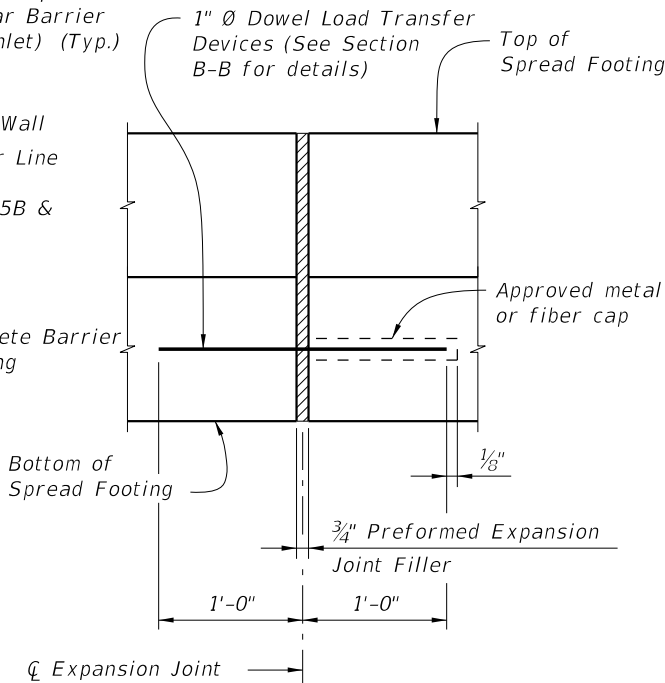
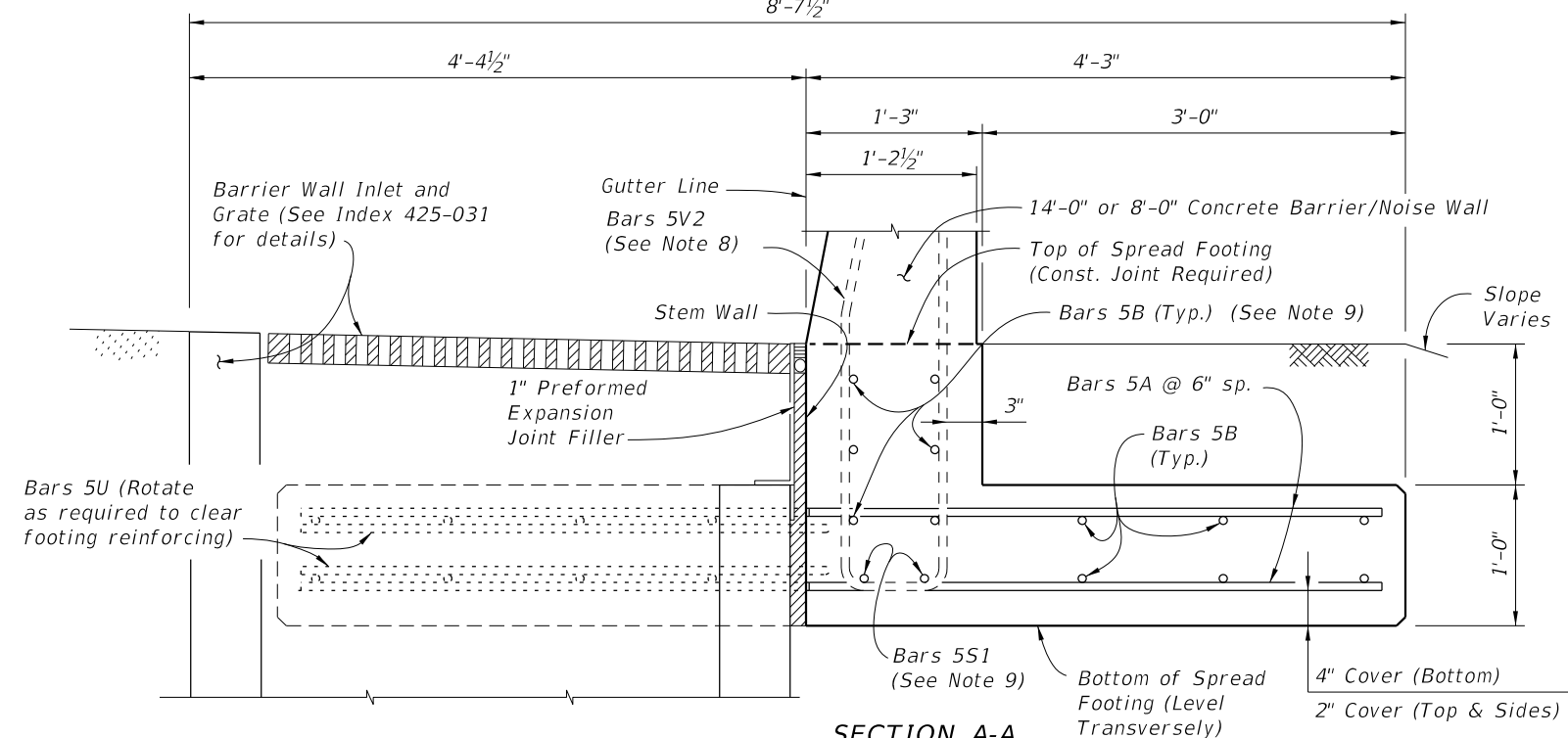


