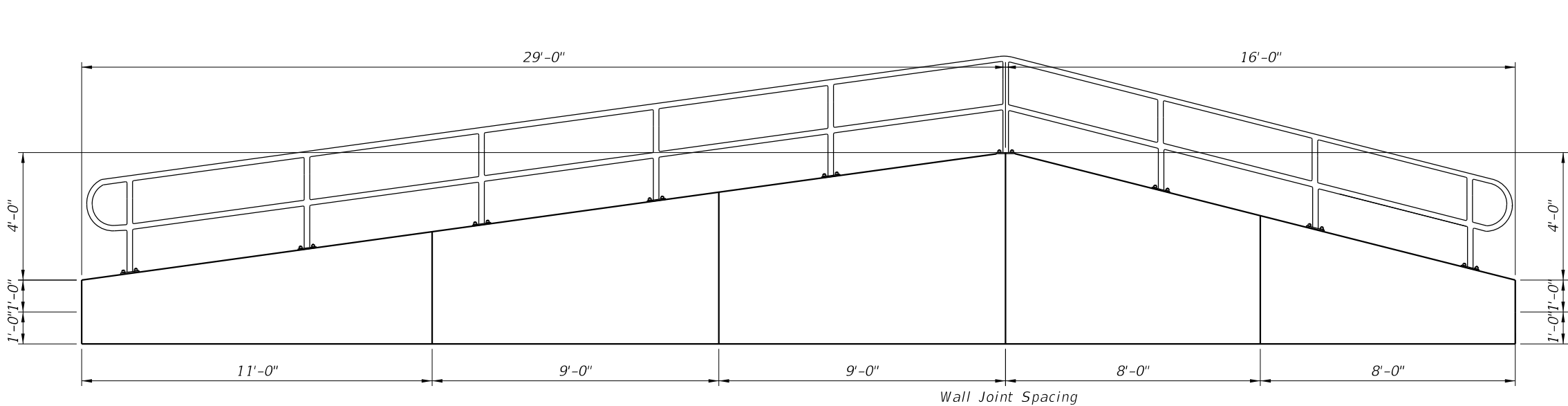
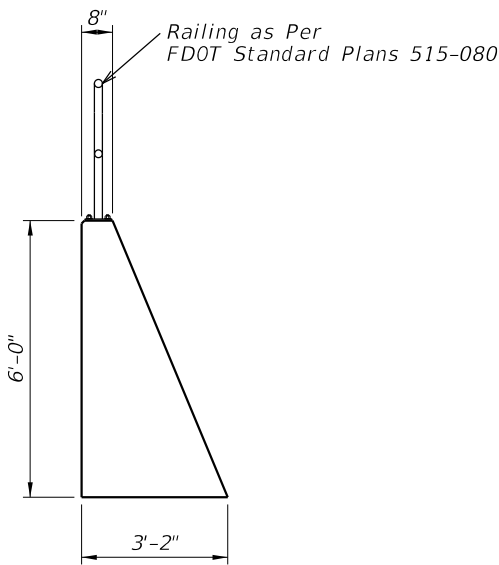


PLAN



ELEVATION



TYPICAL SECTION

REVISIONS						<div><div>MCE</div><div>MORALES CONSULTING ENGINEERS, INC. 3832-010 BAYMEADOWS RD. SUITE 132 JACKSONVILLE, FL 32217 (904) 434-4366 CERT. OF AUTH. NO. 30712</div></div>	DRAWN BY: 0DR			SHEET TITLE: <div>RETAINING WALL PLAN & ELEVATION</div>					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		CHECKED BY: EJM Jr.								
							DESIGNED BY: EJM Jr.			CONTRACT	MILEPOST	COUNTY	PROJECT NAME:	WILDLIGHT COMMERCE PARK PARCEL A FOR PATTILLO INDUSTRIAL REAL ESTATE	SHEET NO.
							CHECKED BY: EJM					NASSAU			



GENERAL NOTES

1. Concrete for Gravity Wall shall be Class NS per Section 347.
2. Reinforcing steel shall meet the requirements of Specification Section 931 (Grade 60).
3. Joint Seal: Organic Felt bond breaker in accordance with Specification Section 400. Stop Organic Felt 6" below top of wall.
4. Provide a continuous 1'x1' clean gravel or crushed rock drain. Wrap drainage layer as shown, with Type D-3 geotextile fabric in accordance with Specification Section 985. Provide 8"x8" galvanized mesh with 1/4" openings, at the inside end of the PVC Drain Pipe. Provide 2" Ø PVC Drain Pipe (Sch. 40) at 10 ft. max. spacing. Locate outermost edge of Drain Pipe a minimum of 2'-0" from wall joints.



BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
A	4	As Req'd.
B	4	5'-6 1/2"

BAR BENDING DIAGRAM	
<p>Wall Joint spacing - 4" (29'-8" Max.)</p> <p>BAR A</p> <p>5'-3"</p> <p>3 1/2"</p> <p>1"</p> <p>BAR B</p>	<p>NOTES:</p> <ol style="list-style-type: none"> 1. All bar dimensions are out to out. 2. Lap splices for Bars A must be a minimum of 1'-10".

