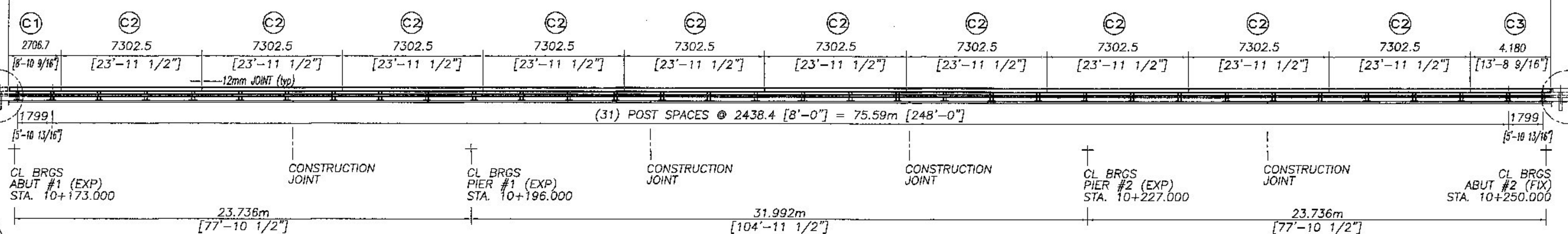


PAY LENGTH ITEM 525.33 - BRIDGE RAILING, GALVANIZED, 2 RAIL BOX BEAM = 80.05 m [262'-7 5/8"]



FACING WEST, LOOKING AT FRONT OF RAIL, FROM CENTERLINE OF ROAD
ALL DIMENSIONS IN ELEVATION VIEW ARE RADIAL AS MEASURED ALONG FACE OF RAILING

BILL OF MATERIAL - APPROACHES

Qty	mk	Description	Spec.
4	01	W8x25 APPROACH POST - #1 x 8'-0" OAL (GALV)	A709 gr 50
4	02	W8x25 APPROACH POST - #2 x 8'-0" OAL (GALV)	A709 gr 50
4	03	W8x25 APPROACH POST - #3 x 8'-0" OAL (GALV)	A709 gr 50
4	04	W8x25 APPROACH POST - #4 x 8'-0" OAL (GALV)	A709 gr 50
4		UPPER RAIL APPROACH TUBE HSS 8 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
4		LOWER RAIL APPROACH TUBE HSS 4 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
4		CONNECTION PLATE PL 0.375" x 20.000" x 27.000" (GALV)	A709 gr 36
2		DEFLECTOR PLATE (RIGHT) PL 0.375" x 4.000" x 13.375" (GALV)	A709 gr 36
2		DEFLECTOR PLATE (LEFT) PL 0.375" x 4.000" x 13.375" (GALV)	A709 gr 36
4		END CAP FOR 8x4 TUBE 0.187" THICK PLATE 8.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		END CAP FOR 4x4 TUBE 0.187" THICK PLATE 4.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		(ANGLED) SPLICE TUBE (EXPANSION) FOR 8x4 UPPER RAIL HSS 7 x 3 x 3/8 x 1'-11.750" OAL (GALV)	A500 gr B
4		SPLICE TUBE (EXPANSION) FOR 4x4 LOWER RAIL HSS 3 x 3 x 5/16 x 1'-11.750" OAL (GALV)	A500 gr B
32		WOOD POST (WP1) 6 x 6 x 7'-0"	TIMBER
32		WOOD BLOCKOUT (WB1) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST (WP2) 6 x 6 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB2) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST (WP3) 6 x 6 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB3) 6 x 8 x 1'-2"	TIMBER
4		THREE FLIP LIP BRIDGE SHOE (MODIFIED) 10 GA. GALV	ashto M180 B2
4		THREE TRANSMON PANEL 6'-3" x 3'-1 1/2" 10 GA. GALV	ashto M180 B2
8		THREE PANEL 12'-6" x 1'-6 3/4" 12 GA. GALV	ashto M180 A2
92		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 8" LG. (GLV) w/ LOCK NUT & FLAT WASHER	A449
4		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 2" LG. (GLV) w/ HEX NUT	A449
8		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
66		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
32		HEX HEAD BOLT 5/8 x 1'-3/4" (GALV) w/ FLAT WASHER	A325
128		PANEL SPLICE BOLT 5/8 x 1'-1/4" (GALV) w/ DOUBLE RECESS NUT	A307
76		RECTANGULAR PLATE WASHER 0.187 x 1.750 x 3.000 (GALV)	A709 gr 36
32		SPACER PIPE - GALVANIZED 3/4" SCH. 40 x 1/2" LONG (GLV)	A53 gr B

* - ANCHOR QTY INCLUDES (2) ADDITIONAL SETS FOR TESTING

No.	Remarks	Date
A	Miscellaneous corrections	4/24/13
0	Initial submittal	4/24/13

REVISIONS - applies to set

BILL OF MATERIAL - BRIDGE RAIL (BOTH SIDES)

