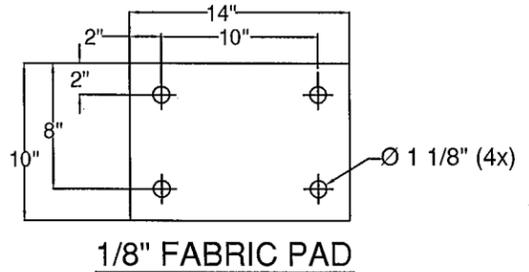
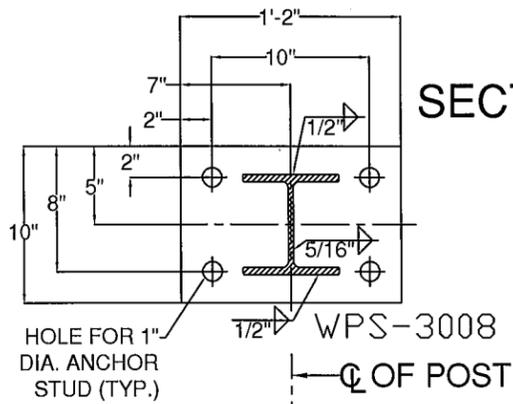


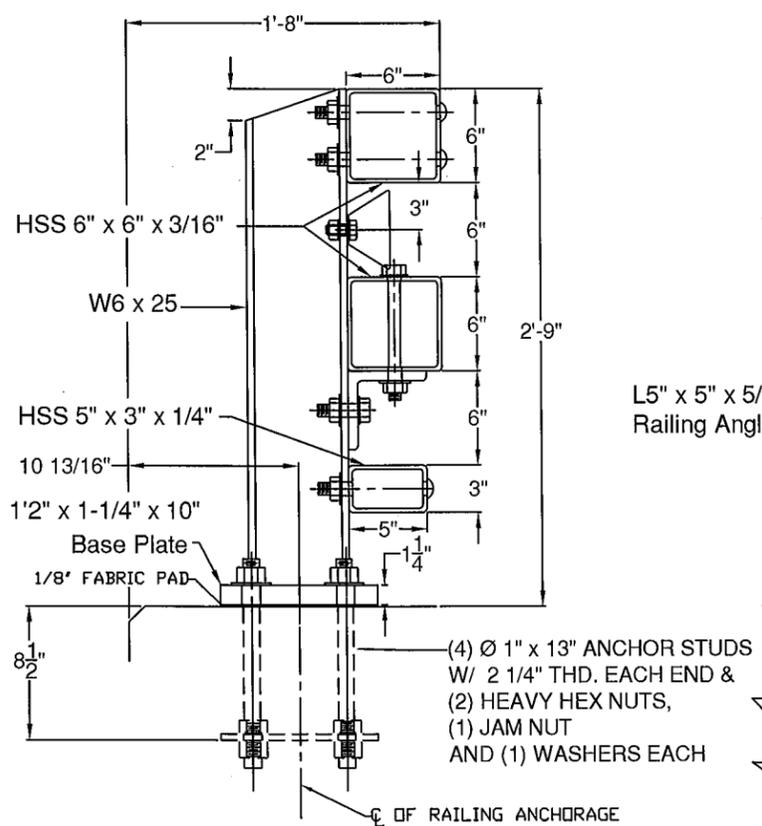
NORTH RAILING FACING NORTH  
(SOUTH RAILING SIMILAR)



