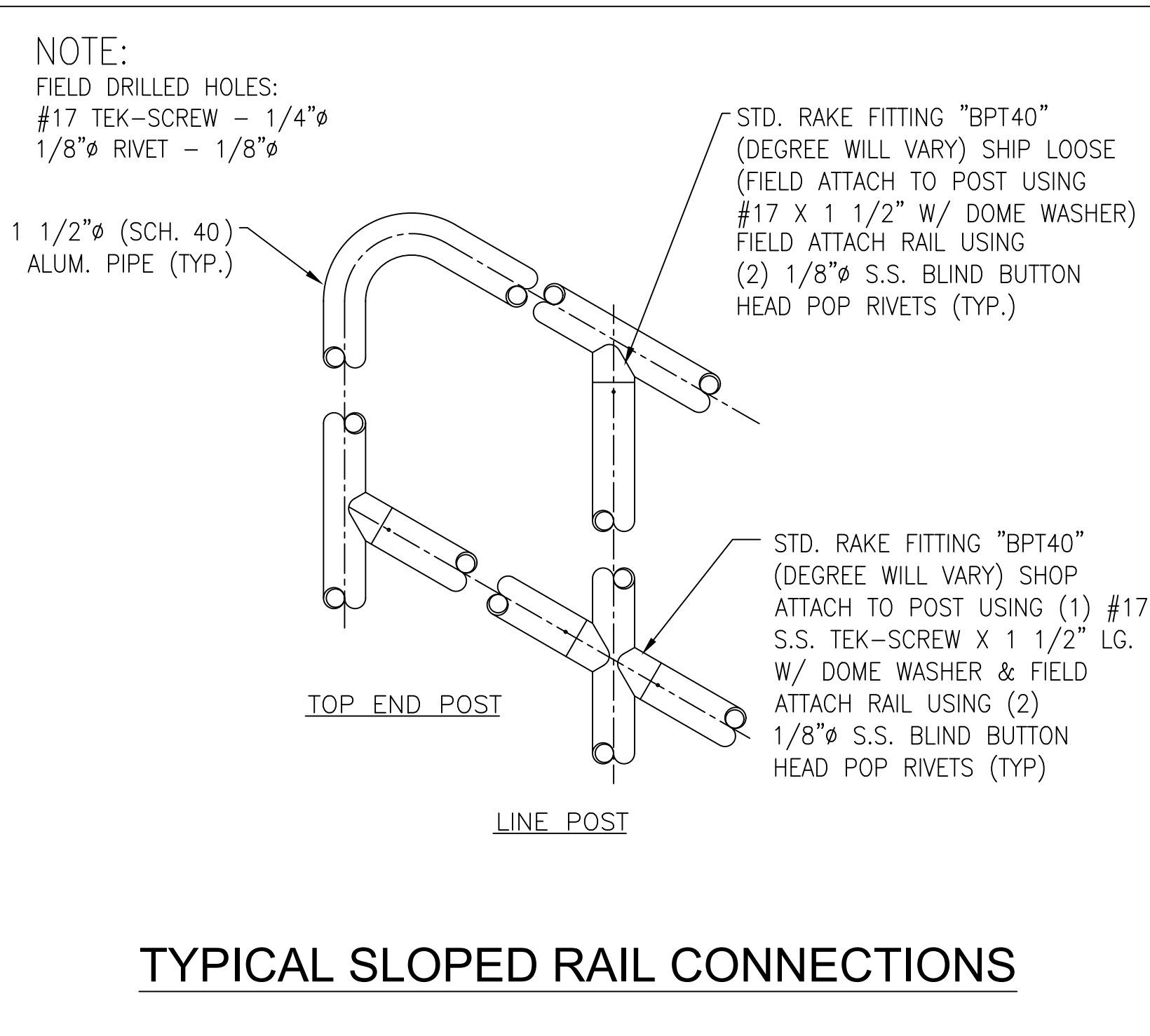
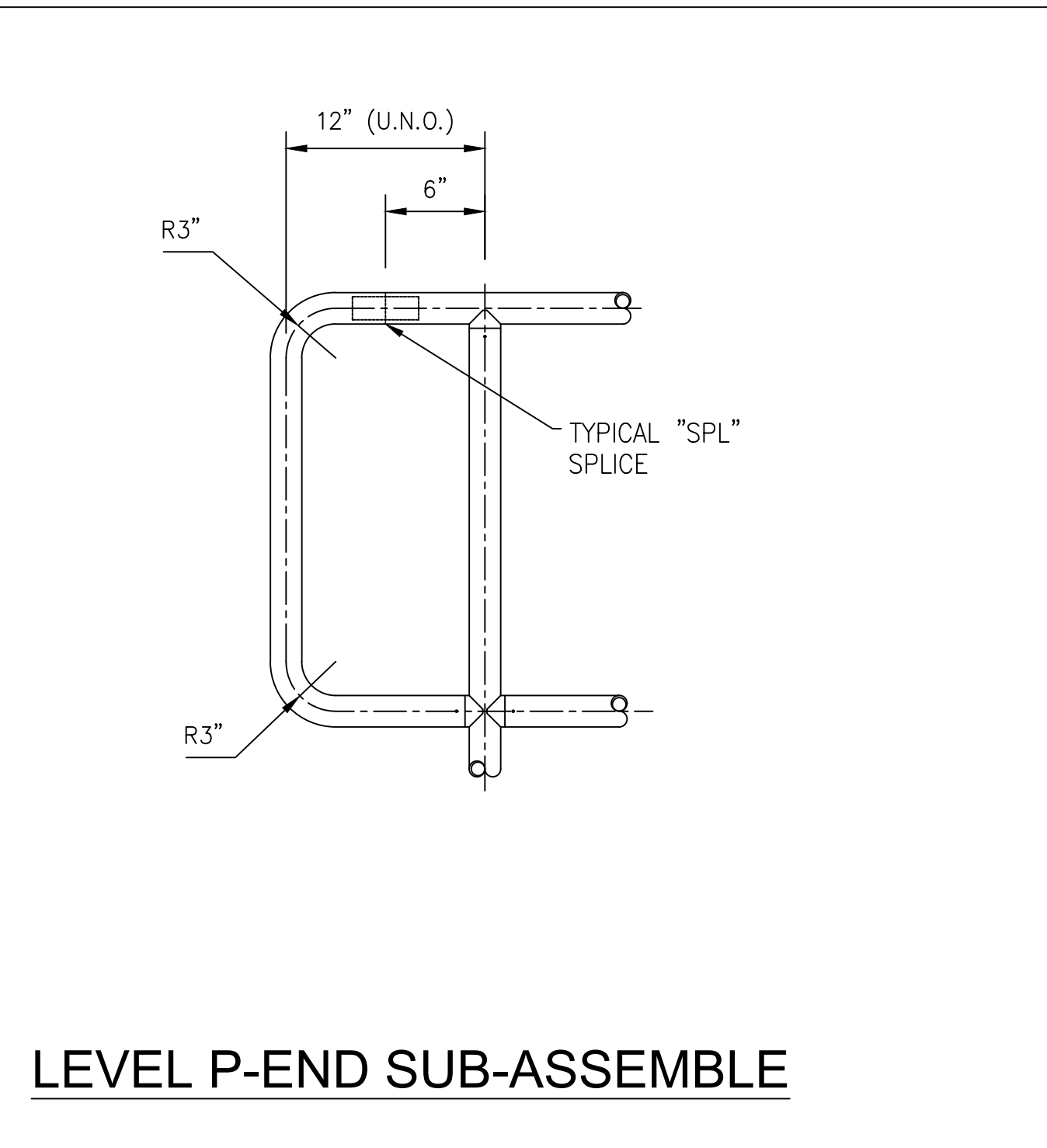


