- A. Prestressed concrete posts with equivalent strength resistance may be substituted for conventionally reinforced precast posts shown in this standard, when approved as part of a Producer's Quality Control Plan.
- B. Producer shop drawings for prestressed concrete post designs must be approved by the State Structures Design Office prior to inclusion in the Quality Control Plan.
- 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
    - 2. Cast-In-Place Collars: Class IV
  - B. Minimum Compressive Strength for form removal and handling of posts and panels:
    - 1. 2,500 psi for horizontally cast post and panels
    - 2,000 psi for vertically cast panels or when tilt-up tables are used for horizontally cast panels.
  - C. 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: +/- 1/4"
  - B. Thickness:  $\pm 1/-\frac{1}{4}$ "
  - C. Plane of side mold: +/- 1/16"
  - D. Openings: +/- 1/2"

DESCRIPTION:

- 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 Plain or Fiber Reinforced Bearing Pads meeting the requirements of Specification Section 932 for Ancillary Structures.
  - 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:
      - a. 10' Post Spacing:  $4''x \ 4''x \ \frac{1}{2}''$
      - b. 20' Post Spacing and Wall Height < 17 feet:  $4"x \ 4"x \ \frac{1}{2}"$
      - c. 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 Bearing Pads.

GENERAL NOTES

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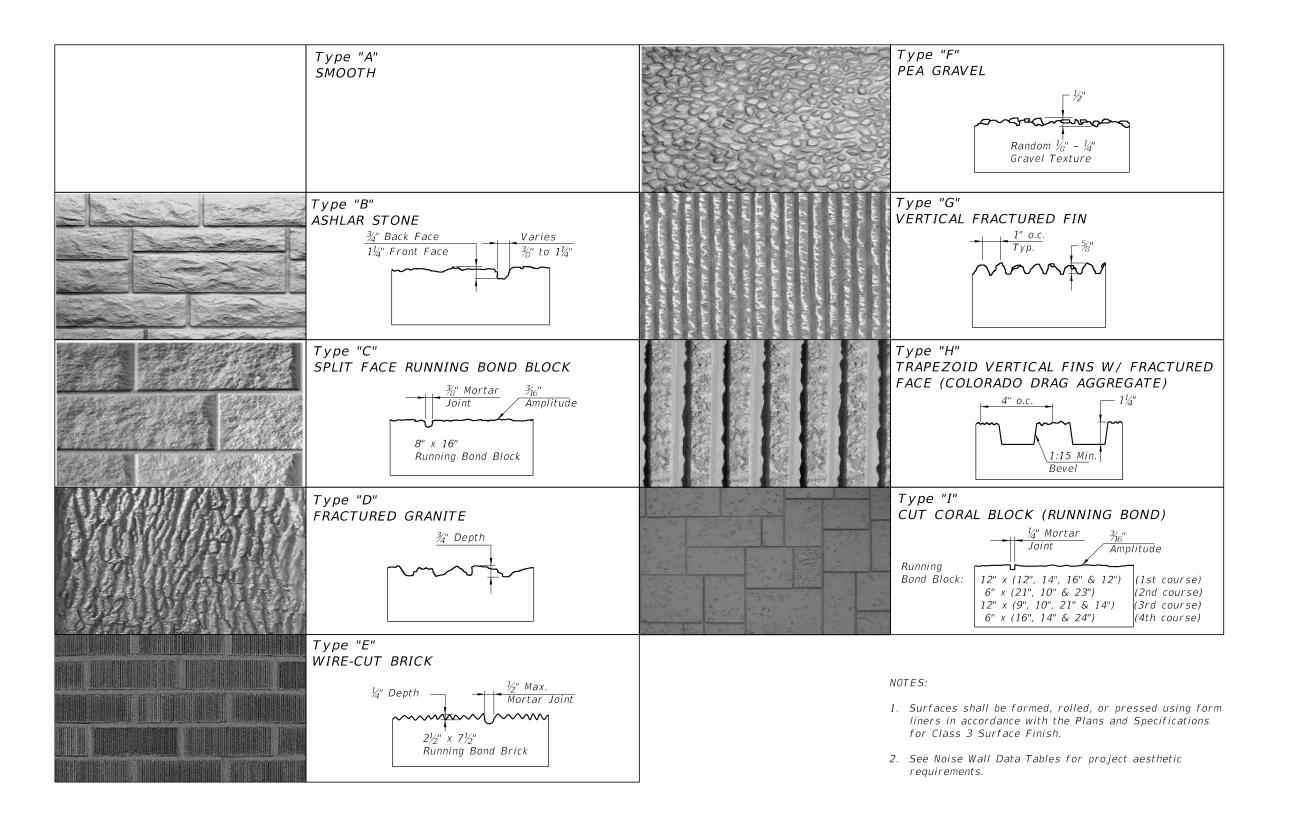
LAST REVISION 11/01/16

FDOT

FY 2017-18

DESIGN STANDARDS

SHEET



TEXTURE OPTIONS

REVISION 07/01/13

FY 2017-18 DESIGN STANDARDS

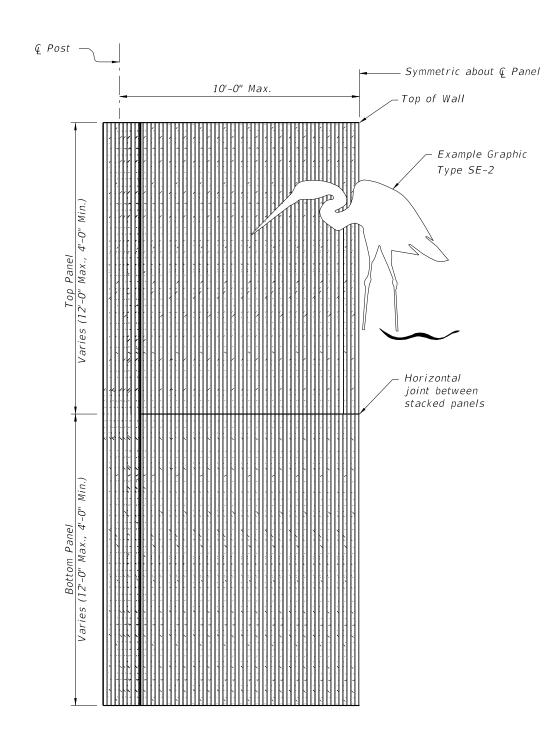
PRECAST NOISE WALLS

INDEX NO. 5200

NO. 2 of 16

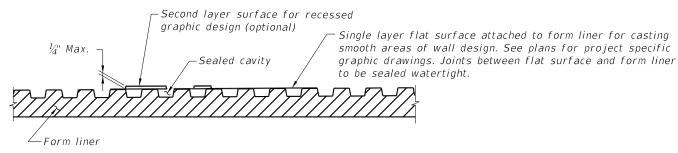
SHEET

DESCRIPTION:



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

-Form Roller 0 Back Face Panel Texture (Formed, Rolled or Pressed into Plastic Concrete) Precast wall panel Front Face Panel Texture (Formed)



