

**EPOXY REINF. STEEL-TWO BARRIER RAILS - 0°, 10°, 20° AND 30° SKEW**

BRIDGE LENGTH				160'-0			180'-0			200'-0			220'-0			240'-0			260'-0			280'-0			300'-0			320'-0		
SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT			
STANDARD SECTION	5c1	VERTICAL	∩	326	5'-11	2012	366	5'-11	2259	406	5'-11	2506	446	5'-11	2752	486	5'-11	2999	526	5'-11	3246	566	5'-11	3493	606	5'-11	3740	646	5'-11	3987
	5d1	LONGITUDINAL	—	90	34'-5	3231	108	32'-4	3642	108	35'-8	4018	126	33'-9	4435	126	36'-8	4819	144	34'-10	5232	144	37'-4	5607	162	35'-8	6026	162	38'-0	6421
EPOXY COATED REINFORCING STEEL TOTAL LBS.						5,243		5,901		6,524		7,187		7,818		8,478		9,100		9,766		10,408								

**STAINLESS STEEL REINF. STEEL-TWO BARRIER RAILS - 0°, 10°, 20° AND 30° SKEW**

BRIDGE LENGTH				160'-0			180'-0			200'-0			220'-0			240'-0			260'-0			280'-0			300'-0			320'-0		
SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT			
STANDARD SECTION	5c2	VERTICAL	∩	326	6'-0	2040	366	6'-0	2290	406	6'-0	2541	446	6'-0	2791	486	6'-0	3041	526	6'-0	3292	566	6'-0	3542	606	6'-0	3792	646	6'-0	4043
	STAINLESS STEEL REINFORCING STEEL TOTAL LBS.						2,040		2,290		2,541		2,791		3,041		3,292		3,542		3,792		4,043							

**EPOXY REINF. STEEL-TWO BARRIER RAILS - 45° SKEW**

BRIDGE LENGTH				160'-0			180'-0			200'-0			220'-0			240'-0			260'-0			280'-0			300'-0			320'-0		
SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT			
STANDARD SECTION	5c1	VERTICAL	∩	328	5'-11	2024	368	5'-11	2271	408	5'-11	2518	448	5'-11	2765	488	5'-11	3011	528	5'-11	3258	568	5'-11	3505	608	5'-11	3752	648	5'-11	3999
	5d1	LONGITUDINAL	—	90	34'-7	3246	108	32'-7	3671	108	35'-11	4046	126	34'-0	4469	126	36'-10	4841	144	35'-0	5257	144	37'-6	5633	162	35'-10	6055	162	38'-1	6435
EPOXY COATED REINFORCING STEEL TOTAL LBS.						5,270		5,942		6,564		7,234		7,852		8,515		9,138		9,807		10,434								

**STAINLESS STEEL REINF. STEEL-TWO BARRIER RAILS - 45° SKEW**

BRIDGE LENGTH				160'-0			180'-0			200'-0			220'-0			240'-0			260'-0			280'-0			300'-0			320'-0		
SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT			
STANDARD SECTION	5c2	VERTICAL	∩	328	6'-0	2053	368	6'-0	2303	408	6'-0	2553	448	6'-0	2804	488	6'-0	3054	528	6'-0	3304	568	6'-0	3555	608	6'-0	3805	648	6'-0	4055
	STAINLESS STEEL REINFORCING STEEL TOTAL LBS.						2,053		2,303		2,553		2,804		3,054		3,304		3,555		3,805		4,055							

NOTE: THE REINFORCING STEEL QUANTITIES ARE TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

**CONCRETE PLACEMENT SUMMARY**

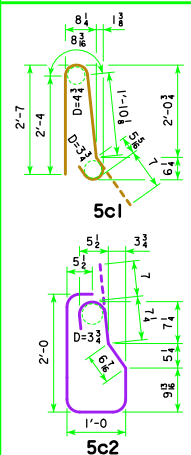
BRIDGE LENGTH		160'-0	180'-0	200'-0	220'-0	240'-0	260'-0	280'-0	300'-0	320'-0
STANDARD SECTION	* 2 X B @ 0.1052 CU.YD. PER FT.	34.6	38.8	43.0	47.2	51.4	55.6	59.8	64.0	68.2
END SECTION	4 @ 0.65 CU.YD.	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
TOTAL (CU. YD.)		37.2	41.4	45.6	49.8	54.0	58.2	62.4	66.6	70.8

\* SEE RS40-087-14 FOR DIMENSION "B". CONCRETE QUANTITIES SHOWN ARE BASED ON 45° SKEW BID LENGTHS.

**CONCRETE BARRIER RAIL QUANTITIES**

BRIDGE LENGTH		UNIT	160'-0	180'-0	200'-0	220'-0	240'-0	260'-0	280'-0	300'-0	320'-0
CONCRETE BARRIER RAILING	0° SKEW	L.F.	354.0	394.0	434.0	474.0	514.0	554.0	594.0	634.0	674.0
CONCRETE BARRIER RAILING	10° SKEW	L.F.	354.1	394.1	434.1	474.1	514.1	554.1	594.1	634.1	674.1
CONCRETE BARRIER RAILING	20° SKEW	L.F.	354.4	394.4	434.4	474.4	514.4	554.4	594.4	634.4	674.4
CONCRETE BARRIER RAILING	30° SKEW	L.F.	354.9	394.9	434.9	474.9	514.9	554.9	594.9	634.9	674.9
CONCRETE BARRIER RAILING	45° SKEW	L.F.	356.5	396.5	436.5	476.5	516.5	556.5	596.5	636.5	676.5

**BENT BAR DETAILS**



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

LATEST REVISION DATE

*Thomas E. McQuinn*  
APPROVED BY BRIDGE ENGINEER



STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES  
**ROLLED STEEL BEAM BRIDGES**

OCTOBER, 2014

**BARRIER RAIL DETAILS  
QUANTITIES**

**RS40-090-14**