**TYPICAL LEVEL RAIL CONNECTIONS**

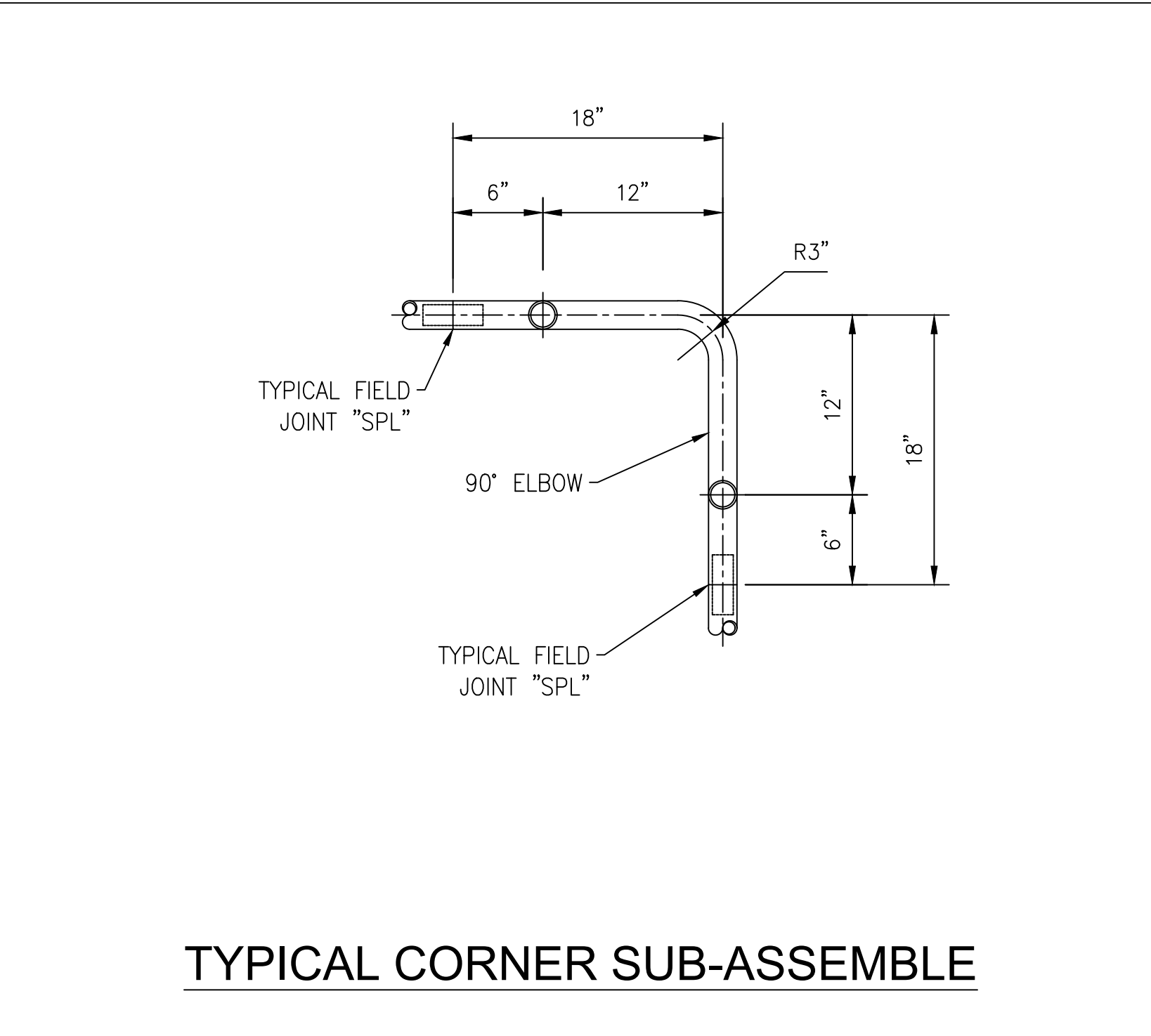


**TYPICAL SLOPED RAIL CONNECTIONS**

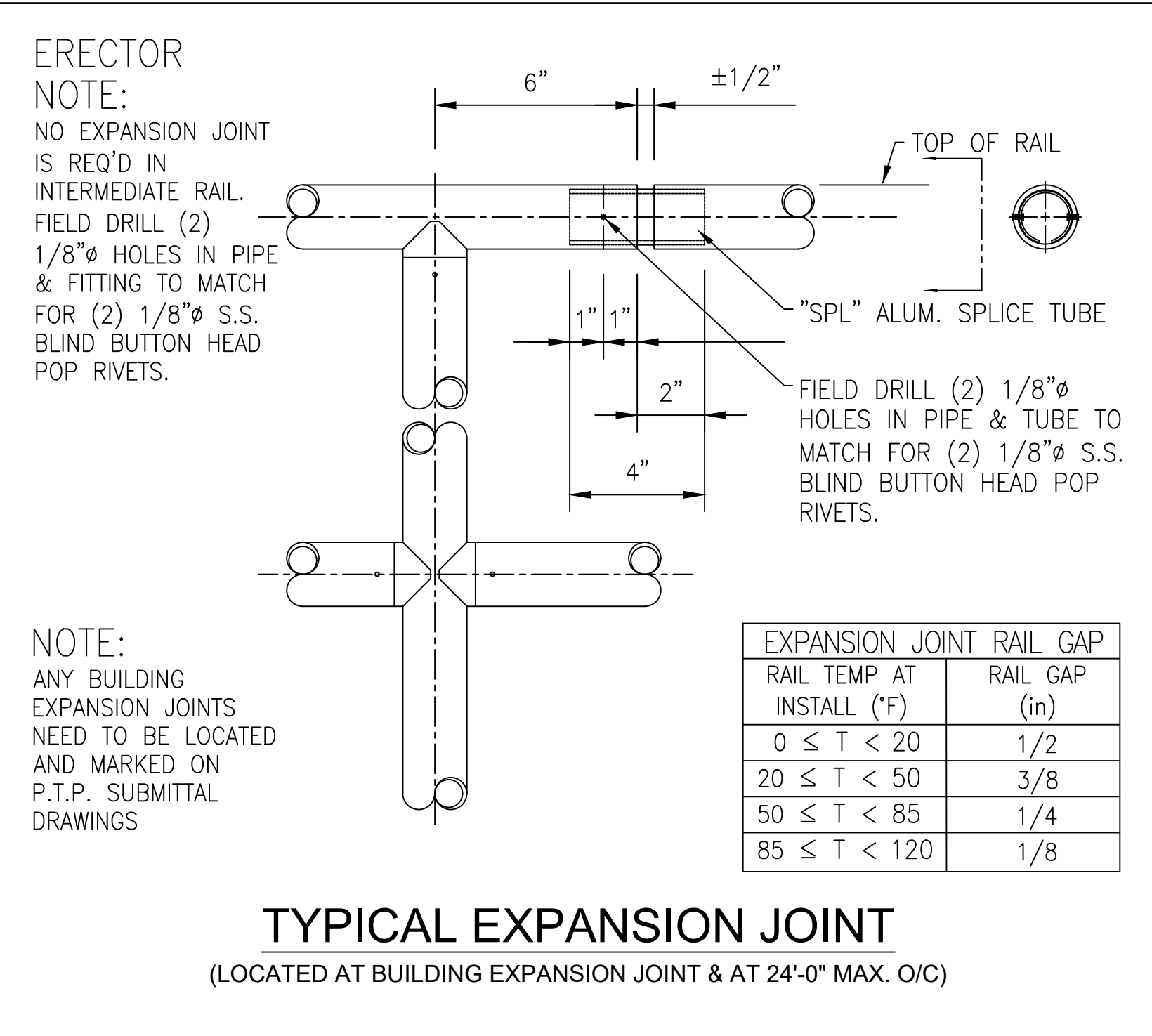


**LEVEL P-END SUB-ASSEMBLE**

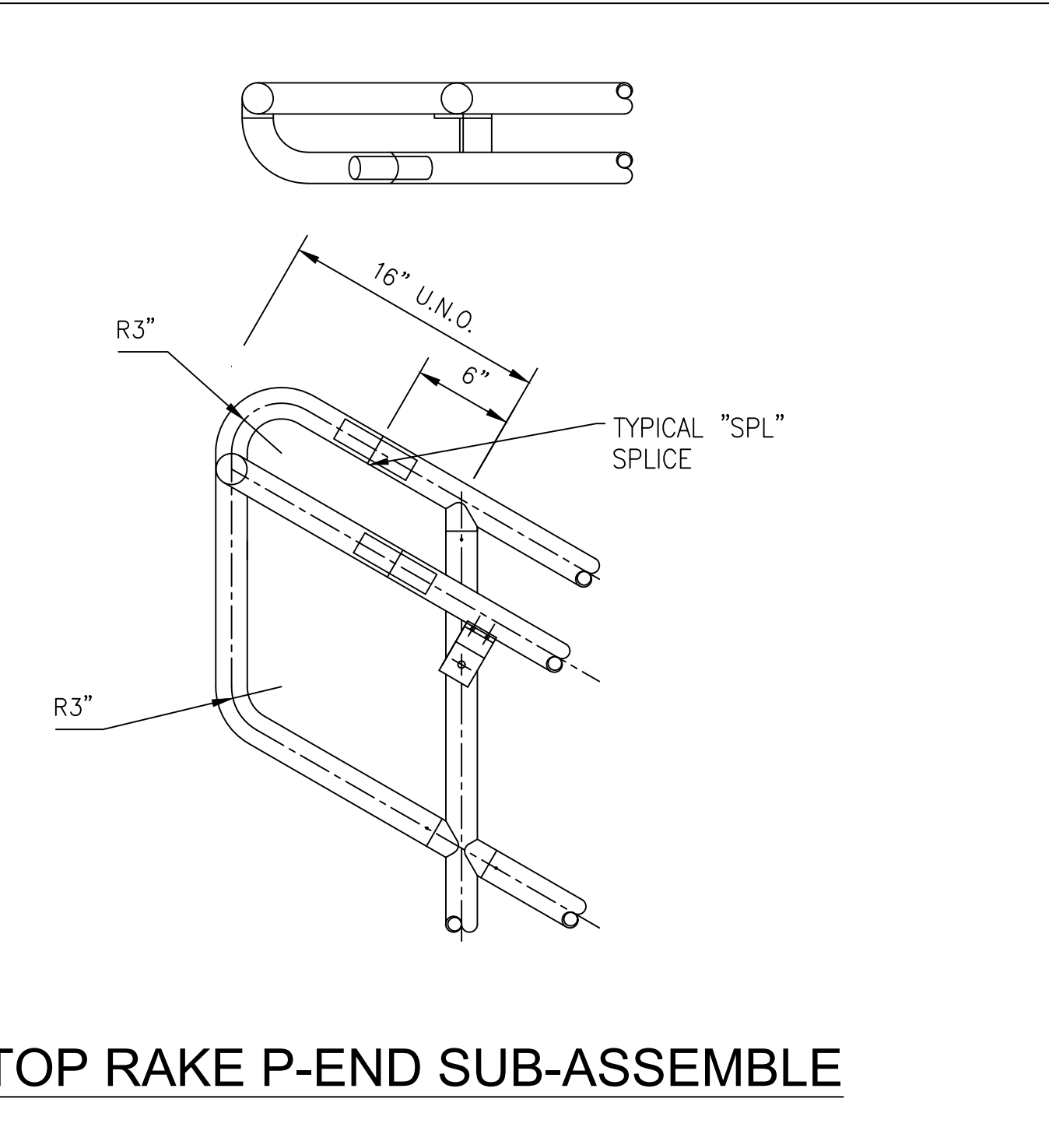
- GENERAL NOTES**
- ALL RAIL IS TO BE OF MECHANICAL CONSTRUCTION U.N.O.
  - ALL RAILS ARE TO BE FABRICATED FROM 1 1/2"φ (SCH. 40) ALUMINUM PIPE (6005A-T61 ALLOY) (U.N.O.)
  - ALL POSTS ARE TO BE FABRICATED FROM 1 1/2"φ (SCH. 40) ALUMINUM PIPE (6005A-T61 ALLOY) (U.N.O.)
  - ALL EXTRUDED COMPONENTS ARE 6005A-T61 ALLOY, CAST COMPONENTS ARE 535 ALLOY
  - ALL FASTENERS (SELF TAPPING SCREWS, MACHINE BOLTS, ADHESIVE ANCHORS, ETC.) TO BE 304 STAINLESS STEEL
  - ALL RAILING SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS SHALL RECEIVE ONE 1/16" THICK NEOPRENE GASKET (SHIPPED LOOSE FOR FIELD ATTACHMENT)
  - ALL BOLTS, NUTS AND FLAT WASHERS USED TO MOUNT RAILINGS TO FLOORS, WALLS, STEEL, ETC. ARE BY PTP ENGINEERED RAILINGS
  - ALL KICK PLATES ("FKP" OR "SKP") SHALL BE SHIPPED LOOSE IN 24'-0" LG. STOCK LENGTHS FOR FIELD CUTTING & DRILLING AS NEEDED
  - ALL POSTS ARE TO BE FURNISHED CUT TO LENGTH WITH FITTINGS & MOUNTING PLATES ATTACHED OR SHIPPED LOOSE PER THEIR SPECIFIC DETAILS
  - PIPE FOR STRAIGHT RAIL IS FURNISHED IN 24'-0" STOCK LENGTHS FOR CUTTING & DRILLING AS NEEDED
  - PIPE FOR CURVED RAIL IS FURNISHED SUB-ASSEMBLED IN 21'-0" (MAX). ROLLED LENGTHS FOR FIELD CUTTING & DRILLING AS NEEDED  
\*\* ALL RADII MUST BE VERIFIED PRIOR TO FABRICATION \*\*
  - ALL CURVED RAIL SHALL BE FABRICATED USING CURVED TOP AND INTERMEDIATE RAILS
  - PIPE FOR SINGLE LINE RAIL IS FURNISHED & SHIPPED SUB-ASSEMBLED.
  - BENDS WITH A 3" C/L RADIUS ARE FURNISHED AS NEEDED & MUST BE FIELD CUT FOR FIELD CONDITIONS
  - ALL RAIL WHEN PROPERLY INSTALLED SHALL MEET OR EXCEED OSHA REQUIREMENTS.
  - MAX. POST SPACING TO BE 6'-0" C/C
  - ALL RAIL IS TO BE FINISHED IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION'S DESIGNATION M10C22A41 OR M12C22A41
  - PIPE FOR CANTILEVER RAILING WILL SHIP LOOSE IN 24'-0" STOCK LENGTHS FOR FIELD CUTTING AND DRILLING AS NEEDED
  - ENSURE ALL FIELD CUTS AND FIELD DRILLED HOLES ARE CLEANED UP, FREE OF SHARP EDGES AND BURRS.
  - CONCRETE ANCHOR TYPE IS HILTI HIT-RE 500 V3 ADHESIVE ANCHORS. CONCRETE STRENGTH IS ASSUMED TO BE 4000 PSI, NORMAL WEIGHT CRACKED CONCRETE.
  - ALL DIMENSIONS SHOWN THROUGHOUT THIS SET ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BEFORE FABRICATION AND INSTALLATION  
%% = SEE ERECTION DRAWINGS FOR PART NUMBER



