

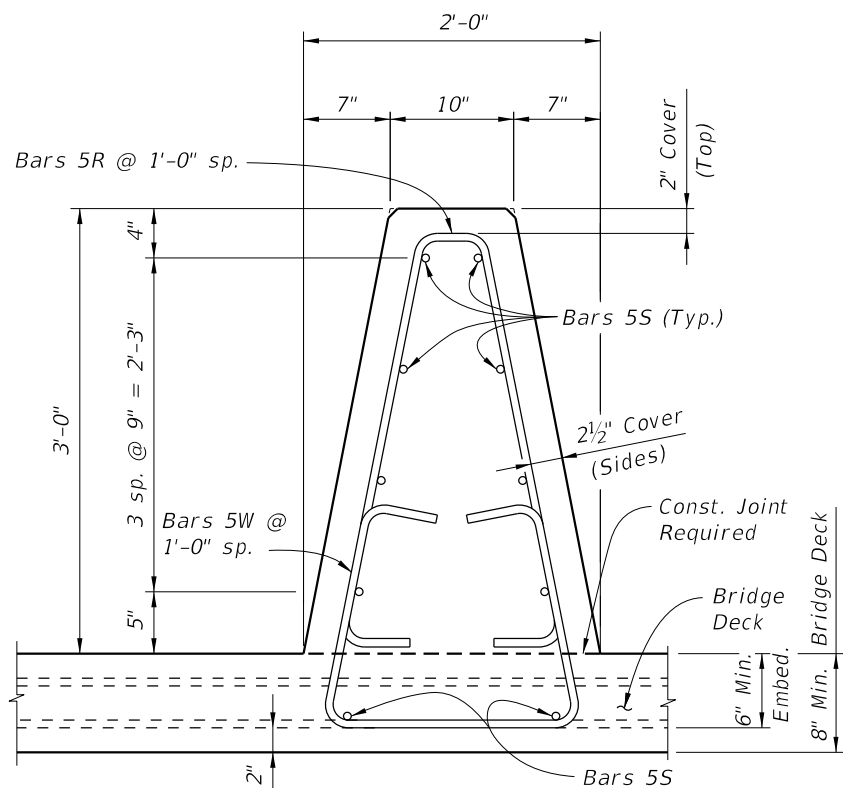
CROSS REFERENCE:  
For Section A-A, View B-B, Detail "A" and Detail "B" see Sheet 2.  
For Detail "C" see Sheet 4.