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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CHECKED BY: <i>EJM Jr.</i>			
DESIGNED BY: <i>EJM Jr.</i>			
CHECKED BY: <i>EJM</i>			
	CONTRACT	MILEPOST	COUNTY
			NASSAU

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NOTES:

1. Shop Drawings are required, refer to Specification 515.

2. Materials:

- A. Pan Head Set Screws: Stainless Steel (SS) Type 316 or 18-8 Alloy.
- B. Base Plates and Cap Plates: ASTM A36 or ASTM A709 Grade 36
- C. Pipe Rails and Posts: ASTM A53 Grade B for standard weight pipe and ASTM A500 Grade B, C or D or ASTM A501 for Structural Tube.

Handrail Support Bars: ASTM A36

RAILING MEMBER DIMENSIONS TABLE			
MEMBER	DESIGNATION	OUTSIDE DIMENSION	WALL THICKNESS
Posts	2" NPS (Sch. 40)	2.375"	0.154"
Rails	2" NPS (Sch. 40)	2.375"	0.154"
Rail Joint/Splice Sleeves	1½" NPS (Sch. 40)	1.900"	0.145"
Handrails Joint/Splice Sleeves	1" NPS (Sch. 40) HSS1.500x0.125	1.315" 1.500"	0.133" 0.125"
Handrails	1½" NPS (Sch. 40)	1.900"	0.145"
Handrail Support Bar	1" Ø Round Bar	1.000"	N/A

- D. Galvanized Steel Fasteners:
 - a. Hex Head Bolts: ASTM A307 Type 1 or ASTM F1554 Grade 36
 - b. Adhesive Anchors: ASTM F1554 Grade 36 fully threaded rods
 - c. Hex Nuts: ASTM A563
 - d. Flat Washers: ASTM F436
- E. Aluminum Shims: ASTM B209, Alloy 6061
- F. Bearing Pads: Plain, Fabric Reinforced, or Fabric Laminated meeting requirements of Specifications 515 and 932.

3. Fabrication:

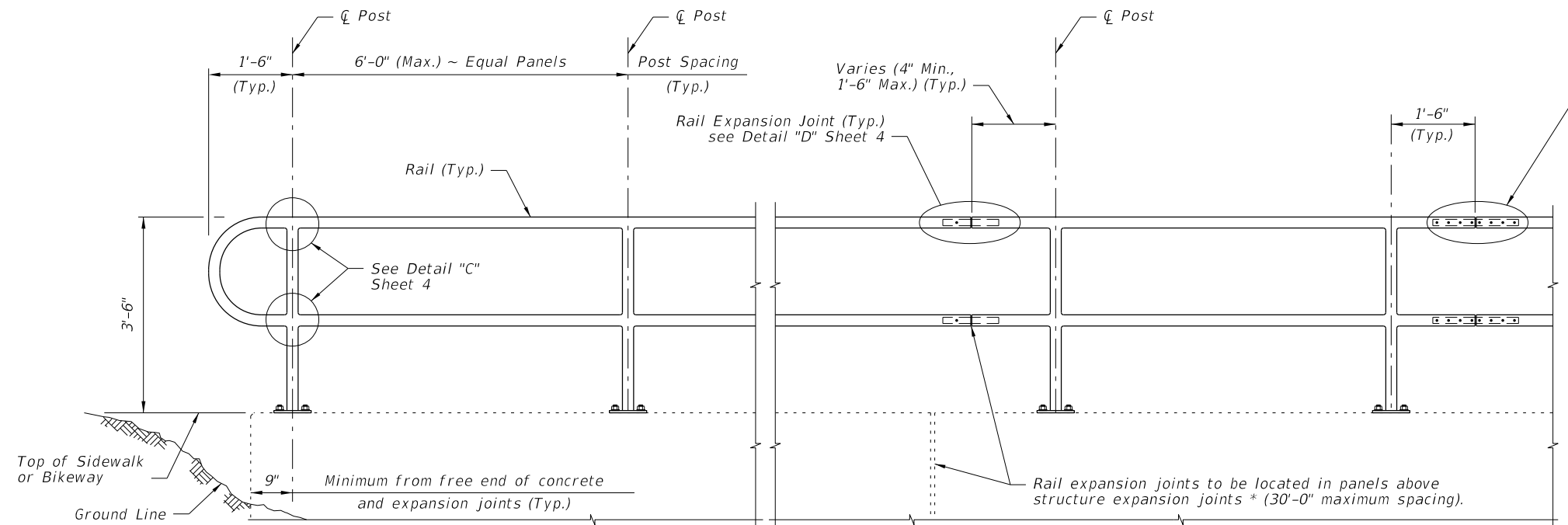
- A. Place expansion joints at a maximum of 30'-0"spacing.
- B. Field splices are similar to the expansion joint detail and may be approved by the Engineer to facilitate handling; but top rail must be continuous across a minimum of two posts.
- C. Continuity field splice (Detail "E") only use to make the railing continuous for unforeseen field adjustments
- D. Corners and changes in tangential longitudinal alignment may be made continuous with a 9"bend radius or terminated at adjoining sections with a standard end hoop when handrails are not required.
- E. For curved longitudinal alignments, shop bend the top and bottom rails and handrails to match the alignment radius.
- F. For changes in tangential longitudinal alignment greater than 45°, positioned posts a maximum of 2'-0" each side of the corner, not at the corner apex.

