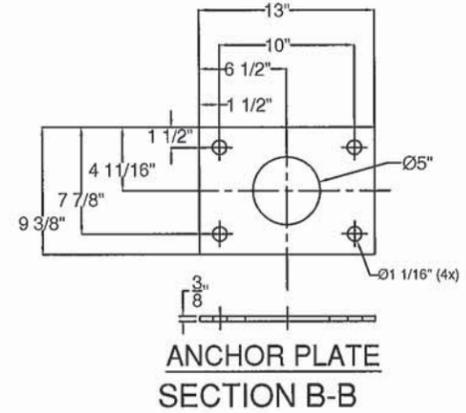
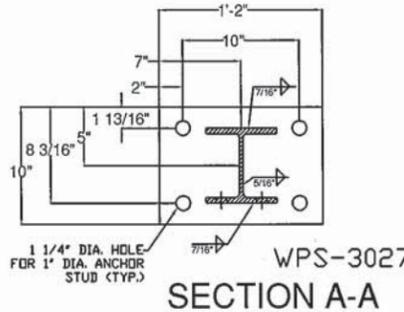
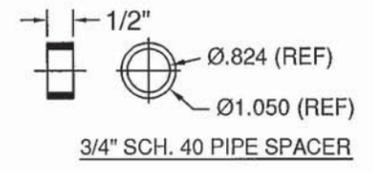
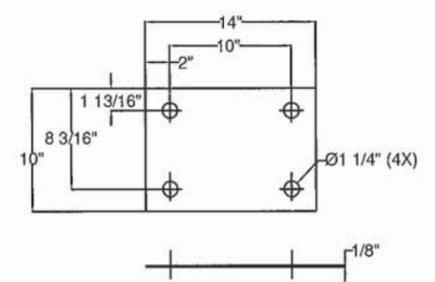
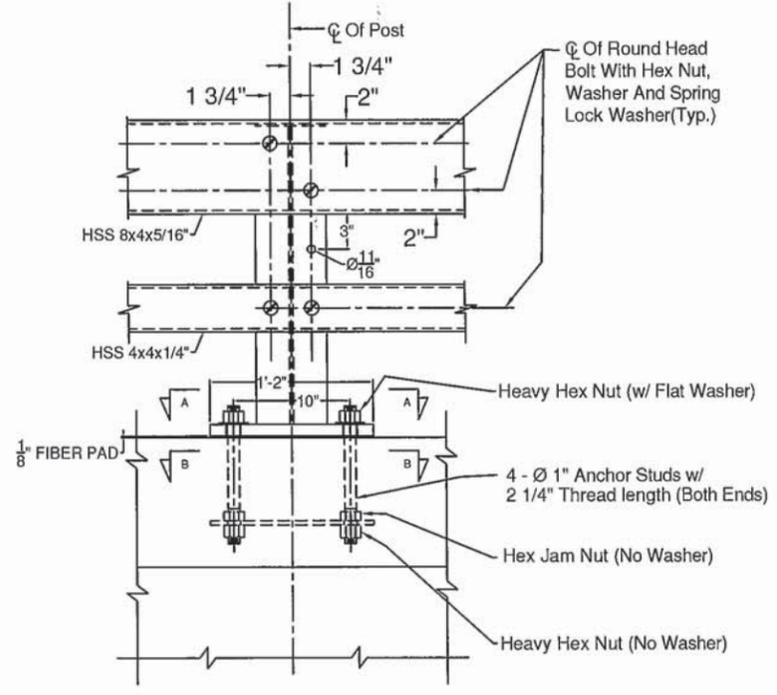
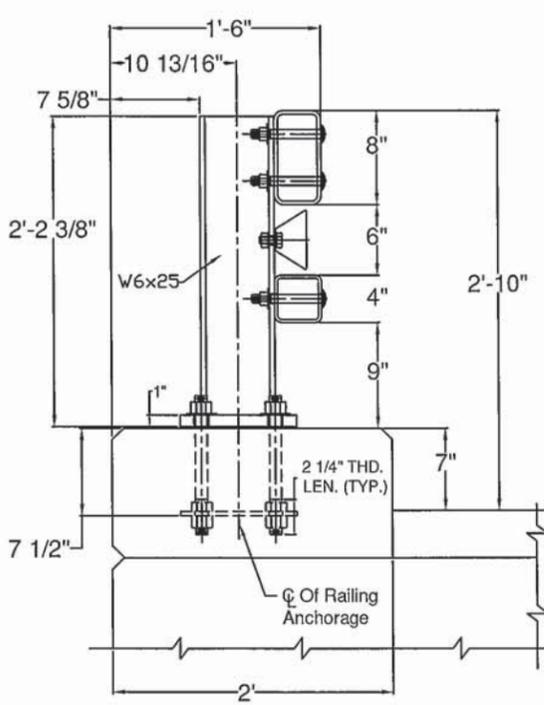


