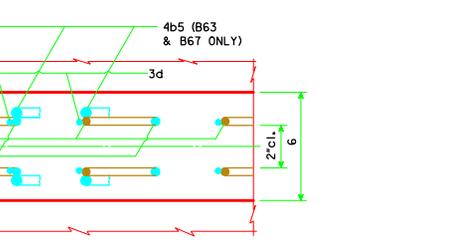


COIL TIE DETAIL
NUMBER AND EXACT LOCATION OF COIL TIES TO BE AS DETAILED ON SPECIFIC BRIDGE DESIGN.

2 TOP DEFLECTED OR STRAIGHT STRANDS ARE TO BE CUT WITH 1'-0" PROJECTIONS AND SHOP BENT UP OR DOWN AS SHOWN (BEND TOP AND BOTTOM ROWS). THE REMAINING TOP STRANDS ARE TO BE CUT WITH 0'-3" PROJECTIONS. FOUR BOTTOM STRANDS ARE TO BE CUT WITH 1'-0" PROJECTIONS AND SHOP BENT AS SHOWN. THE REMAINING BOTTOM STRANDS SHALL BE CUT OFF REASONABLY FLUSH WITH THE CONCRETE.



STRAND PROJECTION AT BEAM ENDS WHEN EMBEDDED IN CONCRETE END DIAPHRAGMS



SECTION A-A SHOWING PLACEMENT OF STIRRUPS NEAR END OF BEAM

B BEAM DATA

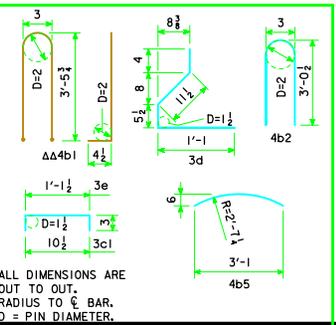
BEAM	SPAN LENGTH	BEARING	OVERALL BEAM LENGTH (L)	STRAND SIZE DIA. (INCHES)	NO. OF STRANDS	NO. OF STRANDS DEFLECTED	TOTAL INITIAL PRESTRESS (KIPS)	HOLD DOWN FORCE (KIPS)	CAMBER (in.)		DEFLECTION (in.) Δ_0				PERMISSIBLE SPACING		WEIGHT (TONS)		CONCRETE (C.Y.)	REINFORCING STEEL (LD)
									AT RELEASE	AFTER LOSSES	IMMEDIATE (ELASTIC) Δ_1		TIME (PLASTIC) Δ_T		HL93 LOADING		CONC.	STEEL		
											CONC. DIAPHR.	STEEL DIAPHR.	CONC. DIAPHR.	STEEL DIAPHR.	CONC. DIAPHR.	STEEL DIAPHR.				
#B50	50'-10"	51'-10"	0.60	8	2	425	10.8	0.67	1.24	0.43	0.39	0.11	0.10	7'-6"	7'-6"	10.3	5.10	607		
#B55	55'-0"	56'-0"	0.60	8	3	468	14.1	0.85	1.51	0.58	0.54	0.14	0.13	7'-6"	7'-6"	11.2	5.51	635		
#B59	59'-2"	60'-2"	0.60	10	3	554	13.2	1.12	1.99	0.82	0.77	0.21	0.19	7'-6"	7'-6"	12.0	5.92	680		
#B63	63'-4"	64'-4"	0.60	12	3	639	12.3	1.30	2.32	0.91	0.84	0.23	0.21	7'-6"	7'-6"	12.8	6.33	733		
#B67	67'-6"	68'-6"	0.60	14	3	724	11.6	1.69	2.98	1.16	1.09	0.29	0.27	7'-6"	7'-6"	13.6	6.74	778		

