NOTES

1. Work this Index with the Noise Wall Data Tables, and Wall Control Drawings in the Plans

2. Construct Noise Walls in accordance with the requirements of Specification Section 534, and Augers Cast Piles in accordance with Specification Section 455.

3. Field verify the location of all overhead and underground services shown in the Wall Control Drawings.

4. Wall Height is the nominal height of the walls above finished grade. The Wall Embedment Depth for design is 1'–0". The actual embedment depth may vary plus or minus 6" along the length of the wall.

5. Post Spacing in this Index are nominal, and are measured from centerline to centerline of the auger cast piles. Actual post spacing may vary as shown in the Wall Control Drawings.

6. Panels:
   - A. The sum of the individual stacked panel heights is the Wall Height plus 1'–0" (embedment depth).
   - B. Where special graphics are required, locate the horizontal panel joints outside of the graphics. Where possible, hold horizontal panel joints at a constant elevation.
   - C. Side Installed Panels are only permitted when reduced overhead clearance between posts prohibits installing panels from the top.
     1. For Flush Face panels, install panel into posts from the roadway (front face) of the wall. Recessed panels may be installed from the back face of the wall.
     2. After panels are installed and centered between posts, grout between both panel ends and the adjoining posts (see Sheets 4 and 5 for details).
   - D. Individual panel heights should be between 6'–0"and 12'–0" tall. The minimum panel height is 4'–0"and may be used where overhead clearance is limited, or where graphic panels are required on shorter walls.
7. Concrete And Grout:
   - A. Concrete Class and Compressive Strength for:
     1. Precast Panels, Posts, and Post caps: Class IV (fc' = 5500 psi)
     2. Cast–In–Place Collars: Class IV (fc' = 5500 psi)
   - B. Minimum Compressive Strength for form removal and handling of posts and panels:
     1. 2,500 psi for horizontally cast post and panels
     2. 2,000 psi for vertically cast panels or when tilt–up tables are used for horizontally cast panels.
   - A. Grout for Auger Cast Piles:
     1. Maximum Working Compressive Strength = 2,000 psi
     2. Minimum 28 day strength = 5,000 psi

8. Reinforcing Steel:
   - A. In addition to the requirements of Specification Section 415, tie post and pile stirrups at the following locations as a minimum:
     1. Post Stirrups Tie at all four corner bars and at every third interior bar intersection.
     2. Pile Stirrups Tie to the main vertical reinforcing at alternate intersections for circular configurations and at the four corners and at every third interior bar intersection for rectangular configurations.
   - B. Provide 2" concrete cover unless noted otherwise.

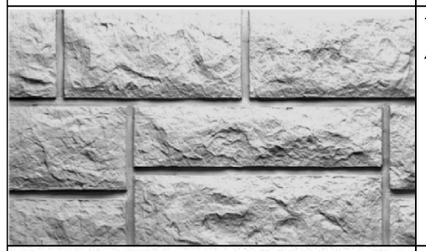
9. Casting Tolerances for precast panels and posts:
   - A. Overall Height and Width: +/– ¼"
   - B. Thickness: +/– ¼"
   - C. Plane of side mold: +/– 1/16"
   - D. Openings: +/– ½"
   - E. Out of Square: 1/8"per 6 ft., but not more than 3/8"total along any side
   - F. Warping: 1/16"per foot distance to nearest corner
   - G. Bowing: 1/240 panel dimension
   - H. Surface Smoothness for Type "A"Smooth Surface Texture Option: +/– 1/16"

10. Provide Fiber Reinforced Neoprene pads with a Durometer Hardness between Grade 50 and 80; or Plain Neoprene Pads with a minimum Durometer Hardness of Grade 50 in accordance with Specification Section 932.
    - A. For Collar Bearing Points provide:
      1. 4"x 4"x ½" Fiber Reinforced Pads;
      2. Plain Pads with a may be substituted for Fiber Reinforced Pads when sufficient bearing area is available on the concrete collar for the following:
         - i. 10' Post Spacing: 4"x 4"x ½"
         - ii. 20' Post Spacing and Wall Height < 17 feet: 4"x 4"x ½"
         - iii. 20 Post Spacing and Wall Height > 17 feet: 4"x 5"x ½"
    - B. At panel bearing points between stacked panels, use Plain or Fiber Reinforced Neoprene Pads.

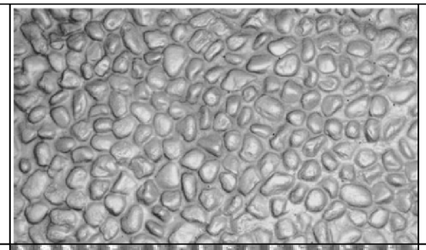
6/30/2014 11:15:24 AM

GENERAL NOTES

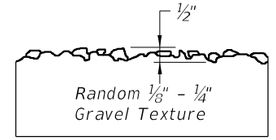
LAST REVISION	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO.	SHEET NO.
07/01/14					5200	1 of 16



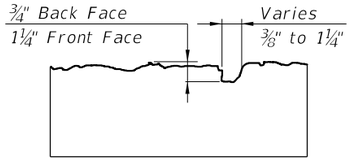
Type "A"
SMOOTH

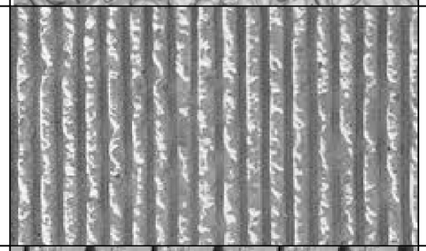


Type "F"
PEA GRAVEL

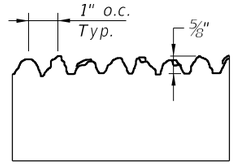


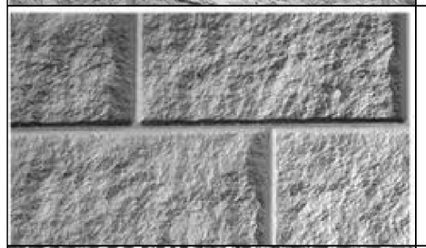
Type "B"
ASHLAR STONE



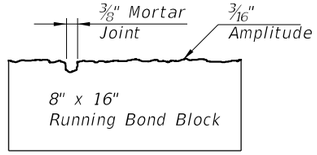


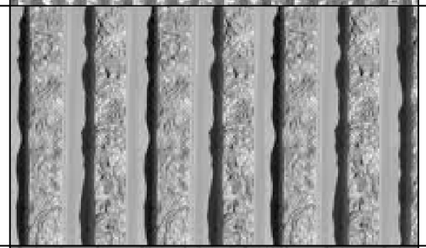
Type "G"
VERTICAL FRACTURED FIN



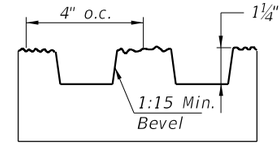


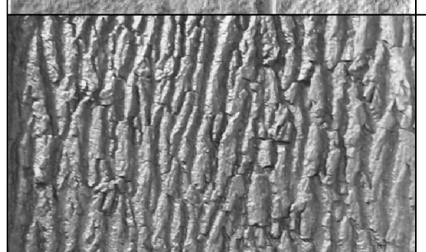
Type "C"
SPLIT FACE RUNNING BOND BLOCK



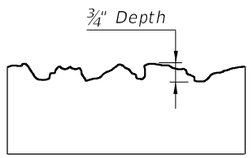


Type "H"
TRAPEZOID VERTICAL FINS W/ FRACTURED FACE (COLORADO DRAG AGGREGATE)

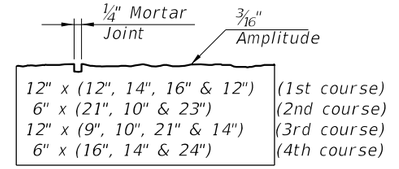


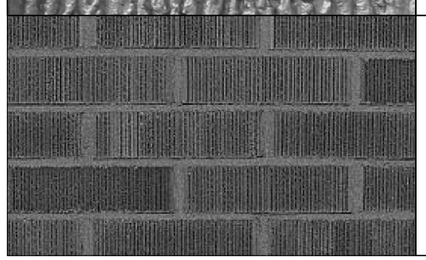


Type "D"
FRACTURED GRANITE

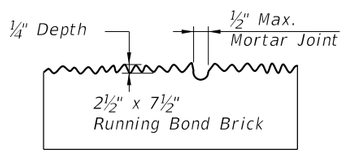


Type "I"
CUT CORAL BLOCK (RUNNING BOND)





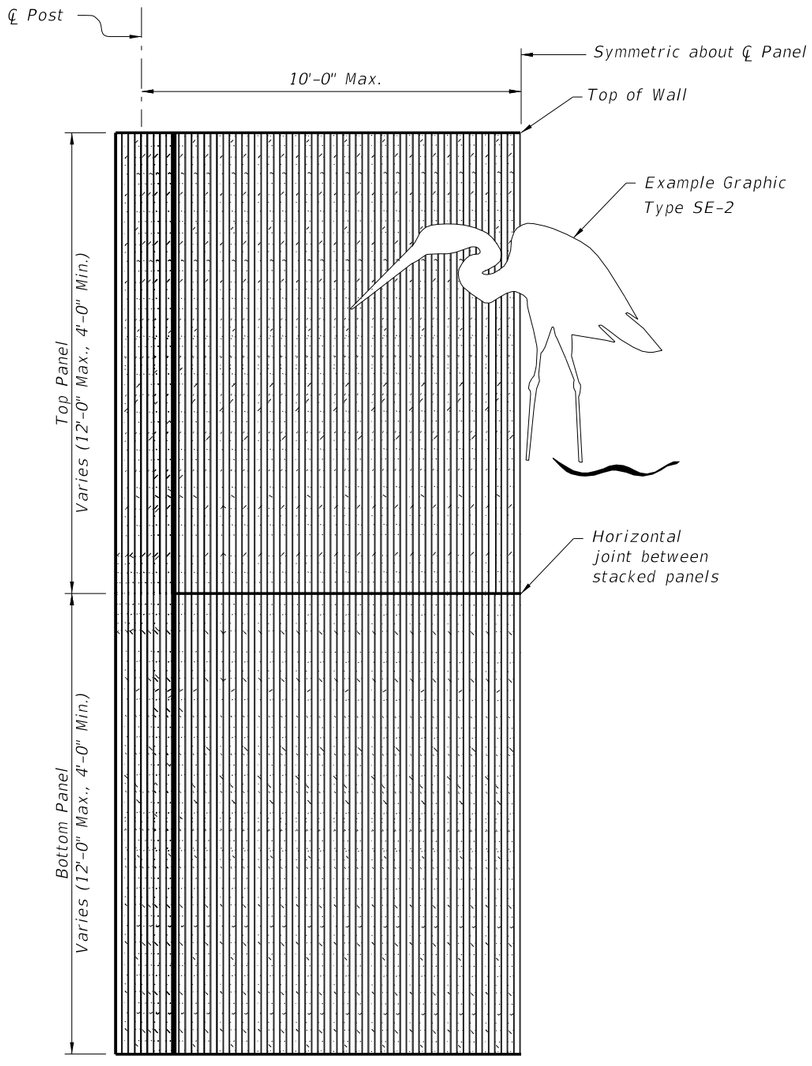
Type "E"
WIRE-CUT BRICK



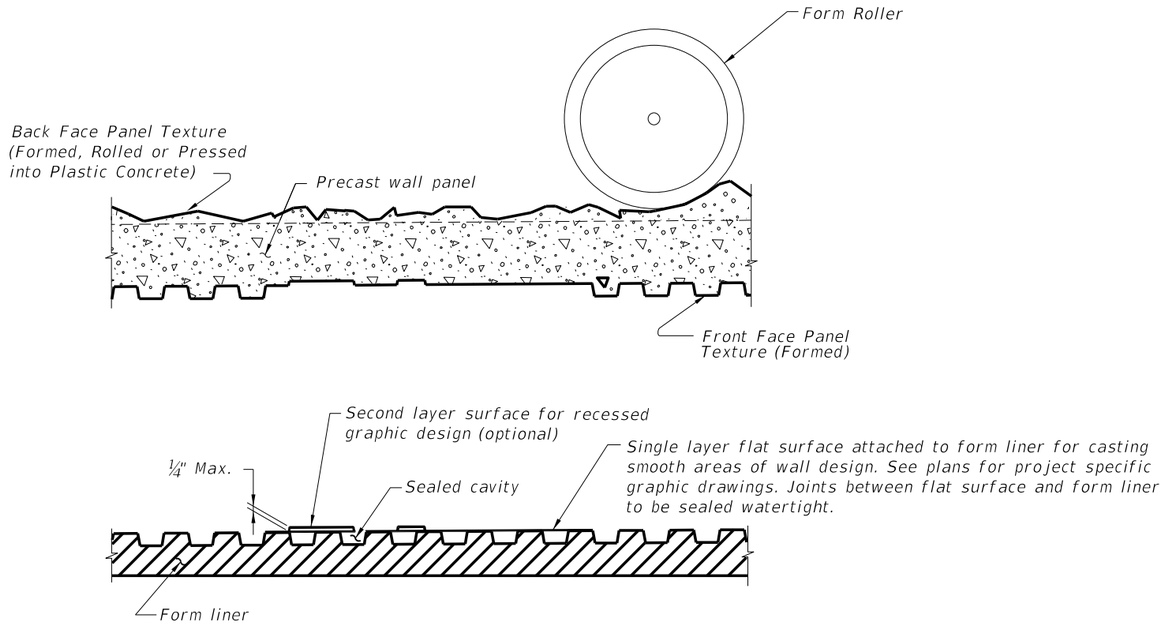
NOTES:

1. Surfaces shall be formed, rolled, or pressed using form liners in accordance with the Plans and Specifications for Class 3 Surface Finish.
2. See Noise Wall Data Tables for project aesthetic requirements.

TEXTURE OPTIONS



HALF ELEVATION
(Front Face Post and Panel Texture Type "H" shown)
(Graphic Type SE-2 shown)
(Two stacked panels shown, three stacked panels similar)



TYPICAL FORMING DETAIL
(Front Face Panel Texture Type "H" shown)
(Back Face Panel Texture Type "D" shown)
(Post Forming Details Similar)

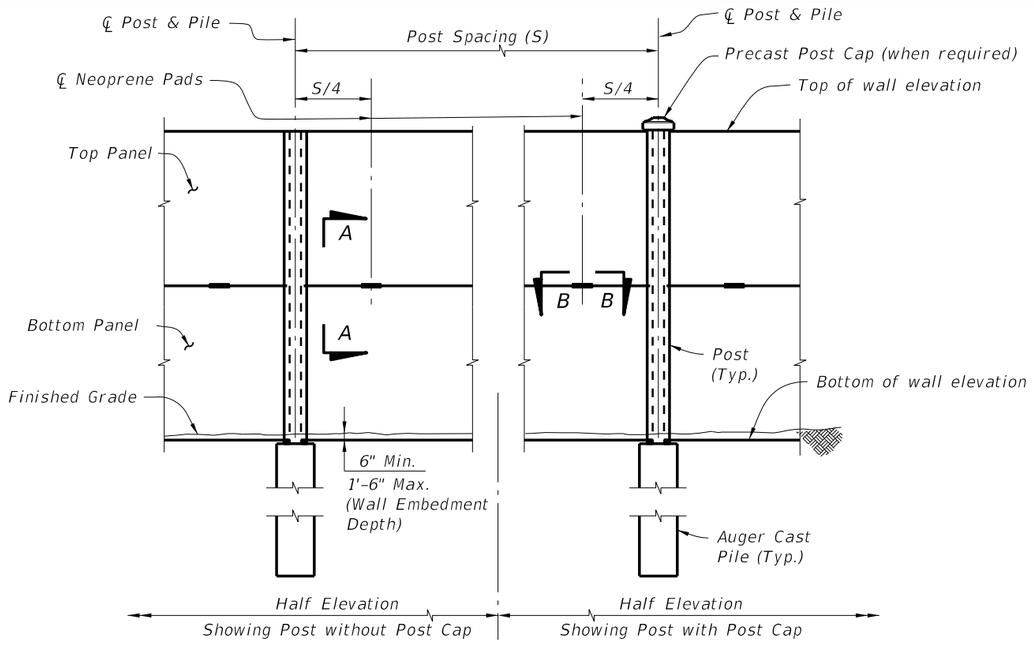
NOTES:

1. *Submit specific form liner samples for approval by the Engineer.*
2. *Textures and graphics shown are for demonstration purposes only. See Noise Wall Data Tables in the plans for project specific texture and graphic requirements.*

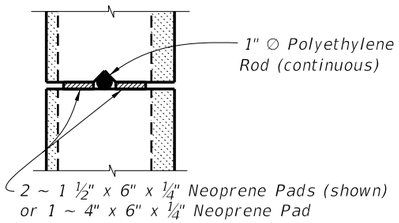
GRAPHICS & TEXTURE DETAILS

6/30/2014 11:15:25 AM

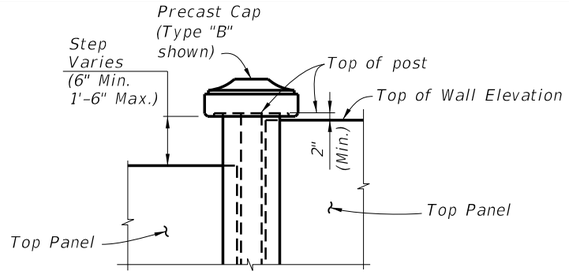
LAST REVISION	REVISION	DESCRIPTION:	2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO.	SHEET NO.
07/01/14			FDOT		5200	3 of 16



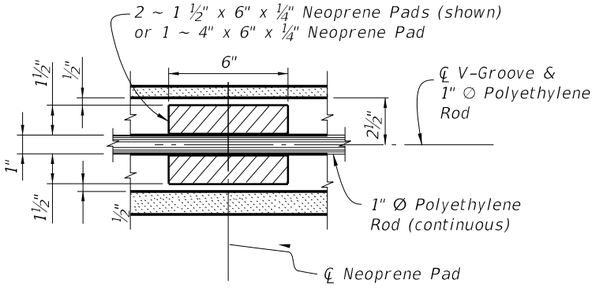
TYPICAL ELEVATION



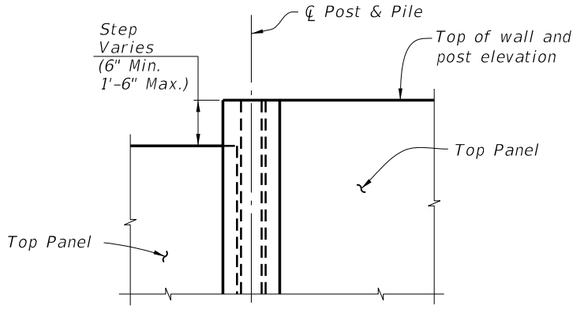
SECTION A-A



WITH POST CAP

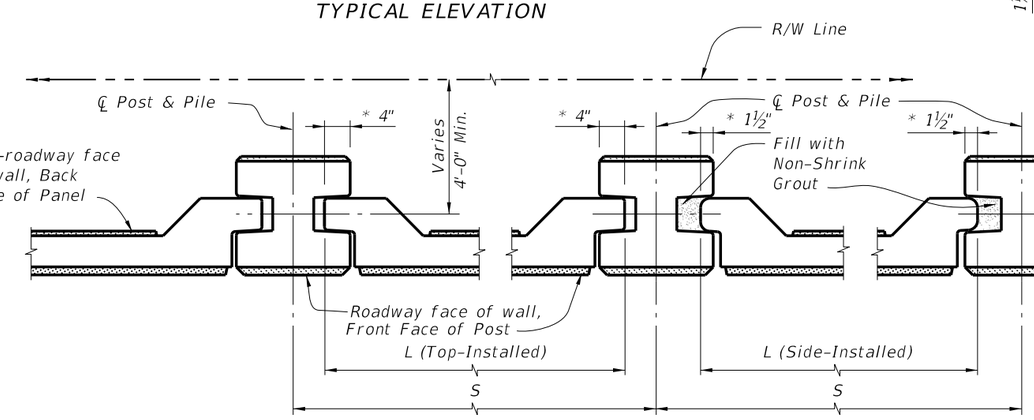


SECTION B-B



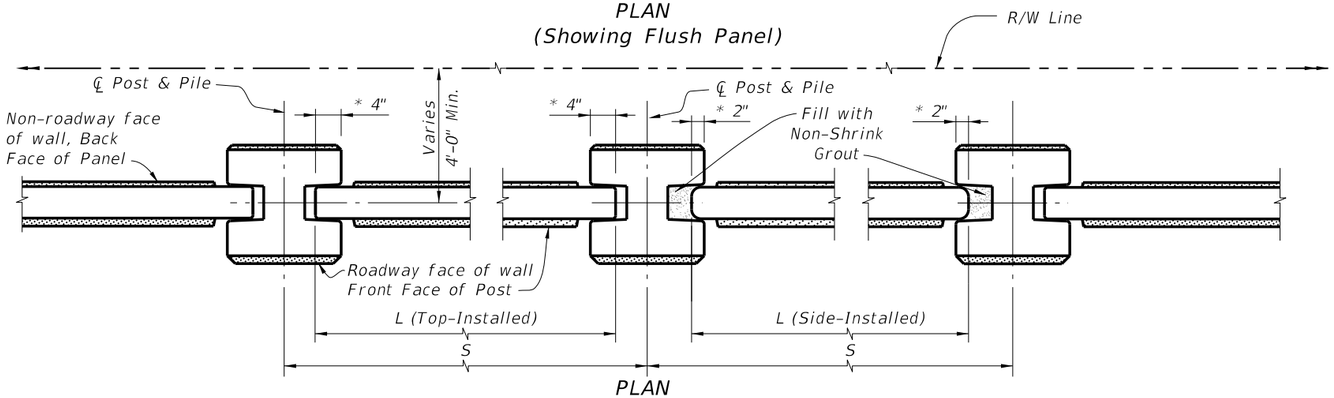
WITHOUT POST CAP

ELEVATION STEP AT TOP OF WALL

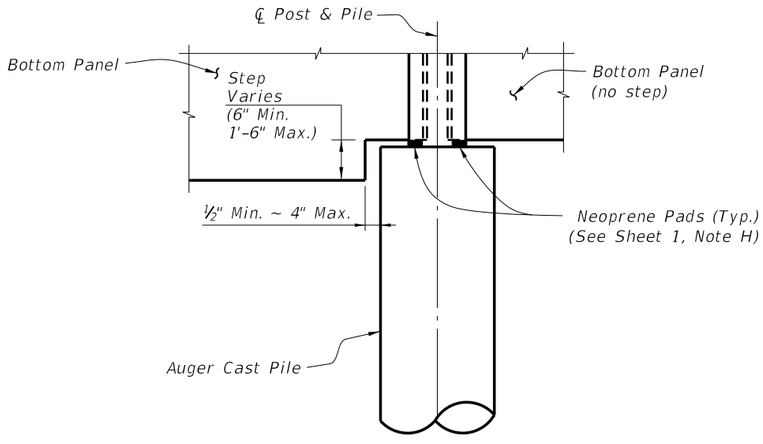


* Nominal embedment (not including tolerances)

PLAN
(Showing Flush Panel)



PLAN
(Showing Recessed Panel)



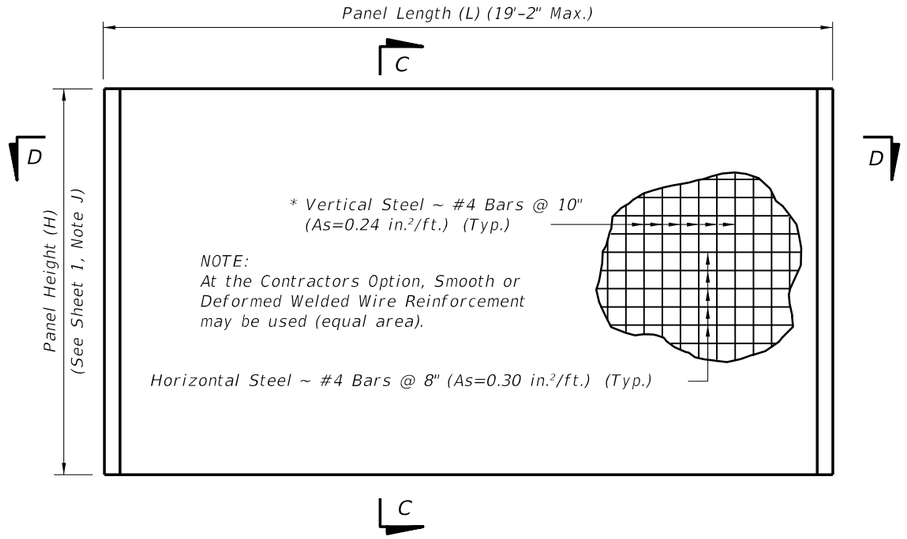
ELEVATION STEP AT BOTTOM OF WALL

Note:
See the plans for required post spacings (S).

TYPICAL DETAILS

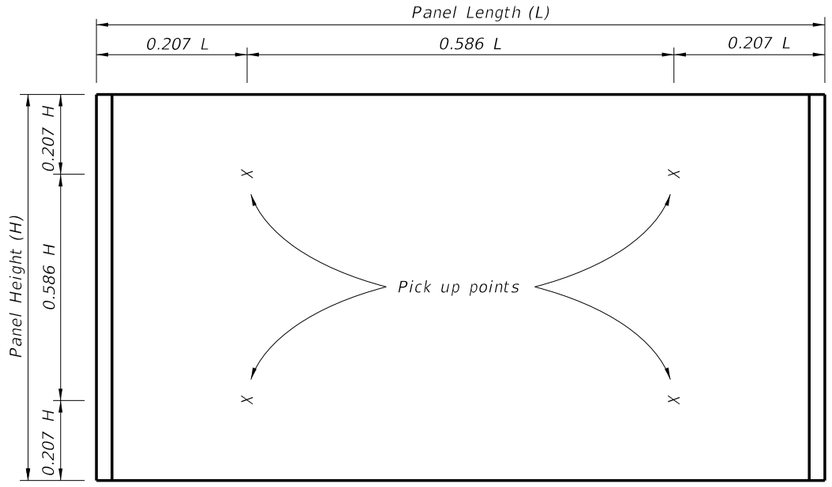
6/30/2014 11:15:26 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO.	SHEET NO.
07/01/14					5200	4 of 16

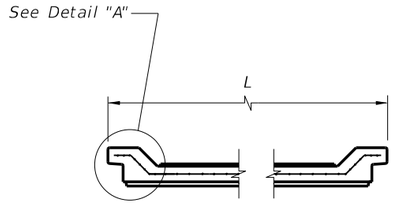


TYPICAL PANEL ELEVATION

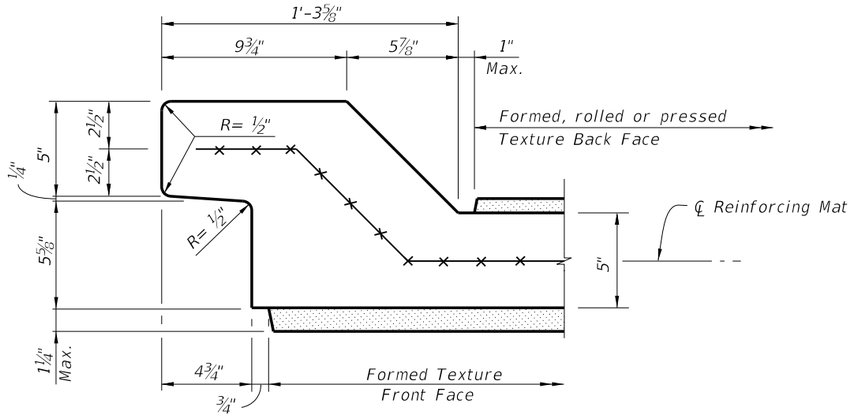
* In lieu of utilizing the standard pick up points below, panels may be cast vertically or cast horizontally then tilted upright using tilt-tables prior to lifting from form. In this case, pick points must be placed in the top of panels only and transported maintaining the vertical orientation. If these criteria are met, the vertical steel may be reduced to #4 Bars @ 1'-3" (As=0.16 in.²/ft.).



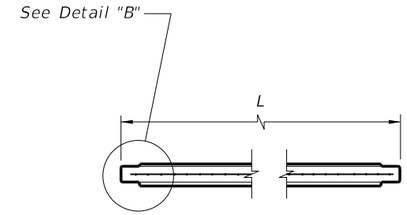
STANDARD PICK UP POINTS FOR PANELS
(Panels shall be rotated about long axis only)



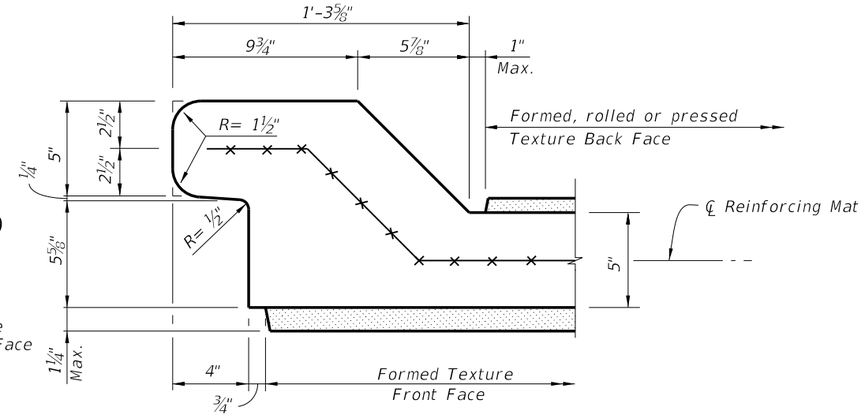
SECTION D-D
(Showing Flush Type Panel)



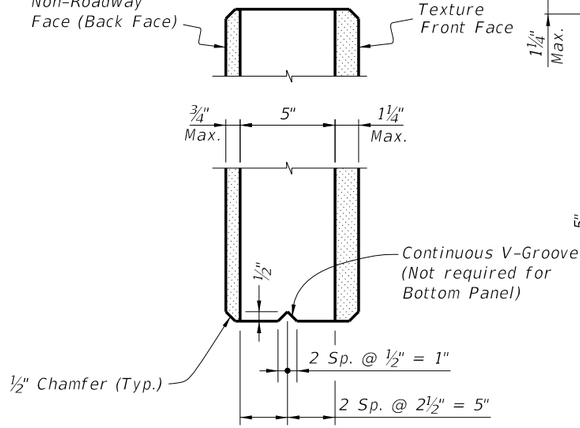
DETAIL "A" - TOP-INSTALLED
(Typical both ends)



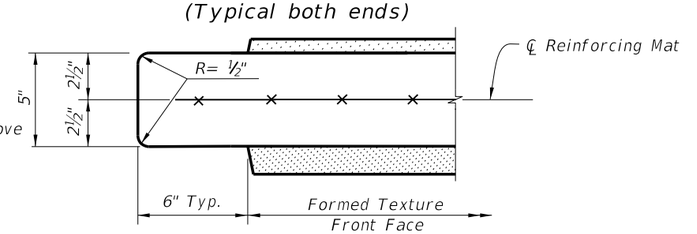
SECTION D-D
(Showing Recessed Type Panel)



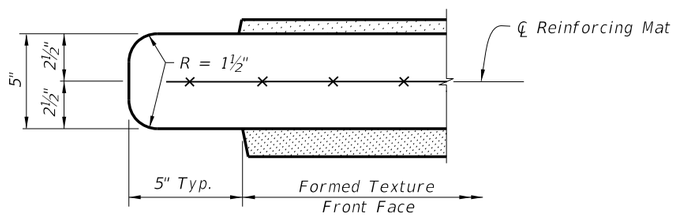
DETAIL "A" - SIDE-INSTALLED
(Typical both ends)



SECTION C-C



DETAIL "B" - TOP-INSTALLED
(Typical both ends)



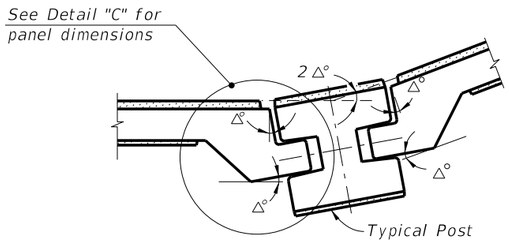
DETAIL "B" - SIDE-INSTALLED
(Typical both ends)

Notes:
1. See Sheet 3 for allowable methods of applying textures.
2. See plans for panel type and aesthetic requirements.
3. For equal post spacing, side-installed panel length will be shorter than top-installed Panel length.

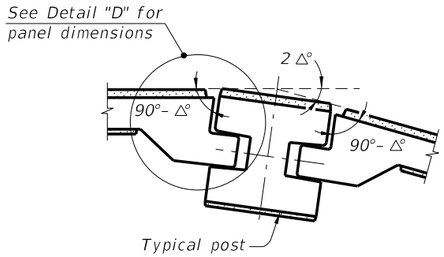
TYPICAL PANEL DETAILS

6/30/2014 11:15:27 AM

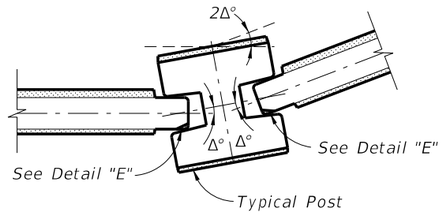
LAST REVISION	REVISION	DESCRIPTION:			
07/01/14			2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO. 5200 / SHEET NO. 5 of 16



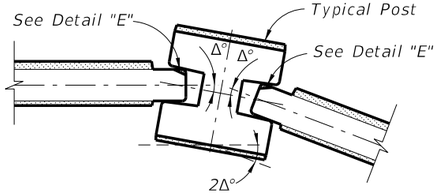
CASE 1
(Interior Angle)



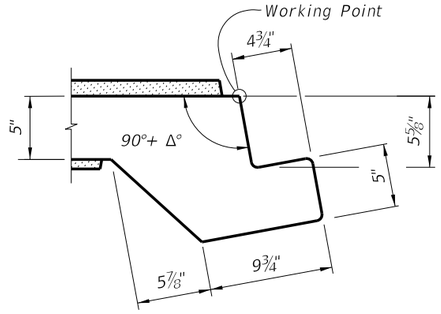
CASE 2
(Exterior Angle)



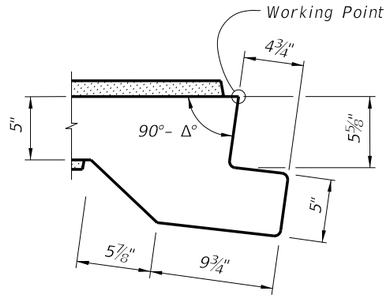
CASE 1
(Interior Angle)



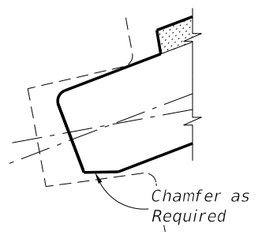
CASE 2
(Exterior Angle)



DETAIL "C"



DETAIL "D"



DETAIL "E"
(Back Face Chamfer Shown
Front Face Chamfer Similar)

NOTE:
The shop drawings shall include specific pivoting details of panel ends at locations where the deflection angle (2Δ°) between panels exceeds 7°.

