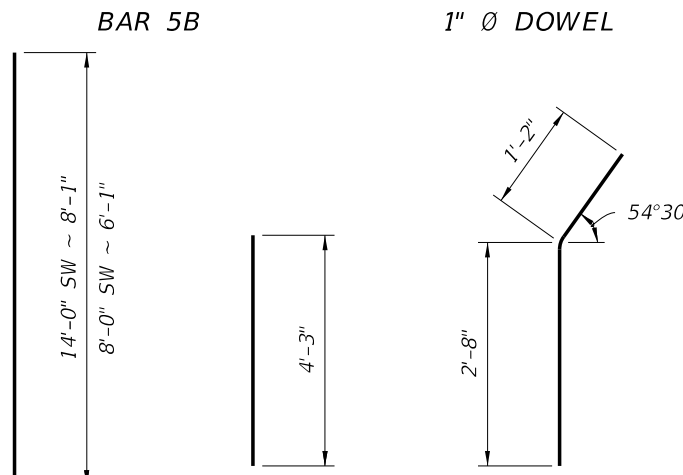
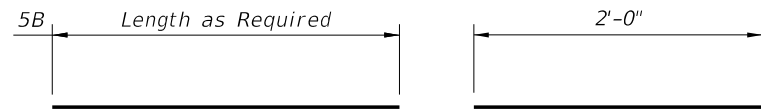


**REINFORCING STEEL BENDING DIAGRAMS**

**BILL OF REINFORCING STEEL**

MARK	SIZE	LENGTH
A (8'-0" NW)	5	6'-1"
A (14'-0" NW)	5	8'-1"
B	5	AS REQD.
T	5	4'-3"
V	5	3'-10"
DOWEL	1" Ø Smooth Bar	2'-0"



**BAR 5A      BAR 5T      BAR 5V**

**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".
- Lap splices Bars 5T and 5V with 5U1 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.

**NOTES**

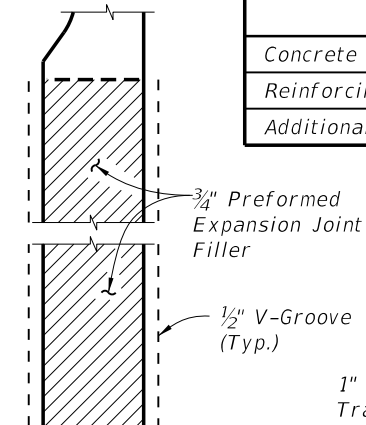
- CONSTRUCTION REQUIREMENTS:** Construct the Trench Footing and expansion joints plumb; do not construct the Trench Footing perpendicular to the roadway surface. Slip forming is not permitted.
- CONCRETE:** Use Class II concrete for slightly aggressive environments. Use Class VI concrete for moderately or extremely aggressive environments. Concrete will be in accordance with Specification Section 346.
- 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.
- Construct  $\frac{3}{4}$ " Expansion Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown.
- Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.
- Construct  $\frac{1}{2}$ " V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between  $\frac{3}{4}$ " Expansion Joints and/or Begin or End Trench Footing. V-Groove locations are to coincide with V-Groove locations in the Railing/Noise Wall.
- FILL REQUIREMENTS:** Fill is required a distance of 4'-0" on both sides for the entire depth of the trench footing. See Typical Section for details.
- Match Cross Slope of Travel Lane or Shoulder.
- Spacing shown is along the Gutter Line.
- Work this Standard Drawing with one or both of the following:
  - Index No. 5210 - Traffic Railing/Noise Wall (8'-0").
  - Index No. 5211 - Traffic Railing/Noise Wall (14'-0").

LEGEND: NW = Traffic Railing Barrier/Noise Wall

**ESTIMATED TRENCH FOOTING QUANTITIES**

ITEM	UNIT	QUANTITY	
		8'-0" NW	14'-0" NW
Concrete (Footing)	CY/FT	0.336	0.439
Reinforcing Steel (Typical)	LB/FT	56.84	69.36
Additional Reinf. @ Expansion Joint	LB	21.36	21.36

