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Submittal Data Sheet

Submittal #: 2

Submission #: 4

Date: 1/22/2015

Project Name: Randolph BRO (1444) Bridge Replacement

Owner: Town of Randolph, VT

Engineer: VTrans

Contractor: J.P. Sicard Inc.

Item Number: 525.335, 621.725

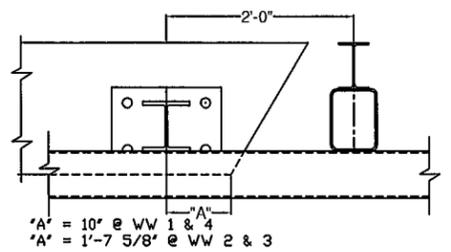
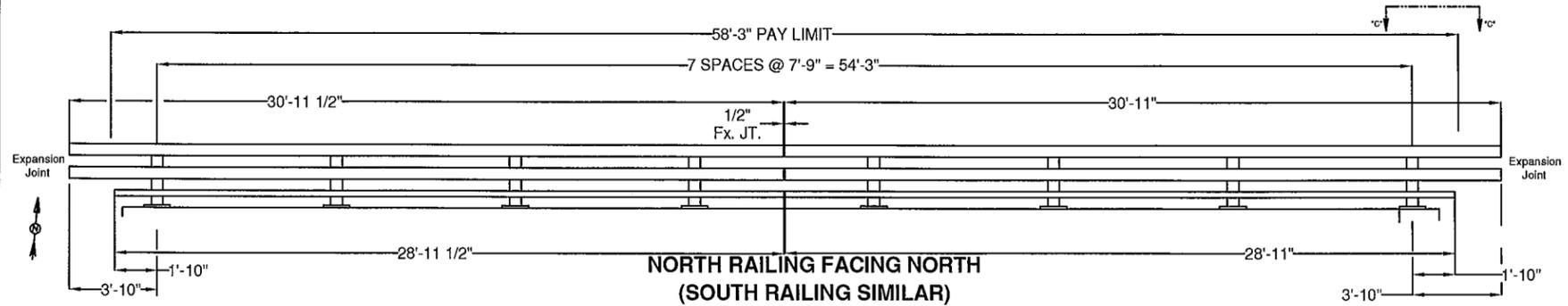
Supplier: Lafayette Highway Specialties

Description of Item: Bridge Railing 525.335, Guardrail Approach Section 621.725

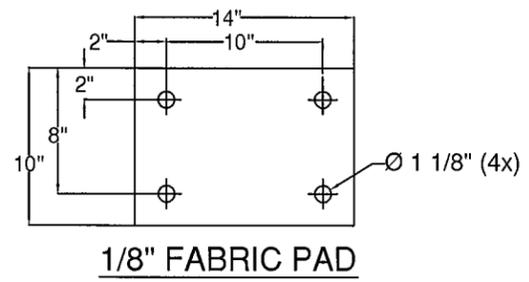
Substitution: NO

Engineers Review Comments:

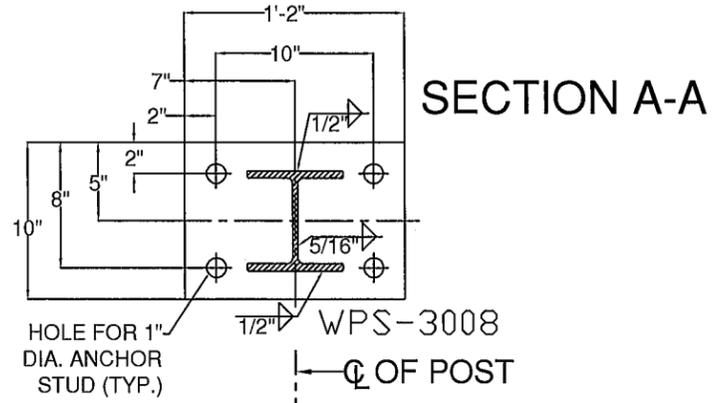
Submitted By: Brad Drake
Title: Project Manager
Company: JP Sicard Inc



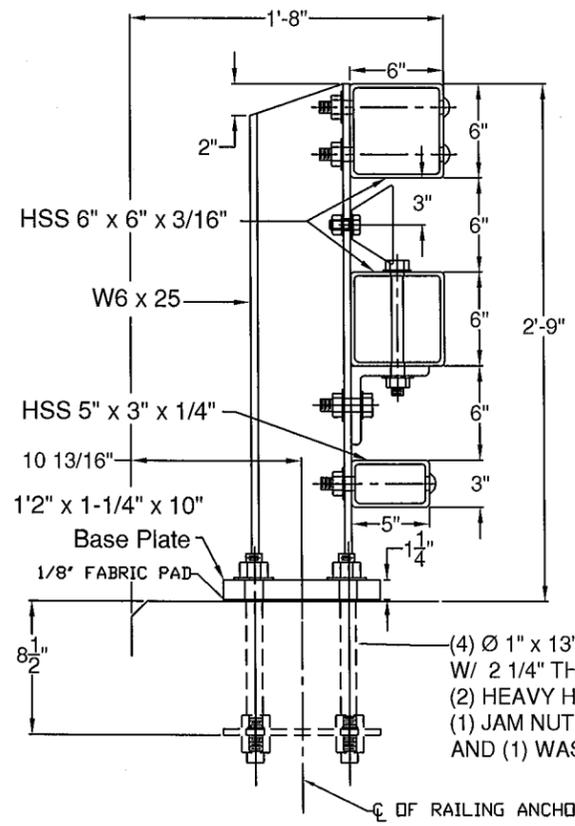
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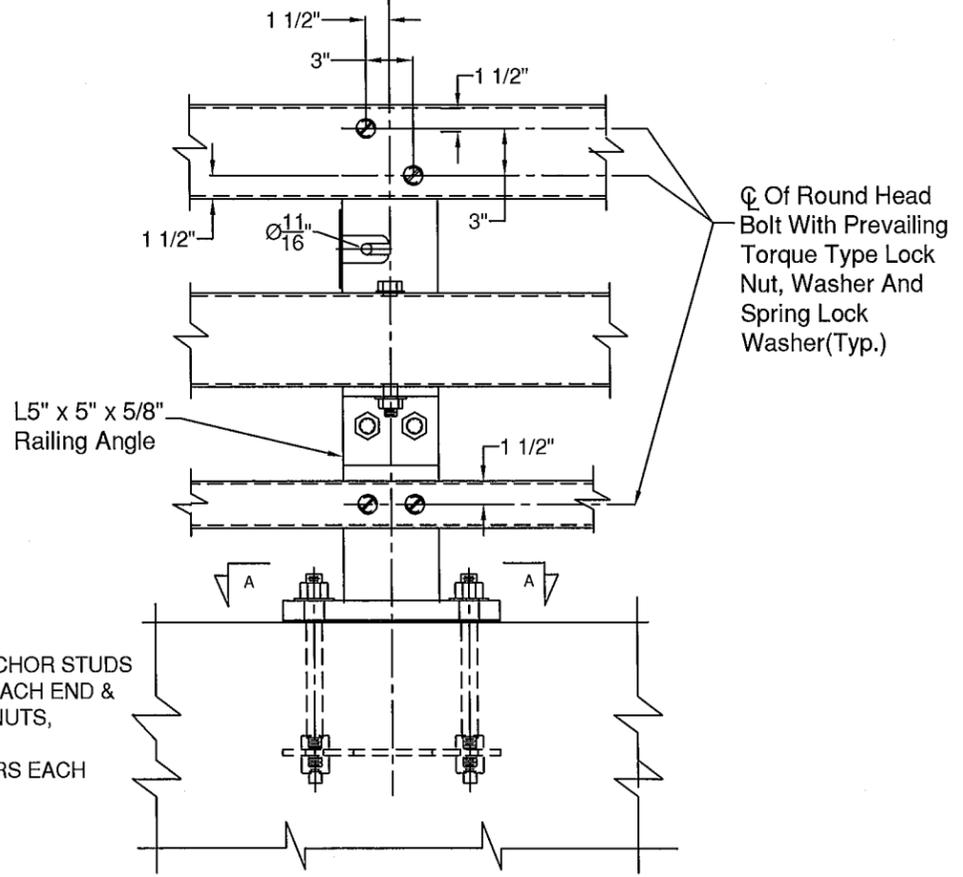
1/8" FABRIC PAD



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" DA ON 1 1/4x10x1'-2" B.P.	A572 Gr. 50
2	2	0033.91321	HSS 3" X 5" X 1/4" RAIL @ 28'-11 1/2"	A500 Gr. B
3	2	0033.91322	HSS 3" X 5" X 1/4" RAIL @ 28'-11"	A500 Gr. B
5	4	0033.91323	HSS 6" X 6" X 3/16" RAIL @ 30'-11 1/2"	A500 Gr. B
6	4	0033.91324	HSS 6" X 6" X 3/16" RAIL @ 30'-11"	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
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

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

BRIDGE RAIL DETAILS SHEET

TOWN HIGHWAY 65 (PALMER ROAD), CLASS 3 LOCAL ROAD - BRIDGE # 35
TOWN OF RANDOLPH, COUNTY OF ORANGE, VT.