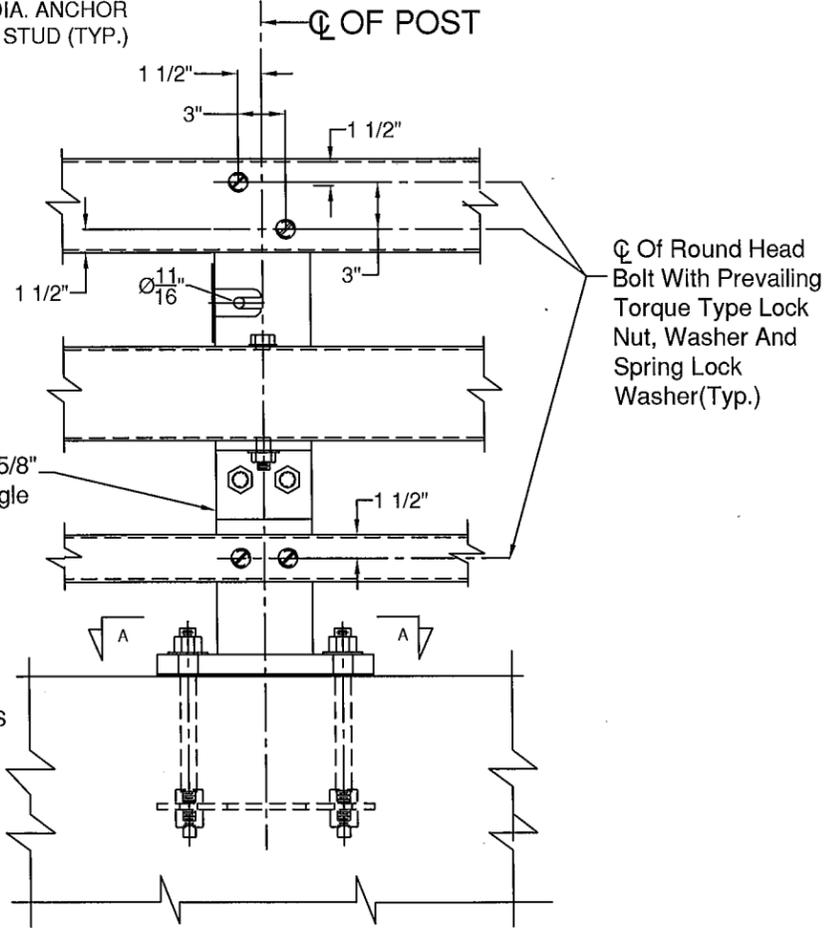
1/8" FABRIC PAD



SECTION A-A



SECTION



ELEVATION  
STEEL BRIDGE RAILING

BILL OF MATERIAL				
ITEM #	QTY	PART #	DESCRIPTION	ASTM DESIGNATION
1	16	0033.03610	W6x25, THREE RAIL POST @ 2'-9" ON 1 1/4x10x1'-2" B.P.	A572 Gr. 50
2	2	0033.23000	HSS 3' X 5' X 1/4' RAIL @ 29'-11 1/2'	A500 Gr. B
3	2	0033.23003	HSS 3' X 5' X 1/4' RAIL @ 30'-3"	A500 Gr. B
5	4	0033.63200	HSS 6' X 6' X 3/16' RAIL @ 31'-11 1/2'	A500 Gr. B
6	4	0033.63203	HSS 6' X 6' X 3/16' RAIL @ 32'-3"	A500 Gr. B
8	2	0033.00840	2-1/8" X 4-1/4" FIX. SPLICE BAR @ 2'-3"	A572 Gr. 50
9	4	0033.00640	HSS 5' X 5' X 5/16" FIX. SPLICE TUBE @ 2'-3"	A500 Gr. B, A572 Gr. 50
10	16	0033.00220	3/8" X 10" X 14" ANCHOR PLATES	A572 Gr. 50
11	16	0033.90050	1/8" X 10" X 14" FABRIC PAD	AASHTO M251
12	66*	0042.21013	Ø 1" X 13" ANCHOR STUDS, W/ 2 1/4" THD. EACH END	A449 TYPE 1
13	130*	0080.18901	Ø 1" HEAVY HEX NUTS	A563
14	64	0080.18911	Ø 1" FLAT WASHERS	F436
15	64	0080.18905	Ø 1" HEX JAM NUTS	A563
16	64	0080.07500	Ø 7/8" X 8" ROUND HEAD BOLT, NUT, SQ. WASHER, L.W.	A449, A563, F436, ASME D18.2
17	16	0080.06400	Ø 3/4" X 8" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563, F436, & ASME D18.2
18	32	0080.06140	Ø 3/4" X 2-3/4" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563, F436, & ASME D18.2
19	16	0080.06340	Ø 3/4" X 7-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563, & F436
20	8	0080.06255	Ø 3/4" X 4-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563, & F436
21	16	0033.00500	L5" X 5" X 5/8" RAILING ANGLE @ 6"	A572 Gr. 50
22	6		DELINEATORS - NOT SHOWN	(SUPPLIED BY CUSTOMER)

