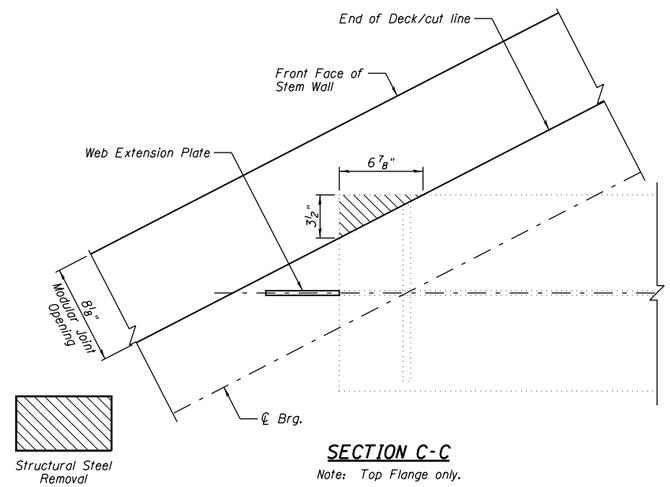
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	31074	68666	47459	68666	31074
$I_c(n)$	(in^4)	67629	-	91350	-	67629
$I_c(3n)$	(in^4)	50769	-	69412	-	50769
S_s	(in^3)	979	2089	1472	2089	979
$S_c(n)$	(in^3)	1282	-	1796	-	1282
$S_c(3n)$	(in^3)	1178	-	1669	-	1178
ϱ	(k/')	0.774	1.331	0.828	1.331	0.774
$M\varrho$	('k)	345	2347	1011	2075	199
$s\varrho$	(k/')	0.435	-	0.435	-	0.435
$M_s\varrho$	('k)	232	-	564	-	101
M_L	('k)	683	814	945	757	543
M_I	('k)	151	161	170	155	130
$\frac{5}{3}[M_L + I]$	('k)	1390	1625	1858	1520	1122
M_a	('k)	2557	5164	4463	4674	1731
* M_u	('k)	4730	-	6066	-	4730
f_s ϱ non-comp	(ksi)	4.2	13.5	8.2	11.9	1.3
f_s ϱ (comp)	(ksi)	2.4	-	4.1	-	1.0
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	13.0	9.3	12.4	8.7	10.5
f_s (Overload)	(ksi)	19.6	22.8	24.7	20.7	12.9
** f_s (Total)	(ksi)	-	29.7	-	26.8	-
VR	(k)	48.3	-	43.8	-	51.1

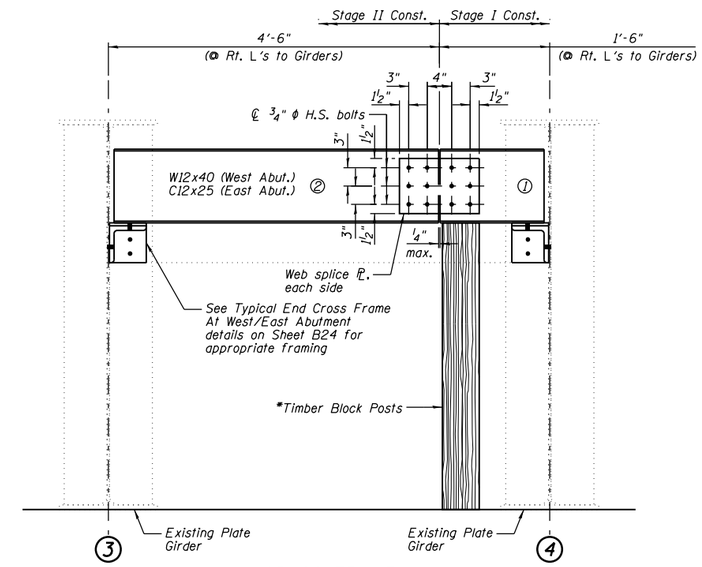
INTERIOR GIRDER REACTION TABLE					
		W. Abut.	Pier 1	Pier 2	E. Abut.
$R\varrho$	(k)	39.2	188.9	175.9	26.9
R_L	(k)	35.5	66.2	63.7	34.8
R_I	(k)	7.8	13.2	13.4	8.4
R_{Total}	(k)	82.5	268.3	253.0	70.1

