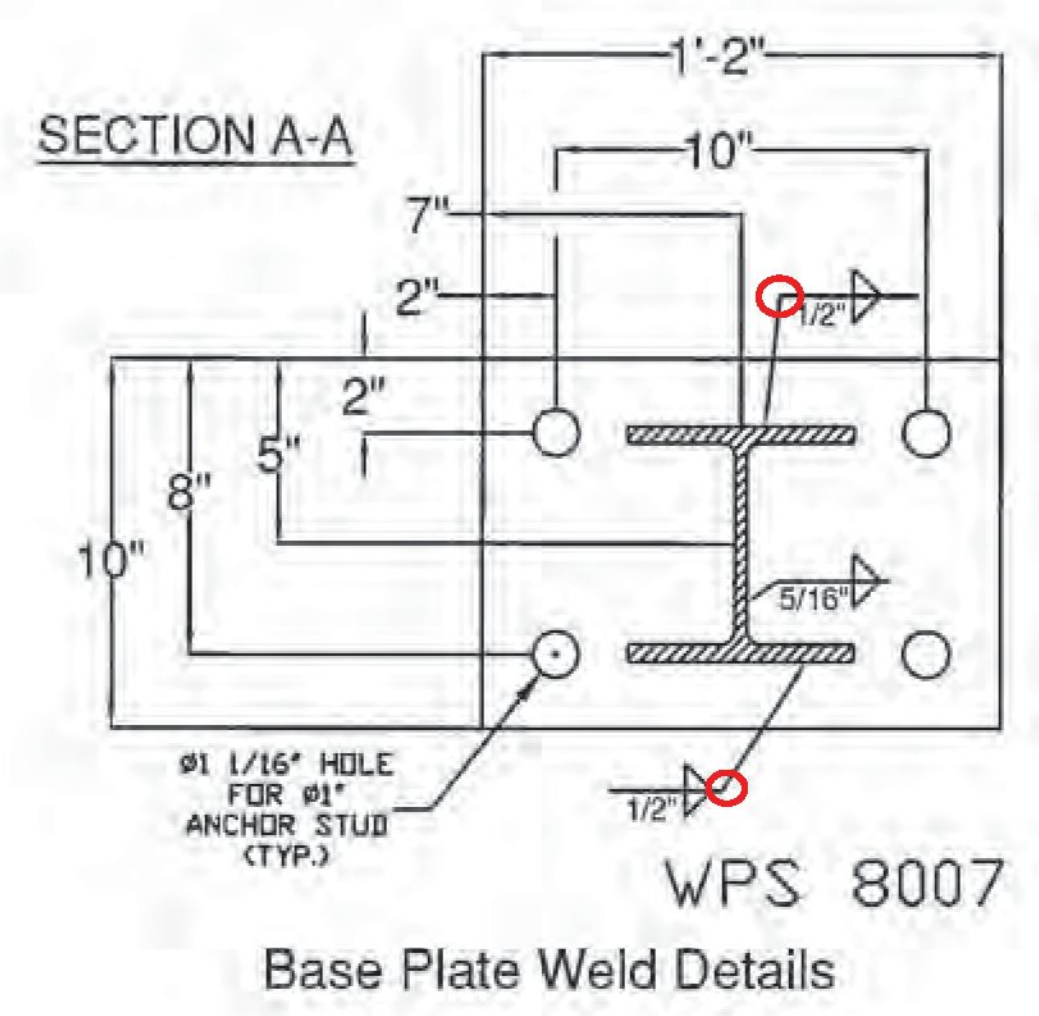
