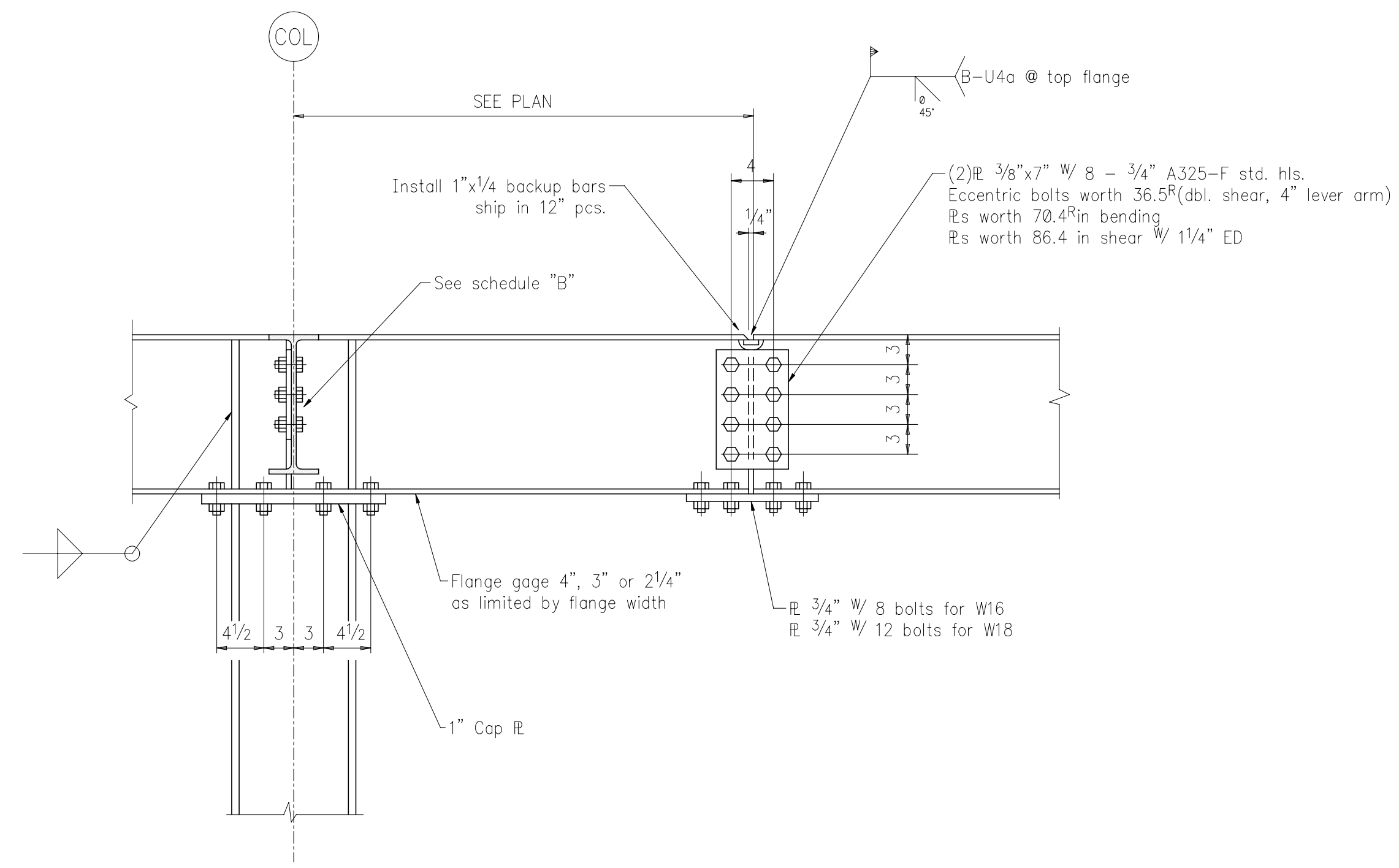
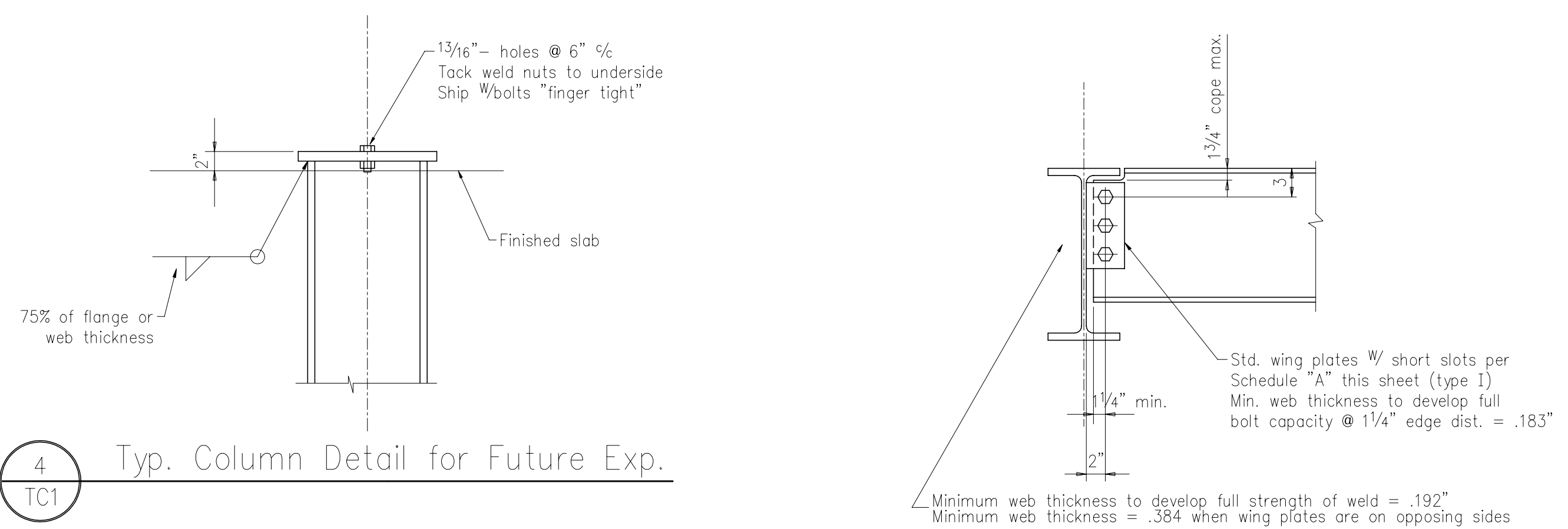