4.Handrails are required and must be continuous at landings for:

- A. Grades Steeper than 5%,
- B. Three or more steps

5. Cutting of reinforcing steel is permitted for adhesive anchor bolt installations.

REVISIONS						<div></div> <div>MORALES CONSULTING ENGINEERS, INC. 3832-010 BAYMEADOWS RD. SUITE 132 JACKSONVILLE, FL 32217 (904) 434-4366 CERT. OF AUTH. NO. 30712</div>	DRAWN BY: ODR			SHEET TITLE: PIPE GUIDERAIL (STEEL)					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		CHECKED BY: EJM Jr.								
		FDOT 515-080					DESIGNED BY: EJM Jr.			CONTRACT	MILEPOST	COUNTY	PROJECT NAME: WILDLIGHT COMMERCE PARK PARCEL A FOR PATTILLO INDUSTRIAL REAL ESTATE		SHEET NO.
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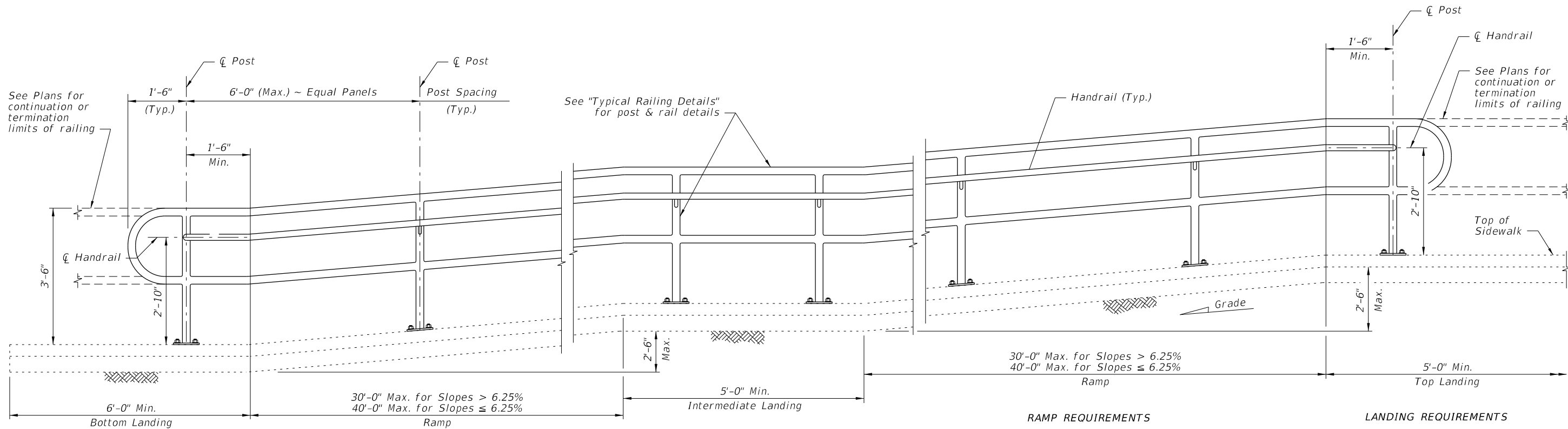
NOTES:
NPS = Nominal Pipe Size

STRUCTURES EXPANSION JOINTS NOTE:
* Keyed construction joints in Index 400-011 Gravity Wall are not considered to be expansion joints.

CROSS REFERENCE:
For Details "C", "D" and "E", see Sheet 4.

ELEVATION

TYPICAL RAILING DETAILS & RAILINGS ON GRADES 0% TO 5%



ELEVATION
(Showing Inside Face of Railing)

RAMP REQUIREMENTS

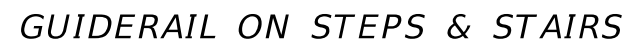
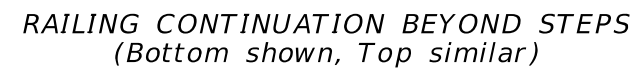
For slopes greater than 5%:
Max. ramp slope = 8.33%
Max. ramp cross-slope = 2.0%

LANDING REQUIREMENTS

Max. landing slope = 2%
Max. landing cross-slope = 2%

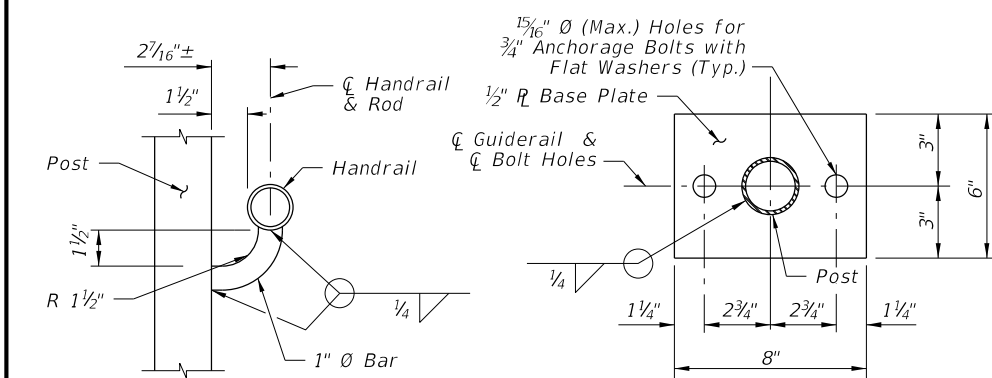
RAILINGS ON GRADES STEEPER THAN 5% TO 8.33%

