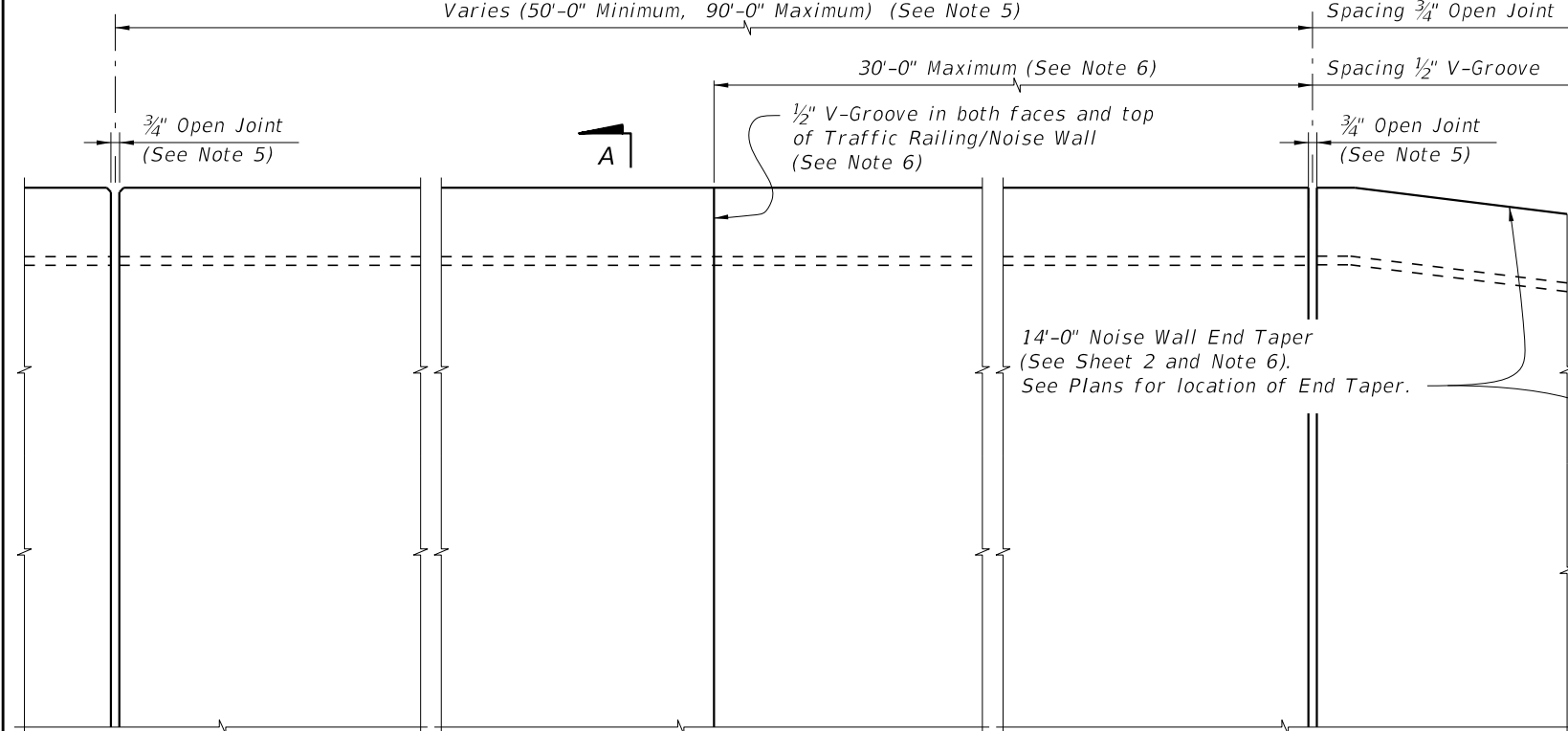
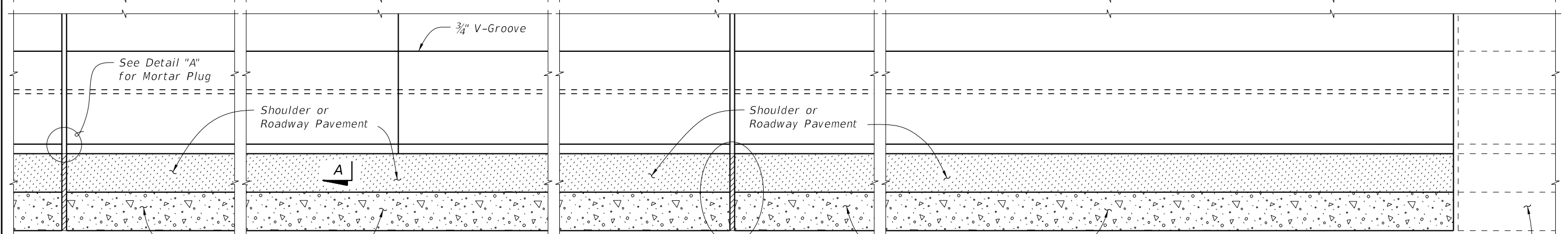