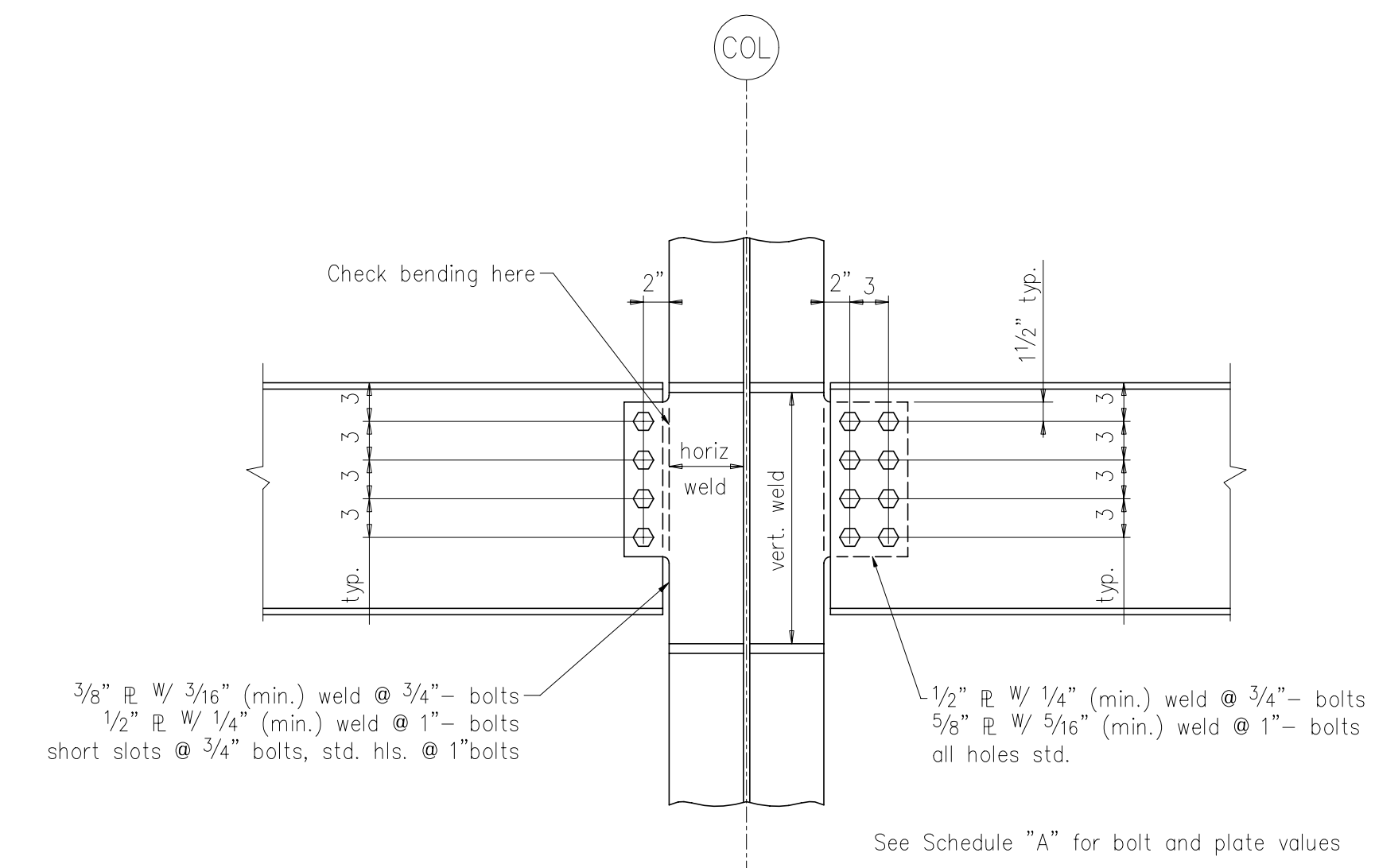
1 Typical Rigid Frame Connection Detail  
TC1