REVISIONS						 <div>MORALES CONSULTING ENGINEERS, INC. 3832-010 BAYMEADOWS RD. SUITE 132 JACKSONVILLE, FL 32217 (904) 434-4366 CERT. OF AUTH. NO. 30712</div>	DRAWN BY: ODR			SHEET TITLE: PIPE GUIDERAIL (STEEL)		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		CHECKED BY: EJM Jr.	CONTRACT	MILEPOST			
		FDOT 515-080					DESIGNED BY: EJM Jr.				PROJECT NAME: WILDLIGHT COMMERCE PARK PARCEL A FOR PATTILLO INDUSTRIAL REAL ESTATE	SHEET NO.
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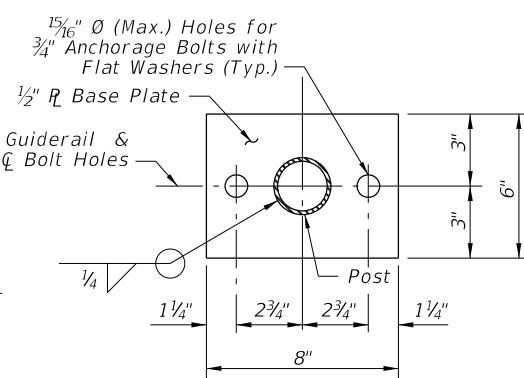


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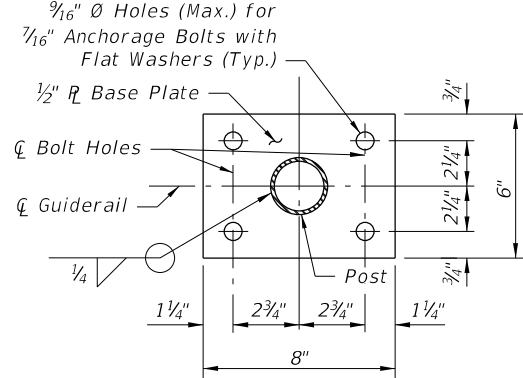
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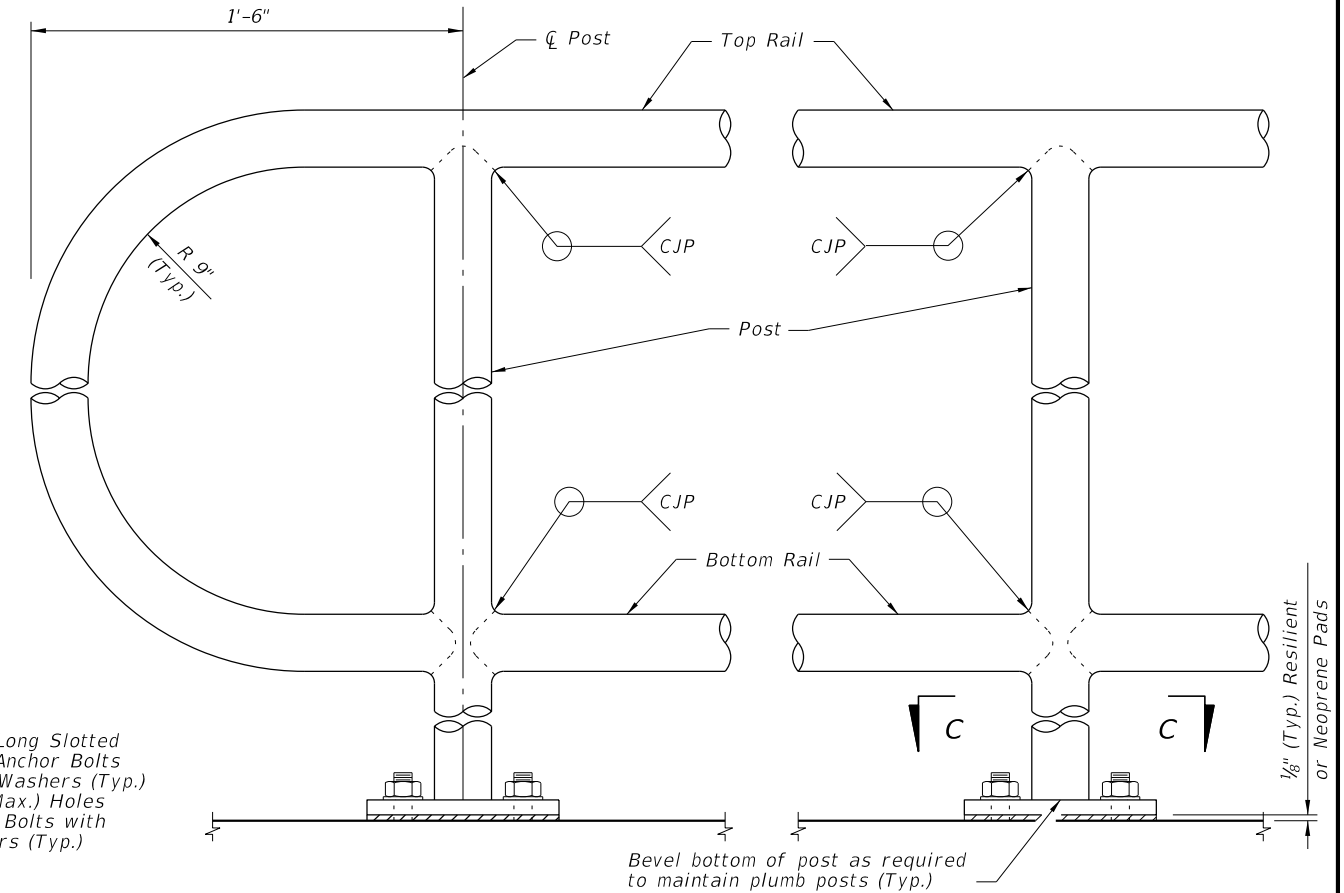
SECTION B-B
(Handrail Connection)



