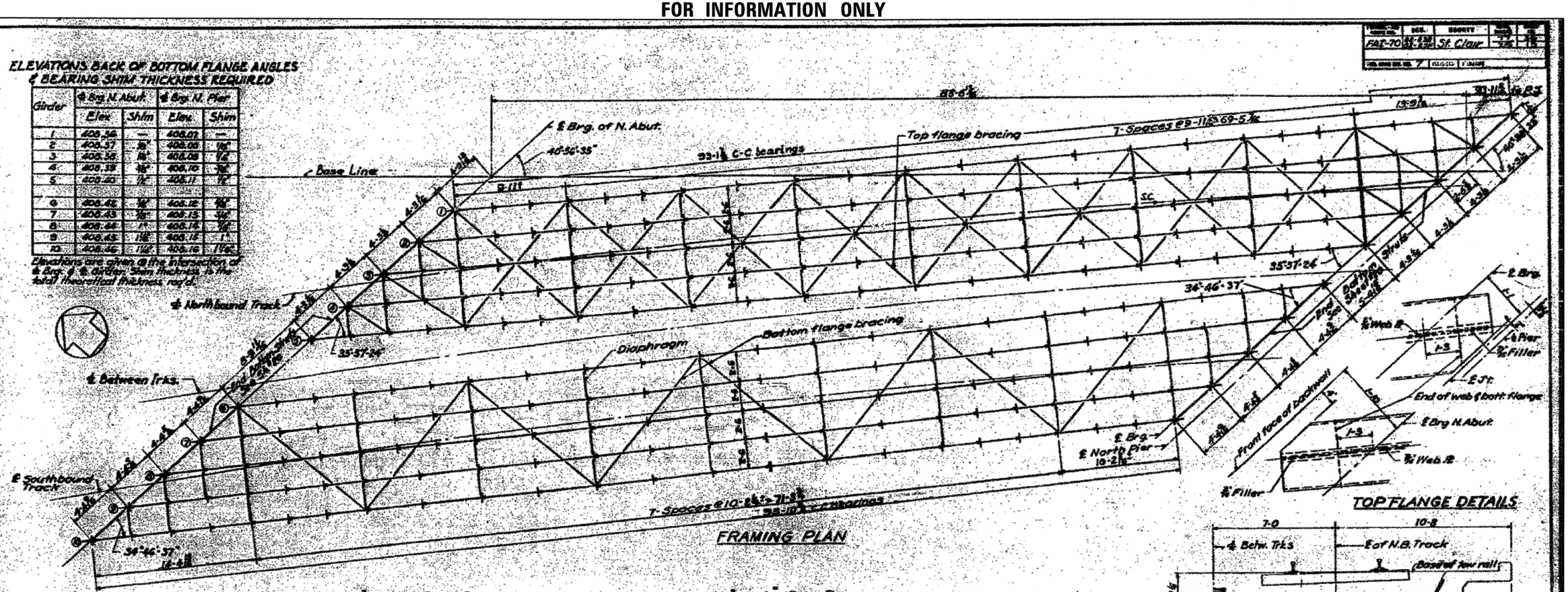
FOR INFORMATION ONLY

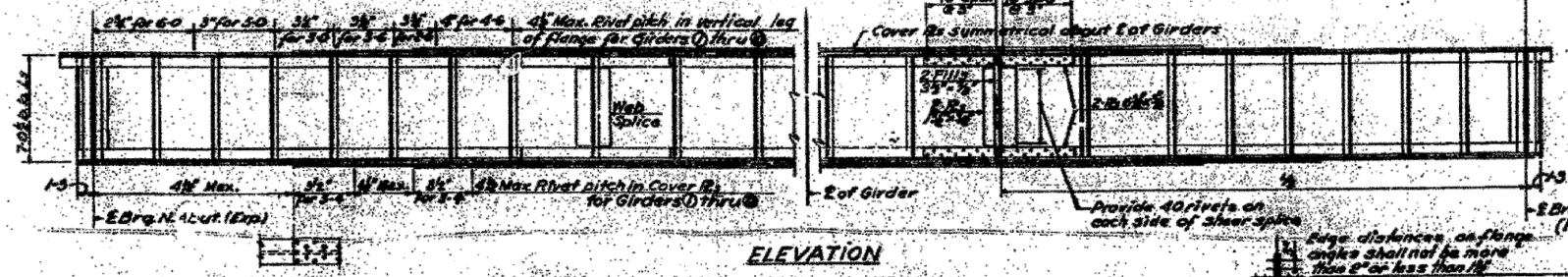
FAE-70	21-1 &2	St. Clair	3	16
	7			

ELEVATIONS BACK OF BOTTOM FLANGE ANGLES & BEARING SHIM THICKNESS REQUIRED

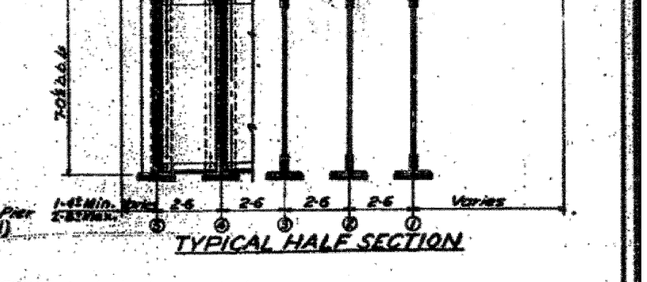
Girder	℄ Brg N. Abut. Elev	℄ Brg N. Abut. Shim	℄ Brg N. Pier Elev	℄ Brg N. Pier Shim
1	408.36	—	408.07	—
2	408.37	1/16"	408.08	1/16"
3	408.38	1/8"	408.09	1/8"
4	408.39	3/16"	408.10	3/16"
5	408.40	1/4"	408.11	1/4"
6	408.41	5/16"	408.12	5/16"
7	408.43	3/8"	408.13	3/8"
8	408.44	1/16"	408.14	7/16"
9	408.45	1/2"	408.15	1/2"
10	408.46	1 1/16"	408.16	1 1/16"

Elevations are given @ the intersection of ℄ Brg. & ℄ Girder. Shim thickness is the total theoretical thickness req'd.