2 Typical Continuous Rigid Frame Connection Detail  
TC1



4 Typ. Column Detail for Future Exp.  
TC1



3 Typical Connection Detail @ RF Column Web  
TC1

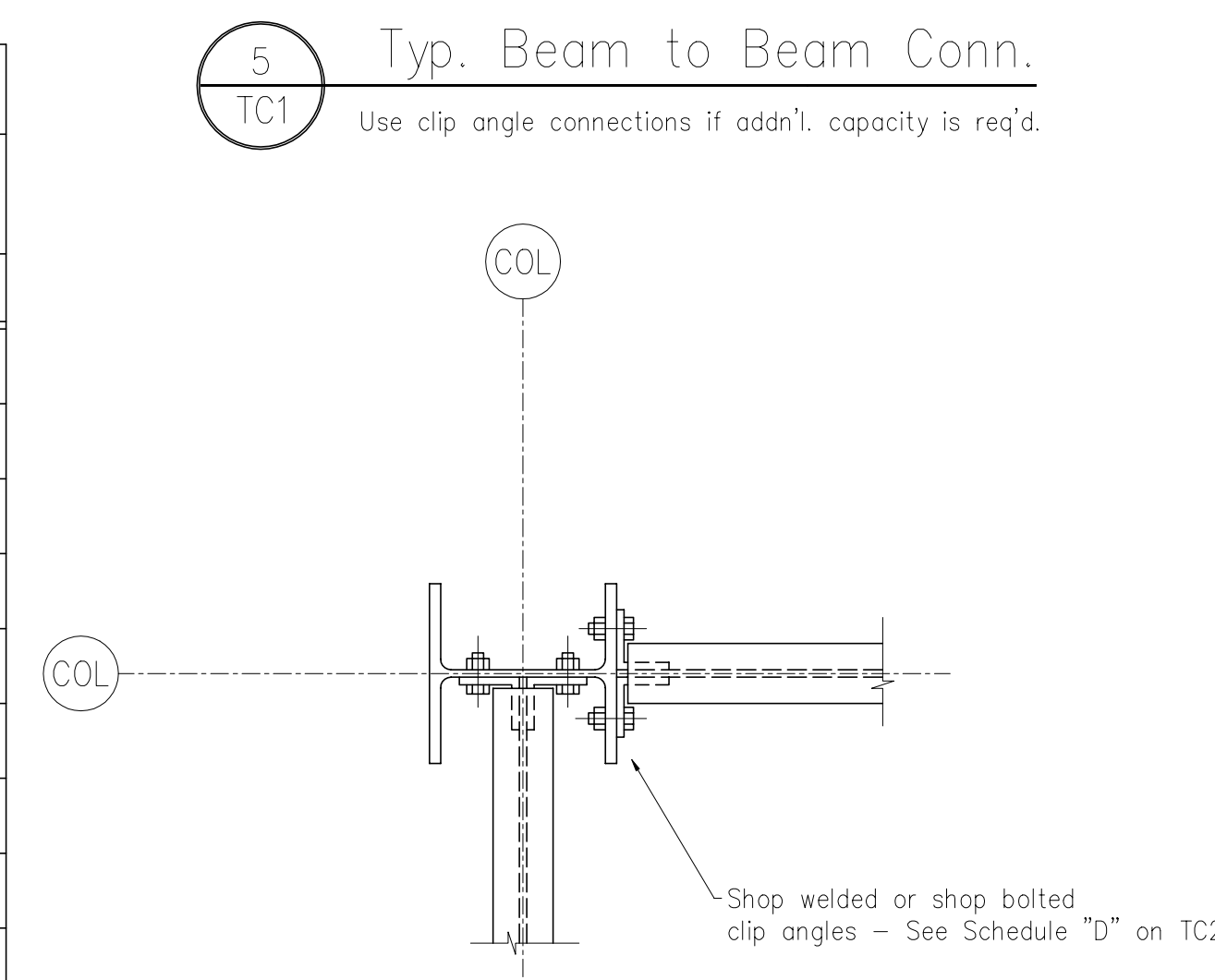
Vert. Weld Length	Horizontal Weld Length				
	2 1/2	3 3/4	4 3/4	5 3/4	7
Single Vert. Row (3/8" R)					
15 (W16)	38.2	41.6	42.5	43.8	44.7
16 7/8 (W18)	43.3	45.9	47.6	49.2	51.2
19 3/4 (W21)	50.5	52.8	56.0	58.0	59.9
22 1/2 (W24)	59.1	60.9	64.1	65.6	68.0
31 3/8 (W33)	79.4	83.5	87.5	88.6	91.4
Double Vert. Rows (1/2" R)					
15 (W16)	44.0	48.4	49.7	51.3	52.7
16 7/8 (W18)	50.3	54.3	56.3	58.3	60.8
19 3/4 (W21)	61.1	64.1	67.4	71.6	72.0
22 1/2 (W24)	73.2	74.2	78.5	80.1	84.0
31 3/8 (W33)	102.0	107.0	111.0	111.8	115.1