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

### NOTES:

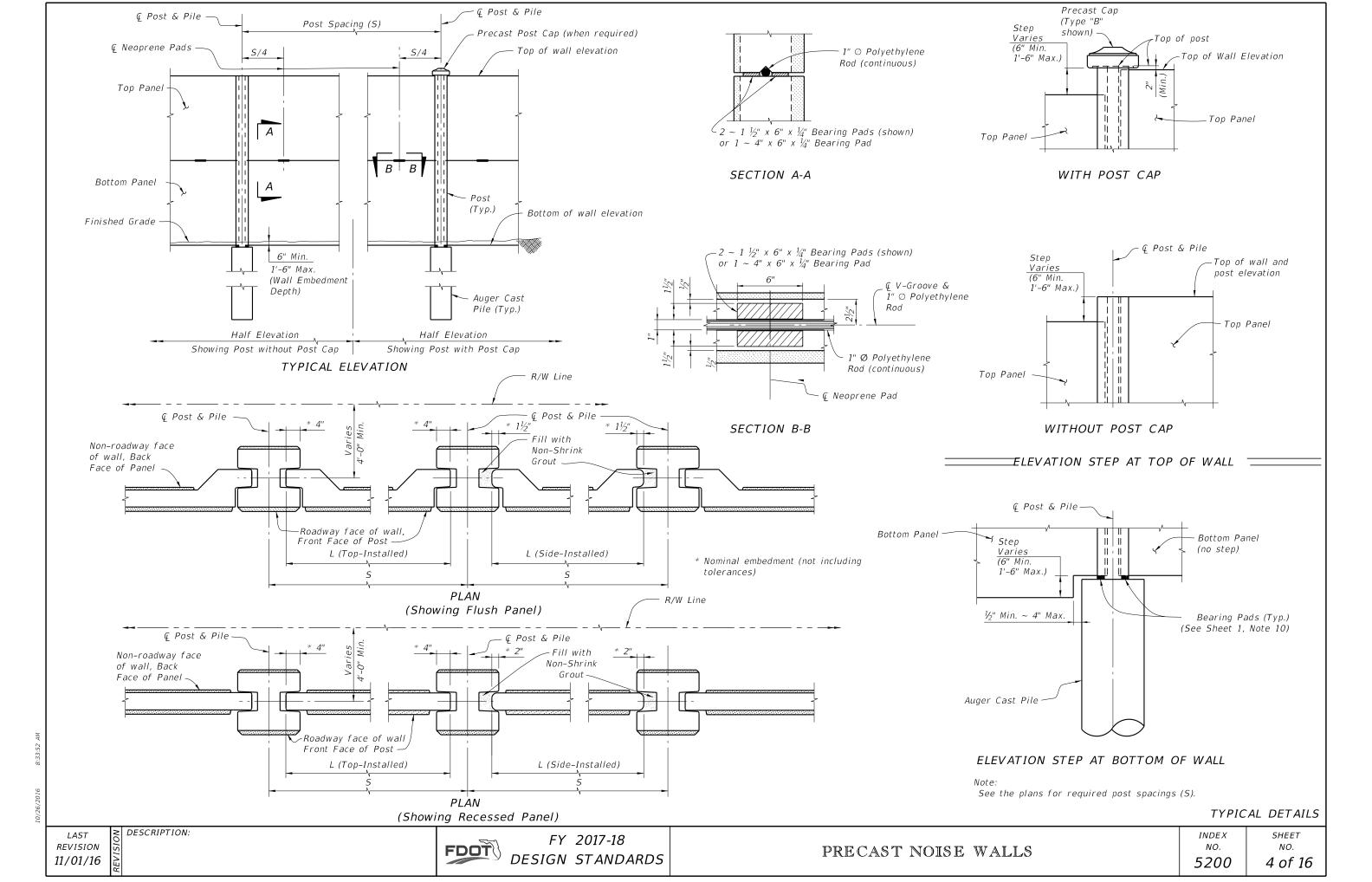
- 1. Submit specific form liner samples for approval by the Engineer.
- 2. Textures and graphics shown are for demonstration purposes only. See Noise Wall Data Tables in the plans for project specific texture and graphic requirements.

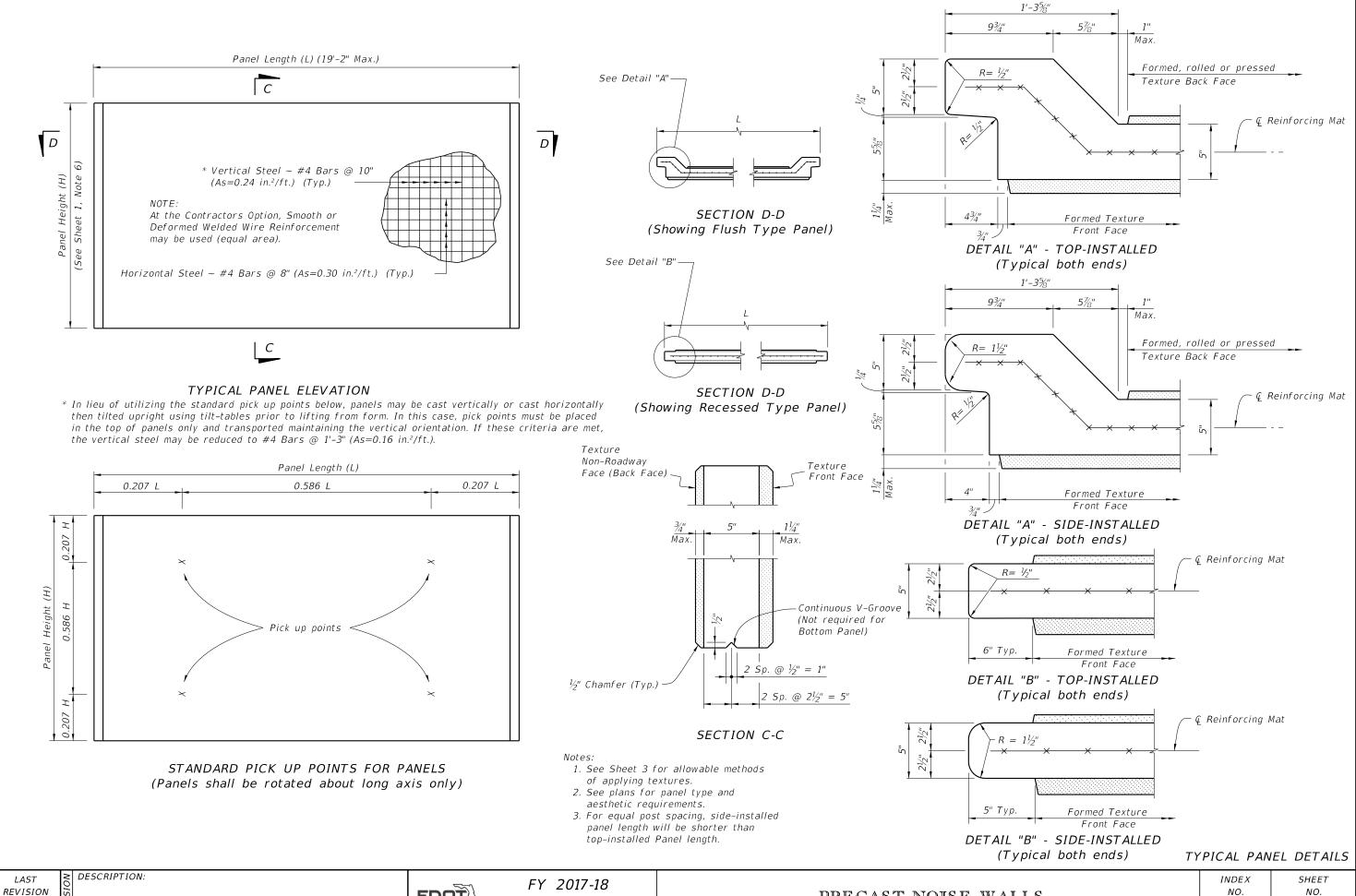
GRAPHICS & TEXTURE DETAILS

REVISION 07/01/14

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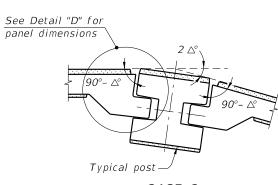
FY 2017-18 DESIGN STANDARDS SHEET