CROSS REFERENCE:
 For Section A-A, Detail "A" and Estimated Quantities, see Sheet 3.
 For Expansion Joint Detail in Footing, see Index No. 5213, 5214 or 5215.




TRAFFIC RAILING/NOISE WALL NOTES

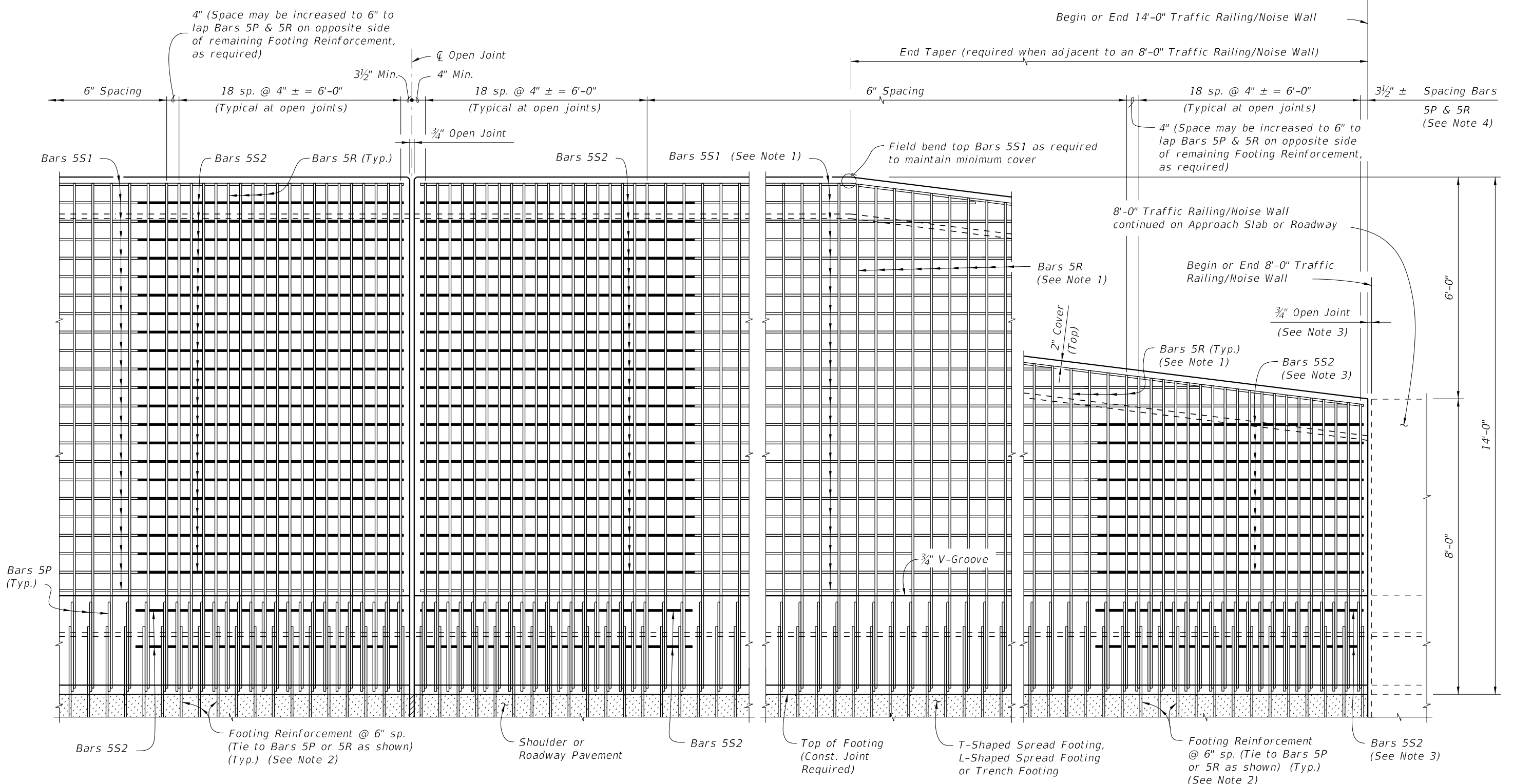
1. This railing has been structurally evaluated to be equivalent or greater in strength to a safety shape/Noise Wall combination railing which has been crash tested to NCHRP Report 350 TL-4 Criteria.
2. CONSTRUCTION REQUIREMENTS: Construct the Traffic Railing/Noise Wall and joints plumb; do not construct the Traffic Railing/Noise Wall perpendicular to the roadway surface. Slip forming is not permitted.
3. 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.
4. Construct $\frac{3}{4}$ " Open Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown. $\frac{3}{4}$ " Open Joint locations are to coincide with $\frac{3}{4}$ " Expansion Joints in footings.
5. Construct $\frac{1}{2}$ " V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between $\frac{3}{4}$ " Open Joints and/or Begin or End Traffic Railing/Noise Wall. V-Groove locations are to coincide with V-Groove locations in footings.
6. 14'-0" Noise Wall End Taper is required when Railing/Noise Wall is adjacent to an 8'-0" Traffic Railing/Noise Wall and may be used when an 8'-0" Traffic Railing/Noise Wall End Taper is provided (see Index No. 5210 for details). See Roadway Plans for Traffic Railing/Noise Wall End Treatment.
7. Work this Standard Drawing with Index No. 5210 - Traffic Railing/Noise Wall (8'-0") and one or more of the following:
 - a. Index No. 5213 - Traffic Railing/Noise Wall T-Shaped Spread Footing,
 - b. Index No. 5214 - Traffic Railing/Noise Wall L-Shaped Spread Footing or
 - c. Index No. 5215 - Traffic Railing/Noise Wall Trench Footing.