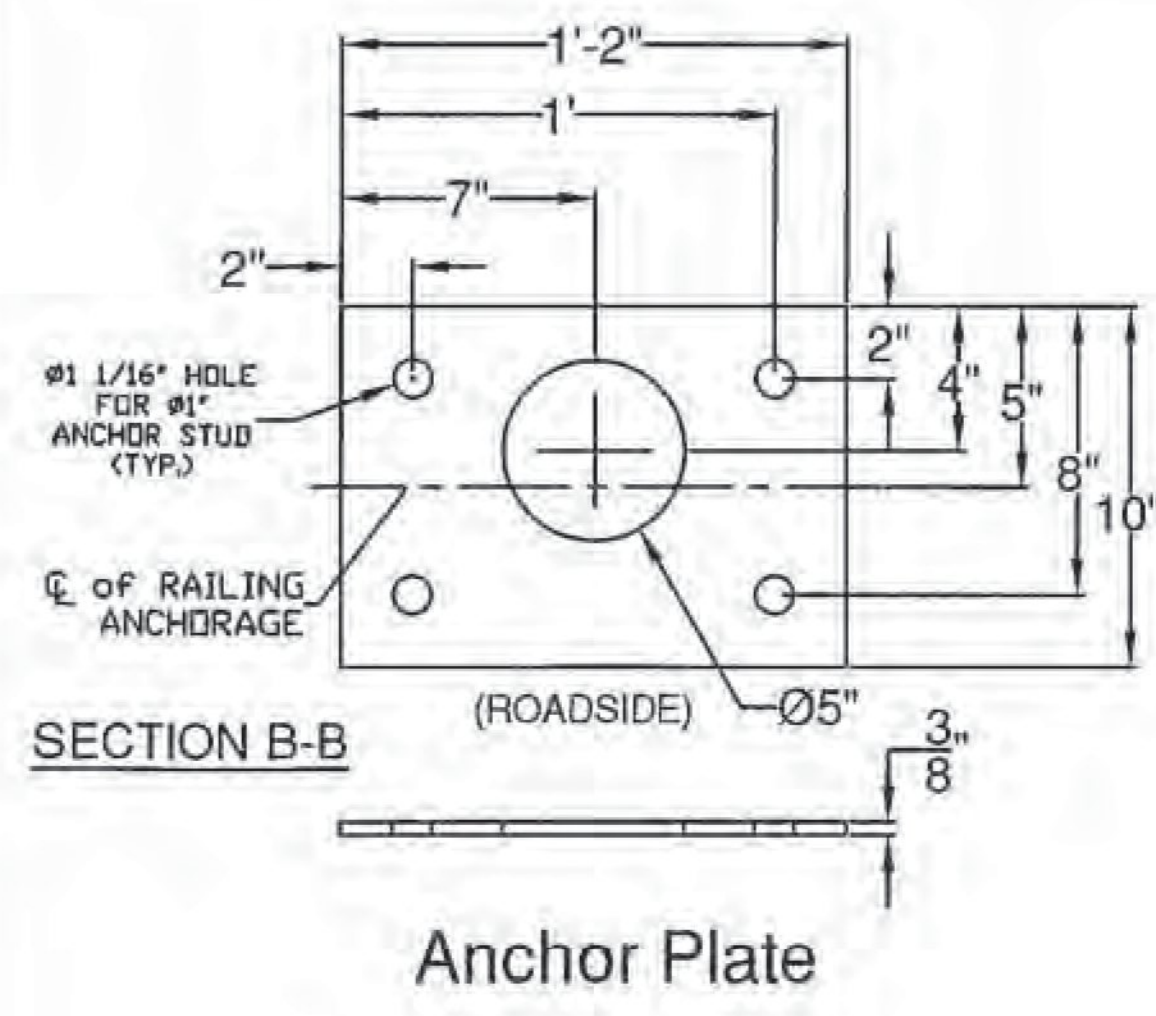