PIVOTING DETAILS
(Flush Type Panel)

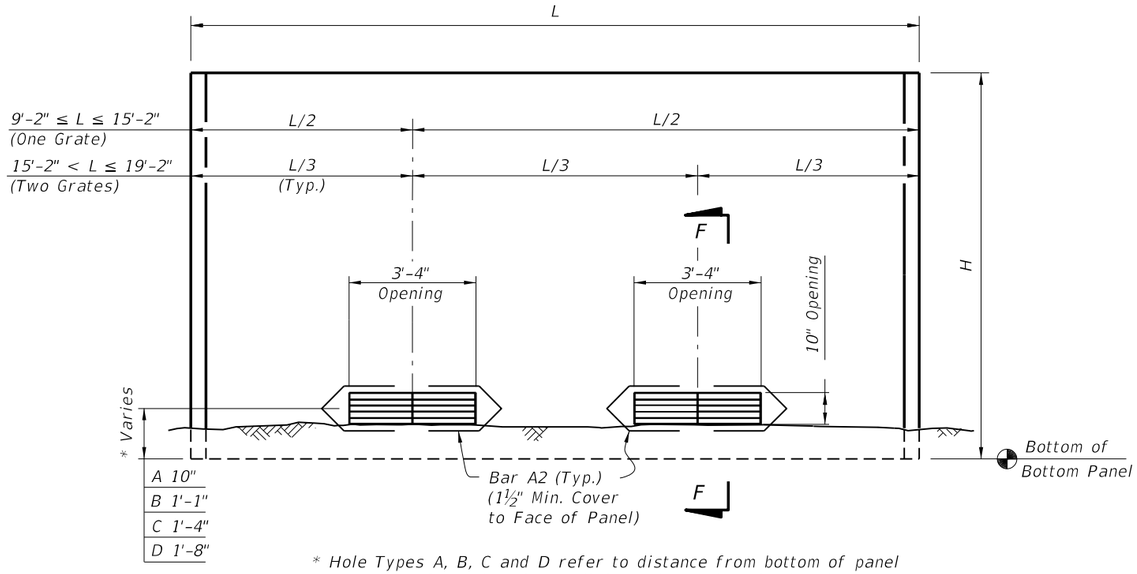
NOTE:
The shop drawings shall include specific pivoting details of panel ends at locations where the deflection angle (2Δ°) between panels exceeds 20°.

PIVOTING DETAILS
(Recessed Type Panel)

TYPICAL PANEL DETAILS

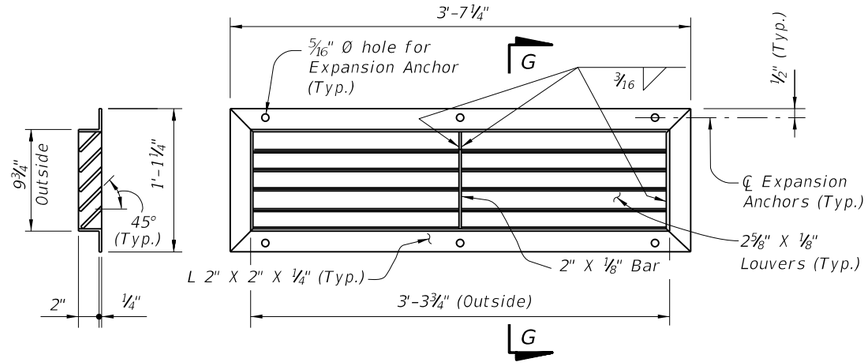
6/30/2014 11:15:27 AM

LAST REVISION	REVISION	DESCRIPTION:	2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO.	SHEET NO.
07/01/13					5200	6 of 16



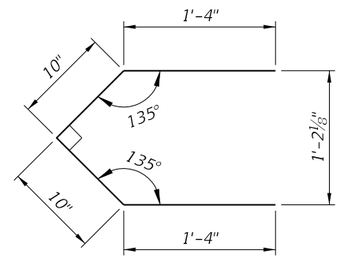
* Hole Types A, B, C and D refer to distance from bottom of panel to center of opening. See Wall Control Drawings in the plans.

DRAINAGE HOLES TYPES A, B, C & D
(Front Face of Wall Shown)
(Two Holes Shown,
One Hole Similar)



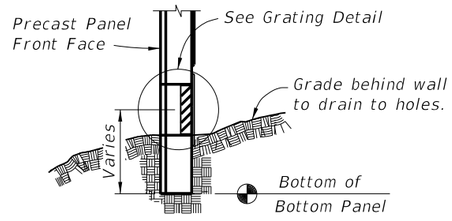
SECTION G-G

GRATING DETAIL



BAR A2 (Pair)
Bar Length = 4'-4"

BAR BENDING DETAILS (#3 Bars)



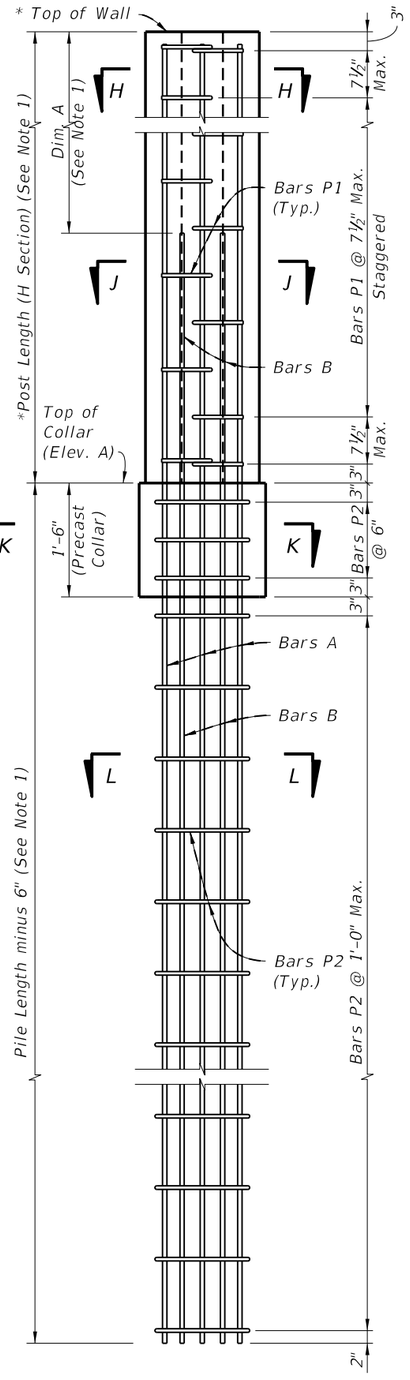
SECTION F-F

GRATING NOTES:
1. Grating shall be ASTM A36 steel welded in accordance with the current edition of ANSI/AWS D1.1 Steel Welding Code. Hot-dip galvanize grate after fabrication in accordance with Specification Section 962.
2. Expansion Anchors: Use ¼" Ø x 3" ASTM A307, vandal resistant, hot-dip galvanized expansion anchors to connect grates to panels.
3. Grating mounted to back face of wall.

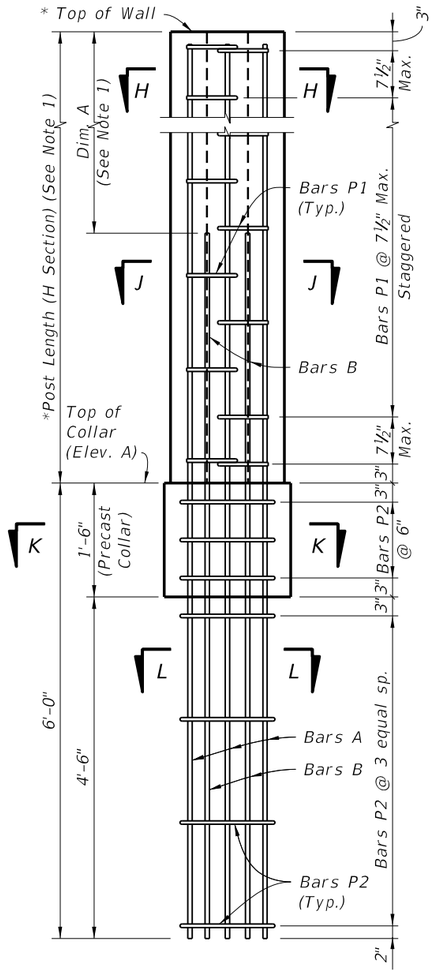
FIRE HOSE ACCESS & DRAINAGE HOLE DETAILS

6/30/2014 11:15:28 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO.	SHEET NO.
07/01/14					5200	7 of 16

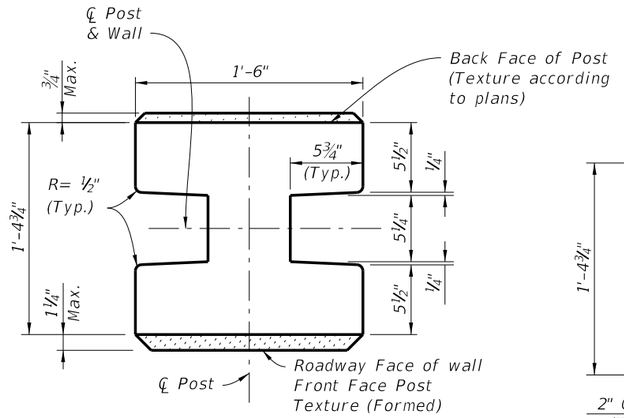


TYPICAL POST

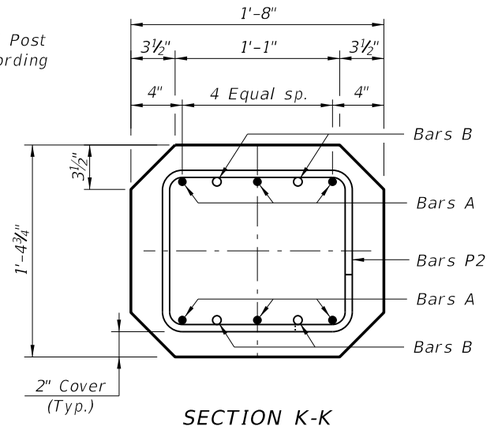


LOW CLEARANCE OPTION

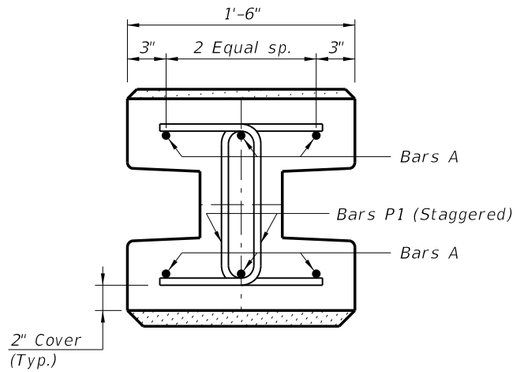
* Extend Post 2" above top of high side wall panel when post caps are shown in plans. See Sheet 4, "ELEVATION STEP AT TOP OF WALL".



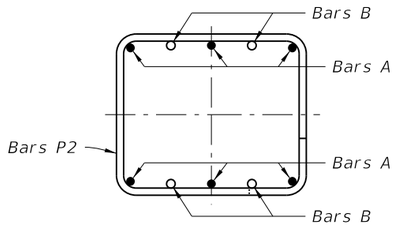
TYPICAL POST SECTION
(H Section)



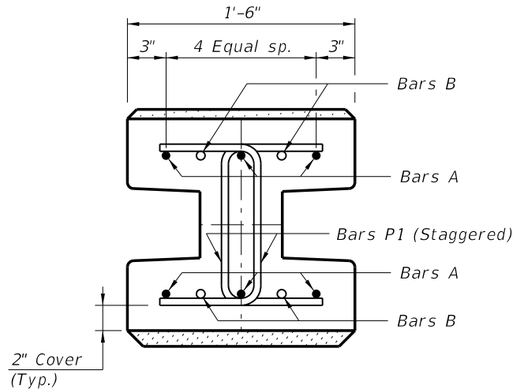
SECTION K-K
(Collar Section)



SECTION H-H



SECTION L-L



SECTION J-J

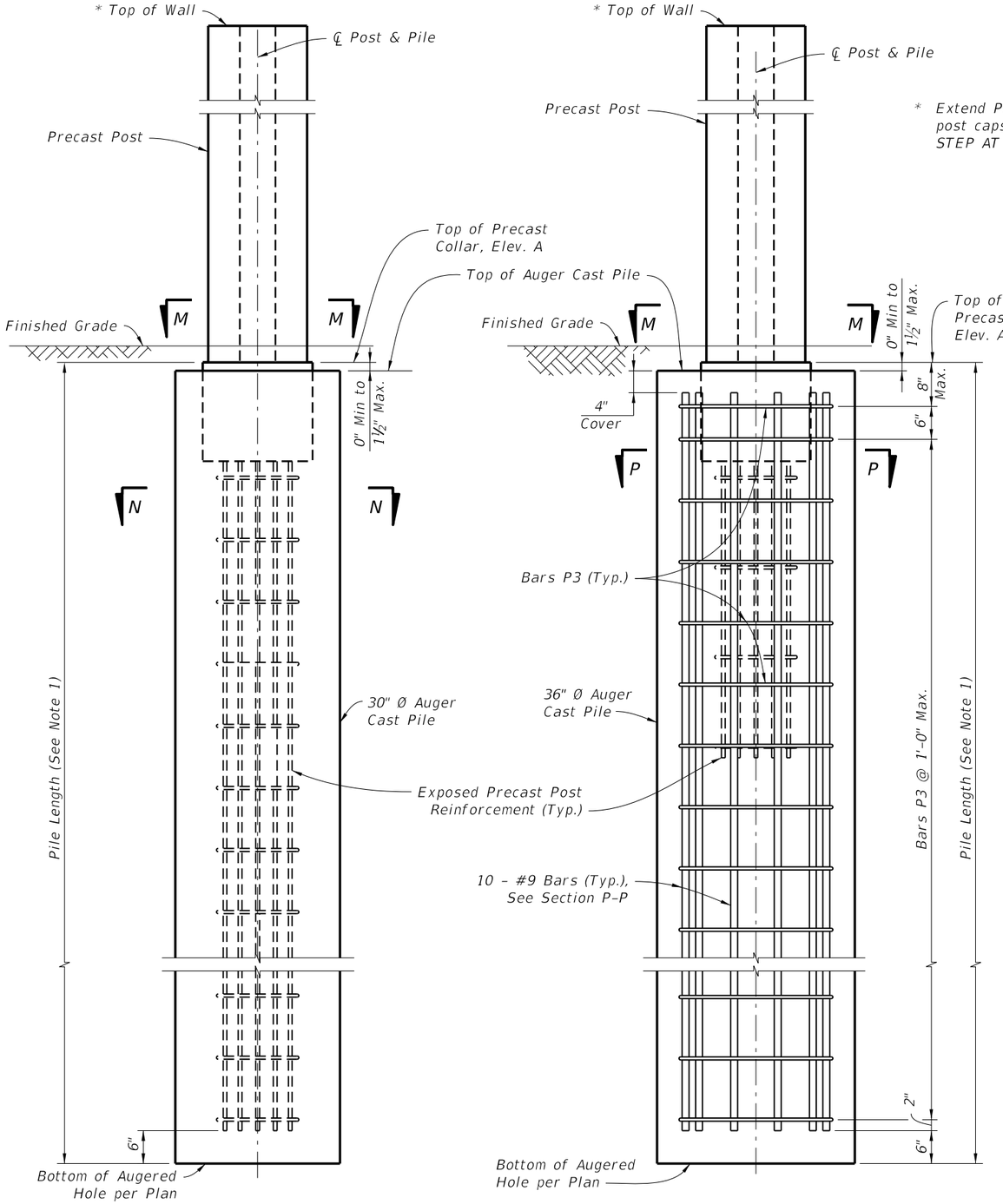
NOTES:
1. For Post Reinforcing see Sheets 15 and 16.
2. For Pile Lengths Tables see Sheets 15 and 16.

STANDARD POST REINFORCEMENT
(Standard Post Shown, 45° Corner Posts Similar)

STANDARD POST DETAILS

6/30/2014 11:15:28 AM

LAST REVISION	REVISION	DESCRIPTION:			
07/01/14			FDOT 2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO. 5200 / SHEET NO. 8 of 16

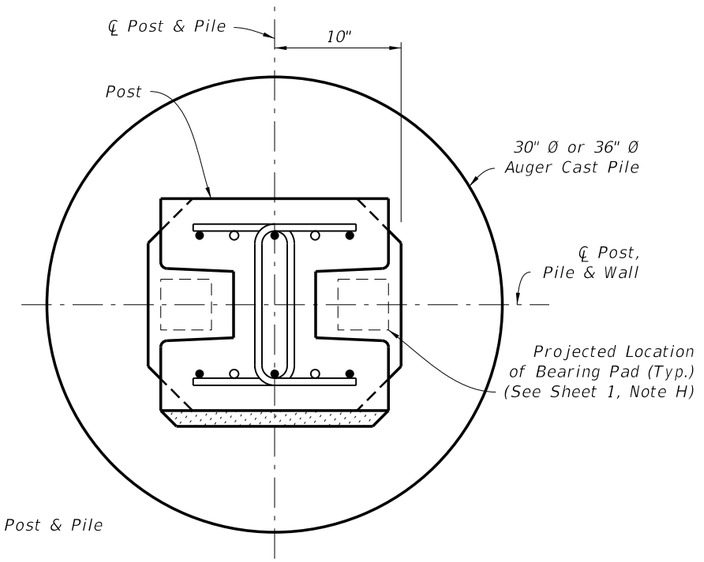


TYPICAL POST

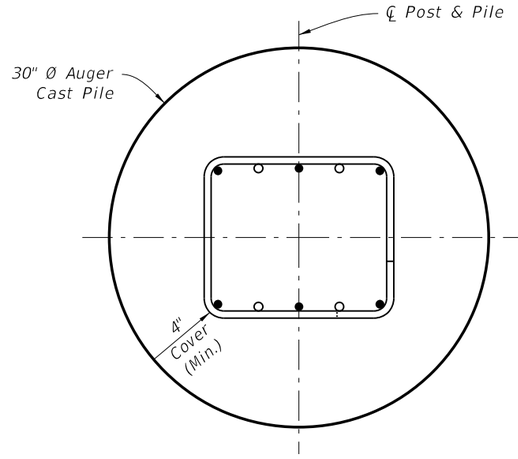
LOW CLEARANCE OPTION

* Extend Post 2" above top of high side wall panel when post caps are shown in plans. See Sheet 4, "ELEVATION STEP AT TOP OF WALL".

STANDARD POST PLACEMENT IN AUGER CAST PILE
(H-Post Shown, 45° Corner Posts Similar)

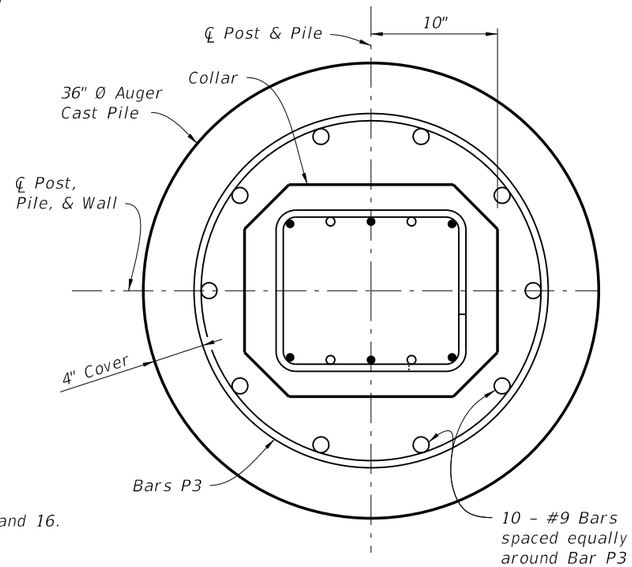


SECTION M-M



SECTION N-N

NOTE:
1. For Pile Length Tables, see Sheets 15 and 16.



SECTION P-P
Low Clearance Option

POST PLACEMENT & PILE REINFORCING STEEL DETAILS

6/30/2014 11:15:29 AM

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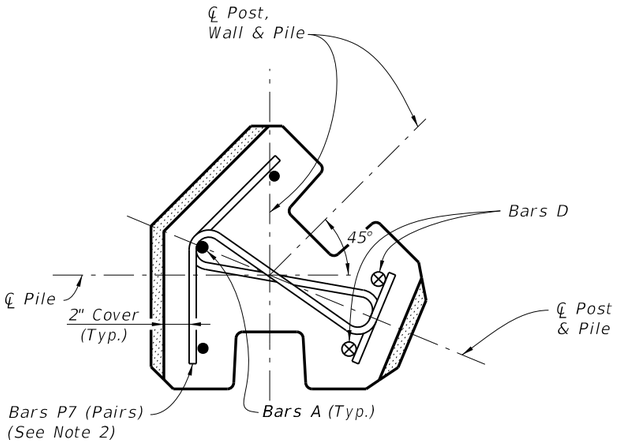
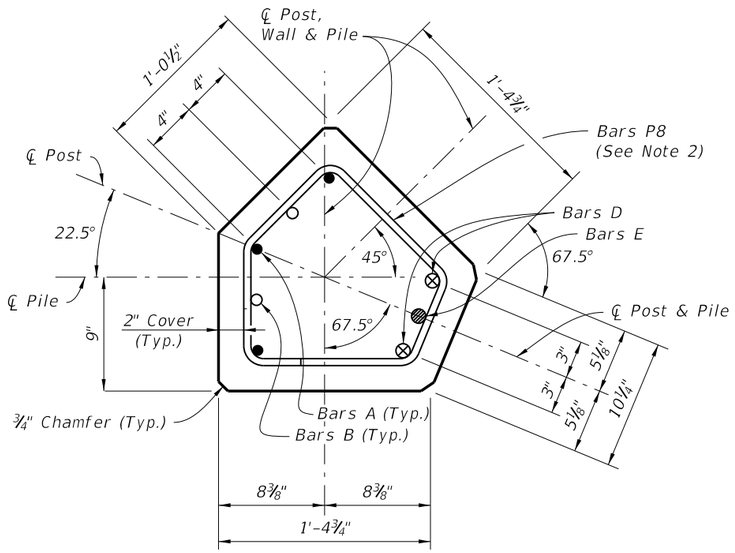
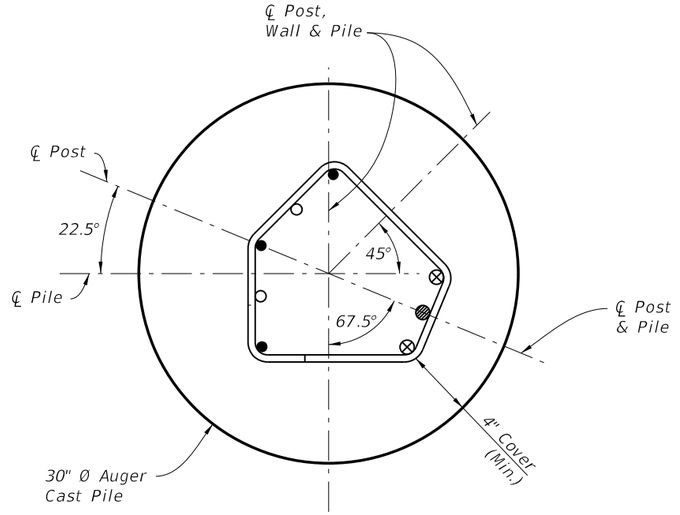
07/01/12			2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO. 5200 / SHEET NO. 9 of 16



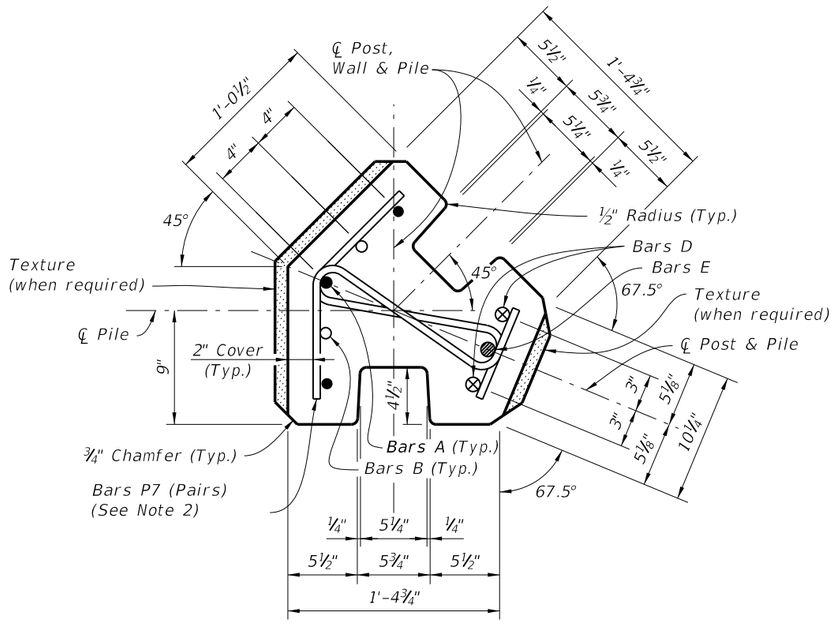
SECTION H-H
(45° Corner Post)



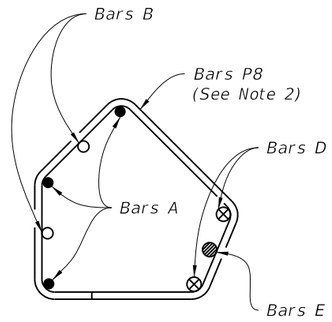
SECTION K-K
(Collar Section, 45° Corner Post)



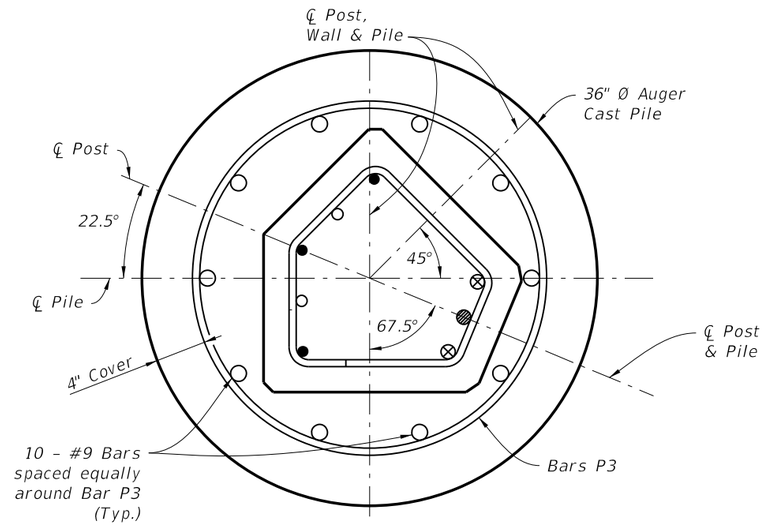
SECTION N-N
(45° Corner Post)



SECTION J-J
(45° Corner Post)



SECTION L-L
(45° Corner Post)



SECTION P-P
(45° Corner Post)

45° POST NOTES:

1. Reference Sheets 8 & 9 for location of Sections.
   Space Bars P7 as shown for Bars P1.
   Space Bars P8 as shown for Bars P2.
2. Match texture thickness with appropriate Panel face.
3. For Post Reinforcing, see sheets 15 & 16.
4. For Pile Length Tables, see sheets 15 & 16.

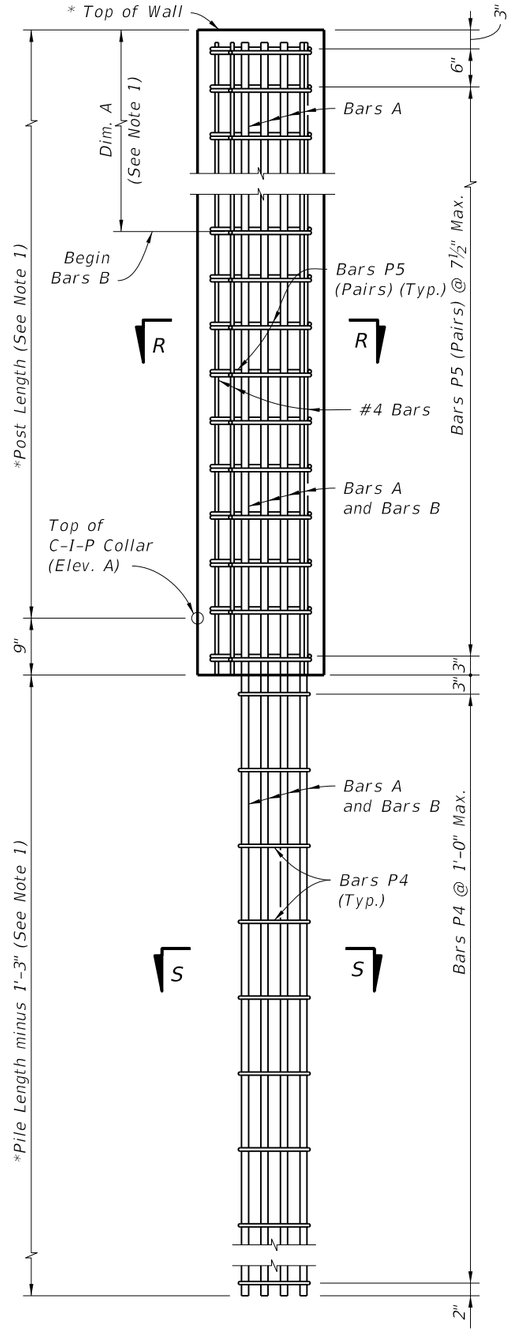
45° POST DETAILS

45° POST PLACEMENT IN AUGER CAST PILE

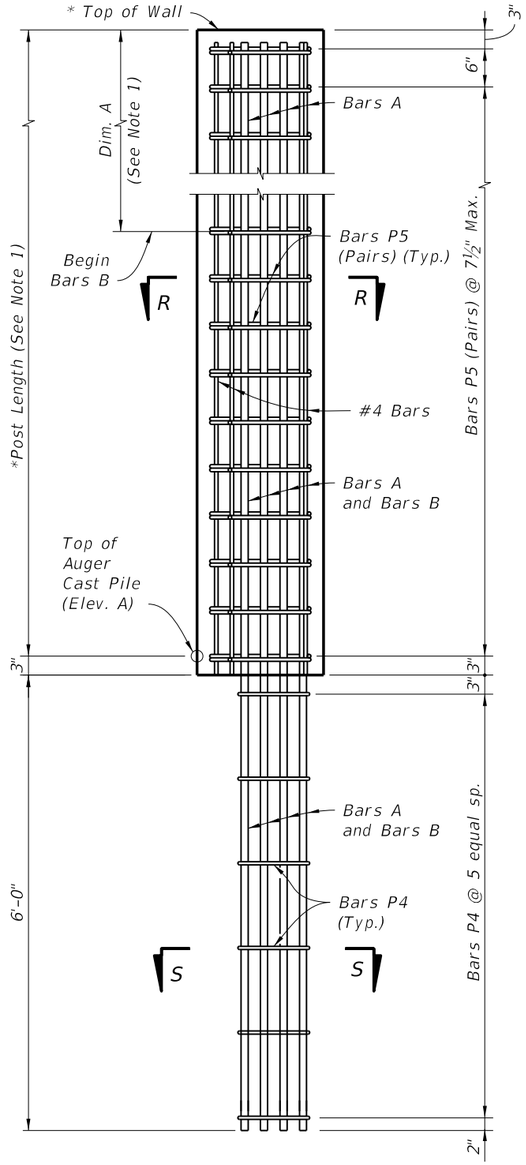
45° CORNER POST DETAILS

6/30/2014 11:15:30 AM

LAST REVISION 07/01/14	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO. 5200	SHEET NO. 10 of 16

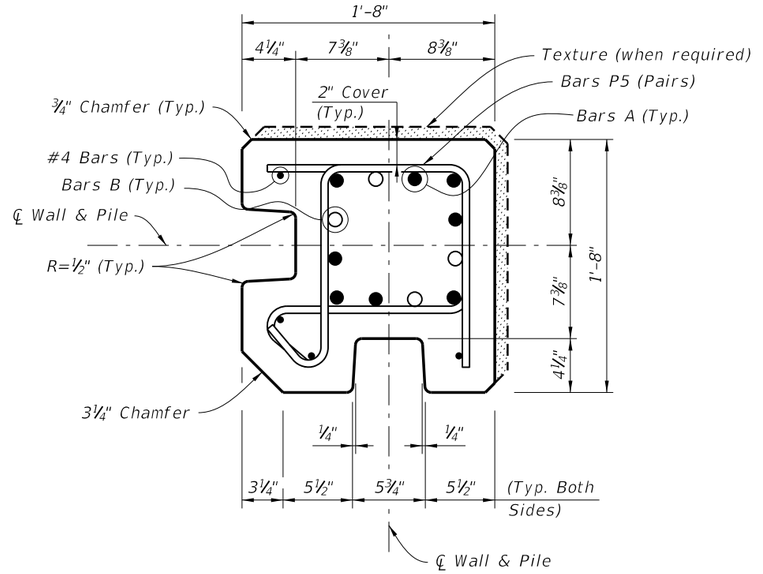


TYPICAL POST

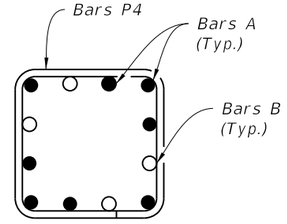


LOW CLEARANCE OPTION

* Extend Post 2" above top of high side wall panel when post caps are shown in plans. See Sheet 4, "ELEVATION STEP AT TOP OF WALL".