All allowable reactions in kips

All values in kips

NO. ROWS	3/4" - A325-F field bolts						1" - A325-F field bolts						
	TYPE I			TYPE II			TYPE III			TYPE IV			
	BOLTS	WELD	PLATE	BOLTS	WELD	PLATE	BOLTS	WELD	PLATE	BOLTS	WELD	PLATE	3/4" PLATE
2	13.3	18.9	23.0	30.9	16.2	18.5	27.5	25.1	27.0	38.2	20.2	23.1	27.8
3	19.9	35.0	34.4	46.4	33.5	45.9	41.2	46.7	40.5	80.2	41.9	50.6	60.8
4	26.5	51.0	45.9	61.9	54.2	61.2	55.0	68.1	54.0	110.0	67.7	67.5	81.0
5	33.0	67.7	57.4	77.3	76.3	76.5	68.7	90.2	67.5	137.4	95.4	84.4	101
6	39.8	83.3	68.9	92.8	98.7	91.8	82.5	111	81.0	165.0	123	101	121
7	46.4	98.4	80.3	108.2	119	107	96.2	131	94.5	192.4	149	118	142
8	53.0	114	91.8	123.7	141	122	110.0	153	108	219.9	176	135	162
9	60.0	130	103	139.2	162	138	123.7	174	121	247.4	203	152	182
10	66.3	145	115	154.6	183	153	137.4	193	135	274.9	228	169	202

