


# ORIGINATION FORM

Proposed Revisions to a Standard Plans Index  
(Please provide all information – Incomplete forms will be returned)

## Contact Information:

Date: March 13, 2019  
Originator: Cheryl Hudson  
Phone: (850) 414-5332  
Email: cheryl.hudson@dot.state.fl.us

## Standard Plans:

Index Number: 521-480  
Sheet Number (s): 1  
Index Title: Traffic Railing (Vertical Face Retrofit) Typical  
Details & Notes 

## Summary of the changes:

Deleted Barrier Delineator Spacing table; Changed Barrier Delineator note to match other traffic railings

## Commentary / Background:

Changed to be consistent with other traffic railing indexes.

## Other Affected Offices / Documents: (Provide name of responsible personnel)

- | Yes                      | No                                  |                             |
|--------------------------|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Standard Plans –      |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FDOT Design Manual –        |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Basis of Estimates Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard Specifications –   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Approved Product List –     |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Construction –              |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Maintenance –               |

## Origination Package Includes: (Email or hand deliver package to Derwood Sheppard)

- | Yes                                 | N/A                                 |   |
|-------------------------------------|-------------------------------------|---|
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Redline Mark-ups                          |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Proposed Standard Plan Instructions (SPI) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Revised SPI                               |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Other Support Documents                   |

## Implementation:

- Design Bulletin (Interim)  DCE Memo  Program Mgmt. Bulletin  FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

**TRAFFIC RAILING NOTES**

This Traffic Railing Retrofit has been structurally evaluated to be equivalent or greater in strength to a design which has been successfully crash tested previously and approved for a NCHRP Report 350 Test Level 4 rating, except for the Tapered End Transition on Index 521-484.

**CONCRETE:** Concrete for the Traffic Railing (Vertical Face Retrofit), Spread Footing Approaches and replacement curb sections shall be Class IV. Concrete for Curb Transition Blocks shall be Class II (Bridge Deck).

**REINFORCING STEEL:** Reinforcing steel shall be ASTM A615, Grade 60, except Expansion Dowel Bar B which shall be ASTM A36 smooth round bar hot-dip galvanized in accordance with the Specifications.

**EXPANSION SLEEVE ASSEMBLY:** Pipe sleeve shall be ASTM D2241 PVC pipe, SDR13.5. End Cap shall be ASTM D2466 PVC socket fitting, Schedule 40. End of Sleeve assembly at railing open joint shall be sealed with silicone to prevent concrete intrusion during railing casting. A compressible expanded polystyrene plug is required in the opposite end of the assembly for correct dowel positioning during railing casting. Correct dowel positioning is required in order to provide for thermal movement of the deck.

**ADHESIVE-BONDED ANCHORS AND DOWELS:** Adhesive Bonding Material Systems for Anchors and Dowels shall comply with Specification Section 937 and be installed in accordance with Specification Section 416. The field testing proof loads required by Specification Section 416 shall be 23,800 lbs. for Dowel Bars 6D on the inside face (traffic side) of the railing (1'-0" embedment) and 18,500 lbs for Dowel Bars 6D along the outside face of the traffic railing (5" min. embedment).

**BRIDGES ON CURVED ALIGNMENTS:** The details presented in these Indexes are shown for bridges on tangent alignments. Details for bridges on horizontally curved alignments are similar.

**NAME, DATE AND BRIDGE NUMBER:** The Name and Bridge Number shall be placed on the Traffic Railing so as to be seen on the driver's right side when approaching the bridge. The Date shall be placed on the driver's left side when approaching the bridge. The Date shall be the year the bridge was constructed. Letters and figures may be 3" tall black plastic as approved by the Engineer or 3/8" V-Grooves. V-Grooves shall be formed by preformed letters and figures.

**ELEVATION MARKERS:** Elevation Markers need not be replaced when portions of the existing traffic railing carrying existing elevation markers are removed.

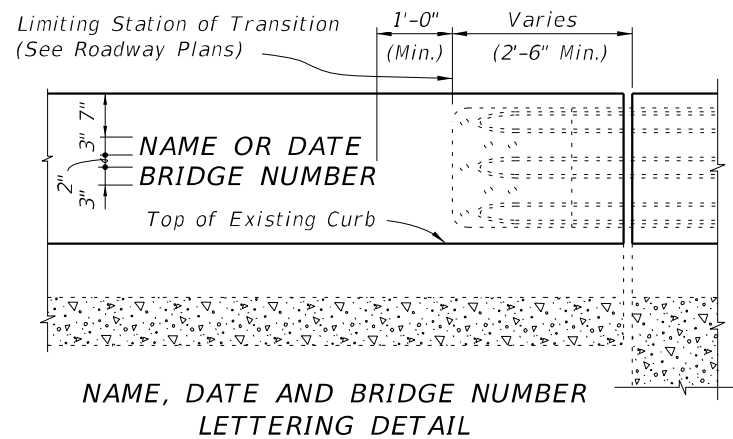
**BARRIER DELINEATORS:** Barrier Delineators shall meet Specification Section 993. Install Barrier Delineators on top of the Traffic Railing 2" from the face on the traffic side at the spacing shown in the table below. Barrier Delineator color (white or yellow) shall match the color of the near edgeline.

