

REVISED 09-14 - CHANGED REFERENCE TO THE BARRIER RAIL & OPEN RAIL TO THE J40-14 STANDARDS INSTEAD OF J40-06 STANDARDS.

### BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 70' BRIDGE

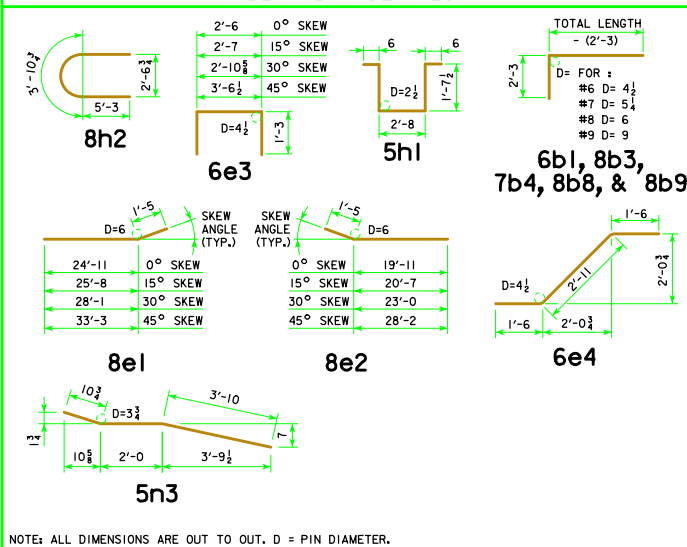
LOCATION	SKEW	SHAPE	0°				15°				30°				45°			
			BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT	
SLAB LONGITUDINAL BOTTOM			701	53	16'-0	1734	53	16'-0	1734	53	16'-0	1734	53	16'-0	1734	53	16'-0	1734
SLAB LONGITUDINAL BOTTOM			802	53	25'-0	3538	53	25'-0	3538	53	25'-0	3538	53	25'-0	3538	53	25'-0	3538
SLAB LONGITUDINAL BOTTOM			703	53	24'-3	2628	53	24'-3	2628	53	24'-3	2628	53	24'-3	2628	53	24'-3	2628
SLAB LONGITUDINAL BOTTOM			804	56	20'-9	2881	52	20'-9	2881	52	20'-9	2881	52	20'-9	2881	52	20'-9	2881
SLAB LONGITUDINAL BOTTOM			705	26	22'-0	1170	26	22'-0	1170	26	22'-0	1170	26	22'-0	1170	26	22'-0	1170
SLAB LONGITUDINAL BOTTOM, AT RAIL			706	8	24'-9	405	8	24'-9	405	8	24'-9	405	8	24'-9	405	8	24'-9	405
SLAB LONGITUDINAL BOTTOM, AT RAIL			707	4	27'-4	224	4	27'-4	224	4	27'-4	224	4	27'-4	224	4	27'-4	224
SLAB LONGITUDINAL BOTTOM, AT RAIL			808	8	18'-3	390	8	18'-3	390	8	18'-3	390	8	18'-3	390	8	18'-3	390
SLAB LONGITUDINAL BOTTOM, AT RAIL			809	4	23'-6	251	4	23'-6	251	4	23'-6	251	4	23'-6	251	4	23'-6	251
SLAB LONGITUDINAL TOP			601	53	9'-0	717	53	9'-0	717	53	9'-0	717	53	9'-0	717	53	9'-0	717
SLAB LONGITUDINAL TOP			802	53	18'-3	2583	53	18'-3	2583	53	18'-3	2583	53	18'-3	2583	53	18'-3	2583
SLAB LONGITUDINAL TOP			803	53	27'-6	3892	53	27'-6	3892	53	27'-6	3892	53	27'-6	3892	53	27'-6	3892
SLAB LONGITUDINAL TOP			704	52	22'-3	2365	52	22'-3	2365	52	22'-3	2365	52	22'-3	2365	52	22'-3	2365
SLAB LONGITUDINAL TOP			805	52	12'-6	1736	52	12'-6	1736	52	12'-6	1736	52	12'-6	1736	52	12'-6	1736
SLAB LONGITUDINAL TOP			606	26	20'-4	795	26	20'-4	795	26	20'-4	795	26	20'-4	795	26	20'-4	795
SLAB LONGITUDINAL TOP, AT RAIL			808	8	40'-0	855	8	40'-0	855	8	40'-0	855	8	40'-0	855	8	40'-0	855
SLAB LONGITUDINAL TOP, AT RAIL			809	8	30'-0	641	8	30'-0	641	8	30'-0	641	8	30'-0	641	8	30'-0	641
SLAB TRANSVERSE BOTTOM			601	67	23'-5	2357	67	24'-3	2441	58	23'-5	2040	48	23'-5	1689			
SLAB TRANSVERSE BOTTOM			602	67	21'-3	2139	67	22'-0	2214	59	21'-3	1884	51	21'-3	1628			
SLAB TRANSVERSE ENDS, BOTTOM			604	-	-	-	-	-	-	12	VARIABLES	219	20	VARIABLES	386			
SLAB TRANSVERSE ENDS, BOTTOM			605	-	-	-	-	-	-	11	VARIABLES	176	18	VARIABLES	302			
SLAB TRANSVERSE ENDS, BOTTOM			606	-	-	-	-	-	-	11	VARIABLES	190	17	VARIABLES	311			
SLAB TRANSVERSE TOP			501	67	23'-9	1660	67	24'-7	1718	58	23'-9	1437	48	23'-9	1190			
SLAB TRANSVERSE TOP			502	67	21'-3	1485	67	22'-0	1538	59	21'-3	1308	51	21'-3	1131			
SLAB TRANSVERSE ENDS, TOP			503	-	-	-	-	-	-	12	VARIABLES	155	20	VARIABLES	286			
SLAB TRANSVERSE ENDS, TOP			504	-	-	-	-	-	-	11	VARIABLES	152	20	VARIABLES	268			
SLAB TRANSVERSE ENDS, TOP			505	-	-	-	-	-	-	11	VARIABLES	122	18	VARIABLES	210			
SLAB TRANSVERSE ENDS, TOP			506	-	-	-	-	-	-	11	VARIABLES	132	17	VARIABLES	216			
SLAB, TRANSVERSE AT ABUTMENT			801	18	26'-4	1266	18	27'-1	1302	18	29'-6	1418	18	34'-8	1667			
SLAB, TRANSVERSE AT ABUTMENT			802	18	21'-4	1026	18	22'-0	1058	18	24'-5	1174	18	29'-7	1422			
SLAB, HAIRPINS, AT ABUTMENT			603	92	5'-0	691	92	5'-1	703	92	5'-5	749	92	6'-1	841			
SLAB, DIAGONALS, AT ABUTMENT			604	92	5'-11	818	92	5'-11	818	92	5'-11	818	92	5'-11	818			
PIER CAP HOOPS			5h1	72	6'-11	520	72	6'-11	520	72	6'-11	520	108	6'-11	780			
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	132	8'-6	1171	132	8'-6	1171	122	8'-6	1082	116	8'-6	1029			
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.						42,091			42,491			42,960			44,080			
BARRIER RAIL - SEE LIST ON RAIL SHEET J40-46-14						3220			3220			3220			3220			
OPEN RAIL - SEE LIST ON RAIL SHEET J40-49-14						3266			3266			3266			3266			
EPOXY COATED RAIL TOTAL - LBS.						45,311			45,711			46,180			47,300			
			WITH MONOLITHIC PIER CAP			45,357			45,757			46,226			47,346			
EPOXY COATED RAIL TOTAL - LBS.						43,159			43,509			43,825			44,351			
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED			WITH BARRIER RAIL			43,205			43,555			43,871			44,397			
			WITH OPEN RAIL															
STAINLESS STEEL RAIL TOTAL - LBS.						1737			1737			1737			1737			
			WITH BARRIER RAIL			1834			1834			1834			1834			
			WITH OPEN RAIL															

### ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 70' BRIDGE

ITEM	SKEW	WITH MONOLITHIC PIER CAP				WITH NON-MONOLITHIC PIER CAP			
		0°	15°	30°	45°	0°	15°	30°	45°
WITH BARRIER RAIL	*STRUCTURAL CONCRETE (BRIDGE) C.Y.	168.1	169.1	172.7	180.3	162.1	162.9	165.8	171.9
	REINF. STEEL EPOXY COATED LBS.	45,311	45,711	46,180	47,300	43,159	43,509	43,825	44,351
	REINF. STEEL STAINLESS STEEL LBS.	1737	1737	1737	1737	1737	1737	1737	1737
CONCRETE BARRIER OR OPEN RAIL	LIN. FT.	162.0	162.2	162.9	164.5	162.0	162.2	162.9	164.5
WITH OPEN RAIL	*STRUCTURAL CONCRETE (BRIDGE) C.Y.	168.0	169.0	172.5	180.2	161.9	162.8	165.6	171.8
	REINF. STEEL EPOXY COATED LBS.	45,357	45,757	46,226	47,346	43,205	43,555	43,871	44,397
	REINF. STEEL STAINLESS STEEL LBS.	1834	1834	1834	1834	1834	1834	1834	1834

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

### BENT BAR DETAILS



#### 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.

09-14 LATEST REVISION DATE  <i>Thomas E. McQuillan</i> APPROVED BY BRIDGE ENGINEER	
	STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES <b>CONTINUOUS CONCRETE SLAB BRIDGES</b> JULY, 2014
	<div style="text-align: center;"> <b>SUPERSTRUCTURE DETAILS</b>  <b>70'-0 BRIDGE</b> </div> <div style="text-align: center;"> <b>J40-03-14</b> </div>