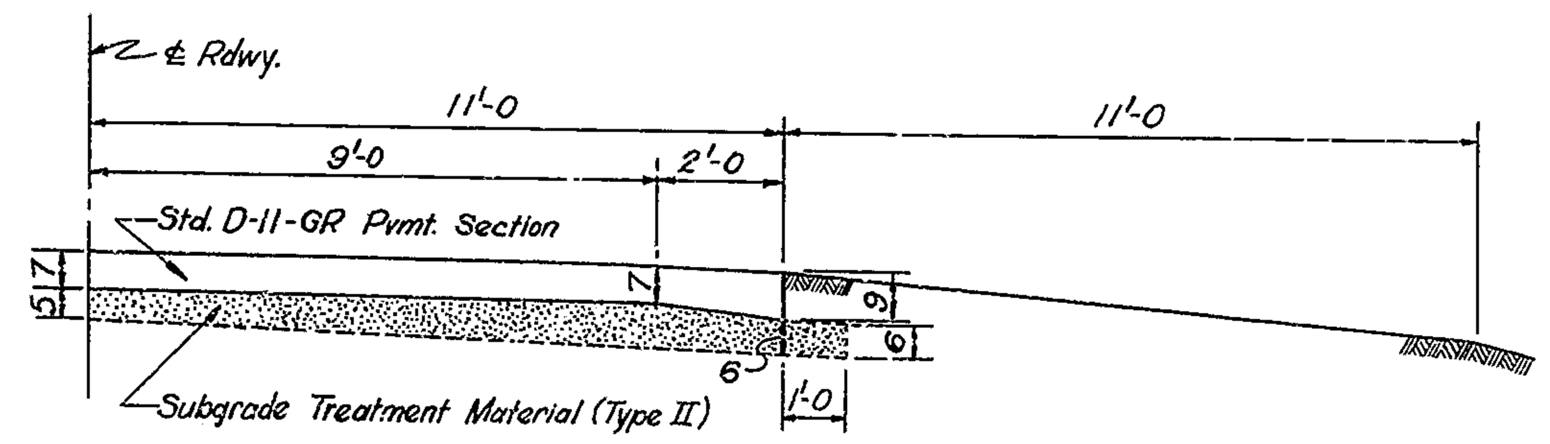
ITEM	UNIT	QUANTITY	ASSEMBLY		
PRE-WARNING SIGNS	Each	4	Signs W-30X1-R	2	
			" W-24X1-R		
			" W-23X1-R	2	
			" X-15-R		
			Lanterns or Torches	4	
STD. BARRICADES TYPE A	Each	2	Barricades	2	
			Signs X-11-R	2	omit follow detour
			" X-12-R		
			" X-13		
			" G-17-R		
			Lanterns	4	
STD. 3'-0" x 4'-3" SIGNS	Each		Signs X-13		
			Lanterns or Torches		
BRIDGE (SUITABLE) BARRIERS	Each		Bridge (Suitable) Barriers		
			Lanterns or Torches		

APPROACH STRUCTURES

STRUCT. Nº	LOCATION	SIZE	KIND	LENGTH	CL. D CONC. IN STRUCTS. CU. YDS.	REINF. STEEL LBS.	CAST IRON LBS.	REMARKS
11	5+90	6"	Perf. C.M. Pipe	40				(See Br. Std. S1)
		6"	C.M. Pipe	38				
12	1a+70	6"	Perf. C.M. Pipe	36				(See Br. Std. S1)
		6"	C.M. Pipe	36				
13	12+00		Pipe Culv. Hdwl.		1.9			(See Br. Std. ME)
14	15+10		Present Manhole	3				Adjust to Grade
				TOTALS	1.9			Total of Reinf. Steel carried to "Structure Quantities"