PLAN
SPREAD FOOTING ADJACENT TO SKEWED APPROACH SLAB AND WITH BARRIER WALL INLET



EXPANSION JOINT DETAIL
 (Spread Footing expansion joints are required at 3/4" open joints in Concrete Barrier/Noise Wall)



SECTION A-A
SECTION THRU SPREAD FOOTING AND BARRIER WALL INLET
 (Bars 5P, 5R and 5S1 in Concrete Barrier/Noise Wall not shown for clarity)

- NOTES**
1. **CONSTRUCTION REQUIREMENTS:** Construct the Spread Footing level transversely and expansion joints plumb; do not construct the spread footing perpendicular to the roadway surface.
 2. **CONCRETE:** Use Class II concrete for slightly aggressive environments. Use Class IV concrete for moderately or extremely aggressive environments. Concrete will be in accordance with Specification Section 346.
 3. **DOWELS:** Dowel Load Transfer Devices will be ASTM A 36 smooth round bar and hot-dip galvanized in accordance with Specification Section 962. Install Dowel Load Transfer Devices in accordance with Specification Section 350.
 4. Construct 3/4" Expansion Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown.
 5. Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.
 6. Construct 1/2" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between 3/4" Expansion Joints and/or Begin or End Spread Footing. V-Groove locations are to coincide with V-Groove locations in the Railing/Noise Wall.
 7. **FILL REQUIREMENTS:** Shoulder or Roadway Pavement or Fill is required on top (1'-0" minimum depth) for the entire length of the spread footing on both sides of the Railing/Noise Wall. See Section B-B for details.
 8. See Index 521-510 for Bars 5V2.
 9. Place 8 ~ Bars (6 ~ 5B1 & 2 ~ 5S1) inside Stirrup Bars 5V2 as shown. (2 ~ 5S1 Bars included in 521-510 or 521-511 quantities)
 10. Spacing shown is along the Gutter Line.
 11. Work this Index with one or both of the following:
 - a. Index 521-510 - Concrete Barrier/Noise Wall (8'-0").
 - b. Index 521-511 - Concrete Barrier/Noise Wall (14'-0").

CROSS REFERENCE:
 For Section B-B and Detail "A", see Sheet No. 2.

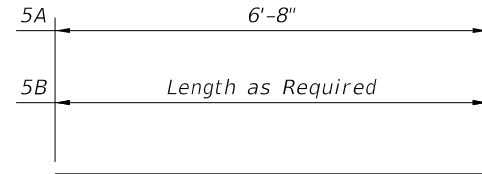
10/30/2017 1:49:24 PM

LAST REVISION 11/01/17	REVISION	DESCRIPTION:		FY 2018-19 STANDARD PLANS	CONCRETE BARRIER/NOISE WALL T-SHAPED SPREAD FOOTING	INDEX 521-513	SHEET 1 of 2
---------------------------	----------	--------------	--	--------------------------------------	--	------------------	-----------------