TRAFFIC RAILING NOTES

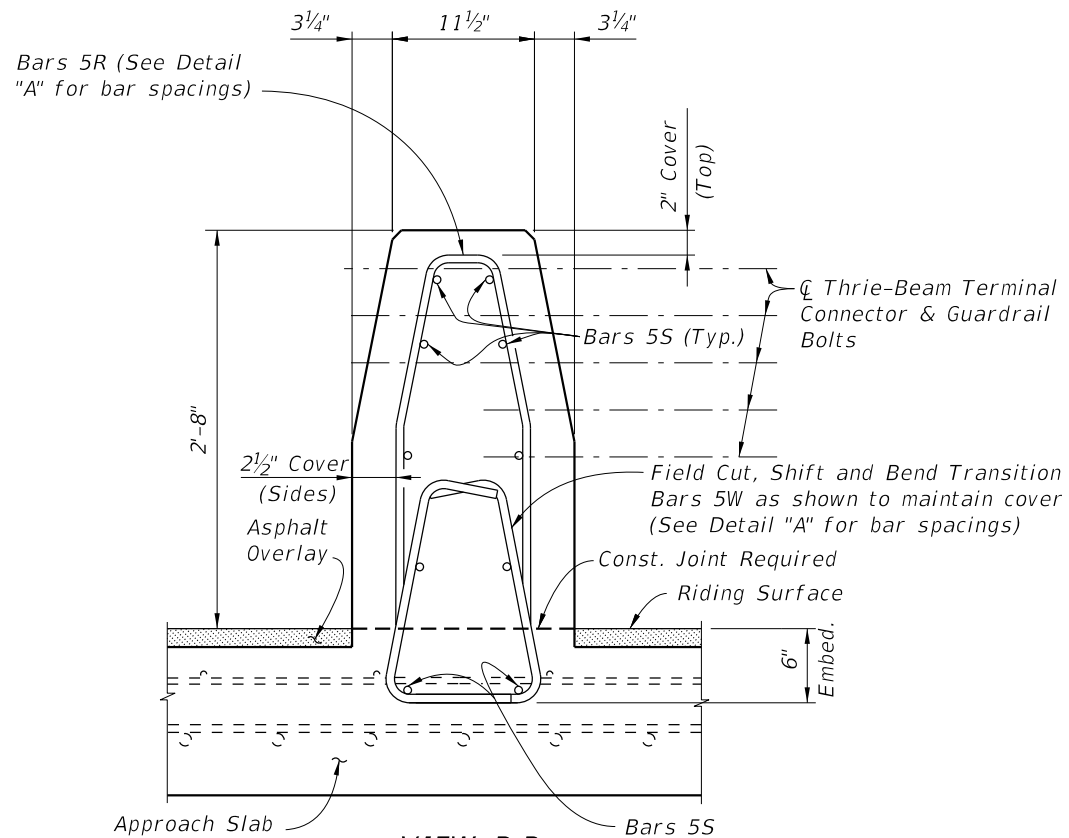
1. Materials: See Structures Plans, General Notes
2. Guardrail Connection Details: See Index 536-001
3. Superelevation: Traffic Railings on Superelevated bridges may be constructed perpendicular to the roadway surface. If an adjoining railing is constructed plumb, transition the end of the Traffic Railing from perpendicular to plumb over a minimum distance of 20'-0". The cost of all modifications will be at the Contractor's expense.
4. Open Joints: See the Superstructure Plans, Approach Slab and Retaining Wall Sheets for Deck Joint dimensions and orientation. Provide Open Railing Joints matching the dimensions of the Deck Joint at Deck Expansion Joint locations.
  - A. For treatment of railings on skewed bridges see Sheet 3.
5. Open Joints: Provide 3/4" Open Joints at:
  - A. Superstructure supports where the slab is continuous.
  - B. At ends of approach slabs when adjacent to retaining walls and at expansion joints on retaining wall junction slabs.
6. V-Grooves: Construct 1/2" V-Grooves plumb. Space V-Grooves equally between 3/4" Open Joints and/or Deck Joints.
7. Barrier Delineators: Install Barrier Delineators on top of the Traffic Railing along the centerline in accordance with Specification Section 705. Match the Barrier Delineator to the color (white or yellow) of the near edgeline.
8. Traffic Railing Transitions: see the Plans for type and location
  - A. Transition to guardrail: see Detail "A".
  - B. Transition to 38" Concrete Median Barrier: see Detail "B".
9. See Superstructure Plans for drainage slot locations and size (when required). See Index 521-427 Sheet 5 for details.
10. For embedded conduit and junction boxes see Index 630-010.