24'-7" per bill of material

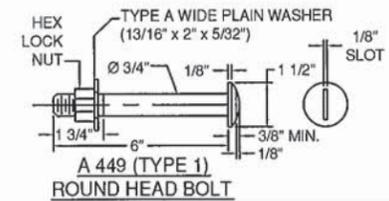


BILL OF MATERIAL			
QTY	PART #	DESCRIPTION	ASTM DESIGNATION
24	0033.90344	TWO RAIL POST @ 2'-2 3/8" O.A.	A572 Gr. 50
2	0033.91094	4" X 4" X 1/4" RAIL @ 29'-0"	A500 Gr. B
2	0033.91095	4" X 4" X 1/4" RAIL @ 29'-2"	A500 Gr. B
1	0033.91096	4" X 4" X 1/4" RAIL @ 24'-5 1/2" (NORTH RAIL)	A500 Gr. B
1	0033.91097	4" X 4" X 1/4" RAIL @ 24'-7" (SOUTH RAIL)	A500 Gr. B
2	0033.91098	4" X 8" X 5/16" RAIL @ 29'-0"	A500 Gr. B
2	0033.91099	4" X 8" X 5/16" RAIL @ 29'-2"	A500 Gr. B
1	0033.91106	4" X 8" X 5/16" RAIL @ 24'-5 1/2" (NORTH RAIL)	A500 Gr. B
1	0033.91107	4" X 8" X 5/16" RAIL @ 24'-7" (SOUTH RAIL)	A500 Gr. B
4	0033.90052	3" X 3" X 5/16" FIX. SPL. TUBE @ 1'-8"	A500 Gr. B
4	0033.90033	3" X 7" X 3/8" FIX. SPL. TUBE @ 1'-8"	A500 Gr. B
24	0033.00299	3/8" X 9 3/8" X 13" ANCHOR PLATES	A36
24	0033.00052	1/8" FIBER PAD @ 10" X 14" (S-360A)	AASHTO M251
96	0042.21012	1" X 12" ANCHOR STUDS W/ 2 1/2" THREADED ENDS	A449 Gr. 1
192	0080.18901	1" HEX NUTS	A563
96	0080.18905	1" HEX JAM NUTS	A325
96	0080.18911	1" FLAT WASHERS	F436
96	0080.06290	3/4" X 6" ROUND HEAD BOLT, NUT, FLAT WASHER, L.W.	A449, A563, ASME B18.2.1
32	0080.05045	5/8" X 1 3/4" HEX BOLT, & F.W.	A307
6	-	ALUMINUM DELINEATORS	SUPPLIED BY FRL



NOTES

- ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
- PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
- ALL POSTS SHALL BE SET NORMAL TO GRADE.
- SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE RAIL POSTS AND PREFERABLY TO AT LEAST FOUR POSTS.
- RAIL TUBE EXPANSION JOINTS SHALL PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
- HOLES IN RAILS FOR RAIL TUBE ATTACHMENT WILL BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
- RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
- RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A 449 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE RACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
- ANY BENDING OF RAIL SHALL BE DONE AT A FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
- 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 TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
- SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
- THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.



