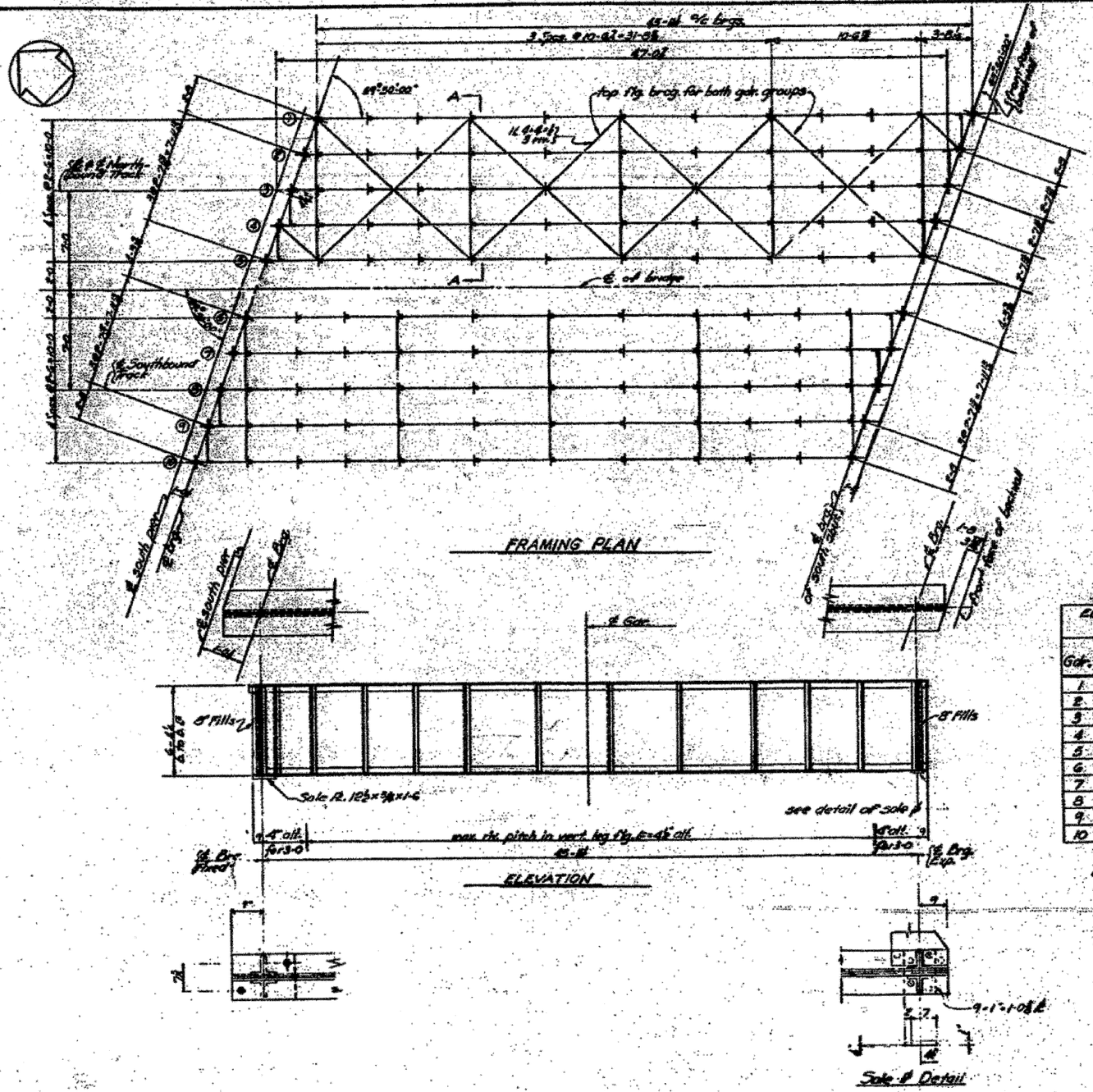
FOR INFORMATION ONLY

FAI-70	St. Clair



FRAMING PLAN

DEAD LOAD PER TRACK

Ballast, Ties & Rails 2.73
Slab, Waterproof & Walk 3.00
5.73 k/'

DEAD LOAD FOR GIRDER #1

D.L. = 5.73/5 1.15
D.L. Ecc. = 5.73 × 1.04/12.5 = .48
D.L. Girder .23
1.86 k/'

IMPACT

Vert. 60 - 46⁴/300 = 55.6
Roll. 20 × 2.5 × 5/12.5 = 20.0
75.8%

Girders

Web ⌀ 76 × ¾ = 28.50 in²
Flg. 4 ⌀ 6 × 6 × ¾
Brg. Stiff. 4 ⌀ 5 × 4 × ½ (Cut from 6 × 4 L)
Fill ⌀ 8 × ¾
Use 15 Rivets Per Pair (Min)
Int. Stiff. 2 ⌀ 5 × 3½ × ½ on fills @ Diaphragms.
2 ⌀ 5 × 3½ × ⅜ on fills elsewhere.