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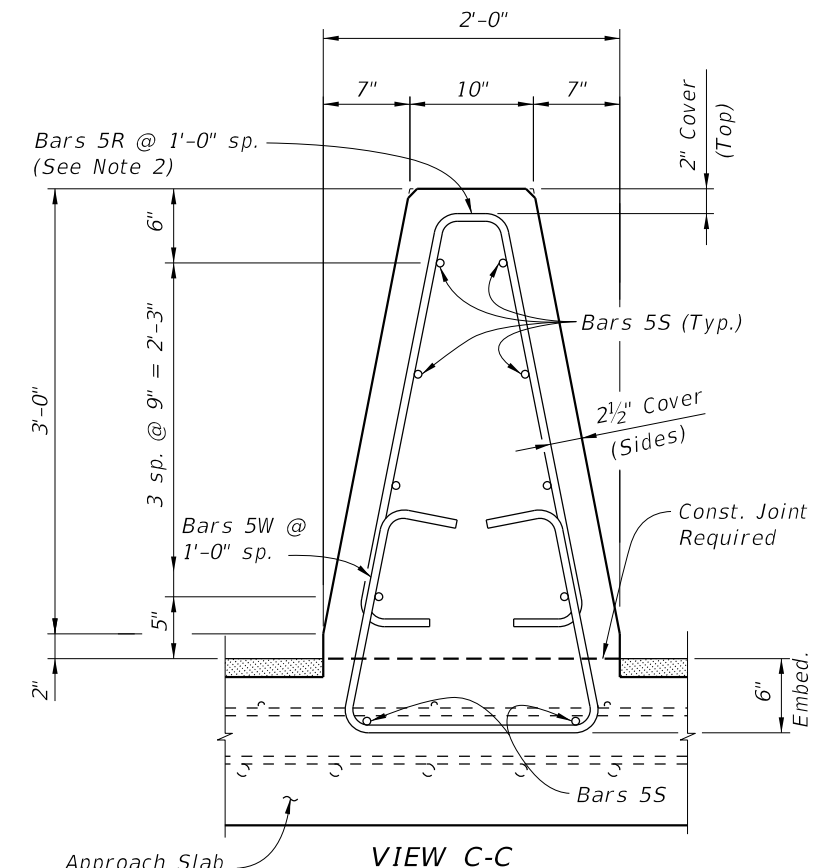
LAST REVISION 11/01/20	REVISION	DESCRIPTION:		FY 2024-25 STANDARD PLANS	TRAFFIC RAILING - (MEDIAN 36" SINGLE-SLOPE)	INDEX 521-426	SHEET 1 of 4
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**SECTION A-A**  
**TYPICAL SECTION THRU TRAFFIC RAILING**  
 (SECTION THRU BRIDGE DECK SHOWN - SECTION THRU APPROACH SLAB SIMILAR)