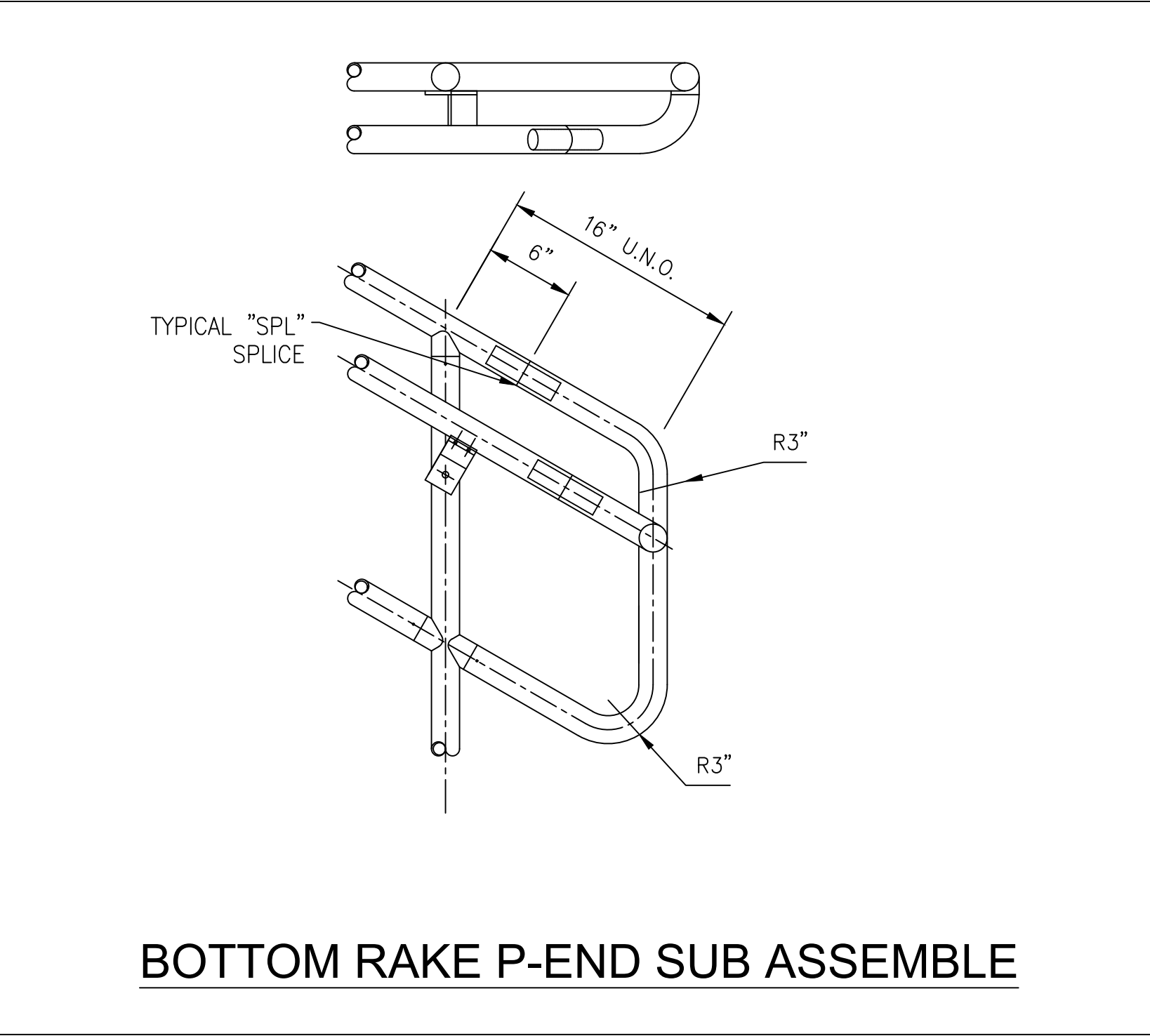
**TYPICAL CORNER SUB-ASSEMBLE**



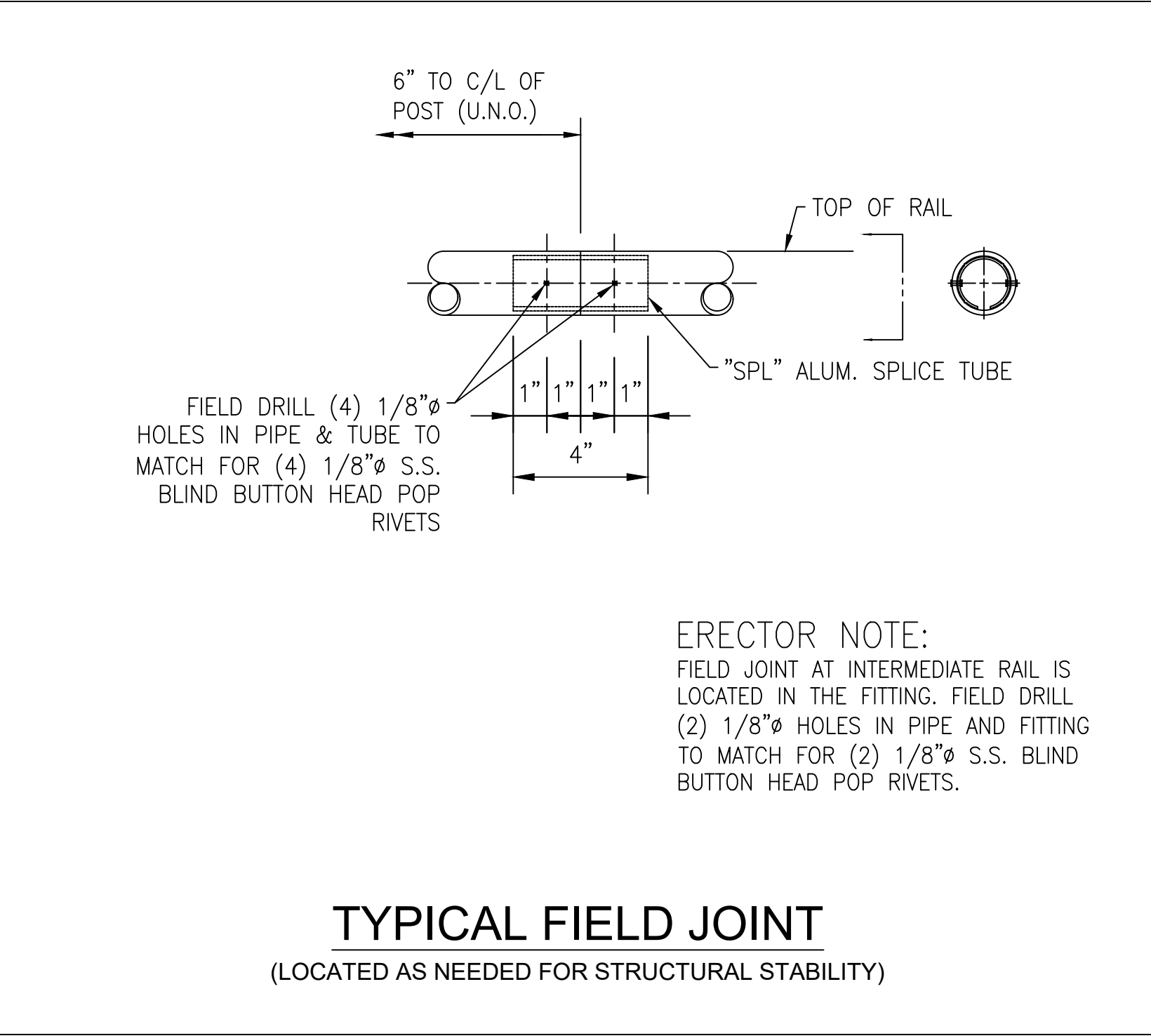
**TYPICAL EXPANSION JOINT**  
(LOCATED AT BUILDING EXPANSION JOINT & AT 24'-0" MAX. O/C)



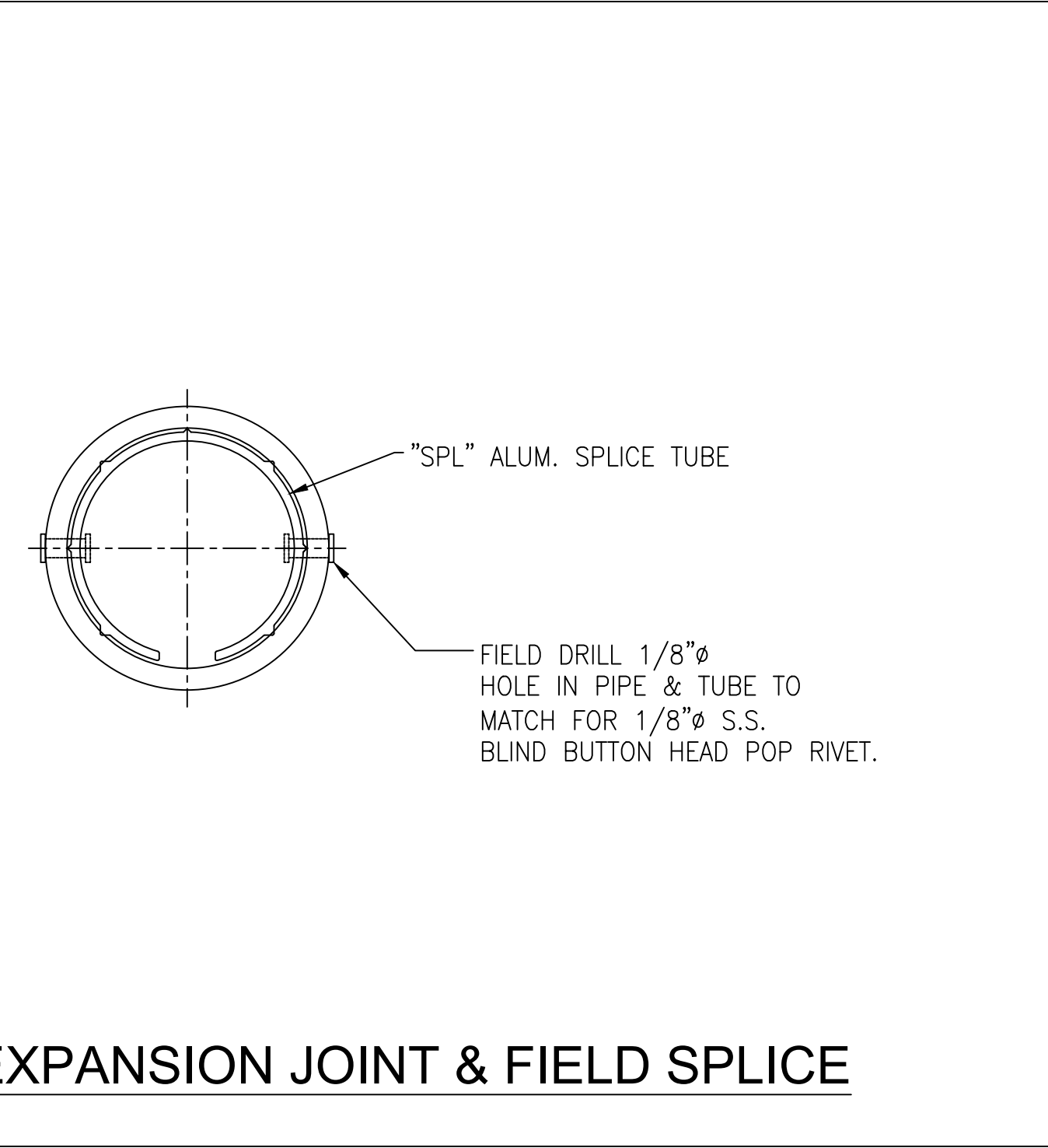
**TOP RAKE P-END SUB-ASSEMBLE**



**BOTTOM RAKE P-END SUB-ASSEMBLE**

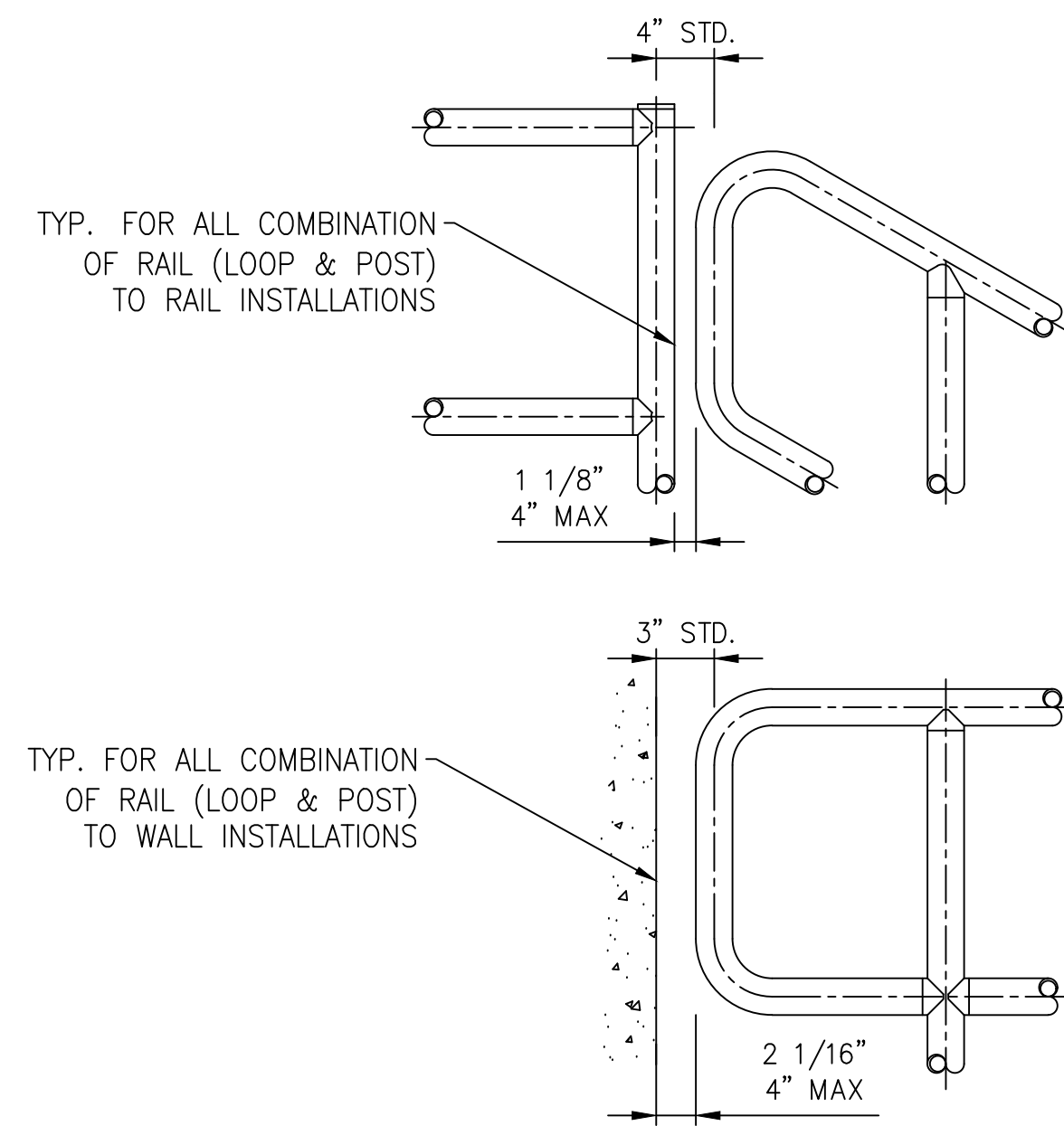


**TYPICAL FIELD JOINT**  
(LOCATED AS NEEDED FOR STRUCTURAL STABILITY)

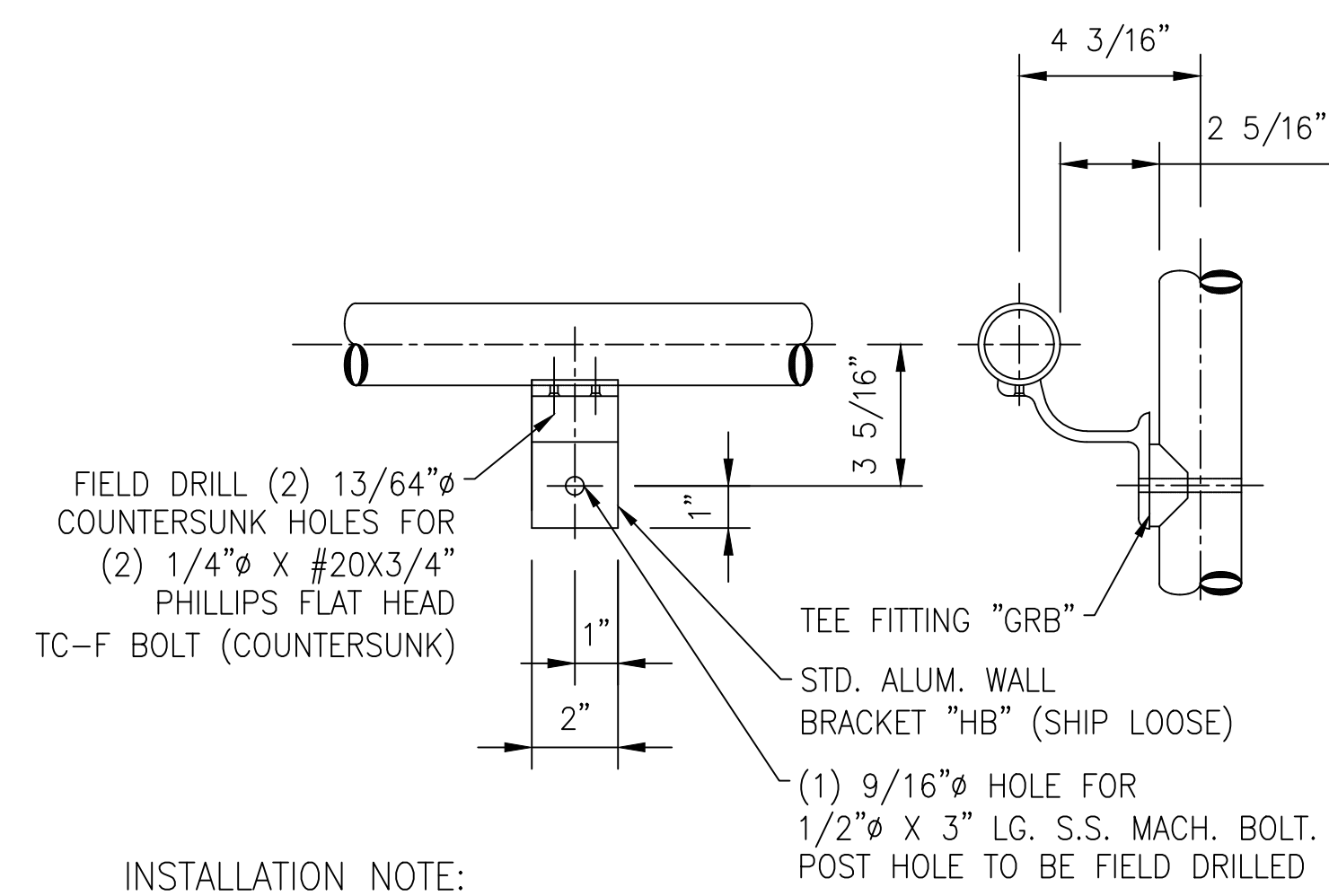


**EXPANSION JOINT & FIELD SPLICE**

1	SUBMITTAL	9/19/2017
REV	DESCRIPTION	DATE
<p>3000 YOUNGFIELD ST. SUITE 275 WHEAT RIDGE, CO 80215 Ph. (720)508-3819 FAX. (720)409-3843</p>		<p>NOTICE TO CONTRACTOR AND ERECTOR: BACK CHARGES FOR CORRECTIVE WORK OR REPLACEMENT MATERIALS WILL NOT BE ACCEPTED UNLESS AUTHORIZED BY PEAK TO PEAK ENGINEERED RAILINGS, INC. BEFORE SUCH COSTS ARE INCURRED</p>
<p><b>STANDARD DETAILS</b> CITY, ST ALUMINUM HANDRAIL - RIVET SYSTEM - SUB-ASSEMBLED</p>		
DESIGNER	DESIGNER	CUSTOMER
CUSTOMER JOB #	XXXX-XX	PRINT DATE
DATE	3/13/2020	ISSUE DATE
SCALE	NTS	CONTRACT NO
CHECKER	INT	DRAWING NO.
		XXX-XXX
		SD-1