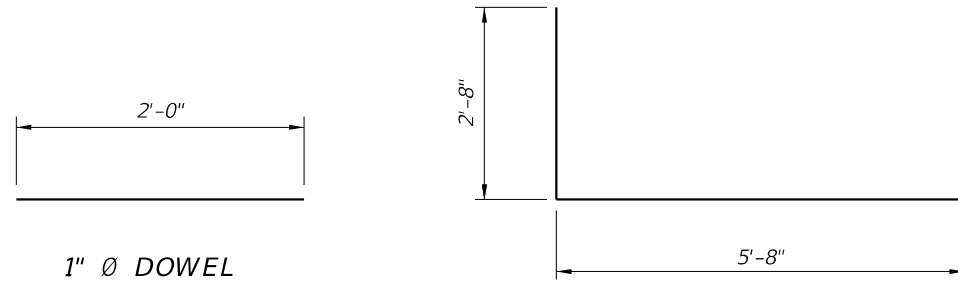
REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL

MARK	SIZE	LENGTH
A	5	6'-8"
B	5	AS REQD.
U	5	11'-0"
DOWEL	1" Ø Smooth Bar	2'-0"



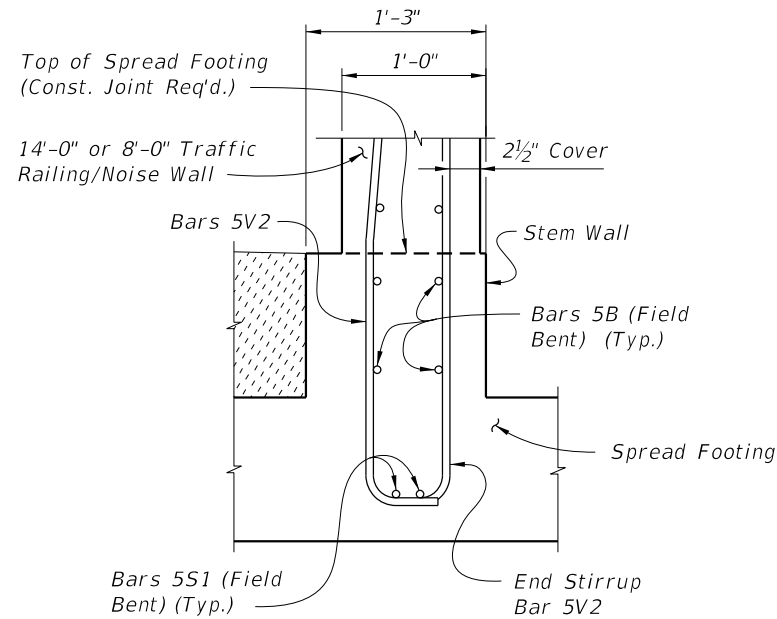
BARS 5A & 5B



BAR 5U

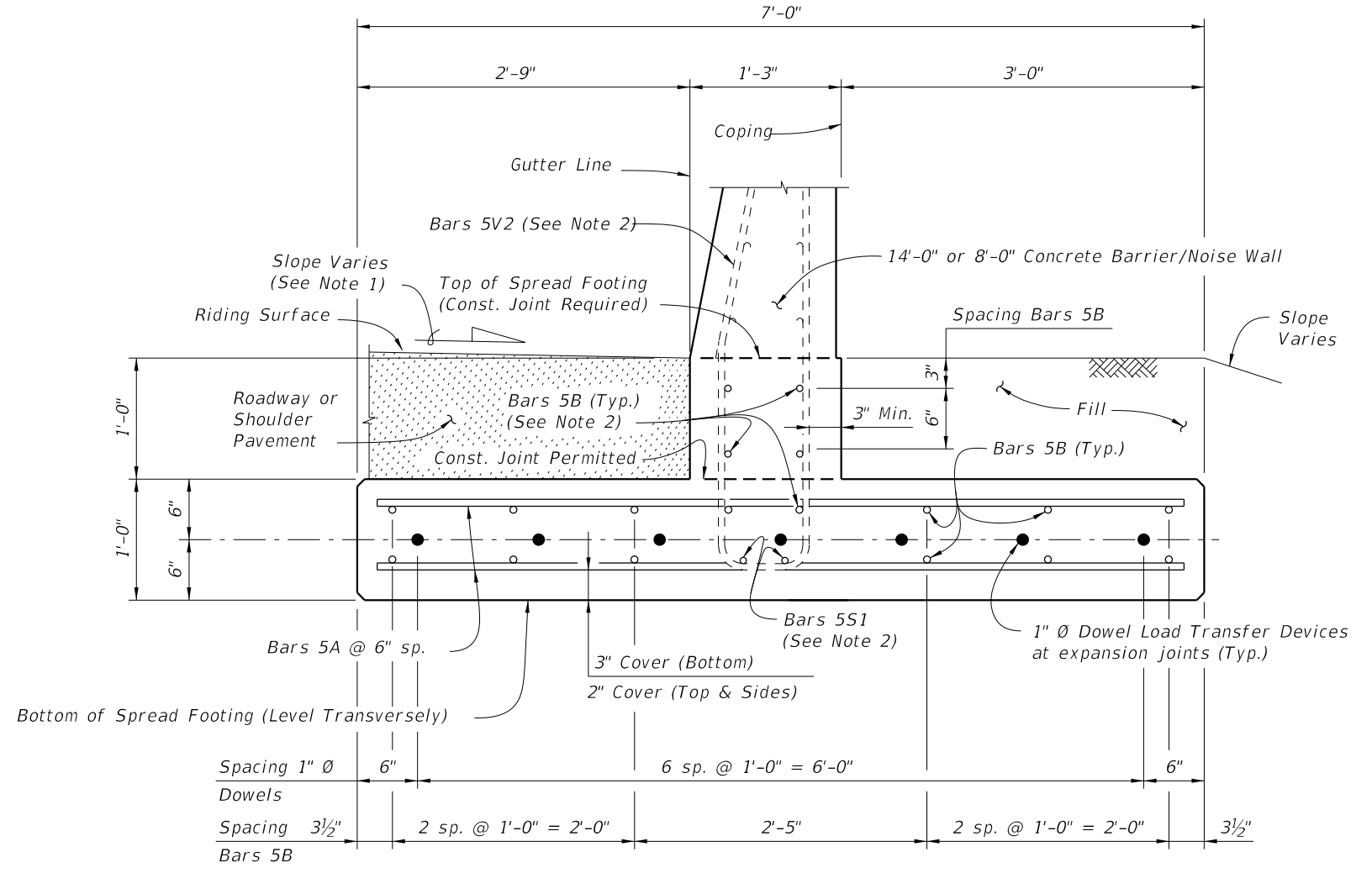
REINFORCING STEEL NOTES:

- All bar dimensions in the bending diagrams are out to out.
- All reinforcing steel at the open joints will have a 2" minimum cover.
- Lap splices for Bars 5B will be a minimum of 2'-2".
- The Contractor may use Welded Wire Reinforcement (WWR) when approved by the Engineer. WWR must consist of Deformed wire meeting the requirements of Specification Section 931.



PARTIAL END VIEW OF RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT (Showing Bars 5V2, and Bars 5B inside of Stirrup Bars 5V2)

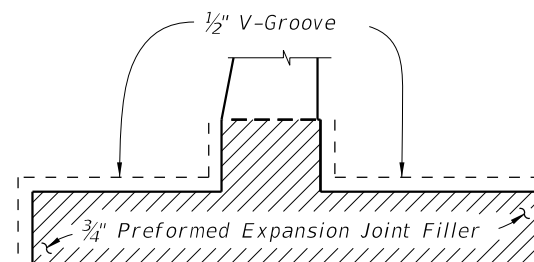
NOTE: See Index 521-510, Detail "A" for details.



