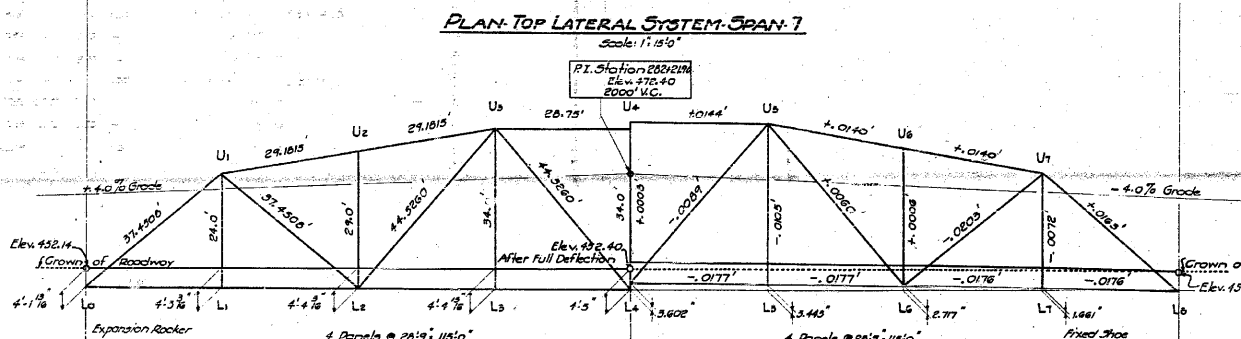


STRESSES AND SECTIONS IN MAIN TRUSSES-SPAN 7

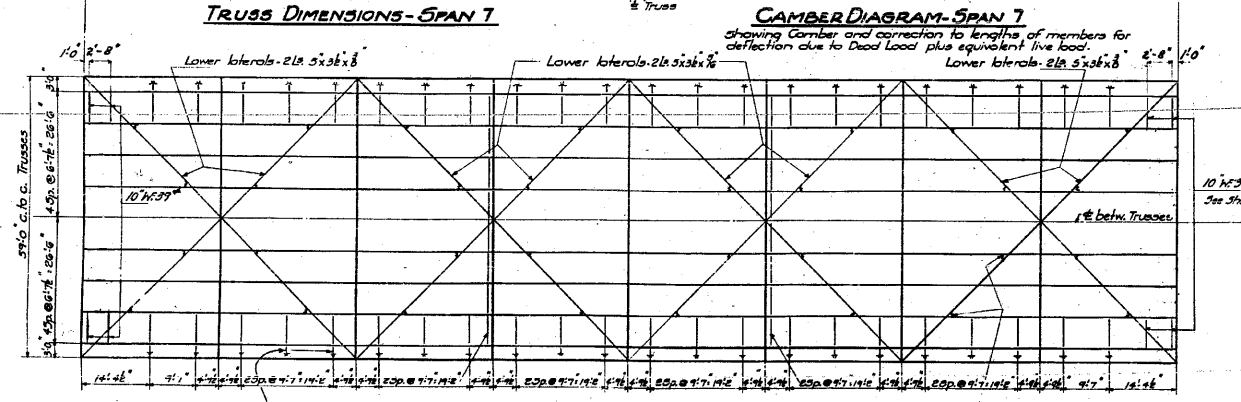
Member	Stresses			Length of Span	Radius of Gyration	Allowable Unit Stresses	Actual		Section	Material	
	D.L.	L.L.	Impact				Tension	Compression			
L ₀ -L ₁	1512	1186	126	1724	37,900	-	2400	35.73	20.26	14 WF 136	H
L ₁ -L ₂	1775	1091	140	1071	37,900	-	2400	58.73	21.10	14 WF 136	H
L ₂ -L ₃	1775	1182	140	1071	37,900	-	2400	58.73	21.10	14 WF 136	H
L ₃ -L ₄	1512	1186	126	1724	37,900	-	2400	35.73	20.26	14 WF 136	H
L ₄ -L ₅	1671	1264	137	1658	37,900	8.61	32.70	13.73	61.19	14 WF 136	H
L ₅ -L ₆	1671	1264	137	1658	37,900	8.61	32.70	13.73	61.19	14 WF 136	H
U ₁ -U ₂	-157	-268	-50	-1045	38,300	8.61	40.67	19.24	61.19	14 WF 136	H
U ₂ -U ₃	-627	-300	-42	-1169	37,900	8.44	40.88	19.23	62.41	14 WF 136	H
U ₃ -U ₄	-731	-268	-50	-1345	38,300	8.61	40.67	19.24	61.19	14 WF 136	H
U ₄ -U ₅	-667	-264	-37	-1268	37,900	8.61	32.20	13.75	61.19	14 WF 136	H
U ₅ -U ₆	1278	1134	123	1525	37,900	-	2400	35.73	20.27	14 WF 78	H
L ₀ -U ₁	-78	-84	-16	-176	44,500	4.90	10.90	12.03	15.14	2-12x12x8	C
U ₁ -L ₁	180	190	19	190	44,500	-	18.00	17.94	15.37	14 WF 61	H
L ₁ -U ₂	100	191	19	190	44,500	-	18.00	17.94	15.37	14 WF 61	H
U ₂ -L ₂	-78	-84	-16	-176	44,500	4.90	10.90	12.03	15.14	2-12x12x8	C
L ₂ -U ₃	1278	1134	123	1525	37,900	-	2400	35.73	20.27	14 WF 78	H
U ₃ -L ₃	1100	106	124	1210	24,000	-	18.00	13.51	12.96	14 WF 53	H
L ₃ -U ₄	-14	0	0	-14	29,000	3.00	116.00	11.64	22.94	14 WF 78	H
U ₄ -L ₄	103	106	124	1210	24,000	-	18.00	13.51	12.96	14 WF 53	H
L ₄ -U ₅	-15	0	0	-15	34,000	3.00	26.00	13.75	22.94	14 WF 78	H