SECTION R-R



SECTION S-S

90° CORNER POST NOTES:

1. *For Post Reinforcing, see Sheets 15 and 16.*
2. *For Pile Length Tables, see Sheets 15 and 16.*
3. *Reduce typical panel length or adjust pile spacing at each 90° Corner Post.*
4. *Match texture thickness, with appropriate Panel face.*

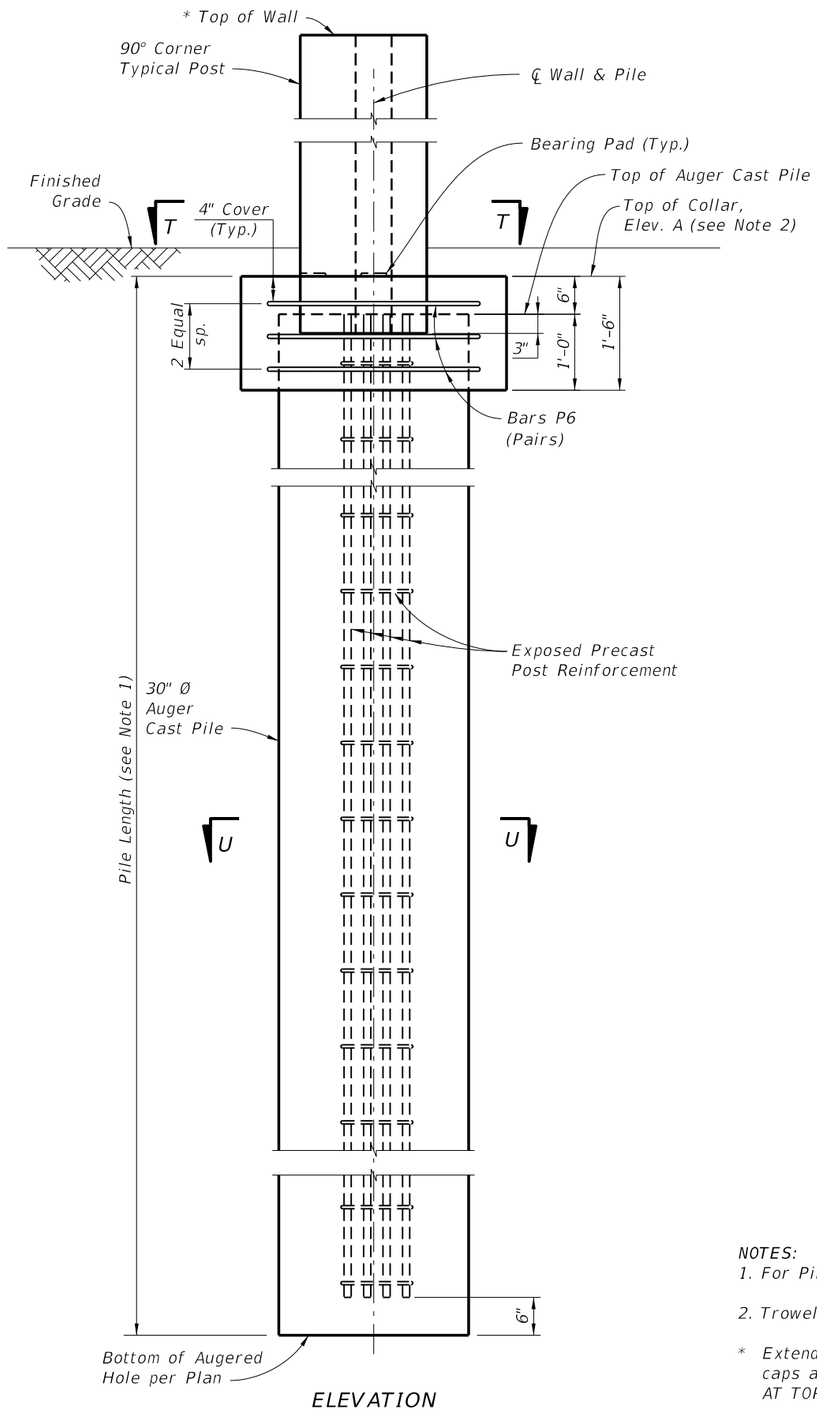
90° CORNER POST REINFORCMENT

(Post Surface Features Not Shown For Clarity)

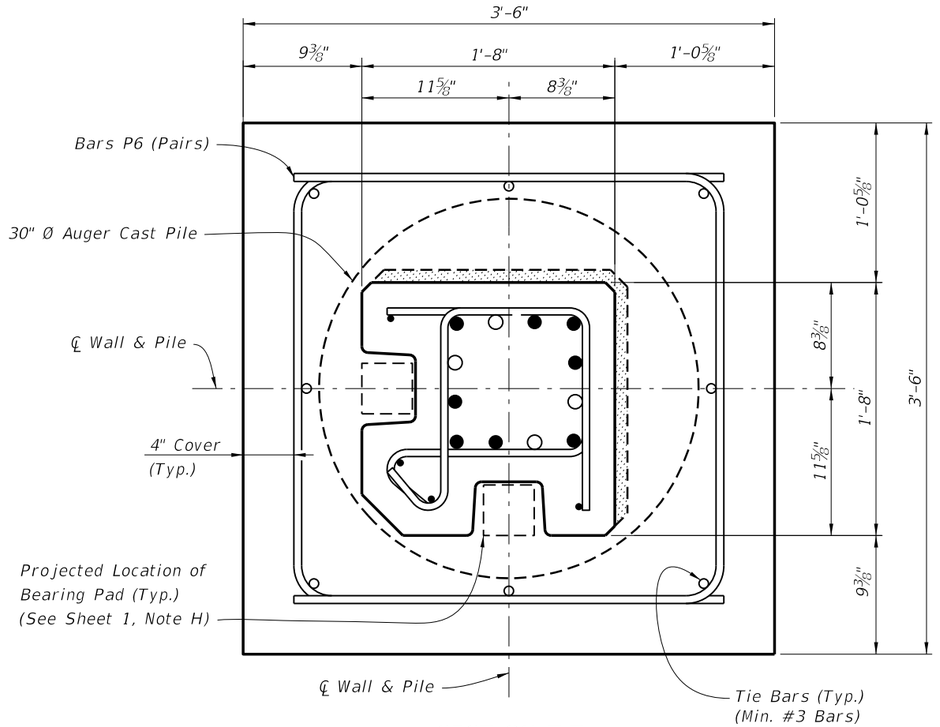
90° CORNER POST DETAILS

6/30/2014 11:15:31 AM

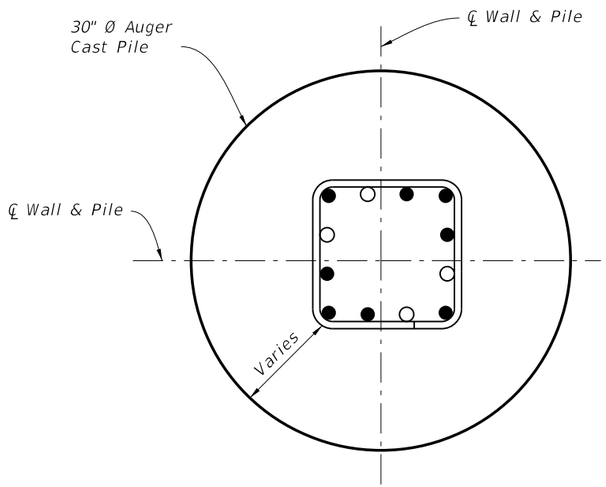
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/14			FDOT 2015 DESIGN STANDARDS	PRECAST NOISE WALLS	5200	11 of 16



ELEVATION



SECTION T-T
C-I-P COLLAR



SECTION U-U

NOTES:
1. For Pile Length Tables, see Sheets 15 and 16.

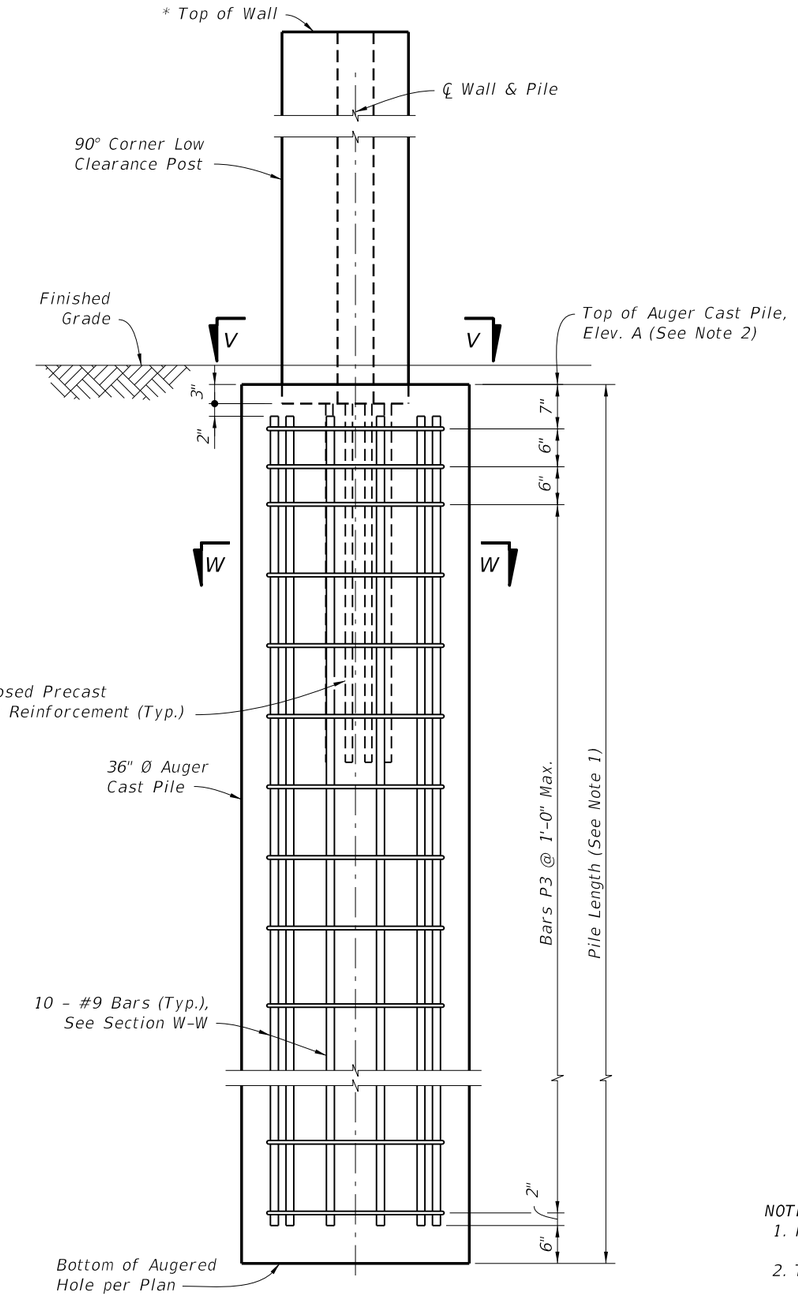
2. Trowel Finish top of Collar to allow placement of Bearing Pads.

* Extend Post 2" above top of high side wall panel when post caps are shown in plans. See Sheet 4, "ELEVATION STEP AT TOP OF WALL".

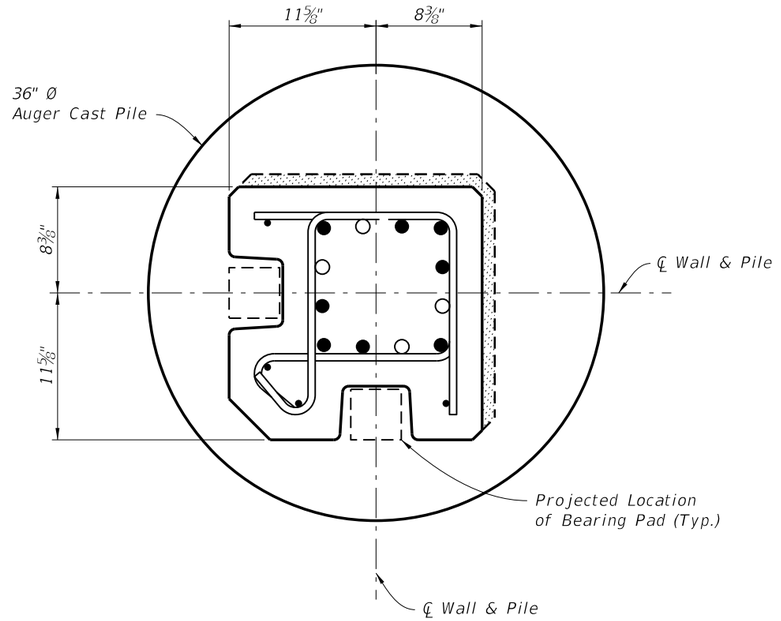
90° CORNER TYPICAL POST PLACEMENT DETAILS

LAST REVISION	REVISION	DESCRIPTION:			
07/01/12			2015 DESIGN STANDARDS	PRECAST NOISE WALLS	INDEX NO. 5200 / SHEET NO. 12 of 16

6/30/2014 11:15:31 AM



ELEVATION

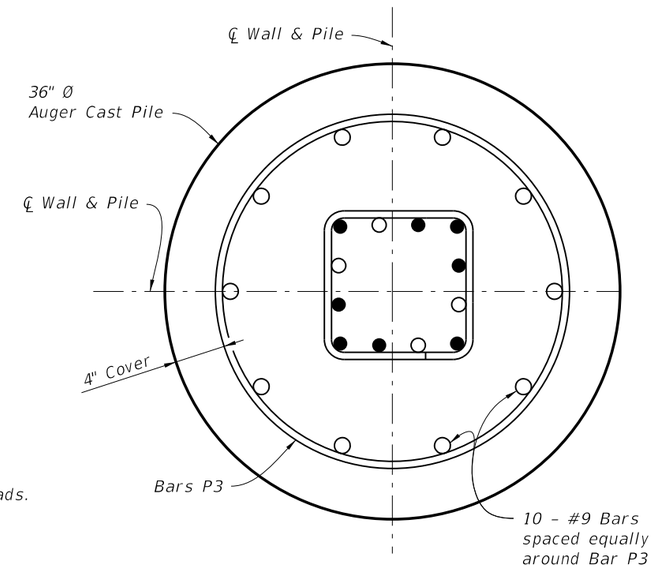


SECTION V-V

NOTES:

1. For Pile Length Tables, see Sheets 15 and 16.
2. Trowel Finish top of auger cast pile to allow placement of Bearing Pads.

* Extend Post 2" above top of high side wall panel when post caps are shown in plans. See Sheet 4, "ELEVATION STEP AT TOP OF WALL".

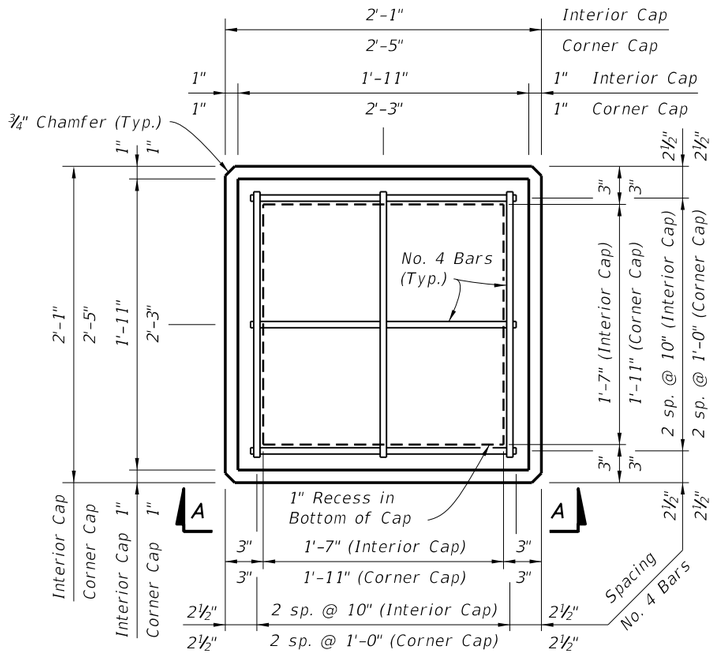


SECTION W-W

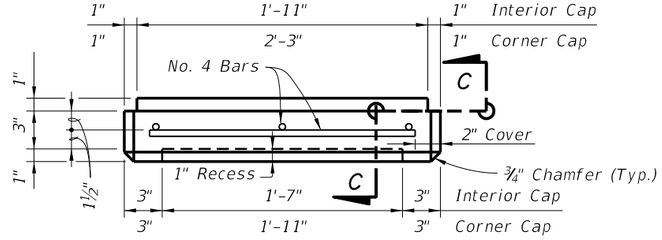
90° CORNER LOW CLEARANCE POST PLACEMENT & PILE REINFORCING STEEL DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/12			2015 DESIGN STANDARDS	PRECAST NOISE WALLS	5200	13 of 16

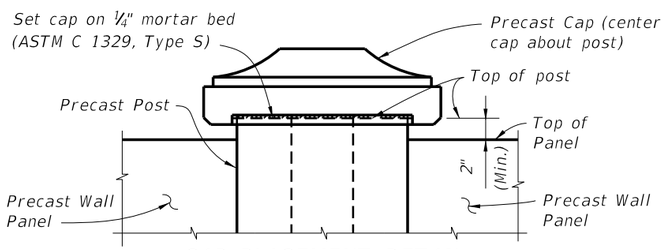
6/30/2014 11:15:32 AM



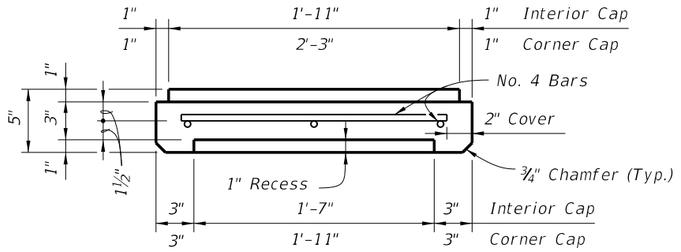
PLAN VIEW
(Type "A" Cap Shown, Type "B" & "C" Caps Similar)



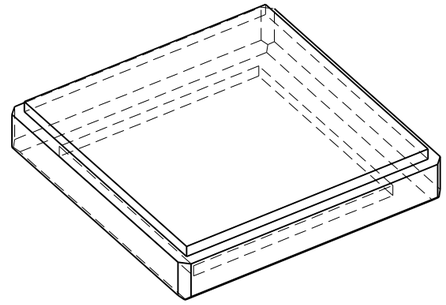
VIEW A-A SHOWN, VIEW B-B SIMILAR
(Type "A" Cap Shown, Type "B" & "C" Caps Similar)



CAP PLACEMENT DETAIL
(Type "B" Cap Shown, Type "A" & "C" Caps Similar)

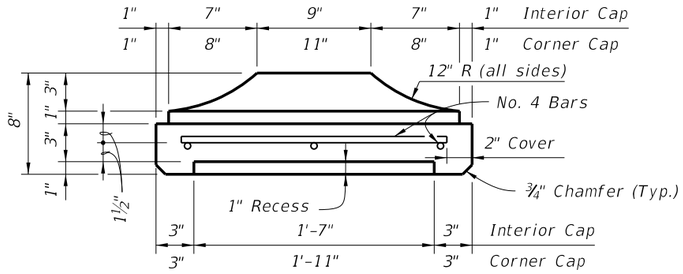


SECTION C-C

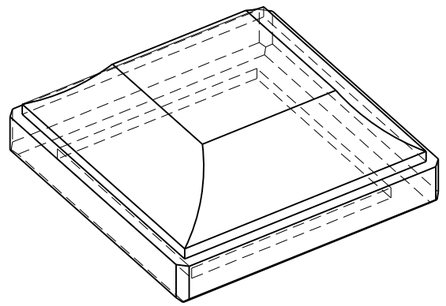


PICTORIAL VIEW

TYPE "A" CAP DETAILS

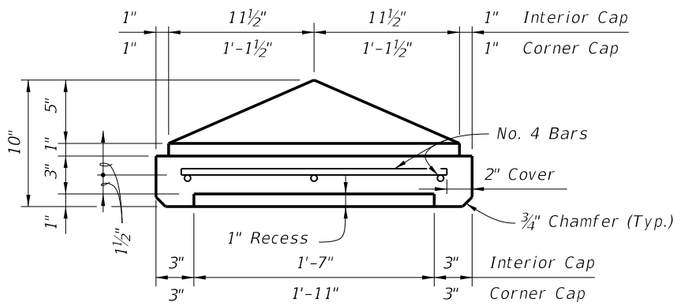


SECTION C-C

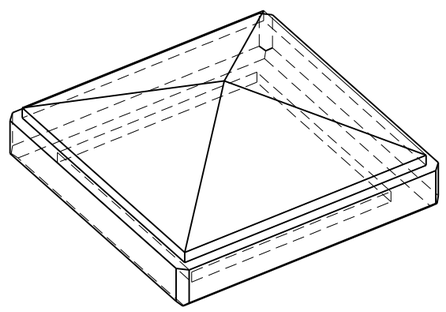


PICTORIAL VIEW

TYPE "B" CAP DETAILS



SECTION C-C



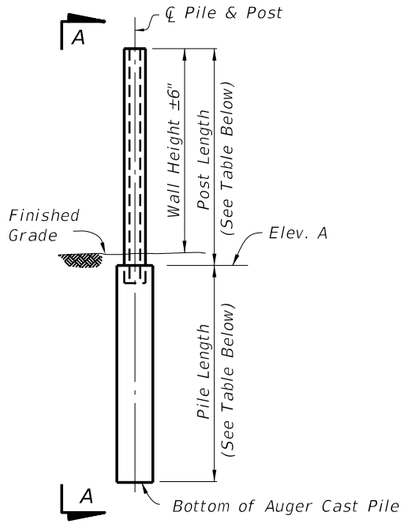
PICTORIAL VIEW

TYPE "C" CAP DETAILS

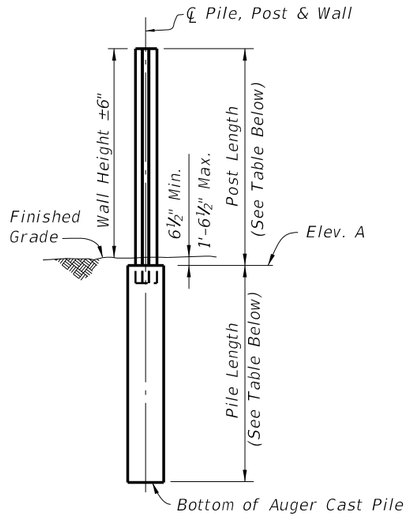
PRECAST POST CAPITAL

6/30/2014 11:15:33 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/14			FDOT 2015 DESIGN STANDARDS	PRECAST NOISE WALLS	5200	14 of 16



PILE/POST ELEVATION

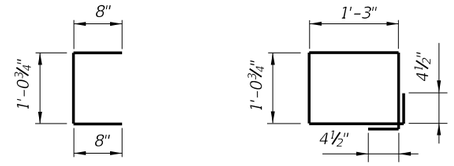


VIEW A-A

BAR BENDING DETAILS

All bar dimensions in bending diagrams are out-to-out. All bars not shown in the bending diagrams are straight.

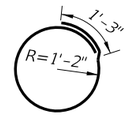
STANDARD POST (#4 Bars)



BAR P1
Bar Length = 2'-5"

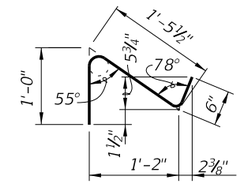
BAR P2
Bar Length = 5'-5"

PILE (Low Clearance) (#4 Bars)



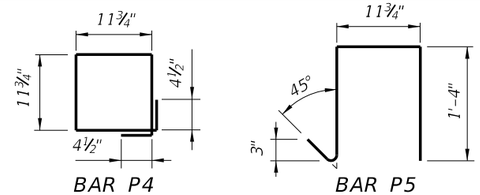
BAR P3
Bar Length = 8'-7"

45° CORNER POST (#4 Bars)



BAR P7
Bar Length = 3'-0"

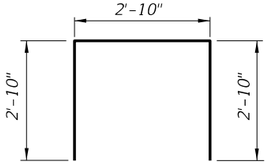
90° CORNER POST (#4 Bars)



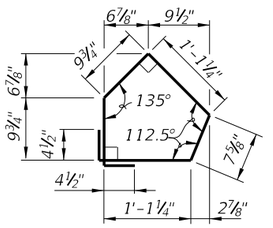
BAR P4
Bar Length = 4'-8"

BAR P5
Bar Length = 4'-0"

CAST-IN-PLACE COLLAR (#5 Bars)



BAR P6 (Pair)
Bar Length = 8'-6" Each



BAR P8
Bar Length = 5'-3"

TABLE 1A - TABLE OF POST REINFORCING STEEL

WALL HEIGHT (Feet)	POST LENGTHS		WIND SPEED = 110 MPH											
			10'-0" POST SPACING						20'-0" POST SPACING					
	WALL HEIGHT WITHOUT CAP	WALL HEIGHT WITH CAP	BARS A	BARS B		BARS D	BARS E		BARS A	BARS B		BARS D	BARS E	
			SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'
12	13'-0½"	13'-2½"	#3	#3	9'-8"	#3	#3	8'-8"	#5	#5	11'-2"	#5	#5	9'-2"
13	14'-0½"	14'-2½"	#4	#4	13'-5"	#4	#4	11'-5"	#5	#5	11'-2"	#5	#5	9'-2"
14	15'-0½"	15'-2½"	#4	#4	13'-5"	#4	#4	11'-5"	#5	#5	11'-2"	#6	#6	10'-9"
15	16'-0½"	16'-2½"	#4	#4	13'-5"	#4	#4	11'-5"	#6	#6	12'-9"	#6	#6	10'-9"
16	17'-0½"	17'-2½"	#4	#4	13'-5"	#5	#5	14'-2"	#6	#6	12'-9"	#6	#6	10'-9"
17	18'-0½"	18'-2½"	#4	#4	12'-5"	#5	#5	14'-2"	#6	#6	12'-9"	#7	#7	12'-4"
18	19'-0½"	19'-2½"	#5	#5	16'-3"	#5	#5	14'-2"	#7	#7	14'-4"	#7	#7	12'-4"
19	20'-0½"	20'-2½"	#5	#5	16'-2"	#5	#5	14'-2"	#7	#7	14'-4"	#8	#8	13'-10"
20	21'-0½"	21'-2½"	#5	#5	16'-2"	#6	#6	15'-9"	#8	#8	15'-10"	#8	#8	13'-10"
21	22'-0½"	22'-2½"	#5	#5	16'-2"	#6	#6	15'-9"	#8	#8	15'-10"	#8	#8	13'-10"
22	23'-0½"	23'-2½"	#6	#6	18'-9"	#6	#6	15'-9"	#8	#8	15'-10"	#8	#9	13'-3"

TABLE 1B - PILE LENGTHS (Feet) - WIND SPEED = 110 MPH

WALL HEIGHT (Feet)	10'-0" POST SPACING								20'-0" POST SPACING							
	H-POSTS				CORNER POSTS				H-POSTS				CORNER POSTS			
	SOIL 1		SOIL 2		SOIL 1		SOIL 2		SOIL 1		SOIL 2		SOIL 1		SOIL 2	
	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅
12	11	11	11	10	10	9	9	9	15	14	14	13	13	12	12	12
13	12	11	11	10	11	10	10	9	16	15	15	14	14	13	13	12
14	12	12	12	11	11	10	10	10	16	15	15	14	14	13	13	12
15	13	12	12	11	11	11	11	10	17	16	16	15	15	14	14	13
16	13	12	12	12	12	11	11	10	18	16	16	15	15	14	14	13
17	14	13	13	12	12	11	11	11	18	17	17	16	16	15	15	14
18	14	13	13	12	13	12	12	11	19	18	18	16	17	15	15	14
19	15	14	14	13	13	12	12	11	20	18	18	17	17	16	16	15
20	15	14	14	13	13	12	12	12	20	19	19	17	18	16	16	15
21	16	15	15	14	14	13	13	12	21	19	19	18	18	17	17	16
22	16	15	15	14	14	13	13	12	21	20	20	18	19	17	17	16

TABLE NOTE:
1. *Bars D and Bars E are for 45° Corner Posts only.*
2. *See Contract Plans for project wind speed.*
3. *Soil 1 = Loose Granular Soil, N = 4 to 9.*
   Soil 2 = Medium Dense Granular Soil, N 10 to 40.

PILE DEPTH & REINFORCING SUMMARY

6/30/2014 11:15:34 AM

LAST REVISION	REVISION	DESCRIPTION:		INDEX NO.	SHEET NO.
07/01/14			2015 DESIGN STANDARDS	5200	15 of 16

PRECAST NOISE WALLS

TABLE 2A - TABLE OF POST REINFORCING STEEL

WALL HEIGHT (Feet)	POST LENGTHS		WIND SPEED = 130 MPH											
	WALL HEIGHT WITHOUT CAP	WALL HEIGHT WITH CAP	10'-0" POST SPACING						20'-0" POST SPACING					
			BARS A	BARS B		BARS D	BARS E		BARS A	BARS B		BARS D	BARS E	
			SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'
12	13'-0½"	13'-2½"	#4	#4	10'-5"	#4	#4	9'-5"	#5	#5	9'-2"	#6	#6	8'-9"
13	14'-0½"	14'-2½"	#4	#4	10'-5"	#4	#4	9'-5"	#6	#6	10'-9"	#6	#6	8'-9"
14	15'-0½"	15'-2½"	#4	#4	10'-5"	#5	#5	12'-2"	#6	#6	10'-9"	#7	#7	10'-4"
15	16'-0½"	16'-2½"	#5	#5	13'-2"	#5	#5	12'-2"	#7	#7	12'-4"	#7	#7	10'-4"
16	17'-0½"	17'-2½"	#5	#5	13'-2"	#5	#5	11'-2"	#7	#7	12'-4"	#8	#8	11'-10"
17	18'-0½"	18'-2½"	#5	#5	13'-2"	#6	#6	13'-9"	#7	#7	12'-4"	#8	#8	11'-10"
18	19'-0½"	19'-2½"	#6	#6	15'-8"	#6	#6	13'-9"	#8	#8	13'-10"	#8	#8	11'-10"
19	20'-0½"	20'-2½"	#6	#6	15'-8"	#6	#6	13'-9"	#8	#8	13'-10"	#9	#8	12'-10"
20	21'-0½"	21'-2½"	#6	#6	15'-8"	#7	#7	15'-4"	#8	#9	12'-3"	#9	#9	12'-3"
21	22'-0½"	22'-2½"	#7	#7	17'-4"	#7	#7	15'-4"	#9	#9	14'-3"	#9	#10	11'-7"
22	23'-0½"	23'-2½"	#7	#7	17'-4"	#7	#7	15'-4"	#9	#10	13'-7"	#10	#9	14'-3"

TABLE 2B - PILE LENGTHS (Feet) - WIND SPEED = 130 MPH

WALL HEIGHT (Feet)	10'-0" POST SPACING								20'-0" POST SPACING							
	H-POSTS				CORNER POSTS				H-POSTS				CORNER POSTS			
	SOIL 1		SOIL 2		SOIL 1		SOIL 2		SOIL 1		SOIL 2		SOIL 1		SOIL 2	
	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅
12	13	12	12	11	13	11	12	10	17	16	16	15	15	14	14	13
13	14	13	13	12	13	11	13	10	18	17	17	16	16	15	15	14
14	14	13	13	12	14	12	13	11	19	18	18	16	17	15	15	14
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21	18	17	17	15	18	15	17	14	24	22	22	20	21	19	19	18
22	18	17	17	16	18	15	17	14	24	23	23	21	21	20	20	18

TABLE 3A - TABLE OF POST REINFORCING STEEL

WALL HEIGHT (Feet)	POST LENGTHS		WIND SPEED = 150 MPH											
	WALL HEIGHT WITHOUT CAP	WALL HEIGHT WITH CAP	10'-0" POST SPACING						20'-0" POST SPACING					
			BARS A	BARS B		BARS D	BARS E		BARS A	BARS B		BARS D	BARS E	
			SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'
12	13'-0½"	13'-2½"	#4	#4	9'-5"	#5	#5	10'-2"	#6	#6	8'-9"	#7	#7	7'-4"
13	14'-0½"	14'-2½"	#5	#5	9'-2"	#5	#5	10'-2"	#7	#7	10'-4"	#7	#7	8'-4"
14	15'-0½"	15'-2½"	#5	#5	11'-2"	#5	#5	10'-2"	#7	#7	10'-4"	#8	#8	9'-10"
15	16'-0½"	16'-2½"	#5	#5	11'-2"	#6	#6	11'-9"	#8	#8	11'-10"	#8	#8	9'-10"
16	17'-0½"	17'-2½"	#6	#6	10'-9"	#6	#6	11'-9"	#8	#8	10'-10"	#8	#9	10'-3"
17	18'-0½"	18'-2½"	#6	#6	13'-9"	#7	#7	13'-4"	#8	#9	10'-3"	#9	#8	10'-10"
18	19'-0½"	19'-2½"	#6	#6	12'-9"	#7	#7	13'-4"	#9	#9	12'-3"	#9	#10	11'-7"
19	20'-0½"	20'-2½"	#7	#7	12'-4"	#7	#7	13'-4"	#9	#10	11'-7"	#10	#9	13'-3"
									15'-0" POST SPACING					
20	21'-0½"	21'-2½"	#7	#7	15'-4"	#8	#8	14'-10"	#8	#9	12'-3"	#9	#9	16'-3"
21	22'-0½"	22'-2½"	#7	#8	14'-10"	#8	#8	14'-10"	#9	#9	14'-3"	#9	#10	15'-7"
22	23'-0½"	23'-2½"	#7	#8	16'-10"	#8	#8	14'-10"	#9	#10	13'-7"	#10	#9	16'-3"

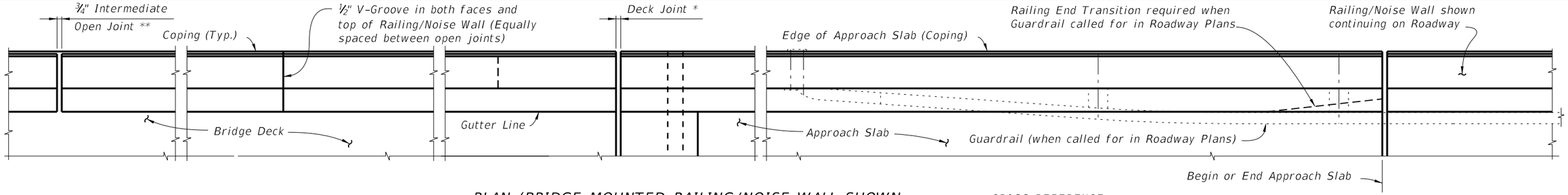
TABLE 3B - PILE LENGTHS (Feet) - WIND SPEED = 150 MPH

WALL HEIGHT (Feet)	10'-0" POST SPACING								20'-0" POST SPACING							
	H-POSTS				CORNER POSTS				H-POSTS				CORNER POSTS			
	SOIL 1		SOIL 2		SOIL 1		SOIL 2		SOIL 1		SOIL 2		SOIL 1		SOIL 2	
	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅	30" ∅	36" ∅
12	15	14	14	13	13	12	12	11	20	20	18	18	17	16	16	15
13	15	14	14	13	13	13	13	12	21	21	19	19	18	17	17	15
14	16	15	15	14	14	13	13	12	21	21	20	20	19	17	17	16
15	17	15	15	14	15	13	14	13	22	22	21	21	19	18	18	17
16	17	16	16	15	15	14	14	13	23	23	21	21	20	19	19	17
17	18	17	17	15	16	14	15	13	24	24	22	22	21	19	19	18
18	18	17	17	16	16	15	15	14	25	25	23	23	21	20	20	18
19	19	18	18	16	17	15	15	14	25	25	23	23	22	20	20	19
									15'-0" POST SPACING							
20	19	18	18	17	17	16	16	15	26	26	24	24	23	21	21	20
21	20	19	19	17	18	16	16	15	27	27	25	25	23	22	22	20
22	21	19	19	18	18	17	17	16	27	27	26	26	24	22	22	21

TABLE NOTE:

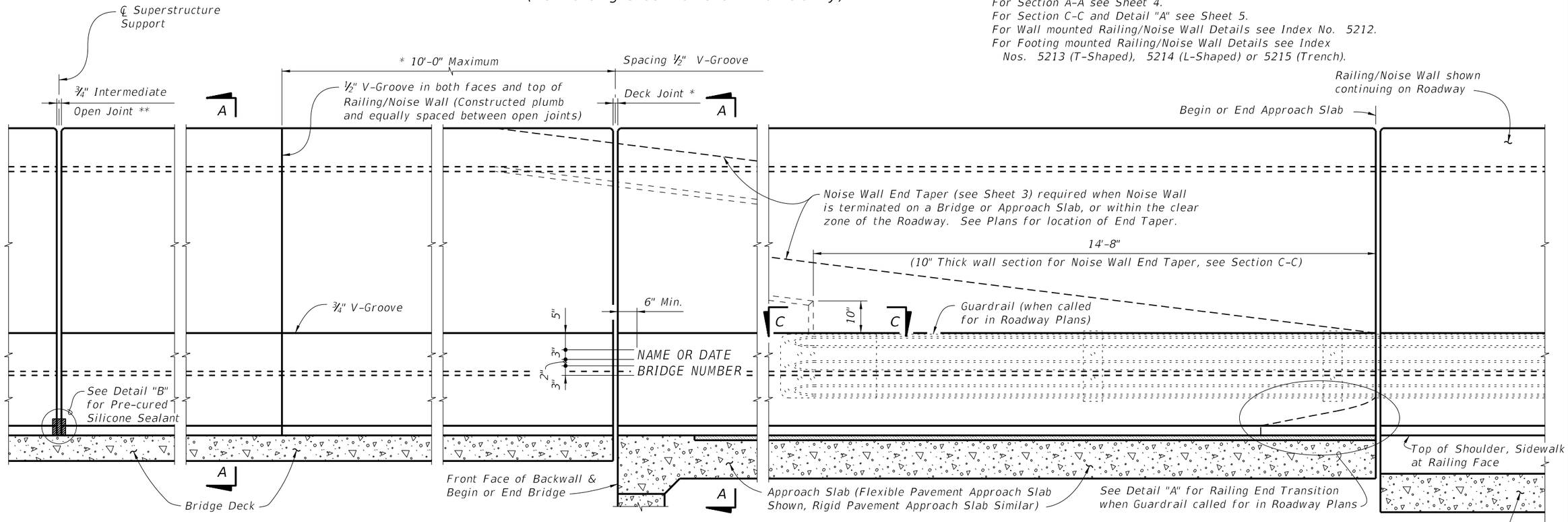
1. Bars D and Bars E are for 45° Corner Posts only.
2. See Contract Plans for project wind speed.
3. Soil 1 = Loose Granular Soil, N = 4 to 9;
   Soil 2 = Medium Dense Granular Soil, N = 10 to 40.
4. Pile lengths are based on 30 inch diameter auger cast piles.