Schedule "A" - Wing Plates @ RF Column Flange

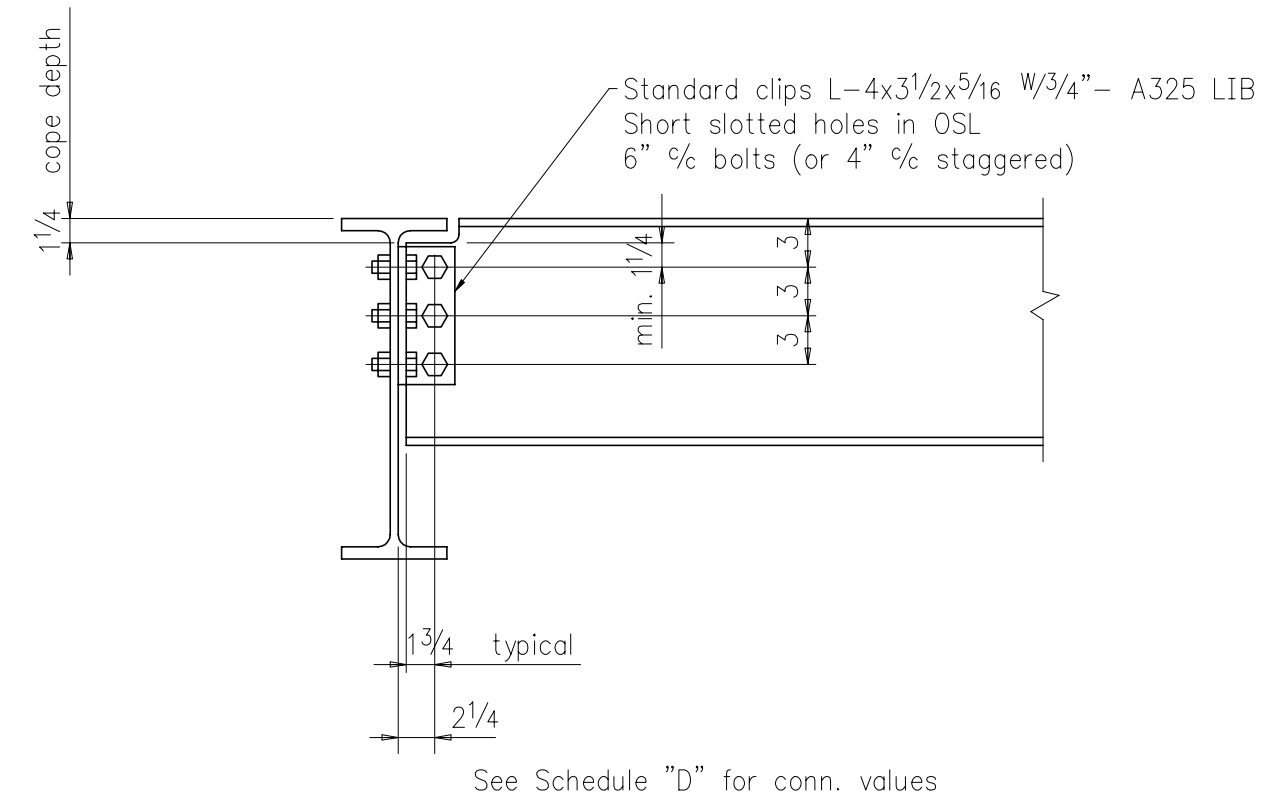


5 Typ. Beam to Beam Conn.  
TC1



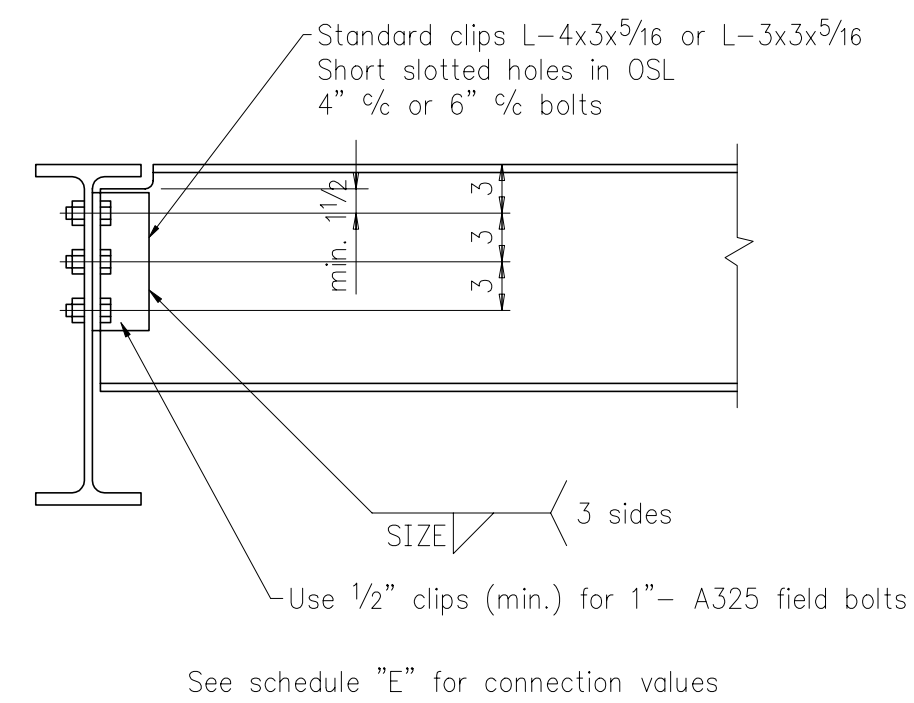
6 Typ. Detail @ Std. Column  
TC1

Schedule "B" - Eccentric Welds @ RF Column Web



1 Typ. Bolted Clip Angle Detail  
TC2

NO. ROWS	WEB BOLT CAPACITY	Minimum Web Thicknesses to Develop Tabulated Values							
		A36				V50			
		1/4 cope	1/2 cope	3/4 cope	no cope	1/4 cope	1/2 cope	3/4 cope	no cope
2	30.9	.308	.356	.426	.304	.275	.317	.381	.272
3	46.4	.335	.356	.426	.304	.299	.317	.381	.272
4	61.8	.351	.359	.426	.312	.313	.320	.381	.278
5	77.3	.360	.367	.426	.327	.322	.328	.381	.292
6	92.8	.367	.373	.426	.338	.327	.333	.381	.301
7	108	.373	.378	.426	.346	.332	.337	.381	.309
8	124	.376	.381	.426	.353	.336	.340	.381	.315
9	139	.379	.383	.426	.358	.338	.342	.381	.319
10	155	.382	.386	.426	.362	.341	.344	.381	.323



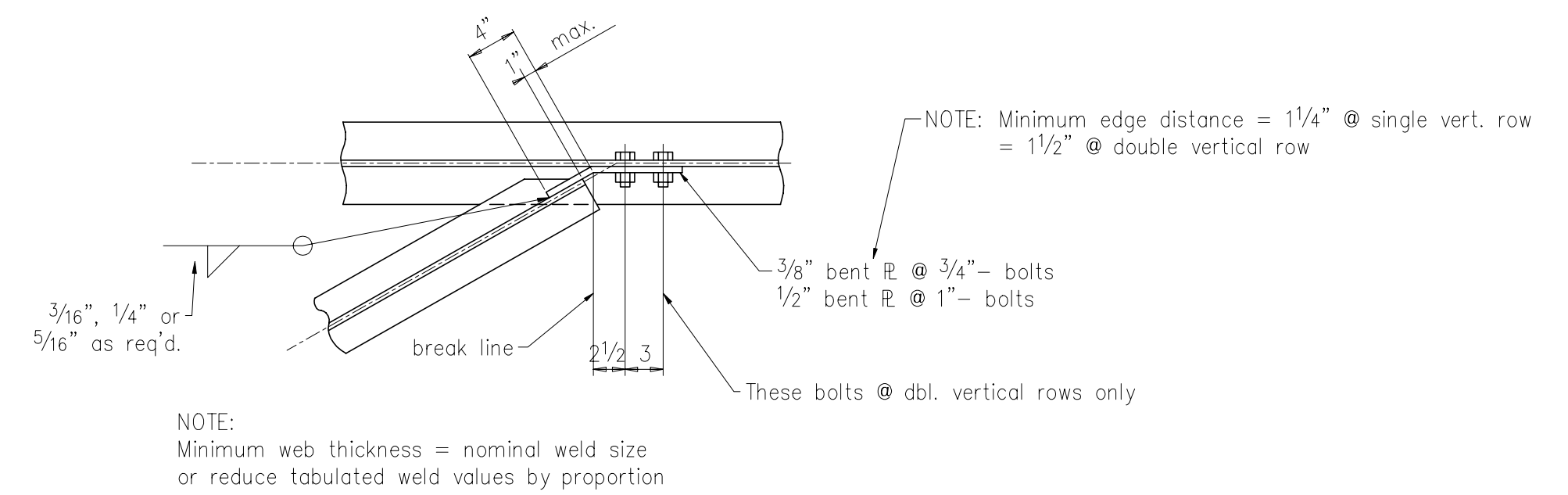
2 Typ. Shop Welded Clip Angle Detail  
TC2

