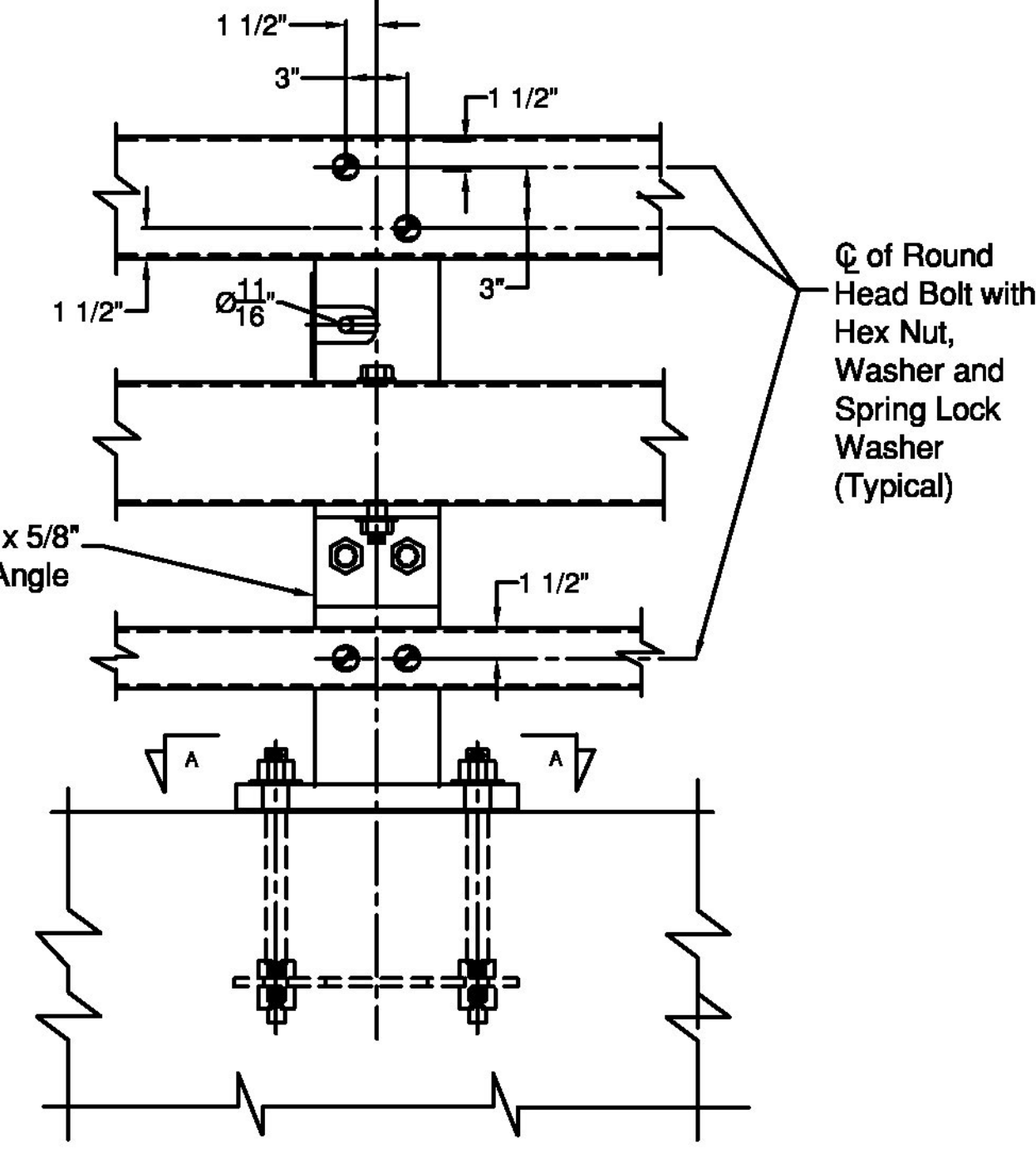