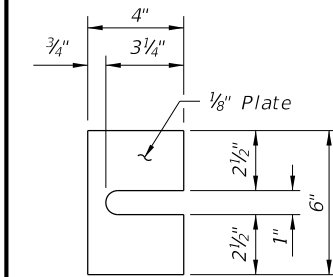
SECTION C-C
BASE PLATE DETAIL
(2~Bolt Anchorage)



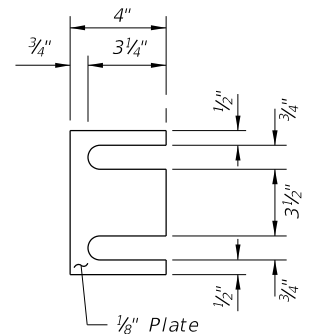
SECTION C-C
BASE PLATE DETAIL
(4~Bolt Anchorage)



DETAIL "C" - RAIL CONNECTIONS
(Handrail and 4~Bolt Anchorage Not Shown)



SHIM PLATE DETAIL
(2~Bolt Anchorage)



SHIM PLATE DETAIL
(4~Bolt Anchorage)

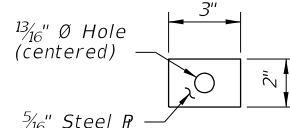
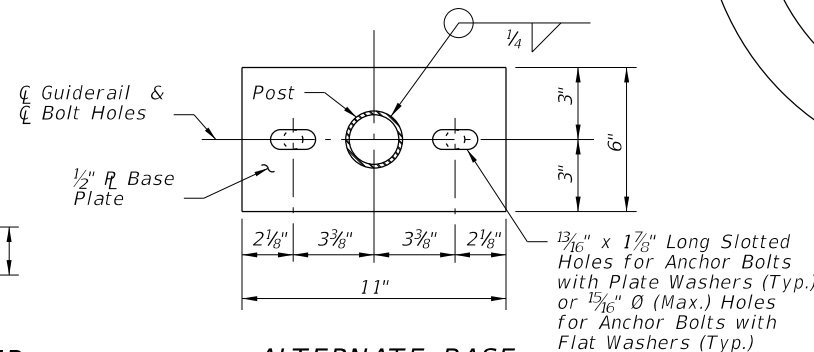
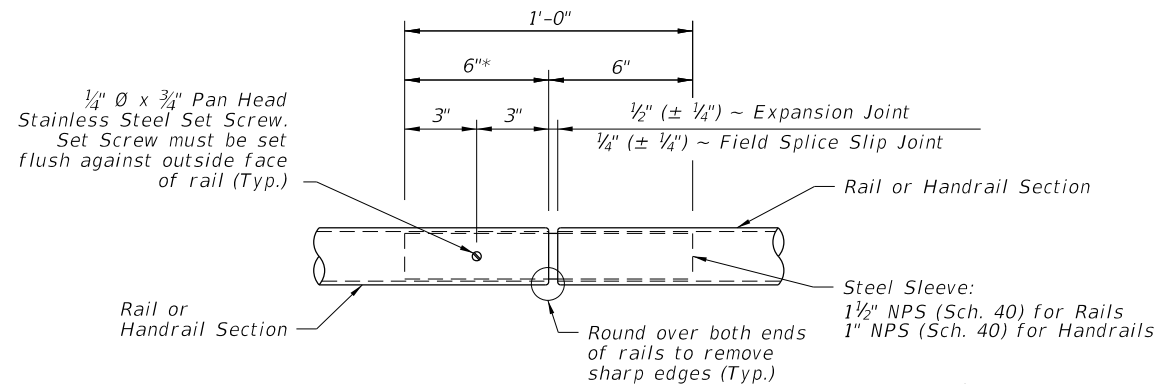


PLATE WASHER
DETAIL

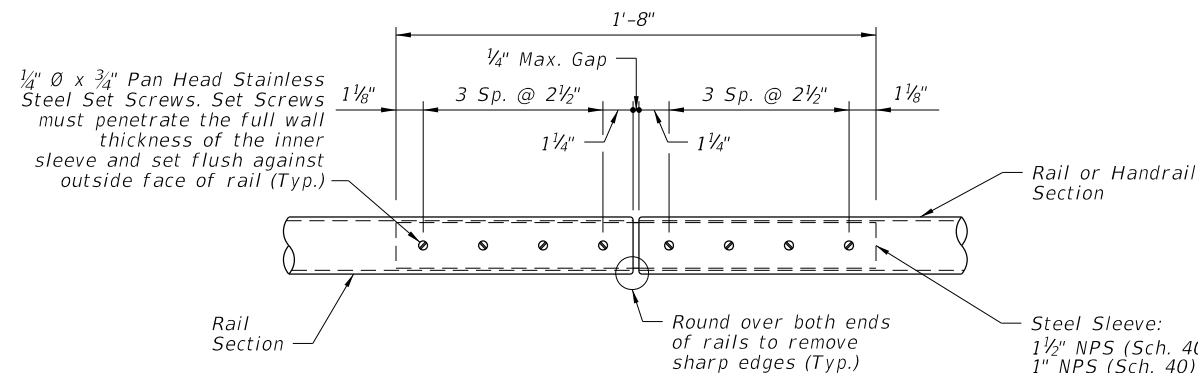


ALTERNATE BASE
PLATE DETAIL
(Recommended for Steep Slopes)