* 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 $in.^3$).
ϱ: Un-factored non-composite dead load (kips/ft.).
$M\varrho$: Un-factored moment due to non-composite dead load (kip-ft.).
$s\varrho$: Un-factored long-term composite (superimposed) dead load (kips/ft.)
$M_s\varrho$: 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.).
$1.3\ [\ M\varrho + M_s\varrho + \frac{5}{3}\ (M_L + M_I)]$
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).
$M\varrho + M_s\varrho + \frac{5}{3}\ (M_L + M_I)$
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\varrho + M_s\varrho + \frac{5}{3}\ (M_L + M_I)]$
VR: Maximum L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).



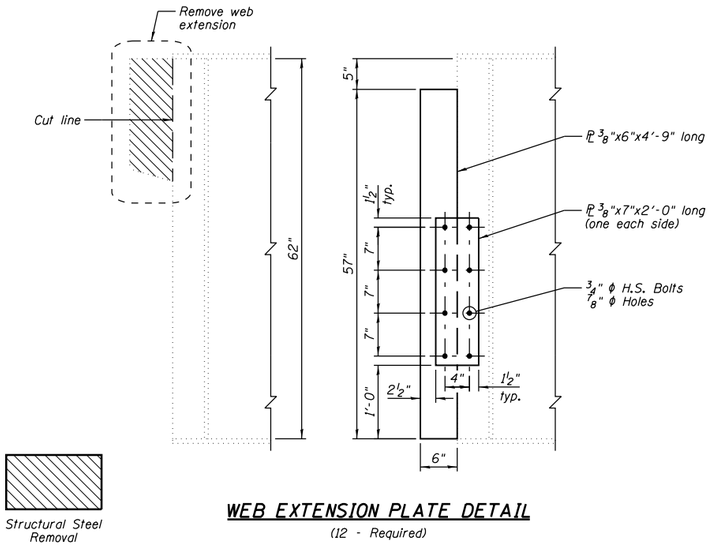
SECTION C-C
Note: Top Flange only.



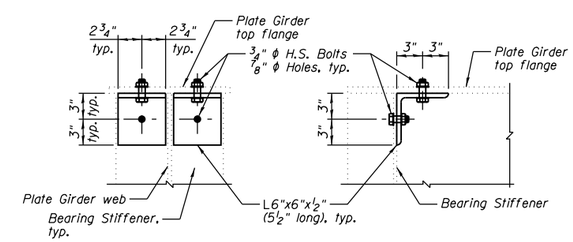
CROSS FRAME
* Cost of Timber Block Posts are included with Furnishing and Erecting Structural Steel.

CROSS FRAME STAGE CONSTRUCTION SEQUENCE

1.) Order Cross Frame in two sections.
2.) Attach Section 1 of Cross Frame to Girder 4.
3.) Place Timber Block Posts between Section 1 of Cross Frame and Abutment Bearing Section.
4.) Attach Section 2 of Cross Frame to both Girder 3 and Section 1 of Cross Frame during Stage II Construction with splice plates.
5.) Remove Timber Block Posts.
6.) Install lower portion of Cross Frame during Stage II Construction.



WEB EXTENSION PLATE DETAIL
(12 - Required)



EXISTING TOP FLANGE ABUTMENT BEARING STIFFENER CONNECTION DETAILS
(24 - Required @ 12 locations)

STRUCTURAL STEEL
STRUCTURE NO. 084-0078

NOTES:
1.) See Sheet B22 for Section C-C location.
2.) See Sheet B22 for Web Extension Plate locations.

DESIGNED	JML
CHECKED	MSW
DRAWN	DJM
CHECKED	MGO/MSW
DATE	08/09/10

SHEET NO. B23	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	72	(84-3HB-5)BR	SANGAMON	84	59
42 SHEETS	SN 084-0078		CONTRACT NO. 72C70		
	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		