\*-2 EXTRA FOR VDOT TESTING

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) ALL POST SHALL BE SET NORMAL TO GRADE. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POST IS 8' 3".
- 4) SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
- 5) 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.
- 6) 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.
- 7) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
- 8) 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 FOR DELINEATORS SHALL BE INCIDENTAL TO OTHER ITEMS.
- 9) ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
- 10) 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.
- 11) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
- 12) THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

ITEM #: 525.335

SHEET 1 OF 2

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

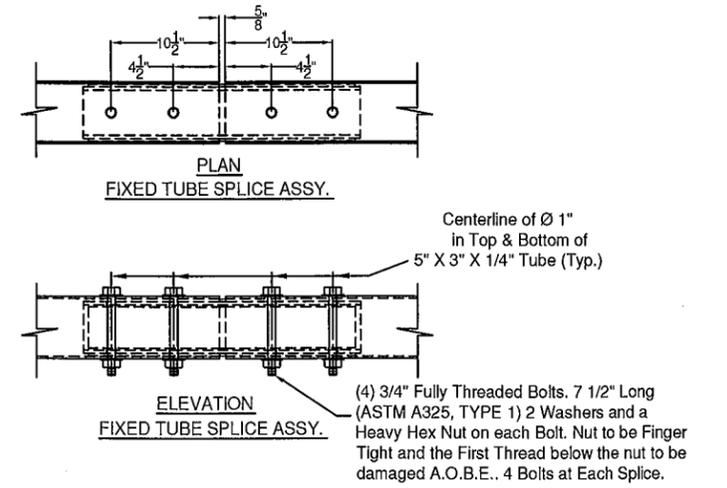
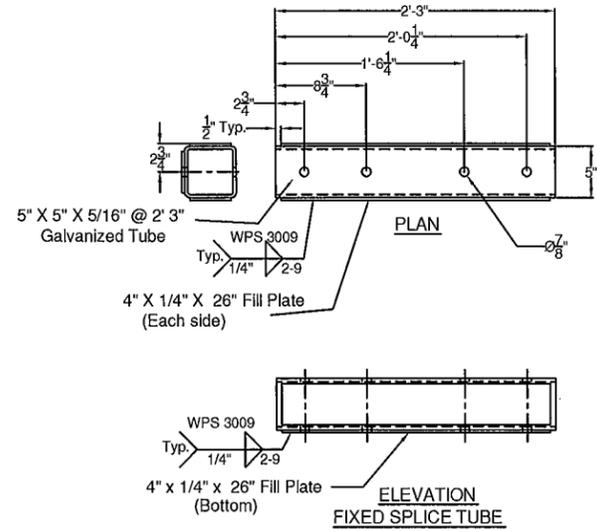
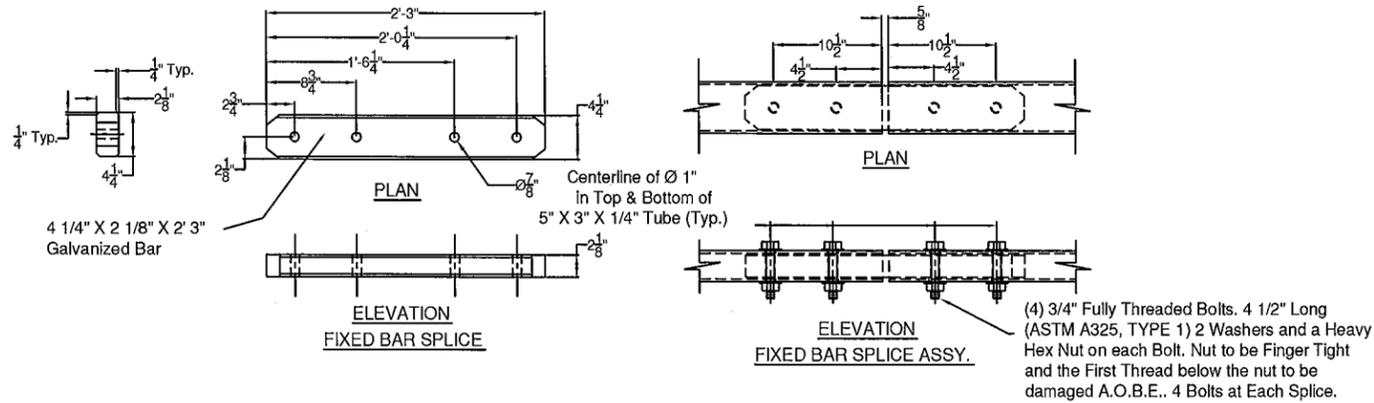
**BRIDGE RAIL DETAILS SHEET**  
 JOHNSON, VT ROUTE 15 (MINOR ARTERIAL) BRIDGE # 32  
 TOWN OF JOHNSON, COUNTY OF LAMOILLE, VT.