ELEVATION OF INSIDE FACE OF TRAFFIC RAILING/NOISE WALL
 (Reinforcing Steel not shown for clarity)
 (T-Shaped Spread Footing Shown, L-Shaped Spread Footing and Trench Footing Similar)

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LAST REVISION	07/01/14	DESCRIPTION:	 2016 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (14'-0")	INDEX NO. 5211	SHEET NO. 1 of 3
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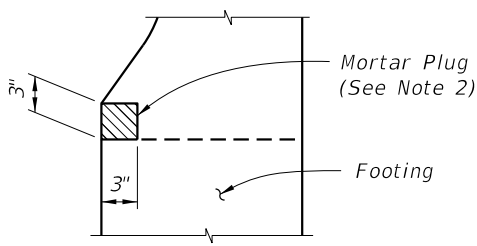
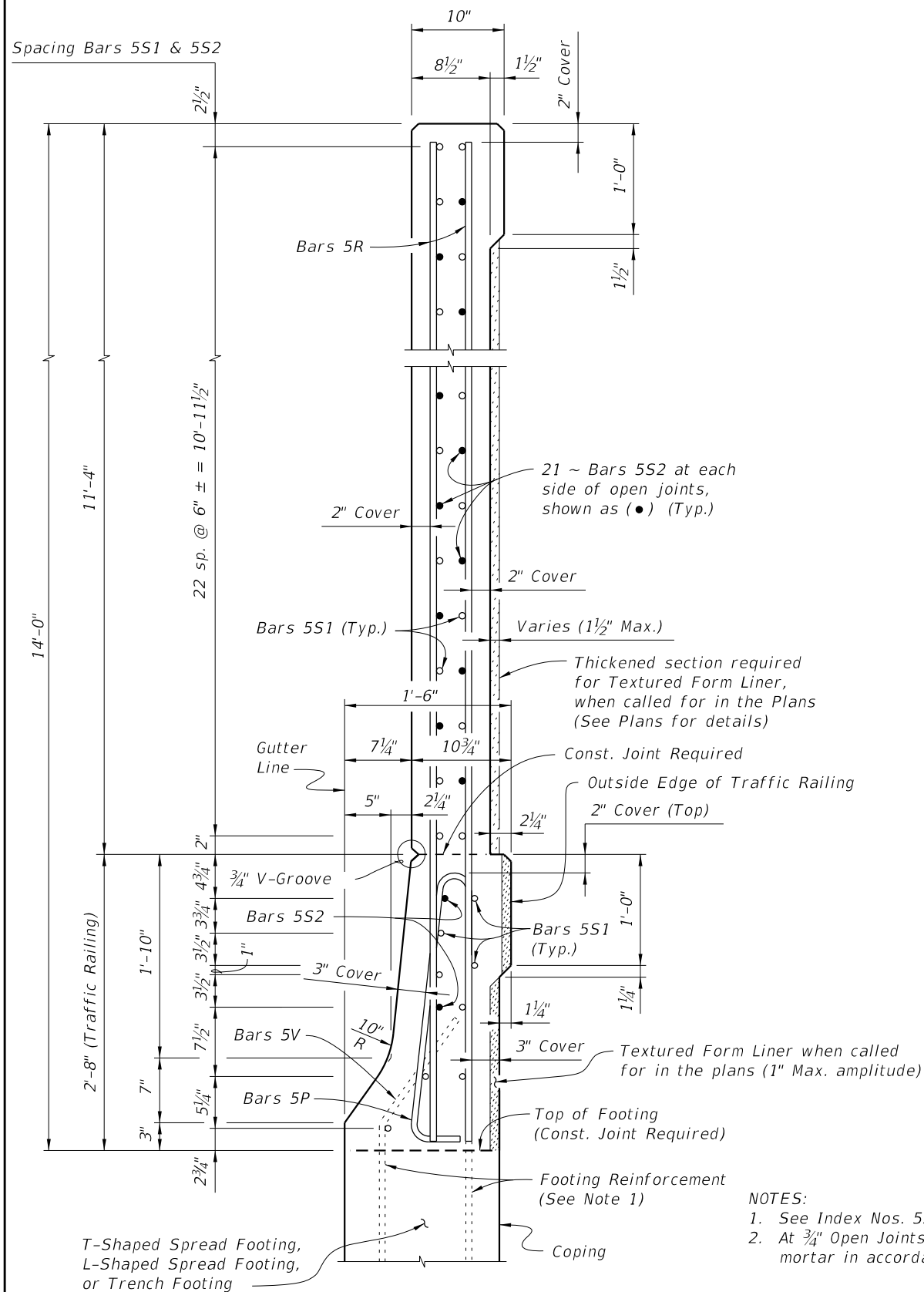
ELEVATION OF TRAFFIC RAILING/NOISE WALL REINFORCING STEEL
(Bars 5S1 in Railing not shown for clarity)