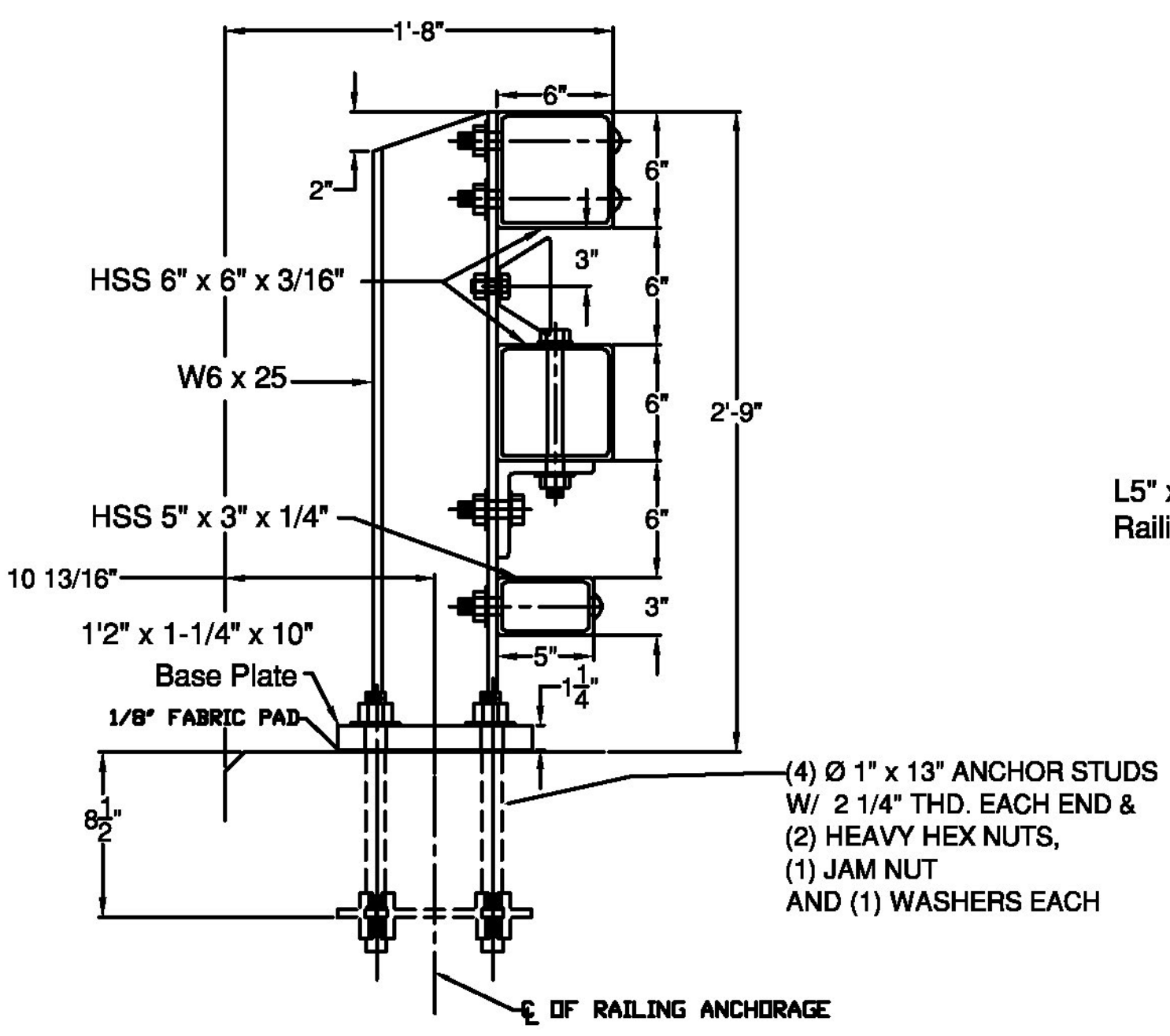
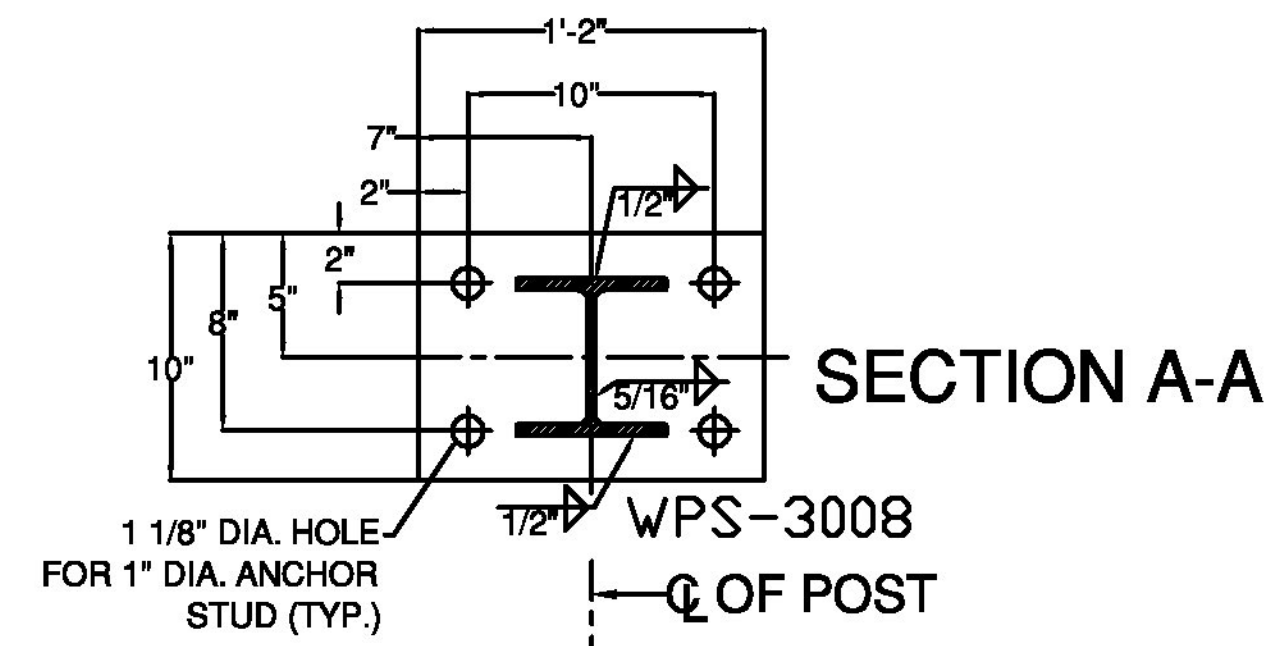