PILE DEPTH & REINFORCING SUMMARY



PLAN (BRIDGE MOUNTED RAILING/NOISE WALL SHOWN, WALL OR FOOTING MOUNTED RAILING/NOISE WALL SIMILAR) (Reinforcing Steel not shown for clarity)

CROSS REFERENCE:
For Detail "B" and V-Groove Lettering Detail see Sheet 2.
For Section A-A see Sheet 4.
For Section C-C and Detail "A" see Sheet 5.
For Wall mounted Railing/Noise Wall Details see Index No. 5212.
For Footing mounted Railing/Noise Wall Details see Index Nos. 5213 (T-Shaped), 5214 (L-Shaped) or 5215 (Trench).



ELEVATION OF INSIDE FACE OF RAILING/NOISE WALL (BRIDGE MOUNTED RAILING/NOISE WALL SHOWN, WALL OR FOOTING MOUNTED RAILING/NOISE WALL SIMILAR) (Reinforcing Steel not shown for clarity)

** On Bridges see Superstructure and Approach Slab Sheets for actual dimensions and joint orientation. Open Railing/Noise Wall Joints at Deck Expansion Joint locations shall match the dimensions of the Deck Joint. For treatment of Railing/Noise Walls on skewed bridges see Index No. 420. Deck Joint at Begin Bridge or End Bridge shown, Deck Joint at ℄ Pier or Intermediate Bent, Junction Slab or Footing similar.*

*** ¾" Intermediate Open Joints shall be constructed plumb and provided at :*
(1) – Superstructure supports where slab is continuous.
(2) – Construction Joints for Junction Slabs and Footings.

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LAST REVISION 07/01/14	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (8'-0")	INDEX NO. 5210	SHEET NO. 1 of 5

TRAFFIC RAILING/NOISE WALL NOTES

CONSTRUCTION REQUIREMENTS : The Traffic Railing/Noise Wall and joints shall be constructed plumb, they shall not be constructed perpendicular to the roadway surface. Slip forming is not permitted.

CONCRETE : For Railing/Noise Wall on bridges see General Notes. For Wall and Footing mounted Railing/Noise Wall, concrete shall be Class II for slightly aggressive environments and Class IV for moderately or extremely aggressive environments.

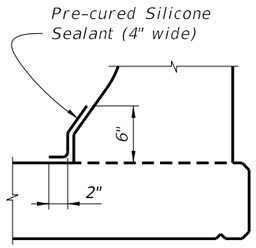
NAME, DATE AND BRIDGE NUMBER : For Railing/Noise Wall on bridges, the Name and Bridge Number shall be placed on the Traffic Railing so as to be seen on the driver's right side when approaching the bridge. The Date shall be placed on the driver's left side when approaching the bridge. The Name shall be as shown in the General Notes in the Structures Plans. The Date shall be the year the bridge is completed. For a widening when the existing railing is removed, use both the existing date and the year of the widening. Black plastic letters and figures 3" in height may be used, as approved by the Engineer, in lieu of the letters and figures formed by ⅜" V-Grooves. V-Grooves shall be formed by preformed letters and figures.

BARRIER DELINEATORS: Barrier Delineators shall meet Specification Section 993. Install Barrier Delineators 2'-4" above the riding surface at the spacing shown in the table below. Barrier Delineator color (white or yellow) shall match the color of the near edgeline. The cost of the Barrier Delineators shall be included in the Contract Unit Price for the Traffic Railing/Noise Wall.

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

INTERMEDIATE JOINT SEAL NOTES:

1. At Intermediate Open Joints, seal the lower 6" portion of the open joint with Pre-cured Silicone Sealant in accordance with Specification Section 932.
2. 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.
3. The cost of the Pre-cured Silicone Sealant shall be included in the Contract Unit Price for the Traffic Railing.



DETAIL "B" - SECTION AT INTERMEDIATE OPEN JOINT

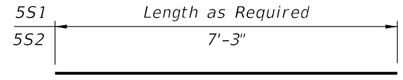
ESTIMATED TRAFFIC RAILING/NOISE WALL QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete (Railing)	CY/LF	0.104
Concrete (Noise Wall)	CY/LF	0.145
Reinforcing Steel (Typical)	LB/LF	78.57
Additional Reinf. @ Open Joint	LB	430.24

(The above quantities are based on the bridge mounted typical section, 2% deck cross slope and railing on low side of deck.)

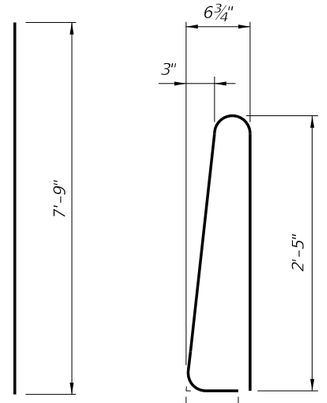
REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
P	5	5'-7"
R	5	7'-9"
S1	5	As Reqd.
S2	5	7'-3"
V (Bridge and Wall)	5	5'-1"
V (Footing)	5	7'-7"

BRIDGE CROSS-SLOPE		LOW GUTTER		HIGH GUTTER	
		ØA	ØB	ØA	ØB
BRIDGE MOUNTED	0% to 2%	90°	90°	90°	90°
	2% to 6%	93°	87°	87°	93°
	6% to 10%	96°	84°	84°	96°
WALL & FOOTING MOUNTED		90°	90°	90°	90°

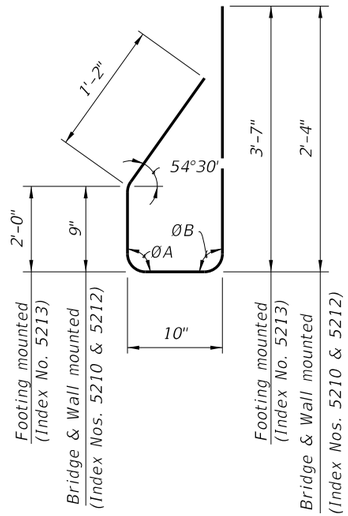


BARS 5S1 & 5S2

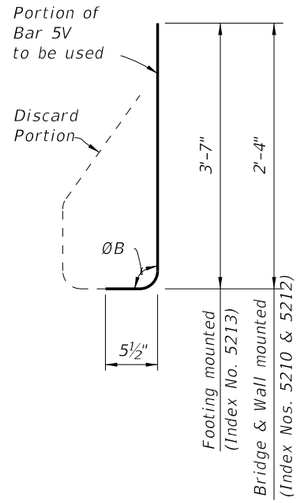


BAR 5R (Field Cut for End Taper)

STIRRUP BAR 5P



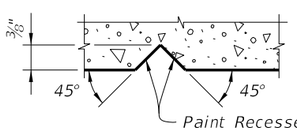
STIRRUP BAR 5V



END STIRRUP BAR 5V
To Be Field Cut (One Required per Railing End Transition)

REINFORCING STEEL NOTES:

1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at the open joints shall have a 2" minimum cover.
3. Bars 5R shall be one continuous or lap spliced bar. No mechanical couplers are permitted.
4. Bars 5S1 may be continuous or spliced at the construction joints. Lap splices for Bars 5R and 5S1 shall be a minimum of 2'-2".
5. 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.
6. See Index Nos. 5214 and 5215 for Bars 5V and 5T in L-shaped and Trench footings.



SECTION THRU RECESSED "V" GROOVE TO FORM INSCRIBED LETTERS AND FIGURES

CROSS REFERENCE:
For locations of Detail "B", see Sheet 1.

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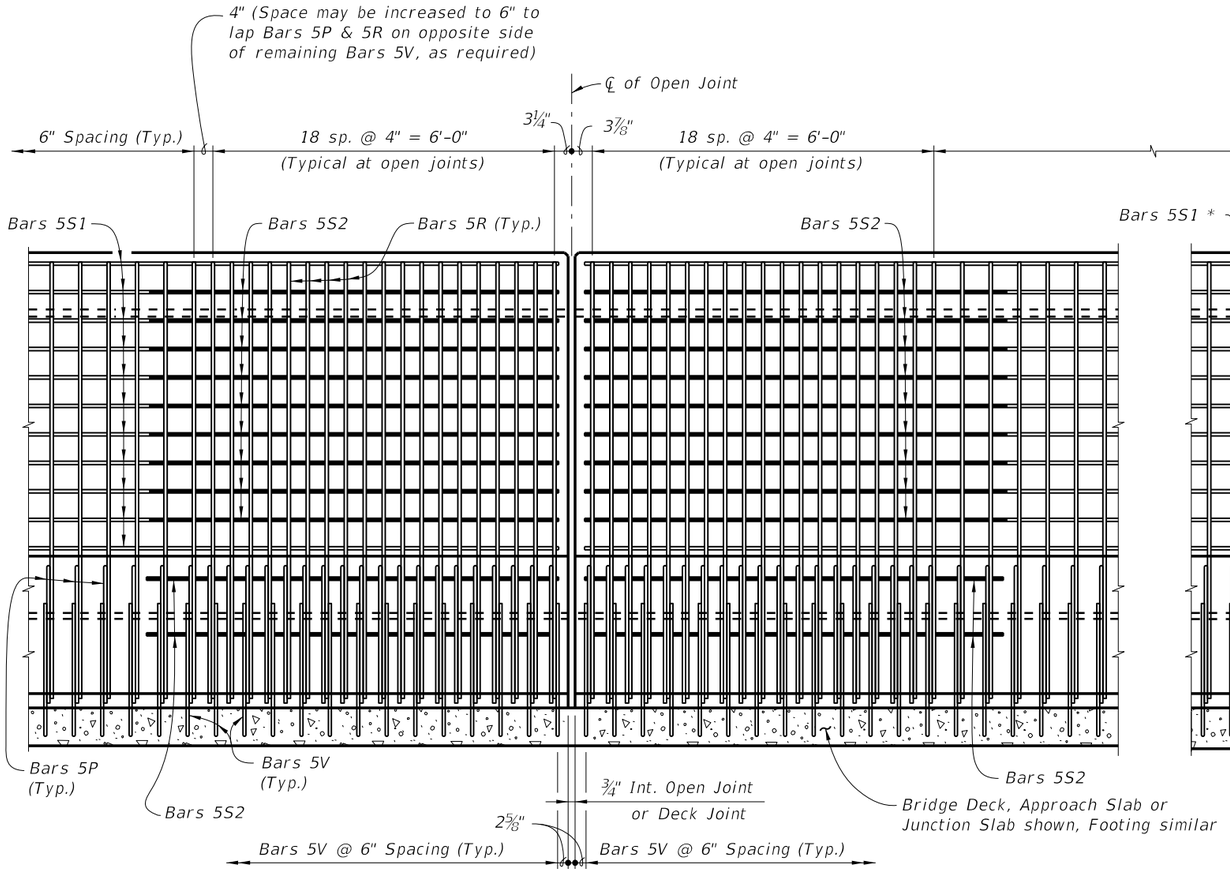
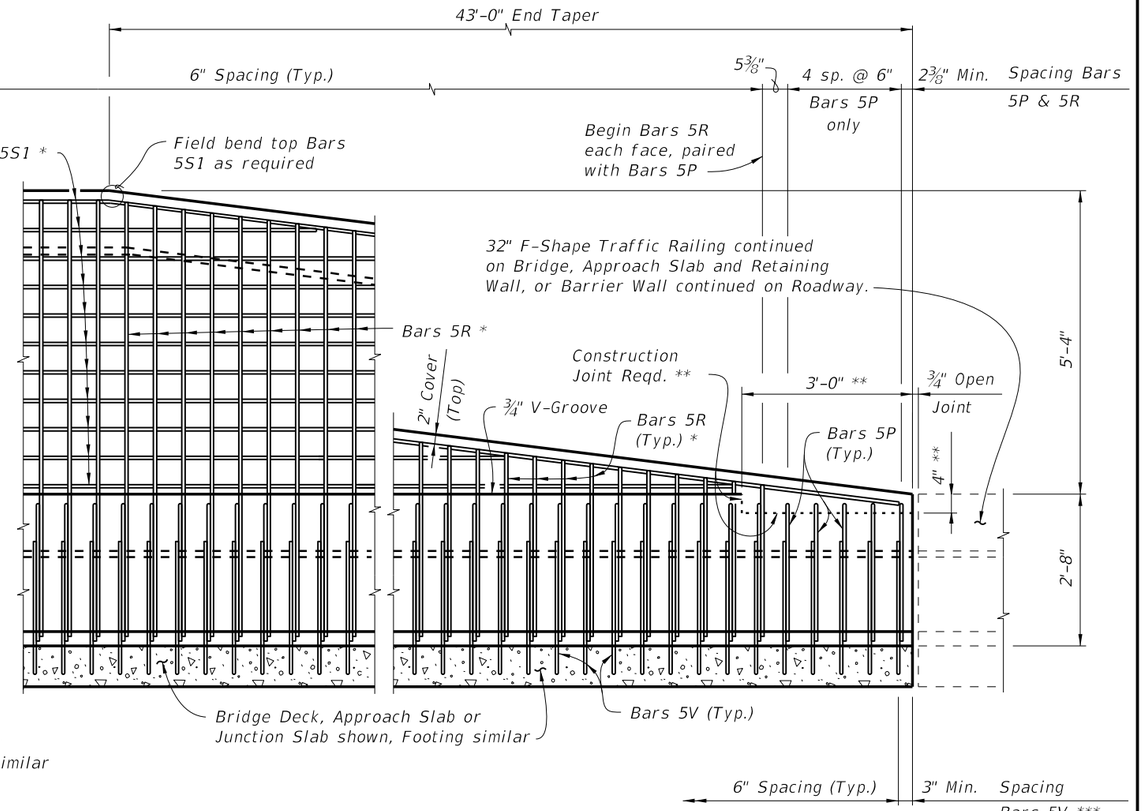


ELEVATION OF RAILING/NOISE WALL REINFORCING STEEL
(INTERMEDIATE OPEN JOINT SHOWN, DECK JOINT SIMILAR)
(Bars 5S1 in Railing not shown for clarity)



ELEVATION OF RAILING/NOISE WALL END TAPER (ADJACENT TO TRAFFIC RAILING SHOWN, GUARDRAIL ATTACHMENT SIMILAR SEE DETAIL "A", SHEET 5)
(Bars 5S1 in Railing not shown for clarity)

NOTES:
* Field Cut Bars 5R & 5S1 to maintain clearance.
** Terminate ¾" V-groove at construction joint & cast top of railing with End Taper.
*** Bar spacing shown for Bars 5V applies only to bridge mounted Railing/Noise Wall. See Index No. 5212 for spacing of Bars 5V in junction slabs and Index Nos. 5213 (T-Shaped), 5214 (L-Shaped) or 5215 (Trench) for Bars 5V spacing in footings.

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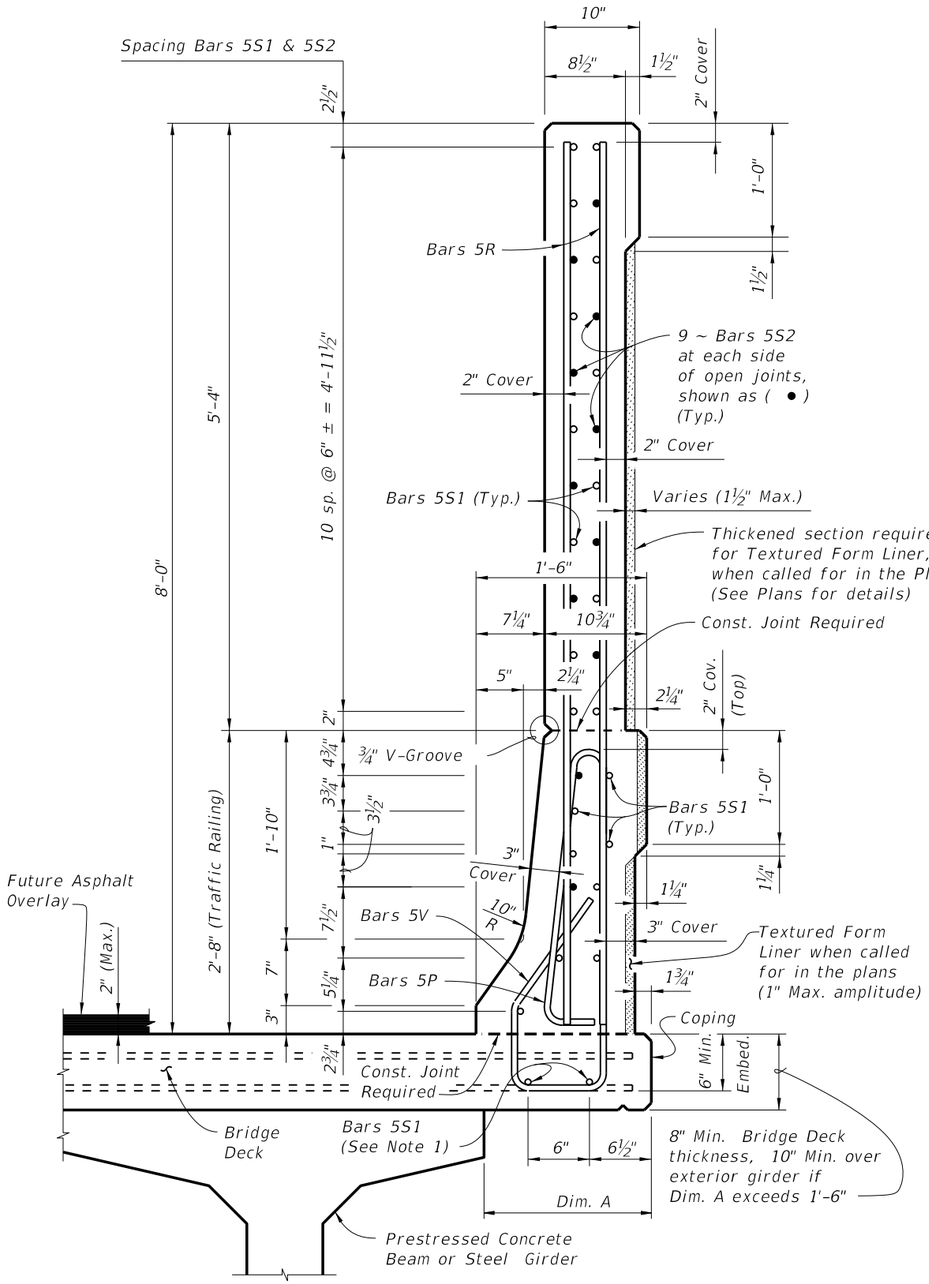
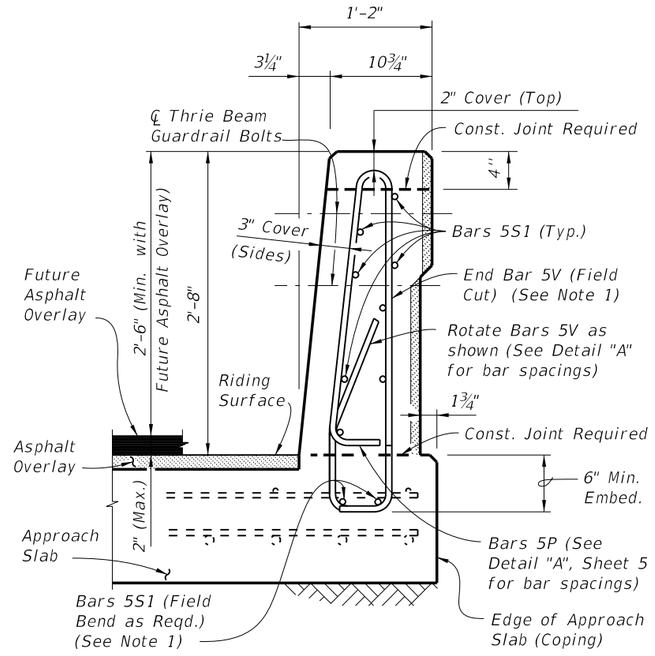
LAST REVISION	REVISION	DESCRIPTION:				
07/01/13			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (8'-0")	INDEX NO. 5210	SHEET NO. 3 of 5



SECTION A-A
TYPICAL SECTION THRU TRAFFIC RAILING/NOISE WALL
(Section Thru Bridge Deck Shown, Section Thru Approach Slab, Junction Slab or Footing Similar)

NOTES:
1. Bottom Bars 5S1 and End Bar 5V are not present in L-Shaped (Index No. 5214) or Trench (Index No. 5215) Footings. For Bridge Mounted installations, see the Superstructure Sheets for Deck Steel.

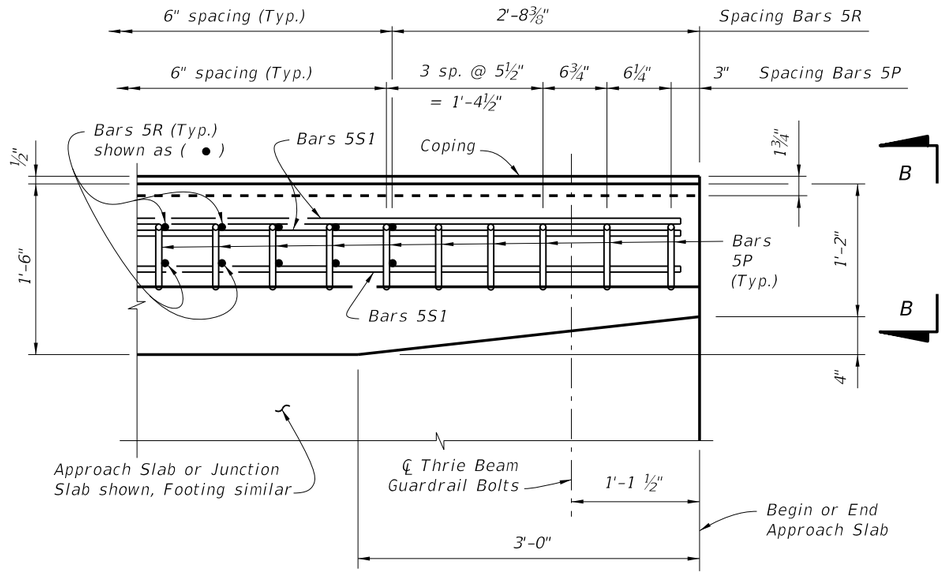
CROSS REFERENCE:
For locations of Section A-A see Sheet 1.
For location of View B-B, see Sheet 5.



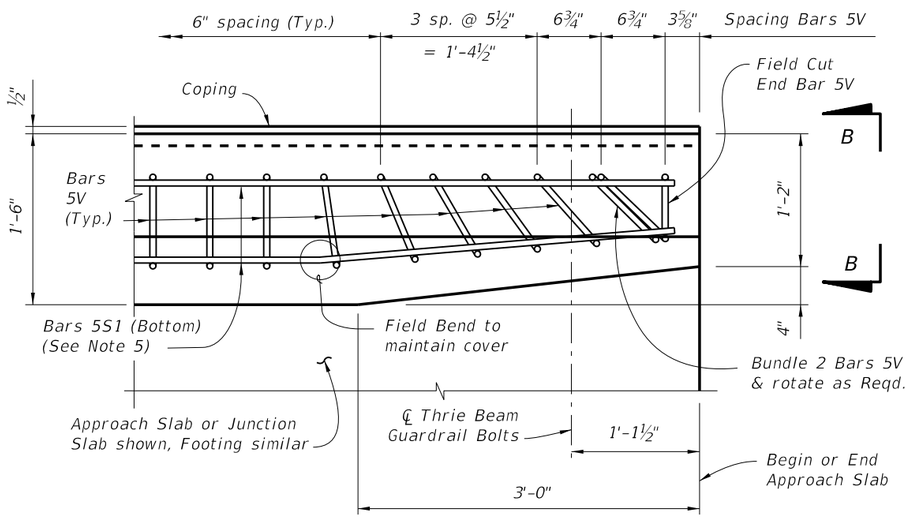
VIEW B-B
END VIEW OF RAILILNG END TRANSITION FOR GUARDRAIL ATTACHMENT AT END OF APPROACH SLAB
(Flexible Pavement Approach Slab Shown, Rigid Pavement Approach Slab, Junction Slab or Footing Similar)

5/22/2014 2:27:00 PM

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/13			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (8'-0")	5210	4 of 5



PLAN - RAILING END TRANSITION
(Showing Bars 5P, 5R, and Bars 5S1) (Bars 5V, Noise Wall & Reinforcement not shown for Clarity)

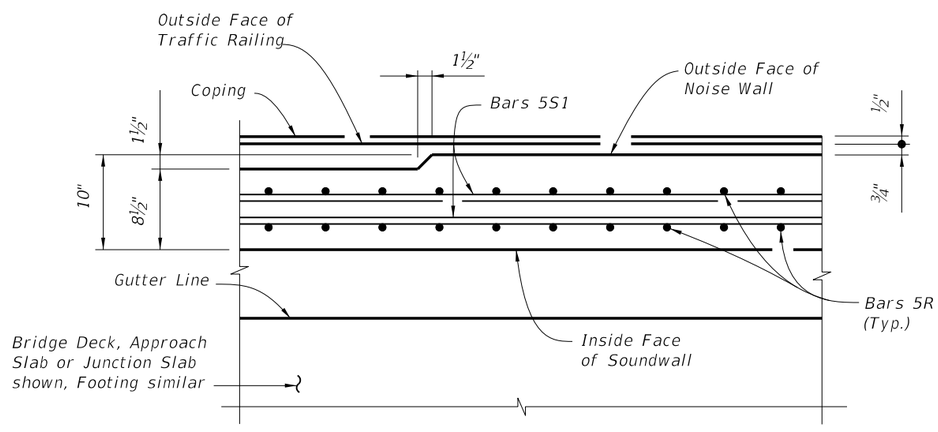


PLAN - RAILING END TRANSITION
(Showing Bars 5V and Bars 5S1) (Bars 5P, 5R, Noise Wall & Reinforcement not shown for Clarity)

DETAIL "A"

DETAIL "A" NOTES:

1. *Rotate Bars 5P & 5V in Railing End Transition to maintain cover. Begin placing Railing Bars 5P and 5V at the railing end and proceed toward the guardrail (thrie beam) terminal connector to ensure placement of guardrail bolt holes. Pair Bars 5R with Bars 5P as shown. Clearance of Bars 5P, 5R & 5V to guardrail bolt holes shall be checked to prevent cutting of bars if holes are to be drilled. Shift bars locally where conflicts occur.*
2. *For Guardrail connection details see Design Standards Index No. 400.*
3. *Omit Raililng End Transition if a 32" F-Shape Traffic Railing is used beyond the End Taper. See the Plan Sheets. If Railing End Transition is omitted, space Bars 5P, 5R & 5V at 6" as shown above (Typ.).*
4. *For L-Shaped (Index No. 5214) and Trench (Index No. 5215) footings, Bars 5V and 5T replace Bars 5V as shown at left. Details and bar spacing shown apply except that it is not necessary to rotate Bars 5V and 5T to maintain cover and there is no field cut End Bar 5V.*
5. *Bottom Bars 5S1 are not present in L-Shaped or Trench Footings.*



SECTION C-C
THRU NOISE WALL END TAPER

CROSS REFERENCE:
For location of Detail "A" see Sheet 1.
For location of Section C-C see Sheet 1.
For View B-B see Sheet 4.

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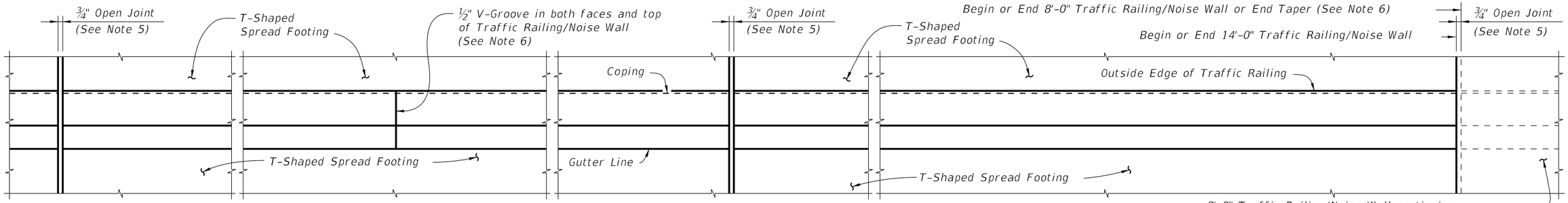
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/13			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (8'-0")	5210	5 of 5

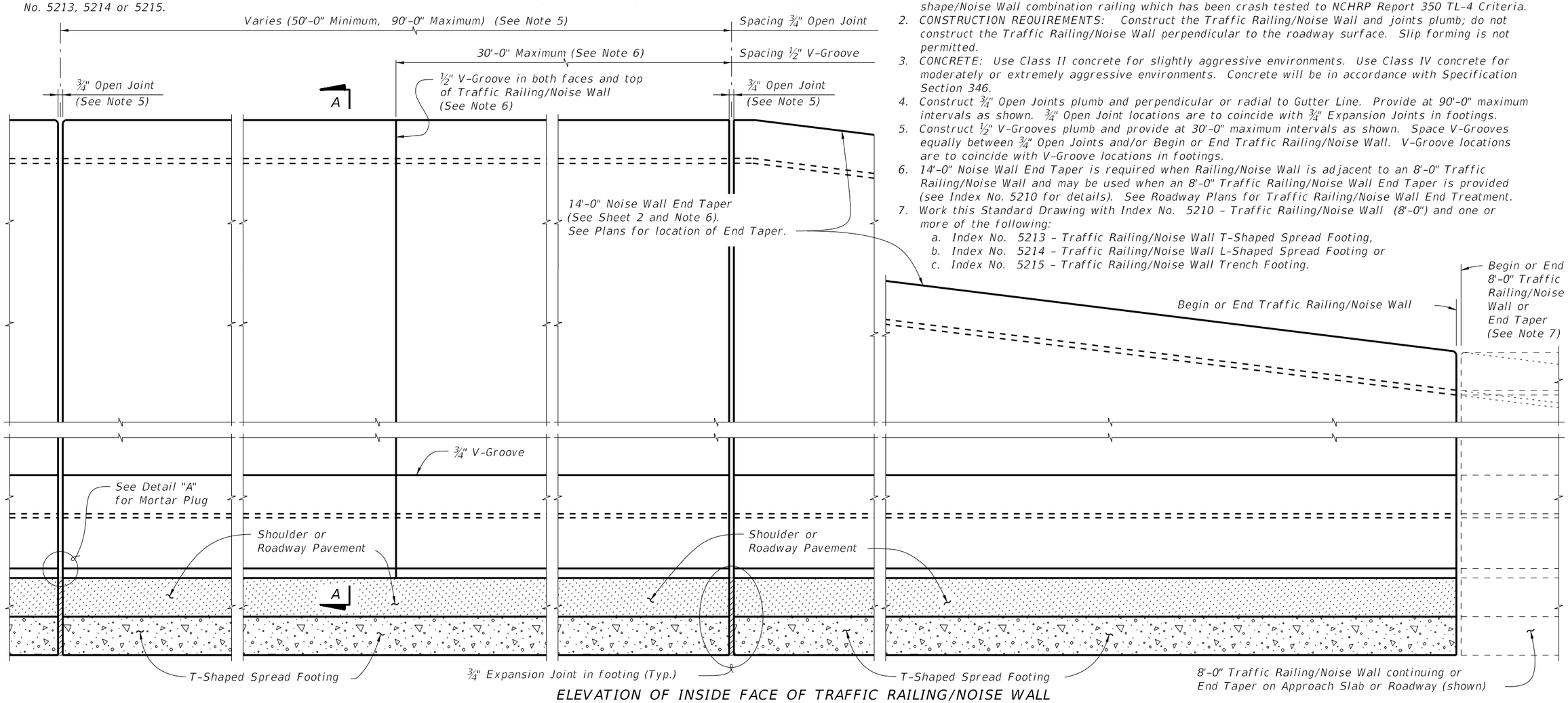


CROSS REFERENCE:
For Section A-A, Detail "A" and Estimated Quantities, see Sheet 3.
For Expansion Joint Detail in Footing, see Index No. 5213, 5214 or 5215.

