STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 39	50-4B	LASALLE		220
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 201
313 SHEETS

Contract # 66586

SPANS 1-2, SOUTHBOUND - INTERIOR GIRDER MOMENT TABLE				
Properties		0.4 Span 1	Pier 1	0.6 Span 2
Is	(in4)	56421	154360	54428
Ic(n)	(in4)	153936	-----	146680
Ic(3n)	(in4)	109551	-----	105080
Ss	(in3)	1810	4009	1702
Sc(n)	(in3)	2569	-----	2423
Sc(3n)	(in3)	2337	-----	2203
D	(k/ft)	1.273	1.895	1.266
M D	(k-ft)	2084	6932	1764
S D	(k/ft)	0.380	-----	0.380
Ms D	(k-ft)	710	-----	621
M L	(k-ft)	1943	2230	1816
M (Imp)	(k-ft)	334	387	319
5/3(M L + M (Imp))	(k-ft)	3802	4369	3565
* Mu	(k-ft)	11498	-----	10496
Ma	(k-ft)	8575	14691	7735
fs D (non-composite)	(ksi)	13.8	20.7	12.4
fs D (composite)	(ksi)	3.6	-----	3.4
fs 5/3(M L + M (Imp))	(ksi)	17.8	13.1	17.7
fs (Overload)	(ksi)	35.2	33.8	33.5
** fs (Total)	(ksi)	-----	44.0	-----
VR	(k)	80.1	-----	78.0

SPANS 1-2, NORTHBOUND - INTERIOR GIRDER MOMENT TABLE				
Properties		0.4 Span 1	Pier 1	0.6 Span 2
Is	(in4)	54428	146973	54428
Ic(n)	(in4)	146680	-----	146680
Ic(3n)	(in4)	105080	-----	105080
Ss	(in3)	1702	3829	1702
Sc(n)	(in3)	2423	-----	2423
Sc(3n)	(in3)	2203	-----	2203
D	(k/ft)	1.266	1.878	1.266
M D	(k-ft)	1795	6437	1849
S D	(k/ft)	0.380	-----	0.380
Ms D	(k-ft)	624	-----	639
M L	(k-ft)	1779	2090	1797
M (Imp)	(k-ft)	315	369	317
5/3(M L + M (Imp))	(k-ft)	3496	4106	3530
* Mu	(k-ft)	10465	-----	10976
Ma	(k-ft)	7689	13705	7824
fs D (non-composite)	(ksi)	12.7	20.2	13.0
fs D (composite)	(ksi)	3.4	-----	3.5
fs 5/3(M L + M (Imp))	(ksi)	17.3	12.9	17.5
fs (Overload)	(ksi)	33.4	33.0	34.0
** fs (Total)	(ksi)	-----	42.9	-----
VR	(k)	78.0	-----	77.7

SPANS 3-6 - INTERIOR GIRDER MOMENT TABLE								
Properties		0.4 Span 3	Pier 3	0.5 Span 4	Pier 4	0.5 Span 5	Pier 5	0.6 Span 6
Is	(in4)	49364	114144	51766	88492	51766	114144	49364
Ic(n)	(in4)	137343	-----	146421	-----	146421	-----	137343
Ic(3n)	(in4)	98466	-----	104056	-----	104056	-----	98466
Ss	(in3)	1532	3004	1669	2360	1669	3004	1532
Sc(n)	(in3)	2238	-----	2424	-----	2424	-----	2238
Sc(3n)	(in3)	2029	-----	2200	-----	2200	-----	2029
D	(k/ft)	1.245	1.793	1.254	1.732	1.254	1.793	1.245
M D	(k-ft)	1652	4751	1076	3641	1076	4751	1652
S D	(k/ft)	0.380	-----	0.380	-----	0.380	-----	0.380
Ms D	(k-ft)	568	-----	426	-----	426	-----	568
M L	(k-ft)	1626	1849	1653	1716	1653	1849	1626
M (Imp)	(k-ft)	301	330	284	295	284	330	301
5/3(M L + M (Imp))	(k-ft)	3218	3638	3235	3358	3235	3638	3218
* Mu	(k-ft)	9834	-----	9677	-----	9677	-----	9834
Ma	(k-ft)	7070	10906	6158	9099	6158	10906	7070
fs D (non-composite)	(ksi)	12.9	19.0	7.7	18.5	7.7	19.0	12.9
fs D (composite)	(ksi)	3.4	-----	2.3	-----	2.3	-----	3.4
fs 5/3(M L + M (Imp))	(ksi)	17.3	14.5	16.0	17.1	16.0	14.5	17.3
fs (Overload)	(ksi)	33.6	33.5	26.1	35.6	26.1	33.5	33.6
** fs (Total)	(ksi)	-----	43.6	-----	46.3	-----	43.6	-----
VR	(k)	77.9	-----	70.2	-----	70.2	-----	77.9

SPANS 1-2, SOUTHBOUND - INTERIOR GIRDER REACTION TABLE				
Properties		S. Abut.	Pier 1	Pier 2
R D	(k)	96.4	371.3	89.6
R L	(k)	61.1	131.2	60.0
Imp.	(k)	10.5	14.5	10.5
R (Total)	(k)	168.1	517.1	160.1

SPANS 1-2, NORTHBOUND - INTERIOR GIRDER REACTION TABLE				
Properties		S. Abut.	Pier 1	Pier 2
R D	(k)	89.9	357.3	91.1
R L	(k)	59.9	127.8	59.9
Imp.	(k)	10.6	14.5	10.6
R (Total)	(k)	160.4	499.6	161.6

SPANS 3-6 - INTERIOR GIRDER REACTION TABLE						
Properties		Pier 2	Pier 3	Pier 4	Pier 5	Pier 6
R D	(k)	84.8	301.9	264.4	301.9	84.8
R L	(k)	59.6	122.0	120.5	122.0	59.6
Imp.	(k)	11.0	14.0	13.2	14.0	11.0
R (Total)	(k)	155.4	437.9	398.1	437.9	155.4

NOTES:

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to live load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. See AASHTO 10.38.

VR is the maximum live load + impact shear range within the composite portion of the span.

Ma (Applied Moment) = 1.3[M D + Ms D + 5/3(M L + M (Imp))].

The plastic moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

fs (Overload) is the sum of the stresses due to M D + Ms D + 5/3(M L + M (Imp)).

fs (Total) is the sum of the stresses due to 1.3[M D + Ms D + 5/3(M L + M (Imp))].

M D - Moment due to dead loads on non-composite section.

Ms D - Moment due to dead loads on composite section.

M L - Moment due to live load on non-composite or composite section.

M (Imp) - Moment due to live load impact on non-composite or composite section.

* Compact, Braced section.
** Non-Compact section.

DESIGNED -	AJK
CHECKED -	KWS
DRAWN -	VH
CHECKED -	MRB

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STEEL PLATE GIRDER TABLES - 1 OF 9
ABRAHAM LINCOLN MEMORIAL BRIDGE OVER
THE ILLINOIS RIVER (PUBLIC WATERS)
F.A.I. ROUTE 39 SEC. (50-4B) BR
LASALLE COUNTY
STATION 863+16.00
STRUCTURE NO. 050-0191 (SB & NB)