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

R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
E 1	1/14/15	REVISED PER 1/13/15 MARK-UP	E.P.	E			
V				V			

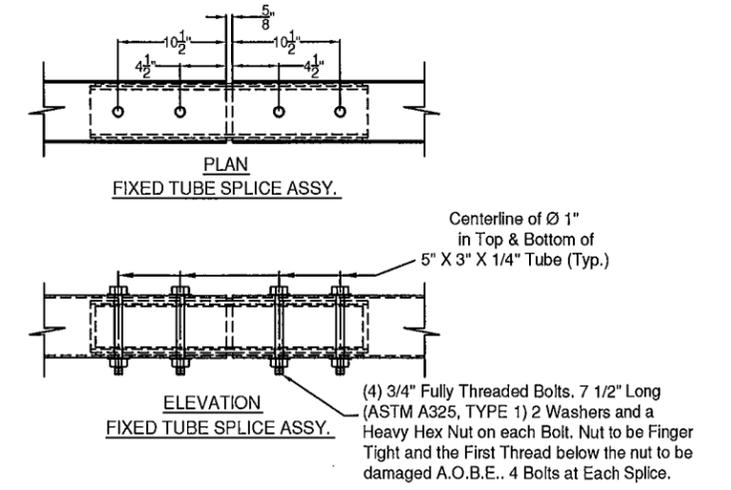
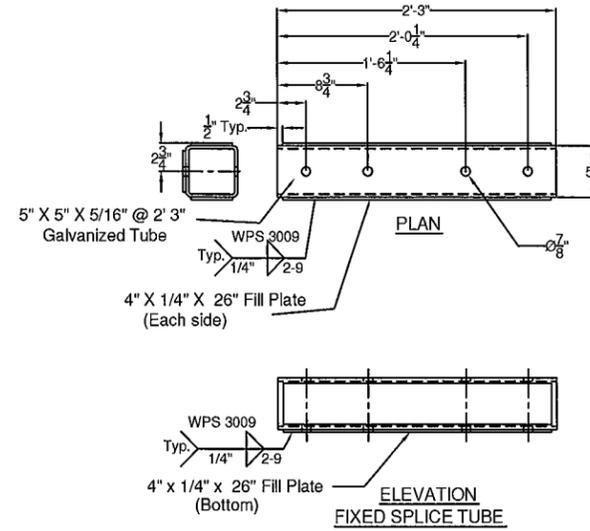
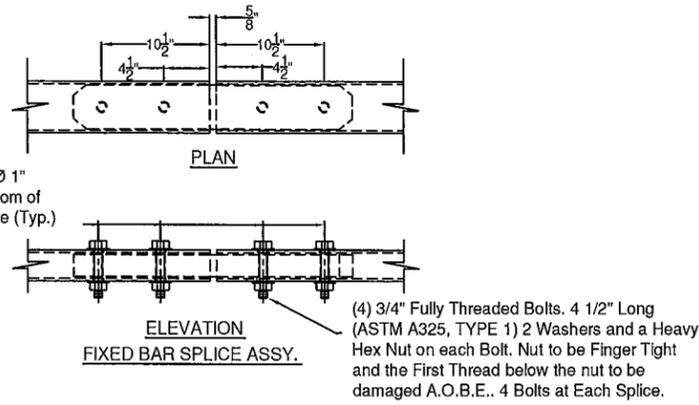
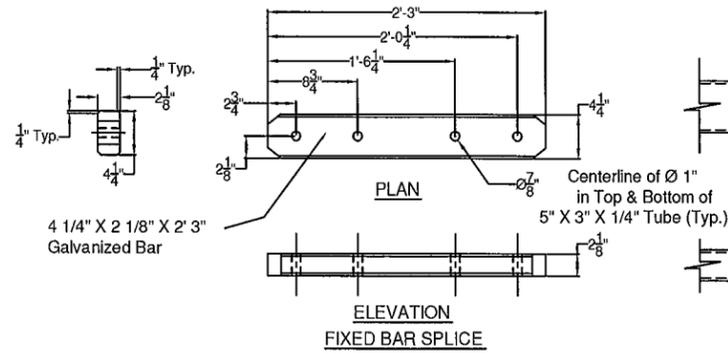


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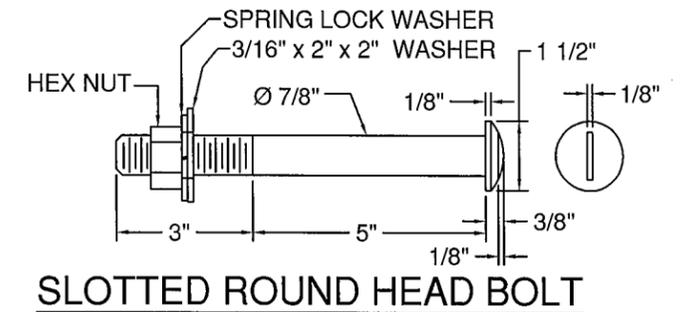
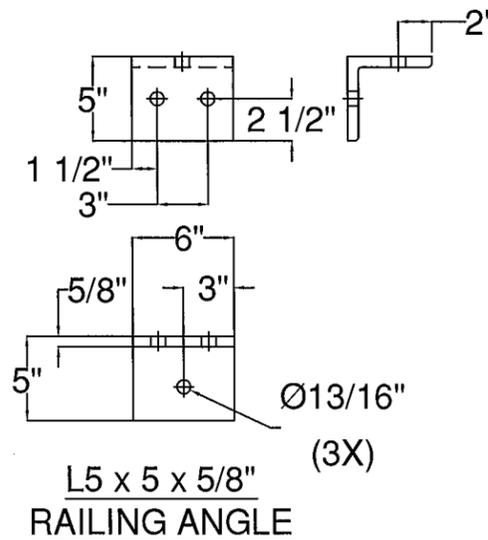
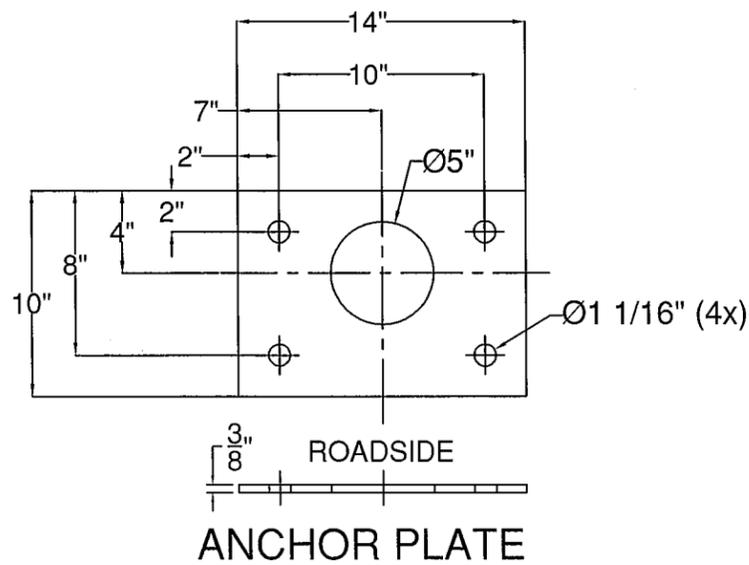
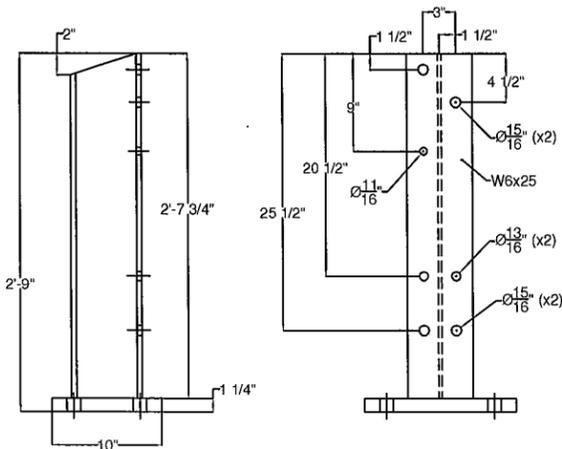
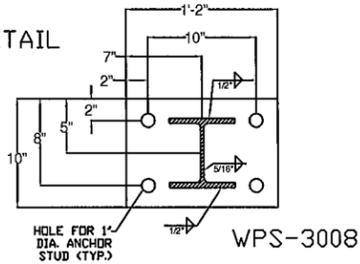
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CHECKED	D.L.	12/11/14
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO. F.R. LaFAYETTE-RANDOLPH		

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 = $\pm 1/2"$
DIAMETERS = $\pm 1/32"$

BRIDGE RAIL DETAILS SHEET				TOWN HIGHWAY 65 (PALMER ROAD), CLASS 3 LOCAL ROAD - BRIDGE # 35			
TOWN OF RANDOLPH, COUNTY OF ORANGE, VT.							
R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
E 1	1/14/15	REVISED PER 1/13/15 MARK-UP	E.P.				
V							
DRAWN		E.P.		12/10/14			
CHECKED		D.L.		12/11/14			
APPROVED							
SCALE		SCHEMATIC					
DRAWING NO. F.R. LAFAYETTE-RANDOLPH							



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Tel: 315-789-6670 Fax: 315-789-6615



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. 3008

Contractor Elderlee, Inc.