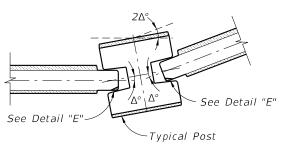


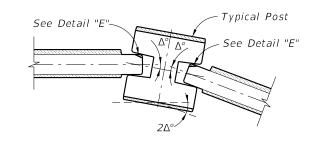


07/01/15

FDOT





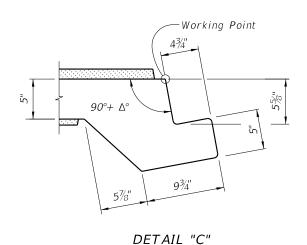


CASE 1 (Interior Angle)

CASE 2 (Exterior Angle)

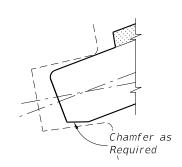
CASE 1 (Interior Angle)

CASE 2 (Exterior Angle)



Working Point

DETAIL "D"



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

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

PIVOTING DETAILS -

(Flush Type Panel)

The shop drawings shall include specific pivoting details of panel ends at locations where the deflection angle ( $2\Delta^{\circ}$ ) between panels exceeds 20°.

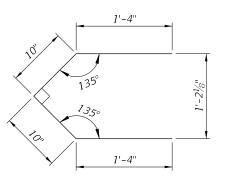
PIVOTING DETAILS (Recessed Type Panel)

TYPICAL PANEL DETAILS

REVISION

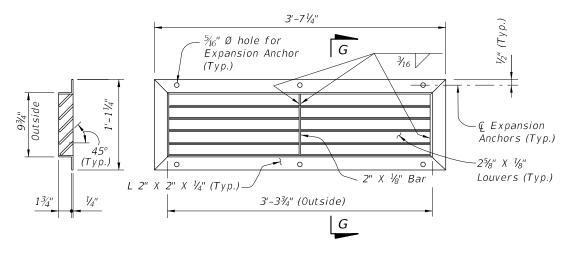
DESCRIPTION:

FY 2017-18 DESIGN STANDARDS (Front Face of Wall Shown) (Two Holes Shown, One Hole Similar)



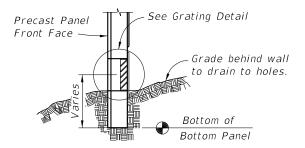
BAR A2 (Pair) Bar Length = 4'-4''

🗆 BAR BENDING DETAILS (#3 Bars) 💳



SECTION G-G

GRATING DETAIL



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
- 2. Expansion Anchors: Use  $\frac{1}{4}$ " Ø x 2" min. corrosion resistant (zinc/aluminum alloy or stainless steel) expansion anchors to connect grates to panels.
- 3. Grating mounted to back face of wall.
- 4. Blockout textured concrete surface for a strip 2" wide around hole for drainage grate placement.

