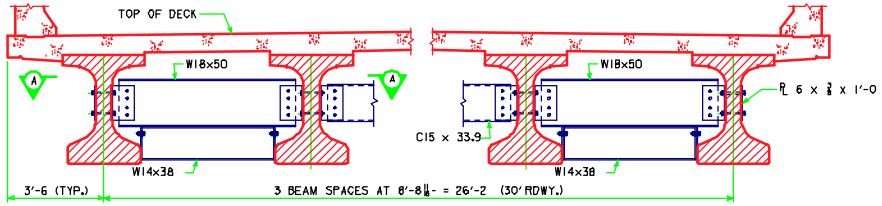
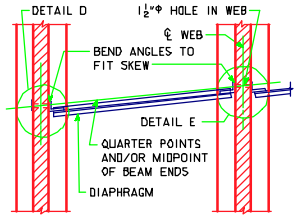


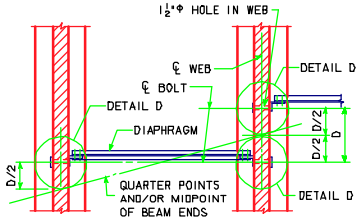
SECTION SHOWING INTERMEDIATE DIAPHRAGM



PART SECTION A-A

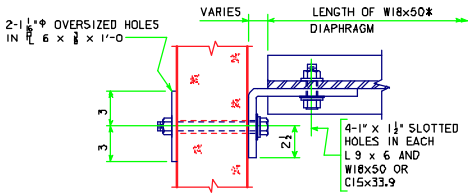
FOR BRIDGES SKEWED 0° & 5°

NOTE: THE W14x38 WILL REQUIRE BEVELED ENDS TO MATCH THE SKEW.



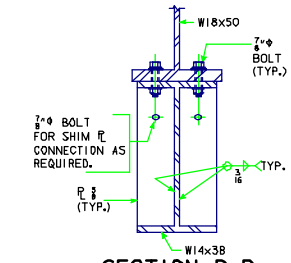
PART SECTION A-A

FOR BRIDGES SKEWED 10° OR 15°

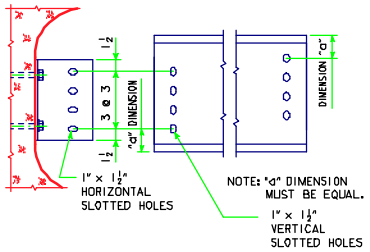


SECTION C-C

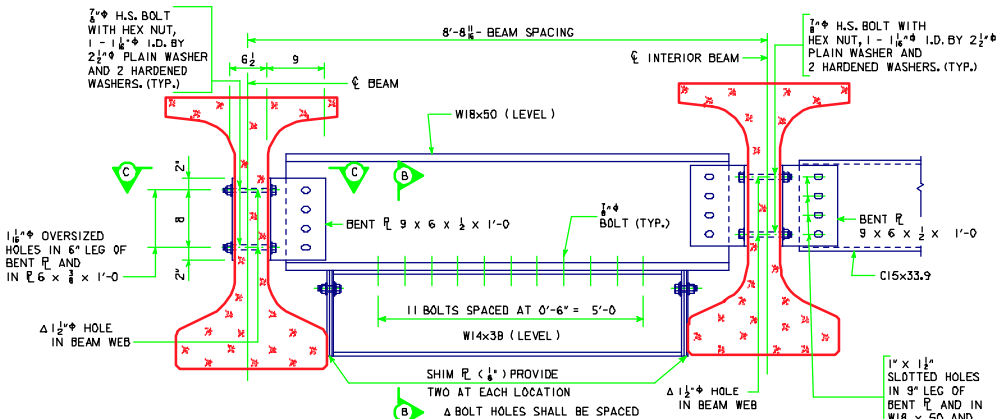
* THE LENGTH OF THE W18x50 AND C15x33.9 SHOWN IN THE TABLE IS BASED ON A CLEARANCE OF 2 1/4 BETWEEN THE FACE OF BEAM WEB AND END OF THE W18x50 AND C15x33.9



SECTION B-B



SLOTTED HOLE DETAILS



DETAIL D

DETAIL E

NOTE: W18x50 AND W14x38 SHALL BE INSTALLED ONLY IN THE OUTSIDE BAYS.

BULB TEE BEAM INTERMEDIATE DIAPHRAGM STRUCTURAL STEEL PER BRIDGE

SKEW DESIGNATION		0° & 5°				10° & 15°			
BEAM DESIGNATIONS / PIECE DESCRIPTIONS		BTD110, BTD115, & BTD120		BTD125 & BTD130		BTD110, BTD115, & BTD120		BTD125 & BTD130	
		NO.	WEIGHT	NO.	WEIGHT	NO.	WEIGHT	NO.	WEIGHT
7/8"Φ x 9" H.S. BOLTS WITH NUTS & WASHERS = 2.2 LB		16	35	48	106	24	53	72	158
7/8"Φ x 2 1/2" H.S. BOLTS WITH NUTS & WASHERS = 1.0 LB		152	152	456	456	152	152	456	456
BENT PL 9 x 6 x 1/2 x 1'-0 = 25.5 LB		12	306	36	918	12	306	36	918
BACKING PL 6 x 3/8 x 1'-0 = 7.65 LB		4	31	12	92	12	92	36	275
PL 6 3/4 x 1'-2 x 5/8 = 10.0 LB		8	80	24	240	8	80	24	240
PL 6 3/4 x 1'-2 x 1/8 = 3.3 LB		16	53	48	158	16	53	48	158
	LENGTH								
W18x50 = 50 LB/FT	7'-9 11/16"	4	1,561	12	4,684	4	1,561	12	4,684
W14x38 = 38 LB/FT	6'-1 15/16"	4	933	12	2,800	4	933	12	2,800
C15x33.9 = 33.9 LB/FT	7'-9 11/16"	2	529	6	1,588	2	529	6	1,588
INTERMEDIATE DIAPHRAGM STRUCTURAL STEEL - TOTAL (LB)		3,680		11,042		3,759		11,277	

NOTES:

ALL DIAPHRAGM MATERIALS, INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.

SHOP DRAWINGS OF THE STEEL DIAPHRAGMS SHOWING LAYOUT AND DETAILS OF THE DIAPHRAGMS SHALL BE SUBMITTED FOR APPROVAL.

ALL COSTS FOR FURNISHING AND INSTALLING STEEL INTERMEDIATE DIAPHRAGMS SHALL BE INCLUDED IN THE PRICE BID FOR STRUCTURAL STEEL.

THE 1 1/2"Φ HOLES FOR THE 7/8"Φ H.S. BOLTS SHALL BE CAST INTO THE WEB. DRILLING IS NOT ALLOWED.

THE 7/8"Φ H.S. BOLTS THROUGH THE WEB SHALL HAVE A THREAD LENGTH OF 3" MIN. AND 4" MAX AND SHALL MEET THE REQUIREMENTS OF ASTM A449.

ALL BOLTS ARE TO BE TIGHTENED PRIOR TO PLACING BRIDGE FLOOR CONCRETE.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 30' ROADWAY, 2 SPAN BRIDGES

PRETENSIONED PRESTRESSED BULB TEE CONCRETE BEAM BRIDGES

ALL SPANS — JULY, 2004

STEEL INTERMEDIATE DIAPHRAGM DETAILS

BT30-SD1-04