Revision No. _____

Authorized By RANDY SCOTT

Date 5/29/2013

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

Material Specification	A709 TO A500 GR B		
Welding Process	FCAW-G		
Manual or Machine	SEMAUTOMATIC		
Position of Welding	FLAT/HORIZONTAL		
Filler Metal Specification	A5.29		
Filler Metal Classification	E81T1-Ni1C-JH4		
Flux	N/A		
Shielding Gas	CO 2	Dew Point	-40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE		
Single or Multiple Arc	SINGLE		
Welding Current	DC		
Polarity	REVERSE ELECTRODE POSITIVE		
Welding Progression	STRINGER		
Root Treatment	D1.5		
Preheat and Interpass Temperature	D1.5		
Postheat Temperature	NONE		
Heat Input	Min	_____	Max _____

WELDING PROCEDURE

Pass no.	Electrode size	Welding Current		Travel speed	Joint detail
		Amperes	Volts		
1	1/16	310	25	11	
Variable	LIMITS	341	27	12	
		TO 269	TO 23	TO 10	

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

Procedure No. 3009

Contractor Elderlee, Inc.

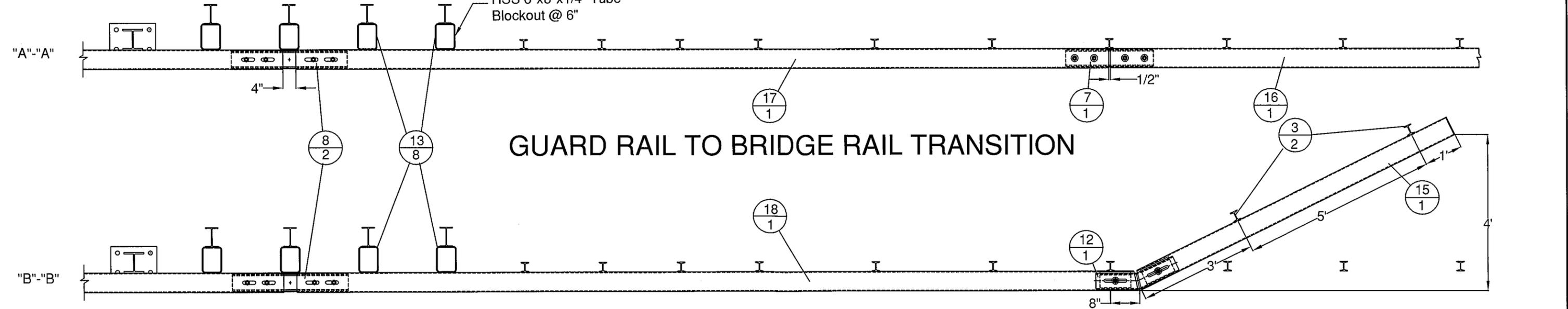
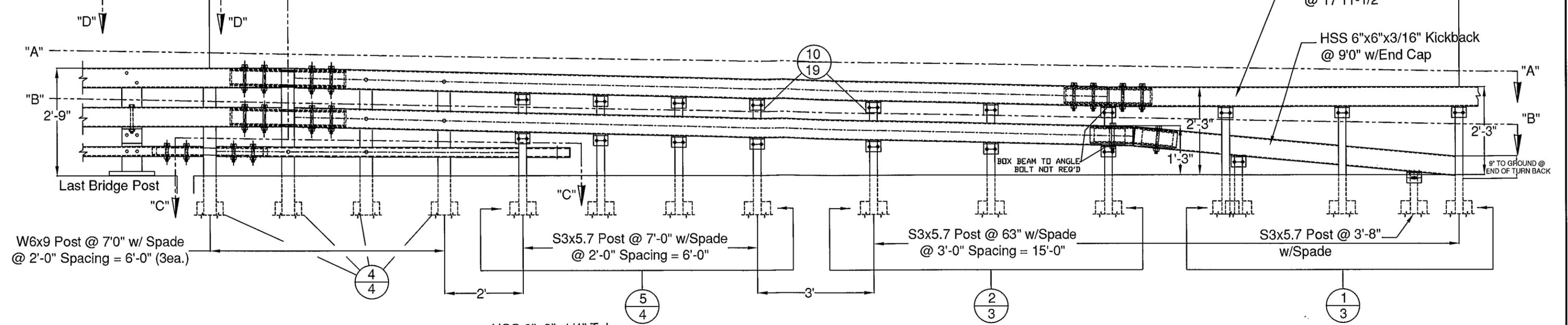
Revision No. _____

Authorized By RANDY SCOTT

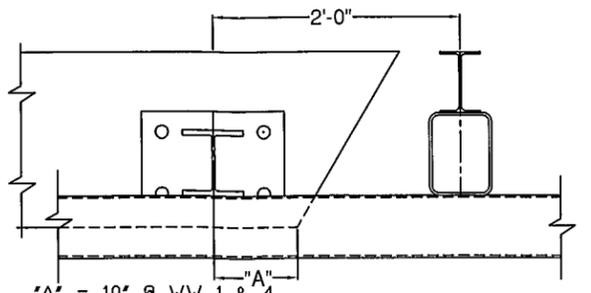
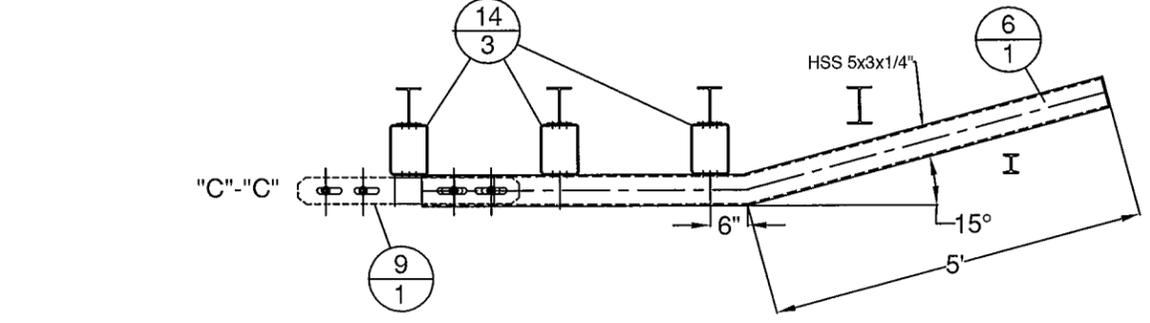
Date 3/20/2014