PLAN (Reinforcing Steel not shown for clarity)
(T-Shaped Spread Footing Shown, L-Shaped Spread Footing and Trench Footing Similar)

TRAFFIC RAILING/NOISE WALL NOTES

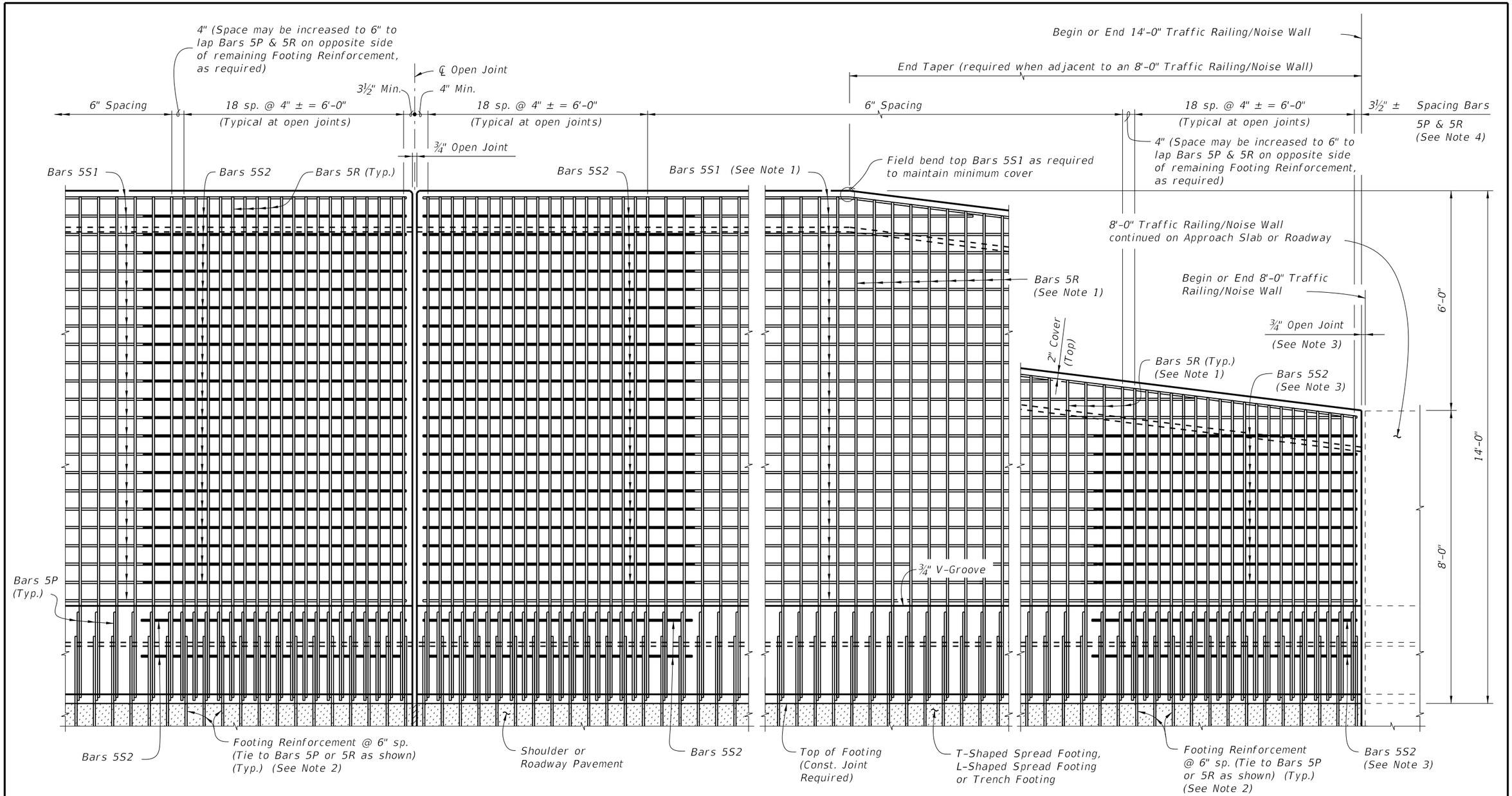
1. This railing has been structurally evaluated to be equivalent or greater in strength to a safety shape/Noise Wall combination railing which has been crash tested to NCHRP Report 350 TL-4 Criteria.
2. CONSTRUCTION REQUIREMENTS: Construct the Traffic Railing/Noise Wall and joints plumb; do not construct 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 ¾" Open Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown. ¾" Open Joint locations are to coincide with ¾" Expansion Joints in footings.
5. Construct ½" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between ¾" 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)

5/30/2014 11:28:25 AM

LAST REVISION	REVISION	DESCRIPTION:				
07/01/14			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (14'-0")	INDEX NO. 5211	SHEET NO. 1 of 3



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. *¾" 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 ¾" Open Joint is omitted.*
4. *Bar spacing shown is along the Gutter Line.*

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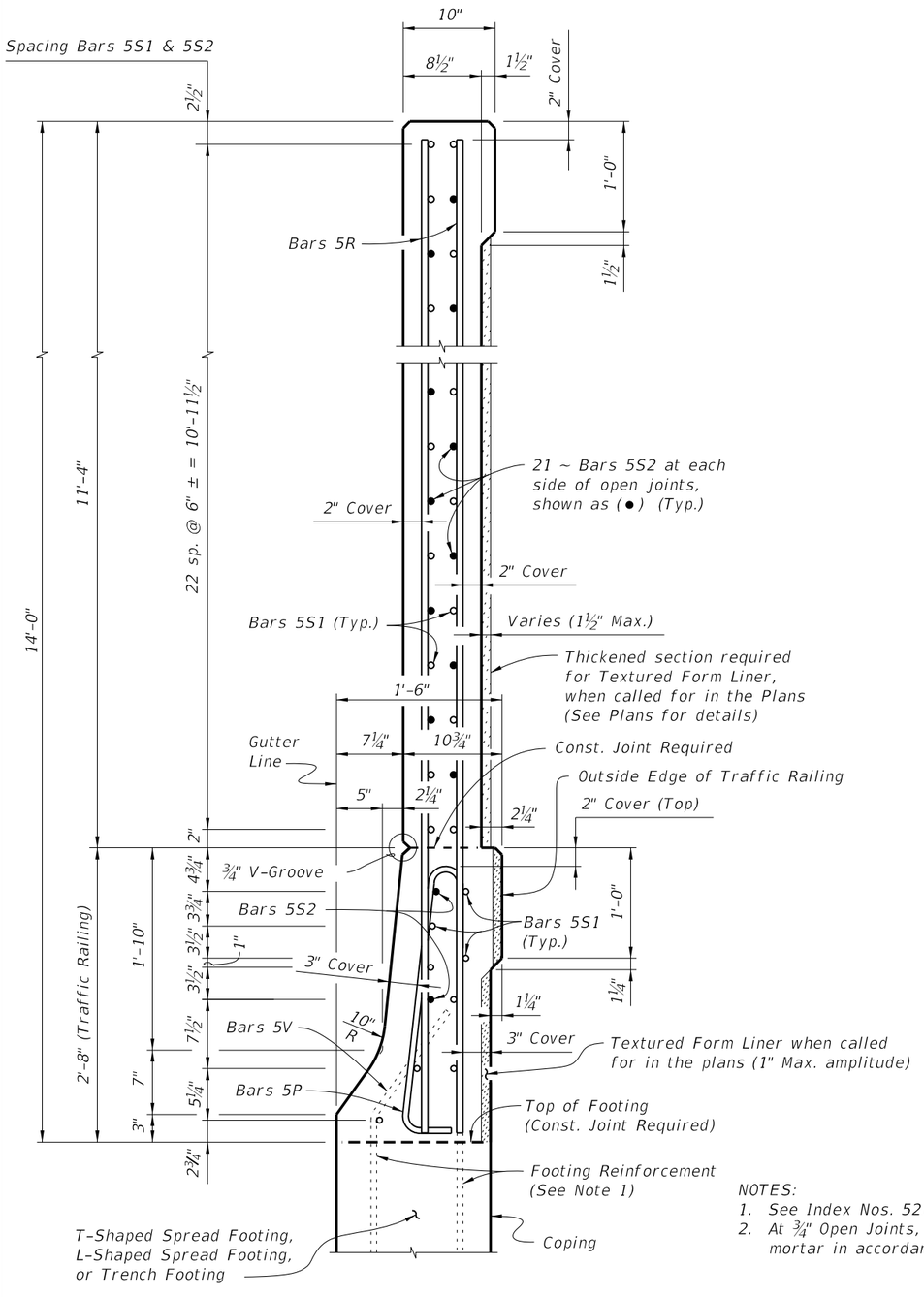
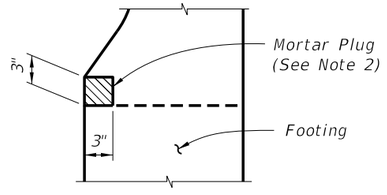
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/13			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (14'-0")	5211	2 of 3



SECTION A-A
TYPICAL SECTION THRU TRAFFIC RAILING/NOISE WALL



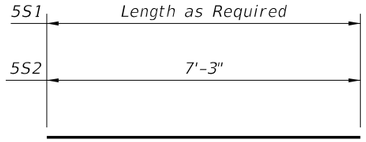
DETAIL "A" -
SECTION AT OPEN JOINT

NOTES:
1. See Index Nos. 5213, 5214 and 5215 for footing reinforcement.
2. At ¾" Open Joints, plug the lower 3" portion of the open joint by filling it with mortar in accordance with Specification Section 400.

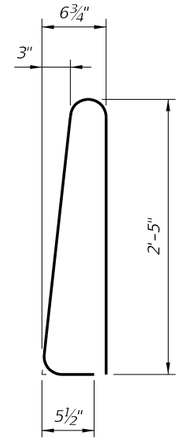
REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL

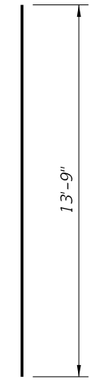
MARK	SIZE	LENGTH
P	5	5'-7"
R	5	13'-9"
S1	5	AS REQD.
S2	5	7'-3"



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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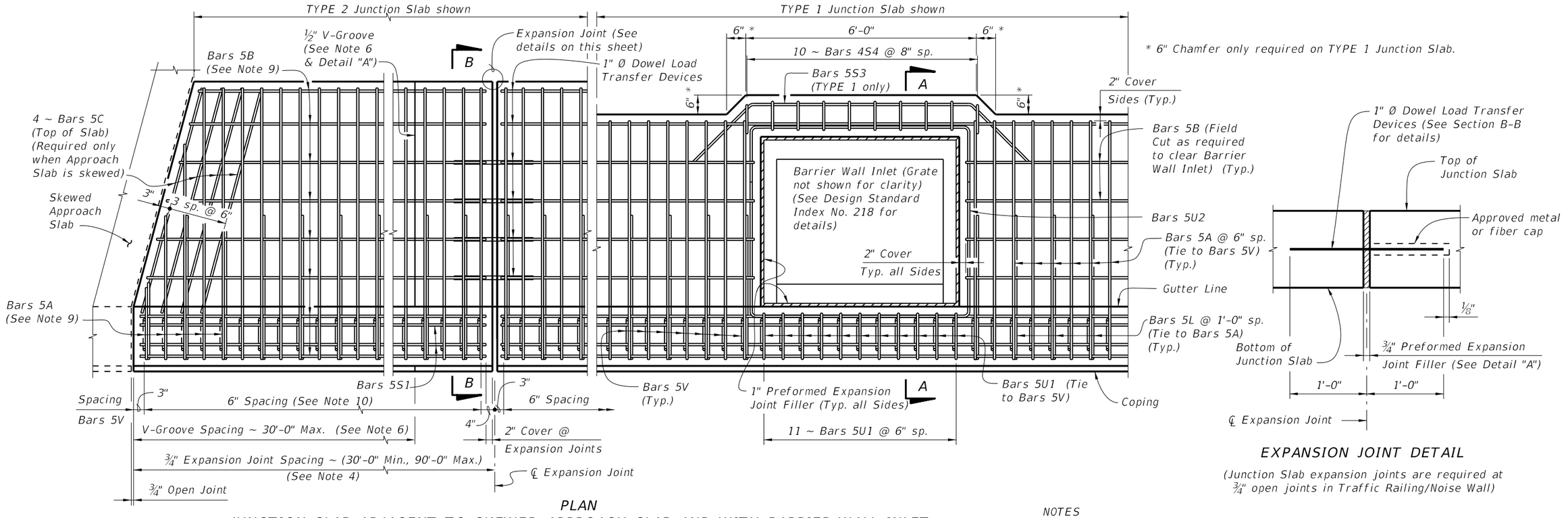
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/14			FDOT	2015 DESIGN STANDARDS	5211	3 of 3

TRAFFIC RAILING/NOISE WALL (14'-0")

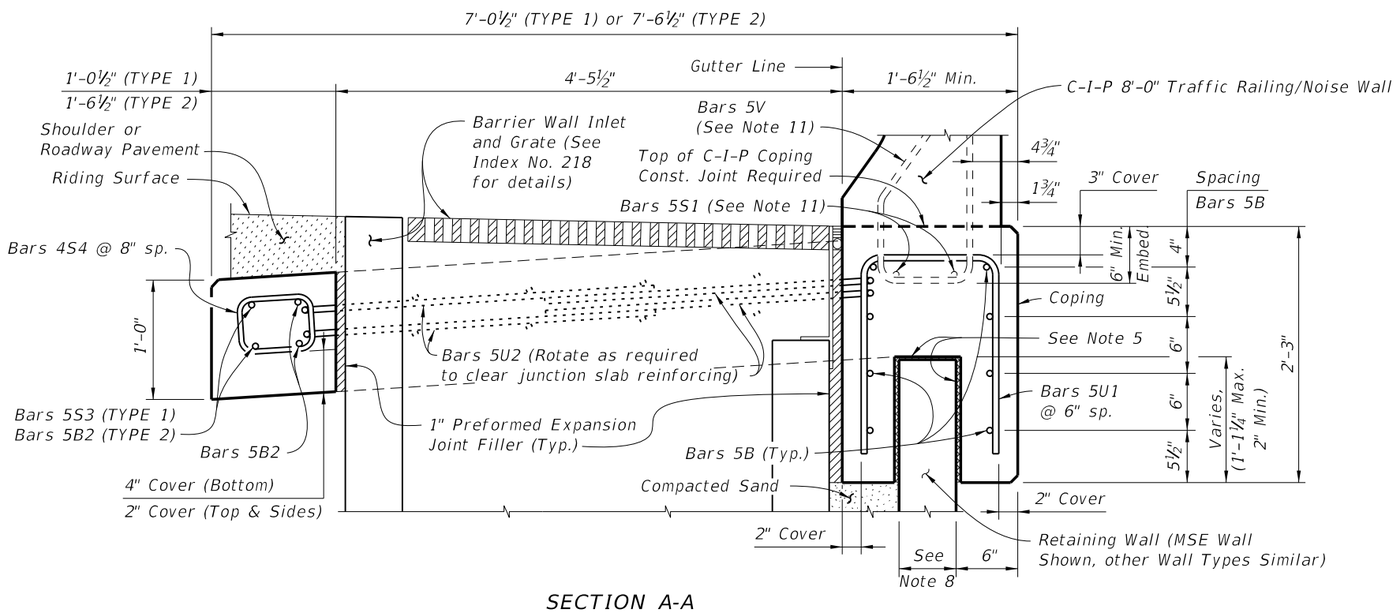


PLAN

JUNCTION SLAB ADJACENT TO SKEWED APPROACH SLAB AND WITH BARRIER WALL INLET

EXPANSION JOINT DETAIL

(Junction Slab expansion joints are required at ¾" open joints in Traffic Railing/Noise Wall)



SECTION A-A

SECTION THRU JUNCTION SLAB, BARRIER WALL INLET AND RETAINING WALL

(TYPE 1 Junction Slab Shown, TYPE 2 Similar)

NOTES

1. *CONSTRUCTION REQUIREMENTS: Construct the expansion joints and face of coping plumb.*
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 bars hot-dip galvanized in accordance with Specification Section 962. Install Dowel Load Transfer Devices in accordance with Specification Section 350.*
4. *EXPANSION JOINTS: Construct ¾" Expansion Joints plumb and either perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown.*
5. *Provide two layers of 30 Lb. Roofing Felt on top and Expanded Polystyrene (½" thick) on sides.*
6. *V-GROOVES: Construct ½" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between ¾" Expansion Joints and/or Begin or End Junction Slab. 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 of the junction slab for its entire length on the traffic side of the Railing/Noise Wall. See Section B-B for details.*
8. *Actual location & width vary depending on type of Retaining Wall used.*
9. *Field cut Bars 5A and 5B as required to maintain minimum cover for skewed Approach Slab.*
10. *Spacing shown is along the Gutter Line.*
11. *See Index No. 5210 for Bars 5V and 5S1. See Plans for Junction Slab width (TYPE).*
12. *Work this Index with Index 5210 – Traffic Railing/Noise Wall (8'-0").*

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

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LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/14			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (8'-0") JUNCTION SLAB	5212	1 of 2

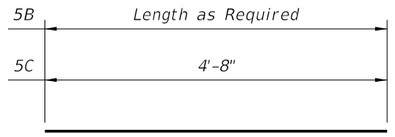
REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL

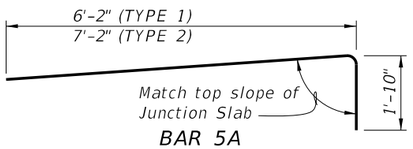
MARK	SIZE	LENGTH	
		TYPE 1	TYPE 2
A	5	8'-0"	9'-0"
B	5	AS REQ'D.	AS REQ'D.
C	5	4'-8"	5'-8"
L	5	4'-5"	4'-5"
S3	5	10'-0"	N/A
S4	4	3'-1"	4'-0"
U1	5	4'-9"	4'-9"
U2	5	12'-10"	12'-10"
DOWEL	1" Ø Smooth Bar	2'-0"	2'-0"

REINFORCING STEEL NOTES:

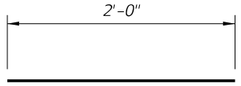
1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at the open joints will have a 2" minimum cover.
3. Lap splices for Bars 5B will be a minimum of 2'-0".
4. The Contractor may use Welded Wire Reinforcement (WWR) when approved by the Engineer. WWR must consist of Deformed wire meeting the requirements of Specification Section 931.



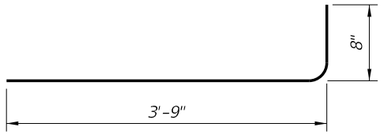
BARS 5B & 5C



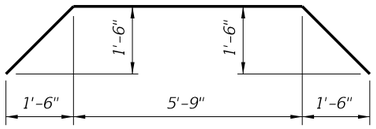
BAR 5A



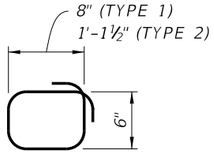
1" Ø DOWEL



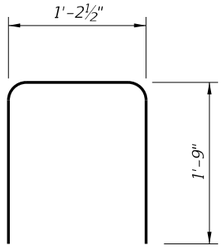
BAR 5L



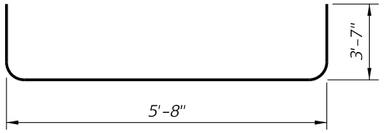
BAR 5S3 (TYPE 1 only)



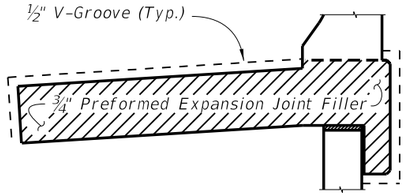
BAR 4S4



BAR 5U1

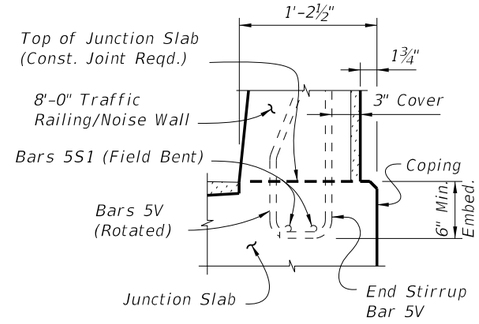


BAR 5U2



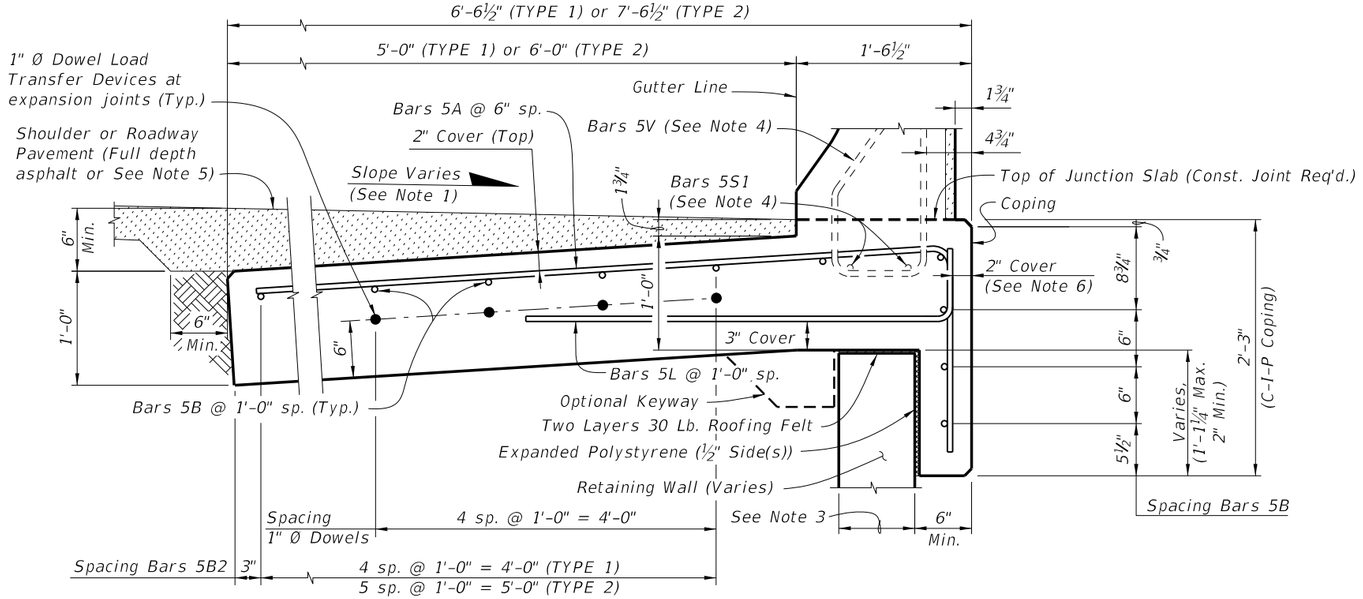
DETAIL "A"

(Showing Locations of ½" V-Grooves and ¾" Preformed Expansion Joint Filler)



PARTIAL END VIEW OF RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT (Showing Bars 5V and Bars 5S1)

NOTE: See Index No. 5210, Detail "A" for details.



SECTION B-B

TYPICAL SECTION THRU JUNCTION SLAB AND RETAINING WALL

ESTIMATED JUNCTION SLAB QUANTITIES

ITEM	UNIT	QUANTITY	
		TYPE 1	TYPE 2
Concrete (Junction Slab)	CY/FT	0.268	0.305
Reinforcing Steel (Typical)	LB/FT	30.91	34.04
Additional Reinf. @ Expansion Joint	LB	21.36	21.36

NOTES:

1. Match Cross Slope of Travel Lane or Shoulder.
2. Vary Junction Slab slope based on roadway cross slope to maintain a minimum 6" asphalt depth at the edge of the slab as shown.
3. Actual width varies depending on type of Retaining Wall used.
4. See Index No. 5210 for Bars 5V and 5S1.
5. For Rigid Pavement (Concrete), Junction Slab may be thickened to match finished grade.
6. If slip forming is used, submit shop drawings for approval showing 3" side cover with adjusted Typical Section dimensions.

CROSS REFERENCE:

For location of Section B-B, see Sheet 1.

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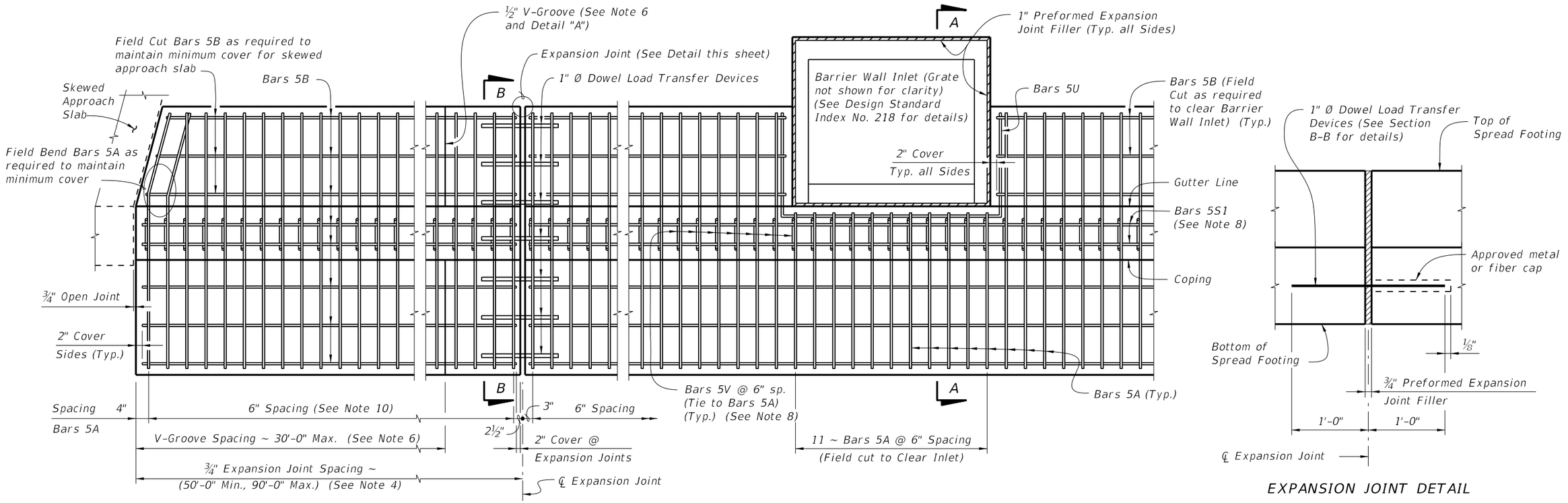
LAST REVISION	REVISION	DESCRIPTION:			
07/01/14			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL (8'-0") JUNCTION SLAB	INDEX NO. 5212 / SHEET NO. 2 of 2

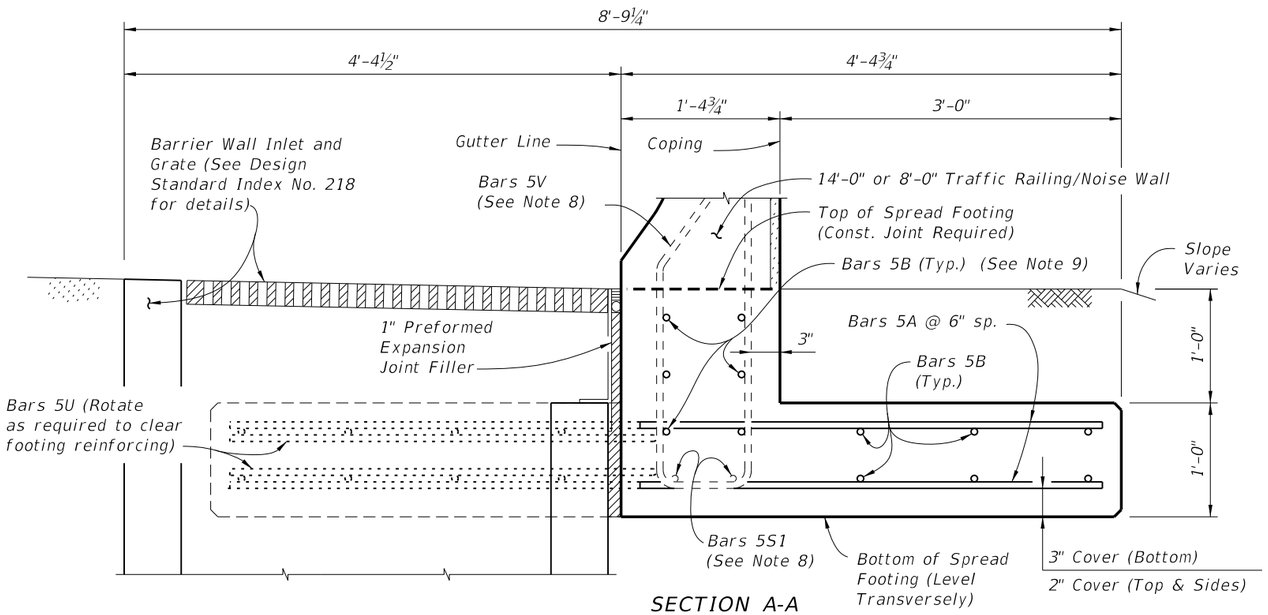


PLAN

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

EXPANSION JOINT DETAIL

(Spread Footing expansion joints are required at ¾" open joints in Traffic Railing/Noise Wall)



SECTION A-A

SECTION THRU SPREAD FOOTING AND BARRIER WALL INLET

(Bars 5P, 5R and 5S1 in Traffic Railing/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. Slip forming is not permitted.
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 ¾" 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 ½" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between ¾" 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 No. 5210 for Bars 5V and 5S1.
9. Place 6 ~ Bars 5B inside Stirrup Bars 5V as shown.
10. Spacing shown is along the Gutter Line.
11. Work this Standard Drawing with one or both of the following:
    a. Index No. 5210 – Traffic Railing/Noise Wall (8'-0").
    b. Index No. 5211 – Traffic Railing/Noise Wall (14'-0").

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

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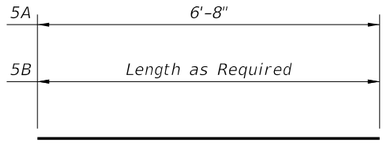
5/22/2014

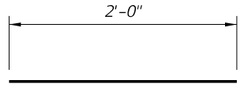
LAST REVISION	REVISION	DESCRIPTION:				
07/01/13			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL T-SHAPED SPREAD FOOTING	INDEX NO. 5213	SHEET NO. 1 of 2

REINFORCING STEEL BENDING DIAGRAMS

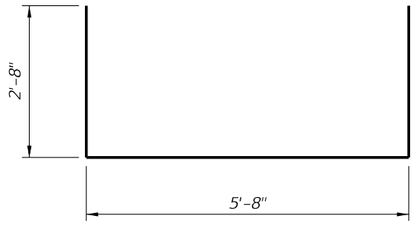
BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
A	5	6'-8"
B	5	AS REQD.
U	5	11'-0"
DOWEL	1" Ø Smooth Bar	2'-0"



BARS 5A & 5B



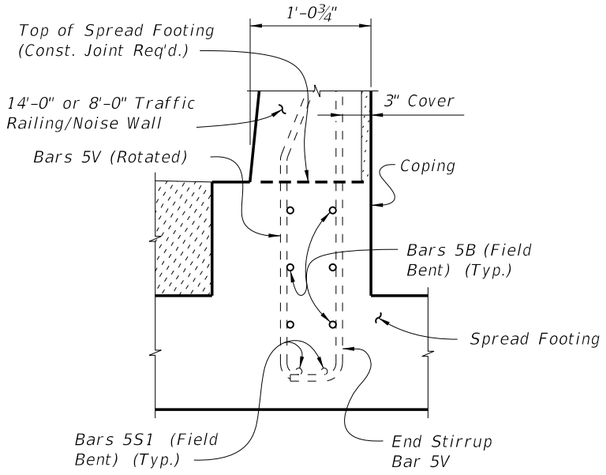
1" Ø DOWEL



BAR 5U

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. Lap splices for Bars 5B 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.

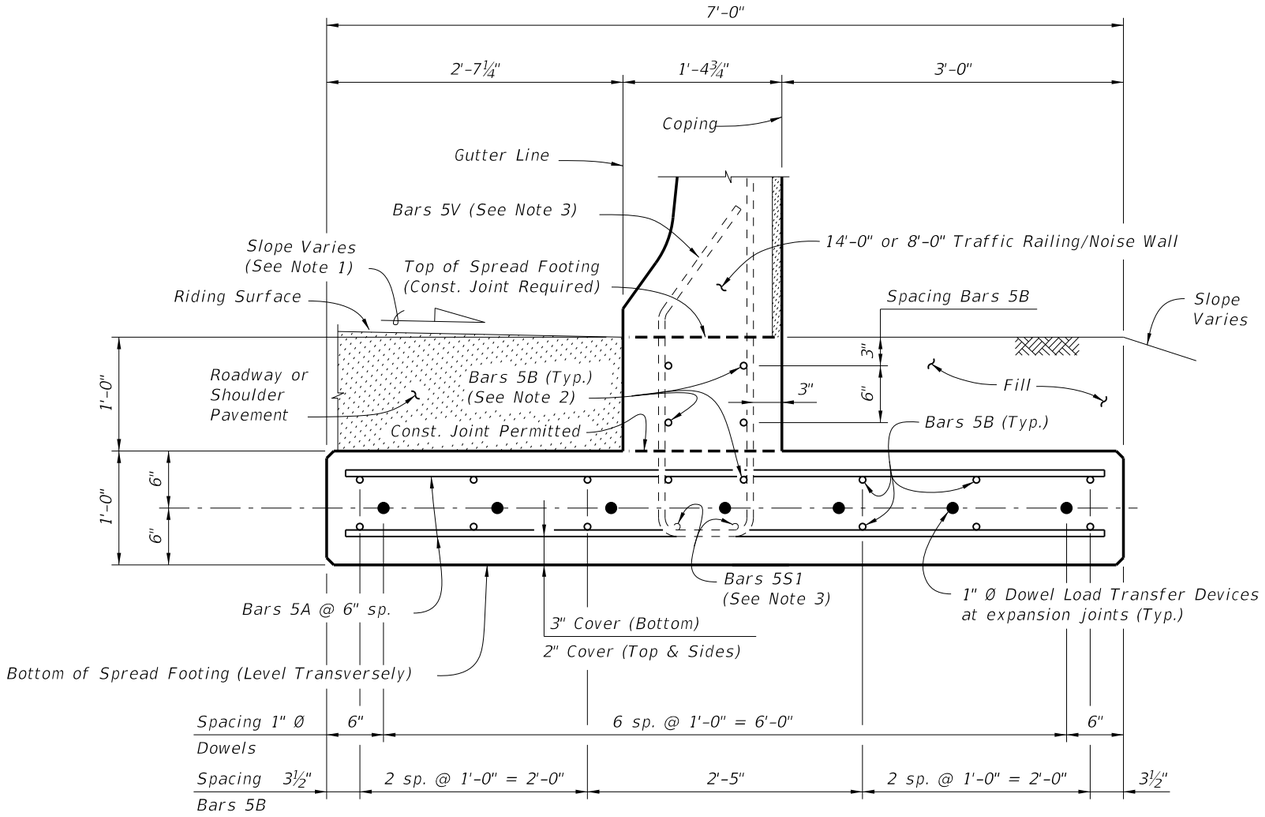


PARTIAL END VIEW OF RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT
(Showing Bars 5V, Bars 5S1 and Bars 5B inside of Stirrup Bars 5V)

NOTE: See Index No. 5210, Detail "A" for details.

