

GIRDERS 2-5 AND 8-11 MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier	0.5 Sp. 2
I_s	(in ⁴)	10,353	14,525	10,353
$I_c(n)$	(in ⁴)	33,216	18,868	33,216
$I_c(3n)$	(in ⁴)	22,406	18,868	22,406
$I_c(cr)$	(in ⁴)	-	17,774	-
S_s	(in ³)	573	779	573
$S_c(n)$	(in ³)	977	1,163	977
$S_c(3n)$	(in ³)	845	1,163	845
$S_c(cr)$	(in ³)	-	876	-
Z	(in ³)	-	-	-
ϕ	(k/')	0.83	0.83	0.83
$M\phi$	('k)	275	580	275
$s\phi$	(k/')	0.33	0.33	0.33
$M_s\phi$	('k)	105	222	112
M_t	('k)	412	409	430
MIM	('k)	105	99	100
$\sum_3 [M_t + i]$	('k)	862	847	883
M_o	('k)	1,615	2,144	1,651
M_u	('k)	-	-	-
$f_s \phi$ non-comp	(ksi)	5.8	8.9	5.8
$f_s \phi$ (comp)	(ksi)	1.5	3.04	1.6
$f_s \sum_3 [M_t + M_1]$	(ksi)	10.6	11.60	10.9
f_s (Overload)	(ksi)	17.9	23.54	18.3
f_s (Total)	(ksi)	23.27	30.61	23.8
VR	(k)	44.3	58.2	47.9

GIRDERS 2-5 AND 8-11 REACTION TABLE			
		Abut.	Pier
$R\phi$	(k)	31.2	106.0
R_t	(k)	37.5	56.3
R_1	(k)	9.6	13.6
R_{Total}	(k)	78.3	175.9

* Compact section
 ** Braced non-compact and partially braced section

GIRDERS 6-7 MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier	0.5 Sp. 2
I_s	(in ⁴)	10,353	14,525	10,353
$I_c(n)$	(in ⁴)	29,519	17,643	29,519
$I_c(3n)$	(in ⁴)	19,602	17,643	19,602
$I_c(cr)$	(in ⁴)	-	16,997	-
S_s	(in ³)	573	779	573
$S_c(n)$	(in ³)	939	1,043	939
$S_c(3n)$	(in ³)	798	1,043	798
$S_c(cr)$	(in ³)	-	812	-
Z	(in ³)	-	-	-
ϕ	(k/')	0.66	0.66	0.66
$M\phi$	('k)	216	458	218
$s\phi$	(k/')	0.24	0.24	0.24
$M_s\phi$	('k)	84	168	85
M_t	('k)	327	314	341
MIM	('k)	84	76	79
$\sum_3 [M_t + i]$	('k)	685	651	700
M_o	('k)	1,281	1,695	1,304
M_u	('k)	-	-	-
$f_s \phi$ non-comp	(ksi)	4.5	7.1	4.6
$f_s \phi$ (comp)	(ksi)	1.3	2.5	1.3
$f_s \sum_3 [M_t + M_1]$	(ksi)	8.8	9.62	9.0
f_s (Overload)	(ksi)	14.6	19.22	14.9
f_s (Total)	(ksi)	19.0	24.98	19.4
VR	(k)	30.8	38.5	31.2

GIRDERS 6-7 REACTION TABLE			
		Abut.	Pier
$R\phi$	(k)	24.2	83.5
R_t	(k)	26.5	37.0
R_1	(k)	6.8	9.0
R_{Total}	(k)	57.5	129.5

* Compact section
 ** Braced non-compact and partially braced section

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 (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. and in.).
 Z : Plastic Section Modulus of the steel section in non-composite areas (in.3).
 ϕ : Un-factored non-composite dead load (kips/ft.).
 $M\phi$: Un-factored moment due to non-composite dead load (kip-ft.).
 $s\phi$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
 $M_s\phi$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_t : Un-factored live load moment (kip-ft.).
 M_1 : Un-factored moment due to impact (kip-ft.).
 M_o : Factored design moment (kip-ft.).
 $1.3 [M\phi + M_s\phi + \frac{5}{3} (M_t + M_1)]$
 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).
 $M\phi + M_s\phi + \frac{5}{3} (M_t + M_1)$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M\phi + M_s\phi + \frac{5}{3} (M_t + M_1)]$
 VR: Maximum $L +$ impact shear range within the composite portion of the span for stud shear connector design (kips).