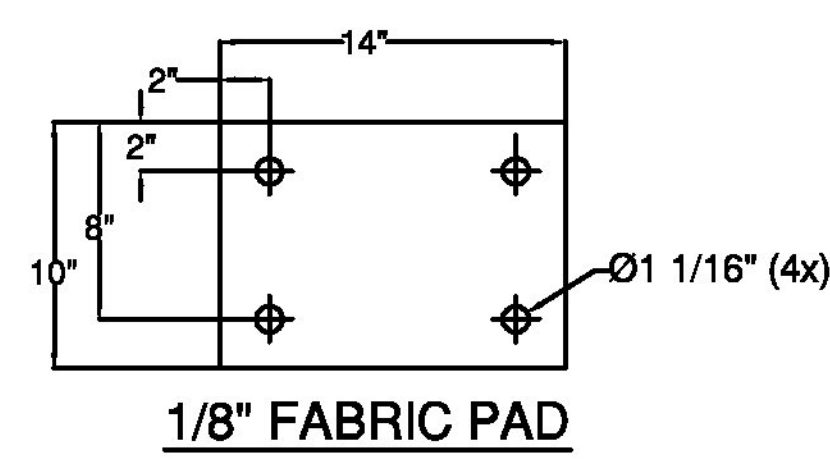