DETAIL "A"

(Showing Locations of ½" V-Grooves and ¾" Preformed Expansion Joint Filler)



SECTION B-B
TYPICAL SECTION THRU SPREAD FOOTING
(Bars 5P, 5R and 5S1 in Traffic Railing/Noise Wall not shown for clarity)

NOTES:
1. Match Cross Slope of Travel Lane or Shoulder.
2. Place 6 ~ Bars 5B inside Stirrup Bars 5V as shown.
3. See Index No. 5210 for Bars 5V and Bars 5S1.

ESTIMATED T-SHAPED SPREAD FOOTING QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete (Footing)	CY/FT	0.311
Reinforcing Steel (Typical)	LB/FT	51.80
Additional Reinf. @ Expansion Joint	LB	37.38

Note: The reinforcing steel quantity accounts for the difference between the shorter Stirrup Bars 5V for junction slabs or bridges and the longer Stirrup Bars 5V for spread footings.

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

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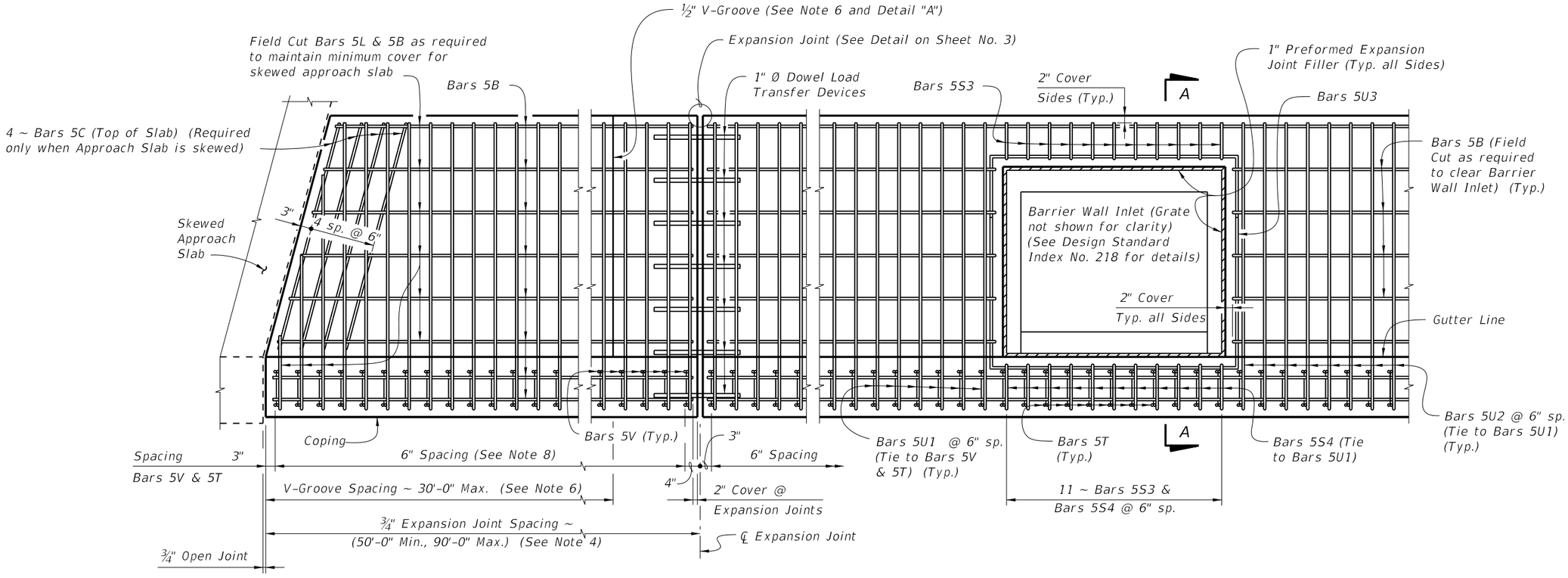
LAST REVISION	REVISION	DESCRIPTION:	2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL T-SHAPED SPREAD FOOTING	INDEX NO.	SHEET NO.
07/01/13			FDOT		5213	2 of 2



PLAN - OPTION B
SPREAD FOOTING ADJACENT TO SKEWED APPROACH SLAB AND WITH BARRIER WALL INLET
(Option A Similar)

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. Slip forming is not permitted.
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 ¾" 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 ½" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between ¾" 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 and Fill is required on the traffic side of the spread footing for a distance of 4'-0" and the full length of the spread footing (3'-0" minimum depth) on the backside of the spread footing for Option A. Fill is required for a distance of 4'-0" on the backside of the spread footing and the full length of the spread footing (3'-0" minimum depth) on the traffic side of the spread footing for Option B. See Typical Sections on Sheet Nos. 2 and 3 for details.
8. Spacing shown is along the Gutter Line.
9. Work this Standard Drawing with one or both of the following:
   a. Index No. 5210 – Traffic Railing/Noise Wall (8'-0").
   b. Index No. 5211 – Traffic Railing/Noise Wall (14'-0").

CROSS REFERENCE:
For Detail "A", see Sheet 3.
For Section A-A and Estimated Quantities, see Sheet 4.

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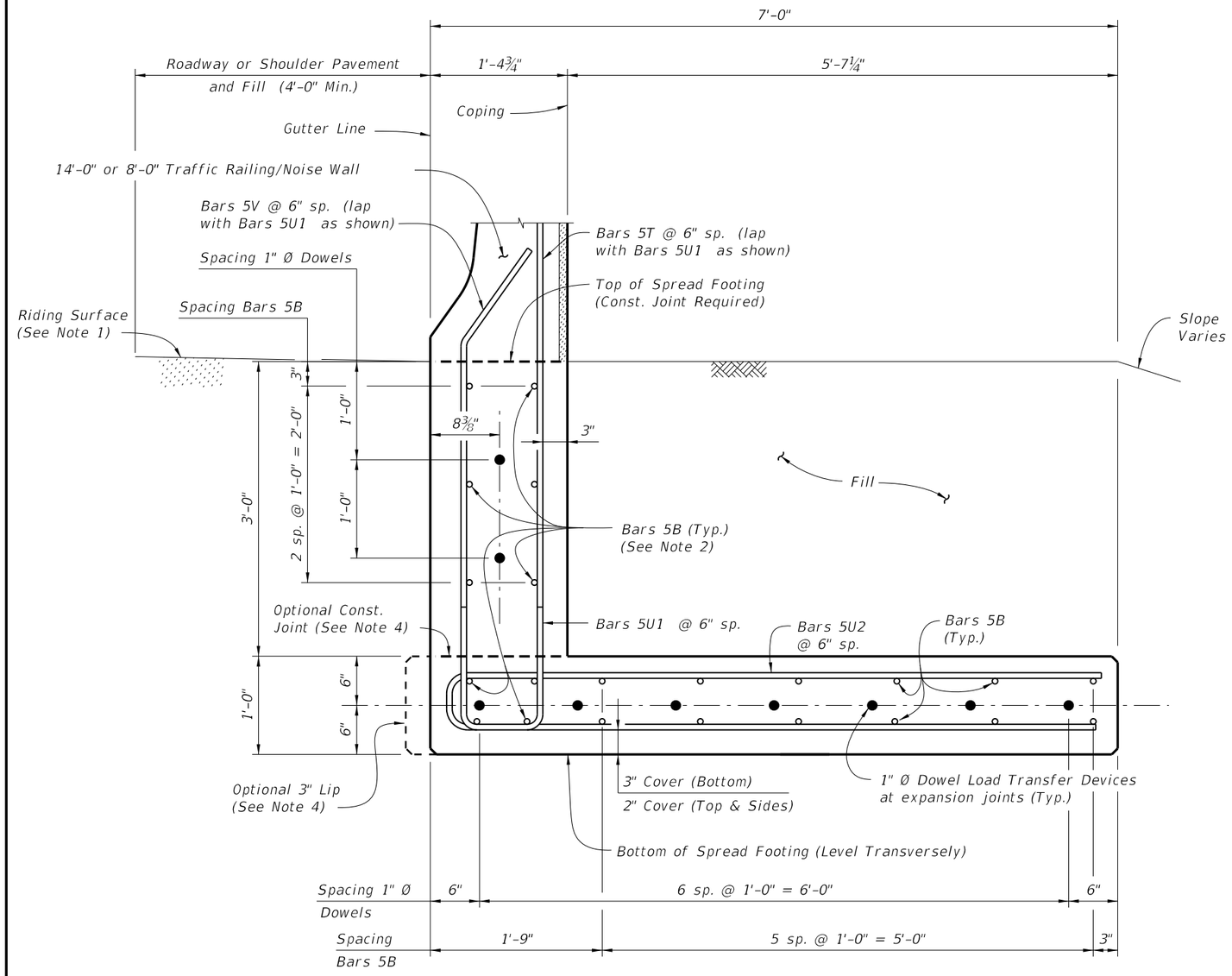
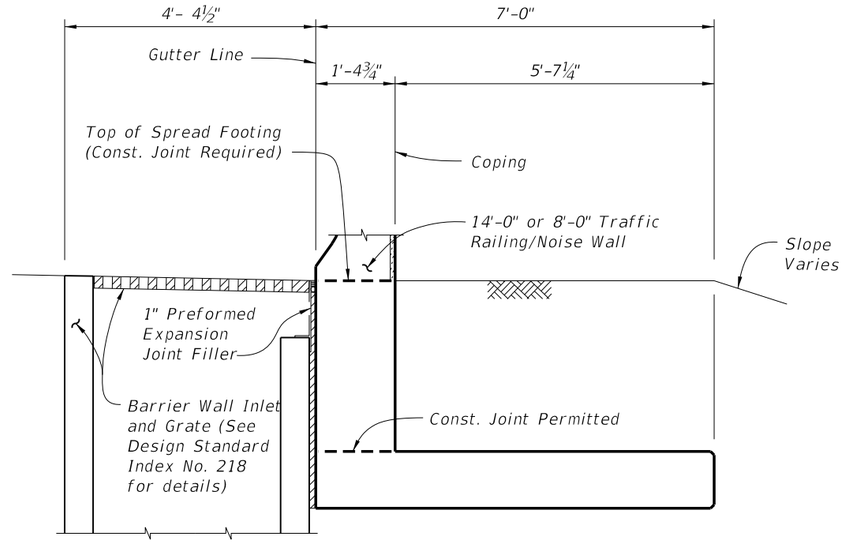
LAST REVISION	REVISION	DESCRIPTION:			
07/01/13			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL L-SHAPED SPREAD FOOTING	INDEX NO. 5214 / SHEET NO. 1 of 4



TYPICAL SECTION THRU SPREAD FOOTING - OPTION A
(Bars 5P, 5R and 5S1 in Traffic Railing/Noise Wall not shown for clarity)



TYPICAL SECTION THRU SPREAD FOOTING AND BARRIER WALL INLET - OPTION A
(Reinforcing Steel not shown for clarity (See Note 3))

NOTES:
1. Match Cross Slope of Travel Lane or Shoulder.
2. Place 10 ~ Bars 5B inside Bars 5U1 as shown.
3. For Reinforcing Steel spacing, see Typical Section Thru Spread Footing – Option A this Sheet.
4. Provide 3" lip when optional construction joint is used.

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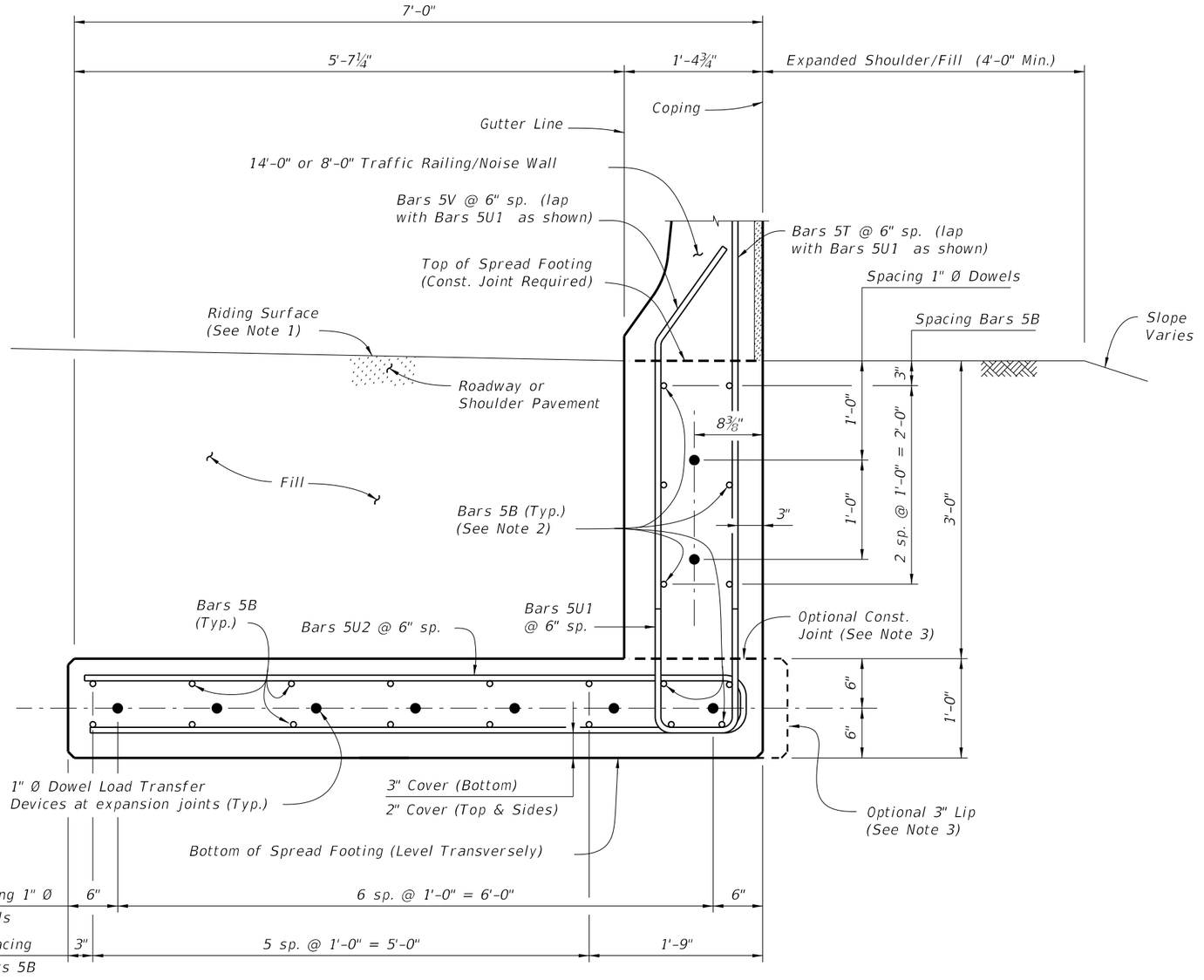
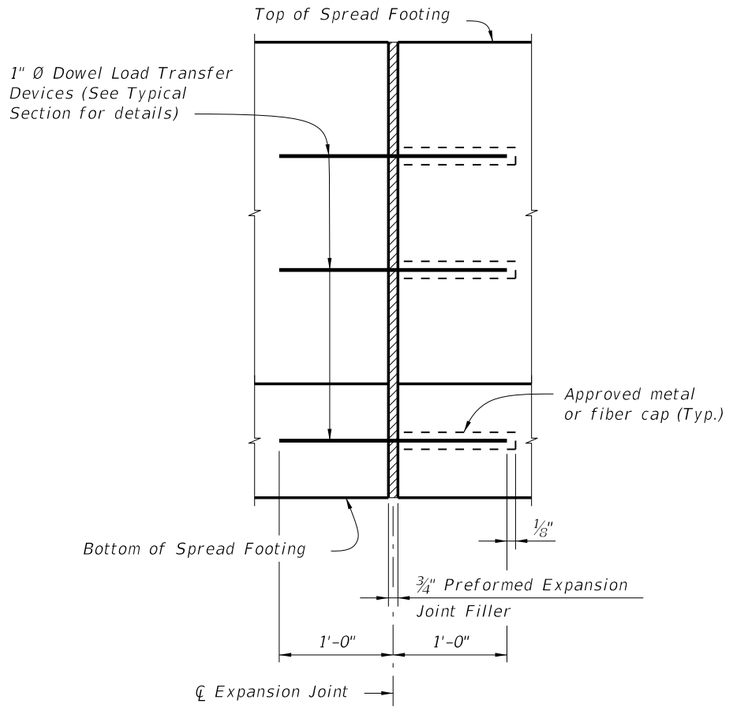
LAST REVISION	REVISION	DESCRIPTION:			
07/01/13			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL L-SHAPED SPREAD FOOTING	INDEX NO. 5214 / SHEET NO. 2 of 4



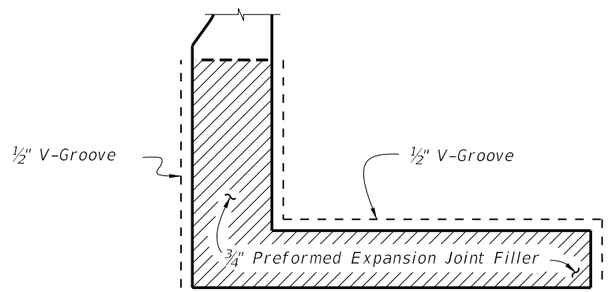
TYPICAL SECTION THRU SPREAD FOOTING - OPTION B
(Bars 5P, 5R and 5S1 in Traffic Railing/Noise Wall not shown for clarity)

NOTES:
1. Match Cross Slope of Travel Lane or Shoulder.
2. Place 10 ~ Bars 5B inside Bars 5U1 as shown.
3. Provide 3" lip when optional construction joint is used.



EXPANSION JOINT DETAIL

(Spread Footing expansion joints are required at ¾" open joints in Traffic Railing/Noise Wall)



DETAIL "A"
(Option A Shown, Option B Similar)

(Showing Locations of ½" V-Grooves and ¾" Preformed Expansion Joint Filler)

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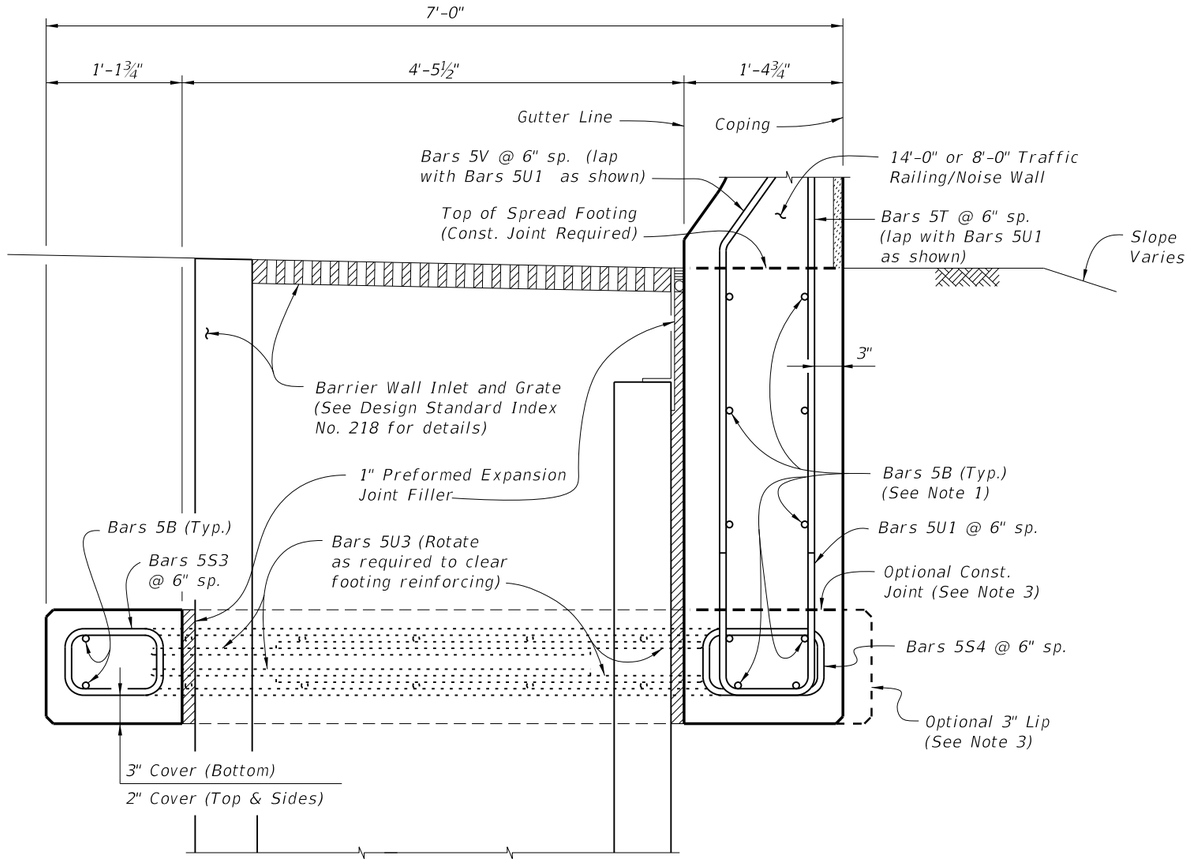
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/13			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL L-SHAPED SPREAD FOOTING	5214	3 of 4



SECTION A-A
TYPICAL SECTION THRU SPREAD FOOTING AND BARRIER WALL INLET - OPTION B
(Bars 5P, 5R and 5S1 in Traffic Railing/Noise Wall not shown for clarity)

NOTES:
1. Place 10 ~ Bars 5B inside Bars 5U1 as shown.
2. For Reinforcing Steel spacing, see Typical Section Thru Spread Footing – Option B on Sheet 3.
3. Provide 3" lip when optional construction joint is used.

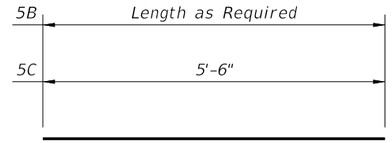
ESTIMATED L-SHAPED SPREAD FOOTING QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete (Footing)	CY/FT	0.414
Reinforcing Steel (Typical)	LB/FT	85.53
Additional Reinf. @ Expansion Joint	LB	48.06

(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 L-Shaped Spread Footings.)

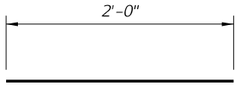
CROSS REFERENCE:
For location of Section A-A, see Sheet 1.

REINFORCING STEEL BENDING DIAGRAMS

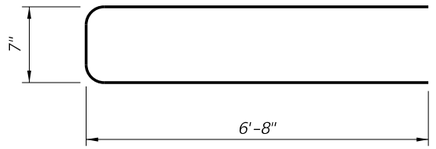
BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
B	5	AS REQD.
C	5	5'-6"
S3	5	3'-10"
S4	5	4'-3"
T	5	4'-3"
U1	5	8'-0"
U2	5	13'-11"
U3	5	12'-10"
V	5	3'-10"
DOWEL	1" Ø Smooth Bar	2'-0"



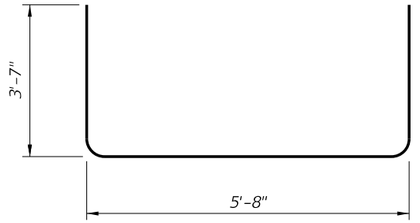
BARS 5B & 5C



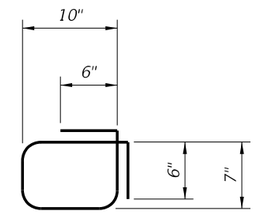
1" Ø DOWEL



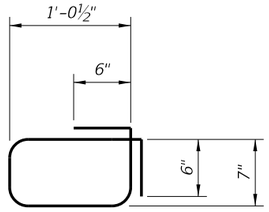
BAR 5U2



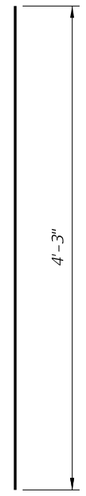
BAR 5U3



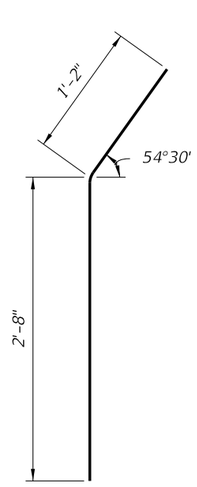
BAR 5S3



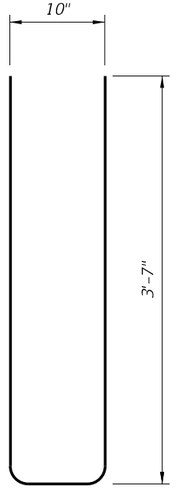
BAR 5S4



BAR 5T



BAR 5V



BAR 5U1

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. Lap splices for Bars 5B will be a minimum of 2'-2".
4. Lap splices Bars 5T and 5V with 5U1 will be a minimum of 2'-2".
5. 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.

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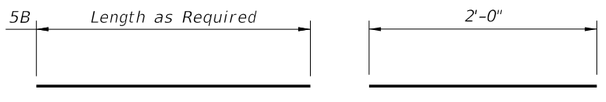
LAST REVISION	REVISION	DESCRIPTION:	2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL L-SHAPED SPREAD FOOTING	INDEX NO.	SHEET NO.
07/01/13					5214	4 of 4

REINFORCING STEEL BENDING DIAGRAMS

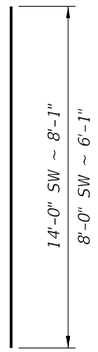
BILL OF REINFORCING STEEL

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"

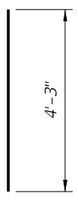


BAR 5B

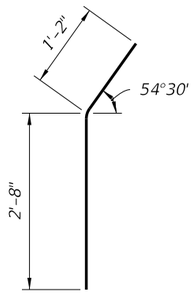
1" Ø DOWEL



BAR 5A



BAR 5T



BAR 5V

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. Lap splices for Bars 5B will be a minimum of 2'-2".
4. Lap splices Bars 5T and 5V with 5U1 will be a minimum of 2'-2".
5. 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

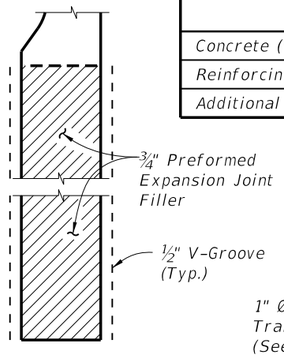
1. CONSTRUCTION REQUIREMENTS: Construct the Trench Footing and expansion joints plumb; do not construct the Trench Footing perpendicular to the roadway surface. Slip forming is not permitted.
2. CONCRETE: Use Class II concrete for slightly aggressive environments. Use Class VI concrete for moderately or extremely aggressive environments. Concrete will be in accordance with Specification Section 346.
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 ¾" 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 ½" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between ¾" Expansion Joints and/or Begin or End Trench Footing. V-Groove locations are to coincide with V-Groove locations in the Railing/Noise Wall.
7. 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.
8. Match Cross Slope of Travel Lane or Shoulder.
9. Spacing shown is along the Gutter Line.
10. Work this Standard Drawing with one or both of the following:
    a. Index No. 5210 – Traffic Railing/Noise Wall (8'-0").
    b. Index No. 5211 – Traffic Railing/Noise Wall (14'-0").

LEGEND: NW = Traffic Railing Barrier/Noise Wall

ESTIMATED TRENCH FOOTING QUANTITIES

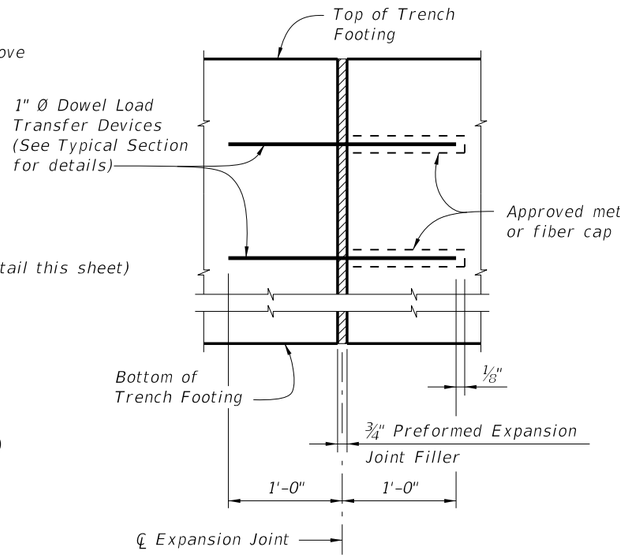
ITEM	UNIT	QUANTITY	
		8'-0" NW	14'-0" NW
Concrete (Footing)	CY/FT	0.336	0.439
Reinforcing Steel (Typical)	LB/FT	56.84	69.36
Additional Reinf. @ Expansion Joint	LB	21.36	21.36

(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.)



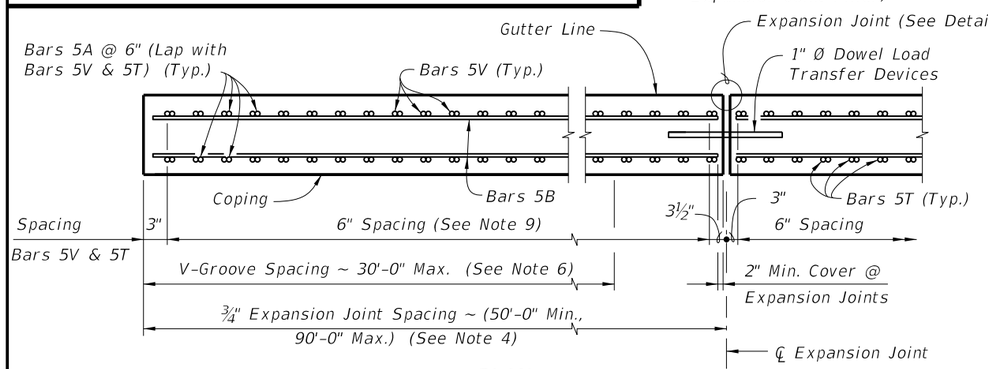
DETAIL "A"

(Showing Locations of ½" V-Grooves and ¾" Preformed Expansion Joint Filler)

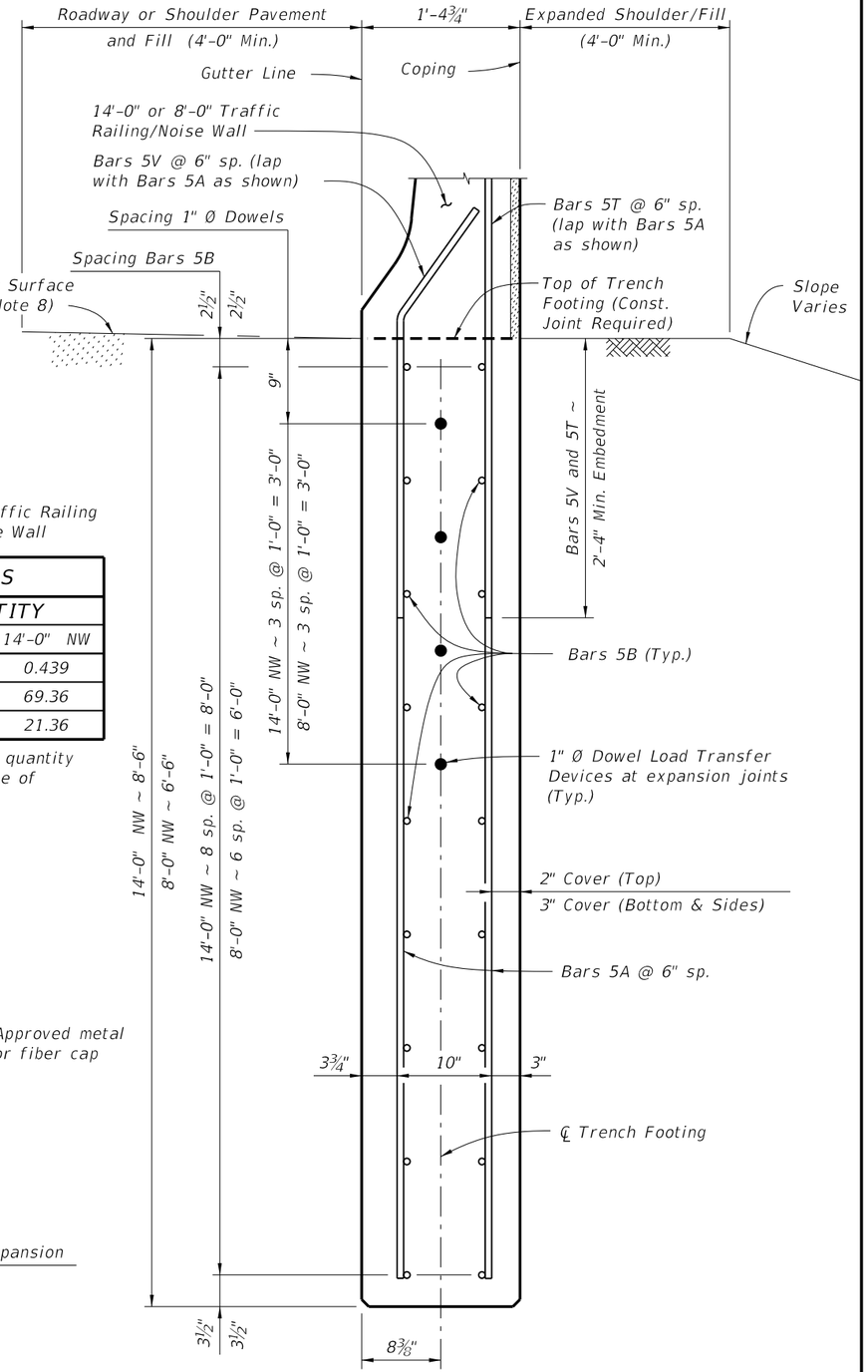


EXPANSION JOINT DETAIL

(Trench Footing expansion joints are required at ¾" 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	REVISION	DESCRIPTION:				
07/01/14			FDOT 2015 DESIGN STANDARDS	TRAFFIC RAILING/NOISE WALL TRENCH FOOTING	INDEX NO. 5215	SHEET NO. 1 of 1

GENERAL NOTES:

1. Construct Perimeter Walls in accordance with Specification Section 534.
2. Choice of either Precast Option or Masonry Option is at the discretion of the Contractor. Contractor must also select the desired foundation type. Modifications to this Index is restricted to those required for geometric needs only.
3. Post spacing is measured from centerline to centerline of foundation element. For this Index, posts and foundation elements have been designed for 20 ft. spacings. Use post spacings less than 20 feet only at changes in horizontal alignment, wall terminations or to accommodate steep grades.
4. See "Perimeter Wall Data Tables" in the plans for project requirements.
5. Field verify the locations of all overhead and underground utilities shown in the Wall Control Drawings.