Qty	mk	Description	Spec.
66		BRIDGE RAILING POST W6 x 25 x 2'-2.375" OAH WITH 1 x 10 x 14 BASE PLATE (GLV)	A709 gr 50
21		SPLICE TUBE (FOR 8x4 RAIL) HSS 7 x 3 x 3/8 x 1'-8.000" OAL w/ TAPPED HOLES & 2 WELDED NUTS (GLV)	A500 gr B
21		SPLICE TUBE (FOR 4x4 RAIL) HSS 3 x 3 x 5/16 x 1'-8.000" OAL w/ TAPPED HOLES & 2 WELDED NUTS (GLV)	A500 gr B
1	C1	RAIL TUBE HSS 8 x 4 x 5/16 x 8 ft - 10.5625 in OAL - FIX splice 1 end, EXP splice 1 end (GLV) - 155m CONCAVE	A500 gr B
10	C2	RAIL TUBE HSS 8 x 4 x 5/16 x 23 ft - 11.5 in OAL - FK splice both ends (GLV) - 155 m CONCAVE	A500 gr B
1	C3	RAIL TUBE HSS 8 x 4 x 5/16 x 13 ft - 8.5625 in OAL - FIX splice 1 end, EXP splice 1 end (GLV) - 155m CONCAVE	A500 gr B
1	C4	RAIL TUBE HSS 8 x 4 x 5/16 x 10 ft - 9.75 in OAL - FK splice 1 end, EXP splice 1 end (GLV) - 145 m CONVEX	A500 gr B
8	C5	RAIL TUBE HSS 8 x 4 x 5/16 x 23 ft - 11.5 in OAL - FK splice both ends (GLV) - 145 m CONVEX	A500 gr B
1	C6	RAIL TUBE HSS 8 x 4 x 5/16 x 19 ft - 5.500 in OAL - FIX splice both ends (GLV) - 145 m CONVEX	A500 gr B
1	C7	RAIL TUBE HSS 8 x 4 x 5/16 x 23 ft - 9.75 in OAL - FK splice 1 end, EXP splice 1 end (GLV) - 145 m CONVEX	A500 gr B
1	C1	RAIL TUBE HSS 4 x 4 x 1/4 x 8 ft - 10.5625 in OAL - FIX splice 1 end, EXP splice 1 end (GLV) - 155m CONCAVE	A500 gr B
10	C2	RAIL TUBE HSS 4 x 4 x 1/4 x 23 ft - 11.5 in OAL - FK splice both ends (GLV) - 155 m CONCAVE	A500 gr B
1	C3	RAIL TUBE HSS 4 x 4 x 1/4 x 13 ft - 8.5625 in OAL - FIX splice 1 end, EXP splice 1 end (GLV) - 155 m CONCAVE	A500 gr B
1	C4	RAIL TUBE HSS 4 x 4 x 1/4 x 10 ft - 9.75 in OAL - FK splice 1 end, EXP splice 1 end (GLV) - 145 m CONVEX	A500 gr B
8	C5	RAIL TUBE HSS 4 x 4 x 1/4 x 23 ft - 11.5 in OAL - FK splice both ends (GLV) - 145 m CONVEX	A500 gr B
1	C6	RAIL TUBE HSS 4 x 4 x 1/4 x 19 ft - 5.500 in OAL - FK splice both ends (GLV) - 145 m CONVEX	A500 gr B
1	C7	RAIL TUBE HSS 4 x 4 x 1/4 x 23 ft - 9.75 in OAL - FK splice 1 end, EXP splice 1 end (GLV) - 145 m CONVEX	A500 gr B
66		ANCHOR SPACER PLATE PL 0.375 x 13.000 x 9.375	A709 gr 36
266		ANCHOR STUD DBL END PART THREAD - 1" DIA x 12.000 w/ 2.250" THD EACH END (GLV)	A449
532		HEAVY HEX NUT 1" (GLV)	A563 DH
266		ROUND WASHER (SAE) - 1" DIA SMALL (GLV)	F 436
266		JAM NUT 1" (GALV)	A563 DH
264		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 8" LG. FULL BODY (GLV)	A449 / A325
264		LOCK NUT 3/4" (GLV)	A563 DH
264		ROUND WASHER (SAE) 3/4" (GLV)	F 436
168		HEX HEAD BOLT 5/8" DIA x 1.75" LG. (GLV)	A325
168		ROUND WASHER (SAE) 5/8" (GLV)	F 436
66		BEARING PAD 0.125" THICK x 10.000 x 14.000 (NEOPRENE 80 duro +/-10)	ashto M251

NOTE:
BRIDGE RAIL TUBES WILL BE SHOP CURVED TO THE REQUIRED RADIUS [155 m ± CONCAVE]
APPROACH RAILS WILL BE PROVIDED STRAIGHT AND WILL FLEX TO REQUIRED RADIUS DURING INSTALLATION

Vermont Agency of Transportation
RECEIVED
MEM OK'D BY
May 31, 2013
RESUBMIT BY MEM APPROVED DATE 5-31-2013

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 BRIDGE RAILING GALVANIZED 2 RAIL BOX BEAM (5-350A)
ITEM 621.72 GUARDRAIL APPROACH GALVANIZED 2 RAIL BOX BEAM (5-350B)

TOWN OF CAMBRIDGE, LAMOILLE COUNTY
VT 108 BRIDGE #21 BRF 027-1(4)

GENERAL CONTRACTOR: LAFAYETTE
DATE: 04-24-13

CERTIFIED FABRICATOR
1912
1 of 4