



**GENERAL NOTES:**

- 1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 OF THE STANDARD SPECIFICATIONS.
- 2) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
- 3) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
- 4) BOX BEAM TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
- 5) ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT. RADII GREATER THAN 16' TO BE CURVED ON A TUBE BENDING MACHINE, RADII LESS THAN 16' TO BE "PIE CUT" AND WELDED. CURVED RAILING WILL HAVE AN 18" LENGTH ON EACH END STRAIGHT TO ACCOMADATE SPLICES.
- 6) ALL STEEL COMPONENTS SHALL BE COATED BLACK IN ACCORDANCE WITH ASTM D7803 FOLLOWING GALVANIZING.

BILL OF MATERIALS, EACH CORNER				
ITEM #	QTY.	COMPONENT #	DESCRIPTION	MATERIAL (ASTM)
1	3	0013.57021	3' I-POST, PUNCH 8' W/SPD @ 63' LG	ASTM A572 Gr. 50
2	3	0013.57025	3' I-POST W/SPD @ 63', PUNCH 8', & 20' & HOLES @ VARIOUS	ASTM A572 Gr. 50
3	2	0013.57060	3' I-END POST W/SPD @ 3'-8' LG	ASTM A572 Gr. 50
4	4	-	W6X9 POST @ 7' W/SPD & 5/8" HOLES @ VARIOUS	ASTM A572 Gr. 50
5	4	-	3' I-POST, PUNCH 8' & VARIOUS', W/8X32' SPADE @ 7'	ASTM A572 Gr. 50
7	1	0033.00640	HSS 5X5 TUBE SPLICE @ 27' LG W/ 1/4' SHIMS	A500 Gr. B / A572 Gr 50
10	19	0054.00050	REG BB SHELF ANGLES @ 4-1/2"	ASTM A36
12	1	-	HSS 5X5 DBL BEND TUBE SPL @ 27' LG	A500 Gr. B / A572 Gr 50
13	8	0054.00563	6X8" TRANS. TUBE B/D @ 6' LG	A500 Gr. B
15	1	0054.09000	6X6" BB @ 9'-0" KICKBACK, W/ CAP	A500 Gr. B / A36
16	1	0054.18000	6X6" BB @ 17'-11 1/2", DRILL 3" CC	A500 Gr. B
17	1	-	6X6" BB TOP TRANS @ 24'-9 3/4" LG W/EXP END	A500 Gr. B
18	1	-	6X6" BB BTM TRANS @ 25'-5 1/2" LG W/EXP END	A500 Gr. B
19	18	0080.03355	Ø3/8" X 7 1/2' BOLT, NUT, & 2 FW	A307
20	19	0080.04100	Ø1/2" x 1-1/2' BOLT, NUT, & FW	A307
21	16	0080.04120	Ø1/2" x 1-1/2' BOLT, NUT, 2 FW & LW	A307
23	10	0080.06340	Ø3/4" X 7-1/2' BOLT, NUT, 2 FW	A325, A563, F436
24	8	0080.06370	Ø3/4" X 8" CARR BOLT, NUT, FW & LW	A307
25	1	-	Ø3/4" THREADED ROD @ 14", NUT & FW (S.E. CORNER TURNBACK)	A449, A563, F436

HARDWARE NOTES	
ITEM #	FUNCTION
19	BOLT RAIL TO SHELF ANGLE (ITEM #10)
20	BOLT SHELF ANGLE (ITEM # 10) TO POST
21	BOLT BLOCK-OUTS (ITEM # 13) TO HEAVY POST (ITEM # 4)
23	SPLICE TUBING (ITEM #'S 7 & 12), & (4) PER PARAPET WALL CONNECTION
24	BOLT RAIL (ITEMS #'S 17, & 18 TO BLOCK-OUTS (ITEM # 13)

ITEM #: 621.72

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

GRAS, GLV 2 RAIL BOX BEAM

EM14-192, VT 121 (CL 2, TH 1) RURAL MAJOR COLLECTOR, BRIDGE NO.: 11R  
PROJECT: ROCKINGHAM BRP 0126(12), TOWN OF ROCKINGHAM, WINDHAM COUNTY, VT

SHEET 2 OF 5

R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY
E					E				
V					V				

TOLERANCE UNLESS OTHERWISE NOTED:  
FRACTIONS = ± 1/16"  
ANGLES = ± 1/2"  
DIAMETERS = ± 1/32"

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DRAWN E.P. 12/24/14  
CHECKED D.L.  
APPROVED M.V.  
SCALE SCHEMATIC  
DRAWING NO. FRL - ROCKINGHAM-T

Vermont Agency of Transportation  
**RECEIVED**  
ON: December 29, 2014  
and Checked for  
**CONFORMANCE**  
BY: TAS DATE: 01/20/2015