DRAINAGE HOLE DETAILS

**REVISION** 11/01/16

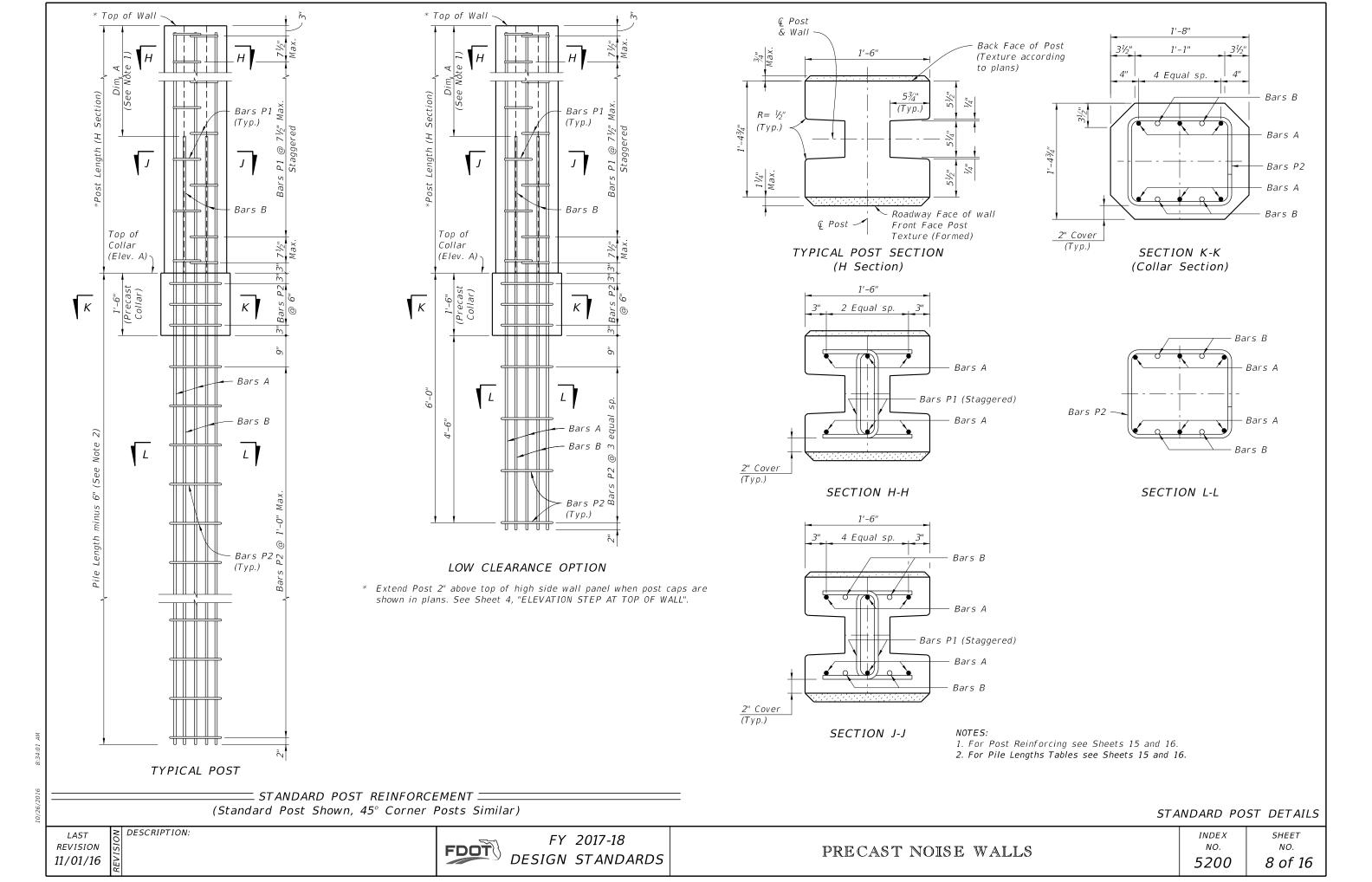
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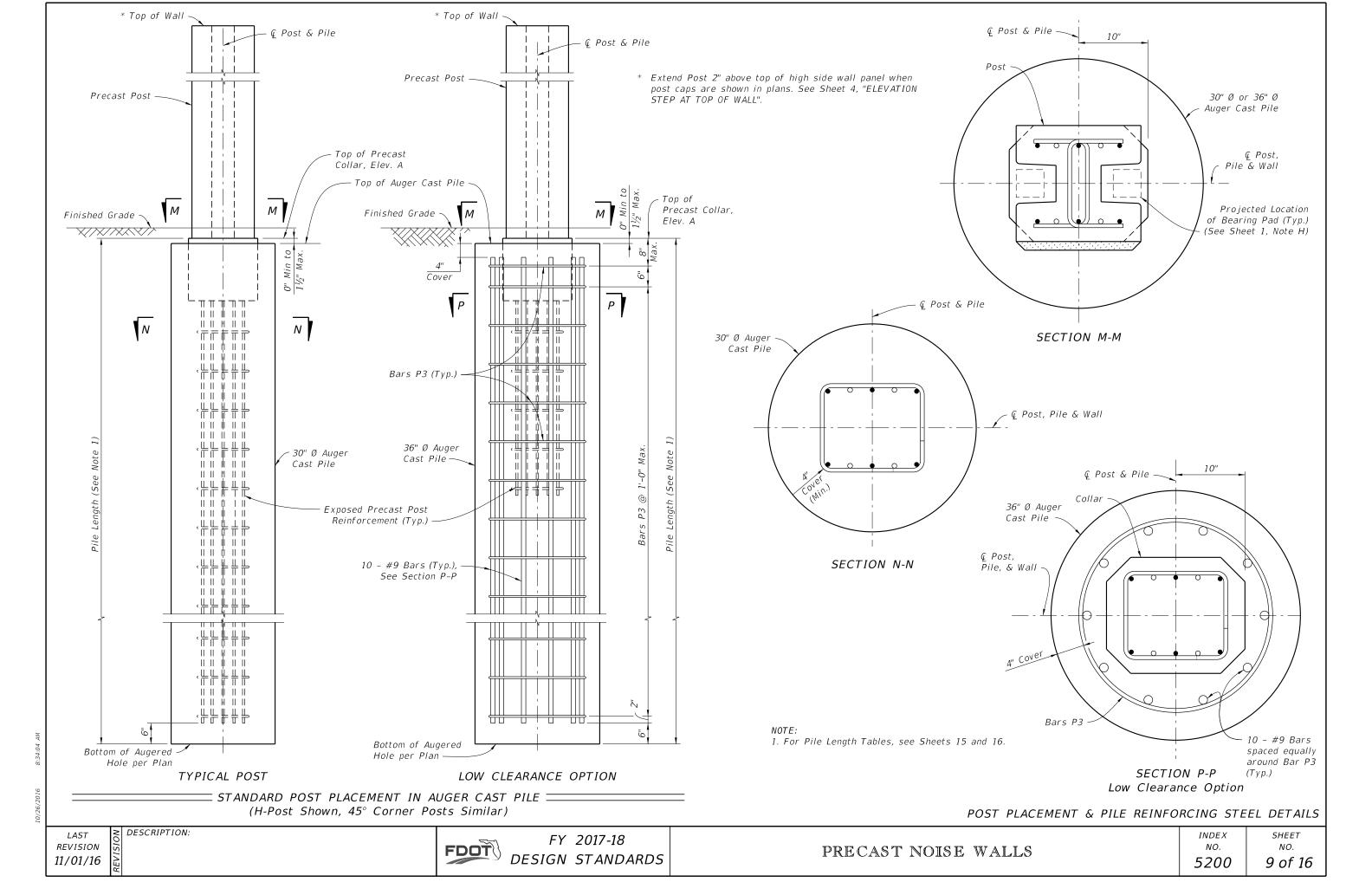
FDOT

