

**ELEVATION (Girders 1-10)**

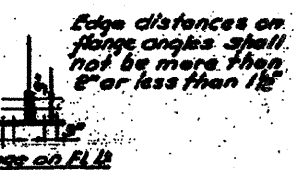
Order	Elev	Shim	Elev	Shim
1	406.00	1/2"	407.01	3/4"
2	406.00	1/2"	407.01	1/2"
3	406.01	1/2"	407.02	1/2"
4	406.00	1/2"	407.00	1/2"
5	406.00	1/2"	407.00	1/2"
6	406.11	1/2"	407.03	1/2"
7	406.12	1/2"	407.05	1/2"
8	406.13	1/2"	407.05	1/2"
9	406.14	1/2"	407.05	1/2"
10	406.15	1/2"	407.50	1/2"

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

**ELEVATION (Girders 1-3)**

Span lengths (E-C bearings)

1	64'-10 1/2"	2	76'-0"
3	66'-11"	4	60'-9"
5	70'-11 1/2"	6	62'-9 1/2"
7	72'-11 1/2"	8	64'-10"



Notes:  
 1) For details of diaphragms, lateral bracing & connections, see Sh. #20.  
 2) For details of bearings see Sh. #21.  
 3) For Notes see Sh. #1.  
 Max. distance c.c. rivets on outside gage line of cover plates shall be 0.8'.  
 In bottom cover plate near a span on account of net section Min. pitch 3/8".

**GIRDER SHEARS (Kips)**

Girder No.	No. 8	No. 9	No. 5	No. 3	No. 1
D.L.	95.4	67.6	62.5	52.3	54.5
L.L.	24.6	90.9	66.7	63.2	79.1
Imp	61.8	60.4	59.1	57.8	54.8
C.F.	0.0	0.0	33.3	0.0	33.0
Total	251.8	218.9	217.6	193.1	207.4

**IMPACT**

Girder No.	No. 8	No. 9
Vertical	51.4%	48.4%
Rolling	71.4%	63.4%

**DEAD LOAD PER TRACK**

Ballast, Ties & Rail	2.75
Slab, Waterproof & Walk	3.90
Total	5.75%
D.L. Girder	115
D.L. ecc. Girder	36
D.L. Steel	35
Total	2.96%

**SECTION BOTH FLANGES**

Girders 1-3	Girders 4-10
Gross	Gross
Net	Net
b Web 84x76	b Web 84x76
2" 8-8-3/4	2" 8-8-3/4
12 17 1/2 Full top & bott	12 17 1/2 Full top & bott
Total	Total

**GIRDER MOMENTS (K-ft)**

Girder No.	No. 8	No. 9	No. 5	No. 3	No. 1
D.L.	7003.0	1987.0	1806.0	1079.0	940.0
L.L.	1752.0	1608.0	1454.0	1337.0	1213.0
L.L. ecc.	0.0	0.0	102.0	0.0	37.0
Imp	1148.0	1009.0	954.0	926.0	834.0
C.F.	0.0	0.0	552.0	0.0	402.0
Total	10009.0	4600.0	4752.0	3342.0	2507.0

**CENTRIFUGAL**  
1.755(2.5) = 7.9%

**ADDITIONAL MATERIAL**

- Web 84x76 36.75'
- End stiff 4 1/2 x 4 1/2
- Use 20 lbs rivets per pair (min)
- 2 End Fills 14" (see spec)
- Inter. stiff 2 1/2 x 3 1/2 on fills at diaphragms, 2 1/2 x 3 1/2 on fills elsewhere.
- End bottom flange 2 1/2 x 4 1/2 on 3 1/2
- End & Inter Diaphragms 2" top & bott 4 1/2 x 4 1/2 web
- Lateral R.C. & horizontal gussets
- Top lateral 2" 8-8-3/4 rivets
- Bottom lateral 1 1/2 x 4 1/2 rivets.
- Locate Web Splices near spans

**GIRDERS 1-3**

Gross I-133.00	Gross S.M. 911.0
Net I-100.00	Net S.M. 200.0
Allow. Stress	11000
Unit Stress	11000

**GIRDERS 4-10**

Gross I-173.12	Gross S.M. 990.0
Net I-146.24	Net S.M. 336.0
Allow. Stress	11000
Unit Stress	11000

Designed by L.K.  
 Drawn by R.S.  
 Checked by C.R.E.B.K.

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 "W"  
 FRAMING PLAN SPAN 2  
 H.W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS  
 DATE JULY 1920  
 SHEET NO. 47