North Railing Facing North
(South Railing Facing South is Similar)



HARDWARE NOTES	
ITEM #	FUNCTION
8	ANCHOR STUDS, (4) PER POST ON BASE (ITEM #1)
9	(4) PER ANCHOR STUD
10	(4) PER ANCHOR STUD
11	BOLT TOP RAIL TO PAST (ITEM #1), (2) PER POST
12	BOLT BOTTOM RAIL TO SHELF ANGLES (ITEM #15)
13	BOLT RAILING ANGLE (ITEM #15) TO POST (ITEM #1)
14	BOLT THRU RAILING & TUBE SPLICES (ITEM #6)

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. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POSTS IS 8'-3\".
- SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
- RAIL TUBE EXPANSION JOINTS SHALL BE 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\" @ 88°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
- HOLES IN RAILS FOR TUBE ATTACHMENT WILL BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
- BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
- SEE STANDARD DRAWING G-10M 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 WILL BE CONSIDERED INCIDENTAL TO OTHER CONTRACT ITEMS.
- ANY BENDING OF RAIL SHALL BE DONE AT THE 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.
- THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.
- STD. SPLICE HOLES ONLY IN BRIDGE RAIL TUBES. REST TO BE DRILLED BY CUSTOMER.

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

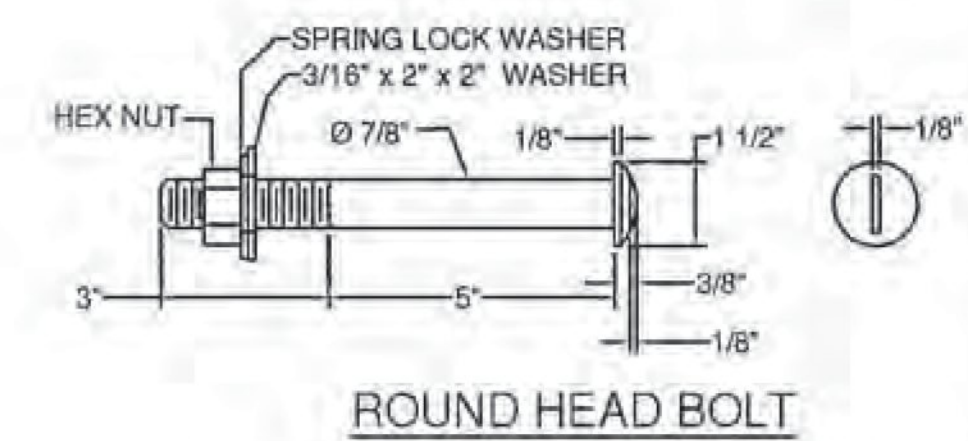
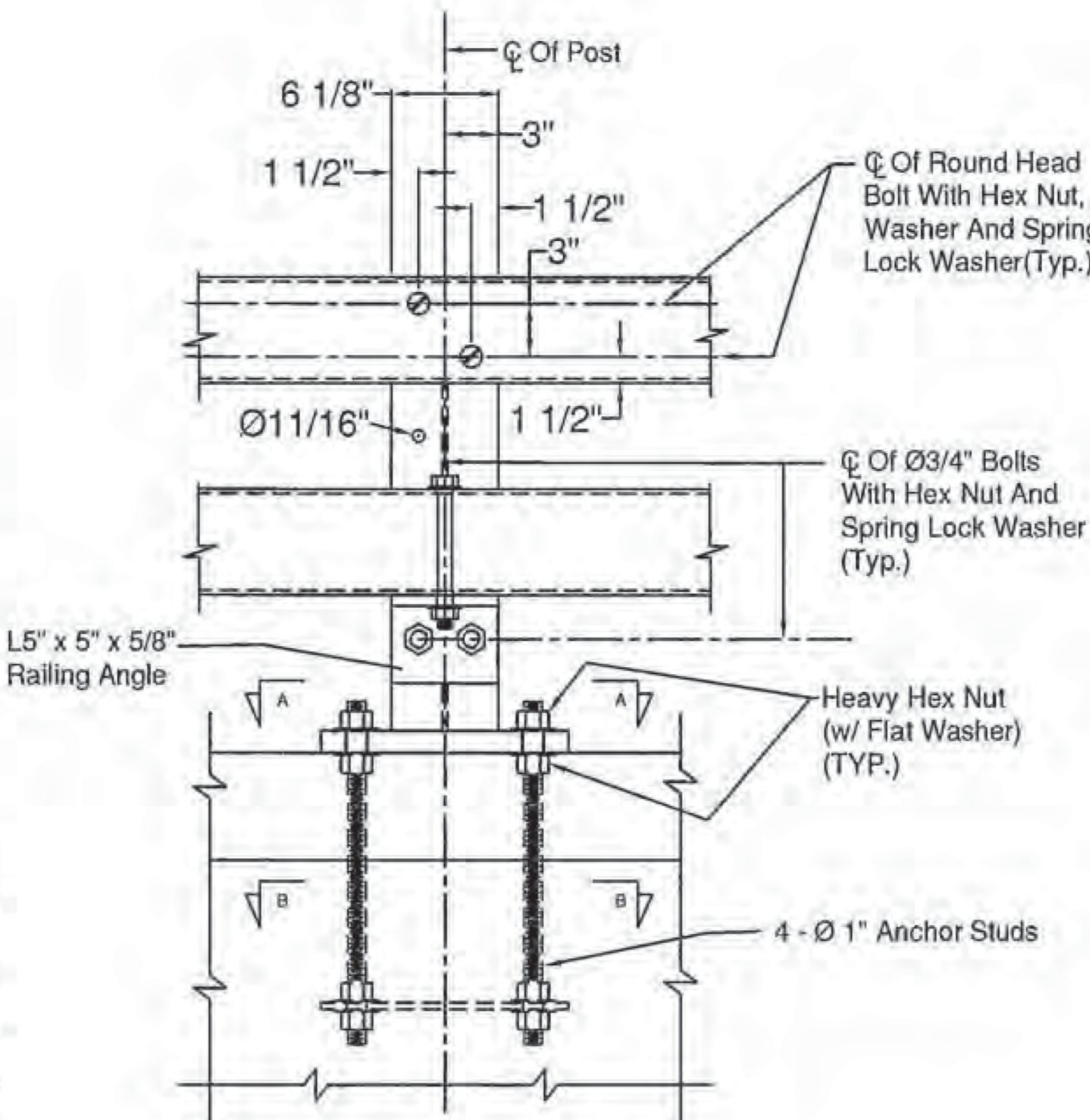
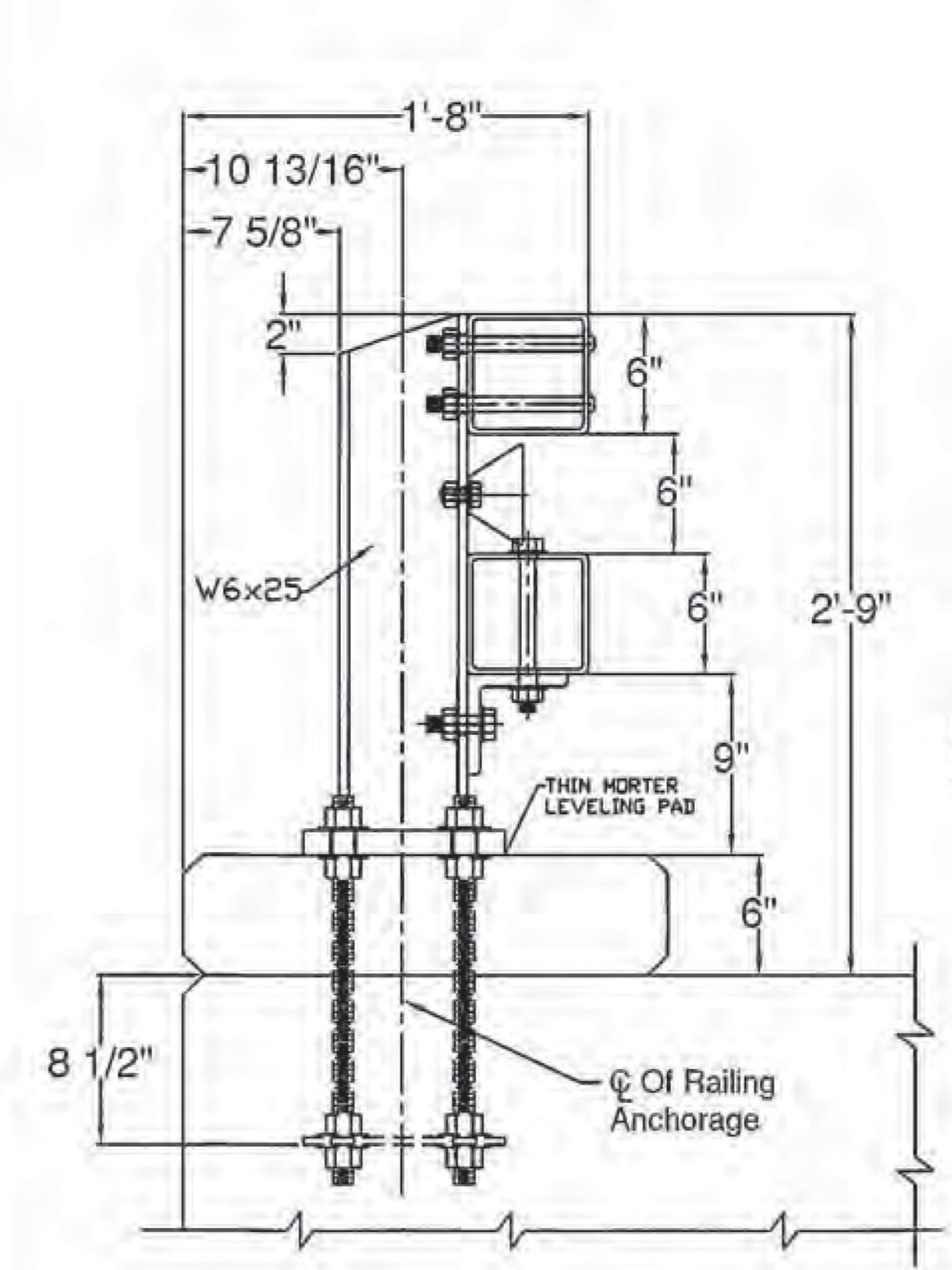
REJECTED REVISE AND RESUBMIT APPROVED AS NOTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DID NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THEIR WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THEIR WORK IN A SAFE AND SATISFACTORY MANNER.