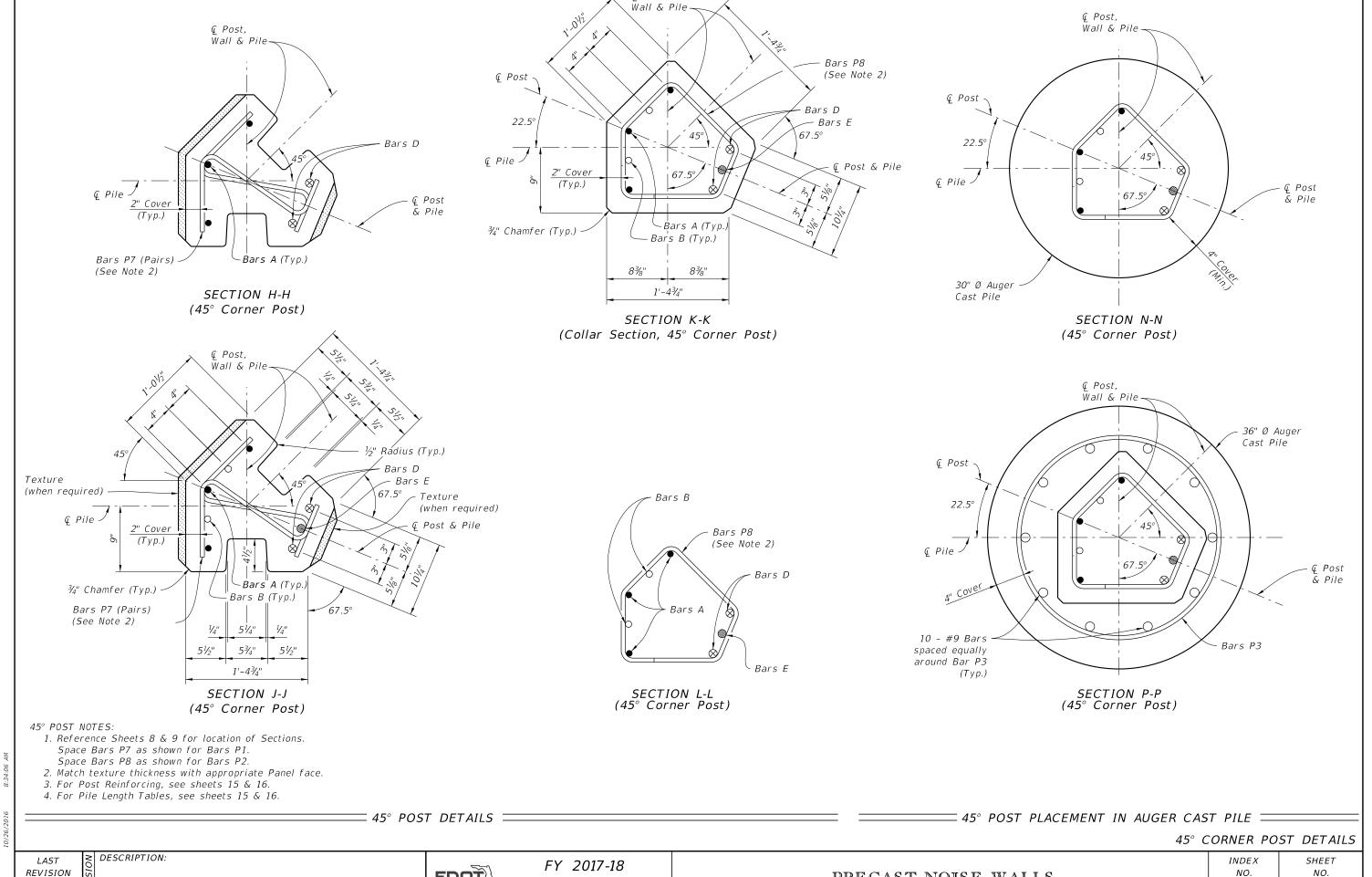
FY 2017-18 DESIGN STANDARDS

PRECAST NOISE WALLS

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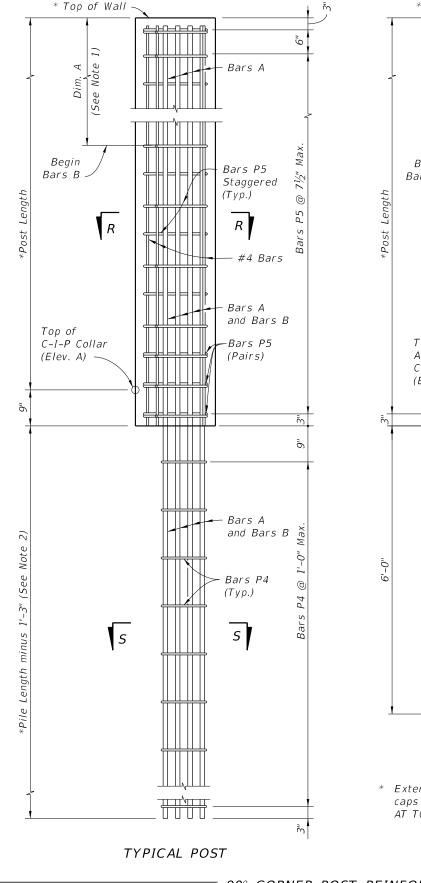


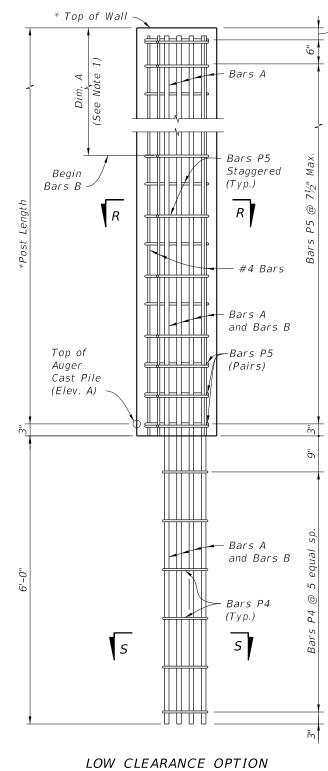




∉ Post,

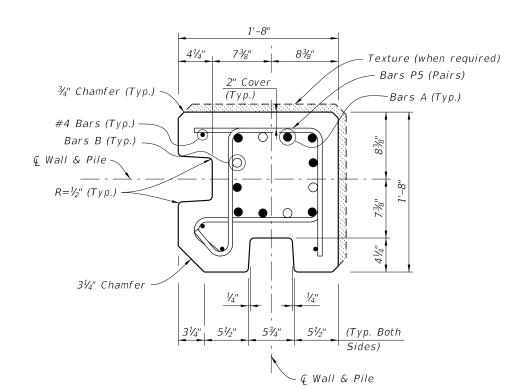
FDOT DESIGN STANDARDS



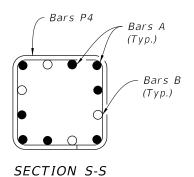


\* Extend Post 2" above top of high side wall panel when post caps are shown in plans. See Sheet 4, "ELEVATION STEP AT TOP OF WALL".

 $\equiv$  90 $^{\circ}$  CORNER POST REINFORCMENT  $\equiv$ (Post Surface Features Not Shown For Clarity)



## SECTION R-R



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 DETAILS

REVISION 11/01/16

DESCRIPTION:

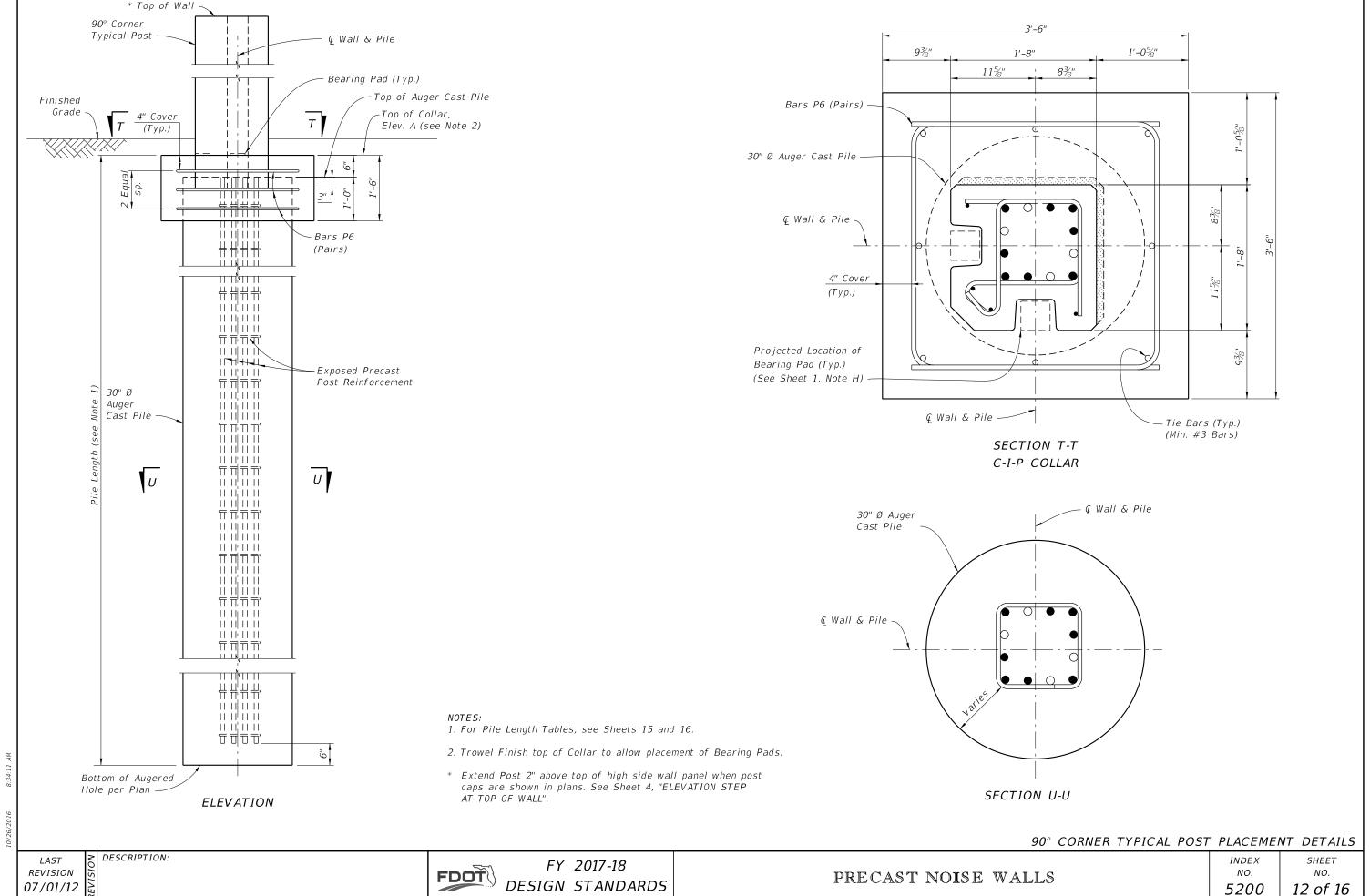
FDOT

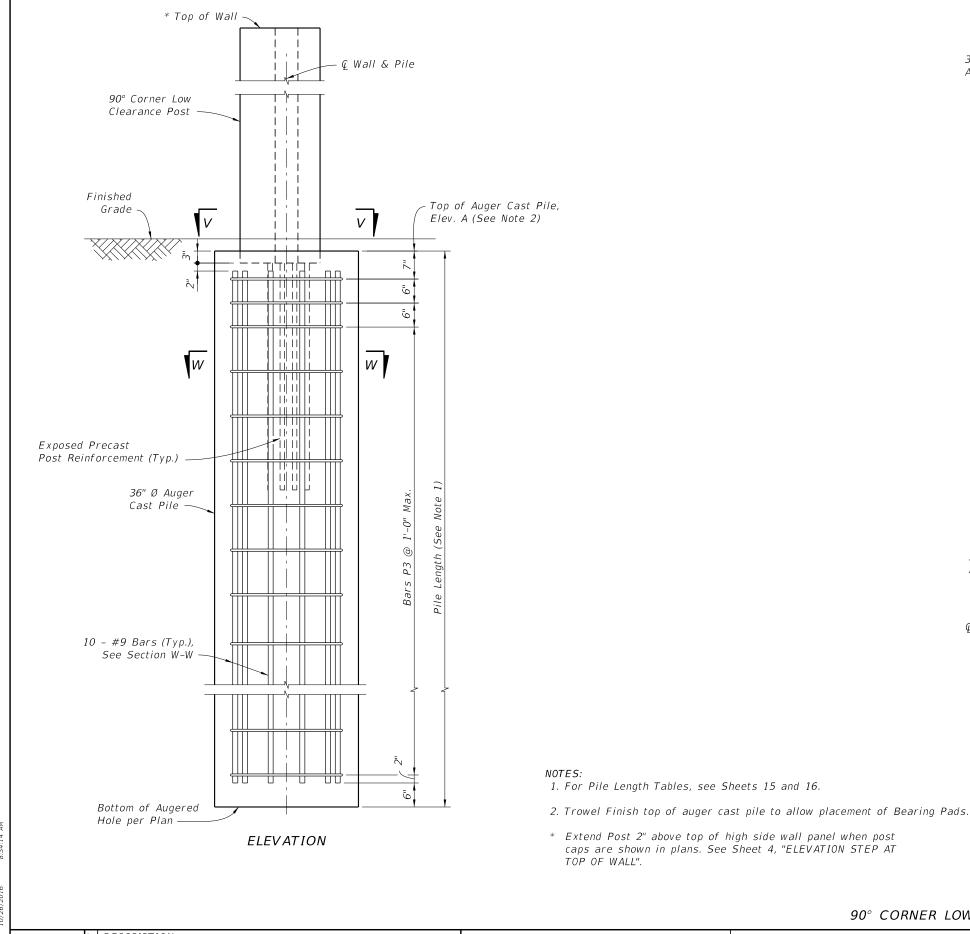
FY 2017-18 DESIGN STANDARDS

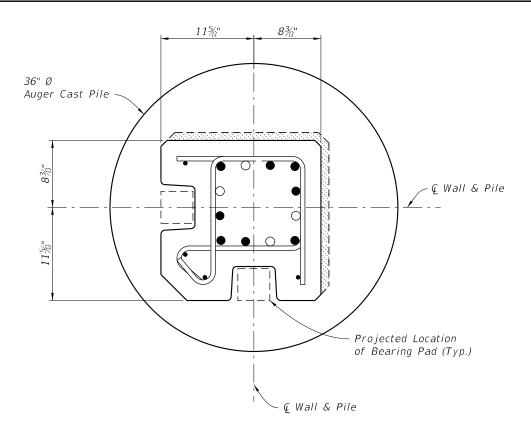
PRECAST NOISE WALLS

INDEX SHEET NO.