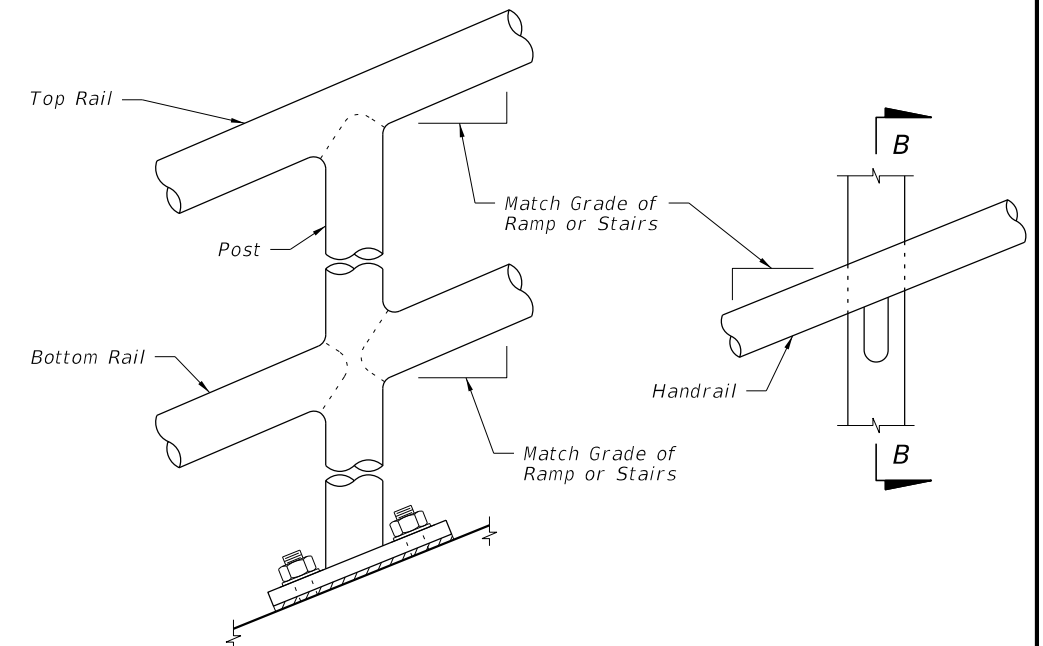


DETAIL "D" - EXPANSION JOINT
(FIELD SPLICE SLIP JOINT SIMILAR)

* At the Contractor's option, embedded length may be 4" when a 3/4" Ø plug weld is substituted for the 1/4" Ø set screw.



DETAIL "E" - CONTINUITY FIELD SPLICE



DETAIL "B" - RAIL AND HANDRAIL
(Showing Sloped Condition for Ramps with 2~Bolt Anchorage)

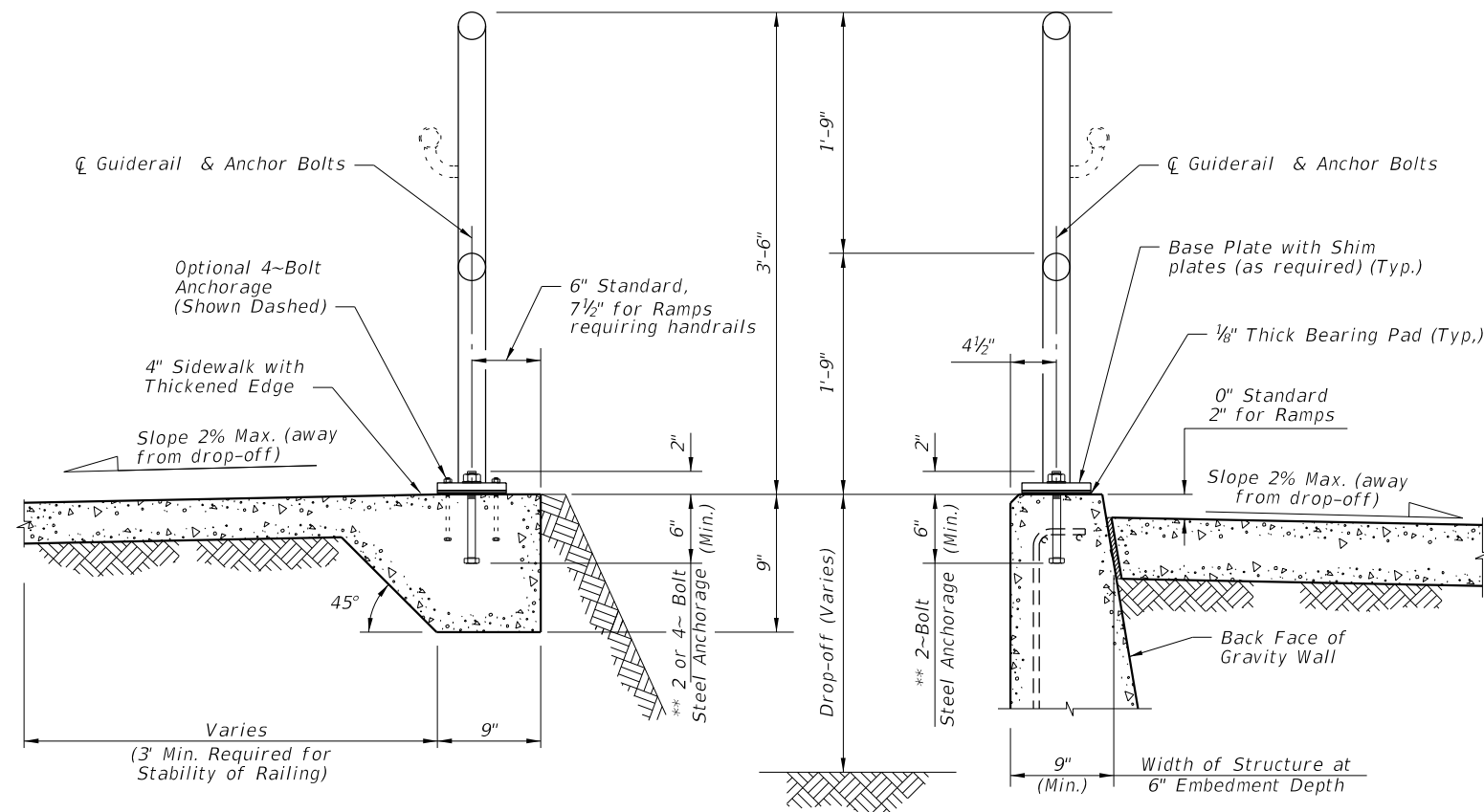
CROSS REFERENCE:
For locations of Details "C", "D" and "E", see Sheet 2.