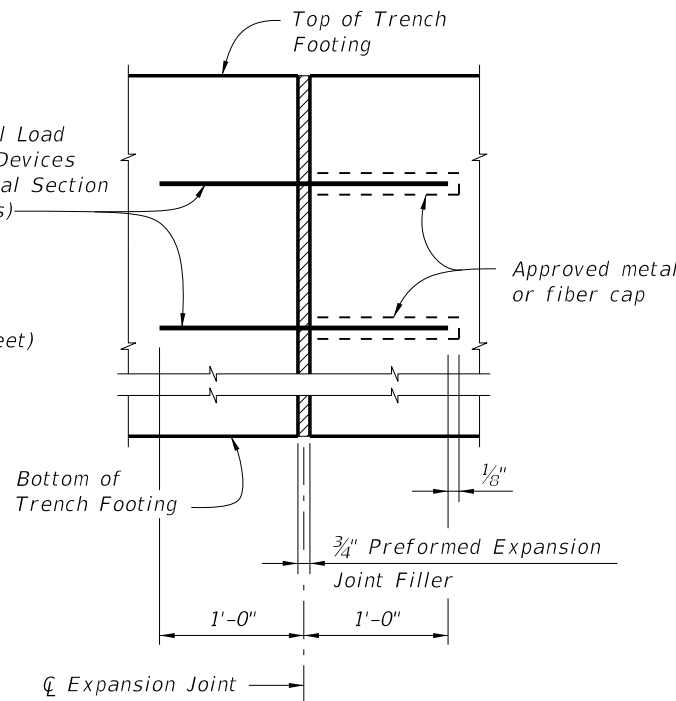
(Subtract 12.69 lb/ft from typical reinforcing steel quantity shown on Index No. 5210 to account for the absence of Stirrup Bars 5V and 5S1 in Trench Footings.)



**DETAIL "A"**

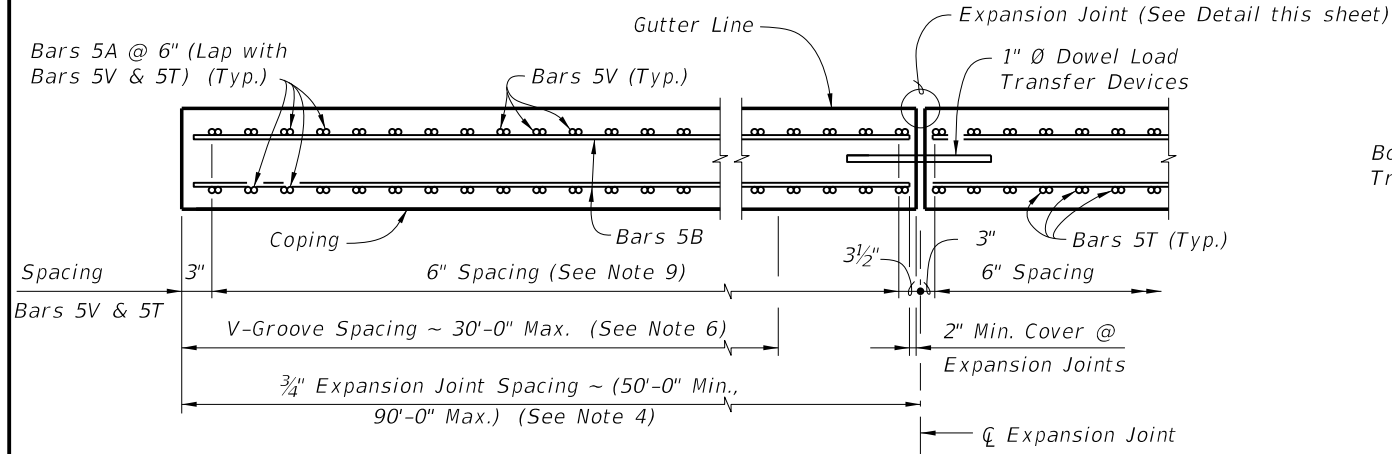
(Showing Locations of  $\frac{1}{2}$ " V-Grooves and  $\frac{3}{4}$ " Preformed Expansion Joint Filler)

1" Ø Dowel Load Transfer Devices (See Typical Section for details)