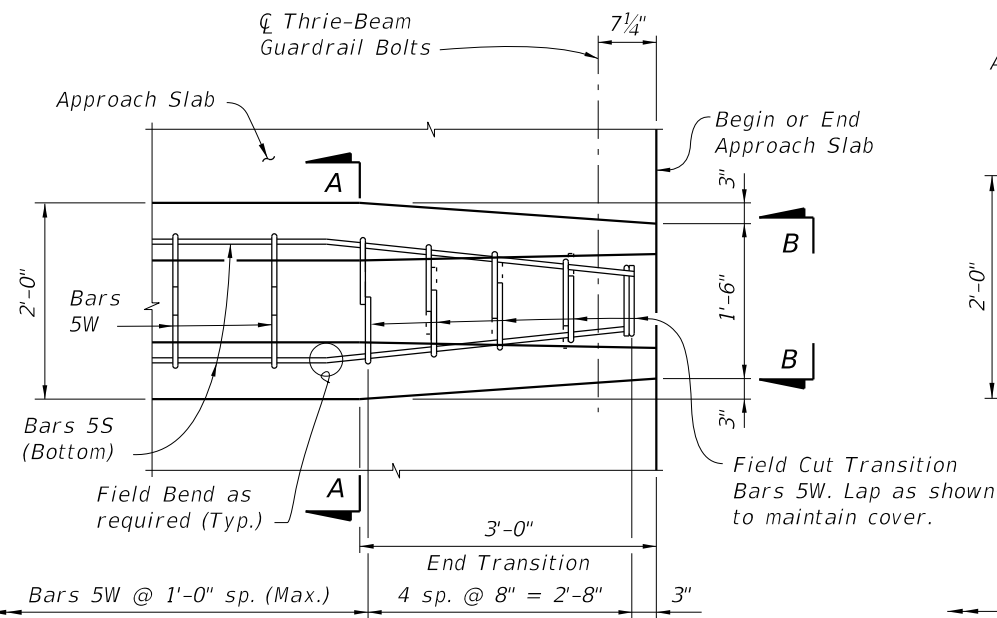
**VIEW B-B**  
**END TRANSITION**



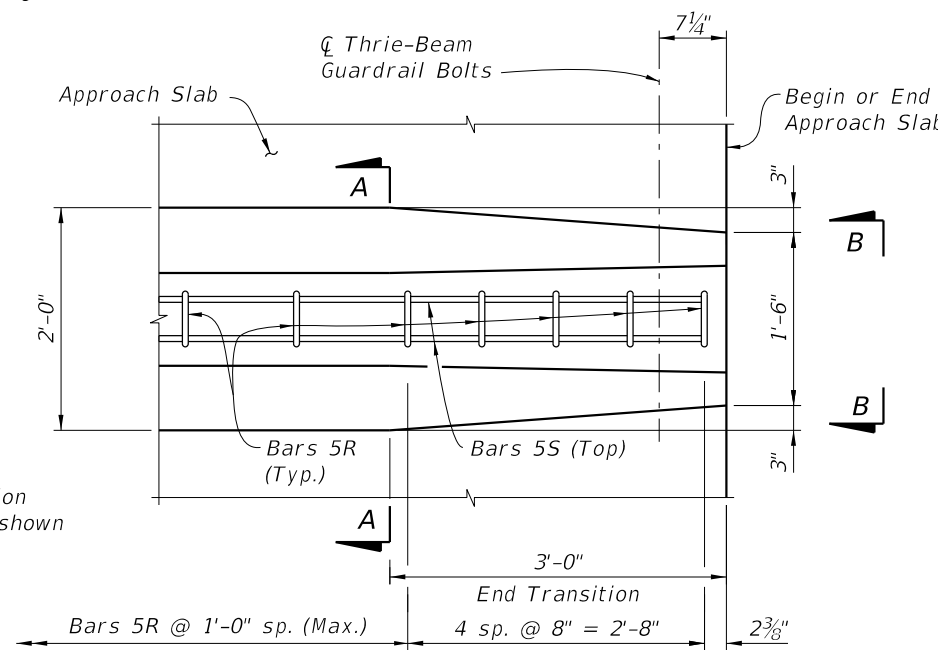
**VIEW C-C**  
**HEIGHT TRANSITION**

**NOTES:**

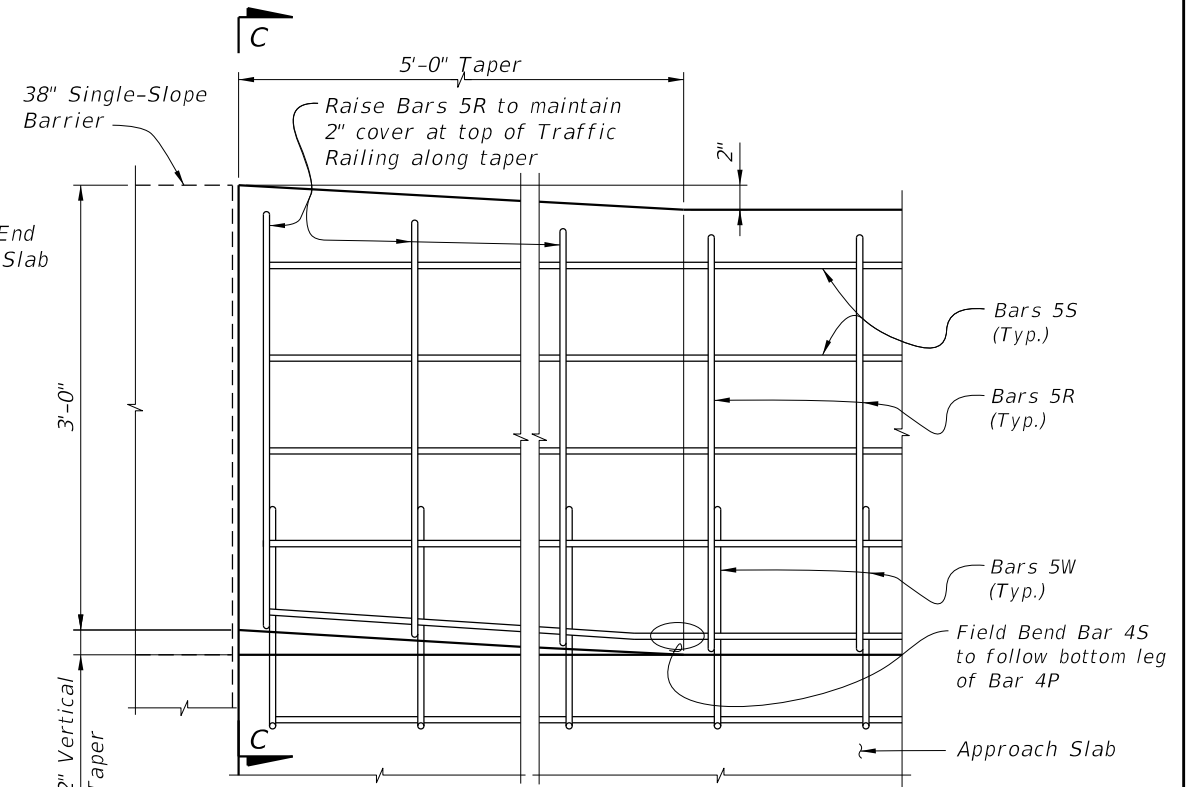
1. When guardrail approaches are shown in the plans, begin placing Railing Bars 5R and 5W on Approach Slab at the railing end and proceed toward Begin or End Bridge to avoid conflict with guardrail bolt holes. Cut, bend and lap bars as shown to maintain cover. If required, adjustments to the bar spacing for Bars 5R and 5W shall be made immediately adjacent to Begin or End Bridge.
2. When a Concrete Barrier is used beyond the Approach Slab form a 5'-0" long Height Transition and raise Bars 5R up to maintain 2" top clearance.