NO. ROWS	OSL CAPACITY		CONN. LENGTH	WELD CAPACITY		
	3/4- bolts	1"- bolts		3/16" fillet (.384,.278)	1/4" fillet (.512,.371)	5/16" fillet (.64,.464)
	2	26.5		55.0	5 1/2	36.1
3	39.8	82.5	8 1/2	54.1	72.1	90.1
4	53.0	110	11 1/2	70.5	94.0	118
5	66.3	137	14 1/2	87.4	116	146
6	79.5	165	17 1/2	100	134	167
7	92.8	192	20 1/2	115	153	191
8	106	220	23 1/2	127	169	211
9	119	247	26 1/2	143	191	238
10	133	275	29 1/2	156	208	260

Weld Size min. web thickness for A36 min. web thickness for V50

Schedule "D" – Shop Bolt Connection Values @ Std. Clips  
See Schedule "E" for OSL capacities

Schedule "E" – Clip Angle Connection Values  
See schedule "D" for shop bolt values

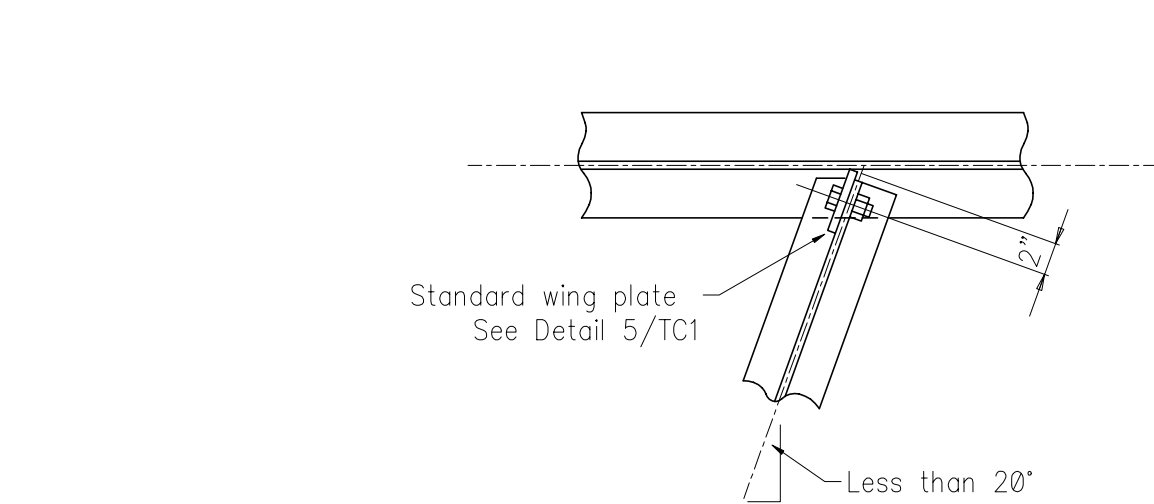


3 Typ. Bent Plate Connection Detail  
TC2

NO. ROWS	SINGLE VERTICAL ROW			DOUBLE VERTICAL ROW				WELD				
	3/4" - BOLTS			1" - BOLTS		3/4" - BOLTS		1" - BOLTS		3/16"	1/4"	5/16"
	BOLTS	BOLTS	PLATE	BOLTS	PLATE	BOLTS	PLATE	BOLTS	PLATE			
2	7.1	8.2	11.6	14.7	18.3	12.9	15.1	23.0	18.3	16.6	22.2	27.7
3	13.0	15.1	26.9	26.9	38.5	23.7	32.3	42.1	38.5	25.9	34.5	43.2
4	19.9	23.3	43.2	41.3	54.0	37.6	45.9	66.8	54.0	34.6	46.1	57.7
5	27.1	31.6	54.7	56.1	67.5	52.9	57.4	94.0	67.5	42.3	56.4	70.5
6	34.1	39.8	66.1	70.8	81.0	69.0	68.9	123	81.0	51.4	68.6	85.7
7	41.2	48.1	77.6	85.4	94.5	85.8	80.3	153	94.5	57.9	77.1	96.4
8	48.2	56.2	89.1	99.9	108	102	91.8	181	108	65.0	86.6	108
9	55.1	64.2	101	114	121	119	103	211	121	73.9	98.5	123
10	61.9	72.2	112	128	135	135	114	240	135	79.5	106	132

