

**NOTES:**  
All tubes shall be fabricated from ASTM A-500 Grade B. All posts and tube splices shall be fabricated from ASTM A-572 Grade 50 or ASTM-A588 steel. All miscellaneous steel shall be fabricated from ASTM A-36 steel.

The above material, except as noted, and all anchor bolts and miscellaneous bolts, nuts and washers shall be galvanized after fabrication in accordance with Section 509. Structural steel elements shall conform to the requirements of Section 509.

Tubes shall be continuous over not less than two posts. No welded butt splices will be allowed in the tube sections.

All bolts that have lock washers shall be tightened to snug only.

Posts shall be perpendicular to the grade of the deck.

Posts, backing plates, miscellaneous plates, angles, lag screws, miscellaneous bolts, nuts, washers, tubes, tube splices, end plates, reflector tabs, galvanizing and painting needed to install the bridge rail shall be included in Item 606 - Bridge Rail Type 10R.

Field modifications to the steel rail component or existing timber structure may be needed and shall be included in the cost of Bridge Rail Type 10R

Prior to fabrication of this item, three sets of working drawings shall be submitted to the Engineer for information only.

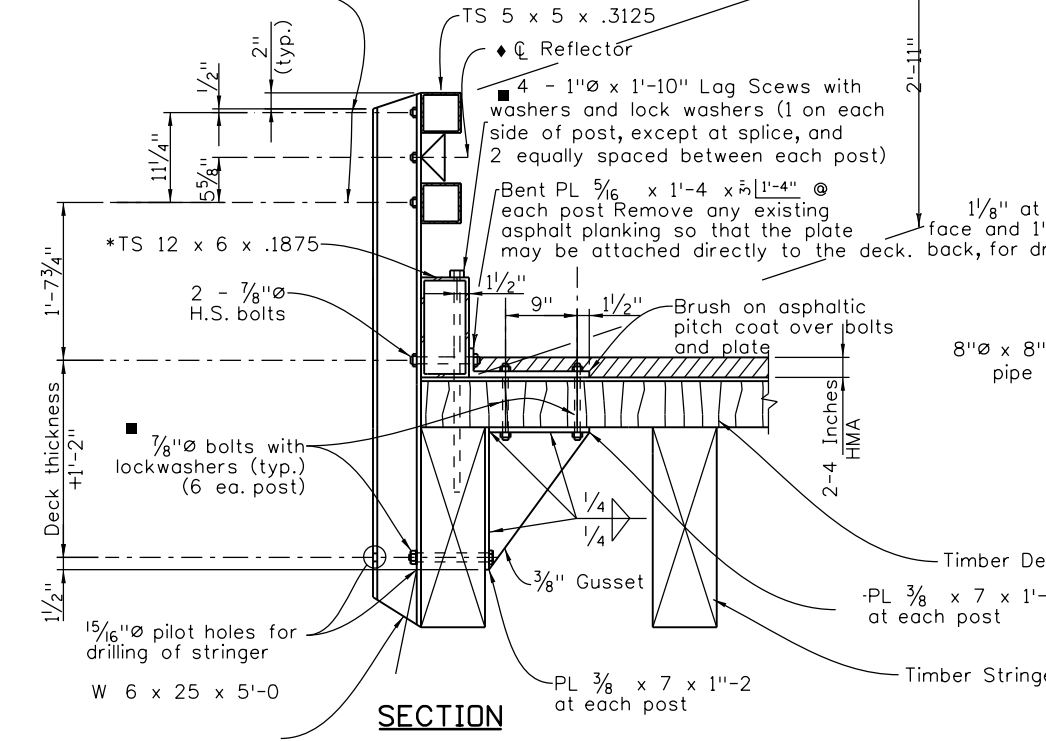
■ Treat all bolt holes in timber with an acceptable timber treatment (preservative).

Structural Steel:  
AASHTO M-222 (ASTM A-588) or AASHTO M-223 (ASTM A-572)  $f_y = 50,000$  psi  
AASHTO M-183 (ASTM A-36) Cold formed ASTM A-500 Grade B  $f_y = 36,000$  psi  
 $f_y = 46,000$  psi