32' - PAY LIMIT FOR TRANSITION - BRIDGE RAILING TO BOX BEAM GUIDE RAIL

ELEVATION VIEW



GUARD RAIL TO BRIDGE RAIL TRANSITION



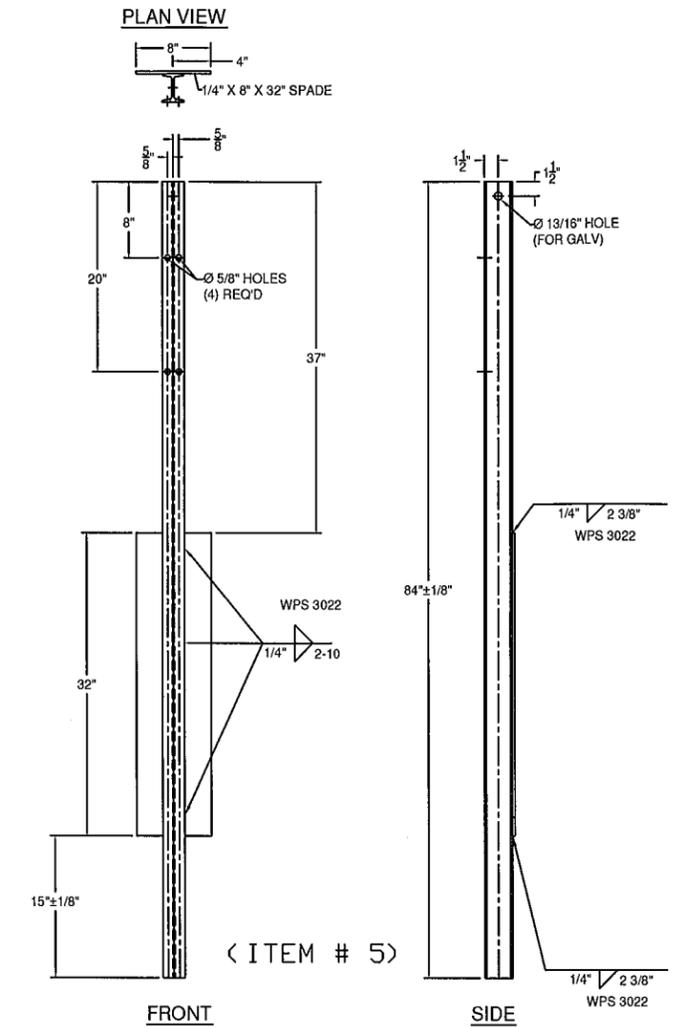
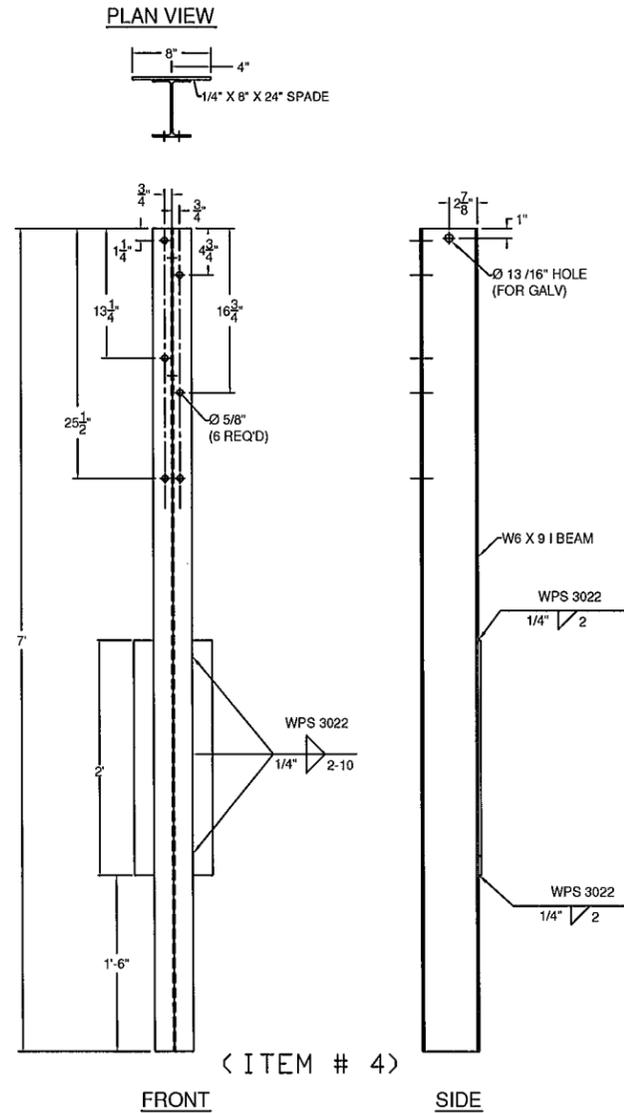
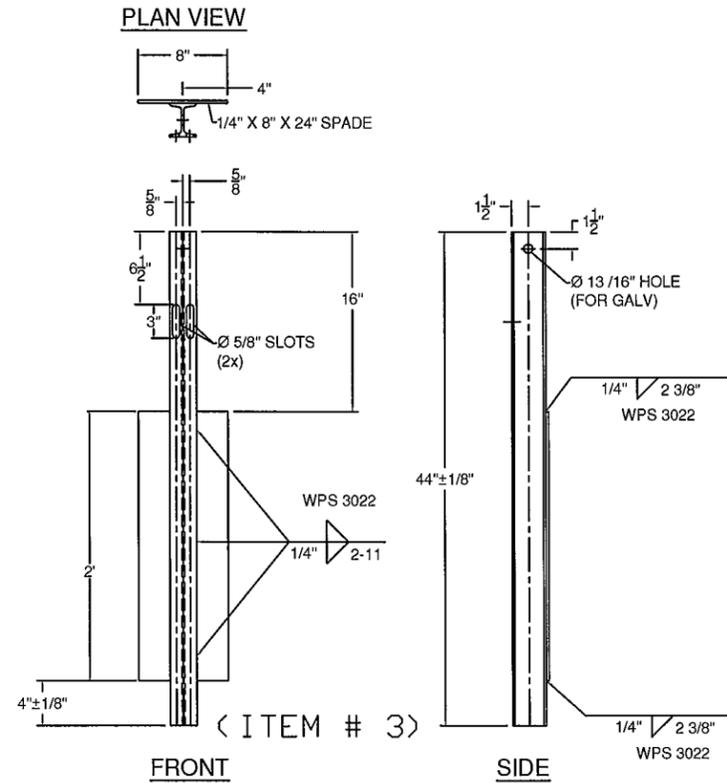
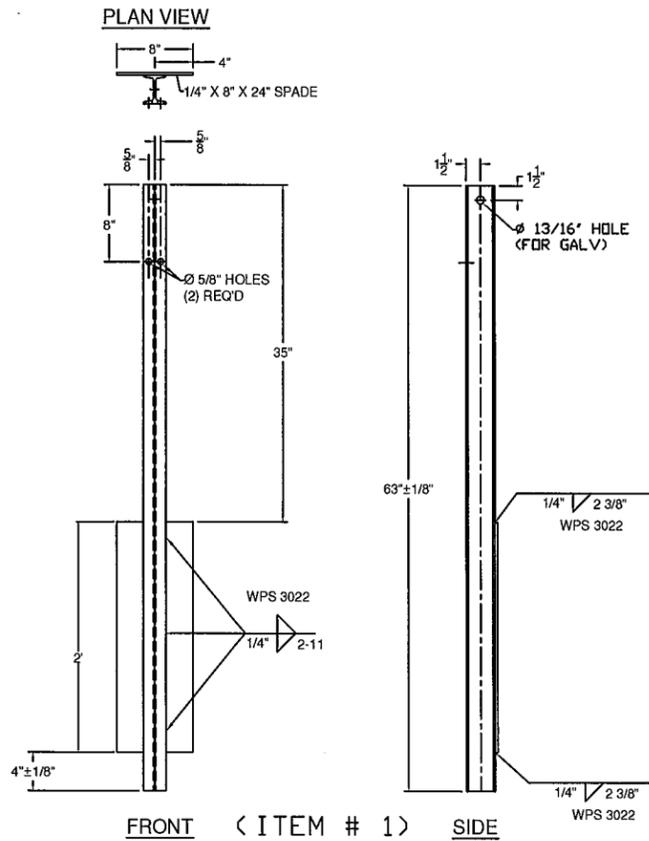
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ITEM #: 621.725

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

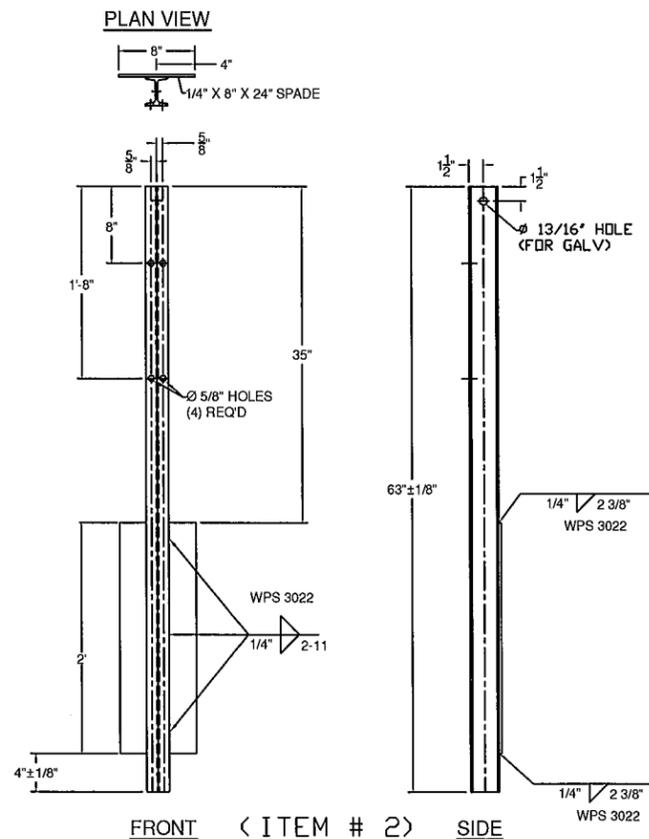
TOLERANCE UNLESS OTHERWISE NOTED:
 FRACTIONS = ± 1/16"
 ANGLES = ± 1/2"
 DIAMETERS = ± 1/32"

<p>GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET TOWN HIGHWAY 65 (PALMER ROAD), CLASS 3 LOCAL ROAD - BRIDGE # 35 PROJECT: BRO 1444(57), TOWN OF RANDOLPH, COUNTY OF ORANGE, VT.</p>				<p>SHEET 1 OF 5</p>					
R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY
E					E				
V					V				
<p>ELDERLEE, INC. OAKS CORNERS, NEW YORK 14518 E-Mail: dlong@elderlee.com / epeek@elderlee.com Tel: 315-789-6670 Fax: 315-789-6615</p>				<p>CERTIFIED FABRICATOR</p>		<p>DRAWN E.P. 12/12/14 CHECKED D.L. 12/15/14 APPROVED SCALE SCHEMATIC DRAWING NO. F.R.L.-RANDOLPH-T</p>			



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. "PIE CUTS ARE LOCATED SO AS TO NOT CONFLICT WITH POST FASTENING HOLES. PIE CUTS WILL BE WELDED ACCORDING TO PROCEDURE WPS-3026.