Bolt values in this column based on short slotted holes (Fv = 15 ksi). All others based on standard holes (Fv = 17.5 ksi)

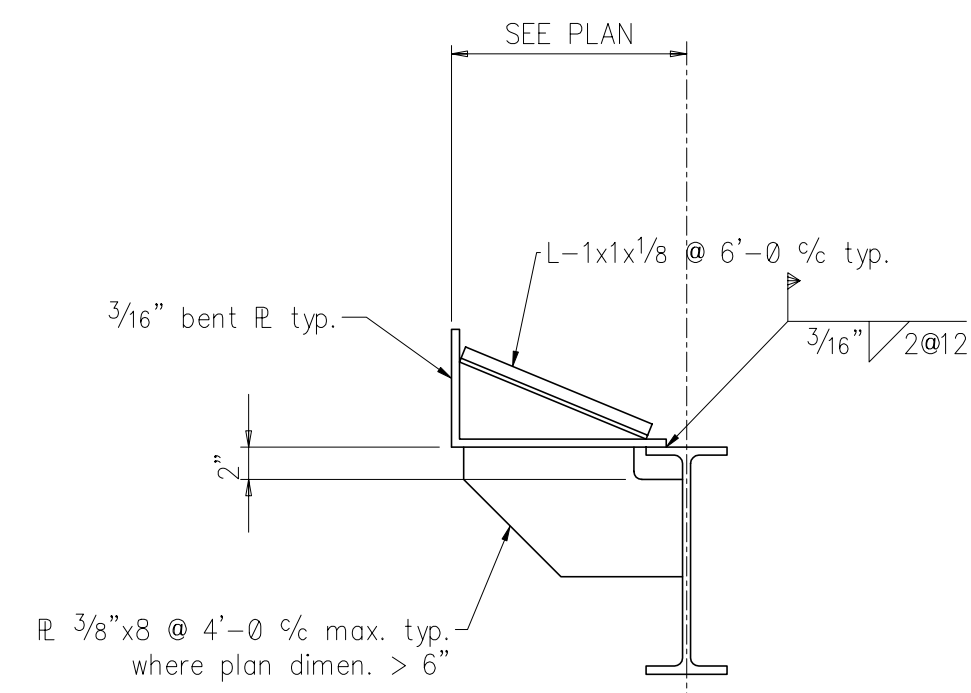
Schedule "F" – Bent Plate Connection Values



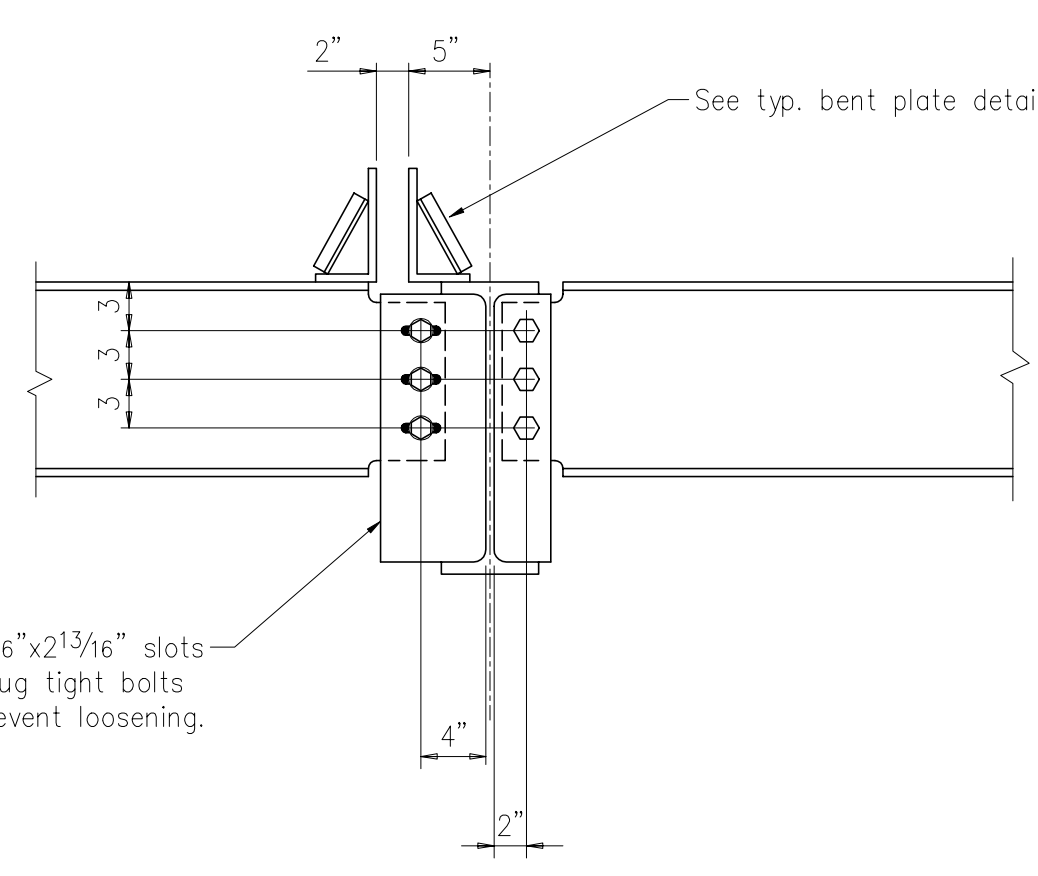
NO. ROWS	3/4" BOLTS		1" BOLTS	
	bolts	plate	bolts	plate
2	10.2	12.6	18.1	14.3
3	18.7	26.9	33.3	30.1
4	30.5	47.0	54.3	52.3
5	43.8	67.5	77.9	80.7
6	58.6	81.0	104	101
7	74.5	94.5	132	118
8	90.5	108	161	135
9	108	121	191	152
10	124	135	220	169