PRECAST OPTION NOTES:

6. WALL NOTES:
   - A. Walls may consist of either a single height panel or two stacked panels. Minimum panel height is 4'-3".
   - B. Only when reduced overhead clearance between posts prohibits installation of panels from the top, side-installed panels are allowed. After panel is centered between posts, grout between panel ends and posts.

7. CONCRETE AND GROUT:
   - A. Cast-in-Place and Precast Concrete: Class IV (f'c = 5500 psi)
   - B. Grout for Auger Cast Piling: Minimum 28 Day Strength = 5500 psi
   - C. Minimum Compressive Strength for Form Removal and Handling of Posts, Panels and Precast Spread Footings:
     - i. 2,500 psi for horizontally cast post, panels and precast spread footings.
     - ii. 2,000 psi for vertically cast panels or when tilt-up form tables are used for horizontally cast panels.

8. REINFORCING STEEL:
   - A. Concrete Cover: 1½" unless otherwise noted.
   - B. In addition to the requirements of Specification Section 415, tie post and pile stirrups at the following locations as a minimum:
     - i. Post Stirrups – Tie at all four corner bars and at every third interior bar intersection.
     - ii. Pile Stirrups – Tie to the main vertical reinforcing at alternate intersections.

9. NEOPRENE PADS:
   - A. Neoprene Pads for Collar or Pedestal Bearing Points and between stacked panels may be either Plain Pads or Fiber Reinforced Pads, with a durometer hardness between Grade 50 and Grade 80 in accordance with Specification Section 932-2.

10. CASTING TOLERANCES:
    - A. Overall Height & Width: +/- ¼"
    - B. Thickness: +/- ¼"
    - C. Plane of side mold: +/- 1/16"
    - D. Openings: +/- ½"
    - E. Out of Square: ⅛" per 6 ft., but not more than ⅜" total along any side
    - F. Warping: 1/16" per foot distance to nearest corner
    - G. Bowing: 1/240 panel dimension

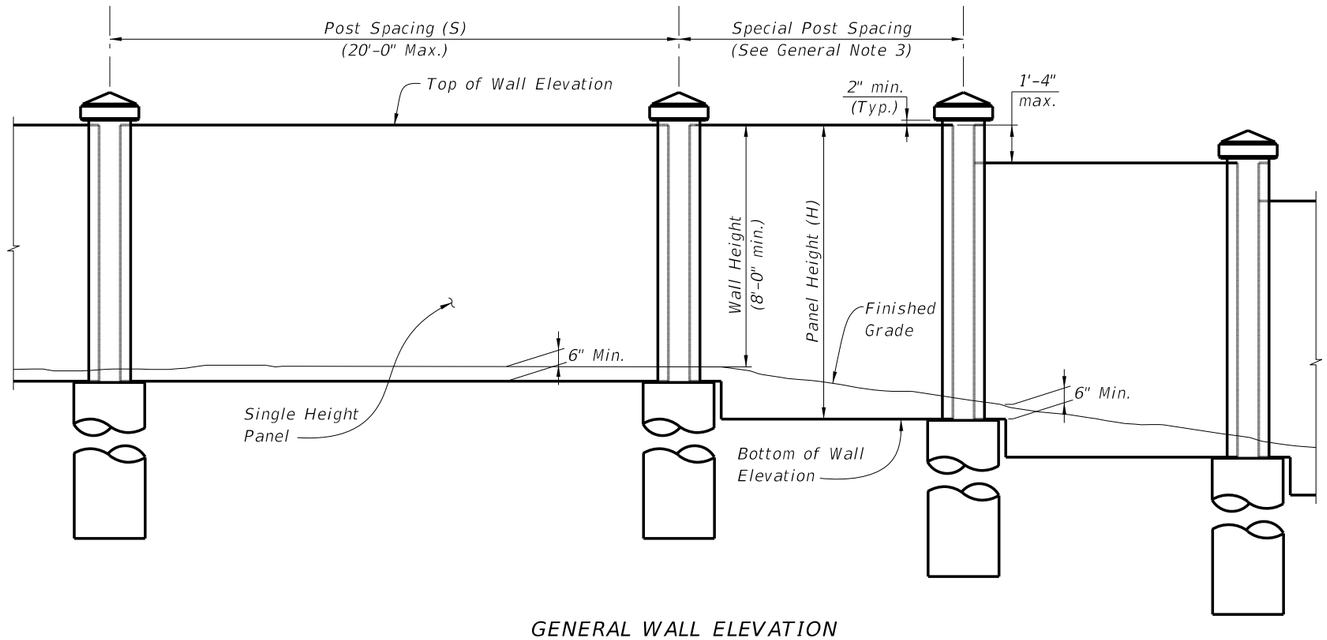
11. PILING:
    Construct Auger Cast Piling in accordance with the Plans and Specification Section 455.

MASONRY OPTION NOTES:

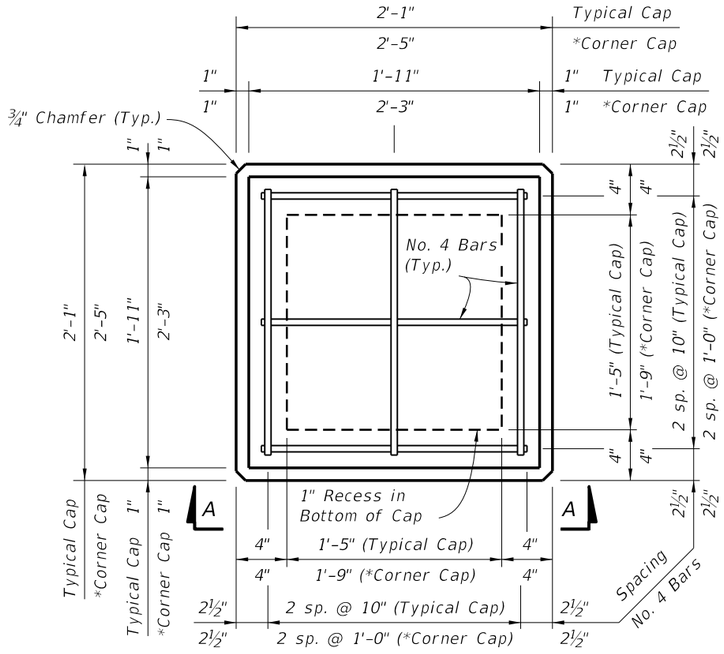
12. WALL NOTES:
    - A. Inspect construction in accordance with the International Building Code (IBC) Section 17.
    - B. Construct masonry walls using a running bond pattern with concave tooled joints.
    - C. Make all elevation changes (steps) in footing and top of wall using full height blocks. Make top of wall steps at pilasters exclusively. Footing steps may be made between pilasters as necessary to maintain minimum soil cover.
    - D. All cells with horizontal or vertical reinforcing bars most be fully grouted.
    - E. Use reinforcing bar positioners to maintain vertical and horizontal bar placement.
    - F. Fully grout first three courses of the wall.
    - G. Joint Reinforcement: Use W 1.7 (9mm) galvanized ladder reinforcing spaced at 16" vertically. Provide special accessories for corners, intersections, etc. Joint reinforcing shall be continuous except it shall not pass through vertical masonry control joints. Lap joint reinforcing a minimum of 6".
    - H. Construct expansion joints in the foundation at 90 foot maximum intervals, and directly below a wall control joint.
    - I. Dowel Load Transfer Devices will be ASTM A 36 smooth round bars hot-dip galvanized in accordance with Specification Section 962. Install Dowel Load Transfer Devices in accordance with Specification Section 350.
    - J. For spread footings, use a walk-behind compactor of at least 600 lbs. in weight. Obtain a minimum density of 95% of the maximum dry density as determined by FM 1 T-180. Perform soil density tests at 100 foot intervals.
    - K. Protect walls during construction from soil, grout or mortar stains. Clean wall as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
    - L. Use soap and potable water to clean walls. If stain removal is necessary, use a cleaning method indicated in NCMA TEK 8-2A applicable to the type of stain on the exposed surface.
    - M. During construction, cover tops of walls, with waterproof sheeting at the end of each day's work, or when construction is not in progress. Extend sheeting a minimum of 2 feet down each side and secure in place.
    - N. Comply with Hot Weather Requirements in ACI 530.1.

13. MATERIALS:
    - A. Concrete Masonry Units (CMU): Provide normal weight blocks.
    - B. Cast-In-Place Concrete: Class II (f'c = 3400 psi)
    - C. Mortar: Type S meeting requirements of ASTM C1329
    - D. Grout: Type S; coarse grout.
    - E. Aggregate for Grout: Meet the requirements of ASTM C404 or Specification Section 901 size 8 or 89.

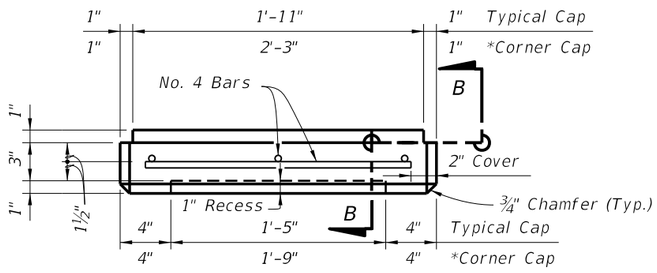
14. STORAGE OF MATERIALS:
    - A. Store CMU's on elevated platforms in a dry location or under cover. If units become wet, do not install until they are dry.
    - B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp or exceded the manufacturers shelf life.
    - C. Store masonry accessories and reinforcing to prevent corrosion and accumulation of dirt and oil.



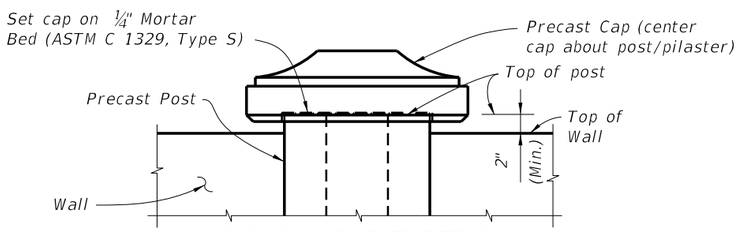
GENERAL WALL ELEVATION
(Precast Option with SIngle Height Panel Shown, Others Similar)



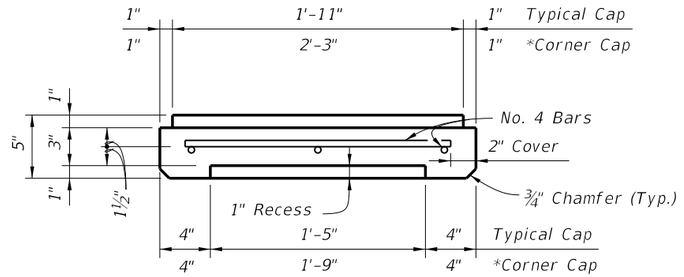
PLAN VIEW
(Type "A" Cap Shown, Type "B" & "C" Caps Similar)



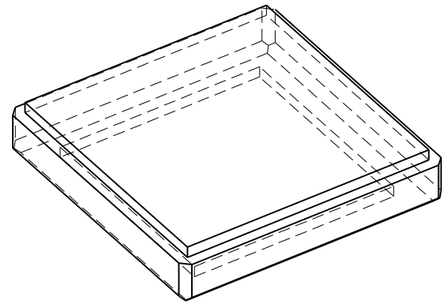
VIEW A-A
(Type "A" Cap Shown, Type "B" & "C" Caps Similar)



CAP PLACEMENT DETAIL
(Type "B" Post Cap with Precast Option Shown)



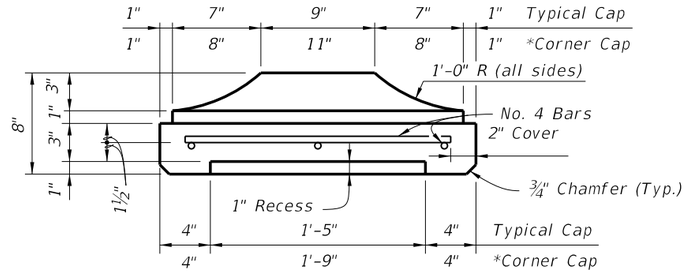
SECTION B-B



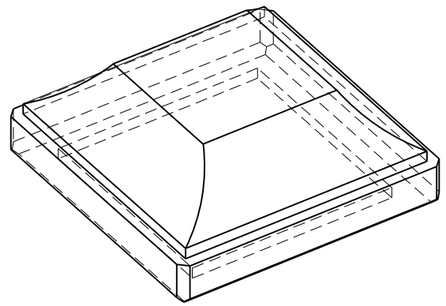
PICTORIAL VIEW

TYPE "A" CAP DETAILS

**Precast Option only*

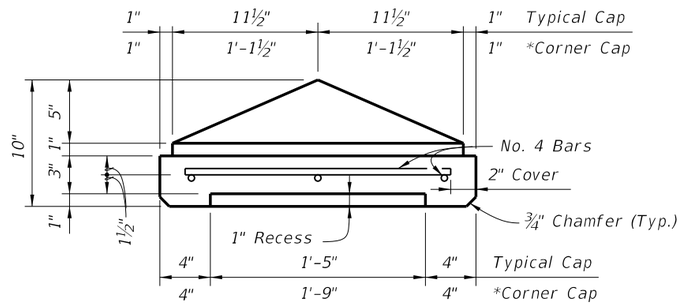


SECTION B-B

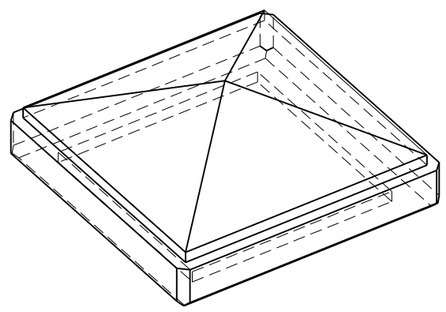


PICTORIAL VIEW

TYPE "B" CAP DETAILS



SECTION B-B



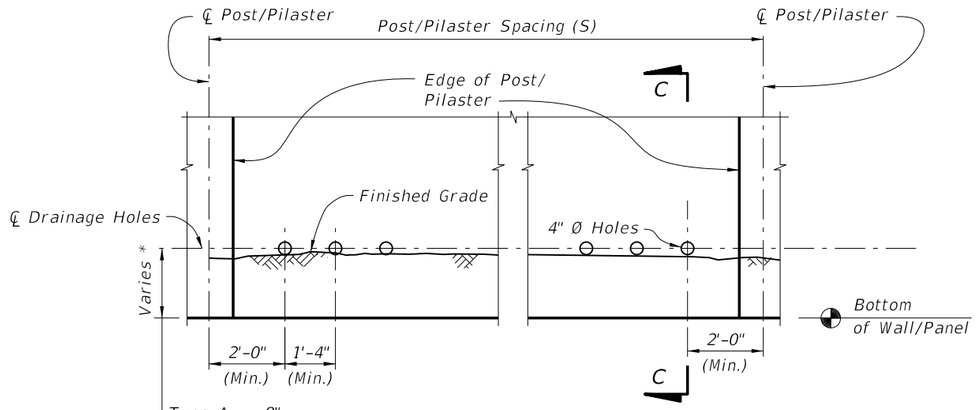
PICTORIAL VIEW

TYPE "C" CAP DETAILS

POST CAP DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
01/01/14			FDOT 2015 DESIGN STANDARDS	PERIMETER WALLS	5250	2 of 10

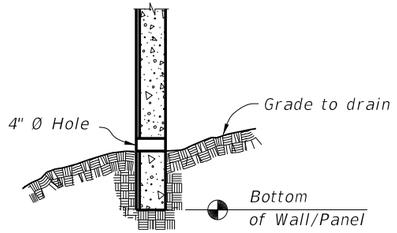
5/22/2014 2:31:30 PM



Type A:	8"
Type B:	1'-0"
Type C:	1'-4"
Type D:	1'-8"

DRAINAGE HOLES TYPES A, B, C & D

* Hole Types A, B, C, & D refer to distance from bottom of panel/wall to center of the pipe.



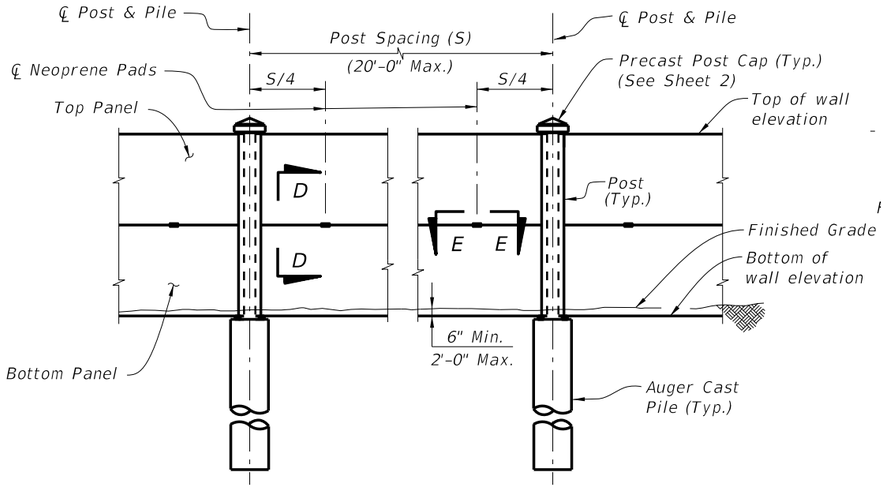
SECTION C-C
(Precast Option Shown, Masonry Option Similar)

NOTES:
1. Drainage holes may be formed with 4" NPS PVC pipe that may remain in place.
2. See Wall Control drawings for number, Type and location/ spacing of drainage holes.

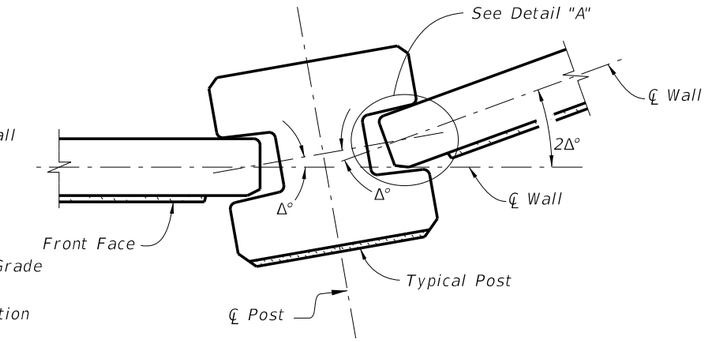
DRAINAGE DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
01/01/14			2015 DESIGN STANDARDS	PERIMETER WALLS	5250	3 of 10

5/22/2014 2:31:31 PM

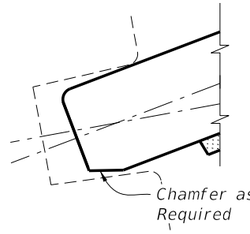


TYPICAL ELEVATION
(Front Face Shown, Textured Finish not Shown for Clarity)

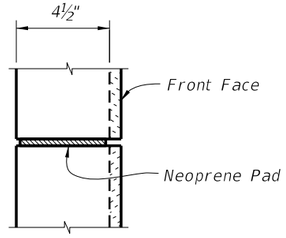


PIVOTING JOINT DETAILS

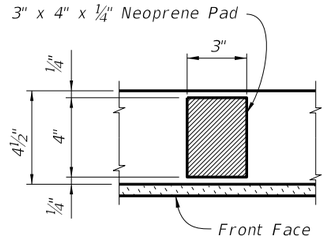
NOTE: Shop Drawings shall include specific pivoting point details of panel ends at locations where the deflection angle (2Δ°) between panels exceeds 20°.



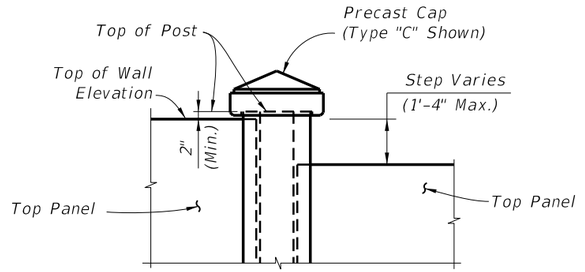
DETAIL "A"
(Back Face Chamfer Shown
Front Face Chamfer Similar)



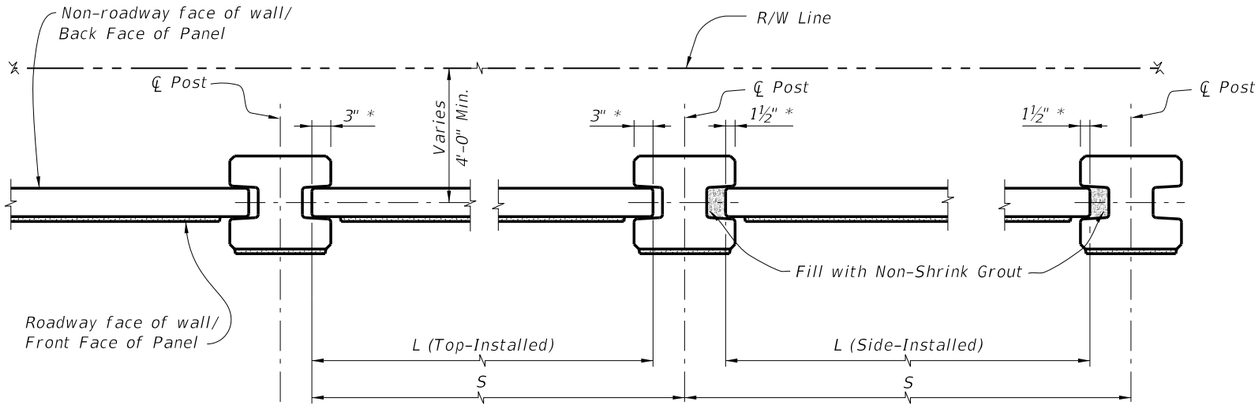
SECTION D-D



SECTION E-E

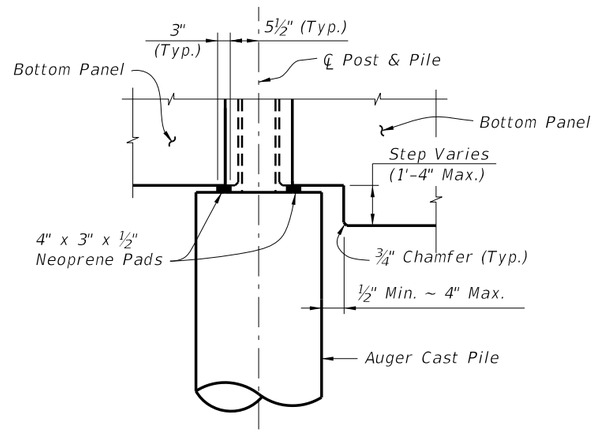


ELEVATION STEP AT TOP OF WALL
(Precast Panel Cap not Shown)



TYPICAL PLAN

* Nominal embedment (not including tolerances)

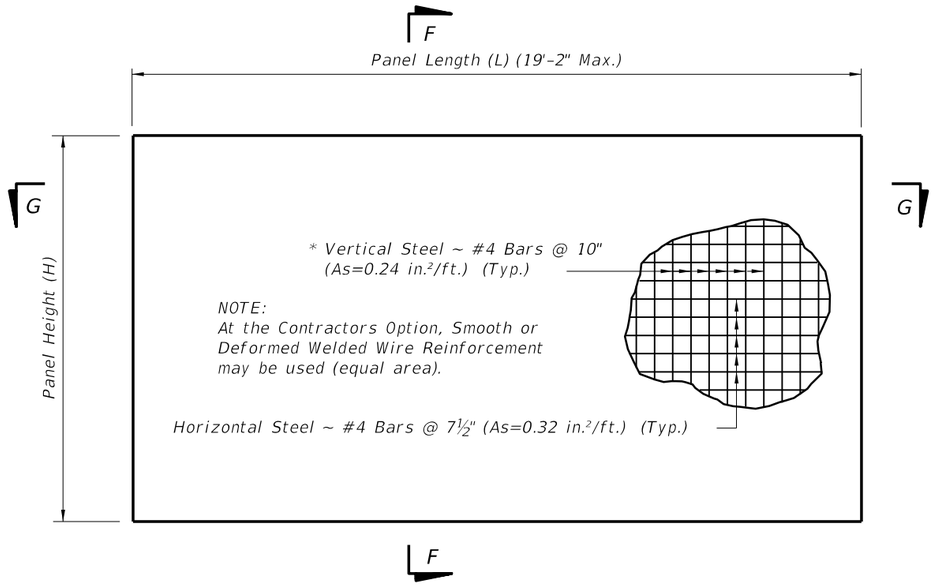


ELEVATION STEP AT BOTTOM OF WALL

5/22/2014 2:31:31 PM

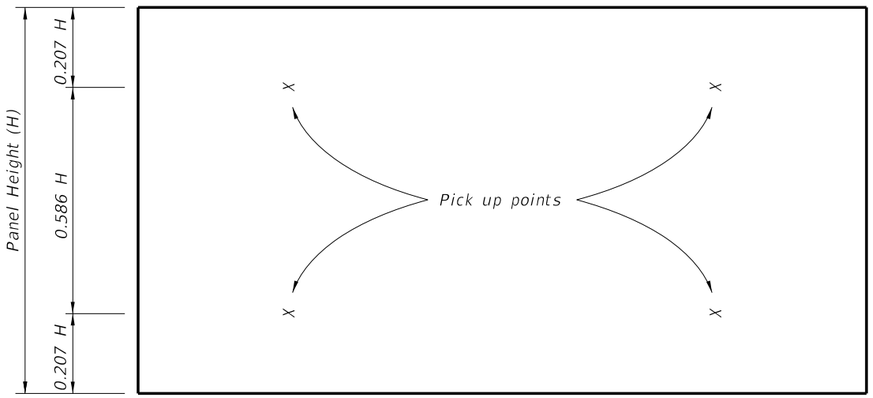
PRECAST OPTION - TYPICAL DETAILS

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	PERIMETER WALLS	INDEX NO.	SHEET NO.
01/01/14					5250	4 of 10

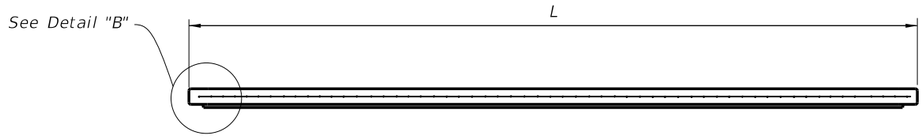


TYPICAL PANEL ELEVATION

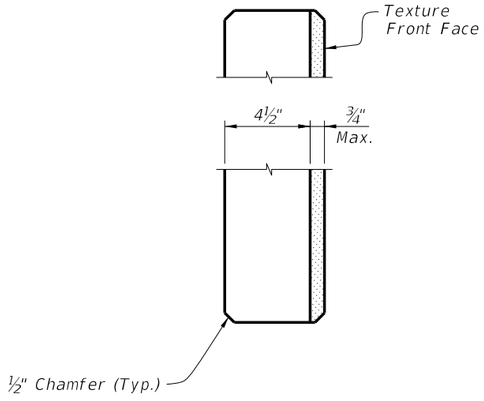
* In lieu of utilizing the standard pick up points below, panels may be cast vertically or cast horizontally then tilted upright using tilt-tables prior to lifting from form. In this case, pick points must be placed in the top of panels only and transported maintaining the vertical orientation. If these criteria are met, the vertical steel may be reduced to #4 Bars @ 1'-3" (As=0.16 in.²/ft.).



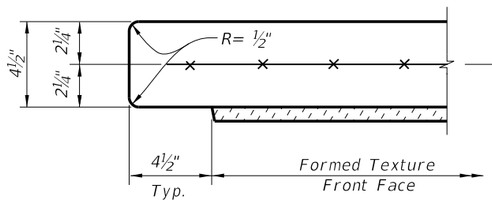
STANDARD PICK UP POINTS FOR PANELS
(Panels shall be rotated about long axis only)



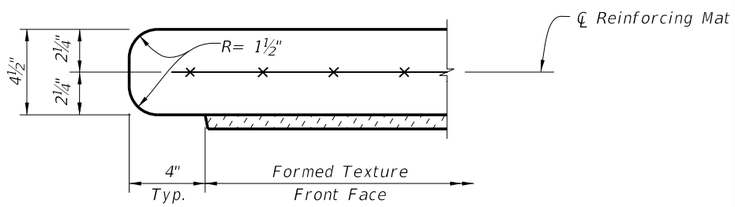
SECTION G-G



SECTION F-F



DETAIL "B" - TOP-INSTALLED
(Typ. Both Ends)

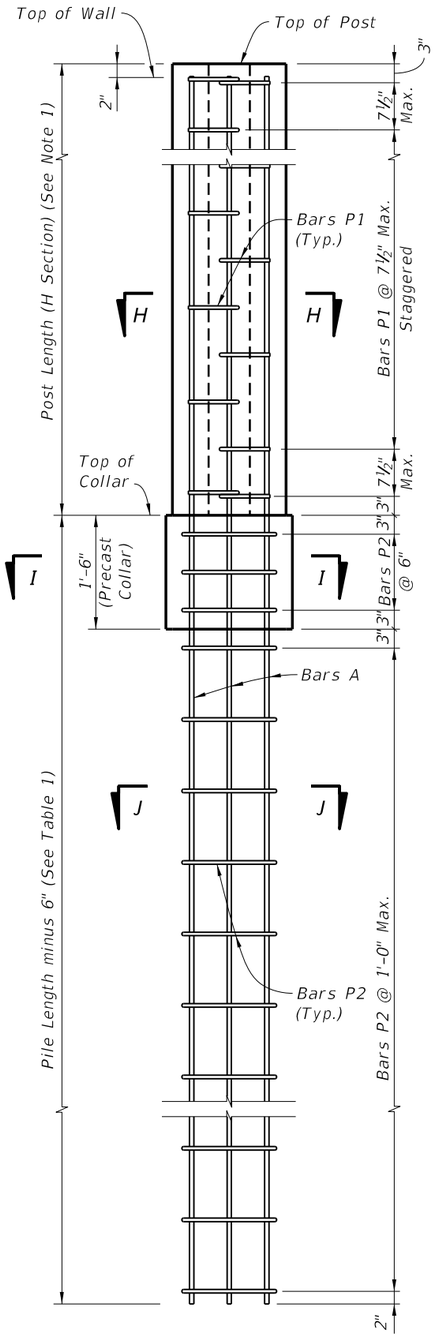


DETAIL "B" - SIDE-INSTALLED
(Typ. Both Ends)

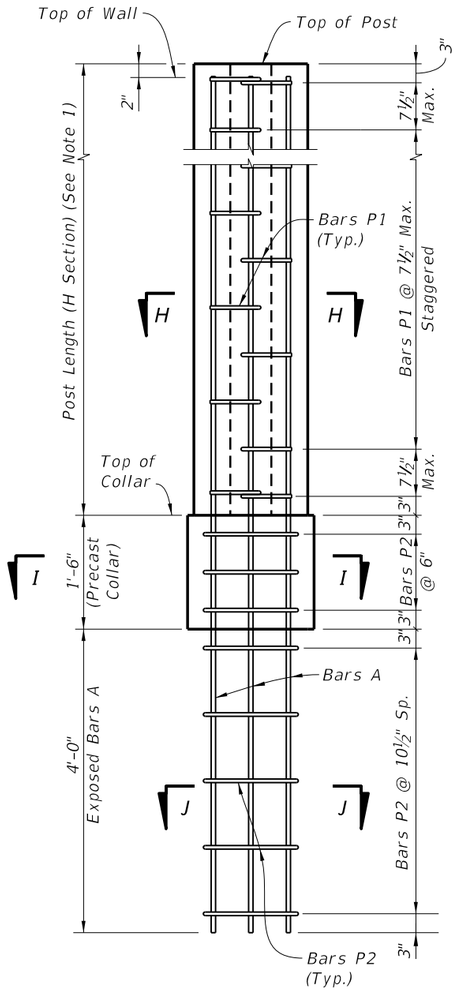
PRECAST OPTION - TYPICAL PANEL DETAILS

5/22/2014 2:31:31 PM

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	PERIMETER WALLS	INDEX NO.	SHEET NO.
01/01/14					5250	5 of 10



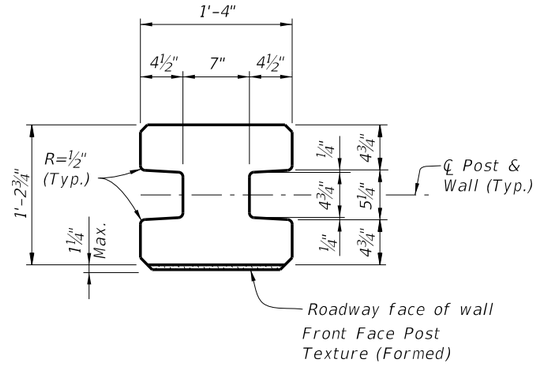
TYPICAL POST



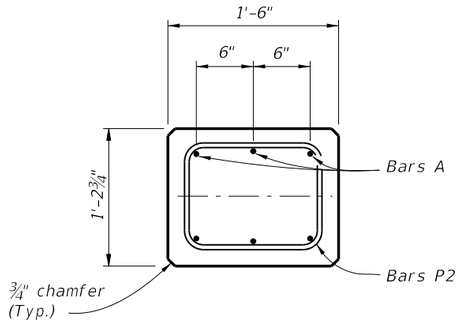
LOW CLEARANCE OPTION

NOTES:
1. See Shop Drawing for Post Lengths.