ITEM #: 525.335 GEN CONTR: F.R. LAFAYETTE, P.O. 28718 SHEET 1 OF 2

APPROVED BY: **RECEIVED** Vermont Agency of Transportation
CK'D BY RK OK'D BY JS
May 30, 2014
RESUBMIT NO Approved AsNoted
BY KH DATE 5-30-2014

BRIDGE RAIL DETAILS SHEET
PROJECT: MARLBORO BRF 010-1 (43) VT 9 PRINCIPAL ARTERIAL-NHS, BRIDGE NO. 48
TOWN OF MARLBORO, WINDHAM COUNTY, VERMONT

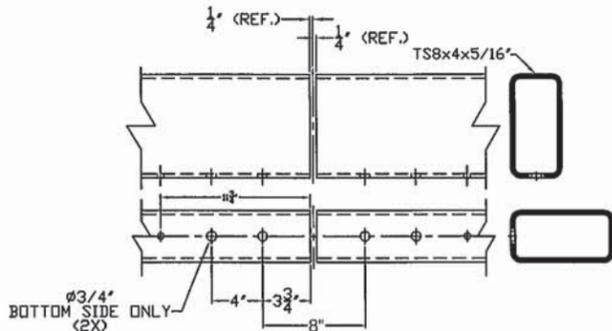
R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
1	5/26/14	REVISED PER 5/21/14 CHANGES	E.P.				

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

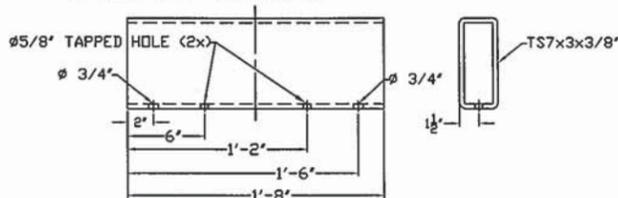
CERTIFIED FABRICATOR

DRAWN	E.P.	4/7/14
CHECKED	D.L.	4/7/14
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO. F.R.L. MARLBORO 28718		

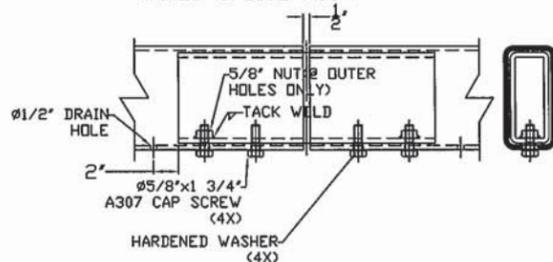
FIXED SPLICE TUBE DETAIL



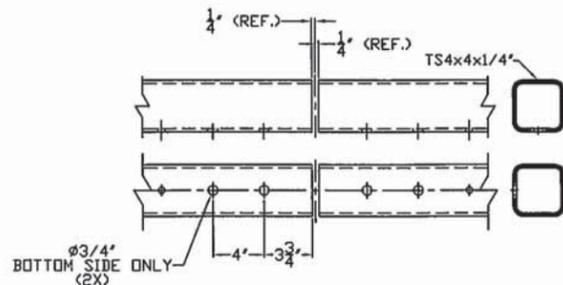
SPLICE FOR: TS8x4x5/16'



