

REVISED 09-14 - CHANGED REFERENCE TO THE BARRIER RAIL & OPEN RAIL TO THE J40-14 STANDARDS INSTEAD OF J40-06 STANDARDS.  
 REVISED 03-2016 - REVISION FOR ADDITION OF PAVING NOTCH BAR. SEE WEIGHT IN ESTIMATED QUANTITIES TABLE.  
 REVISED 04-2016 - REVISION TO INCLUDE PAVING NOTCH BAR. SEE WEIGHT IN ESTIMATED QUANTITIES TABLE.

### BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 110' BRIDGE

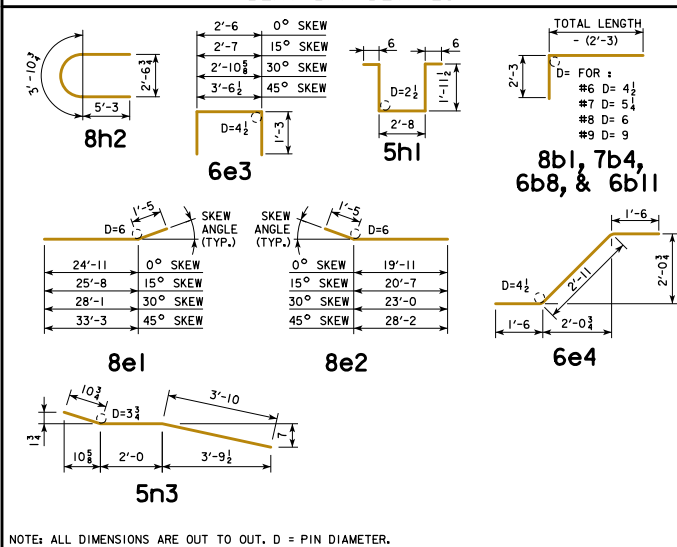
LOCATION	SKEW	SHAPE	0°				15°				30°				45°			
			BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT	
SLAB LONGITUDINAL BOTTOM			801	53	24'-3	3432	53	24'-3	3432	53	24'-3	3432	53	24'-3	3432	53	24'-3	3432
SLAB LONGITUDINAL BOTTOM			902	53	38'-3	6893	53	38'-3	6893	53	38'-3	6893	53	38'-3	6893	53	38'-3	6893
SLAB LONGITUDINAL BOTTOM			803	53	34'-3	4847	53	34'-3	4847	53	34'-3	4847	53	34'-3	4847	53	34'-3	4847
SLAB LONGITUDINAL BOTTOM			904	52	31'-9	5614	52	31'-9	5614	52	31'-9	5614	52	31'-9	5614	52	31'-9	5614
SLAB LONGITUDINAL BOTTOM			805	26	41'-0	2847	26	41'-0	2847	26	41'-0	2847	26	41'-0	2847	26	41'-0	2847
SLAB LONGITUDINAL BOTTOM, AT RAIL			906	8	39'-3	1068	8	39'-3	1068	8	39'-3	1068	8	39'-3	1068	8	39'-3	1068
SLAB LONGITUDINAL BOTTOM, AT RAIL			907	4	42'-8	581	4	42'-8	581	4	42'-8	581	4	42'-8	581	4	42'-8	581
SLAB LONGITUDINAL BOTTOM, AT RAIL			808	8	23'-9	508	8	23'-9	508	8	23'-9	508	8	23'-9	508	8	23'-9	508
SLAB LONGITUDINAL BOTTOM, AT RAIL			809	4	24'-0	257	4	24'-0	257	4	24'-0	257	4	24'-0	257	4	24'-0	257
SLAB LONGITUDINAL TOP			801	53	13'-0	1840	53	13'-0	1840	53	13'-0	1840	53	13'-0	1840	53	13'-0	1840
SLAB LONGITUDINAL TOP			10b2	53	28'-4	6462	53	28'-4	6462	53	28'-4	6462	53	28'-4	6462	53	28'-4	6462
SLAB LONGITUDINAL TOP			10b3	53	25'-7	5835	53	25'-7	5835	53	25'-7	5835	53	25'-7	5835	53	25'-7	5835
SLAB LONGITUDINAL TOP, AT RAIL			7b4	53	21'-5	2321	53	21'-5	2321	53	21'-5	2321	53	21'-5	2321	53	21'-5	2321
SLAB LONGITUDINAL TOP			10b5	52	26'-6	5930	52	26'-6	5930	52	26'-6	5930	52	26'-6	5930	52	26'-6	5930
SLAB LONGITUDINAL TOP			6b6	26	27'-4	1068	26	27'-4	1068	26	27'-4	1068	26	27'-4	1068	26	27'-4	1068
SLAB LONGITUDINAL TOP, AT RAIL			6b8	8	26'-9	322	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	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	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	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	8	19'-6	672
SLAB TRANSVERSE BOTTOM			6c1	107	23'-5	3764	107	24'-3	3898	98	23'-5	3447	88	23'-5	3096			
SLAB TRANSVERSE BOTTOM			6c2	107	21'-3	3416	107	22'-0	3536	99	21'-3	3160	91	21'-3	2905			
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	107	23'-9	2651	107	24'-7	2744	98	23'-9	2428	88	23'-9	2180			
SLAB TRANSVERSE TOP			5d2	107	21'-3	2372	107	22'-0	2456	99	21'-3	2195	91	21'-3	2017			
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	66	7'-7	523	66	7'-7	523	88	7'-7	697	88	7'-7	697			
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	212	8'-6	1880	212	8'-6	1880	202	8'-6	1791	196	8'-6	1738			
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.						72,487			73,048			73,529			74,388			
BARRIER RAIL - SEE LIST ON RAIL SHEET J40-46-14						4504			4504			4504			4504			
OPEN RAIL - SEE LIST ON RAIL SHEET J40-49-14						4770			4770			4770			4770			
EPOXY COATED RAIL TOTAL - LBS.						76,991			77,552			78,033			78,892			
WITH MONOLITHIC PIER CAP						77,257			77,818			78,299			79,158			
WITH BARRIER RAIL						74,836			75,347			75,501			76,026			
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED						75,102			75,613			75,767			76,292			
WITH OPEN RAIL						2458			2458			2458			2458			
WITH BARRIER RAIL						2491			2491			2491			2491			
WITH OPEN RAIL																		

### ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 110' BRIDGE

ITEM	SKEW	WITH MONOLITHIC PIER CAP				WITH NON-MONOLITHIC PIER CAP			
		0°	15°	30°	45°	0°	15°	30°	45°
WITH BARRIER RAIL		302.5	303.5	306.8	314.0	296.4	297.2	299.9	305.6
* STRUCTURAL CONCRETE (BRIDGE) C.Y.		76,991	77,552	78,033	78,892	74,836	75,347	75,501	76,026
REINF. STEEL EPOXY COATED LBS.		2681	2681	2681	2681	2681	2681	2681	2681
REINF. STEEL STAINLESS STEEL LBS.		242.0	242.2	242.9	244.5	242.0	242.2	242.9	244.5
CONCRETE BARRIER OR OPEN RAIL LIN. FT.		302.3	303.2	306.6	313.8	296.2	297.0	299.7	305.4
WITH OPEN RAIL		77,257	77,818	78,299	79,158	75,102	75,613	75,767	76,292
* STRUCTURAL CONCRETE (BRIDGE) C.Y.		2714	2714	2714	2714	2714	2714	2714	2714
REINF. STEEL EPOXY COATED LBS.									
REINF. STEEL STAINLESS STEEL LBS.									

\* INCLUDES 4 WINGS @ 0.68 C.Y. EACH; EXCLUDES RAIL CONCRETE.  
 Δ INCLUDES ABUTMENT PAVING NOTCH BAR WEIGHT.

### BENT BAR DETAILS



### STAINLESS STEEL REINFORCING FOR SUPERSTRUCTURE - BRIDGE

LOCATION	ALL SKEWS			
	SHAPE	BAR NO.	LENGTH	WEIGHT
ABUTMENT PAVING NOTCH BAR	8u1	40	2'-1	223
8u1 BARS SHALL BE PAID FOR UNDER THE BID ITEM "REINFORCING STEEL, STAINLESS STEEL".				
WEIGHT = LBS.				

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.

04-2016  
LATEST REVISION DATE

*Thomas E. M. Dwyer*  
APPROVED BY BRIDGE ENGINEER

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

## CONTINUOUS CONCRETE SLAB BRIDGES

JULY, 2014

**J40-11-14**

**SUPERSTRUCTURE DETAILS**  
110'-0 BRIDGE