**STD. RAILING OFFSETS**



FIELD DRILL (2) 13/64" Ø COUNTERSUNK HOLES FOR (2) 1/4" X #20X3/4" PHILLIPS FLAT HEAD TC-F BOLT (COUNTERSUNK)

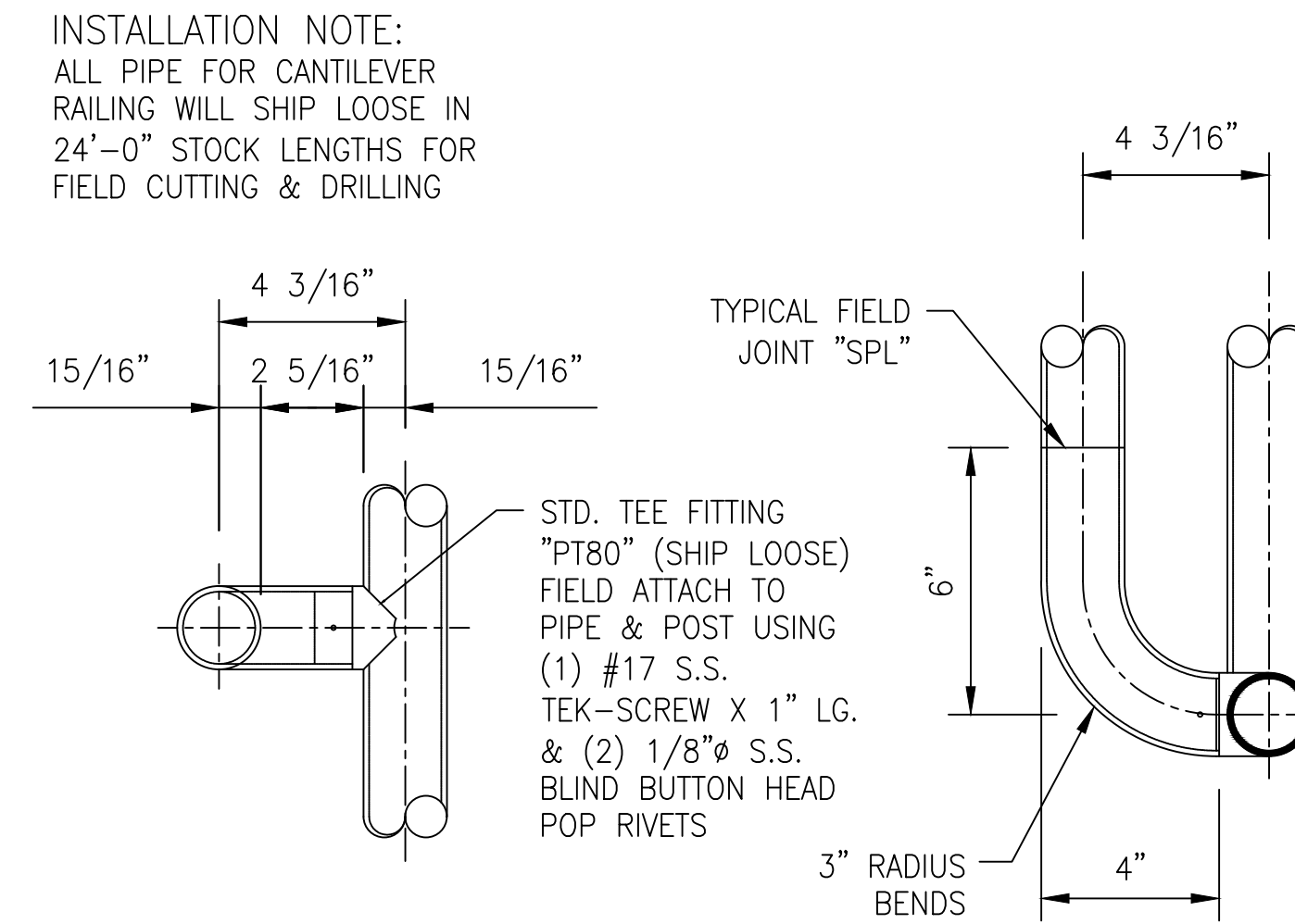
TEE FITTING "GRB"

STD. ALUM. WALL BRACKET "HB" (SHIP LOOSE)

(1) 9/16" Ø HOLE FOR 1/2" X 3" LG. S.S. MACH. BOLT. POST HOLE TO BE FIELD DRILLED

INSTALLATION NOTE:  
ALL PIPE FOR CANTILEVER RAILING WILL SHIP LOOSE IN 24'-0" STOCK LENGTHS FOR FIELD CUTTING & DRILLING

**CANTILEVER RAIL BRACKET GRB**



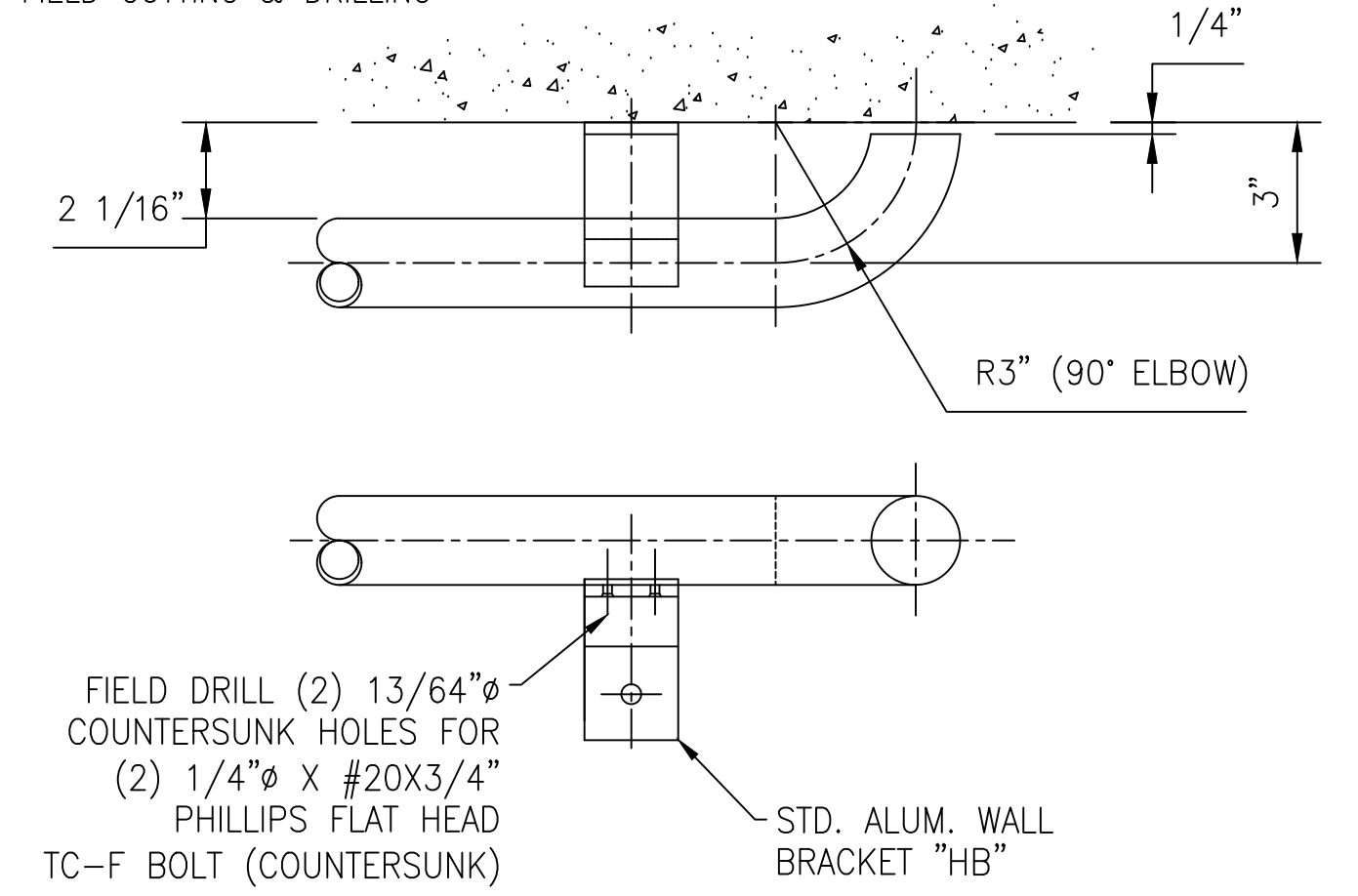
INSTALLATION NOTE:  
ALL PIPE FOR CANTILEVER RAILING WILL SHIP LOOSE IN 24'-0" STOCK LENGTHS FOR FIELD CUTTING & DRILLING

STD. TEE FITTING "PT80" (SHIP LOOSE) FIELD ATTACH TO PIPE & POST USING (1) #17 S.S. TEK-SCREW X 1" LG. & (2) 1/8" Ø S.S. BLIND BUTTON HEAD POP RIVETS

**SPECIAL OFFSET RAIL CONNECTOR**

CUSTOMER NOTE:  
FILL VOID CAVITY IN CMU WITH GROUT AT ALL RAIL MOUNTING LOCATIONS.

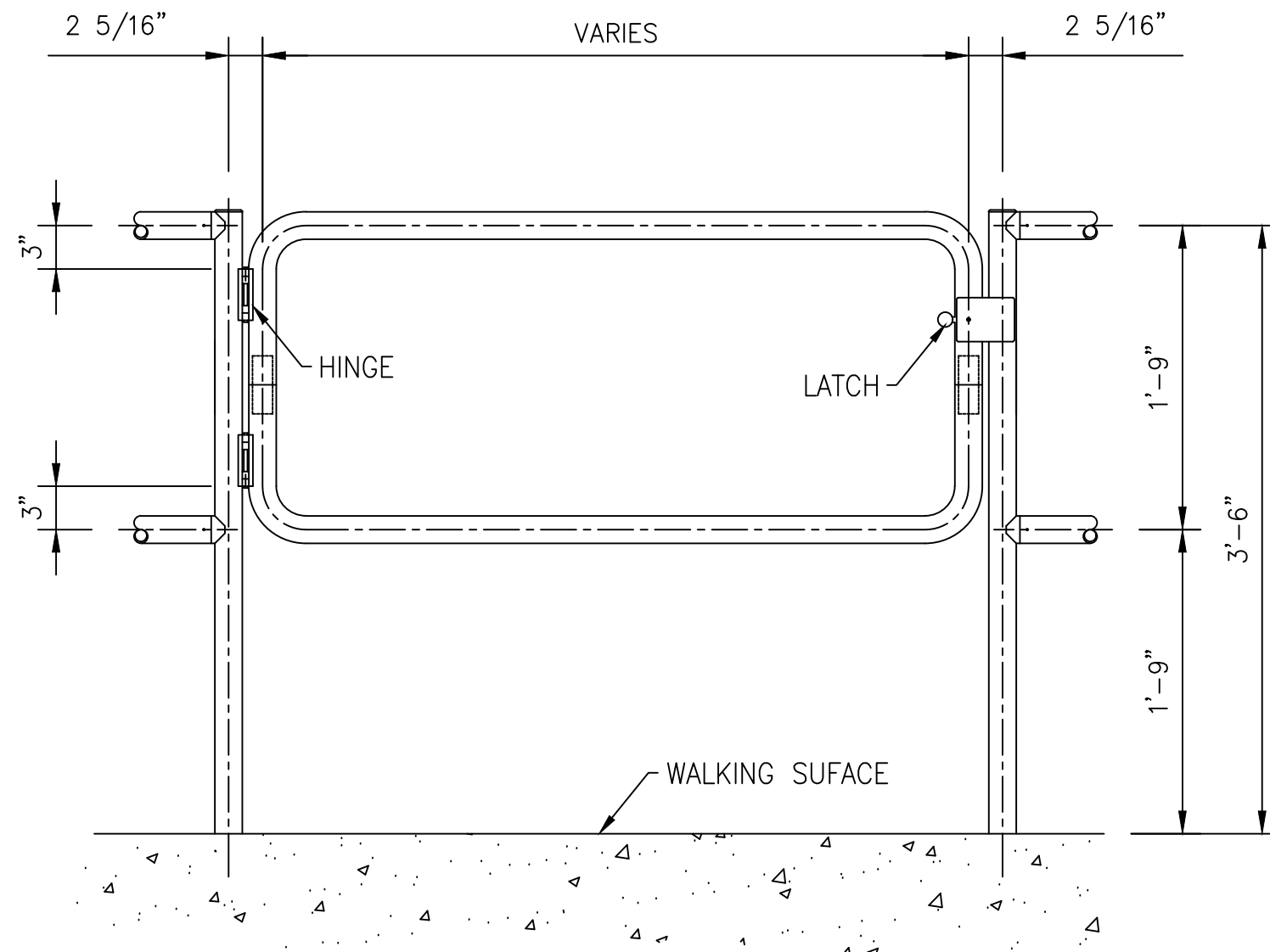
INSTALLATION NOTE:  
ALL PIPE FOR CANTILEVER RAILING WILL SHIP LOOSE IN 24'-0" STOCK LENGTHS FOR FIELD CUTTING & DRILLING