CLD Consulting Engineers
240 Commercial Street
Manchester, NH 03101
603-689-6223 Job Number: 150223
Reviewed by: S.BEAUMONT
Date: 02/28/2017

BILL OF MATERIAL				
ITEM #	QTY	PART #	DESCRIPTION	ASTM DESIGNATION
1	34	0033.026201	TWO RAIL POST @ 2'-3\" D.A. (W6x25)	A572 Gr. 50
2	4	T.B.D.	6\" X 6\" X 3/16\" RAIL @ 31'-11 3/4\"	A500 Gr. B
3	8	T.B.D.	6\" X 6\" X 3/16\" RAIL @ 23'-8 1/2\"	A500 Gr. B
4	4	T.B.D.	6\" X 6\" X 3/16\" RAIL @ 31'-7 1/2\"	A500 Gr. B
5	4	T.B.D.	6\" X 6\" X 3/16\" RAIL @ 19'-1 3/4\"	A500 Gr. B
6	16	0033.00640	5\" X 5\" X 5/16\" FIX. SPL. TUBE @ 2' 3\"	A500 Gr. B, A36
7	34	0033.00220	3/8\" X 10\" X 14\" ANCHOR PLATES	A36
8	*138	0042.01020	Ø 1\" X 20\" FULLY THREADED ANCHOR STUDS	A449 Gr. 1
9	*546	0080.18901	Ø 1\" HEAVY HEX NUTS	A563
10	544	0080.18911	Ø 1\" FLAT WASHERS	F436
11	68	0080.07500	Ø 7/8\" X 8\" ROUND HEAD BOLT, NUT, SQ. WASHER, L.W.	A449, A563, ASME B18.21.1
12	34	0080.06400	Ø 3/4\" X 8\" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563, F436, & ASME B18.21.1
13	68	0080.06140	Ø 3/4\" X 2-3/4\" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563, F436, & ASME B18.21.1
14	64	0080.06340	Ø 3/4\" X 7-1/2\" HEX BOLT, NUT, & (2) F.W.	A325, A563, & F436
15	34	0033.00500	L5\" X 5\" X 5/8\" RAILING ANGLE	A572 Gr. 50
16	10	N/A	DELINEATORS (SUPPLIED BY F.R. LAFAYETTE)	ALUMINUM

*-2 EXTRA FOR VAOT TESTING



ITEM #: 900.640

APPROVED BY:

Vermont Agency of Transportation
RECEIVED
February 14, 2017

RESUBMIT No Approved AsNoted
BY Kristin Higgins DATE 2/28/2017

SHEET 1 OF 2

SPECIAL PROVISION, BR, GALV. 2 RAIL BB/ CURB MOUNTED
ORWELL STP DECK (41), STATE NUMBERED ROUTE 73 (TH #3) (MAJOR COLLECTOR) - BR NO. 4
TOWN OF ORWELL, ADDISON COUNTY, VT

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

DRAWN E.P. 12/29/16
CHECKED D.L. 12/29/16
APPROVED M.V.
SCALE SCHEMATIC
DRAWING NO. FR Lafayette - ORWELL

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