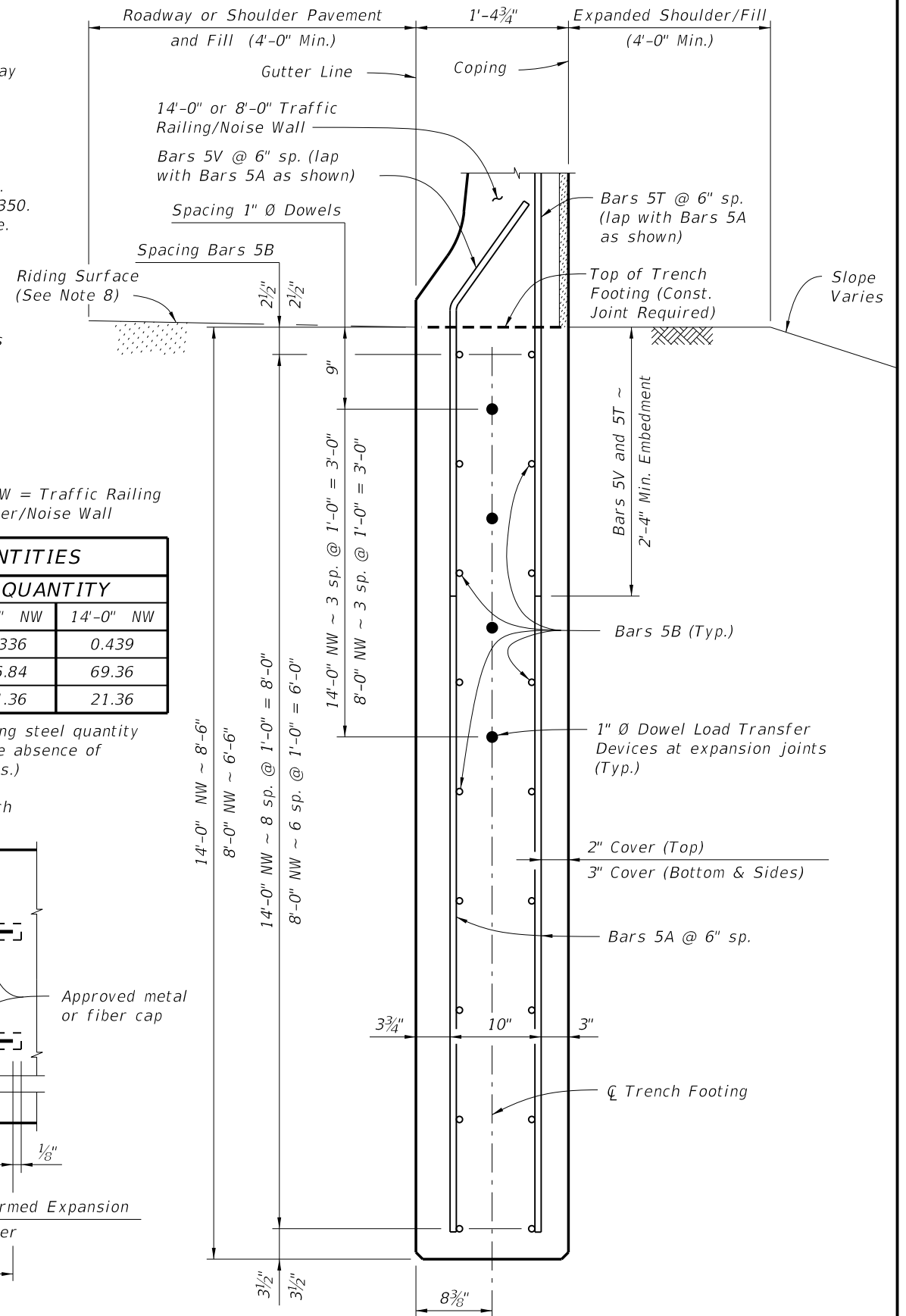


**EXPANSION JOINT DETAIL**

(Trench Footing expansion joints are required at  $\frac{3}{4}$ " open joints in Traffic Railing/Noise Wall)



**PLAN**



**TYPICAL SECTION THRU TRENCH FOOTING**

(Bars 5P, 5R and 5S1 in Traffic Railing Barrier/Noise Wall not shown for clarity)

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LAST REVISION 07/01/14	REVISION	DESCRIPTION:	 <b>2015 DESIGN STANDARDS</b>	<b>TRAFFIC RAILING/NOISE WALL TRENCH FOOTING</b>	INDEX NO. <b>5215</b>	SHEET NO. <b>1 of 1</b>
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