BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 110' BRIDGE

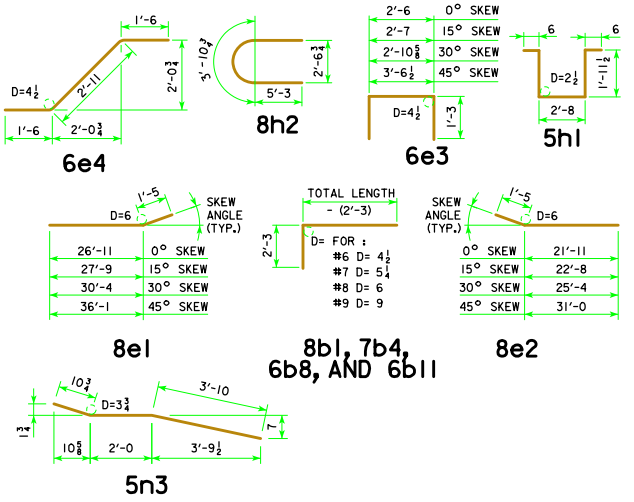
LOCATION	SHAPE	BAR	0° NO.	0° LENGTH	0° WEIGHT	15° NO.	15° LENGTH	15° WEIGHT	30° NO.	30° LENGTH	30° WEIGHT	45° NO.	45° LENGTH	45° WEIGHT
SLAB LONGITUDINAL BOTTOM		8a1	58	24'-3	3756	58	24'-3	3756	58	24'-3	3756	58	24'-3	3756
SLAB LONGITUDINAL BOTTOM		9a2	58	38'-3	7543	58	38'-3	7543	58	38'-3	7543	58	38'-3	7543
SLAB LONGITUDINAL BOTTOM		8a3	58	34'-3	5304	58	34'-3	5304	58	34'-3	5304	58	34'-3	5304
SLAB LONGITUDINAL BOTTOM		9a4	58	31'-9	6262	58	31'-9	6262	58	31'-9	6262	58	31'-9	6262
SLAB LONGITUDINAL BOTTOM		8a5	29	41'-0	3175	29	41'-0	3175	29	41'-0	3175	29	41'-0	3175
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a6	8	39'-3	1068	8	39'-3	1068	8	39'-3	1068	8	39'-3	1068
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a7	4	42'-8	581	4	42'-8	581	4	42'-8	581	4	42'-8	581
SLAB LONGITUDINAL BOTTOM, AT RAIL		8a8	8	23'-9	508	8	23'-9	508	8	23'-9	508	8	23'-9	508
SLAB LONGITUDINAL BOTTOM, AT RAIL		8a9	4	24'-0	257	4	24'-0	257	4	24'-0	257	4	24'-0	257
SLAB LONGITUDINAL TOP		8b1	58	13'-0	2014	58	13'-0	2014	58	13'-0	2014	58	13'-0	2014
SLAB LONGITUDINAL TOP		10b2	58	28'-4	7072	58	28'-4	7072	58	28'-4	7072	58	28'-4	7072
SLAB LONGITUDINAL TOP		10b3	58	25'-7	6385	58	25'-7	6385	58	25'-7	6385	58	25'-7	6385
SLAB LONGITUDINAL TOP		7b4	58	21'-5	2539	58	21'-5	2539	58	21'-5	2539	58	21'-5	2539
SLAB LONGITUDINAL TOP		10b5	58	26'-6	6614	58	26'-6	6614	58	26'-6	6614	58	26'-6	6614
SLAB LONGITUDINAL TOP		6b6	29	27'-4	1191	29	27'-4	1191	29	27'-4	1191	29	27'-4	1191
SLAB LONGITUDINAL TOP, AT RAIL		6b8	8	26'-9	322	8	26'-9	322	8	26'-9	322	8	26'-9	322
SLAB LONGITUDINAL TOP, AT RAIL		10b9	8	27'-3	939	8	27'-3	939	8	27'-3	939	8	27'-3	939
SLAB LONGITUDINAL TOP, AT RAIL		6b10	4	21'-0	127	4	21'-0	127	4	21'-0	127	4	21'-0	127
SLAB LONGITUDINAL TOP, AT RAIL		6b11	8	30'-3	364	8	30'-3	364	8	30'-3	364	8	30'-3	364
SLAB LONGITUDINAL TOP, AT RAIL		10b12	8	19'-6	672	8	19'-6	672	8	19'-6	672	8	19'-6	672
SLAB TRANSVERSE BOTTOM		6c1	107	25'-5	4085	107	26'-4	4233	96	25'-5	3665	86	25'-5	3284
SLAB TRANSVERSE BOTTOM		6c2	107	23'-3	3737	107	24'-1	3871	98	23'-3	3423	89	23'-3	3109
SLAB TRANSVERSE ENDS, BOTTOM		6c3	-	-	-	-	-	-	14	VARIES	303	22	VARIES	485
SLAB TRANSVERSE ENDS, BOTTOM		6c4	-	-	-	-	-	-	12	VARIES	255	22	VARIES	458
SLAB TRANSVERSE ENDS, BOTTOM		6c5	-	-	-	-	-	-	12	VARIES	208	20	VARIES	366
SLAB TRANSVERSE ENDS, BOTTOM		6c6	-	-	-	-	-	-	12	VARIES	227	19	VARIES	376
SLAB TRANSVERSE TOP		5d1	107	25'-9	2874	107	26'-8	2977	96	25'-9	2579	86	25'-9	2310
SLAB TRANSVERSE TOP		5d2	107	23'-3	2595	107	24'-1	2688	98	23'-3	2377	89	23'-3	2159
SLAB TRANSVERSE ENDS, TOP		5d3	-	-	-	-	-	-	14	VARIES	210	22	VARIES	337
SLAB TRANSVERSE ENDS, TOP		5d4	-	-	-	-	-	-	12	VARIES	177	22	VARIES	318
SLAB TRANSVERSE ENDS, TOP		5d5	-	-	-	-	-	-	12	VARIES	144	20	VARIES	254
SLAB TRANSVERSE ENDS, TOP		5d6	-	-	-	-	-	-	12	VARIES	158	19	VARIES	261
SLAB, TRANSVERSE AT ABUTMENT		8e1	18	28'-4	1362	18	29'-2	1402	18	31'-9	1526	18	37'-6	1803
SLAB, TRANSVERSE AT ABUTMENT		8e2	18	23'-4	1122	18	24'-1	1158	18	26'-9	1286	18	32'-5	1558
SLAB, HAIRPINS, AT ABUTMENT		6e3	100	5'-0	751	100	5'-1	764	100	5'-5	814	100	6'-1	914
SLAB, DIAGONALS, AT ABUTMENT		6e4	100	5'-11	889	100	5'-11	889	100	5'-11	889	100	5'-11	889
PIER CAP HOOPS		5h1	72	7'-7	570	72	7'-7	570	96	7'-7	760	96	7'-7	760
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	27'-5	586	8	28'-8	613	8	31'-8	677	8	37'-10	809
PIER CAP, BOTTOM LONGITUDINAL		8h4	8	21'-11	469	8	22'-4	478	8	24'-6	524	8	29'-8	634
PIER CAP, TOP LONGITUDINAL		8h5	4	28'-2	301	4	29'-6	316	4	32'-8	349	4	38'-11	416
PIER CAP, TOP LONGITUDINAL		8h6	4	23'-5	251	4	23'-11	256	4	26'-3	281	4	31'-6	337
TOP OF SLAB, TRANSVERSE, AT RAIL		5j1	212	8'-6	1880	212	8'-6	1880	206	8'-6	1827	204	8'-6	1809
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 EPOXY COATED TOTAL - LBS.					78,840			79,463			80,027			81,014
BARRIER RAIL - SEE LIST ON RAIL SHEET J44-46-14					4504			4504			4504			4504
OPEN RAIL - SEE LIST ON RAIL SHEET J44-49-14					4770			4770			4770			4770
EPOXY COATED RAIL TOTAL - LBS. WITH MONOLITHIC PIER CAP		WITH BARRIER RAIL			83,344			83,967			84,531			85,518
		WITH OPEN RAIL			83,610			84,233			84,797			85,784
EPOXY COATED RAIL TOTAL - LBS. WITH NON-MONOLITHIC PIER CAP		WITH BARRIER RAIL			81,013			81,580			81,786			82,408
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED		WITH OPEN RAIL			81,279			81,846			82,052			82,674
STAINLESS STEEL RAIL TOTAL - LBS.		WITH BARRIER RAIL			2458			2458			2458			2458
		WITH OPEN RAIL			2491			2491			2491			2491

ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 110' BRIDGE

ITEM		SKEW	WITH MONOLITHIC PIER CAP 0°	15°	30°	45°	WITH NON-MONOLITHIC PIER CAP 0°	15°	30°	45°
WITH BARRIER RAIL	*STRUCTURAL CONCRETE (BRIDGE)	C.Y.	330.2	331.3	335.0	342.9	323.8	324.7	327.6	334.0
	REINF. STEEL EPOXY COATED	LBS.	83,344	83,967	84,531	85,518	81,013	81,580	81,786	82,408
	REINF. STEEL STAINLESS STEEL	LBS.	2458	2458	2458	2458	2458	2458	2458	2458
CONCRETE BARRIER OR OPEN RAIL		LIN. FT.	242.0	242.2	242.9	244.5	242.0	242.2	242.9	244.5
WITH OPEN RAIL	*STRUCTURAL CONCRETE (BRIDGE)	C.Y.	330.0	331.1	334.7	342.7	323.6	324.5	327.4	333.8
	REINF. STEEL EPOXY COATED	LBS.	83,610	84,233	84,797	85,784	81,279	81,846	82,052	82,674
	REINF. STEEL STAINLESS STEEL	LBS.	2491	2491	2491	2491	2491	2491	2491	2491

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

BENT BAR DETAILS



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

NOTES:

ALL BARRIER RAIL REINFORCING STEEL IS TO BE EITHER EPOXY COATED OR STAINLESS STEEL AS SHOWN OR NOTED. THE STAINLESS STEEL REINFORCING STEEL SHALL BE DEFORMED BAR GRADE 60 MEETING THE REQUIREMENTS OF MATERIALS I.M.452.

ALL OTHER REINFORCING STEEL IS TO 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.

REVISED 09-14 - CHANGED REFERENCE TO THE BARRIER RAIL & OPEN RAIL TO THE J44-14 STANDARDS INSTEAD OF J44-06 STANDARDS.

09-14 LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

IOWADOT Highway Division

STANDARD DESIGN - 44' ROADWAY, 3 SPAN BRIDGES

CONTINUOUS CONCRETE SLAB BRIDGES

JULY, 2014

SUPERSTRUCTURE DETAILS 110'-0 BRIDGE

J44-11-14