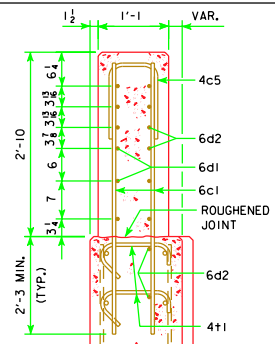


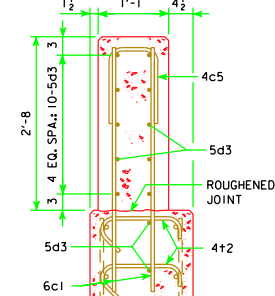
EPOXY COATED REINFORCING STEEL-TWO OPEN RAILS

(NOTE: THESE REINFORCING BARS TO BE USED ON ALL SKEWS)

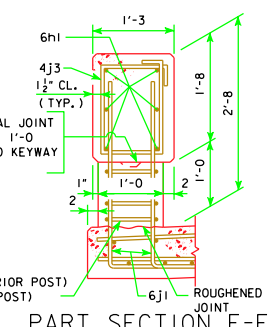
BRIDGE LENGTH			138'-10		151'-4		163'-10		176'-4		188'-10		201'-4		213'-10		226'-4		243'-0							
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT			
6c1	VERTICAL, END SECTION & ABUT. DIAPH. EXT.		96	4'-11	709	96	4'-11	709	96	4'-11	709	96	4'-11	709	168	4'-11	1,241	168	4'-11	1,241	168	4'-11	1,241	168	4'-11	1,241
6c2	VERTICAL, END SECTION		16	2'-10	68	16	2'-10	68	16	2'-10	68	16	2'-10	68	16	2'-10	68	16	2'-10	68	16	2'-10	68	16	2'-10	68
6c3	VERTICAL, END SECTION		16	4'-1	98	16	4'-1	98	16	4'-1	98	16	4'-1	98	16	4'-1	98	16	4'-1	98	16	4'-1	98	16	4'-1	98
4c4	VERTICAL HOOPS, END SECTION		20	2'-10	38	20	2'-10	38	20	2'-10	38	20	2'-10	38	20	2'-10	38	20	2'-10	38	20	2'-10	38	20	2'-10	38
4c5	VERT. HOOPS, END SEC. & ABUT. DIAPH. EXT.		16	3'-1	33	16	3'-1	33	16	3'-1	33	16	3'-1	33	52	3'-1	107	52	3'-1	107	52	3'-1	107	52	3'-1	107
6d1	HORIZONTAL, END SECTION-BACK FACE		24	6'-8	240	24	6'-8	240	24	6'-8	240	24	6'-8	240	24	6'-8	240	24	6'-8	240	24	6'-8	240	24	6'-8	240
6d2	HORIZONTAL, END SECTION-TRAFFIC FACE		32	6'-9	324	32	6'-9	324	32	6'-9	324	32	6'-9	324	32	6'-9	324	32	6'-9	324	32	6'-9	324	32	6'-9	324
5d3	HORIZONTAL, ABUT. DIAPH. EXT.-BOTH FACES		—	—	—	—	—	—	—	—	—	—	—	—	48	7'-2	359	48	7'-2	359	48	7'-2	359	48	7'-2	359
6h1	LONGITUDINAL, OPEN RAIL		24	40'-0	1,442	36	40'-0	2,163	36	40'-0	2,163	36	40'-0	2,163	48	40'-0	2,884	48	40'-0	2,884	60	40'-0	3,605	60	40'-0	3,605
6h2	LONGITUDINAL, OPEN RAIL, ENDS		24	36'-8	1,322	24	24'-8	889	24	30'-11	1,114	24	37'-2	1,340	24	25'-2	907	24	31'-5	1,133	24	37'-8	1,358	24	25'-8	925
6j1	VERTICAL DOWELS, OPEN RAIL		312	4'-2	1,953	328	4'-2	2,053	360	4'-2	2,253	392	4'-2	2,453	408	4'-2	2,553	440	4'-2	2,754	456	4'-2	2,854	488	4'-2	3,054
4j2	HOOP, INTERIOR POST		272	4'-9	863	288	4'-9	914	320	4'-9	1,015	352	4'-9	1,117	368	4'-9	1,168	400	4'-9	1,269	416	4'-9	1,320	448	4'-9	1,422
4j3	HOOP, OPEN RAIL		472	5'-5	1,708	498	5'-5	1,802	550	5'-5	1,990	602	5'-5	2,178	628	5'-5	2,272	680	5'-5	2,460	706	5'-5	2,555	758	5'-5	2,743
4j4	HOOP, END POST		32	6'-7	141	32	6'-7	141	32	6'-7	141	32	6'-7	141	32	6'-7	141	32	6'-7	141	32	6'-7	141	32	6'-7	141
4+1	WING FOOTING TIE BARS		16	VARIABLES	19	16	VARIABLES	19	16	VARIABLES	19	16	VARIABLES	19	16	VARIABLES	19	16	VARIABLES	19	16	VARIABLES	19	16	VARIABLES	19
4+2	WING FOOTING TIE BARS		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
TOTAL LBS. (INCLUDE WITH SUPERSTRUCTURE REINFORCING)			8,958		9,491		10,205		10,921		11,454		13,399		13,870		14,648		15,438							