REVISIONS					
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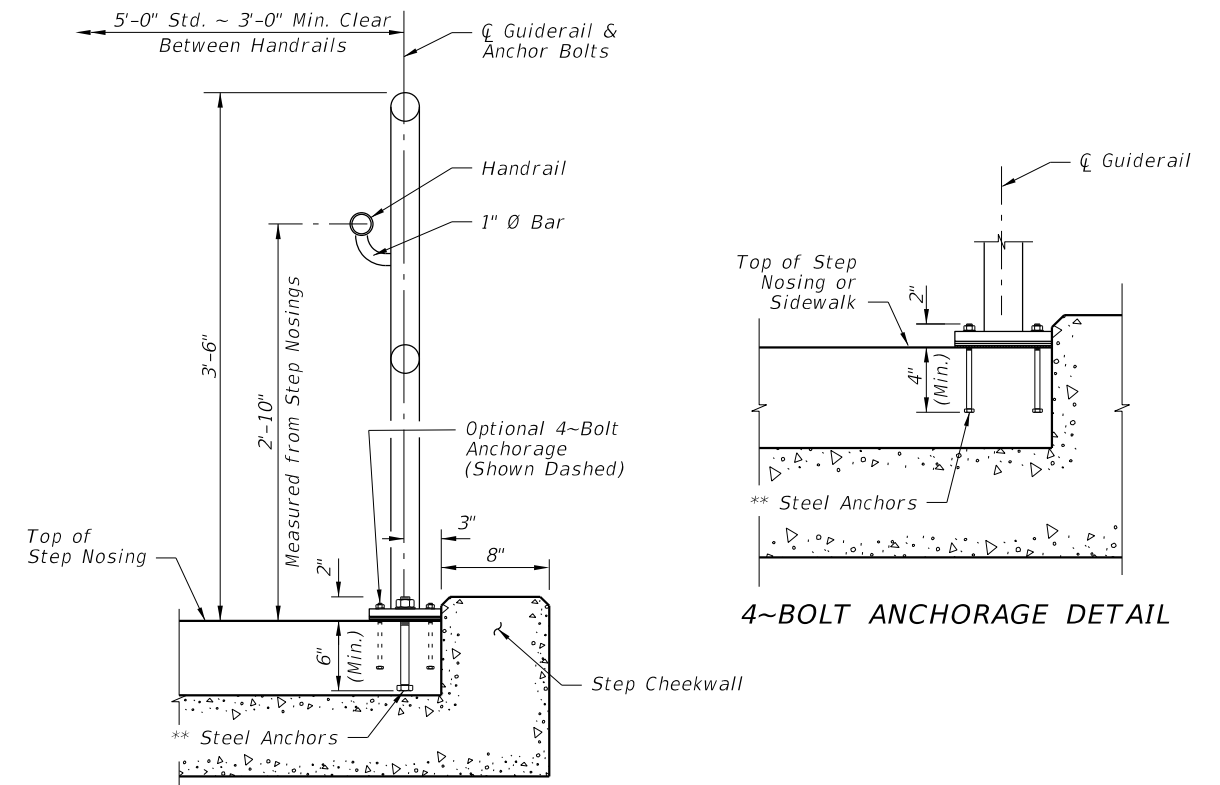
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CHECKED BY: EJM Jr.			
DESIGNED BY: EJM Jr.			
CHECKED BY: EJM			

SHEET TITLE			
PIPE GUIDERAIL (STEEL)			
PROJECT NAME:			
WILDLIGHT COMMERCE PARK PARCEL A FOR PATTILLO INDUSTRIAL REAL ESTATE			
SHEET NO.			