**PAYMENT:** Payment under Traffic Railing (Vertical Face Retrofit) includes all materials and labor required to construct the railing and incidental work as required for transition blocks, curbs, spread footing approaches, and Barrier Delineators.

to the

in accordance with Specification Section 705.

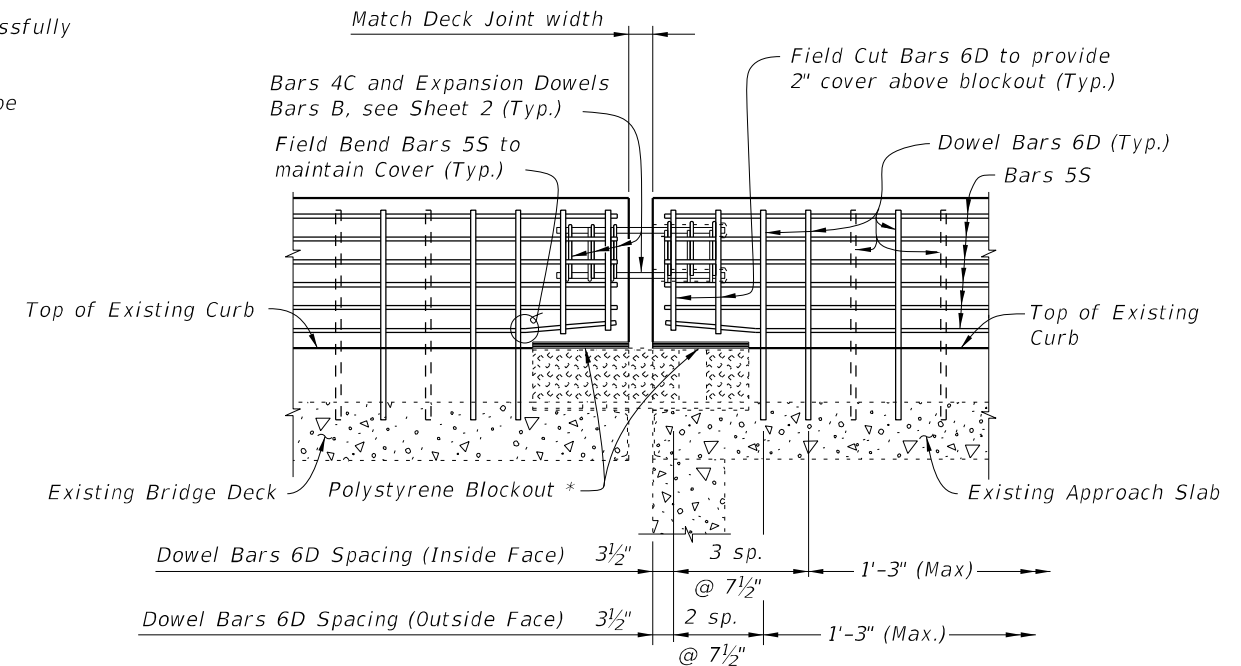
Match the



Distance - Edge of Travel Lane to Face of Railing	Spacing (Ft.)
< 4'	40'
4' to 8'	80'
> than 8'	None Required

