INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in^4)	12,252	31,888	12,252
$I_{c(n)}$	(in^4)	32,816	-	32,816
$I_{c(3n)}$	(in^4)	24,664	-	24,664
$I_{c(cr)}$	(in^4)	-	36,067	-
S_s	(in^3)	603	1,458	603
$S_{c(n)}$	(in^3)	842	-	842
$S_{c(3n)}$	(in^3)	778	-	778
$S_{c(cr)}$	(in^3)	-	1,522	-
DC1	(k/')	1.024	1.194	1.024
M_{DC1}	('k)	453	1,357	453
DC2	(k/')	0.17	0.17	0.17
M_{DC2}	('k)	83	212	83
DW	(k/')	0.27	0.27	0.27
M_{DW}	('k)	130	328	130
M_{L+IM}	('k)	1,164	1,540	1,164
Mu (Strength I)	('k)	2,902	5,148	2,902
$\phi_f M_n$	('k)	4,237	7,087	4,237
f_s DC1	(ksi)	9.0	11.2	9.0
f_s DC2	(ksi)	1.3	1.7	1.3
f_s DW	(ksi)	2.0	2.6	2.0
f_s (L+IM)	(ksi)	16.6	12.1	16.6
f_s (Service II)	(ksi)	33.9	31.2	33.9
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-	41.2	-
$\phi_f F_n$	(ksi)	-	-	-
Vr	(k)	29.9	-	29.9

INTERIOR GIRDER REACTION TABLE				
		N. Abut.	Pier	S. Abut.
R_{DC1}	(k)	31.2	127.7	31.2
R_{DC2}	(k)	5.4	20.2	5.4
R_{DW}	(k)	8.4	31.4	8.4
R_{L+IM}	(k)	87.4	163.4	87.4
R_{Total}	(k)	132.5	342.7	132.5

TOP OF WEB ELEVATIONS

For Fabrication only

	℄ Brg. N. Abut.	℄ Field Splice 1	℄ Pier	℄ Field Splice 2	℄ Brg. S. Abut.
Girder 1	595.01	594.72	594.29	593.86	592.28
Girder 2	595.17	594.87	594.45	594.02	592.43
Girder 3	595.26	594.96	594.53	594.09	592.50
Girder 4	595.10	594.79	594.35	593.93	592.32
Girder 5	594.94	594.62	594.18	593.74	592.15
Girder 6	595.10	594.77	594.33	593.86	592.30

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 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.).

Mu (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} / $S_{c(n)}$ or M_{L+IM} / $S_{c(cr)}$ as applicable.

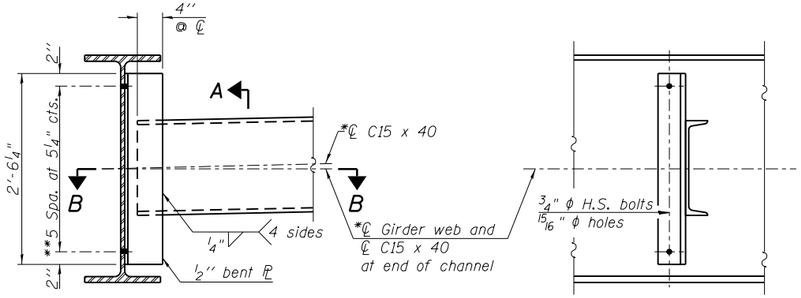
f_s (Service II): Sum of stresses as computed below (ksi).
f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s(L+IM)

$0.95R_hF_yf$: 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_{L+IM}

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

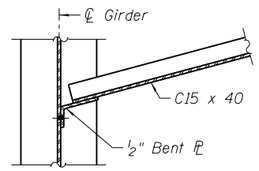
Vr: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