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, PUNCH 8', & 20' W/SPD @ 63' LG	ASTM A572 Gr. 50
3	2	0013.57060	3' I-END POST W/SPD @ 3'-8" LG	ASTM A572 Gr. 50
4	4	0013.09001	W6X9 POST @ 7' W/SPD & 5/8" HOLES	ASTM A572 Gr. 50
5	4	0013.57010	3' I-POST, PUNCH 8' & 20', W/8X32" SPADE @ 7'	ASTM A572 Gr. 50
6	1	0033.80403	3X5' BTM TRANS RAIL W/5'-0" KB, EXP END	A500 Gr. B
7	1	0033.00640	HSS 5X5 TUBE SPLICE @ 27' LG W/ 1/4" SHIMS	A500 Gr. B / A572 Gr 50
8	2	0033.00730	HSS 5x5 EXP TUBE SPLICE @ 36' LG W/ 1/4" SHIMS	A500 Gr. B / A572 Gr 50
9	1	0033.00930	BR EXP BAR SPLICE 2-1/8" X 4-1/4" @ 36' LG	ASTM A572 Gr. 50
10	19	0054.00050	REG BB SHELF ANGLES @ 4-1/2"	ASTM A36
12	1	0054.00074	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
14	3	0054.00565	6X8" TRANS. TUBE B/D @ 3' LG	A500 Gr. B
15	1	0054.09000	6X6" BB @ 9'-0" KICKBACK, W/ CAP, & 13" MITER	A500 Gr. B / A36
*16	0.5	0054.18000	6X6" BB @ 14'-11 1/2", DRILL 3" CC	A500 Gr. B
*17	1	0054.90092	6X6" BB TOP TRANS @ 20'-9 5/8" LG W/EXP END	A500 Gr. B
*18	1	0054.90093	6X6" BB BTM TRANS @ 21'-4 5/8" LG W/EXP END	A500 Gr. B
19	18	0080.03355	3/8" X 7 1/2" BOLT, NUT, & 2 FW	A307, A563, F436
20	19	0080.04100	1/2" x 1-1/2" BOLT, NUT, & FW	A307, A563, F436
21	22	0080.04120	1/2" x 1-1/2" BOLT, NUT, 2 FW & LW	A307, A563, F436
22	4	0080.06255	3/4" X 4-1/2" BOLT, NUT, 2 FW	A325, A563, F436
23	12	0080.06340	3/4" X 7-1/2" BOLT, NUT, 2 FW	A325, A563, F436
24	6	0080.06370	3/4" X 8" CARR BOLT, NUT, FW & LW	A307, A563, F436
25	2	0080.06400	3/4" X 8" BOLT, NUT, 2 FW, & LW	A325, A563, F436

* WW3 - ITEMS 16, 17, & 18 - FACE OF RAIL TO HAVE 110" CONCAVE RADIUS
 * WW4 - ITEMS 16, 17, & 18 - FACE OF RAIL TO HAVE 50" CONVEX RADIUS

HARDWARE NOTES	
ITEM #	FUNCTION
19	BOLT RAIL TO SHELF ANGLE (ITEM #10)
20	BOLT SHELF ANGLE (ITEM #'S 10 & 11) TO POST
21	BOLT BLOCK-OUTS (ITEM #'S 13 & 14) TO HEAVY POST
22	(4) PER SPLICE BAR (ITEM #9)
23	(4) PER SPLICE TUBING (ITEM #'S 7 & 8)
24	BOLT RAIL (ITEMS #'S 6,17, & 18 TO BLOCK-OUTS (ITEM #'S 13 & 14) [WHERE FASTENED]
25	BOLT DOUBLE BEND SPLICE TUBE (ITEM #12) TO RAIL (ITEM #18) & KICKBACK (ITEM #15)

ITEM #: 621.725

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET

TOWN HIGHWAY 65 (PALMER ROAD), CLASS 3 LOCAL ROAD - BRIDGE # 35
 PROJECT: BRO 1444(67), TOWN OF RANDOLPH, COUNTY OF ORANGE, VT.