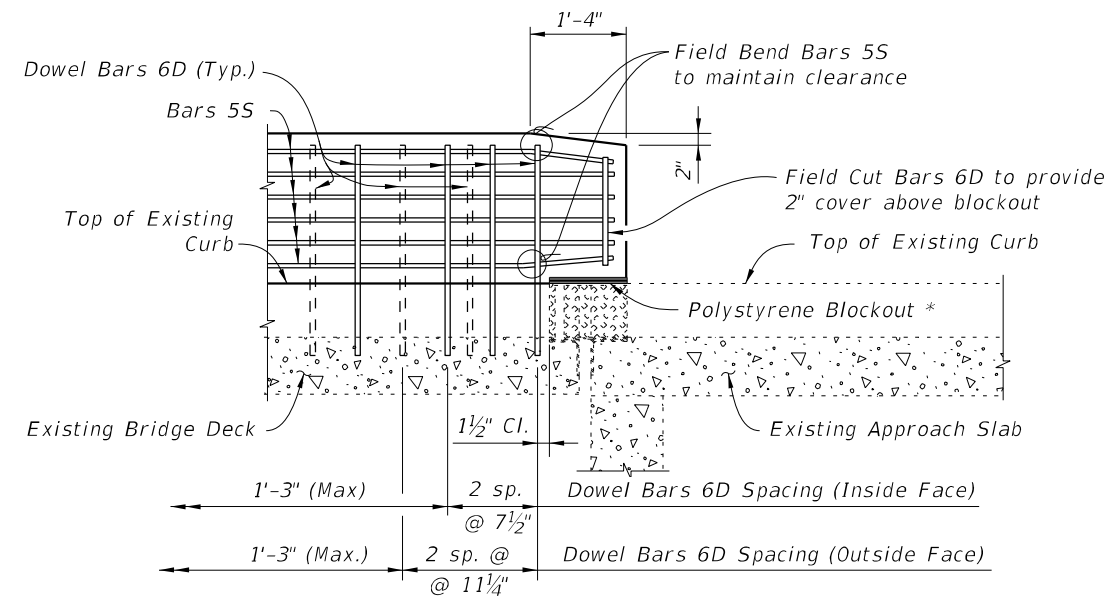
(Quantities are based on a 9" curb, no curb cross slope and 1'-0" embedment length of Bars 6D. If the curb height or embedment length differs from that shown, increase or decrease quantity by the given per inch increment.) See Index 521-484, Sheet 4 for Spread Footing Approach Quantities.

ITEM	UNIT	QUANTITY	
		9" Curb	Increment
Concrete	CY/FT	0.064	0.003 per in. height
Reinforcing Steel	LB/FT	13.27	0.10 per in. length



**PARTIAL ELEVATION OF RAILING SHOWING FINGER/SLIDING PLATE JOINT - SCHEMES 2 THRU 5 (Begin or End Bridge Shown, Intermediate Joints Similar)**

\* Place 1" thick polystyrene breakout over limits of bridge deck expansion joint full width to the end of the Traffic Railing to allow for thermal movement. Seal Forms to prevent mortar leakage into the expansion joint.



**PARTIAL ELEVATION OF RAILING SHOWING FINGER/SLIDING PLATE JOINT AT BEGIN OR END BRIDGE - SCHEME 1 (Guardrail Transition not shown for clarity)**