NOTES:  
1. Use 1/2" plate @ 3/4" bolts and 5/8" plate @ 1" bolts.  
2. Min. web thickness = .178" and .315" for 3/4" and 1" bolts respectively to develop tabulated bolt values @ 1/4" edge distance.  
3. Std. holes in all plates.  
4. Use 1/2" edge distance (min.)

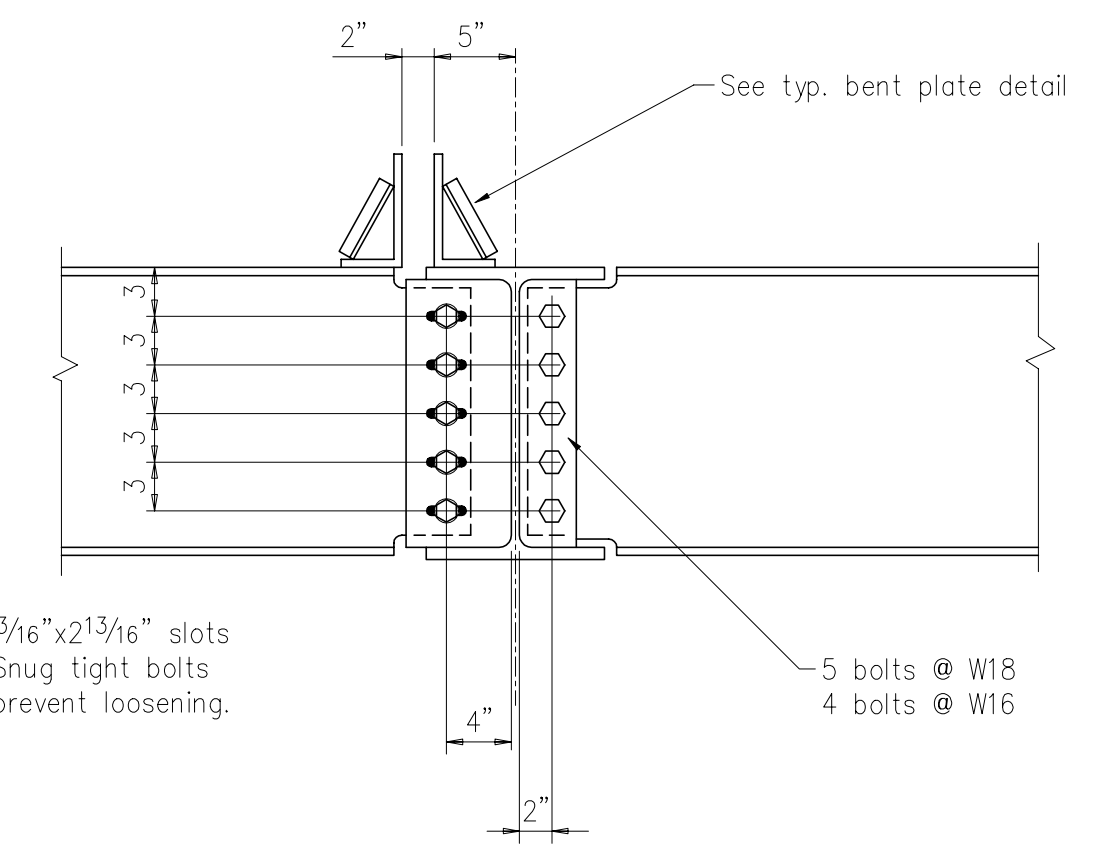
Schedule "G" – Skewed Wing Plates



5 Typ. Bent Plate Detail  
TC2



6 Section @ Expansion Joint  
TC2  
Ref. Det. 15/SS2.10  
Conn. sim. @ column (3" to slots from toe of col.)



7 Section @ Expansion Joint  
TC2  
Ref. Det. 13/SS2.10  
Conn. sim. @ column (3" to slots from toe of col.)

4 Typ. Skewed Wing Plate Details  
TC2