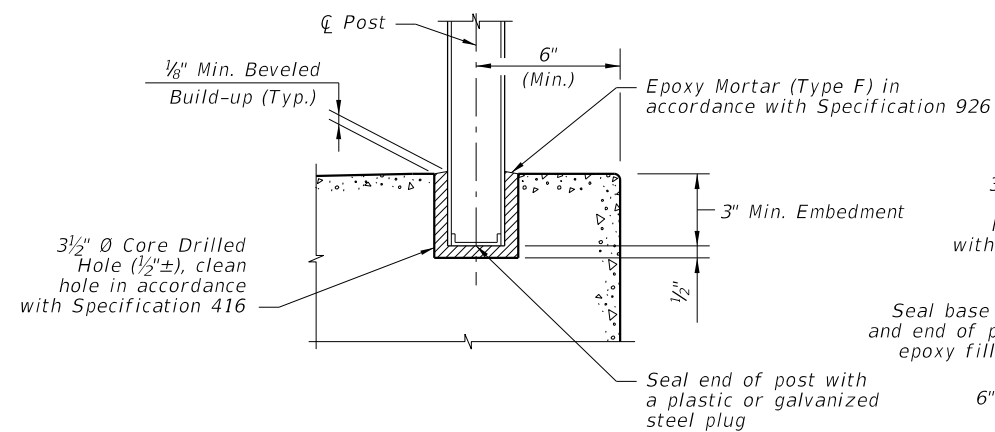
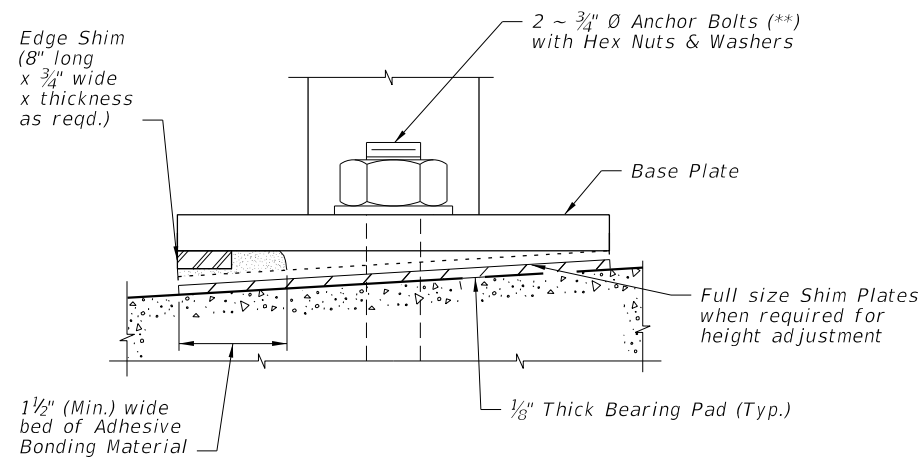


TYPICAL SECTION ON CONCRETE SIDEWALK

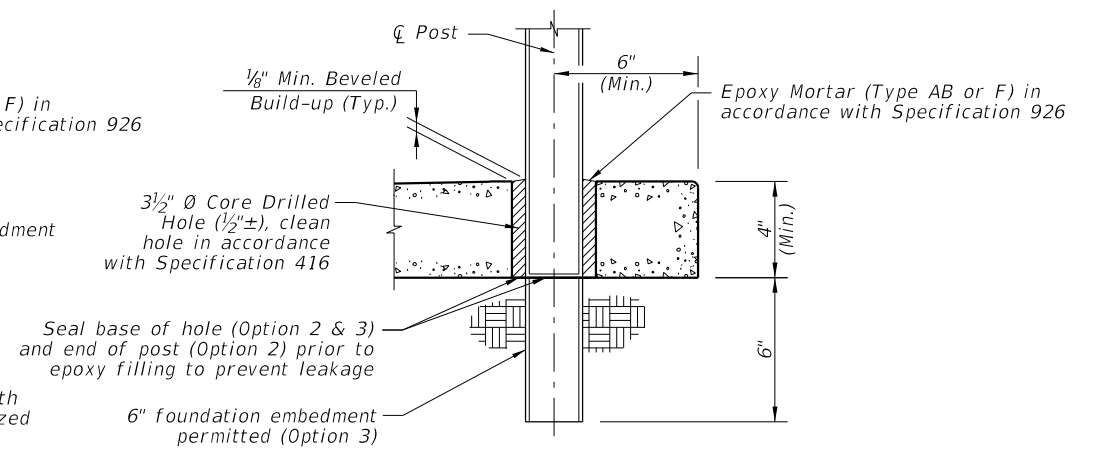
TYPICAL SECTION ON GRAVITY WALL
(Other Retaining Walls Similar)



TYPICAL SECTION ON
STEPS & STAIRS



OPTIONAL SIDEWALK ANCHORAGE DETAIL



SIDEWALK ANCHORAGE DETAIL
OPTION 2 & 3

NOTES:
 **2 ~ 3/4" Ø x 8" or 4 ~ 7/16" Ø x 6" Steel Anchors:
 Galvanized Steel Bolts (As Shown) (C-I-P); Galvanized U-Bolts
 Permitted (C-I-P); Galvanized Adhesive Anchors Permitted
 (**); Expansion Anchors Not Permitted.

*** The minimum embedment for adhesive anchors is 6" for
 2-Bolt Anchorage or 4" for 4-Bolt Anchorage.

REVISIONS						DRAWN BY:				SHEET TITLE:			
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	CONTRACT	MILEPOST	COUNTY	PROJECT NAME:	PIPE GUIDERAIL (STEEL)			SHEET NO.
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						MORALES CONSULTING ENGINEERS, INC. 3832-010 BAYMEADOWS RD. SUITE 132 JACKSONVILLE, FL 32217 (904) 434-4366 CERT. OF AUTH. NO. 30712							
						DRAWN BY: ODR CHECKED BY: EJM Jr. DESIGNED BY: EJM Jr. CHECKED BY: EJM							