**PLAN - Railing End Transition**  
 (Showing Bars 5W and 5S)



**PLAN - Railing End Transition**  
 (Showing Bars 5R and 5S)

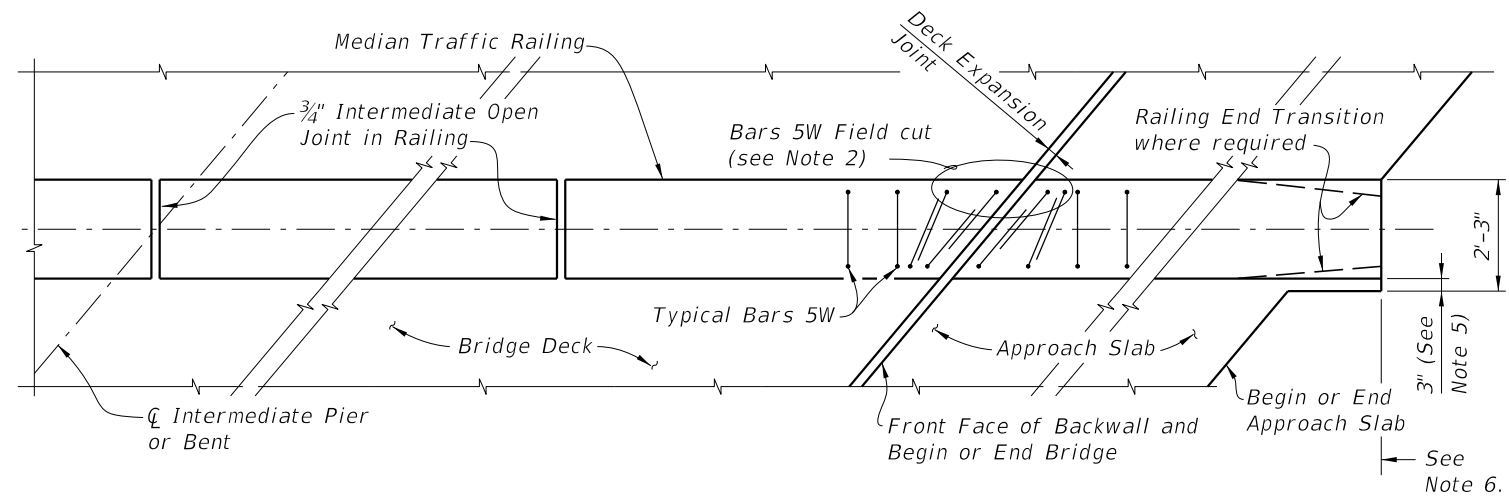


**DETAIL "B"**  
**ELEVATION - RAILING HEIGHT TRANSITION**  
 (Showing Transition to 38" Single-Slope Barrier)

DETAIL "A"

