INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in^4)	23,837	65,936	18,011
$I_c(n)$	(in^4)	62,972	---	49,618
$I_c(3n)$	(in^4)	44,309	---	35,506
$I_c(cr)$	(in^4)	---	71,539	---
S_s	(in^3)	1,274	2,548	912
$S_c(n)$	(in^3)	1,693	---	1,268
$S_c(3n)$	(in^3)	1,559	---	1,163
$S_c(cr)$	(in^3)	---	2,608	---
DC1	(k/')	0.93	1.15	0.89
M_{DC1}	('k)	1325	-2925	635
DC2	(k/')	0.38	0.38	0.38
M_{DC2}	('k)	532	-1,003	291
DW	(k/')	0.30	0.30	0.30
M_{DW}	('k)	418	-789	229
M_{L+IM}	('k)	1,916	-2,270	1,568
M_u (Strength I)	('k)	6,302	---	4,245
$\phi_f M_n$	('k)	7,984	---	6,283
f_s DC1	(ksi)	12.48	13.77	8.36
f_s DC2	(ksi)	4.09	4.61	3.00
f_s DW	(ksi)	3.22	3.63	2.36
f_s (L+IM)	(ksi)	13.59	10.44	14.84
f_s (Service II)	(ksi)	37.45	35.59	33.00
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	---	46.70	---
$\phi_f F_n$	(ksi)	---	50.00	---
V_f	(k)	61.5	61.5	61.5

MOMENT TABLE FOR GIRDERS 10 & 11				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in^4)	34,594	72,812	34,594
$I_c(n)$	(in^4)	83,208	---	83,208
$I_c(3n)$	(in^4)	57,827	---	57,827
$I_c(cr)$	(in^4)	---	78,243	---
S_s	(in^3)	1,922	2,814	1,922
$S_c(n)$	(in^3)	2,431	---	2,431
$S_c(3n)$	(in^3)	2,244	---	2,244
$S_c(cr)$	(in^3)	---	2,873	---
DC1	(k/')	0.95	1.14	0.95
M_{DC1}	('k)	1432	-2734	789
DC2	(k/')	0.02	0.02	0.02
M_{DC2}	('k)	30	-50	17
DW	(k/')	0.30	0.30	0.30
M_{DW}	('k)	439	-737	249
M_{L+IM}	('k)	3,855	-3,908	3,235
M_u (Strength I)	('k)	9,232	---	7,042
$\phi_f M_n$	('k)	9,298	---	9,298
f_s DC1	(ksi)	8.94	11.66	4.93
f_s DC2	(ksi)	0.16	0.21	0.09
f_s DW	(ksi)	2.35	3.08	1.33
f_s (L+IM)	(ksi)	19.03	16.32	15.97
f_s (Service II)	(ksi)	36.19	36.16	27.11
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	---	48.01	---
$\phi_f F_n$	(ksi)	---	50.00	---
V_f	(k)	99.0	100.5	102.0

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}).

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.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

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).
$M_{L+IM} / S_c(3n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

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

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

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 or 6.10.8 (ksi).

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

INTERIOR GIRDER REACTION TABLE				
		S. Abut.	Pier	N. Abut.
R_{DC1}	(k)	51.9	177.7	37.1
R_{DC2}	(k)	20.0	65.3	15.2
R_{DW}	(k)	15.8	51.4	11.9
R_{L+IM}	(k)	94.5	189.0	89.5
R_{Total}	(k)	182.2	483.4	153.7

REACTION TABLE FOR GIRDERS 10 & 11				
		S. Abut.	Pier	N. Abut.
R_{DC1}	(k)	54.1	178.6	41.2
R_{DC2}	(k)	1.1	3.4	0.8
R_{DW}	(k)	16.1	50.6	12.3
R_{L+IM}	(k)	134.6	263.1	128.6
R_{Total}	(k)	205.9	495.7	182.9

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USER NAME =	DESIGNED - AY	REVISED	
	DRAWN - AY	REVISED	
PLOT SCALE =	CHECKED - RDW	REVISED	
PLOT DATE =	DATE - 2/18/2013	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT AND REACTION TABLES
STRUCTURE NO. 016-1250

SCALE: NONE SHEET NO. S27 OF S59 SHEETS

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2746	1616B	COOK	404	296
		CONTRACT NO. 60J14		
	ILLINOIS FED. AID PROJECT			

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