R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY

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

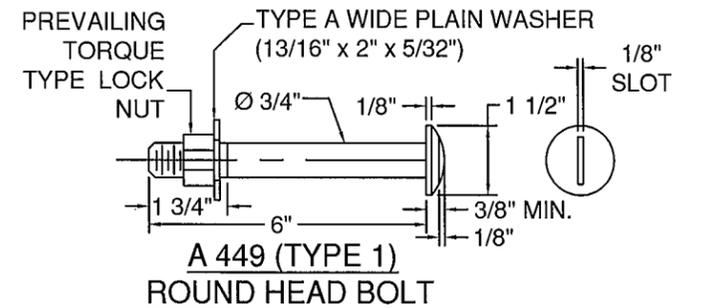
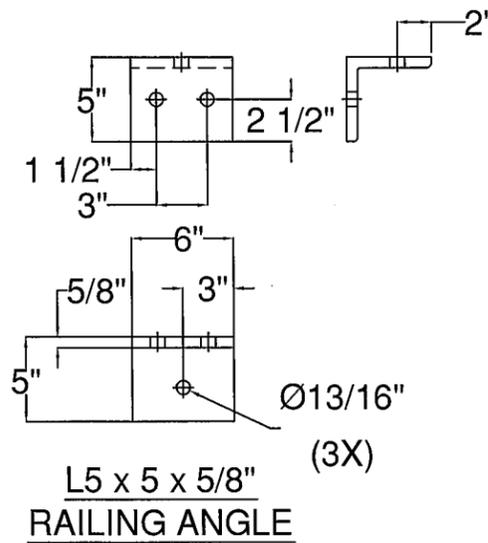
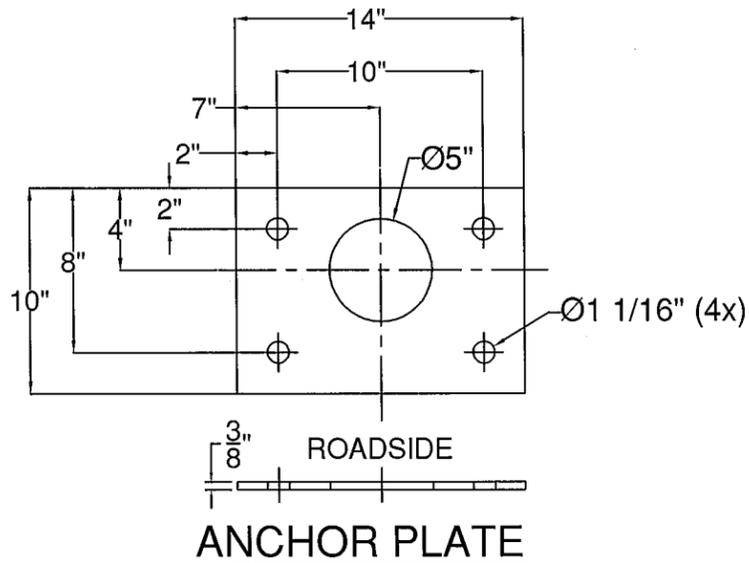
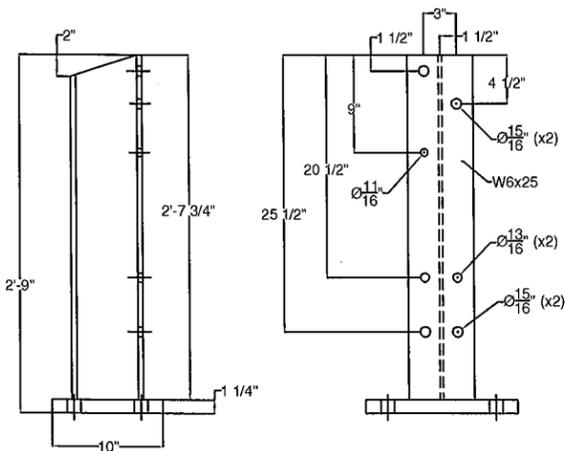
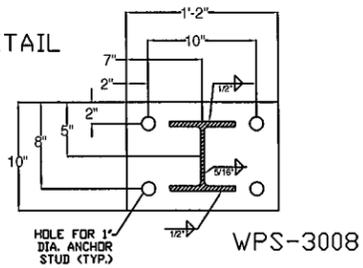
DRAWN	E.P.	11/11/14
CHECKED	D.L.	11/18/14
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO. F.R. LAFAYETTE-JOHNSON		