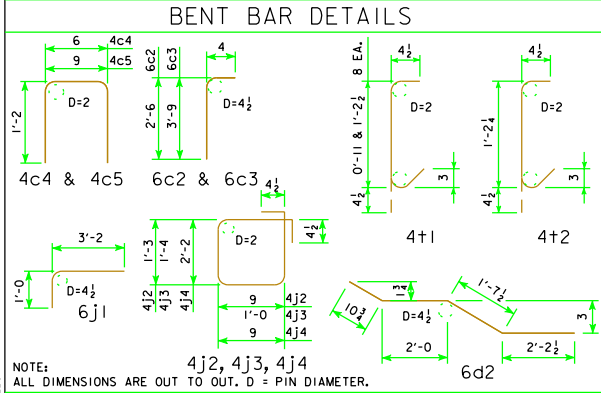
SECTION C-C



SECTION D-D

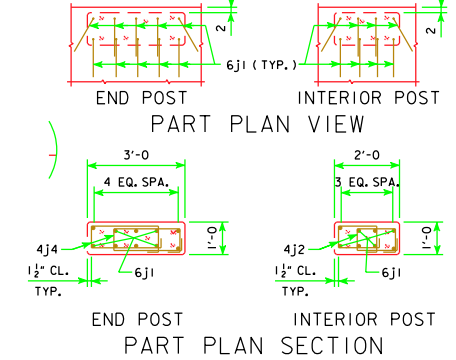


PART SECTION E-E

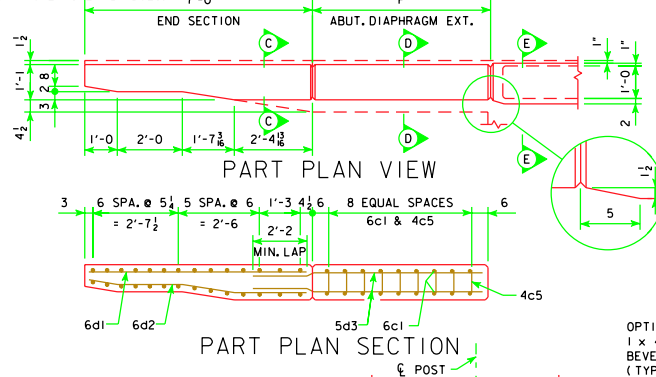


NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

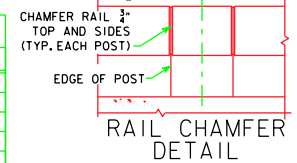
* TRAFFIC FACE 5d3 BARS MAY REQUIRE FIELD CUTTING OR BENDING FOR HIGHER SKEW BRIDGES.



PART PLAN SECTION



PART PLAN SECTION



RAIL CHAMFER DETAIL

CONCRETE PLACEMENT SUMMARY - C.Y.

BRIDGE LENGTH	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
OPEN RAIL SECTION	2 @ 0.077 CU. YDS. PER FT.	21.9	23.8	25.8	27.7	29.6	31.5	33.5	35.4
OPEN RAIL-END SECTION	4 @ 0.687 CU. YDS.	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
OPEN RAIL-ABUT. DIAPH. SECTION	4 @ 0.107 CU. YDS. PER FT.	—	—	—	—	—	—	—	—
OPEN RAIL-END POSTS	4 @ 0.11 CU. YDS.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
OPEN RAIL-INTERIOR POSTS	2 x "E" @ 0.07 CU. YDS.	2.4	2.5	2.8	3.1	3.2	3.5	3.9	4.2
TOTAL (C.Y.)		27.4	29.4	31.7	33.9	35.9	40.1	42.2	47.3

CONCRETE QUANTITIES SHOWN ARE BASED ON 30° SKEW. FOR "E" SEE SHEET H44-35-07.

OPEN CONCRETE RAIL, TL-4 QUANTITIES - L.F.

BRIDGE LENGTH	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
OPEN CONCRETE RAILING, TL-4 0° SKEW	311.7	336.7	361.7	386.7	411.7	456.7	481.7	506.7	540.0
OPEN CONCRETE RAILING, TL-4 15° SKEW	311.9	336.9	361.9	386.9	411.9	456.7	481.7	506.7	540.0
OPEN CONCRETE RAILING, TL-4 30° SKEW	312.6	337.6	362.6	387.6	412.6	456.7	481.7	506.7	540.0

Iowa Department of Transportation Highway Division

STANDARD DESIGN - 44' ROADWAY, THREE SPAN BRIDGE
PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES
 MARCH, 2007

OPEN RAIL, TL-4 DETAILS SHEET 2 OF 2 H44-36-07

REVISED 11-09 - OPEN RAIL CONC. & STEEL QUANTITIES CHANGED.

LATEST REVISION DATE
 11-09
 APPROVED BY BRIDGE ENGINEER
 Thomas C. McQuinn