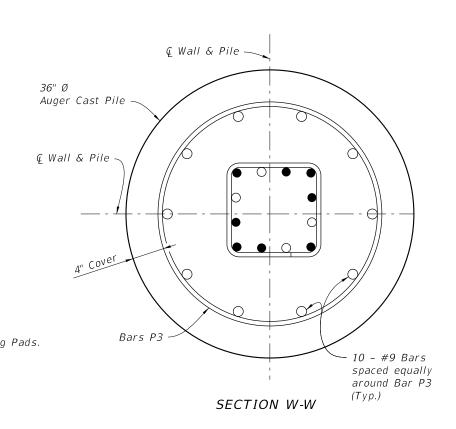
NO. 5200 11 of 16







SECTION V-V



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

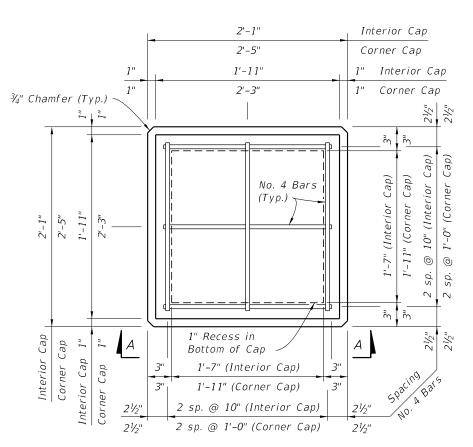
DESCRIPTION: REVISION 07/01/12

FY 2017-18 DESIGN STANDARDS

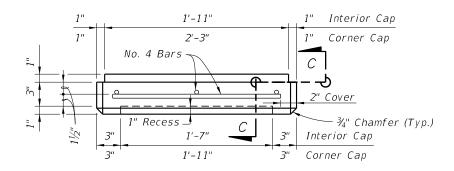
PRECAST NOISE WALLS

INDEX NO. 5200

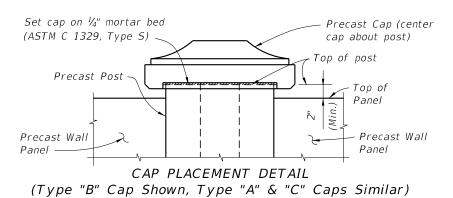
SHEET NO. 13 of 16

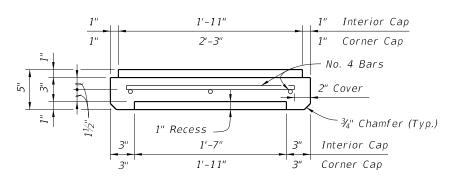


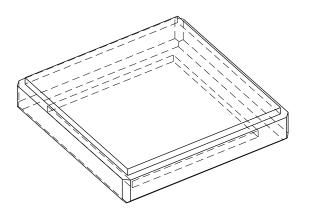
PLAN VIEW (Type "A" Cap Shown, Type "B" & "C" Caps Similar)



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



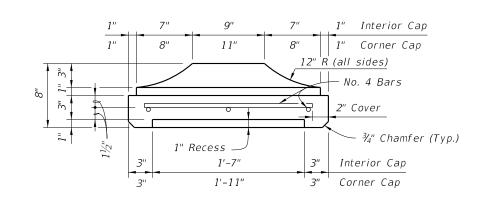


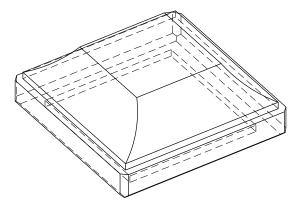


SECTION C-C

PICTORIAL VIEW

= TYPE "A" CAP DETAILS =

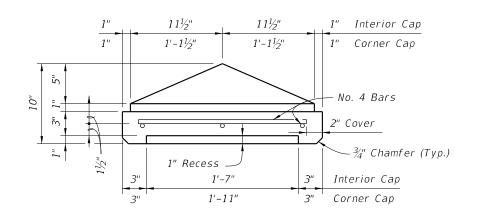


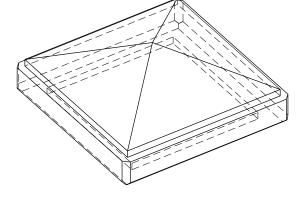


SECTION C-C

PICTORIAL VIEW

TYPE "B" CAP DETAILS =





SECTION C-C

PICTORIAL VIEW

= TYPE "C" CAP DETAILS ==

PRECAST POST CAPITAL

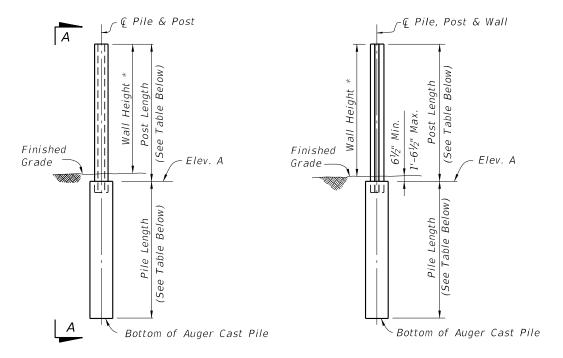
REVISION 07/01/14

FY 2017-18 DESIGN STANDARDS

PRECAST NOISE WALLS

INDEX NO. 5200

SHEET 14 of 16



\* See Sheet 1, Note 4.