**SPLICE BAR - FIXED**



**SPLICE TUBE - FIXED**

**BRIDGE POST DETAIL**



ITEM #: 525.335

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

TOLERANCE UNLESS OTHERWISE NOTED:  
 FRACTIONS =  $\pm 1/16"$   
 ANGLES =  $\pm 1/2^\circ$   
 DIAMETERS =  $\pm 1/32"$

BRIDGE RAIL DETAILS SHEET											
JOHNSON, VT ROUTE 15 (MINOR ARTERIAL) BRIDGE # 32											
TOWN OF JOHNSON, COUNTY OF LAMOILLE, VT.											
R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY		
E					E						
V					V						
DRAWN		E.P.		11/11/14		CHECKED		D.L.		11/18/14	
APPROVED						SCALE		SCHEMATIC		DRAWING NO. F.R. LaFAYETTE-JOHNSON	



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



# Elderlee, Inc.

729 CROSS ROAD  
 P.O. BOX 10  
 OAKS CORNERS, NY 14518  
 PHONE: 315/789-6670  
 FAX: 315/789-6615

## TRANSMITTAL LETTER

DATE: 11-18-14
ATTENTION: Doug
PROJECT: Johnson
COUNTY: Lamoille
ITEM#:
RE:

TO:

GENTLEMEN:

Reference Number: TL- 11

WE ARE SENDING YOU

Attached  Under separate cover via \_\_\_\_\_

THE FOLLOWING ITEMS:

Shop drawings  Material certifications  Specifications

Copies	Drawing No.	Sheets	Description
1	Johnson	2	BRIDGE RAIL + POST LAYOUT

THESE ARE TRANSMITTED AS CHECKED BELOW:

For approval  Approved as submitted  Resubmit  
 As requested  For review and comment  Submit  
 Approved as noted  Returned for corrections  Return  
 Forward to \_\_\_\_\_ copies for approval  
 For your use  corrected plans \_\_\_\_\_ copies for distribution

Remarks:

Name: Eugene Peck  
 Title: DRAWSMAN

*Eugene E Peck*  
 SIGN DATE 11-18-14

Copy: JOB FILE  
 If enclosures are not as noted, kindly notify us at once.