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

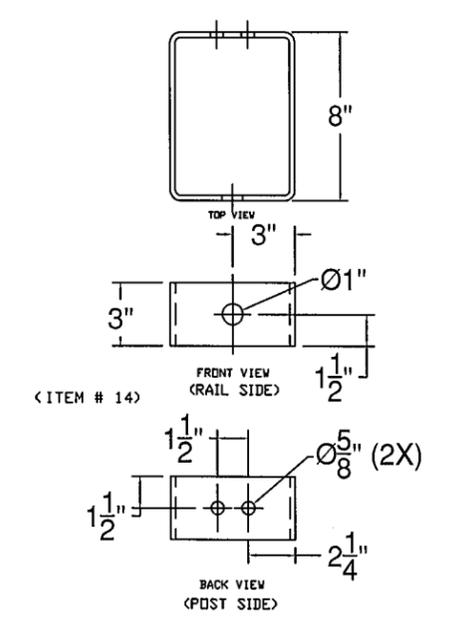
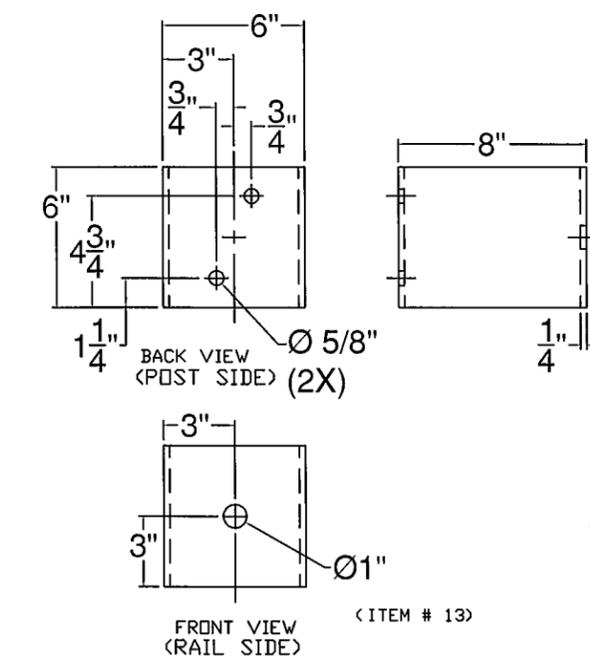
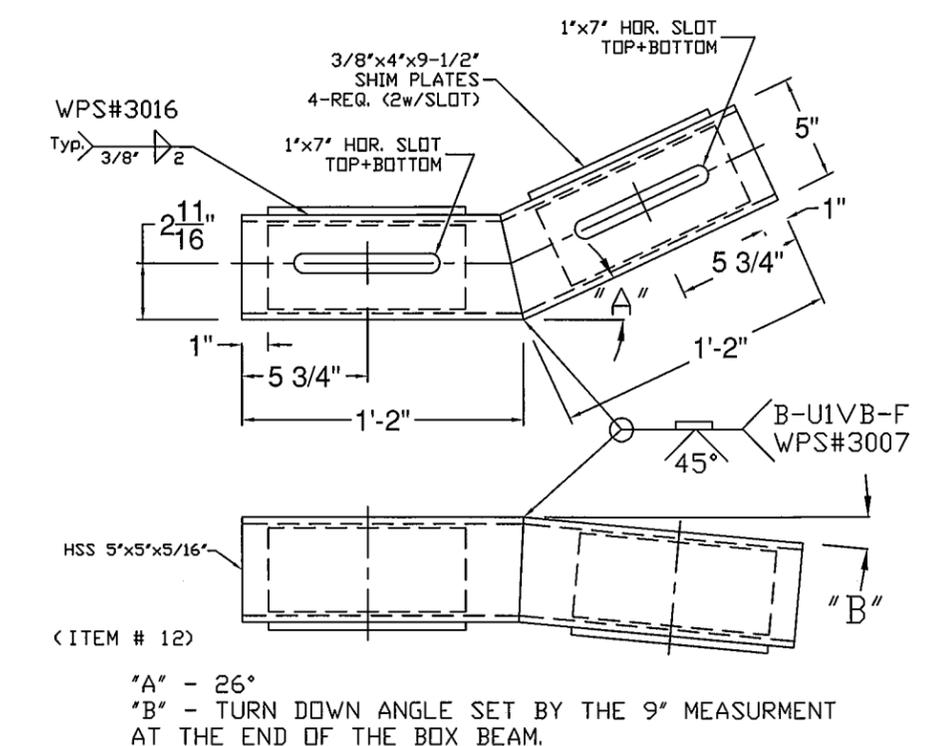
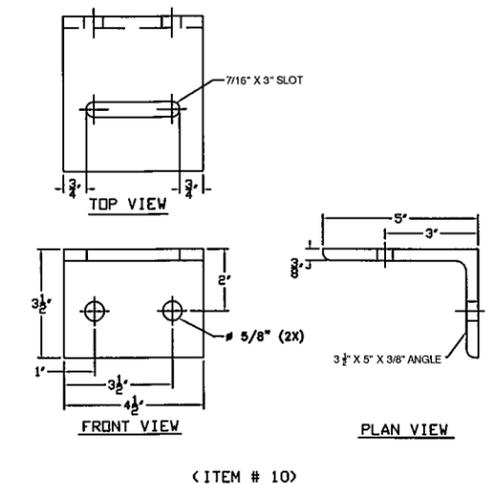
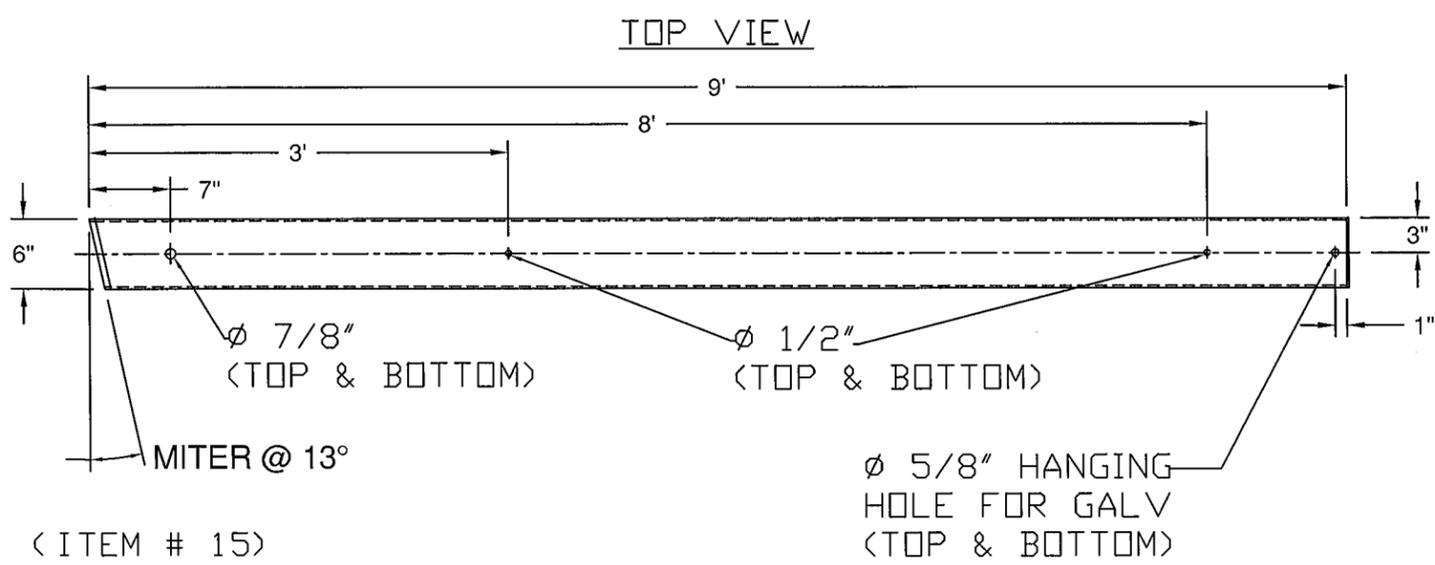
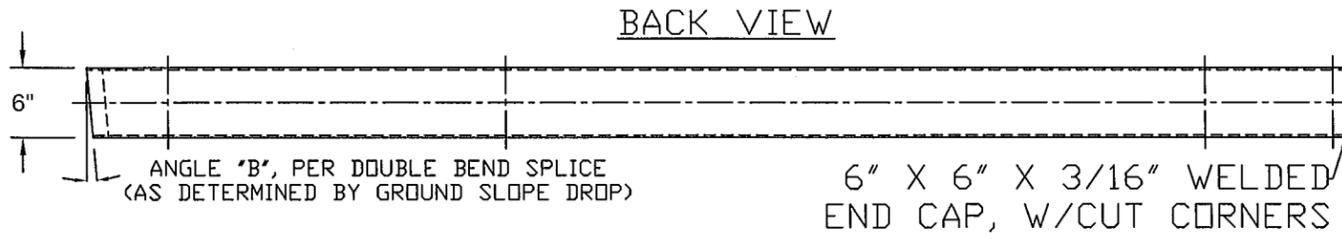
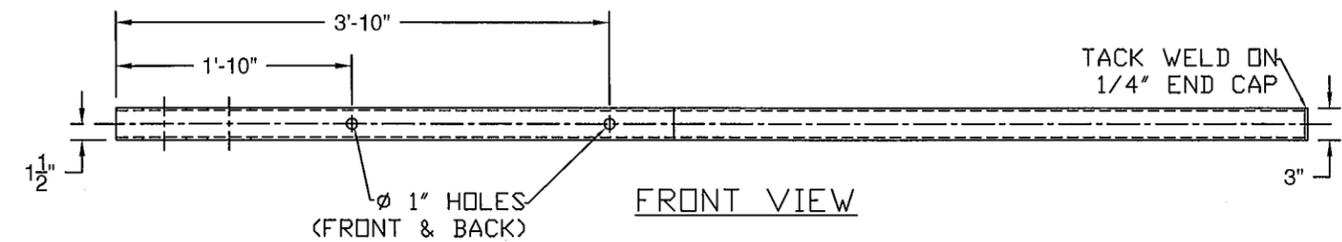
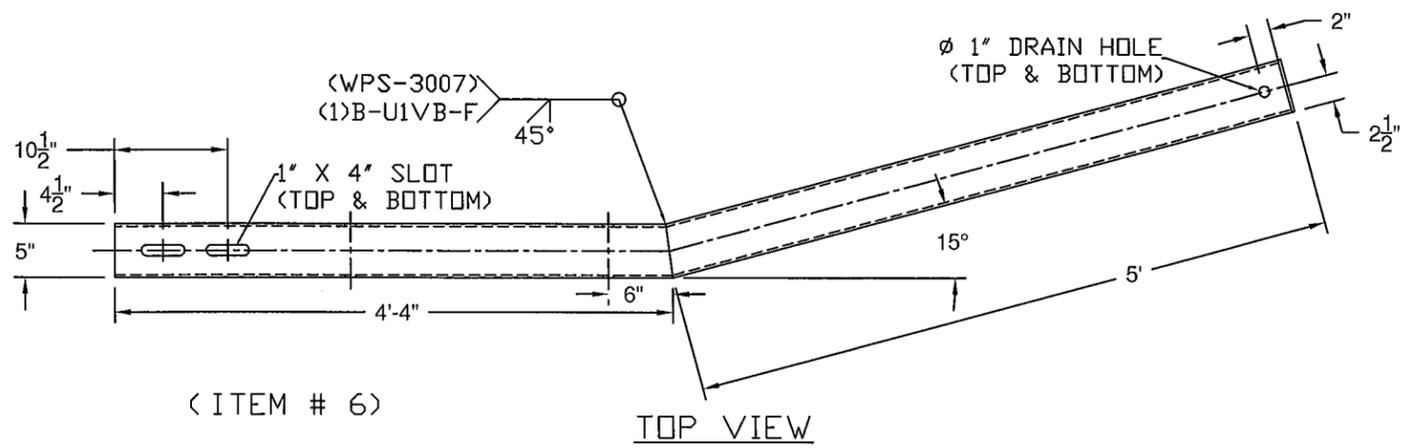
DRAWN	E.P.	12/12/14
CHECKED	D.L.	12/15/14
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO. F.R.L.-RANDOLPH-T		



ELDERLEE, INC.