Diaphragms

Web ⌀ ⅜ Thk.
Flg. 2 ⌀ 4 × 4 × ½
6 Rivets

Top Laterals

⌀ 4 × 4 × ½ - 3 Rivets
Gusset ⌀ ⅞

MOMENTS & SHEAR FOR GIRDER #1

End Shear		Max. Moment	
D.L.	42.8	D.L.	492
L.L.	59.6	L.L.	599
Imp.	45.2	Imp.	454
	147.6k		1545 ft

SECTION ALL GIRDERS BOTH FLGS.

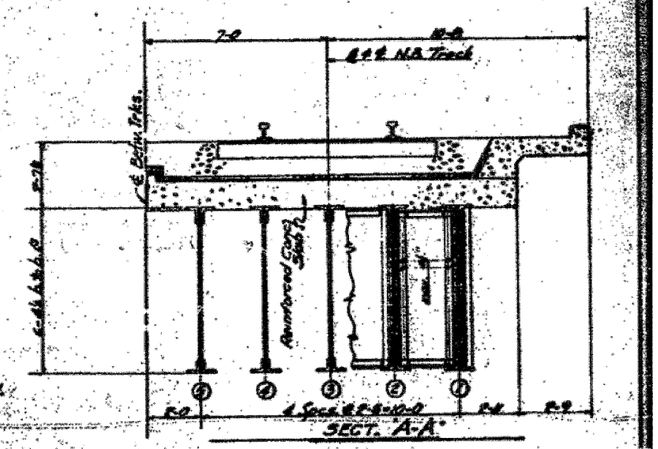
	Gross	Net
¼ Web 76 × ⅜	3.56	3.56
2 ⌀ 6 × 6 × ¾	16.88	13.00
	20.44 in²	16.56 in²

Gross I = 58,410 in⁴ Gross S.M. = 1617 in³
Net I = 45,340 in⁴ Net S.M. = 1272 in³
Allowable Stress = 18,000 #/in²
Unit Stress = 1545 × 1000 × 12/1272 = 14,600 #/in²

ELEV'S. BACK OF BOTT. FLG. ⌀ & BRG. SHIM REQUIRED.

Gdr.	℄ Brg. S. Pier Elev.	Shim	℄ Brg. S. Abut. Elev.	Shim
1	408.29	0	408.15	0
2	408.29	0	408.15	0
3	408.29	1/16	408.15	1/16
4	408.29	1/16	408.16	1/16
5	408.30	1/8	408.16	1/8
6	408.30	3/16	408.16	3/16
7	408.30	3/16	408.17	3/16
8	408.31	1/4	408.17	1/4
9	408.31	1/4	408.17	1/4
10	408.31	3/16	408.17	3/16

Elevs. are given @ the intersection of ℄ brg. & ℄ girder. Shim thickness is the total theoretical thickness req'd.



NOTES:

① - For details of diaphragm, lateral bracing & connections see sht. #20.
② - For details of bearings see sht. #21.
③ - For General Notes see sht. #1.
④ - Rivets 1" ⌀. Open Holes 1 1/16" ⌀.
⑤ - For Reaming Notes see sht. #1.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
&
CITY OF EAST ST LOUIS

EAST ST. LOUIS EXPRESSWAY

L. & N. R. R. OVER WEST BOUND EXPWAY
RAMP "L", EAST BOUND EXPWAY AND RAMP "N"

FRAMING PLAN SPAN 4

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

DATE JULY 1960 SHEET NO. 19

Designed By L.K.
Drawn By A.L.
Checked By P.K. & P.A.E.

FILE NAME = D8TRI-76C52-SHT-LNRRBridge_20.dgn	USER NAME = searsb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLAN – L&N RR BRIDGE 20	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - GF	REVISED -			•	82-1-R(A), 82-1-R(B)	ST. CLAIR	629	467
	PLOT SCALE = 2.0000 ' / in.	CHECKED - DD	REVISED -			• 64/998/70		CONTRACT NO. 76C52		
	PLOT DATE = 1/23/2012	DATE - 07/21/10	REVISED -		SCALE: NONE SHEET NO. 21 OF 26 SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		