INTERIOR GIRDER MOMENT TABLE (GIRDER 4)						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	35974	48218	48218	48218	31575
$I_c(n)$	(in^4)	76419	---	---	---	68143
$I_c(3n)$	(in^4)	54747	---	---	---	48917
$I_c(cr)$	(in^4)	---	54186	54186	54186	---
S_s	(in^3)	1511	1757	1757	1757	1282
$S_c(n)$	(in^3)	1950	---	---	---	1688
$S_c(3n)$	(in^3)	1769	---	---	---	1523
$S_c(cr)$	(in^3)	---	1836	1836	1836	---
S_{xc}	(in^3)	83	83	83	83	67
DC1	(k/')	0.77	0.81	0.81	0.81	0.74
M_{DC1}	('k)	1034	1326	603	686	710
DC2	(k/')	0.15	0.15	0.15	0.15	0.15
M_{DC2}	('k)	141	151	100	43	83
DW	(k/')	0.267	0.267	0.267	0.267	0.267
M_{DW}	('k)	351	403	183	216	254
M_{L+IM}	('k)	1113	1029	593	888	948
f_l (Strength I)	(ksi)	8	9	5	6	8
$M_u + \frac{1}{3}f_l S_{xc}$	('k)	4165	4501	2330	2956	3210
$\phi_f M_n$	('k)	7298	7454	7489	7515	6337
f_s DC1	(ksi)	8	9	4	5	7
f_s DC2	(ksi)	1	1	1	0	1
f_s DW	(ksi)	2	3	1	1	2
f_s (L+IM)	(ksi)	9	9	5	8	9
f_l (Service II)	(ksi)	10	7	4	4	6
$f_s + f_l/2$ (Service II)	(ksi)	27	29	15	19	26
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
$f_s + f_l/3$ (Total)(Strength I)	(ksi)	33	36	18	24	31
$\phi_f F_n$	(ksi)	50	50	50	50	50
V_f	(k)	15	20	10	19	13

EXTERIOR GIRDER MOMENT TABLE (GIRDER 7)						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	35974	48218	48218	48218	31575
$I_c(n)$	(in^4)	76051	---	---	---	67823
$I_c(3n)$	(in^4)	54510	---	---	---	48703
$I_c(cr)$	(in^4)	---	54186	54186	54186	---
S_s	(in^3)	1511	1757	1757	1757	1282
$S_c(n)$	(in^3)	1948	---	---	---	1686
$S_c(3n)$	(in^3)	1766	---	---	---	1521
$S_c(cr)$	(in^3)	---	1836	1836	1836	---
S_{xc}	(in^3)	83	83	83	83	67
DC1	(k/')	0.76	0.80	0.80	0.80	0.74
M_{DC1}	('k)	1459	1484	1021	861	1000
DC2	(k/')	0.15	0.15	0.15	0.15	0.15
M_{DC2}	('k)	375	345	231	284	264
DW	(k/')	0.267	0.267	0.267	0.267	0.267
M_{DW}	('k)	566	445	338	329	351
M_{L+IM}	('k)	1791	1503	929	1390	1393
f_l (Strength I)	(ksi)	10	11	7	8	11
$M_u + \frac{1}{3}f_l S_{xc}$	('k)	6553	5889	3892	4579	4790
$\phi_f M_n$	('k)	7341	7468	7479	7537	6346
f_s DC1	(ksi)	12	10	7	6	9
f_s DC2	(ksi)	3	2	2	2	2
f_s DW	(ksi)	4	3	2	2	3
f_s (L+IM)	(ksi)	11	10	6	9	10
f_l (Service II)	(ksi)	10	8	6	6	8
$f_s + f_l/2$ (Service II)	(ksi)	35	34	22	26	33
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
$f_s + f_l/3$ (Total)(Strength I)	(ksi)	47	41	27	31	39
$\phi_f F_n$	(ksi)	50	50	50	50	50
V_f	(k)	25	36	21	33	25

INTERIOR GIRDER REACTION TABLE					
		E. Abut.	Pier 1	Pier 2	W. Abut.
Location of Max. Reaction		Girder 4	Girder 6	Girder 6	Girder 6
R_{DC1}	(k)	44.4	123.2	70.8	39.5
R_{DC2}	(k)	4.0	31.2	18.1	9.2
R_{DW}	(k)	14.8	39.7	25.3	13.3
R_{L+I}	(k)	73.1	145.0	96.8	52.4
R_{Total}	(k)	136.3	339.0	211.0	114.3

EXTERIOR GIRDER REACTION TABLE					
		E. Abut.	Pier 1	Pier 2	W. Abut.
Location of Max. Reaction		Girder 7	Girder 1	Girder 1	Girder 7
R_{DC1}	(k)	61.4	111.8	74.1	41.7
R_{DC2}	(k)	18.2	31.5	19.4	11.9
R_{DW}	(k)	24.1	38.2	18.8	14.9
R_{L+I}	(k)	98.2	139.9	113.2	73.4
R_{Total}	(k)	201.9	321.4	225.5	141.9

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.^{4} and in.^{3}).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short term composite live loads (in.^{4} and in.^{3}).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

S_{xc}: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in.^{3}).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).

f_l: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (kip-ft.).

$M_u + \frac{1}{3}f_l S_{xc}$: Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Factored resistance available according to A6.1.1 (kips).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi):
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi):
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi):
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi):
$M_{L+IM} / S_c(n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

$f_s + f_l/2$ (Service II): Sum of stresses as computed below (ksi):
$f_{s\ DC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM) + f_l/2$

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

$f_s + f_l/3$ (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM) + f_l/3$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_f: Maximum factored shear range in span computed according to Article 6.10.10.

Note:
M_L and R_L include the effects of centrifugal force and superelevation.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT AND REACTION TABLES
STRUCTURE NO. 016-1322
SHEET NO. S22 OF S49 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0383	0303-474HB-R	COOK	368	214
		CONTRACT NO. 60F63		
	ILLINOIS FED. AID PROJECT			