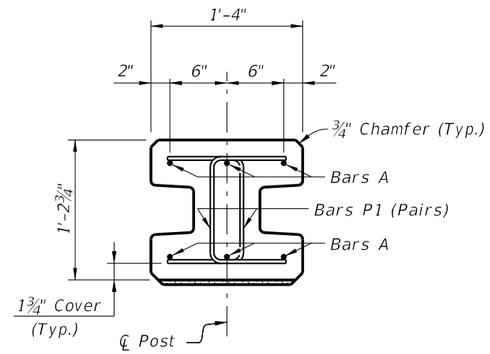
STANDARD POST REINFORCEMENT



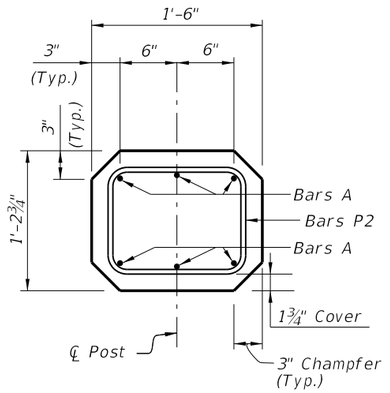
TYPICAL POST SECTION
(H Section)



SECTION I-I
Precast Collar



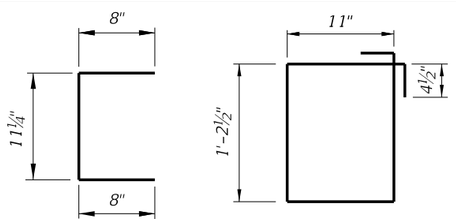
SECTION H-H
(H Section - Above Collar)



SECTION I-I
(for Low Clearance Option)

TABLE 1				
Wind Speed (MPH)	Pile Length	Bars A	Bars P1 thru P6	Bars S1
110	11'-6"	#5	#3	#4
130	13'-6"	#6	#3	#4
150	15'-0"	#7	#3	#4

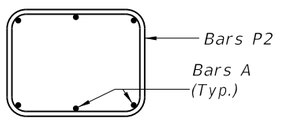
BAR BENDING DETAILS



BAR P1
Bar Length = 2'-3¼"

BAR P2
Bar Length = 5'-0"

All bar dimensions in bending diagrams are out-to-out.
All bars not shown in the bending diagrams are straight.

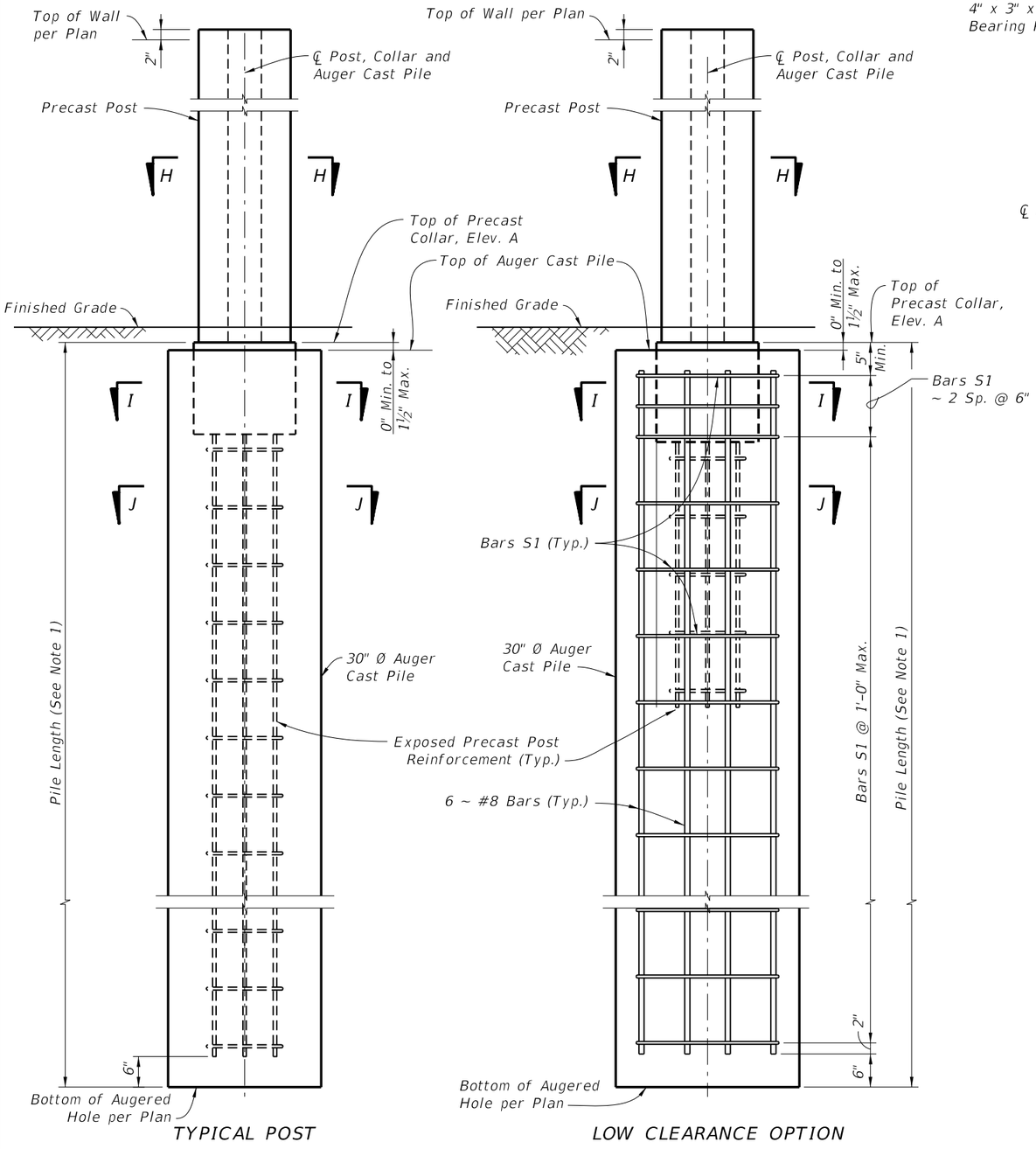


SECTION J-J

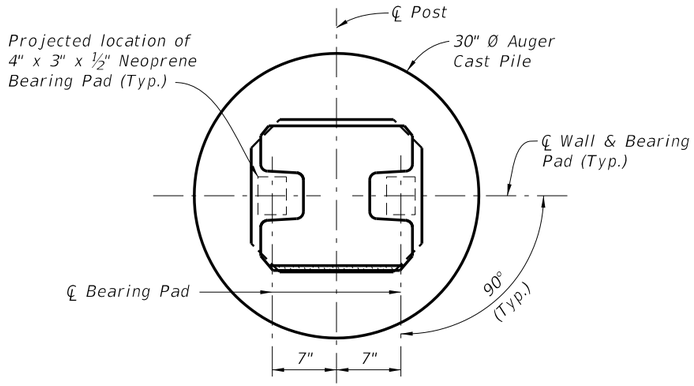
PRECAST OPTION - STANDARD POST DETAILS

5/22/2014 2:31:32 PM

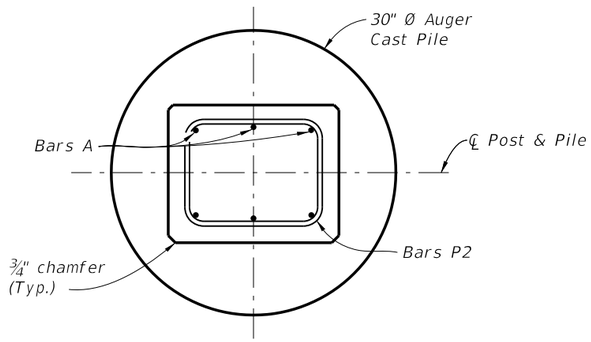
LAST REVISION	REVISION	DESCRIPTION:				
01/01/14			FDOT 2015 DESIGN STANDARDS	PERIMETER WALLS	INDEX NO. 5250	SHEET NO. 6 of 10



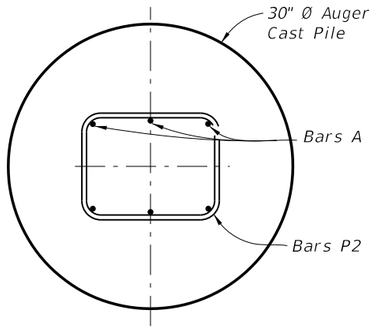
STANDARD POST PLACEMENT IN AUGER CAST PILE
(Standard Post Shown, 45° and 90° Corner Posts Similar)



SECTION H-H
(Reinforcing not Shown for Clarity)

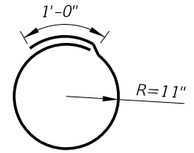


SECTION I-I
(Typical Post Option)



SECTION J-J
(Typical Post Option)

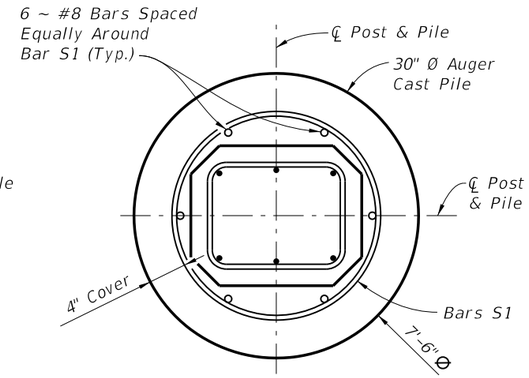
BAR BENDING DETAIL



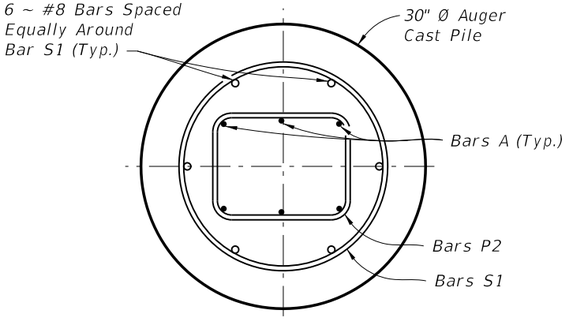
BAR S1

Bar Length = 6'-9"

All bar dimensions in bending diagrams are out-to-out.
All bars not shown in the bending diagrams are straight.



SECTION I-I
(Low Clearance Option)



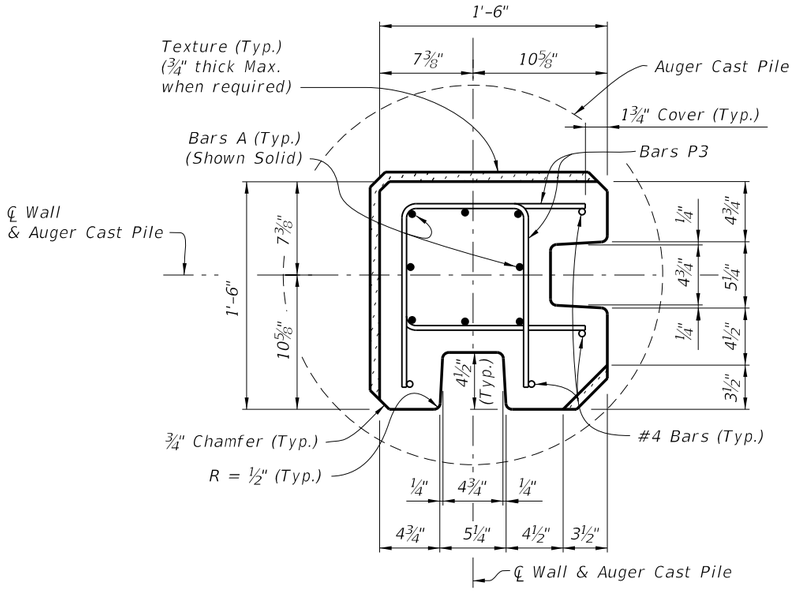
SECTION J-J
(Low Clearance Option)

Notes:
1. For Reinforcing Steel Sizes and Pile Lengths, see Table 1, Sheet 6.
2. For Corner Posts, see Sheet 8.
3. For Typical Post Section Dimensions, see Sheet 6.

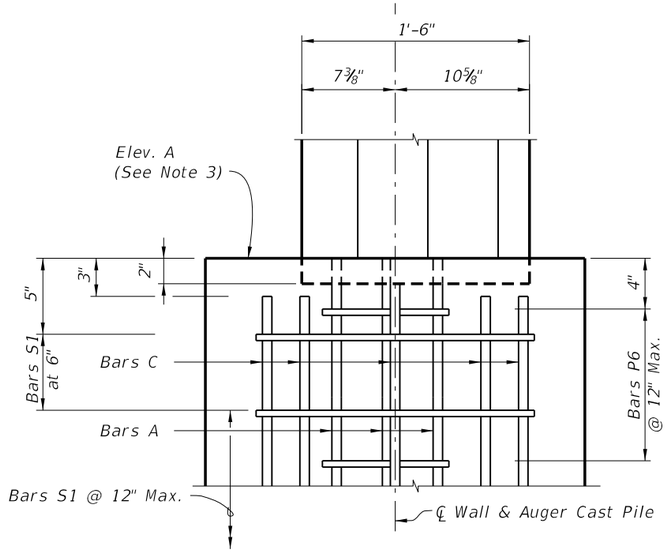
PRECAST OPTION - POST PLACEMENT & PILE REINFORCING STEEL DETAILS

5/22/2014 2:31:32 PM

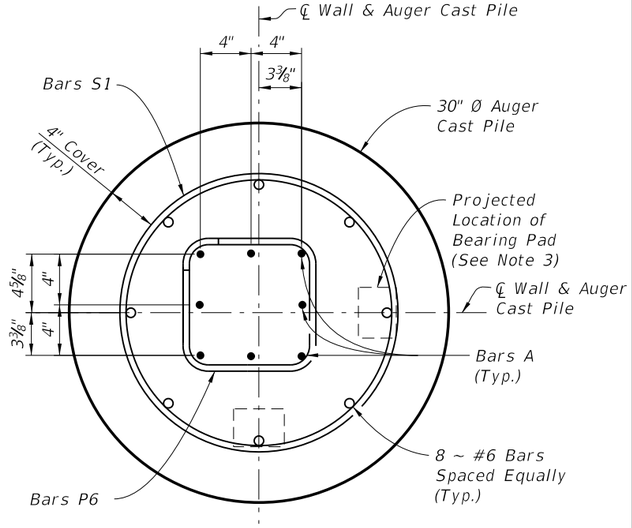
LAST REVISION	REVISION	DESCRIPTION:	2015 DESIGN STANDARDS	PERIMETER WALLS	INDEX NO.	SHEET NO.
01/01/14			FDOT		5250	7 of 10



SECTION H-H

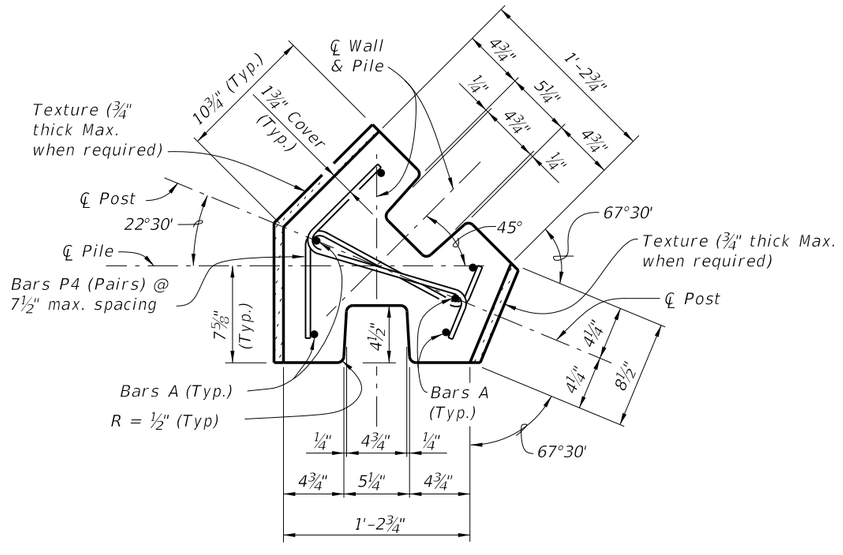


ELEVATION VIEW
(Low Clearance Shown)

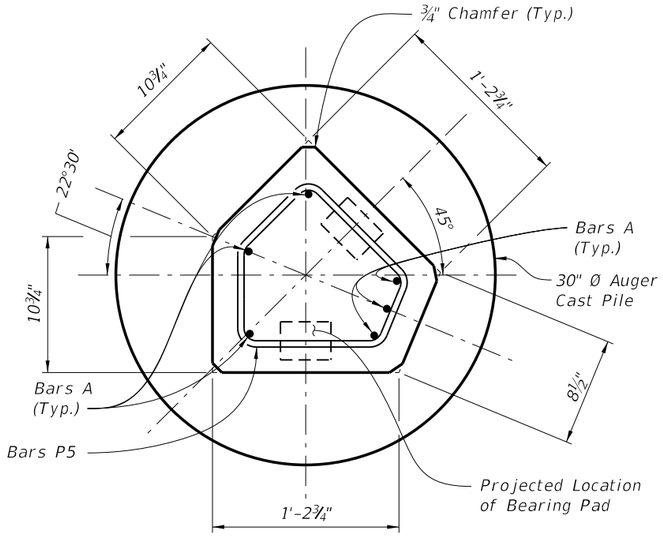


SECTION I-I
(See Note 3)

SPECIAL POST FOR 90° CORNERS



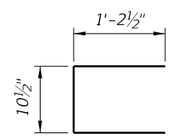
SECTION H-H



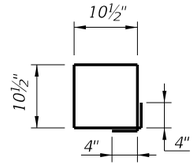
SECTION I-I
(Precast Collar)

NOTES:
1. For Reinforcing Steel Sizes, and Foundation Dimensions, see Table 1 Sheet 6.
2. For location of Section H-H and I-I, see Sheet 6.
3. The Bearing area beneath Neoprene Pads is formed by top of Auger Cast Pile Grout.

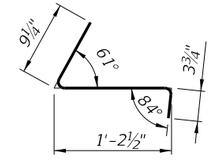
BAR BENDING DETAILS



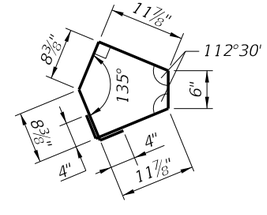
BAR P3
(90° Corner)
Bar Length = 3'-3½"



BAR P6
(90° Corner)
Bar Length = 4'-2"



BAR P4
(45° Corner)
Bar Length = 2'-3½"



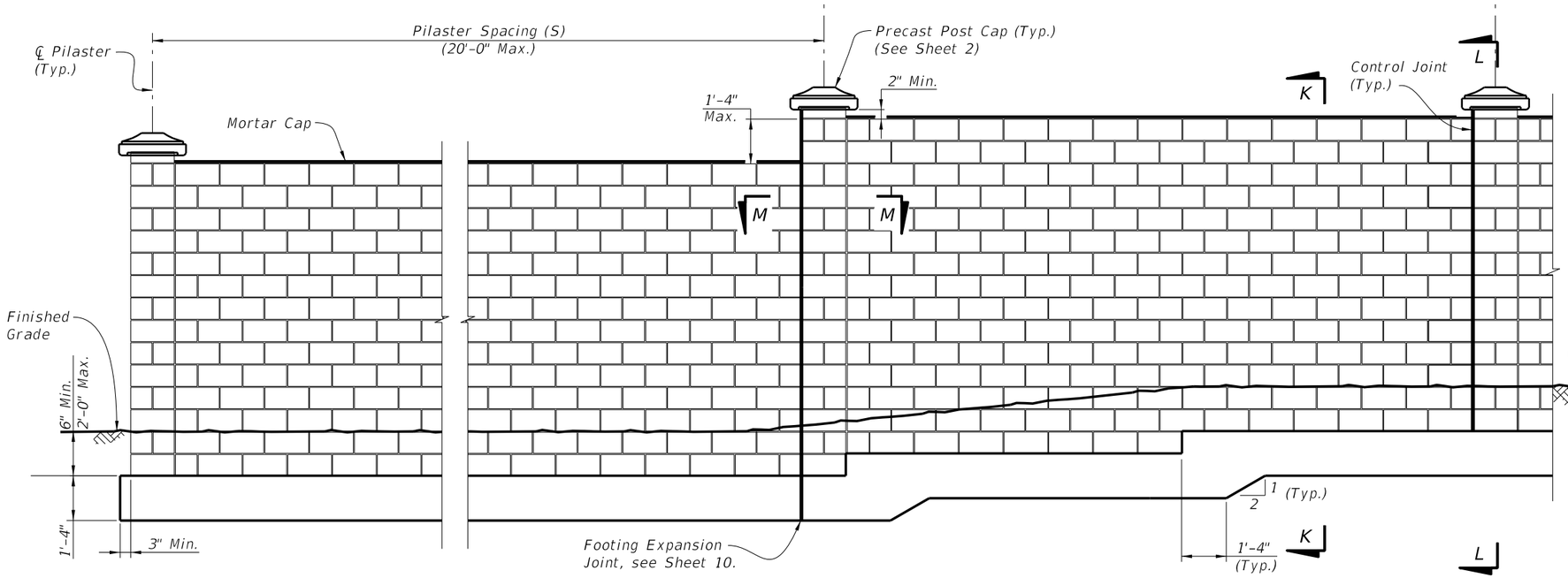
BAR P5
(45° Corner)
Bar Length = 4'-6½"

All bar dimensions in bending diagrams are out-to-out.
All bars not shown in the bending diagrams are straight.

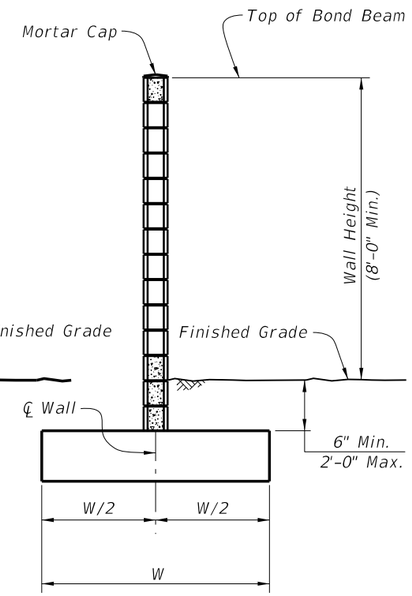
SPECIAL POSTS FOR 45° CORNERS

PRECAST OPTION - SPECIAL CORNER POSTS

2:31:33 PM
5/22/2014



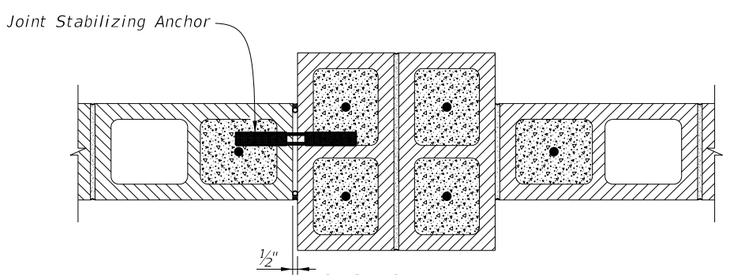
TYPICAL ELEVATION
(T-Footing Shown, Trench Footing Similar)



SECTION K-K
(Shown at Cell Without Vertical Reinforcing)

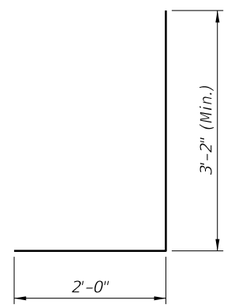
Table 2					
Wind Speed Category	Masonry Walls		Foundations		
	Bars V1	SV Spacing	Bars F1 & F2	T-Footing Width (W)	Trench Footing Depth (D)
110	#5	2'-8"	#5	4'-4"	5'-6"
130	#5	2'-0"	#5	5'-0"	6'-4"
150	#5	1'-4"	#5	6'-0"	7'-0"

Notes:
1. End vertical reinforcing bars 1½" from top of bond beam blocks and horizontal bars 1½" from edge of control joints.
2. Do not continue horizontal #4 Bond beam reinforcing through control joint.
3. Use stainless steel joint stabilizing anchors spaced at 16" vertically at all control joints. Install per manufacturers instructions.
4. Seal Control Joints with backer rod and Type "A" silicone sealant (top and both sides).
5. See Sheet 10 for Bar placement details.
6. For Pilaster Cap Details, see Sheet 2.



SECTION M-M
PILASTER REINFORCING AND
WALL CONTROL JOINT DETAIL

BAR BENDING DETAIL



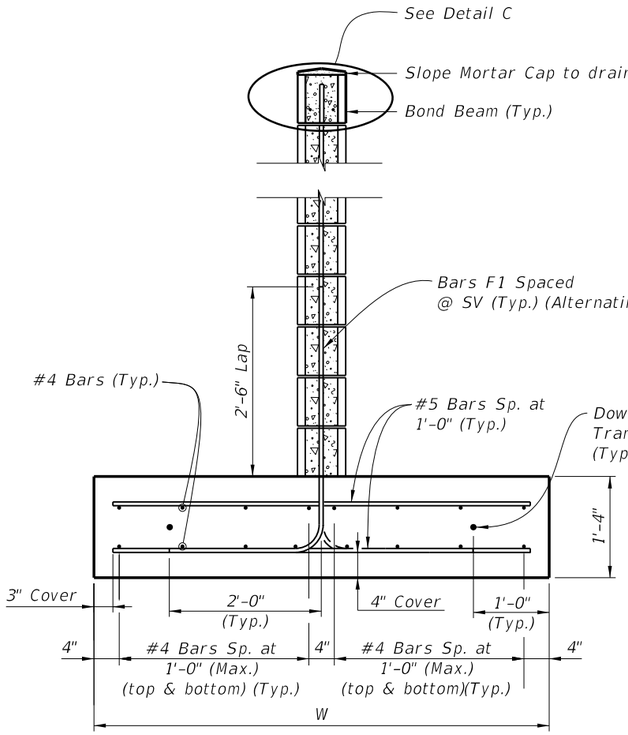
BAR F1
Length = 5'-2"

All bar dimensions in bending diagram are out to out.
All bars not shown in the bending diagrams are straight.

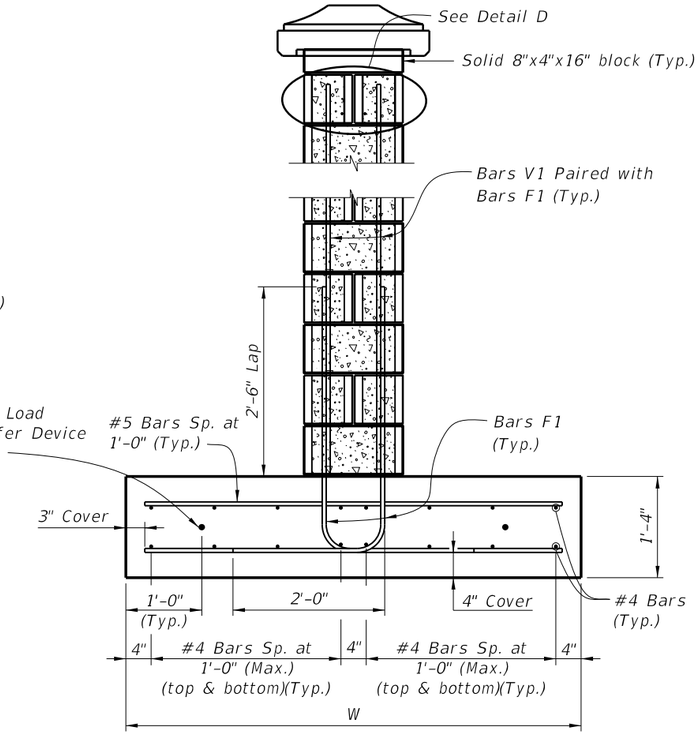
MASONRY OPTION

2:31:34 PM
5/22/2014

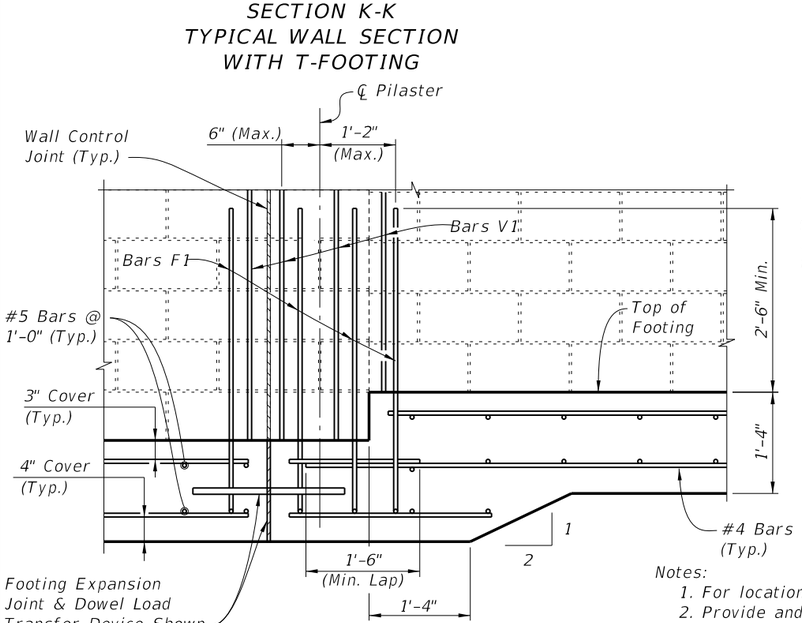
LAST REVISION	REVISION	DESCRIPTION:				
01/01/14			FDOT 2015 DESIGN STANDARDS	PERIMETER WALLS	INDEX NO. 5250	SHEET NO. 9 of 10



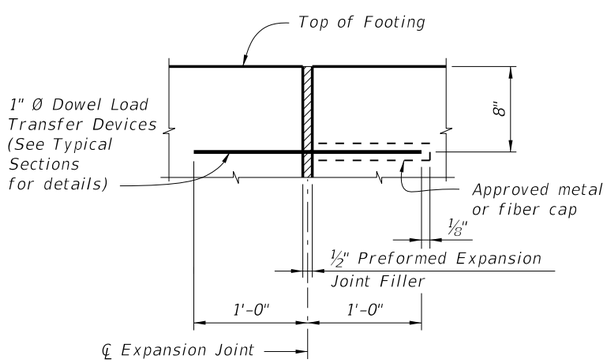
SECTION K-K
TYPICAL WALL SECTION
WITH T-FOOTING



SECTION L-L
PILASTER SECTION
WITH T-FOOTING

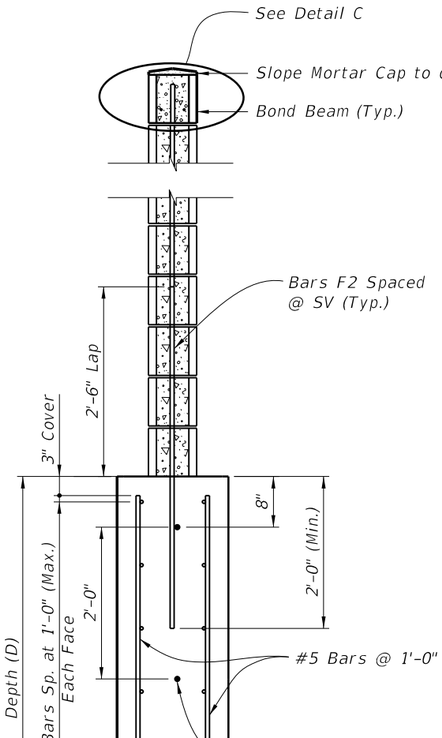


REINFORCING AT PILASTER WITH EXPANSION JOINT
(Step Shown, without Step Similar)
(T-Footing Shown, Trench Footing Similar)

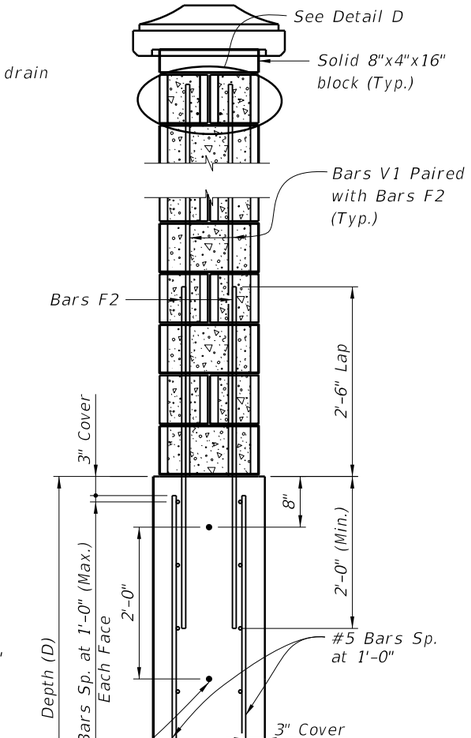


EXPANSION JOINT DETAILS

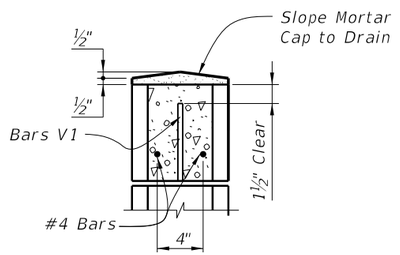
Notes:
1. For location of Sections K-K and L-L see Sheet 9.
2. Provide and install ½" Preformed Expansion Joints with 2 ~ 1" Ø Dowel Load Transfer Devices at 90° Max. as shown. See Sections L-L for placement details.
3. For Reinforcing sizes and spacings, see Table 2, Sheet 9.
4. Pairs F1, V1 are required in the wall cells on both sides of pilasters, plus a pair in each pilaster cell. Space wall reinforcing per Table 2, Sheet 9.



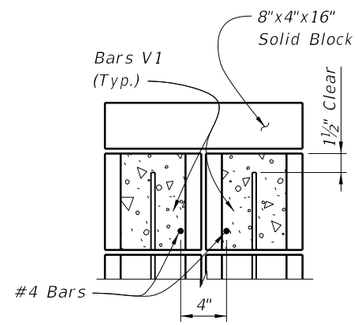
SECTION K-K
TYPICAL WALL SECTION
WITH TRENCH FOOTING



SECTION L-L
TYPICAL PILASTER SECTION
WITH TRENCH FOOTING



DETAIL C



DETAIL D

MASONRY OPTION

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01/01/14			2015 DESIGN STANDARDS	PERIMETER WALLS	INDEX NO. 5250 / SHEET NO. 10 of 10