10/16/2023 7:32:07 AM

LAST REVISION 11/01/23	DESCRIPTION:		FY 2024-25 STANDARD PLANS	TRAFFIC RAILING - (MEDIAN 36" SINGLE-SLOPE)	INDEX 521-426	SHEET 2 of 4




**PARTIAL PLAN VIEW OF BRIDGE DECK AND APPROACH SLAB WITH  
MEDIAN TRAFFIC RAILING**

**NOTES:**

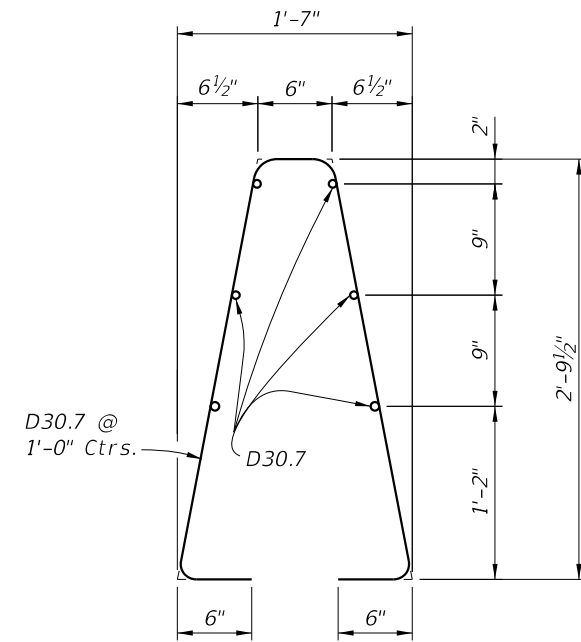
- 1) Median Traffic Railing reinforcement vertical Bars 5W may be shifted up to 1" (Max.) and rotated up to 10 degrees as required to allow proper placement.
- 2) Transition Stirrup Bars 5W shall be used as required at railing ends adjacent to expansion joints to facilitate placement of bars in acute corners. Place Transition Bars 5W in a fan pattern to maintain spacing. Rotate bars in 10° (Max.) increments as required.
- 3) Median Traffic Railing ends at deck expansion joints shall follow the deck joint with allowance for joint movement. See Structures Plans, Superstructure and Approach Slab Sheets for Details.
- 4) 3/4" Intermediate Open Joints and V-Grooves in railing shall be placed perpendicular or radial to the  $\phi$  of the median railing. See Structures Plans, Superstructure and Approach Slab Sheets for locations.
- 5) At begin or end approach slab extend slab at the median railing ends 3" (open side) as shown to provide a base for casting of the railing.
- 6) Work this Sheet with Approach Slab Indexes as applicable.
- 7) Deck Expansion Joint at begin or end bridge shown. Deck Expansion Joints at  $\phi$  Pier or Intermediate Bents are similar.
- 8) Partial Plan Views shown are intended as guides only. See Structures Plans, Superstructure and Approach Slab Sheets for skew angles, joint orientation, dimensions and details.
- 9) If Welded Wire Reinforcement is used in lieu of conventional reinforcement, placement of the WWR vertical elements shall be similar to those shown above. Clipping of horizontal elements to facilitate placement shall be minimized where possible. Where clipping is required, supplement horizontal elements by lap splicing with deformed bars having an equivalent area of steel.

10/16/2023 7:32:17 AM

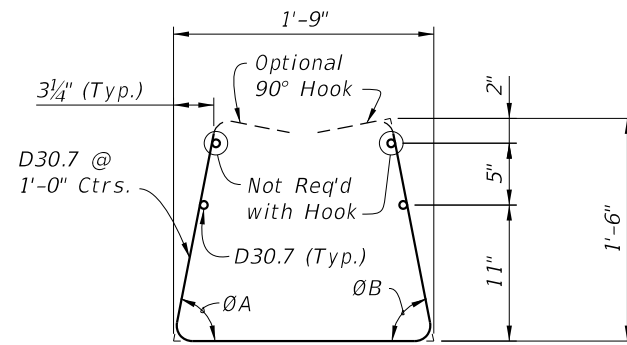
LAST REVISION 11/01/16	REVISION	DESCRIPTION:	 <b>FY 2024-25 STANDARD PLANS</b>	<b>TRAFFIC RAILING - (MEDIAN 36" SINGLE-SLOPE)</b>	INDEX 521-426	SHEET 3 of 4
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ALTERNATE REINFORCING STEEL (WWR) DETAILS