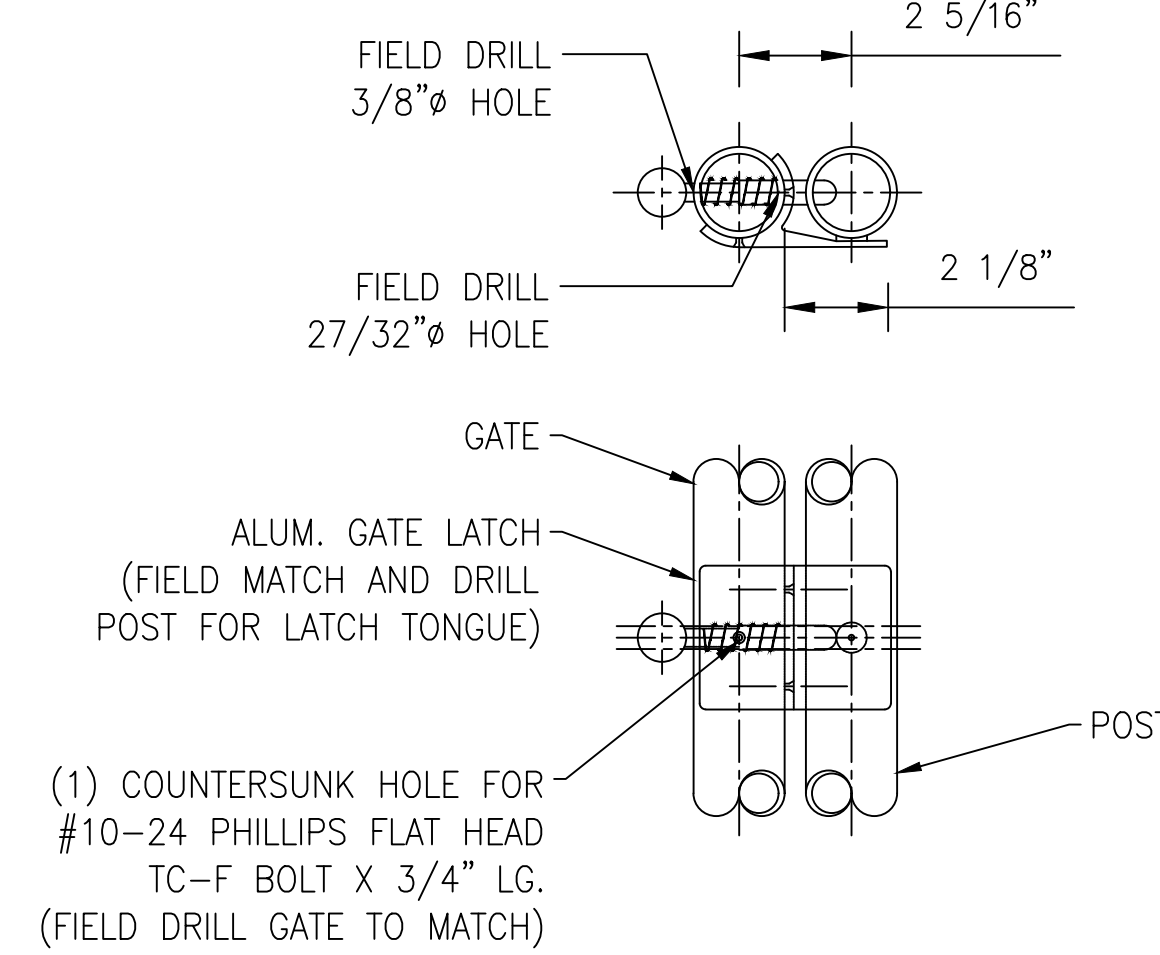
FIELD DRILL (2) 13/64" Ø COUNTERSUNK HOLES FOR (2) 1/4" X #20X3/4" PHILLIPS FLAT HEAD TC-F BOLT (COUNTERSUNK)

STD. ALUM. WALL BRACKET "HB"

**WALL RAIL END RETURN**

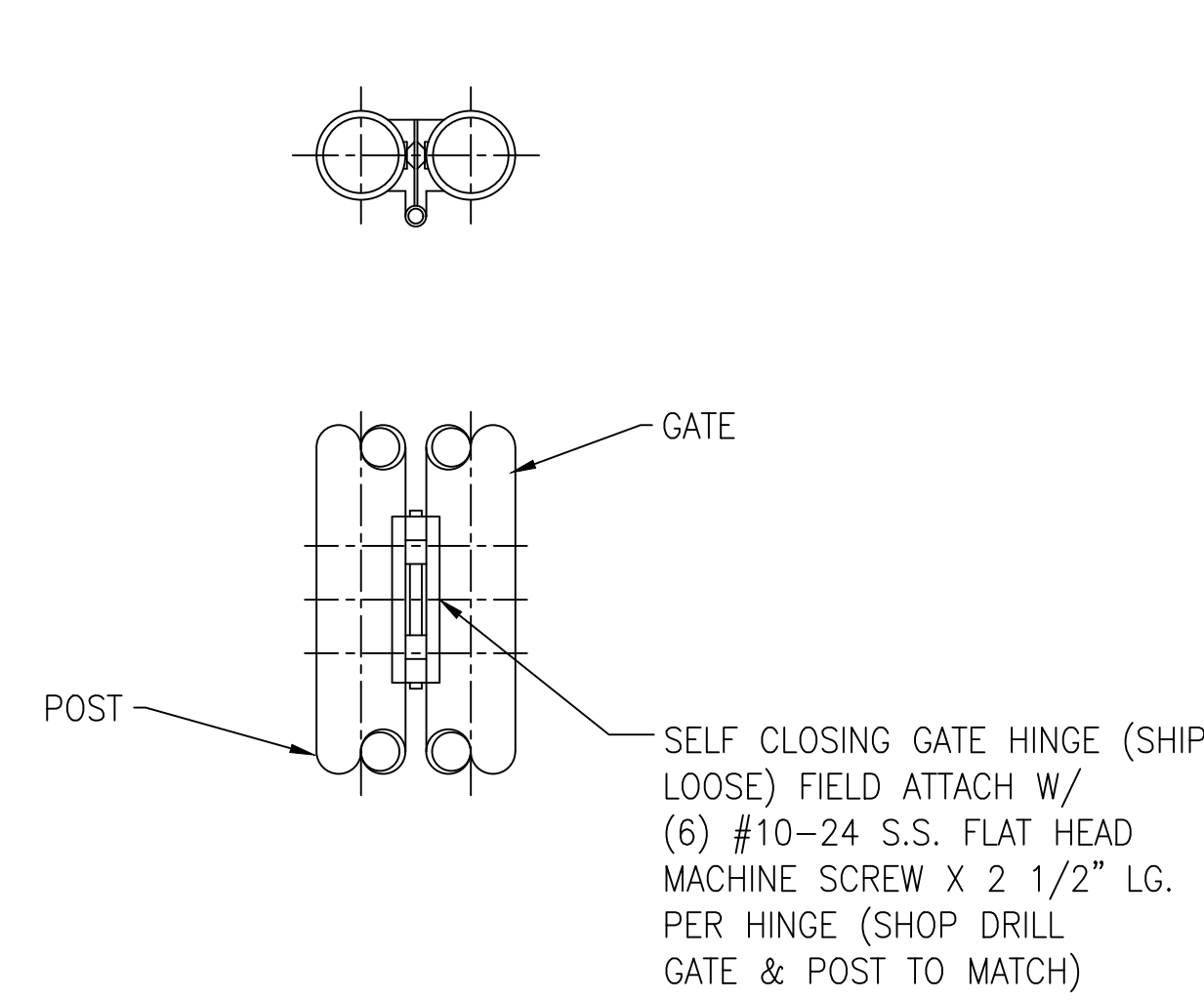


**GATE**

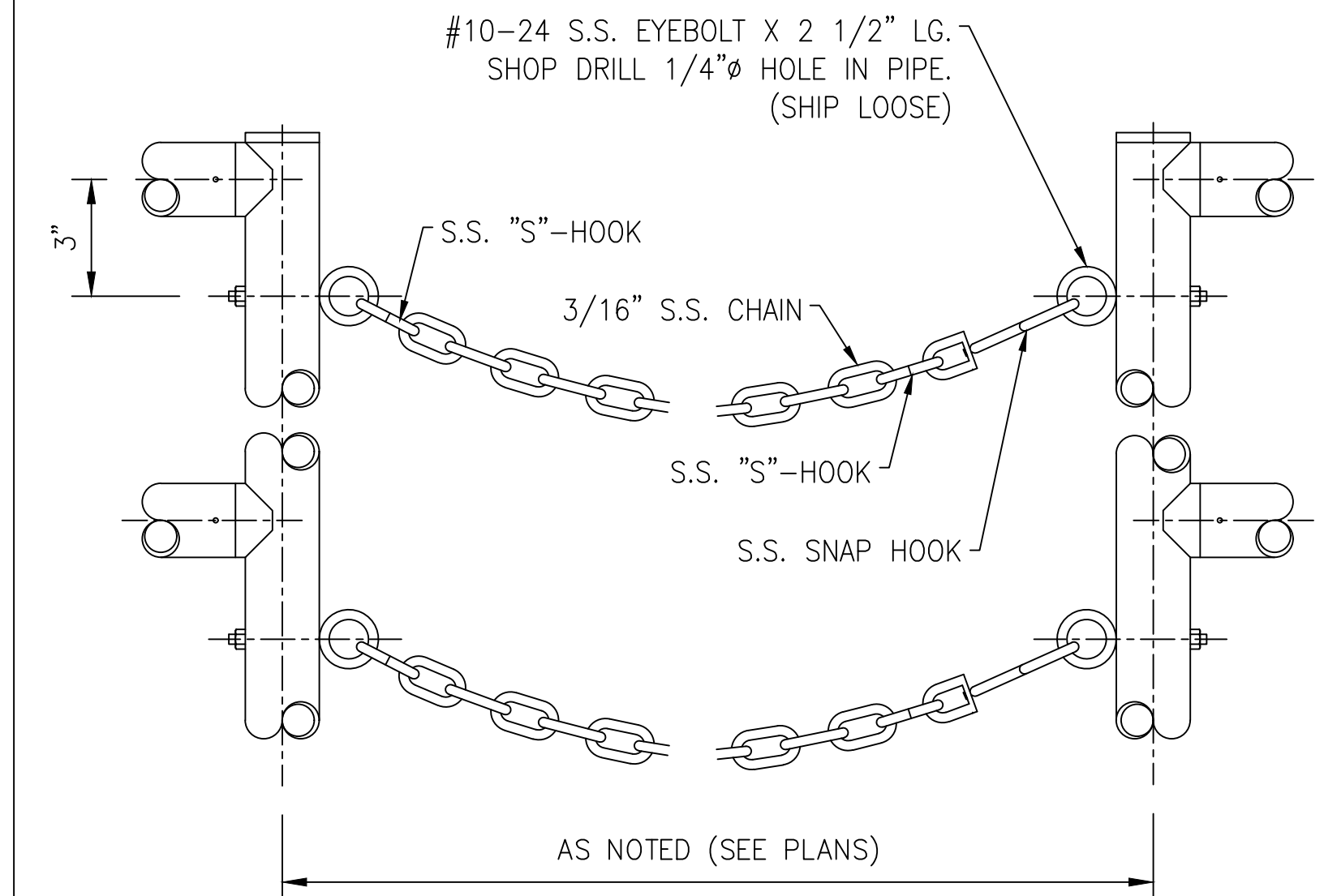


(1) COUNTERSUNK HOLE FOR #10-24 PHILLIPS FLAT HEAD TC-F BOLT X 3/4" LG. (FIELD DRILL GATE TO MATCH)