10/23/2018 11:53:27 AM

LAST REVISION	DESCRIPTION:
07/01/14	← 11/01/19

**FDOT** FY 2019-20 STANDARD PLANS

**TRAFFIC RAILING - (VERTICAL FACE RETROFIT) TYPICAL DETAILS & NOTES**

INDEX 521-480 SHEET 1 of 2

**TRAFFIC RAILING NOTES**

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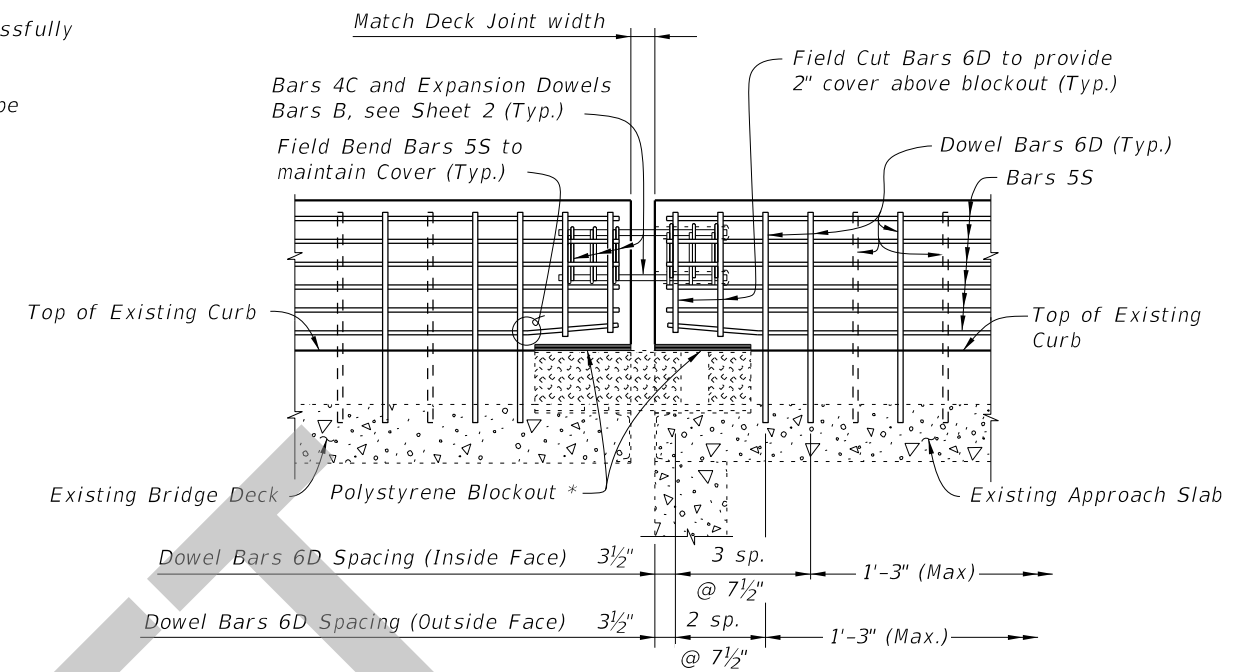
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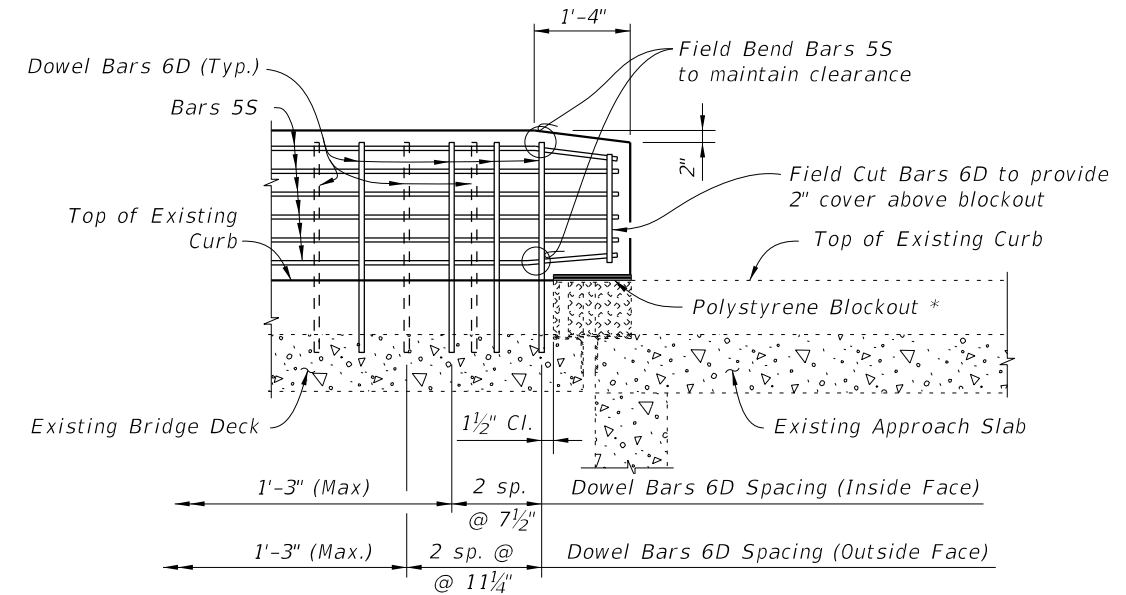
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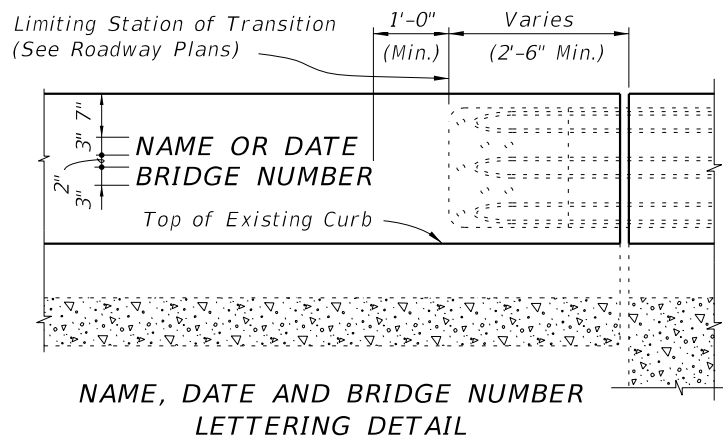


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**PARTIAL ELEVATION OF RAILING SHOWING FINGER/SLIDING PLATE JOINT AT BEGIN OR END BRIDGE - SCHEME 1 (Guardrail Transition not shown for clarity)**



ESTIMATED TRAFFIC RAILING QUANTITIES			
ITEM	UNIT	QUANTITY	
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SDATES



FY 2020-21  
STANDARD PLANS

TRAFFIC RAILING - (VERTICAL FACE RETROFIT)  
TYPICAL DETAILS & NOTES

INDEX  
521-480

SHEET  
1 of 2

LAST REVISION  
07/01/19

REVISION

DESCRIPTION: