

BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 90' BRIDGE

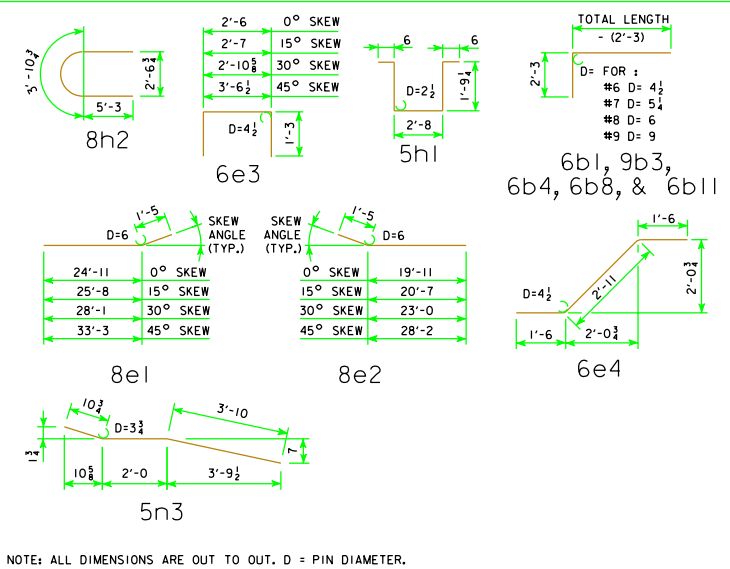
LOCATION	SKEW	SHAPE	0°				15°				30°				45°			
			BAR NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	
SLAB LONGITUDINAL BOTTOM			8a1	53	20'-0	2831	53	20'-0	2831	53	20'-0	2831	53	20'-0	2831	53	20'-0	2831
SLAB LONGITUDINAL BOTTOM			8a2	53	30'-3	4281	53	30'-3	4281	53	30'-3	4281	53	30'-3	4281	53	30'-3	4281
SLAB LONGITUDINAL BOTTOM			8a3	53	28'-6	4034	53	28'-6	4034	53	28'-6	4034	53	28'-6	4034	53	28'-6	4034
SLAB LONGITUDINAL BOTTOM			8a4	52	25'-6	3541	52	25'-6	3541	52	25'-6	3541	52	25'-6	3541	52	25'-6	3541
SLAB LONGITUDINAL BOTTOM			8a5	26	28'-0	1944	26	28'-0	1944	26	28'-0	1944	26	28'-0	1944	26	28'-0	1944
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a6	8	32'-3	689	8	32'-3	689	8	32'-3	689	8	32'-3	689	8	32'-3	689
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a7	4	34'-4	367	4	34'-4	367	4	34'-4	367	4	34'-4	367	4	34'-4	367
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a8	8	22'-9	486	8	22'-9	486	8	22'-9	486	8	22'-9	486	8	22'-9	486
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a9	4	21'-0	225	4	21'-0	225	4	21'-0	225	4	21'-0	225	4	21'-0	225
SLAB LONGITUDINAL TOP			6b1	53	8'-0	637	53	8'-0	637	53	8'-0	637	53	8'-0	637	53	8'-0	637
SLAB LONGITUDINAL TOP			9b2	53	22'-9	4100	53	22'-9	4100	53	22'-9	4100	53	22'-9	4100	53	22'-9	4100
SLAB LONGITUDINAL TOP			9b3	53	35'-0	6307	53	35'-0	6307	53	35'-0	6307	53	35'-0	6307	53	35'-0	6307
SLAB LONGITUDINAL TOP			6b4	52	13'-0	1016	52	13'-0	1016	52	13'-0	1016	52	13'-0	1016	52	13'-0	1016
SLAB LONGITUDINAL TOP			9b5	52	27'-6	4862	52	27'-6	4862	52	27'-6	4862	52	27'-6	4862	52	27'-6	4862
SLAB LONGITUDINAL TOP			6b6	26	16'-10	658	26	16'-10	658	26	16'-10	658	26	16'-10	658	26	16'-10	658
SLAB LONGITUDINAL TOP, AT RAIL			6b8	8	26'-0	313	8	26'-0	313	8	26'-0	313	8	26'-0	313	8	26'-0	313
SLAB LONGITUDINAL TOP, AT RAIL			9b9	8	19'-6	531	8	19'-6	531	8	19'-6	531	8	19'-6	531	8	19'-6	531
SLAB LONGITUDINAL TOP, AT RAIL			6b10	4	18'-0	109	4	18'-0	109	4	18'-0	109	4	18'-0	109	4	18'-0	109
SLAB LONGITUDINAL TOP, AT RAIL			6b11	8	28'-6	343	8	28'-6	343	8	28'-6	343	8	28'-6	343	8	28'-6	343
SLAB LONGITUDINAL TOP, AT RAIL			10b12	8	13'-3	457	8	13'-3	457	8	13'-3	457	8	13'-3	457	8	13'-3	457
SLAB TRANSVERSE BOTTOM			6c1	87	23'-5	3060	87	24'-3	3169	78	23'-5	2744	68	23'-5	2392			
SLAB TRANSVERSE BOTTOM			6c2	87	21'-3	2777	87	22'-0	2875	79	21'-3	2522	71	21'-3	2267			
SLAB TRANSVERSE ENDS, BOTTOM			6c3	-	-	-	-	-	-	12	VARIES	223	20	VARIES	411			
SLAB TRANSVERSE ENDS, BOTTOM			6c4	-	-	-	-	-	-	11	VARIES	219	20	VARIES	386			
SLAB TRANSVERSE ENDS, BOTTOM			6c5	-	-	-	-	-	-	11	VARIES	176	18	VARIES	302			
SLAB TRANSVERSE ENDS, BOTTOM			6c6	-	-	-	-	-	-	11	VARIES	190	17	VARIES	311			
SLAB TRANSVERSE TOP			5d1	87	23'-9	2156	87	24'-7	2231	78	23'-9	1933	68	23'-9	1685			
SLAB TRANSVERSE TOP			5d2	87	21'-3	1929	87	22'-0	1997	79	21'-3	1751	71	21'-3	1574			
SLAB TRANSVERSE ENDS, TOP			5d3	-	-	-	-	-	-	12	VARIES	155	20	VARIES	286			
SLAB TRANSVERSE ENDS, TOP			5d4	-	-	-	-	-	-	11	VARIES	152	20	VARIES	268			
SLAB TRANSVERSE ENDS, TOP			5d5	-	-	-	-	-	-	11	VARIES	122	18	VARIES	210			
SLAB TRANSVERSE ENDS, TOP			5d6	-	-	-	-	-	-	11	VARIES	132	17	VARIES	216			
SLAB, TRANSVERSE AT ABUTMENT			8e1	18	26'-4	1266	18	27'-1	1302	18	29'-6	1418	18	34'-8	1667			
SLAB, TRANSVERSE AT ABUTMENT			8e2	18	21'-4	1026	18	22'-0	1058	18	24'-5	1174	18	29'-7	1422			
SLAB, HAIRPINS, AT ABUTMENT			6e3	92	5'-0	691	92	5'-1	703	92	5'-5	749	92	6'-1	841			
SLAB, DIAGONALS, AT ABUTMENT			6e4	92	5'-11	818	92	5'-11	818	92	5'-11	818	92	5'-11	818			
PIER CAP HOOPS			5h1	72	7'-3	545	72	7'-3	545	72	7'-3	545	108	7'-3	817			
PIER CAP ENDS			8h2	4	14'-5	154	4	14'-5	154	4	14'-5	154	4	14'-5	154			
PIER CAP, BOTTOM LONGITUDINAL			8h3	8	25'-5	543	8	26'-7	568	8	29'-4	627	8	35'-0	748			
PIER CAP, BOTTOM LONGITUDINAL			8h4	8	19'-11	426	8	20'-3	433	8	22'-2	474	8	26'-10	574			
PIER CAP, TOP LONGITUDINAL			8h5	4	26'-2	280	4	27'-5	293	4	30'-4	324	4	36'-1	386			
PIER CAP, TOP LONGITUDINAL			8h6	4	21'-5	229	4	21'-10	234	4	23'-11	256	4	28'-8	307			
TOP OF SLAB, TRANSVERSE, AT RAIL			5j1	172	8'-6	1525	172	8'-6	1525	162	8'-6	1437	156	8'-6	1384			
WING, VERTICAL			5m1	40	4'-5	185	40	4'-5	185	40	4'-5	185	40	4'-5	185			
WING, HORIZONTAL BACK FACE			5n1	24	6'-8	167	24	6'-8	167	24	6'-8	167	24	6'-8	167			
WING, HORIZONTAL TRAFFIC FACE			5n3	24	6'-9	169	24	6'-9	169	24	6'-9	169	24	6'-9	169			
SUB TOTAL - LBS.						55,677			56,157			56,547			57,678			
BARRIER RAIL - SEE LIST ON RAIL SHEET J40-46-06						5950			5950			5950			5950			
OPEN RAIL - SEE LIST ON RAIL SHEET J40-49-06						6330			6330			6330			6330			
TOTAL - LBS.			WITH MONOLITHIC PIER CAP			61,627			62,107			62,497			63,628			
			WITH OPEN RAIL			62,007			62,487			62,877			64,008			
TOTAL - LBS.			WITH NON-MONOLITHIC PIER CAP			59,450			59,880			60,117			60,642			
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED			WITH OPEN RAIL			59,830			60,260			60,497			61,022			

ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 90' BRIDGE

ITEM	SKEW	WITH MONOLITHIC PIER CAP				WITH NON-MONOLITHIC PIER CAP			
		0°	15°	30°	45°	0°	15°	30°	45°
WITH *STRUCTURAL CONCRETE (BRIDGE) C.Y.		227.1	228.1	231.5	239.0	221.0	221.8	224.6	230.6
BARRIER RAIL REINFORCING STEEL EPOXY COATED LBS.		61,627	62,107	62,497	63,628	59,450	59,880	60,117	60,642
CONCRETE BARRIER OR OPEN RAIL LIN. FT.		202.0	202.2	202.9	204.5	202.0	202.2	202.9	204.5
WITH *STRUCTURAL CONCRETE (BRIDGE) C.Y.		226.9	227.9	231.3	238.8	220.8	221.7	224.4	230.4
OPEN RAIL REINFORCING STEEL EPOXY COATED LBS.		62,007	62,487	62,877	64,008	59,830	60,260	60,497	61,022

* INCLUDES 4 WINGS @ 0.68 C.Y. EACH; EXCLUDES RAIL CONCRETE.

BENT BAR DETAILS



NOTES:

- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- THE TRANSVERSE REBARS ARE DETAILED WITH A SPLICE LAP. AT THE CONTRACTOR'S OPTION, THIS LAP MAY BE ELIMINATED BY FURNISHING FULL LENGTH BARS WITH NO REDUCTION IN PAY WEIGHT FOR SAME.

LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER	 Iowa Department of Transportation Highway Division
		STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES CONTINUOUS CONCRETE SLAB BRIDGES NOVEMBER, 2006
		SUPERSTRUCTURE DETAILS 90'-0 BRIDGE
		J40-07-06

REVISED 07-09 - OPEN RAIL REINF. QTY'S. CHANGED WHICH CHANGED TOTAL REINF. QTY'S.