* Partial effect caused by 30' Wind to be combined with D.L. only



STRESSES AND SECTIONS IN FLOOR SYSTEM

Member	Shear			Moment			Section	Material		
	D.L.	L.L.	Impact	D.L.	L.L.	Impact				
Curb Stringer	1188	1124	3.00	28.70	85.20	78.92	21 WF 60	H		
Interior Stringer	871	869	6.75	44.37	45.81	132.10	21 WF 60	H		
Stringer	1078	81.16	3.91	34.77	77.00	17.04	38.32	21 WF 60	H	
Floorbeam @ L ₀ or L ₁	131.0	63.0	17.48	284.39	774.2	1071.71	303.37	206.20	4x6x1/2x11	C
Jacking Flange @ L ₀ or L ₁	194.7	-	-	494.77	0.41	-	-	138.41	web 1/2x4x8	C
Fl. Br. @ L ₁ -L ₂ or L ₂ -L ₃	74.78	63.0	17.48	176.27	288.51	1071.71	303.37	274.07	4x6x1/2x11	C
Floorbeam @ L ₃ or L ₄	131.0	63.0	17.48	284.39	774.2	1071.71	303.37	206.20	4x6x1/2x11	C



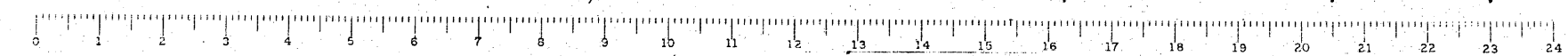
BILL OF MATERIAL - SPAN 7

Bar	No.	Size	Length
a	504	3/4"	32'-6"
a1	502	3/4"	29'-9"
a2	502	3/4"	30'-0"
a3	118	1/2"	14'-0"
b	768	5/8"	30'-0"
b1	328	5/8"	30'-3"
b2	80	1/2"	30'-3"
b3	420	5/8"	18'-0"
c1c	52	3"	3'-0"
u1	230	1/2"	4'-0"
x2	132	3"	3'-6"

Class X Concrete - C140 311.4
Reinforcement Bars - Lbs. 76,000
Structural Steel - Carbon - Lbs. 323,670
Structural Steel - A-36 - Lbs. 509,800

**SPAN 7
GRADE SEPARATION
MISSOURI PACIFIC R.R.
NORTH OF DUPO
FA ROUTE 4 - SEC 64-1VB D.E.F.
ST. CLAIR COUNTY**

COMPUTED	<i>W. J. Hancock</i>	EXAMINED	8-10-54
CHECKED	<i>W. J. Hancock</i>	DRAWN	<i>W. J. Hancock</i>
DRAWN	<i>W. J. Hancock</i>	PASSED	<i>W. J. Hancock</i>
CHECKED	<i>W. J. Hancock</i>	APPROVED	<i>W. J. Hancock</i>
SPECIAL		ASSEMBLED	
CHECKED			



FOR INFORMATION ONLY

Coombe-Bloxdorf P.C.
- CIVIL ENGINEERS -
- STRUCTURAL ENGINEERS -
- LAND SURVEYORS -
Design Firm License No. 184-002703

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS NO.
312	64-1VBR	ST. CLAIR	259 107
			CONTRACT NO. 76882

ILLINOIS FED. AID PROJECT