ELEVATION



TYPICAL HALF SECTION

DEAD LOAD PER TRACK

Ballast, Ties & Rails	2.73%	
Slab, Waterproof & Walk	3.00%	
	5.73%	
	Gir. 1 ecc. 1.71	Gir. 6 ecc. -.37
D.L.	1.15%	1.15%
D.L. ecc.	.78%	-.17%
D.L. Steel	.71%	.73%
	2.64%	1.71%

IMPACT

	Gir. 1 thru 5	Gir. 6 thru 10
Vertical 50+L	42.7%	41.6%
Rolling	20.0%	20.0%
	62.7%	61.6%

MOMENTS & SHEAR FOR GIRDER NO. 1 & 6

	End Shear Gir. 1	Gir. 6	Max. Moment Gir. 1	Gir. 6
D.L.	124.1 K	82.1 K	D.L. 2916 ft-k	1970 ft-k
L.L.	102.5 K	104.1 K	L.L. 2071 ft-k	2156 ft-k
Imp.	69.6 K	64.0 K	L.L. ecc. 324 ft-k	336 ft-k
Centri.	35.7 K	36.2 K	Imp. 1431 ft-k	1468 ft-k
Total	329.9 K	286.4 K	Centri. 723 ft-k	750 ft-k
Frame Transfer	27.6 K	30.3 K	Total 7471 ft-k	6680 ft-k
Total	357.3 K	316.7 K		

CENTRIFUGAL

2½" super

1.755(2½+3)=9.65%

SECTION ALL GIRDERS BOTH FLANGES

	Gross	Net
½ Web 84"x⅜"	4.60	4.60
2 Pls 8"x⅞"	26.46	22.52
1 Pl 17"x⅜"	14.88	12.91 Full lg. top & bott
1 Pl 17"x⅜"	14.88	12.91 68-3 lg. Gir. 1 to 5
1 Pl 17"x⅜"	14.88	12.91 51-0 lg. Gir. 1 to 5
Total	75.70 Gross	65.85 Net

Gross I = 275,865 in⁴ Gross S.M. = 6,147 in³

Net I = 235,369 in⁴ Net S.M. = 5,245 in³

Allow. Stress = 17,200 lb/in² Gir. 1 thru 5; 15,800 lb/in² Gir. 6 thru 10

Unit Stress - Gir. 1 = 17,100 lb/in²

Gir. 6 = 15,300 lb/in²

Edge distances on flange angles shall not be more than 2" or less than 1⅜"

ADDITIONAL MATERIAL

Web 84"x⅜"x 36.75'-0"

End Stiff 4 Ls 7"x4"x⅝

Use 20 Rivets per pair

2 End Fills 14"x⅜"

Inter. Stiff. 2 Ls 6"x3½"x⅜ or fills at Diaphragms. 2 Ls 6"x3½"x⅜ on fills elsewhere.

Cover Pls - Girder 6 to 10

2 Pls 17"x⅜" Full length

2 Pls 17"x⅜"x 69'-6

2 Pls 17"x⅜"x 52'-0

End Diaphragm & Inter. Diaph. 2 Ls top & bott 4"x4"x⅜" to Web. Lateral Rs. & Horizontal Gussets ⅜". Top Laterals - 2 Ls 4"x3½"x⅜" & Rivets. Bott. Laterals - 1 L 4"x4"x⅜" & Rivets. End Bottom Struts 2 @ 4"x4"x⅜". Locate Web Splice @ or near ½ Point. Max. distance c.c. rivets on outside gage line of cover plates shall be 9". Min. pitch 3" in bottom cover plate near ℄ of span on account of rail section.

Notes:
For details of Diaphragm, Lateral bracing & Connections see sh. no. 20
For details of bearings see sh. no. 21
For General Notes see sh. no. 1.
For Framing Notes see sh. no. 1.

Designed by: LK
Drawn by: ES
Checked by: PK & FAE

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 "M"
FRAMING PLAN SPAN 1
H. W. LOCHNER, INC.
ENGINEERS
DATE JULY 1960 CHICAGO, ILLINOIS SHEET NO. 18

FILE NAME =	USER NAME = sears b	DESIGNED -	REVISED -
DBTRI-76C52-SHT-LNRRBridge_17.dgn		DRAWN - GF	REVISED -
	PLOT SCALE = 2.0000 ' / in.	CHECKED - DD	REVISED -
	PLOT DATE = 1/23/2012	DATE - 07/21/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLAN – L&N RR BRIDGE 17

SCALE: NONE | SHEET NO. 18 OF 26 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	82-1-R(A), 82-1-R(B)	ST. CLAIR	629	464
• 64/998/70		CONTRACT NO. 76C52		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		