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





ITEM #: 621.725

STRUCTURAL STEEL TO
COMPLY W/ ASTM A6

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

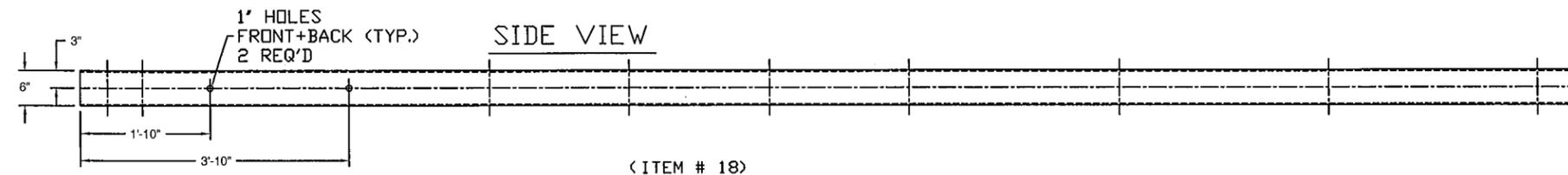
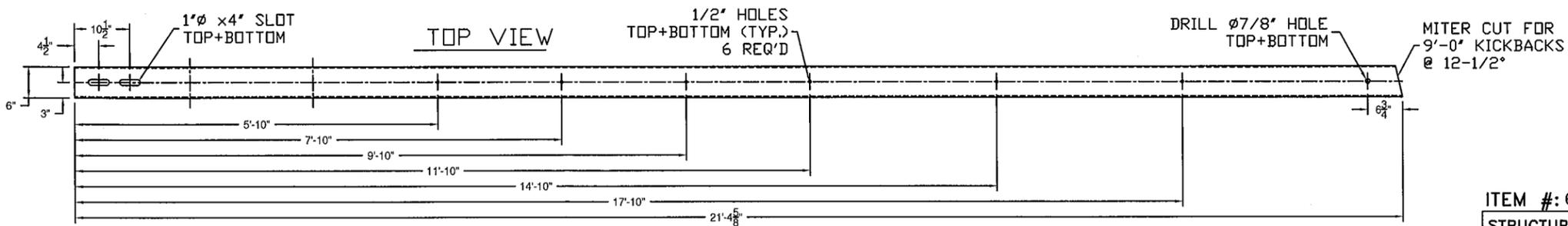
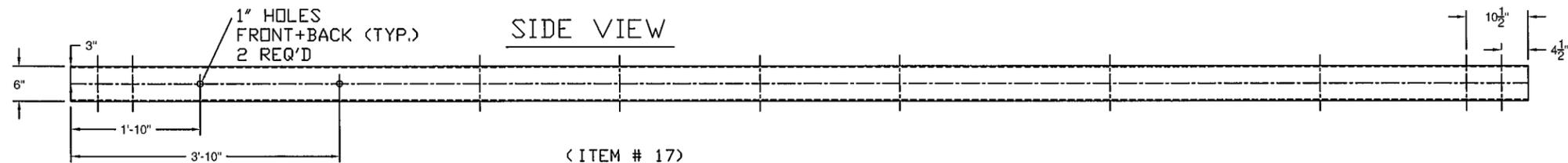
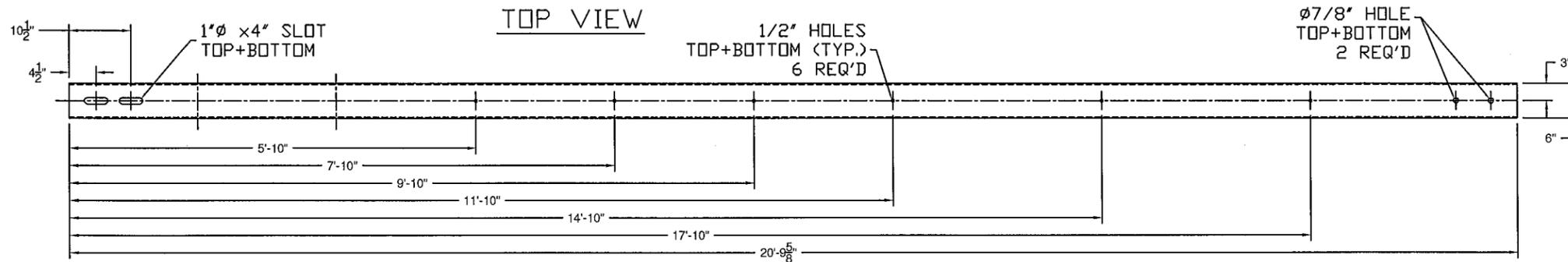
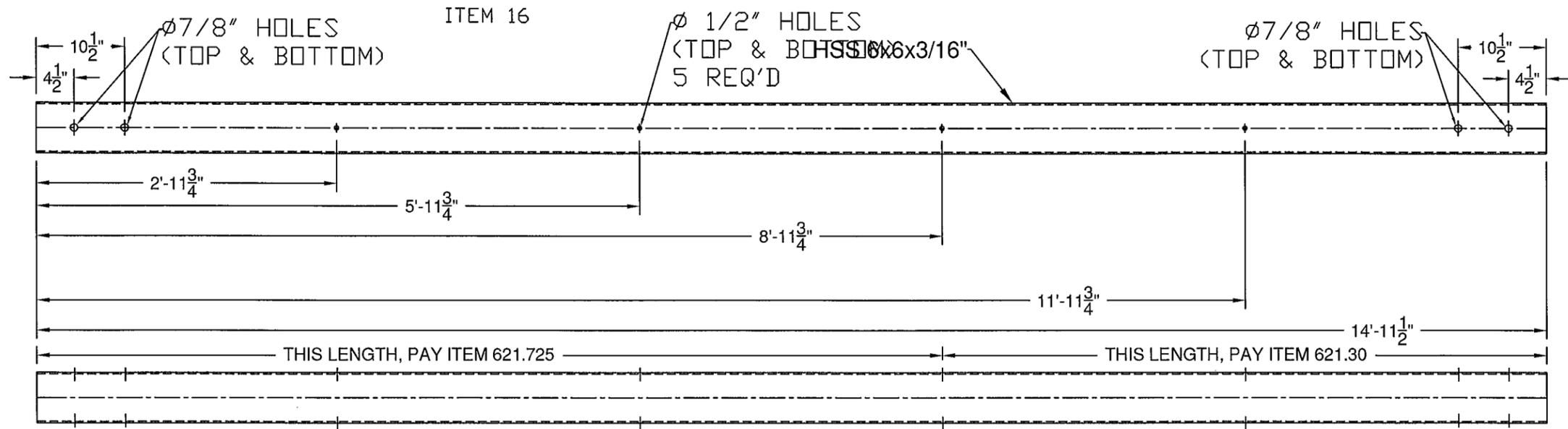
SHEET 3 OF 5

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET
TOWN HIGHWAY 65 (PALMER ROAD), CLASS 3 LOCAL ROAD - BRIDGE # 35
PROJECT: BRO 1444(67), TOWN OF RANDOLPH, COUNTY OF ORANGE, VT.

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

DRAWN: E.P. 12/12/14
 CHECKED: D.L. 12/15/14
 APPROVED: _____
 SCALE: SCHEMATIC
 DRAWING NO. F.R.L.-RANDOLPH-T

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



ITEM #: 621.725

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

SHEET 4 OF 5

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET

TOWN HIGHWAY 65 (PALMER ROAD), CLASS 3 LOCAL ROAD - BRIDGE #35
 PROJECT: BRO 1444(57), TOWN OF RANDOLPH, COUNTY OF ORANGE, VT.

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

DRAWN	E.P.	12/12/14
CHECKED	D.L.	12/15/14
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO. F.R.L.-RANDOLPH-T		



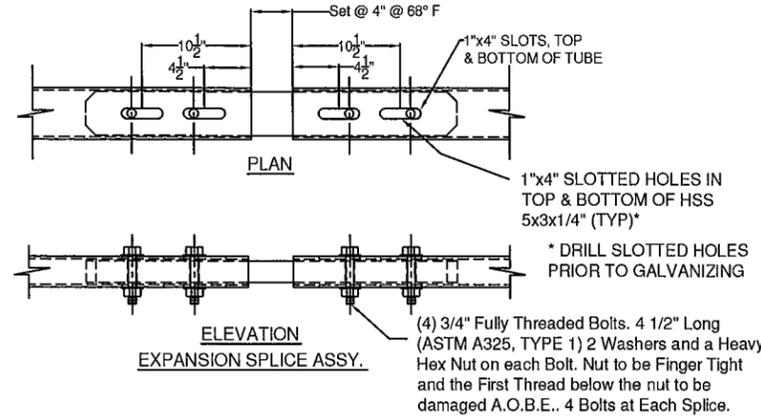
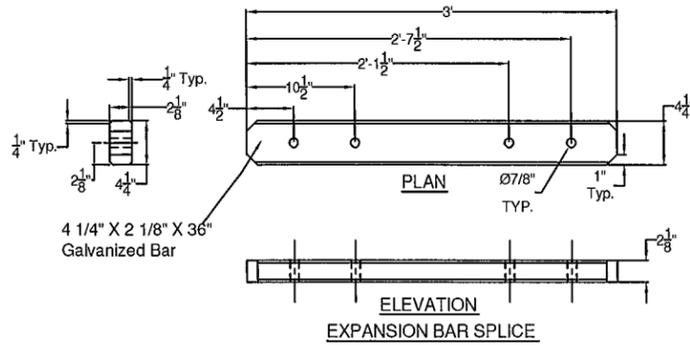
ELDERLEE, INC.