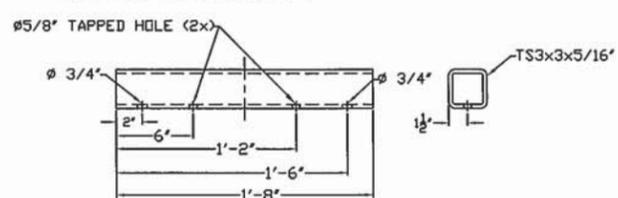
FIXED SPLICE ASS'Y



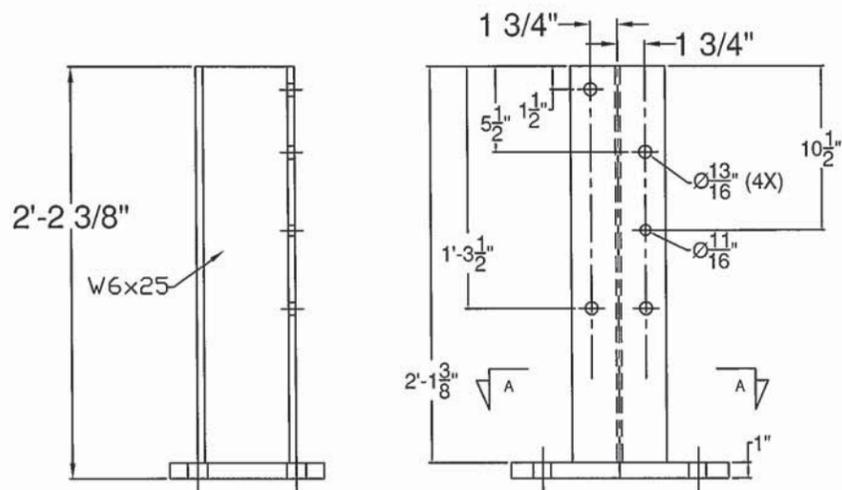
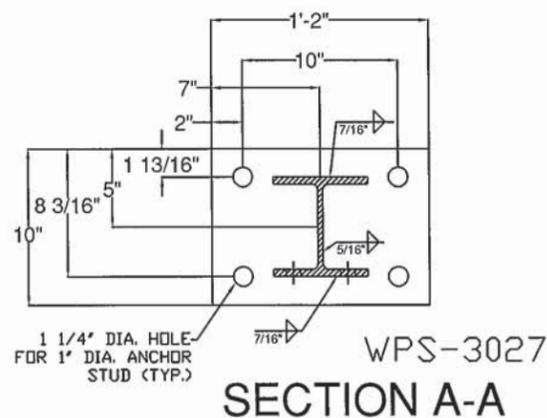
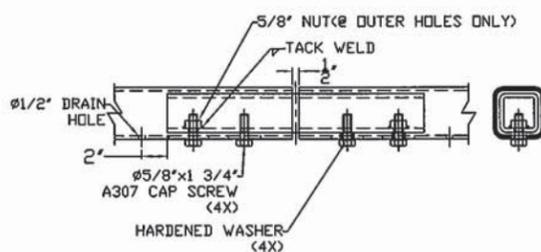
FIXED SPLICE TUBE DETAIL



SPLICE FOR: TS4x4x1/4'



FIXED SPLICE ASS'Y



ITEM #: 525.335

GEN CONTR: F.R. LAFAYETTE, P.O. 28718

SHEET 2 OF 2

APPROVED BY:
Vermont Agency of Transportation
RECEIVED
 CK'D BY RK OK'D BY JS
 May 30, 2014
 RESUBMIT NO Approved
 BY KH DATE 5-30-2014

BRIDGE RAIL DETAILS SHEET
 PROJECT: MARLBORO BRF 010-1 (43) VT 9 PRINCIPAL ARTERIAL-NHS, BRIDGE NO. 48
 TOWN OF MARLBORO, WINDHAM COUNTY, VERMONT

R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
E 1	5/26/14	REVISED PER 5/21/14 CHANGES	E.P.	E			

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

DRAWN	E.P.	4/7/14
CHECKED	D.L.	4/7/14
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO. F.R.L. MARLBORO 28718		

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE#1

Material Specification	A572 GRD. 50 /A992-06a		
Welding Process	FCAW		
Manual or Machine	SEMAUTOMATIC		
Position of Welding	FLAT/HORIZONTAL		
Filler Metal Specification	A5.20		
Filler Metal Classification	E70 LINCOLN OUTERSHEILD		
Flux	N/A		
Shielding Gas	CO 2	Dew Point	-40DEG F Flow Rate 50 CFM
Single or Multiple Pass	SINGLE		(45 TO 63 CFM)
Single or Multiple Arc	N/A		
Welding Current	DC		
Polarity	DCEP		
Welding Progression	STRINGER		
Root Treatment	PER D1.5		
Preheat and Interpass Temperature	PER D1.5		
Postheat Temperature	NONE		
Heat Input	Min		Max

WELDING PROCEDURE

Pass no.	Electrode size	Welding Current		Travel speed	Joint detail
		Amperes	Volts		
1	3/32	390	27	12	
Variable	LIMITS	351	25	11	
		TO 429	TO 29	TO 13	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure No. 3027 Contractor Elderlee, Inc.
 Revision No. _____ Authorized By RANDY SCOTT
 Date 4/4/2014

Vermont Agency of Transportation
RECEIVED
March 2011 01-1 (01) - Design Not Reviewed Approval for Weld 5-30-2014.pdf

CK'D BY RF OK'D BY JC
 May 30, 2014

RESUBMIT NO Approved _____
 BY KH DATE 5-30-2014