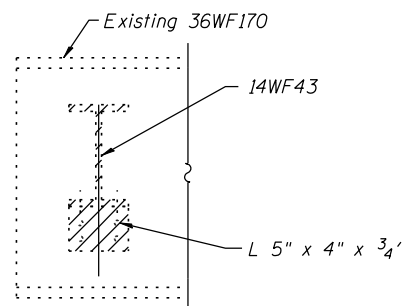
DEEP FILLET REINFORCEMENT TABLE

Beam No.	Dimension			Bar Quantity		
	D	E	F	$b_3(E)$	$b_4(E)$	$s_4(E)$
1	115'-10"	-	115'-10"	-	-	-
2	115'-10"	-	115'-10"	-	-	-
3	115'-10"	-	115'-10"	-	-	-
4	115'-10"	-	115'-10"	-	-	-
5	73'-9"	72'-11"	85'-0"	2 x 4	-	74
6	49'-8"	110'-4"	71'-7"	2 x 5	-	111
7	55'-2"	98'-9"	77'-9"	2 x 5	-	100
8	58'-6"	82'-9"	80'-5"	2 x 4	-	83
9	83'-8"	60'-4"	87'-8"	2 x 3	-	61
10	88'-2"	47'-11"	95'-7"	2 x 2	-	49
11	109'-7"	11'-0"	111'-1"	-	2	12
12	115'-10"	-	115'-10"	-	-	-

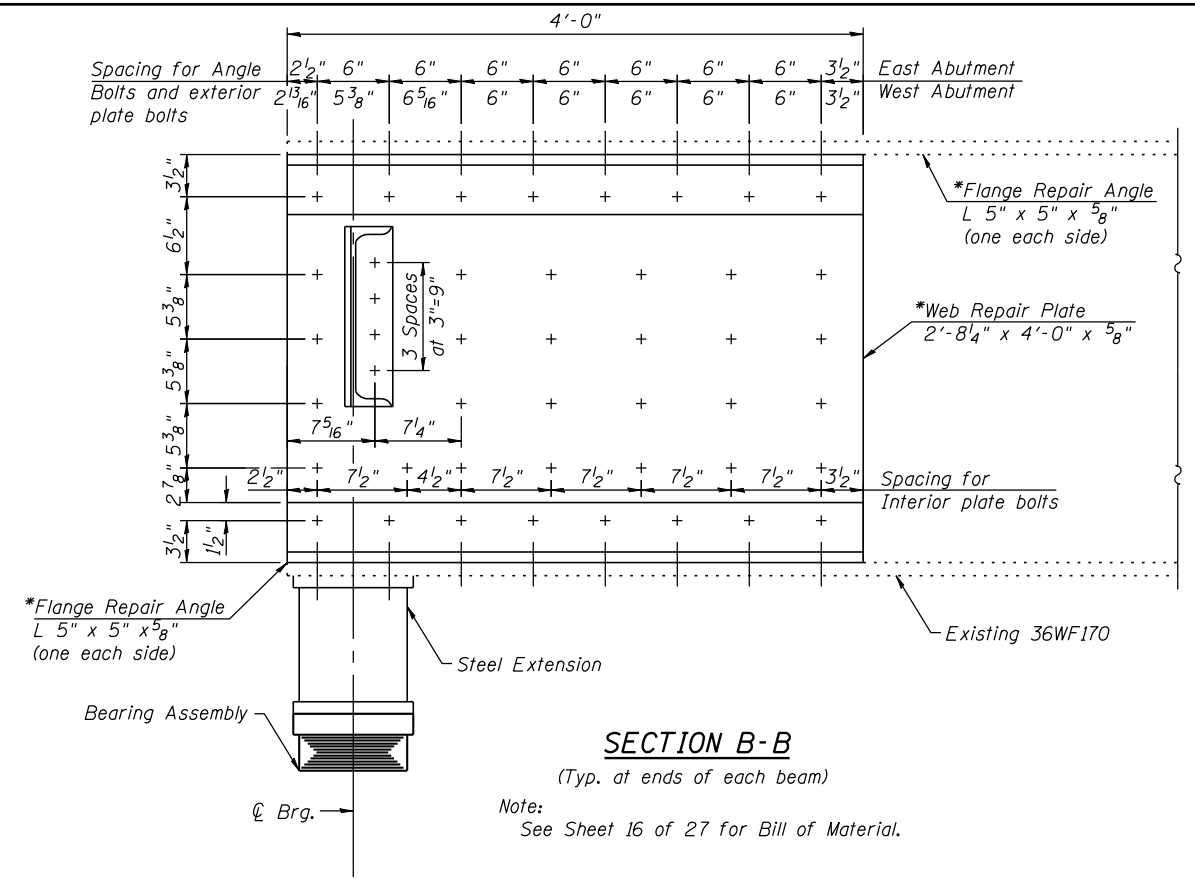
Note:
 Engineer shall field verify fillet heights. Any location that exceeds a fillet height of 6" requires reinforcement.
 Bars indicated thus 2 x 5-#5 etc. indicates 2 lines of bars with 5 lengths per line.