TYPICAL DETAIL SUBGRADE TREATMENT

Scale:- ⅜" = 1'-0

SUMMARY

ITEM	DESCRIPTION	UNIT	QUANTITY			
1	Class F Concrete	Cu. Yds.	1161.7			
2	Class D Concrete	Cu. Yds.	27.2			
3	Class E Concrete above Footings	Cu. Yds.	1124.5			
4	Class E Concrete in Footings	Cu. Yds.	580.8			
5	Handrail	Lin. Ft.				
6	Reinforcing Steel	Lbs.	321170			
7	Structural Steel	Lbs.				
8	Cast Iron	Lbs.	13722			
9	Untreated Timber Piles Furnished	Lin. Ft.	8960			
10	Untreated Timber Piles Driven	Lin. Ft.	7168			
11	Furnishing Equipment for Driving Piles	Lump Sum	1			
12	Wet Excavation	Cu. Yds.	4850			
13	Waterway Excavation	Cu. Yds.	33420			
14	Common Excavation	Cu. Yds.	1980			
15	Special Borrow	Cu. Yds.				
16	Special Filling Material	Cu. Yds.	2640			
17	Sodding	Sq. Yds.	620			
18	Mulched Seeding	Sq. Yds.	4690			
19	Cement Concrete Pavement	Sq. Yds.				
20	Reinforced Cement Concrete Pavement	Sq. Yds.	937			
21	Thickened Reinf. Cement Concrete Pavement	Sq. Yds.	154			
22	Compacted Aggregate Surface	Sq. Yds.				
23	Removal Present Structure	Lump Sum	1			
24	Temporary Bridge and Approaches	Lump Sum				
25	Prewarning Signs	Each	4			
26	Std. Barricades (Type A)	Each	2			
27	Class D Concrete in Structures	Cu. Yds.	1.9			
28	Class F Concrete Handrail & Posts	Cu. Yds.	39.6			
29	Steel Pile Shells (Furnished)	Lin. Ft.	6780			
30	Steel Encased Concrete Piles (Driven)	Lin. Ft.	6780			
31	Structural Steel Spans B,C,K,& L	Lbs.	391921			
32	Structural Steel Spans D,E,F,G,H,& J	Lbs.	1081220			
33	Structural Steel Handrail	Lbs.	65279			
34	Structural Steel Expansion Joints	Lbs.	11896			
35	Cofferdam Pier Nº 6	Lump Sum	1			
36	Cofferdam Pier Nº 7	Lump Sum	1			
37	Cofferdam Pier Nº 8	Lump Sum	1			
38	Std. Paved Side Ditch (Type A)	Lin. Ft.	210			
39	Std. Paved Side Ditch (Type G)	Lin. Ft.	165			
40	Pvmt. Contr. Jts. (Type D1, D4 or D5)	Lin. Ft.	184			
41	1" Pref. Bit. Exp. Jt.	Lin. Ft.	84			
42	3" Pref. Bit. Exp. Jt.	Lin. Ft.	49			
43	Guide Posts (Type A)	Each	20			
44	5" Concrete Slope Wall	Sq. Yds.	1095			
45	6" Perf. C.M. Pipe	Lin. Ft.	76			
46	6" C.M. Pipe	Lin. Ft.	74			
47	Subgrade Treatment Mat'l. (Type II)	Cu. Yds.	200			
48	R/W Markers	Each	4			
49	Manhole Adjusted to Grade	Each	1			
50	Reconstructed Manhole	Lin. Ft.	3			
51	Pvmt. Removal	Sq. Yds.	1160			
52						
53						
54						
55						
56						
57						
58						
59						
60						

SUMMARY

STATE HIGHWAY COMMISSION OF INDIANA

AUGUST 1, 1950

RECOMMENDED FOR APPROVAL:- J.V. Smythe — ENGINEER OF BRIDGE DESIGN

PROJECT:- F-645(3)

BRIDGE CONTRACT Nº 3289

BRIDGE FILE:- 39-A-3108

SUMMARIZED ______ CK'D ______
TRACED P.C.G. 4-10-50 CK'D H.R.C. 4-10-50