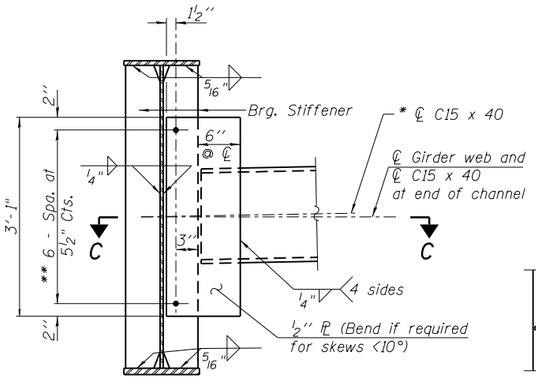
A

INTERIOR DIAPHRAGM-D1

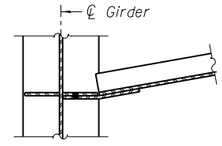
SECTION A-A



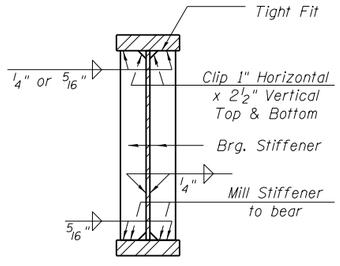
SECTION B-B



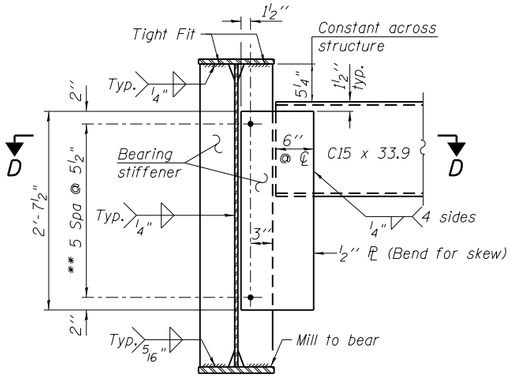
INTERIOR DIAPHRAGM AT PIER-D2



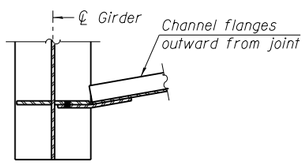
SECTION C-C



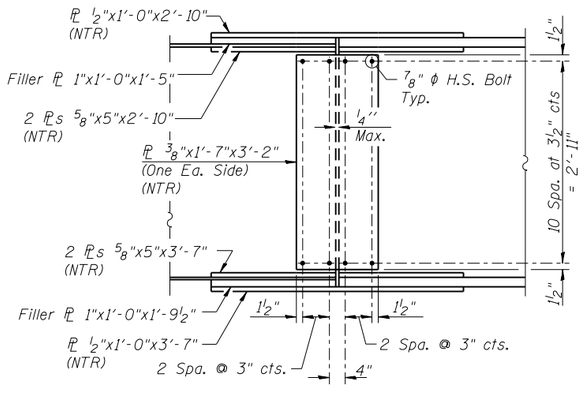
SECTION AT PIER AND ABUTMENTS



END DIAPHRAGM AT ABUTMENTS - D3



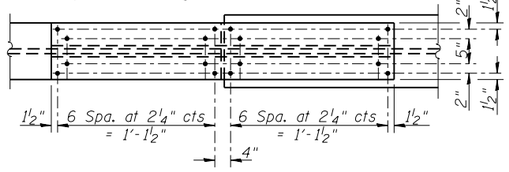
SECTION D-D



ELEVATION

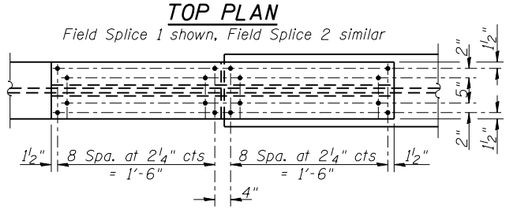
FIELD SPLICE DETAIL

(Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.)



TOP PLAN

Field Splice 1 shown, Field Splice 2 similar



BOTTOM PLAN

Field Splice 1 shown, Field Splice 2 similar

Note:
Two hardened washers required for each set of oversized holes.
** Alternate channel C15x50, is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.*
*** ¾" ϕ HS bolts, 15/16" ϕ holes*

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USER NAME = mteng	DESIGNED - SMY	REVISED -
	CHECKED - APD	REVISED -
PLOT SCALE = 0.2 '' / in.	DRAWN - RD	REVISED -
PLOT DATE = 3/11/2013	CHECKED - BWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 081-0176
SHEET NO. S-18 OF S-27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
595	(142-1)R & 142-1HB	ROCK ISLAND	507	317
		CONTRACT NO. 64B84		
	ILLINOIS FED. AID PROJECT			

N:\PROJ\08003393.00\CONTRACT_1\Design\Structural\CAD\081-0176-D264884-18-Structural Steel Details.dgn