INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	3990	3990	3990	3990	3990
$I_c(n)$	(in^4)	11577	-	11577	-	11577
$I_c(3n)$	(in^4)	8621	-	8621	-	8621
$I_c(cr)$	(in^4)	-	5735	-	5735	-
S_s	(in^3)	269	269	269	269	269
$S_c(n)$	(in^3)	413	-	413	-	413
$S_c(3n)$	(in^3)	374	-	374	-	374
$S_c(cr)$	(in^3)	-	320	-	320	-
Z	(in^3)	-	-	-	-	-
$\wp$	(k/')	0.76	0.76	0.76	0.76	0.76
$M\wp$	('k)	80	160	91	169	91
$s\wp$	(k/')	0.29	0.29	0.29	0.29	0.29
$M_s\wp$	('k)	30	61	34	65	34
M'_L	('k)	207	173	229	178	222
M_{IM}	('k)	62	51	65	52	67
$\frac{5}{3}[M_L + I]$	('k)	448	373	489	382	481
M_a	('k)	726	772	798	801	789
* M_u	('k)	1145	-	1142	-	1141
f_s $\wp$ non-comp	(ksi)	3.57	7.12	4.06	7.53	4.07
f_s $\wp$ (comp)	(ksi)	0.97	2.30	1.09	2.43	1.11
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	13.02	14.00	14.20	14.35	13.97
f_s (Overload)	(ksi)	17.56	23.42	19.35	24.32	19.15
** f_s (Total)	(ksi)	-	30.45	-	31.61	-
VR	(k)	49.8	55.2	39.1	54.2	50.0

INTERIOR GIRDER REACTION TABLE					
		W. Abut.	Pier 1	Pier 2	E. Abut.
***	$R\wp$ (k)	48.3	53.4	55.0	49.4
	R_L (k)	34.3	42.7	42.7	34.7
	R_I (k)	10.3	9.9	9.8	10.4
	R_{Total} (k)	92.9	106.0	107.5	94.5

* Compact section.
** Braced non-compact and partially braced section.
*** Includes dead load due to approach slab and abutment diaphragm.

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) 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 and Overload) 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 and Overload) 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}).

Z: Plastic Section Modulus of the steel section in non-composite areas (in.^{3}).

$\wp$: Un-factored non-composite dead load (kips/ft.).

$M\wp$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\wp$: Un-factored long-term composite (superimposed) dead load (kips/ft.)

$M_s\wp$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Un-factored live load moment (kip-ft.).

M_I: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.).
$1.3\ [\ M\wp + M_s\wp + \frac{5}{3}\ (M_L + M_I)]$

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\wp + M_s\wp + \frac{5}{3}\ (M_L + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\wp + M_s\wp + \frac{5}{3}\ (M_L + M_I)]$

VR: Maximum M_L + impact shear range within the composite portion of the span for stud shear connector design (kips).

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Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue
Suite 402 Chicago, Illinois 60656
Tel 773.775.4700
Fax 773.775.4704
Email chicago@ciorba.com

USER NAME = bsauter | PLOT SCALE = 0:2.0000 ':' / in. | PLOT DATE = 8/14/2012

DESIGNED - DL	CHECKED - MHT	REVISED -
DRAWN - RD	CHECKED - MHT	REVISED -
		REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-19 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	77
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			