STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	17429	32995	22116	32995	17429
$I_c(n)$	(in^4)	40581	-	48002	-	40581
$I_c(3n)$	(in^4)	30457	-	36081	-	30457
S_s	(in^3)	677	1242	851	1242	677
$S_c(n)$	(in^3)	911	-	1097	-	911
$S_c(3n)$	(in^3)	837	-	1013	-	837
w_D	(k/')	0.766	1.291	0.794	1.291	0.766
M_D	('k)	288	1288	458	1187	217
s_D	(k/')	0.435	-	0.435	-	0.435
$M_s D$	('k)	189	-	294	-	143
M_L	('k)	552	505	670	481	499
M_I	('k)	132	113	141	109	124
$\frac{5}{3}[M_L + I]$	('k)	1140	1030	1352	983	1038
M_a	('k)	2102	3013	2735	2821	1818
* M_u	('k)	3386	-	3871	-	3386
f_s D non-comp	(ksi)	5.1	12.4	6.5	11.5	3.8
f_s D (comp)	(ksi)	2.7	-	3.5	-	2.1
$f_s \frac{5}{3}[M_L + M_I]$	(ksi)	15.0	10.0	14.8	9.5	13.7
f_s (Overload)	(ksi)	22.8	22.4	24.7	21.0	19.6
** f_s (Total)	(ksi)	-	29.1	-	27.3	-
VR	(k)	47.1	-	42.7	-	48.4

EXTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	18080	29968	22767	29968	18080
$I_c(n)$	(in^4)	42305	-	49613	-	42305
$I_c(3n)$	(in^4)	31445	-	37009	-	31445
S_s	(in^3)	702	1136	876	1136	702
$S_c(n)$	(in^3)	961	-	1146	-	961
$S_c(3n)$	(in^3)	876	-	1051	-	876
w_D	(k/')	0.845	1.348	0.873	1.348	0.845
M_D	('k)	324	1348	520	1244	245
s_D	(k/')	0.435	-	0.435	-	0.435
$M_s D$	('k)	190	-	302	-	146
M_L	('k)	521	464	642	441	471
M_I	('k)	125	104	134	100	117
$\frac{5}{3}[M_L + I]$	('k)	1077	947	1293	902	980
M_a	('k)	2068	2983	2750	2789	1782
* M_u	('k)	4983	-	5705	-	4983
f_s D non-comp	(ksi)	5.5	14.2	7.1	13.1	4.2
f_s D (comp)	(ksi)	2.6	-	3.4	-	2.0
$f_s \frac{5}{3}[M_L + M_I]$	(ksi)	13.4	10.0	13.5	9.5	12.2
f_s (Overload)	(ksi)	21.6	24.2	24.1	22.7	18.4
** f_s (Total)	(ksi)	-	31.5	-	29.5	-
VR	(k)	44.2	-	40.1	-	45.4

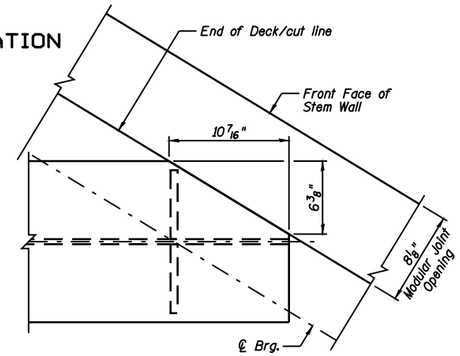
INTERIOR GIRDER REACTION TABLE					
		S. Abut.	Pier 1	Pier 2	N. Abut.
R D	(k)	34.2	137.5	131.7	28.6
R L	(k)	34.8	54.2	53.0	34.5
R I	(k)	8.4	11.9	12.2	8.6
R Total	(k)	77.4	203.6	196.9	71.7

* Compact sections
** Non-Compact and slender sections

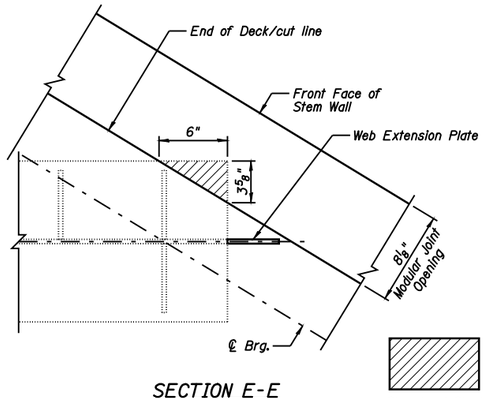
EXTERIOR GIRDER REACTION TABLE					
		S. Abut.	Pier 1	Pier 2	N. Abut.
R D	(k)	36.7	145.6	139.5	30.8
R L	(k)	32.8	50.9	49.8	32.5
R I	(k)	7.9	11.2	11.5	8.1
R Total	(k)	77.4	207.7	200.8	71.4