ELEVATION OF TRAFFIC RAILING/NOISE WALL END TAPER
(Bars 5S1 in Railing not shown for clarity)

- NOTES:
1. Field Cut Bars 5R & 5S1 in Noise Wall End Taper as required to maintain minimum cover.
 2. See Index Nos. 5213, 5214 and 5215 for footing reinforcement.
 3. 3/4" Open Joint may be omitted when 8'-0" Railing/Noise Wall End Taper is adjacent to a 14'-0" Traffic Railing/Noise Wall End Taper as shown on Sheet 1. See Index No. 5210 for reinforcement details and spacing. Bars 5S2 are not required when 3/4" Open Joint is omitted.
 4. Bar spacing shown is along the Gutter Line.

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LAST REVISION 07/01/13	REVISION	DESCRIPTION:	 2016 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (14'-0")	INDEX NO. 5211	SHEET NO. 2 of 3
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DETAIL "A" - SECTION AT OPEN JOINT

- NOTES:
1. See Index Nos. 5213, 5214 and 5215 for footing reinforcement.
 2. At 3/4" Open Joints, plug the lower 3" portion of the open joint by filling it with mortar in accordance with Specification Section 400.

REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
P	5	5'-7"
R	5	13'-9"
S1	5	AS REQD.
S2	5	7'-3"

5S1 Length as Required

5S2 7'-3"

BARS 5S1 & 5S2

STIRRUP BAR 5P

BAR 5R (Field Cut for End Taper)

REINFORCING STEEL NOTES:

1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at the open joints will have a 2" minimum cover.
3. Bars 5R may be continuous or spliced at construction joints. Lap splices for Bars 5R and 5S1 will be a minimum of 2'-2".
4. 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.

ESTIMATED TRAFFIC RAILING BARRIER/NOISE WALL QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete (Traffic Railing)	CY/FT	0.104
Concrete (Noise Wall, excluding any thickening)	CY/FT	0.302
Reinforcing Steel (Railing/Noise Wall) (Typical, excluding Footing Reinforcement)	LB/FT	103.43
Additional Reinf. @ Open Joint (Railing/Noise Wall)	LB	761.91

CROSS REFERENCE:
For locations of Section A-A and Detail "A", see Sheet 1.

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