LEGEND

Structural Steel Removal



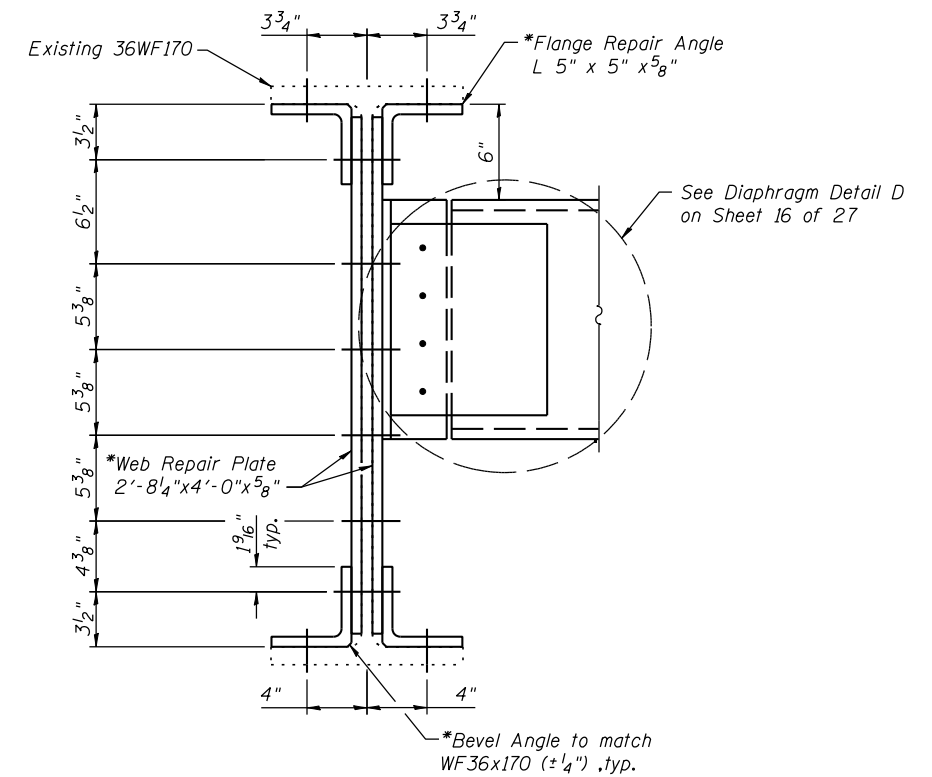
REMOVAL OF EXISTING DIAPHRAGM D



SECTION B-B

(Typ. at ends of each beam)

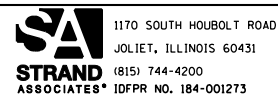
Note:
 See Sheet 16 of 27 for Bill of Material.



SECTION C-C

*Structural Steel shall be paid for as Furnishing and Erecting Structural Steel.

FILE NAME = S:\JUL 6300-6399\6346 029\Microa\CADD Sheets\Structural\Plans\0890007-64E76-015-STEEL.dgn



USER NAME = brianf	DESIGNED RRD	REVISED -
PLOT SCALE =	CHECKED AJS	REVISED -
PLOT DATE = 8/7/2012	DRAWN BJF	REVISED -
	CHECKED RRD	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STEEL DETAILS (2 OF 2)
 STRUCTURE NO. 089-0007**

SHEET NO. 17 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5	(19VB-1D)	STEPHENSON	73	48
CONTRACT NO. 64E76				
ILLINOIS FED. AID PROJECT				