* Compact sections
** Non-Compact and slender sections

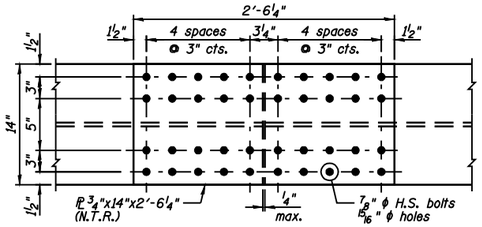
I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).
$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "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 $in.^3$).
w_D: Un-factored non-composite dead load (kips/ft.).
M_D: Un-factored moment due to non-composite dead load (kip-ft.).
s_D: Un-factored long-term composite (superimposed) dead load (kips/ft.)
$M_s D$: 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.).
$1.3\ [M_D + M_s D + \frac{5}{3}(M_L + M_I)]$
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).
$M_D + M_s D + \frac{5}{3}(M_L + M_I)$
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M_D + M_s D + \frac{5}{3}(M_L + M_I)]$
VR: Maximum L + Impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).



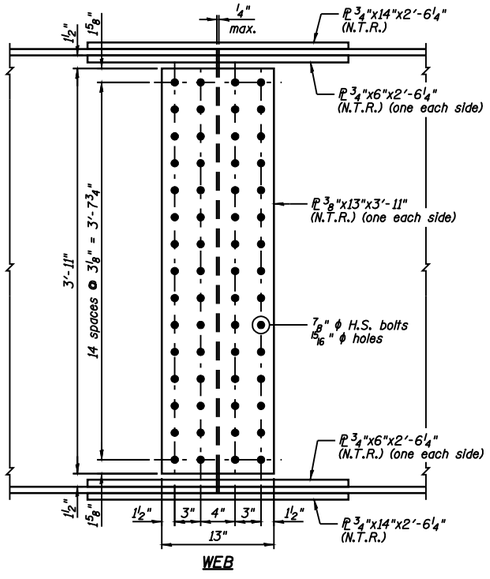
SECTION D-D
Note: Top Flange only.



SECTION E-E
Note: Top Flange only.

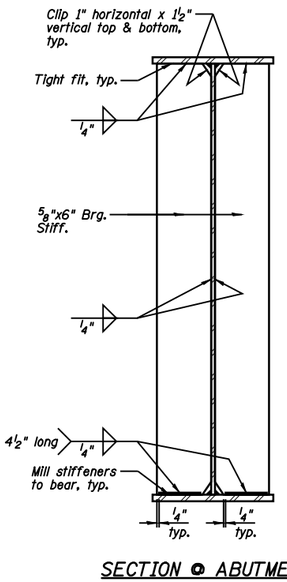


TOP AND BOTTOM FLANGE

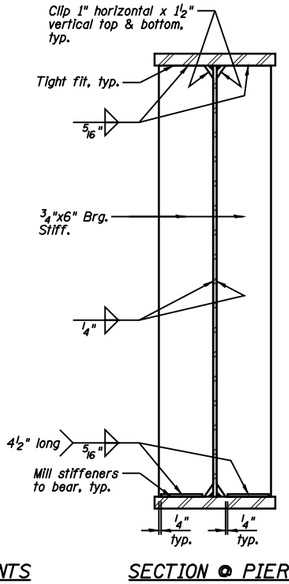


WEB

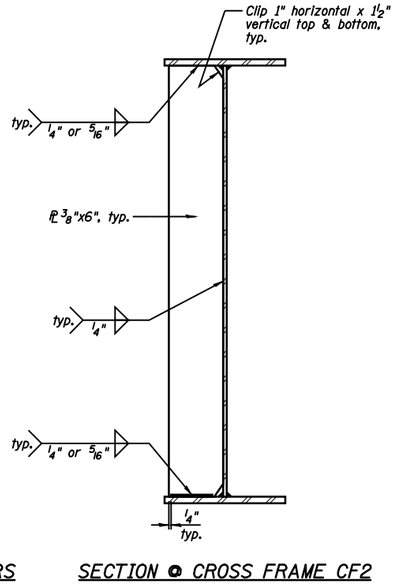
SPLICE DETAILS
(8 - Required)



SECTION @ ABUTMENTS



SECTION @ PIERS



SECTION @ CROSS FRAME CF2
Note: Connecting plate not required on outside face of plate girder.

NOTES:

1.) Load carrying components designated N.T.R. shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
2.) All girder flange plates, web plates, splice plates and bearing stiffener plates shall be AASHTO M270 Grade 50.
3.) See Sheet B23 for Sections D-D and E-E locations.

DESIGNED	JML
CHECKED	MSW
DRAWN	DJM
CHECKED	MGO/MSW
DATE	03/05/09

STRUCTURAL STEEL
STRUCTURE NO. 084-0028

SHEET NO. B24	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
44 SHEETS	55	(84-3HB-6)BR	SANGAMON	90	58
	SN 084-0028		CONTRACT NO. 72A64		
	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		