VIEW A-A

PILE/POST ELEVATION

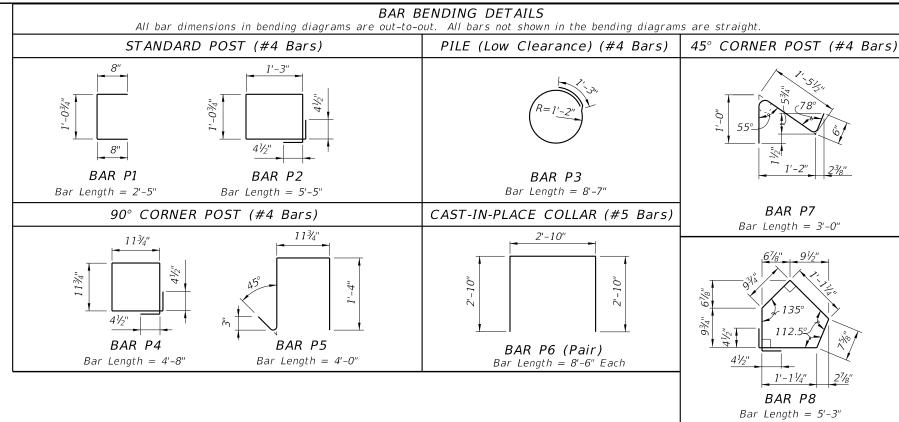


	TABLE 1A - TABLE OF POST REINFORCING STEEL														TABLE 1B - PILE LENGTHS (Feet) - WIND SPEED = 130 MPH																		
WALL HEIGHT (Feet)	POST L	ENGTHS	WIND SPEED = 130 MPH													10'-0" POST SPACING									20'-0" POST SPACING								
	WITHOUT CAP	WITH CAP		10'-0" POST SPACING						20'-0" POST SPACING					WALL HEIGHT	H-POSTS			CORNER POSTS					H-P	OSTS			CORNEF	R POSTS				
			BARS BARS A B		ARS B	BARS D	BARS E		BARS BA		RS BARS B D		BARS E		(Feet)	SOIL 1		SOIL 2		SOIL 1		501	IL 2	S01L 1		501	IL 2	SOIL 1		50:	IL 2		
			SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'		<i>30</i> " ∅	<i>36</i> " ⊘	<i>30</i> " ∅	<i>36</i> " ⊘	<i>30</i> " ∅	<i>36</i> " ∅	<i>30</i> " ⊘	<i>36</i> " ⊘	<i>30</i> " ⊘	<i>36</i> " ⊘	<i>30</i> " ⊘	<i>36</i> " ⊘	<i>30</i> " ⊘	<i>36</i> ″ ⊘	<i>30</i> " ⊘	<i>36</i> " ⊘		
12	13'-01/2"	13'-2 <sup>1</sup> / <sub>2</sub> "	#3	#3	9'-2"	#4	#4	10'-11"	#5	#5	9'-8"	#5	#5	8'-8"	12	12	11	10	10	11	10	10	9	15	14	14	13	15	14	13	12		
13	14'-01/2"	14'-2½"	#4	#4	11'-11"	#4	#4	10'-11"	#5	#5	9'-8"	#6	#6	10'-4"	13	12	11	11	10	12	11	10	10	16	15	14	13	15	14	14	13		
14	15'-0 <sup>1</sup> / <sub>2</sub> "	15'-2½"	#4	#4	11'-11"	#4	#4	10'-11"	#5	#5	9'-8"	#6	#6	10'-4"	14	13	12	11	10	12	11	11	10	17	15	15	14	16	15	14	13		
15	16'-0 <sup>1</sup> / <sub>2</sub> "	16'-2½"	#4	#4	11'-11"	#5	#5	12'-8"	#6	#6	11'-4"	#7	#7	11'-8"	15	13	12	11	11	13	12	11	10	17	16	15	14	17	15	15	14		
16	17'-01/2"	17'-2½"	#4	#4	11'-11"	#5	#5	12'-8"	#6	#6	11'-4"	#7	#7	11'-8"	16	13	12	12	11	13	12	12	11	18	17	16	15	17	16	15	14		
17	18'-0 <sup>1</sup> / <sub>2</sub> "	18'-2½"	#5	#5	14'-8"	#5	#5	12'-8"	#7	#7	13'-9"	#7	#7	11'-8"	17	14	13	12	11	14	13	12	11	19	17	16	15	18	17	16	15		
18	19'-01/2"	19'-2 <sup>1</sup> / <sub>2</sub> "	#5	#5	14'-8"	#6	#6	15'-4"	#7	#7	13'-9"	#8	#7	13'-8"	18	14	13	13	12	14	13	12	12	19	18	17	16	19	17	16	15		
19	20'-01/2"	20'-2 <sup>1</sup> / <sub>2</sub> "	#5	#5	14'-8"	#6	#6	15'-4"	#7	#7	13'-9"	#8	#8	13'-0"	19	15	14	13	12	14	13	13	12	20	18	17	16	19	18	17	16		
20	21'-01/2"	21'-2½"	#5	#5	14'-8"	#6	#6	15'-4"	#7	#8	13'-0"	#8	#9	12'-2"	20	15	14	14	13	15	14	13	12	20	19	18	17	20	18	17	16		
21	22'-01/2"	22'-2 <sup>1</sup> / <sub>2</sub> "	#6	#6	17'-4"	#7	#7	16'-8"	#8	#8	15'-0"	#9	#9	13'-2"	21	16	15	14	13	15	14	14	13	21	19	18	17	20	19	18	17		
22	23'-01/2"	23'-21/2"	#6	#6	17'-4"	#7	#7	16'-8"	#8	#8	15'-0"	#9	#10	12'-4"	22	16	15	14	13	16	15	14	13	21	20	19	17	21	19	18	17		

# 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

REVISION 11/01/16

DESCRIPTION:

FDOT

FY 2017-18 DESIGN STANDARDS

TABLE 3A - TABLE OF POST REINFORCING STEEL  TABLE 3B - PILE LENGTHS (Feet) - WIND SPEED = 170 MPH																															
	POST LI	WIND	SPEEL	EED = 170 MPH								10'-0" POST SPACING									20'-0" POST SPACING										
WALL HEIGHT	WITHOUT CAP	WITH CAP		10'-0" POST SPACING						20'-0" POST SPACING						H-POSTS				CORNER POSTS				H-P0STS					CORNER	R POSTS	
(Feet)			BARS BARS A B		ARS B	BARS D	BARS E		BARS BARS A B		NRS B	BARS BARS D E		(Feet)	S0IL 1 S0I		'L 2	SOIL 1		50IL 2		50IL 1		S0IL 2		SOIL 1		50IL 2			
			SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'	SIZE	SIZE	DIM 'A'		<i>30</i> " ∅	<i>36</i> " ∅	<i>30</i> " ∅	<i>36</i> " ∅	<i>30</i> " ∅	<i>36</i> " ⊘	<i>30</i> " ⊘	<i>36</i> " ⊘	<i>30</i> " ∅	<i>36</i> " ⊘	<i>30</i> " ⊘	<i>36</i> " ⊘	<i>30</i> " ∅	<i>36</i> " ∅	<i>30</i> " ∅	<i>36</i> " ⊘
12	13'-0½''	13'-2 <sup>1</sup> / <sub>2</sub> "	#4	#4	8'-11"	#5	#5	9'-8"	#6	#6	8'-4"	#7	#7	7'-8"	12	15	14	13	12	14	13	13	12	20	19	18	16	19	18	17	16
13	14'-01/2"	14'-2½''	#5	#5	10'-8"	#5	#5	9'-8"	#7	#7	9'-8"	#7	#8	7'-0"	13	16	14	14	13	15	14	13	12	21	19	18	17	20	19	18	16
14	15'-0 <sup>1</sup> / <sub>2</sub> "	15'-2½"	#5	#5	10'-8"	#6	#6	11'-4"	#7	#7	9'-8"	#8	#7	9'-8"	14	16	15	14	13	16	14	14	13	22	20	19	18	21	19	18	17
15	16'-0 <sup>1</sup> / <sub>2</sub> "	16'-2 <sup>1</sup> / <sub>2</sub> "	#5	#5	10'-8"	#6	#6	11'-4"	#7	#8	9'-0"	#8	#9	9'-0"	15	17	15	15	14	16	15	14	13	22	21	20	18	22	20	19	18
16	17'-0½"	17'-2½"	#6	#6	13'-4"	#7	#7	12'-8"	#8	#8	11'-0"	#9	#9	9'-3"	16	17	16	15	14	17	16	15	14	23	21	20	19	22	21	20	18
17	18'-0 <sup>1</sup> / <sub>2</sub> "	18'-2 <sup>1</sup> / <sub>2</sub> "	#6	#6	13'-4"	#7	#7	12'-8"	#8	#9	10'-3"	#10	#8	12'-0"	17	18	17	16	15	17	16	15	14	24	22	21	19	23	22	20	19
18	19'-0 <sup>1</sup> / <sub>2</sub> "	19'-2 <sup>1</sup> / <sub>2</sub> "	#6	#6	13'-4"	#7	#7	12'-8"	#9	#9	11'-3"	#10	#10	10'-4"	18	19	17	16	15	18	17	16	15	25	23	22	20	24	22	21	20
19	20'-01/2"	20'-2½"	#7	#7	14'-8"	#7	#8	12'-0"	#9	#10	10'-4"	#11	#10	11'-4"	19	19	18	17	16	18	17	16	15	25	23	22	21	25	23	22	20
20	21'-01/2"	21'-2½"	#7	#7	14'-8"	#8	#7	14'-8"	#10	#9	13'-3"	#10	#14	6'-0"	20	20	18	17	16	19	18	17	16	25	23	22	21	25	23	22	20
21	22'-0 <sup>1</sup> / <sub>2</sub> "	22'-2 <sup>1</sup> / <sub>2</sub> "	#7	#7	14'-8"	#8	#9	13'-3"	#10	#11	11'-5"	#14	#11	13'-5"	21	20	19	18	17	20	18	17	16	25	23	22	21	25	23	22	20
22	23'-0 <sup>1</sup> / <sub>2</sub> "	23'-2 <sup>1</sup> / <sub>2</sub> "	#7	#8	14'-0"	#9	#8	14'-0"	#11	#11	12'-5"	#14	#14	10'-0"	22	21	19	18	17	20	19	18	17	25	23	22	21	25	23	22	20

#### 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;

DESCRIPTION:

Soil 2 = Medium Dense Granular Soil, N = 10 to 40.

PILE DEPTH & REINFORCING SUMMARY

**REVISION** 11/01/16

FDOT