OAKS CORNERS, NEW YORK 14518

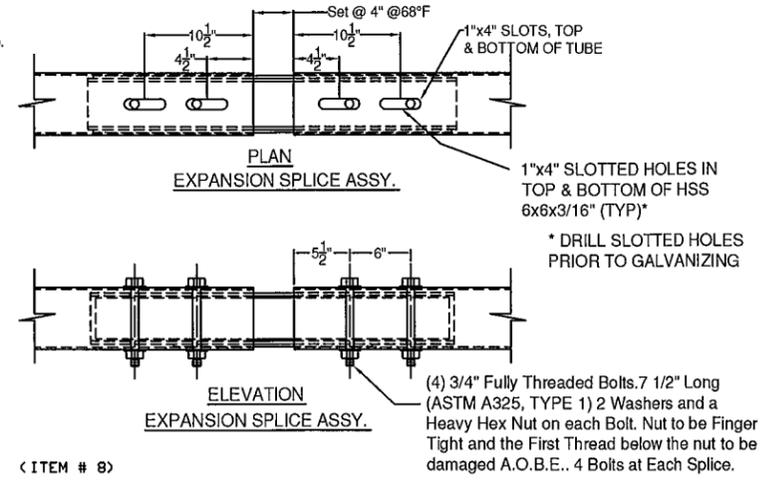
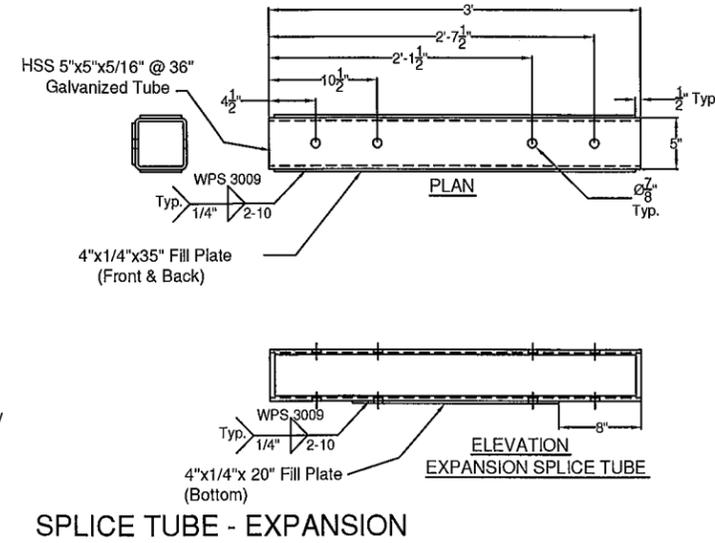
E-Mail: dlong@elderlee.com / epeek@elderlee.com
 Tel: 315-789-6670 Fax: 315-789-6616



SPLICE BAR - EXPANSION

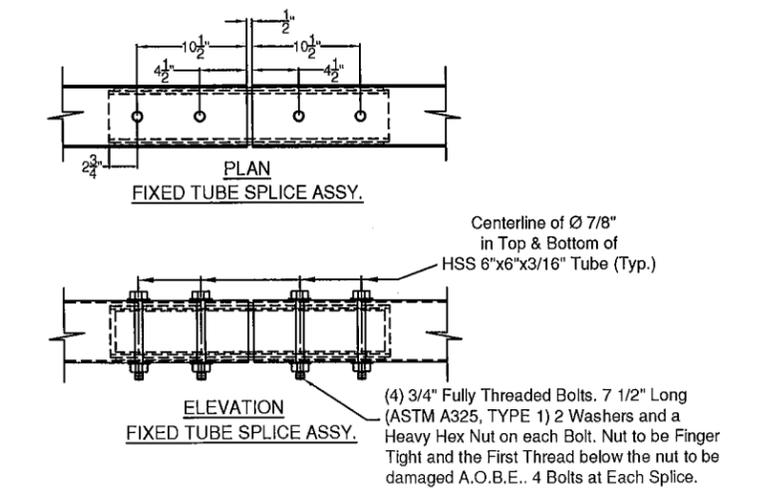
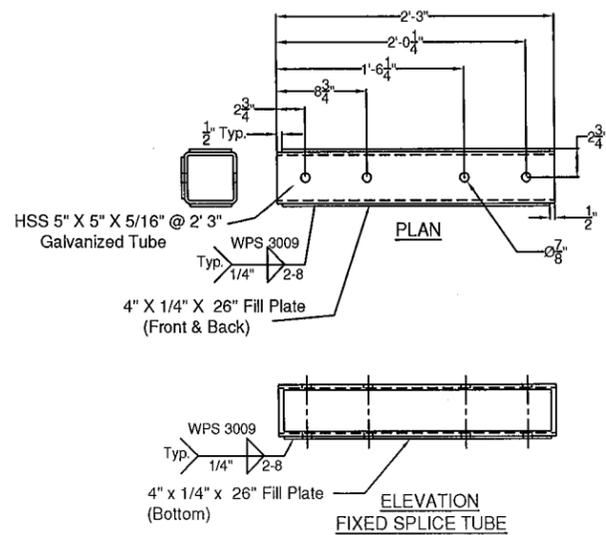


< ITEM # 9 >



< ITEM # 8 >

SPLICE TUBE - EXPANSION



< ITEM # 7 >

SPLICE TUBE - FIXED

ITEM #: 621.725

SHEET 5 OF 5

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET

TOWN HIGHWAY 65 (PALMER ROAD), CLASS 3 LOCAL ROAD - BRIDGE # 35
 PROJECT: BRO 1444(57), TOWN OF RANDOLPH, COUNTY OF ORANGE, VT.

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

DRAWN	E.P.	12/12/14
CHECKED	D.L.	12/15/14
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO. F.R.L.-RANDOLPH-T		



ELDERLEE, INC.
 OAKS CORNERS, NEW YORK 14518

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 Tel: 315-789-6670 Fax: 315-789-6615



WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE#3

Material Specification	A500 GR B to A572 GR 50		
Welding Process	FCAW-G		
Manual or Machine	SEMAUTOMATIC		
Position of Welding	FLAT/HORIZONTAL		
Filler Metal Specification	A5.29		
Filler Metal Classification	E81T1-Ni1C-JH4		
Flux	N/A		
Shielding Gas	CO 2	Dew Point	-40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE		
Single or Multiple Arc	SINGLE		
Welding Current	DC		
Polarity	REVERSE ELECTRODE POSITIVE		
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	1/16	310	25	11	
Variable	LIMITS	341	27	12	
		TO 269	TO 23	TO 10	

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

Procedure No. 3007

Revision No. _____

Contractor Elderlee, Inc.

Authorized By RANDY SCOTT

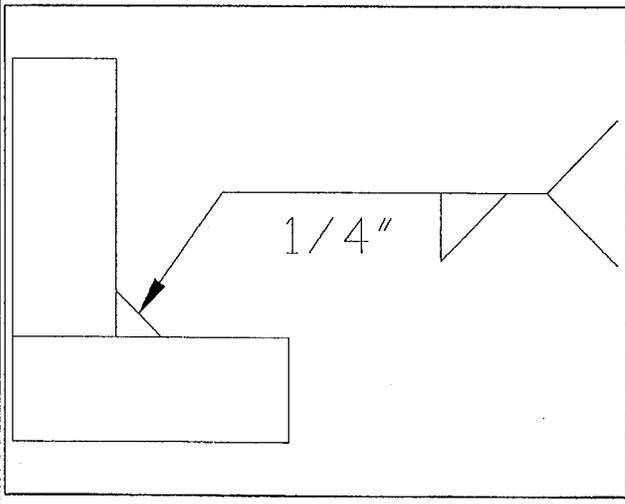
Date 7/28/2014

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

Material Specification	A709 TO A500 GR B		
Welding Process	FCAW-G		
Manual or Machine	SEMAUTOMATIC		
Position of Welding	FLAT/HORIZONTAL		
Filler Metal Specification	A5.29		
Filler Metal Classification	E81T1-Ni1C-JH4		
Flux	N/A		
Shielding Gas	CO 2	Dew Point	-40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE		
Single or Multiple Arc	SINGLE		
Welding Current	DC		
Polarity	REVERSE ELECTRODE POSITIVE		
Welding Progression	STRINGER		
Root Treatment	D1.5		
Preheat and Interpass Temperature	D1.5		
Postheat Temperature	NONE		
Heat Input	Min		Max

WELDING PROCEDURE.

Pass no.	Electrode size	Welding Current		Travel speed	Joint detail
		Amperes	Volts		
1	1/16	310	25	11	
Variable	LIMITS	341	27	12	
		TO 269	TO 23	TO 10	

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

Procedure No. 3009

Contractor Elderlee, Inc.

Revision No. _____

Authorized By RANDY SCOTT

Date 3/20/2014

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

Material Specification	A500 TO A572 GR 50		
Welding Process	FCAW-G		
Manual or Machine	SEMAUTOMATIC		
Position of Welding	FLAT/HORIZONTAL		
Filler Metal Specification	A5.29		
Filler Metal Classification	E81T1-Ni1C-JH4		
Flux	N/A		
Shielding Gas	CO 2	Dew Point	-40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE		
Single or Multiple Arc	SINGLE		
Welding Current	DC		
Polarity	REVERSE		
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	1/16	310	25	11	
Variable	LIMITS	341	27	12	
		TO 269	TO 23	TO 10	

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

Procedure No. 3016

Contractor Elderlee, Inc.

Revision No. _____

Authorized By RANDY SCOTT

Date 8/4/2014

WELDING PROCEDURE SPECIFICATION

Material Specification	A572 GR 50		
Welding Process	GMAW		
Manual or Machine	SEMIAUTOMATIC/ROBOTIC		
Position of Welding	FLAT/HORIZONTAL		
Filler Metal Specification	A5.18		
Filler Metal Classification	L-56	LINCOLN	
Flux	N/A		
Shielding Gas	90% ARGON /10% CO2	Dew Point	-40DEG F Flow Rate 45CFH
Single or Multiple Pass	SINGLE		
Single or Multiple Arc	SINGLE		
Welding Current	DC		
Polarity	REVERSE		
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		
	.045	190	22	19	
Variable	LIMITS	171	20	17	
		TO	TO	TO	
		209	24	21	

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

Procedure No. 3022
 Revision No. _____

Contractor Elderlee, Inc.
 Authorized By RANDY SCOTT
 Date 3/20/2014