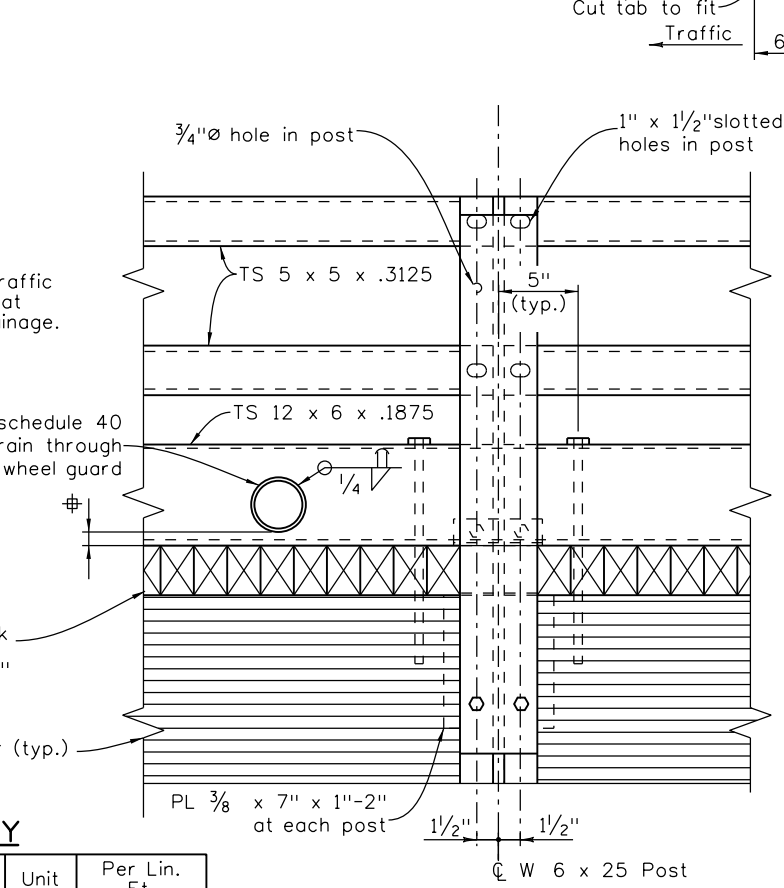
For additional details see next rail sheets

**RAIL PANEL TERMINAL SECTION**  
(See Roadway plans for ends not attached to Guardrail)  
**ELEVATION - BRIDGE RAIL**

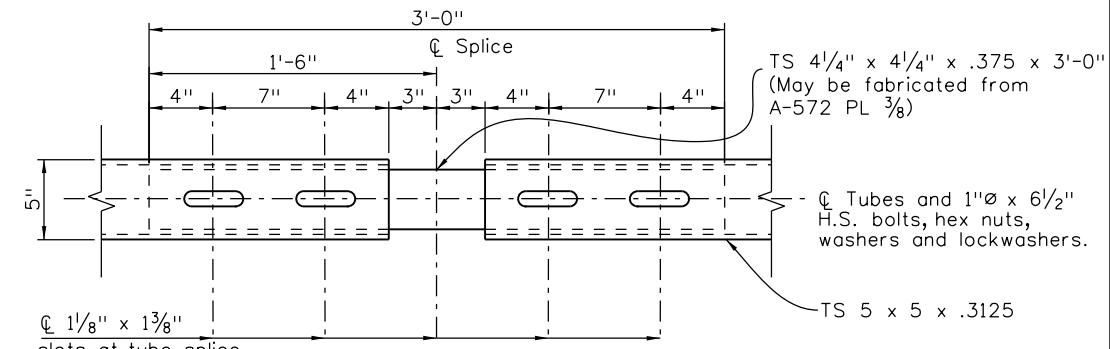
2-3/4"  $\phi$  x 2" threaded anchor studs automatically end welded to tube. Attach to post with hex nuts and hardened lock washers.



**RAIL PANEL TRANSITION SECTION**  
(See Roadway plans for ends requiring attachment to Guardrail)



**ELEVATION**



**PLAN - TUBE SPLICE**

Use similar detail at 1' X 6" wheel guard tubing, using a fabricated splice tube of 1 1/2" x 5 1/2" x 3/16". Vertically center 1" x 1'-10" lag screws in slotted holes in tube splices. Screws must go through deck and into stringer.

**FOR INFORMATION ONLY**

Description	Unit	Per Lin. Ft.
Structural Steel (Galvanized)	Lb	81.3

♦ See M-606-1 for details - attach to post with 5/8"  $\phi$  bolt with hex nut and lock washer  
\* Existing timber wheel guard shall be removed.

Revision Dates (Preliminary Stage Only)	DATE	INITIAL	DATE	INITIAL
3/99	3/99	JEB	3-16	JEB
5/00	5/00	JEB	4-16	JEB
4/02	4/02	JEB	4-16	JEB
3/07	3/07	JEB	4-16	JEB
10/13	10/13	JEB	4-16	JEB

Design	DATE	INITIAL	DATE	INITIAL
Designed By	3-16	JEB	3-16	JEB
Checked By	4-16	JEB	4-16	JEB

Quantities	INITIAL	DATE	INITIAL	DATE
Quantities By	JEB	3-16	JEB	3-16
Checked By	JEB	4-16	JEB	4-16

Print Date: 2/13/2017  
File Name: 20951\_06 Bridge Rail Type 10T (1 of 2).dgn  
Horiz. Scale: NTS Vert. Scale: As Noted  
Staff Bridge Branch - Unit 0226 Unit Leader DDG

Sheet Revisions		
Date:	Comments	Init.

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As Constructed  
No Revisions:  
Revised:  
Void:

BRIDGE RAIL TYPE 10R (1 of 2)			
Designer:	J. Bjorkquist	Structure Numbers	I-16-AA
Detailer:	J. Bjorkquist	Subset Sheets:	H-16-L, M
Sheet Subset:	Bridge	Subset Sheets:	B6 of 7

Project No./Code
STR 067A - 037 & STA 067A - 039
21254
Sheet Number 110