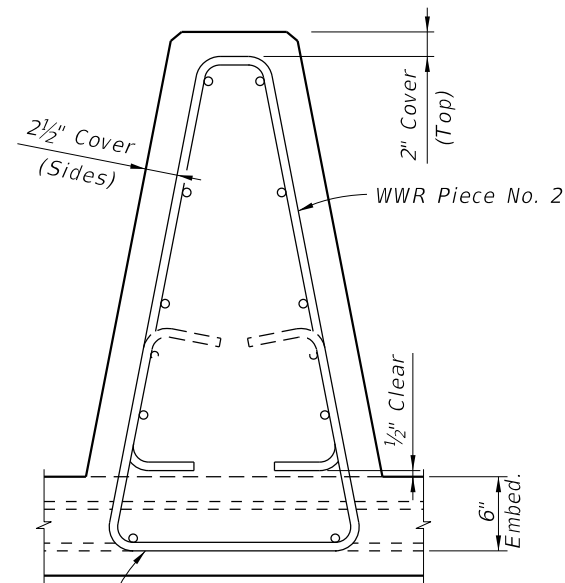
CONVENTIONAL REINFORCING STEEL BENDING DIAGRAMS



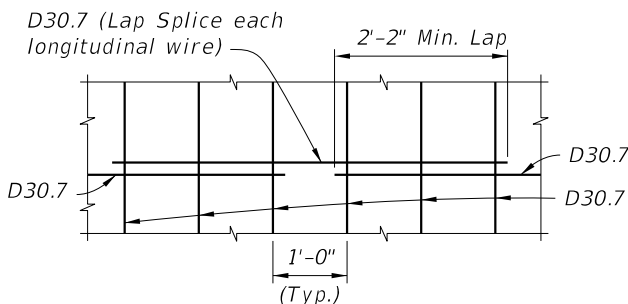
WWR Piece No. 2



WWR Piece No. 1



WWR Piece No. 2 SECTION A-A



SPLICE DETAIL (Between WWR Sections)

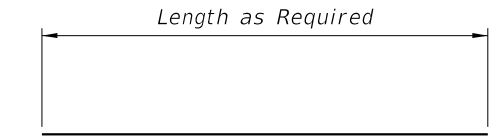
WELDED WIRE REINFORCEMENT NOTES:

- At the option of the Contractor deformed Welded Wire Reinforcement (WWR) may be utilized in lieu of all Bars 5R, 5S and 5W. WWR must meet the requirements of Specification Section 931.
- WWR at Railing End Transition shall be field bent inward as required (Pieces 1 & 2) to maintain cover. The bottom of Piece 1 shall be cut to allow overlap.
- Place WWR panels so as to minimize the end overhang of longitudinal wires at Railing Ends and Open Joints. Overhangs greater than 6" are not permitted.

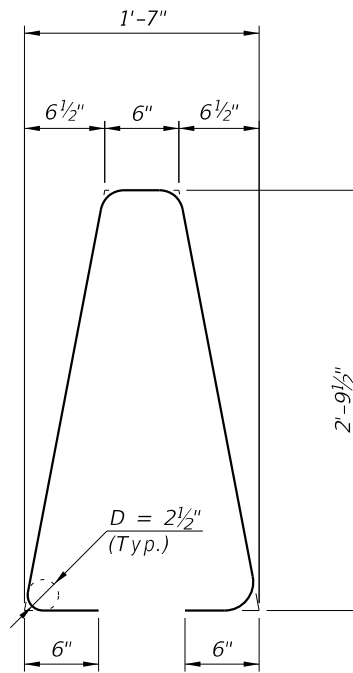
ROADWAY CROSS-SLOPE	ON SLOPE		AT CROWN	
	ØA	ØB	ØA	ØB
0% to 2%	79°	79°	79°	79°
>2% to 6%	81°	77°	79°	79°
>6% to 10%	84°	74°	79°	79°

ØA and ØB shall be 79° if Contractor elects to place railing perpendicular to the deck, and approach slabs.