**NORTH RAILING FACING NORTH  
(SOUTH RAILING SIMILAR)**

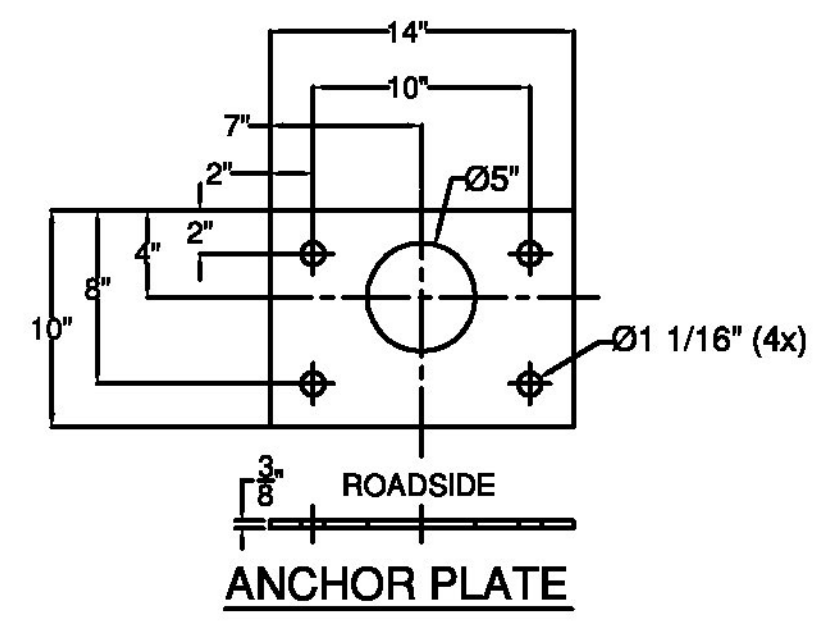


**STEEL BRIDGE RAILING**

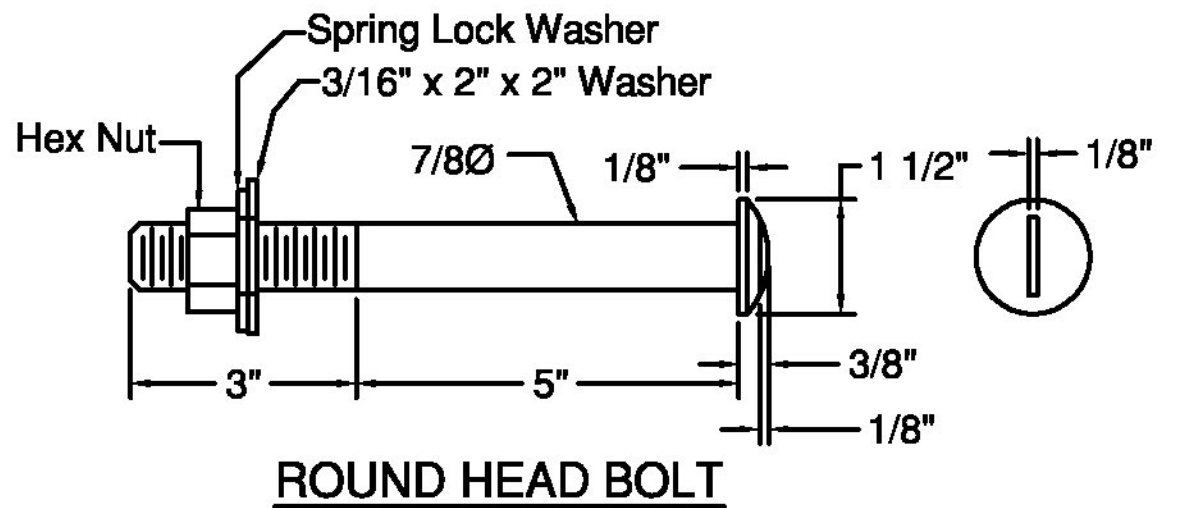
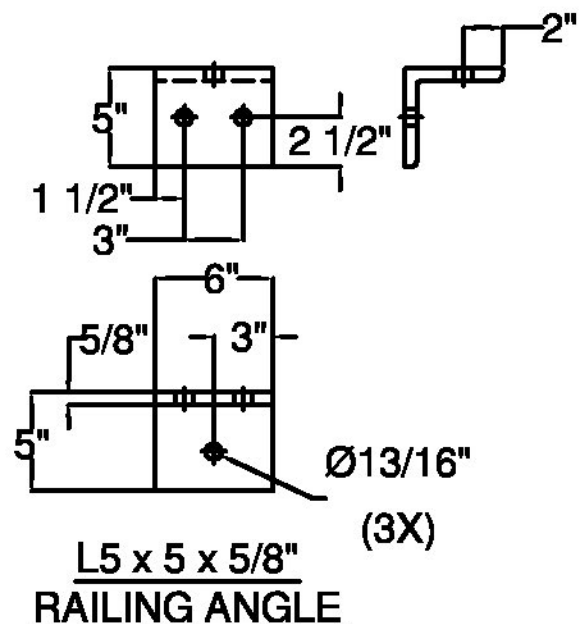
Vermont Agency of Transportation  
**RECEIVED**  
CK'D BY R. Klinefelter OK'D BY J. Salvatori  
February 14, 2013  
RESUBMIT Approved X  
BY K. Higgins DATE 02/19/13