NOTES:
THESE BEAMS ARE DESIGNED FOR AASHTO LIVE LOADS AS INDICATED IN ABOVE TABLE WITH AN ALLOWANCE OF 20 LB. PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE.
HOLD DOWN POINTS FOR DEFLECTED STRANDS MAY BE MOVED TOWARD ENDS OF BEAM A DISTANCE OF 0.05 L MAXIMUM AT PRODUCER'S OPTION.
ALL PRESTRESSING STRANDS SHALL CONFORM TO ASTM A416 GRADE 270 LOW RELAXATION STRANDS.
TOPS OF BEAMS ARE TO BE STRUCK OFF LEVEL AND FINISHED AS PER MATERIALS 1M570.
BEARINGS SHALL BE AS DETAILED ON OTHER DESIGN SHEETS. BEAMS TO BE USED IN BRIDGES MADE CONTINUOUS BY THE POURED IN PLACE FLOOR, ARE TO BE AT LEAST 28 DAYS OLD BEFORE THE FLOOR IS PLACED UNLESS A SHORTER CURING TIME IS APPROVED BY THE BRIDGE ENGINEER.
THE PORTIONS OF THE PRESTRESS BEAMS THAT ARE TO BE EMBEDDED IN THE ABUTMENT AND PIER DIAPHRAGMS SHALL BE ROUGHENED FOR A DISTANCE OF 10" FROM THE BEAM END BY SANDBLASTING OR OTHER APPROVED METHODS TO PROVIDE SUITABLE BOND BETWEEN THE BEAM AND THE DIAPHRAGM IN ACCORDANCE WITH ARTICLE 2403.03, 1, OF THE STANDARD SPECIFICATIONS.
ALL BEAMS ARE TO BE INCREASED IN LENGTH TO COMPENSATE FOR ELASTIC SHORTENING, CREEP AND SHRINKAGE.
IF THE STEEL DIAPHRAGM OPTION IS ALLOWED AND USED, HOLES MUST BE CAST IN THE WEB TO ACCOMMODATE THE STEEL DIAPHRAGM ATTACHMENTS AS DETAILED ON THE STEEL DIAPHRAGM DETAIL SHEET.
IF SOLE PLATE IS REQUIRED FOR BEARING, SOLE PLATE IS TO BE SET IN FORMS WHEN BEAM IS CAST AND FORMED OUT BELOW TO EXCLUDE CONCRETE AS DETAILED ON THE BEARING SHEET.
0.6" DIAMETER STRANDS STRESSED TO NOT MORE THAN 5,000 LBS. EACH MAY BE USED IN LIEU OF THE α BARS WHICH RUN THE FULL LENGTH OF THE BEAM IN THE TOP FLANGE.

SPECIFICATIONS:
CONSTRUCTION: STANDARD SPECIFICATIONS OF THE IOWA DEPARTMENT OF TRANSPORTATION, CURRENT SERIES, WITH CURRENT APPLICABLE SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.
DESIGN: A.A.S.H.T.O. LRFD, SERIES OF 2007, WITH MINOR MODIFICATIONS.
DESIGN STRESSES:
DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE TO BE IN ACCORDANCE WITH A.A.S.H.T.O. LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2007:
REINFORCING STEEL IN ACCORDANCE WITH SECTION 5, GRADE 60.
CONCRETE IN ACCORDANCE WITH SECTION 5, $f'_c = 5000$ psi (EXCEPT AS NOTED)
PRESTRESSING STEEL IN ACCORDANCE WITH SECTION 5, $f'_s = 270,000$ psi.

$\Delta\Delta$ 4b1 BARS TO BE EPOXY COATED.
** WHERE DEFLECTING STRANDS INTERFERE WITH PLACEMENT, SOME IN-PLACE BENDING MAY BE NECESSARY.

REINFORCING BAR LIST							
BEAM	SPAN	B50	B55	B59	B63	B67	
		NO.	NO.	NO.	NO.	NO.	NO.
		4	4	4	4	4	4
		2	2	2	2	2	2
$\Delta\Delta$		44	46	50	52	56	56
		12	12	12	12	12	12
					12	12	12
		44	46	50	52	56	56
**		112	116	124	128	136	136
		24	24	24	24	24	24



ALL DIMENSIONS ARE OUT TO OUT. RADIUS TO ϕ BAR. D = PIN DIAMETER.

LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER	 STANDARD DESIGN - 40' ROADWAY, THREE SPAN BRIDGE PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES SEPTEMBER, 2014	
		B BEAM DETAILS	H40-34-14