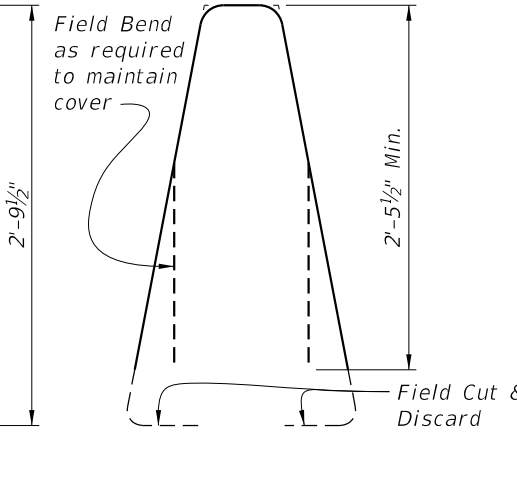
BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
R	5	7'-2"
S	5	As Req'd.
W	5	5'-10"



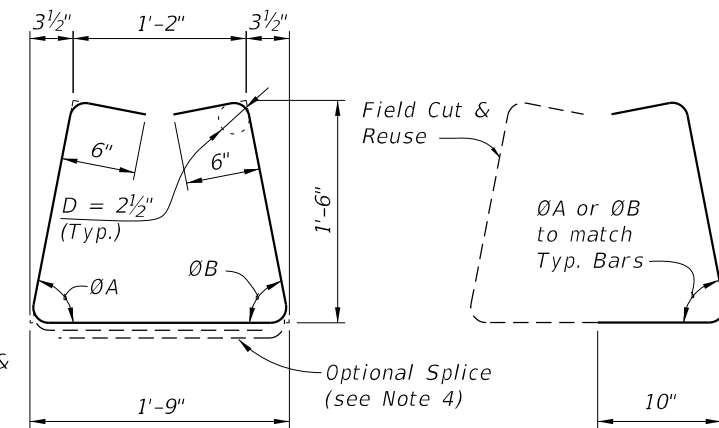
BAR 5S



STIRRUP BAR 5R



TRANSITION STIRRUP BAR 5R (5 required per Railing End Transition)

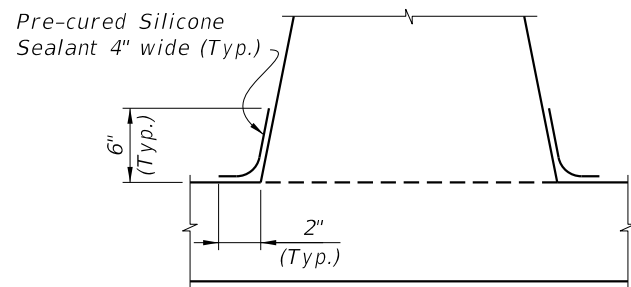


STIRRUP BAR 5W

TRANSITION STIRRUP BAR 5W To Be Field Cut (10 required per Railing End Transition)

REINFORCING STEEL NOTES:

- All bar dimensions in the bending diagrams are out to out.
- All reinforcing steel at the open joints shall have a 2" minimum cover.
- Bars 5S may be continuous or spliced at the construction joints. Bar splices for Bars 5S shall be a minimum of 2'-2".
- At the Contractor's option, Bars 5W may be fabricated as a two piece bar with a 1'-2" lap splice of the bottom legs.



DETAIL "C" - SECTION AT INTERMEDIATE OPEN JOINT

INTERMEDIATE JOINT SEAL NOTES:

- At Intermediate Open Joints, seal the lower 6" portion of the open joint with Pre-cured Silicone Sealant in accordance with Specification Section 932.
- Apply sealant prior to any Class V finish coating and remove all curing compound and loose material from the surface prior to application of bonding agent.
- Include the cost of the Pre-cured Silicone Sealant in the Contract Unit Price for the Traffic Railing.

ESTIMATED TRAFFIC RAILING QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete	CY/LF	0.157
Reinforcing Steel	LB/LF	23.99

(The above quantities are based on a crowned roadway, with a 2% cross slope)

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LAST REVISION	DESCRIPTION:
01/01/18	