**SECTION B-B
TYPICAL SECTION THRU SPREAD FOOTING
(Bars 5R and 5S1 in Concrete Barrier/Noise Wall not shown for clarity)**

NOTES:

- Match Cross Slope of Travel Lane or Shoulder.
- See Sheet 1, Notes 8 & 9.



DETAIL "A"

(Showing Locations of 1/2" V-Grooves and 3/4" Preformed Expansion Joint Filler)

ESTIMATED T-SHAPED SPREAD FOOTING QUANTITIES

ITEM	UNIT	QUANTITY
Concrete (Footing)	CY/FT	0.312
Reinforcing Steel (Typical)	LB/FT	25.90
Additional Reinf. @ Expansion Joint	LB	37.38

Note: The reinforcing steel quantity includes the difference between Index 521-510 or 521-511 and Bars 5V shown. Bars 5S1 are included in Index 521-510 or 521-511 quantities.

CROSS REFERENCE:
For location of Section B-B, see Sheet 1.

10/30/2017 1:49:25 PM

LAST REVISION	DESCRIPTION:
11/01/17	



**FY 2018-19
STANDARD PLANS**

**CONCRETE BARRIER/NOISE WALL
T-SHAPED SPREAD FOOTING**

INDEX
521-513

SHEET
2 of 2