- GENERAL NOTES:**
- 1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 OF THE STANDARD SPECIFICATIONS.
  - 2) PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
  - 3) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
  - 4) RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPER STRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" @ 68°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
  - 5) RETROREFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE A .063" ALUMINUM BACKING WHITE OR YELLOW REFLECTOR. WHITE IS TO BE INSTALLED ON THE DRIVERS RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVERS LEFT.
  - 6) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
  - 7) THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
  - 8) ALL POST SHALL BE SET NORMAL TO GRADE. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POST IS 8' 3".
  - 9) ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
  - 10) STD. SPLICE HOLES ONLY IN BRIDGE RAIL TUBES. REST TO BE DRILLED BY CUSTOMER. FIELD DRILLED HOLES TO BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
  - 11) THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

**RAIL BENDING PROCEDURE:**  
RADI GREATER THAN 16' TO BE CURVED ON A TUBE BENDING MACHINE, RADI LESS THAN 16' TO BE 'PIE CUT' AND WELDED.



BILL OF MATERIAL		
QTY	DESCRIPTION	ASTM DESIGNATION
20	W6x25, THREE RAIL POST @ 2'-9" DA ON 1 1/4x10x1'-2" B.P.	A572 Gr. 50
2	HSS 3" X 5" X 1/4" RAIL @ 21'-11 1/2"	A500 Gr. B
2	HSS 3" X 5" X 1/4" RAIL @ 31'-11 1/2"	A500 Gr. B
2	HSS 3" X 5" X 1/4" RAIL @ 22'-4"	A500 Gr. B
4	HSS 6" X 6" X 3/16" RAIL @ 23'-11 1/2"	A500 Gr. B
4	HSS 6" X 6" X 3/16" RAIL @ 31'-11 1/2"	A500 Gr. B
4	HSS 6" X 6" X 3/16" RAIL @ 24'-4"	A500 Gr. B
4	2-1/8" X 4-1/4" FIX. SPLICE BAR @ 2'-3"	A572 Gr. 50
8	HSS 5" X 5" X 5/16" FIX. SPLICE TUBE @ 2'-3"	A500 Gr. B, A572 Gr. 50
20	3/8" X 10" X 14" ANCHOR PLATES (END POST)	A572 Gr. 50
20	1/8" X 10" X 14" FABRIC PAD	AASHTO M251
80	Ø 1" X 13" ANCHOR STUDS, W/ 2 1/4" THD. EACH END	A449 Gr. 1, CLASS 8.8
160	Ø 1" HEAVY HEX NUTS & FLAT WASHERS	A563 & F436
80	Ø 1" HEX JAM NUTS	A563
80	Ø 7/8" X 8" ROUND HEAD BOLT, NUT, SQ. WASHER, L.W.	A449, A563, F436, ASME B18.21.1
20	Ø 3/4" X 8" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563, F436, & ASME B18.21.1
40	Ø 3/4" X 2-3/4" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563, F436, & ASME B18.21.1
32	Ø 3/4" X 7-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563, & F436
16	Ø 3/4" X 4-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563, & F436
20	Ø 5/8" X 1-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563, & F436
20	L5" X 5" X 5/8" RAILING ANGLE @ 6"	A572 Gr. 50
TBD DELINEATORS		(SUPPLIED BY F.R. LAFAYETTE)



ITEM #: 525.335  
APPROVED BY: \_\_\_\_\_  
F.R. LAFAYETTE, P.O. 27399  
**BRIDGE RAIL DETAILS SHEET**  
PROJECT: BRIGHTON, PROJECT # ER STP 034-3(25), MINOR ARTERIAL, BRIDGE # 84  
TOWN OF BRIGHTON, ESSEX COUNTY, VT.  
SHEET 1 OF 2

R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
E 1	12/26/12	REVISED PER 12/26/12 EMAIL E.P.	E	3	1/30/13	MADE IN #P TO 1 1/8" FOR RAIL 1/20/13 E.P.	E.P.
V 2	1/9/13	REVISED PER 1/9/13 EMAIL E.P.	V				

**ELDERLEE, INC.**  
OAKS CORNERS, NEW YORK 14518  
E-Mail: dlong@elderlee.com  
Tel: 315-789-6670 Fax: 315-789-6615

**CERTIFIED FABRICATOR**

DRAWN	E.P.	12/03/12
CHECKED	D.L.	12/03/12
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO.	F.R. LAFAYETTE BRIGHTON	