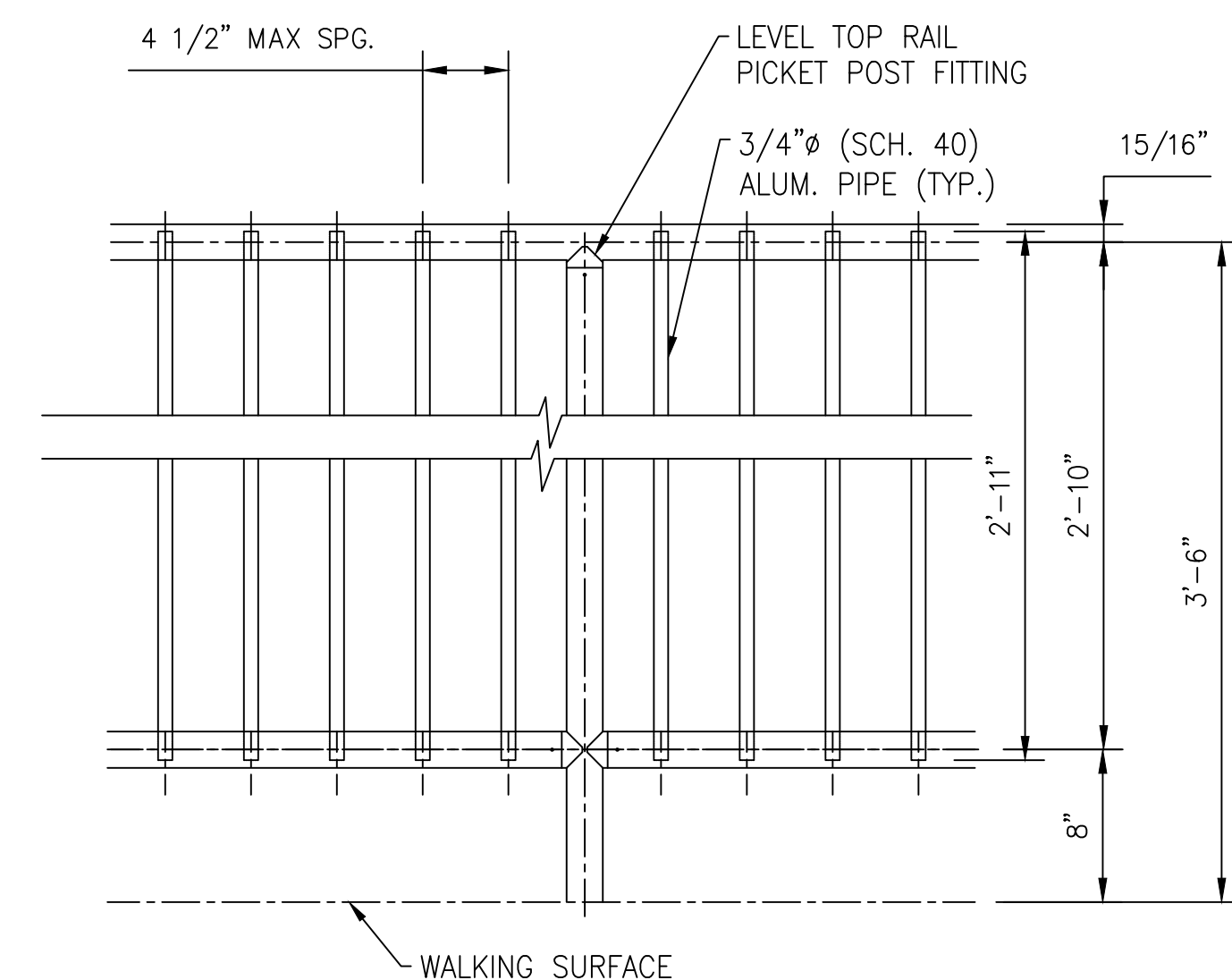
**LATCH**



**HINGE**

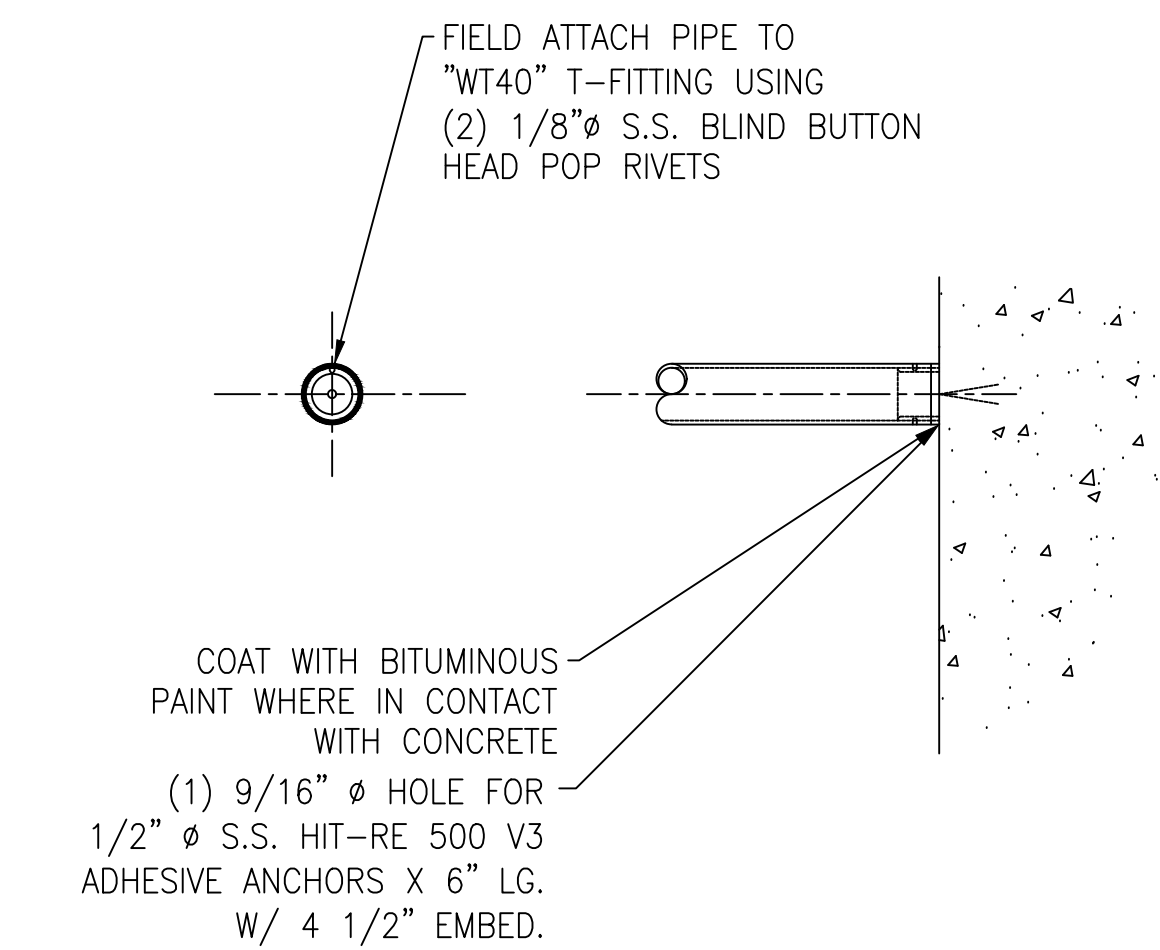


**CHAIN OPENING**



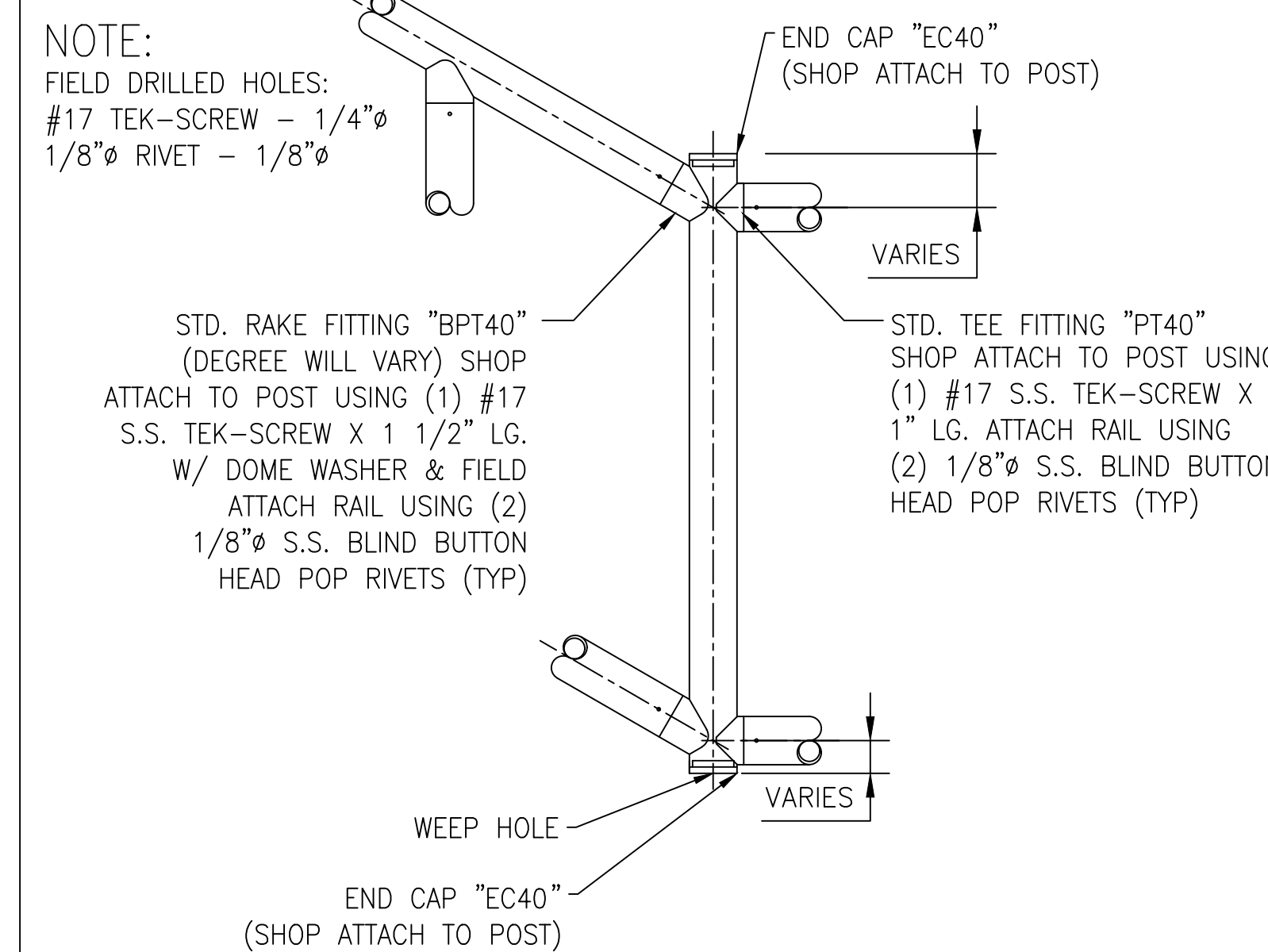
**PICKET RAIL HORIZONTAL PANEL**

INSTALLATION NOTE:  
PANELS WITH PICKETS SHALL BE SHIPPED TO SITE WITH PICKETS STRAPPED TOGETHER WITH TOP AND BOTTOM HORIZONTAL RAILS, TO BE FIELD TRIMMED AND INSTALLED



CUSTOMER NOTE:  
FILL VOID CAVITY IN CMU WITH GROUT AT ALL RAIL MOUNTING LOCATIONS.

**WALL MOUNTED T-FITTING WT40**



NOTE:  
FIELD DRILLED HOLES:  
#17 TEK-SCREW - 1/4" Ø  
1/8" Ø RIVET - 1/8" Ø

STD. RAKE FITTING "BPT40" (DEGREE WILL VARY) SHOP ATTACH TO POST USING (1) #17 S.S. TEK-SCREW X 1 1/2" LG. W/ DOME WASHER & FIELD ATTACH RAIL USING (2) 1/8" Ø S.S. BLIND BUTTON HEAD POP RIVETS (TYP)

STD. TEE FITTING "PT40" SHOP ATTACH TO POST USING (1) #17 S.S. TEK-SCREW X 1" LG. ATTACH RAIL USING (2) 1/8" Ø S.S. BLIND BUTTON HEAD POP RIVETS (TYP)

**MINI POST**

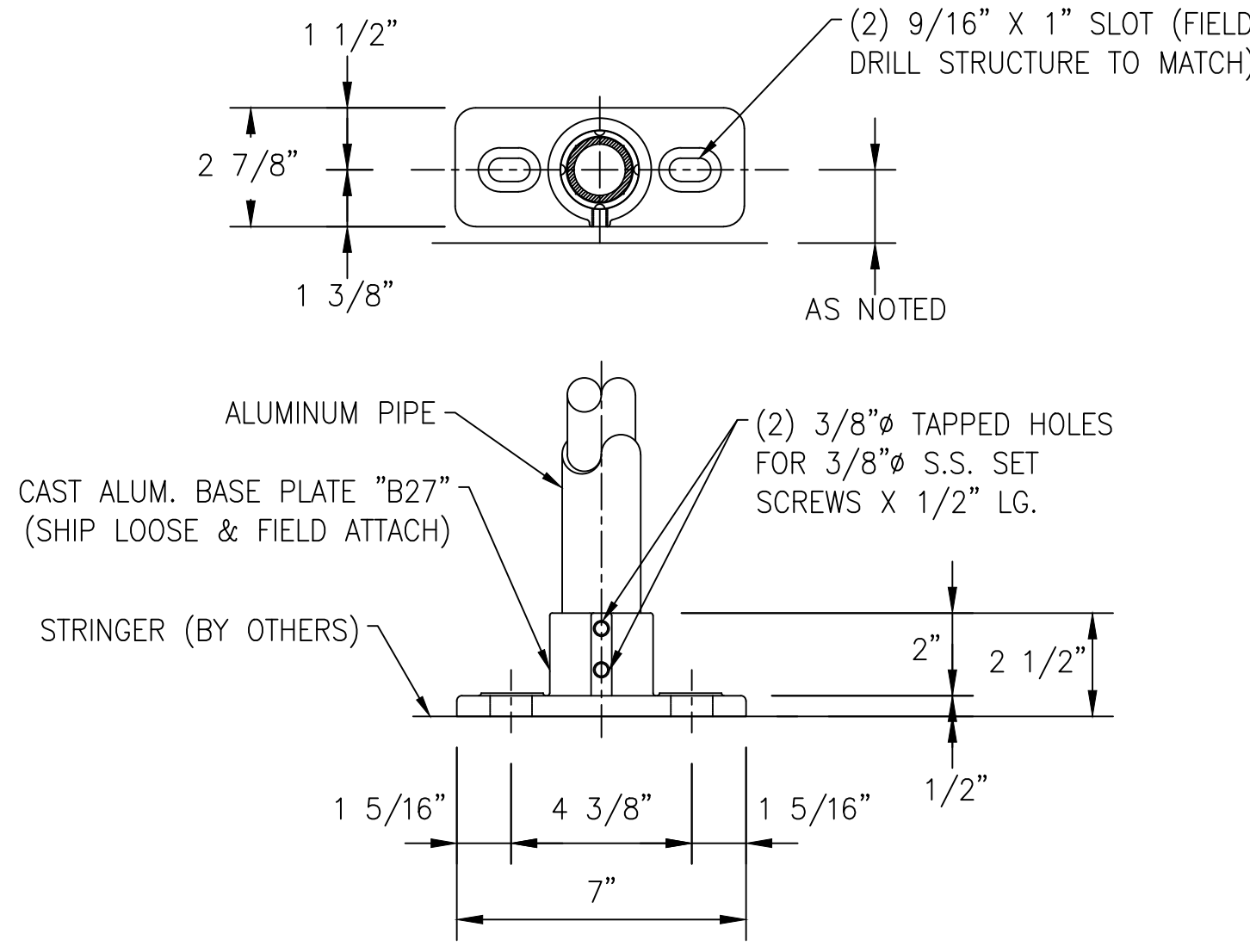
REV	DESCRIPTION	DATE
<p>3000 YOUNGFIELD ST. SUITE 275 WHEAT RIDGE, CO 80215 Ph. (720)508-3819 FAX. (720)409-3843</p>		
<p><b>STANDARD DETAILS</b> CITY, ST ALUMINUM HANDRAIL - RIVET SYSTEM - SUB-ASSEMBLED</p>		
DESIGNER	DESIGNER	CUSTOMER
CUSTOMER JOB #	XXXX-XX	PRINT DATE
3/13/2020	ISSUE DATE	3/13/2020
CONTRACT NO	XXX-XXX	DRAWING NO.
SD-2		

MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MACHINE BOLT	1/2"	2"	N/A
CONCRETE	N/A	-	-	-

MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MECHANICAL BOLT	1/2"	2"	N/A
CONCRETE	S.S. ADHESIVE ANCHORS	1/2"	6"	4 1/2"

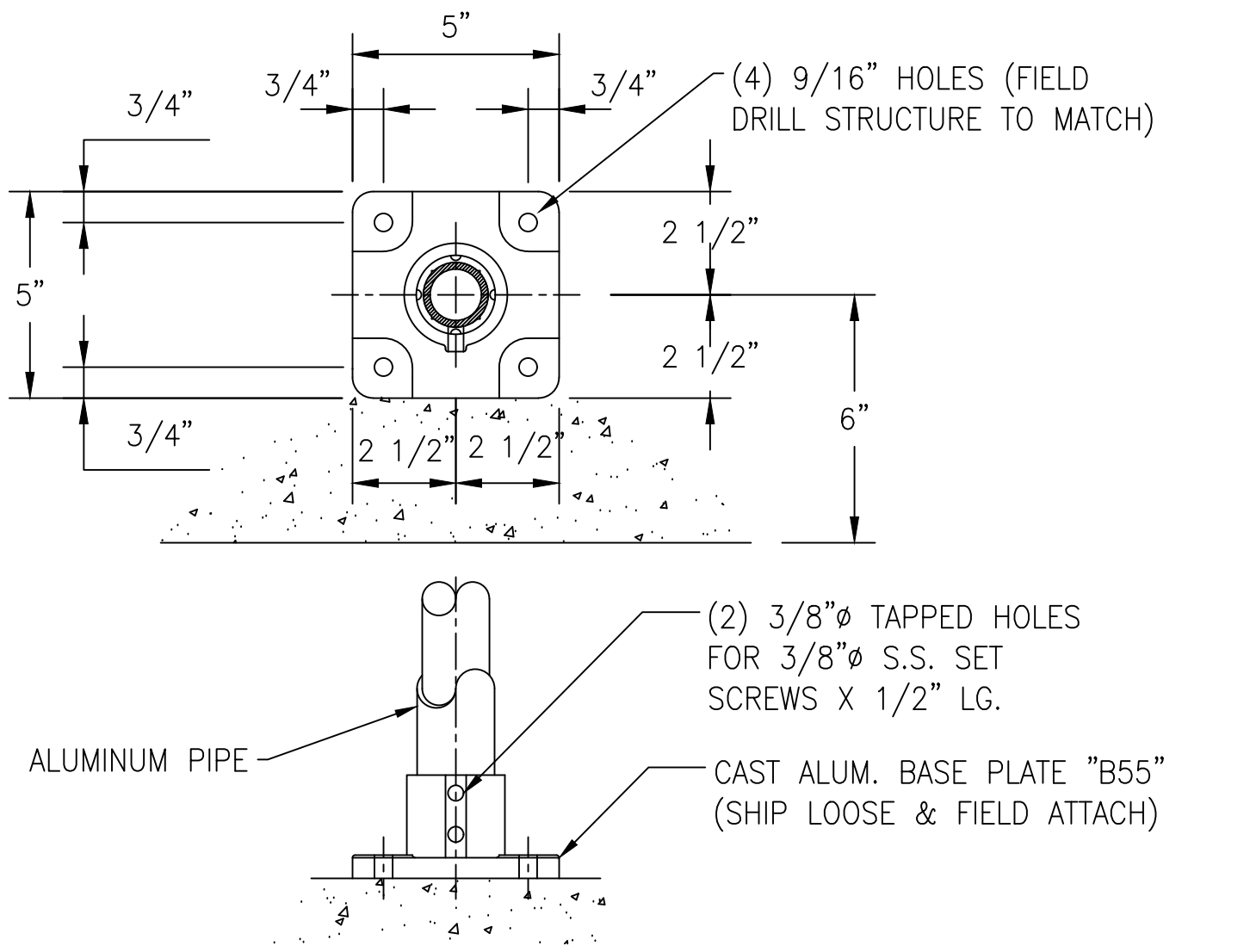
MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MACHINE BOLT	1/2"	2"	N/A
CONCRETE	S.S. ADHESIVE ANCHORS	1/2"	6"	4 1/2"

MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MACHINE BOLT	1/2"	2"	N/A
CONCRETE	S.S. ADHESIVE ANCHORS	1/2"	6"	4 1/2"



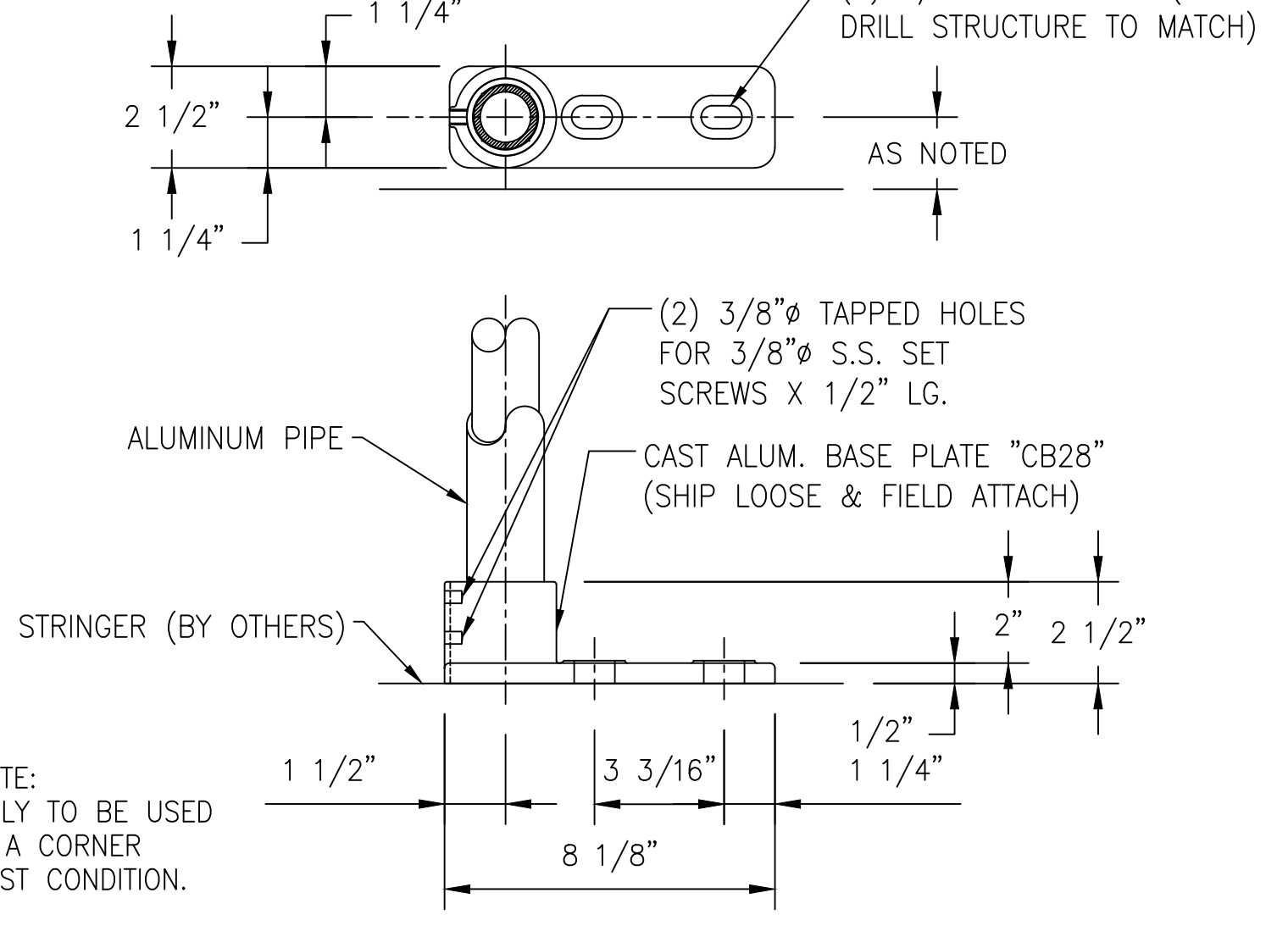
**LEVEL STL. LINE POST**

**B27**



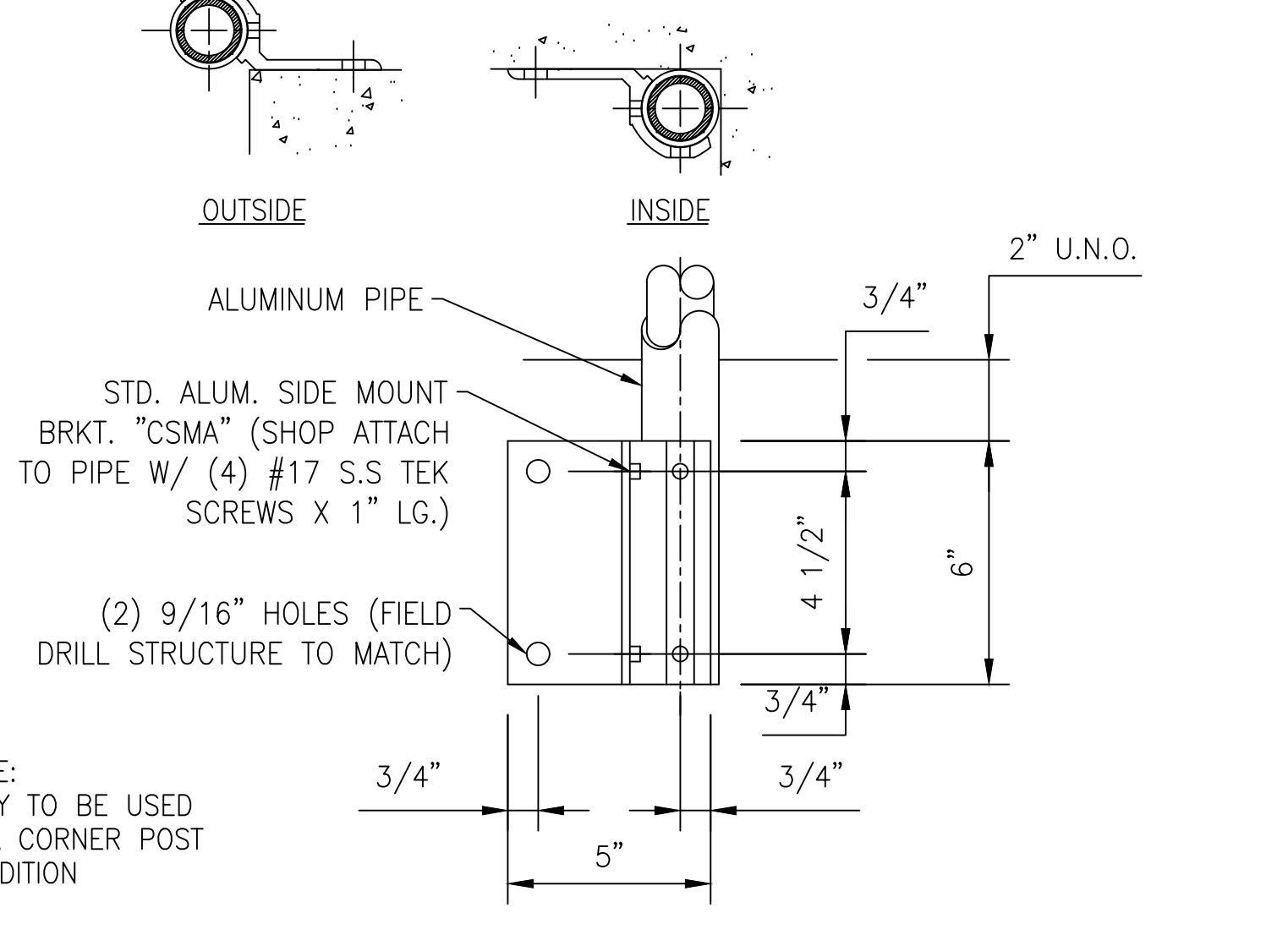
**LEVEL CONC. LINE POST**

**B55**



**LEVEL CORNER POST**

**CB28**



**CONC. CORNER SIDE MOUNT**

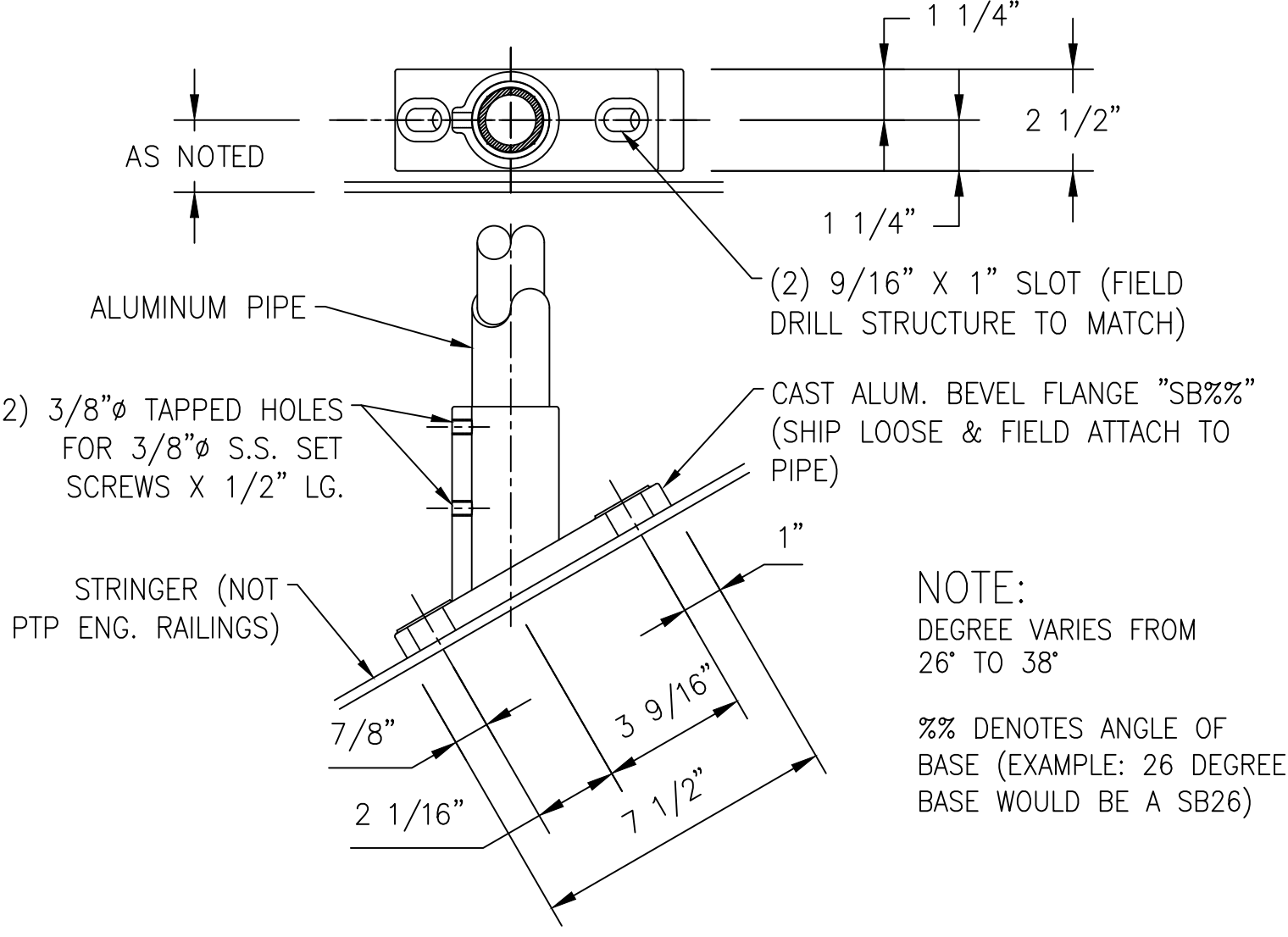
**CSMA**

MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MACHINE BOLT	1/2"	2 1/2"	N/A
CONCRETE	N/A	-	-	-

MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	N/A	-	-	-
CONCRETE	N/A	-	-	-

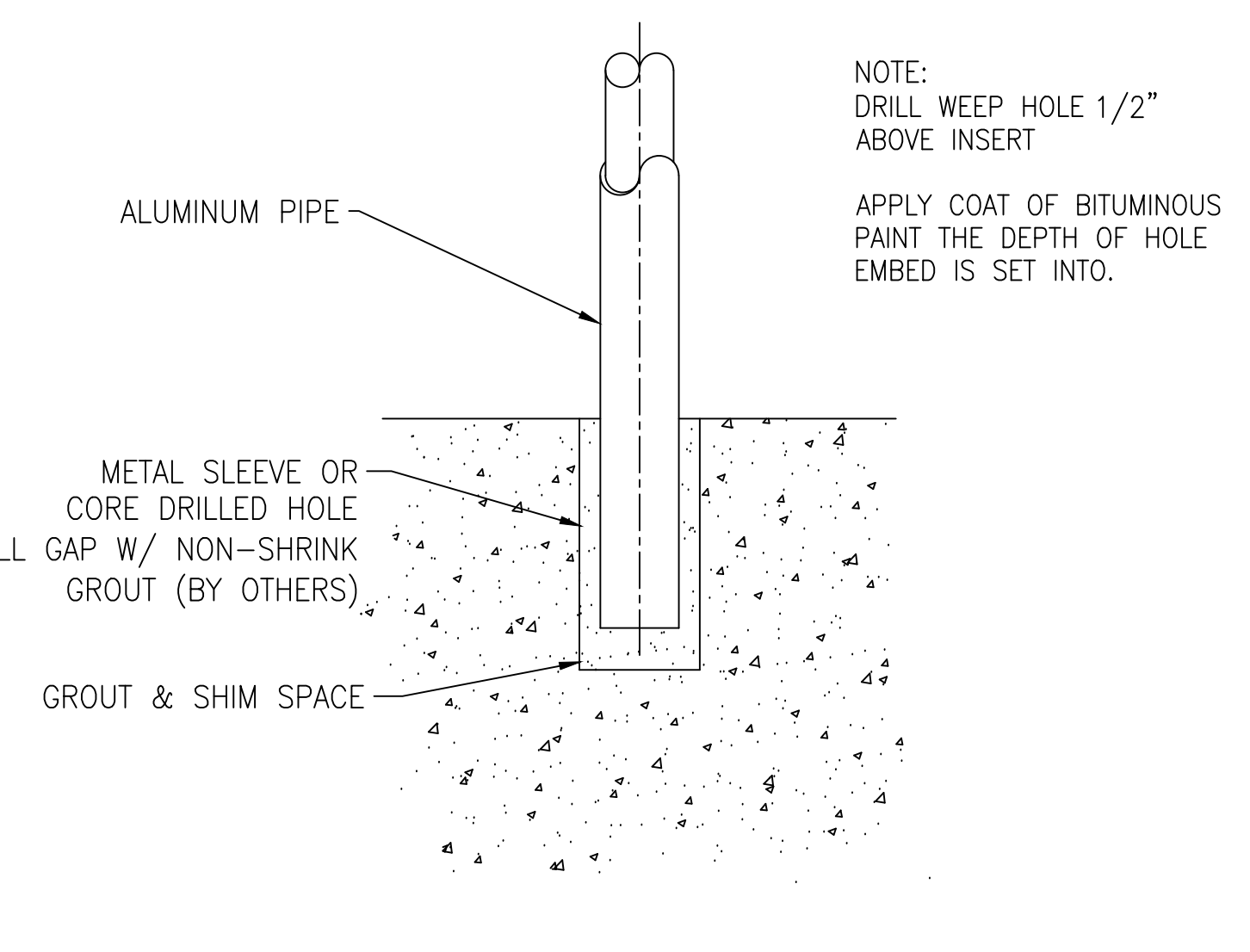
MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MACHINE BOLT	1/2"	2"	N/A
CONCRETE	S.S. ADHESIVE ANCHORS	1/2"	6"	4 1/2"

MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MACHINE BOLT	1/2"	2"	N/A
CONCRETE	S.S. ADHESIVE ANCHORS	1/2"	6"	4 1/2"

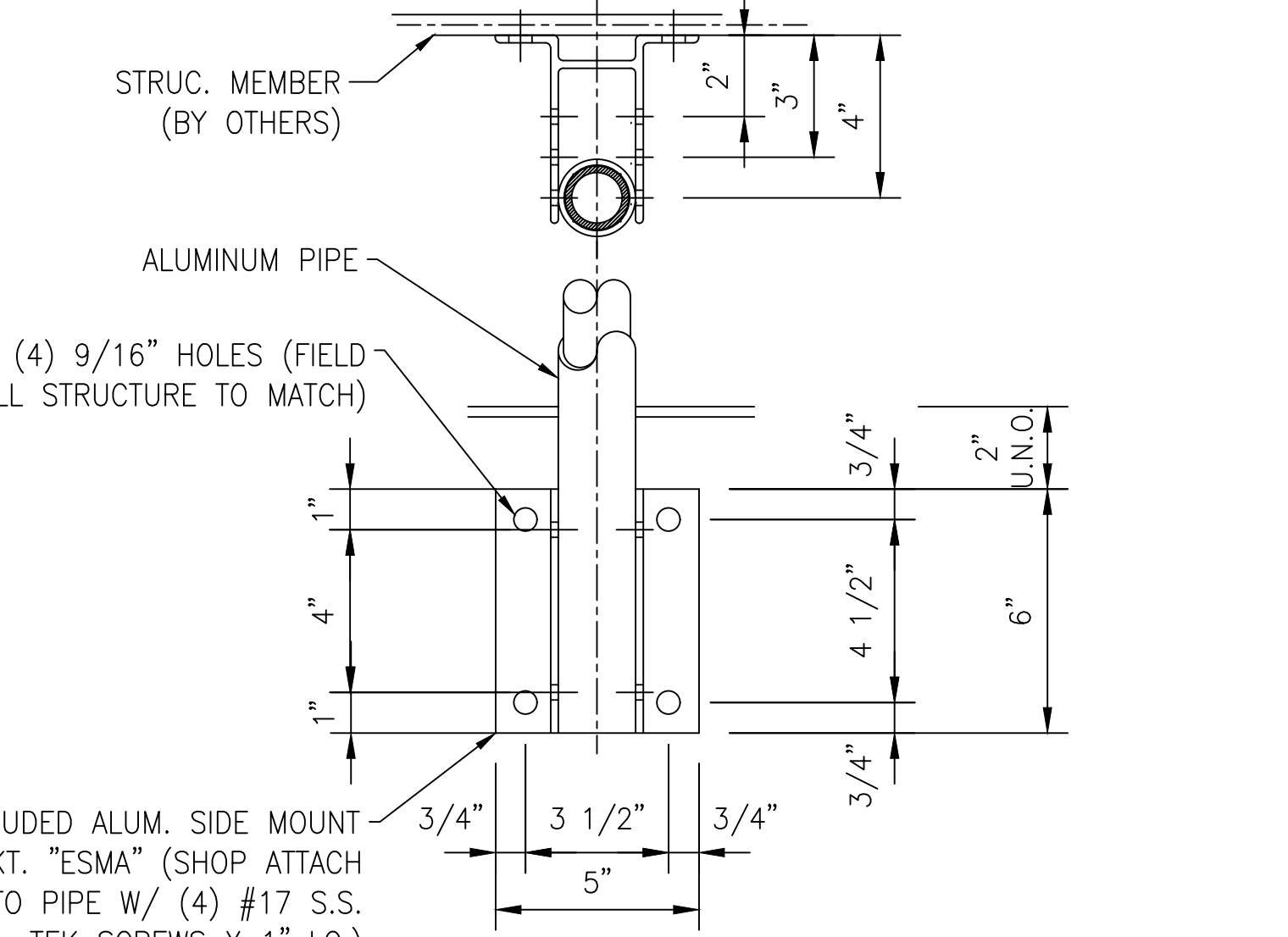


**RAKE STL. LINE POST**

**SB%%**

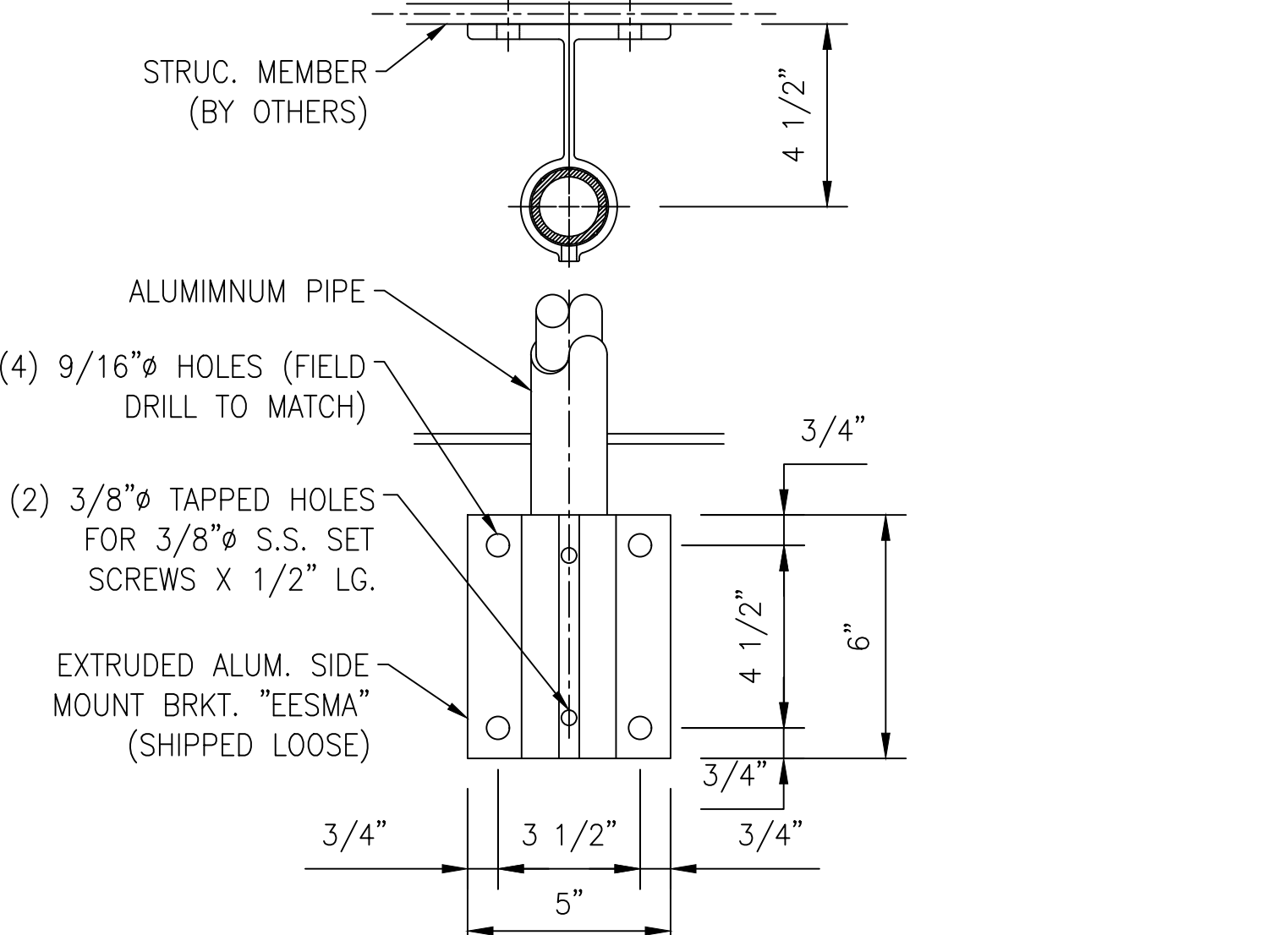


**EMBED POST**



**SIDE MOUNT 4-HOLE**

**ESMA**

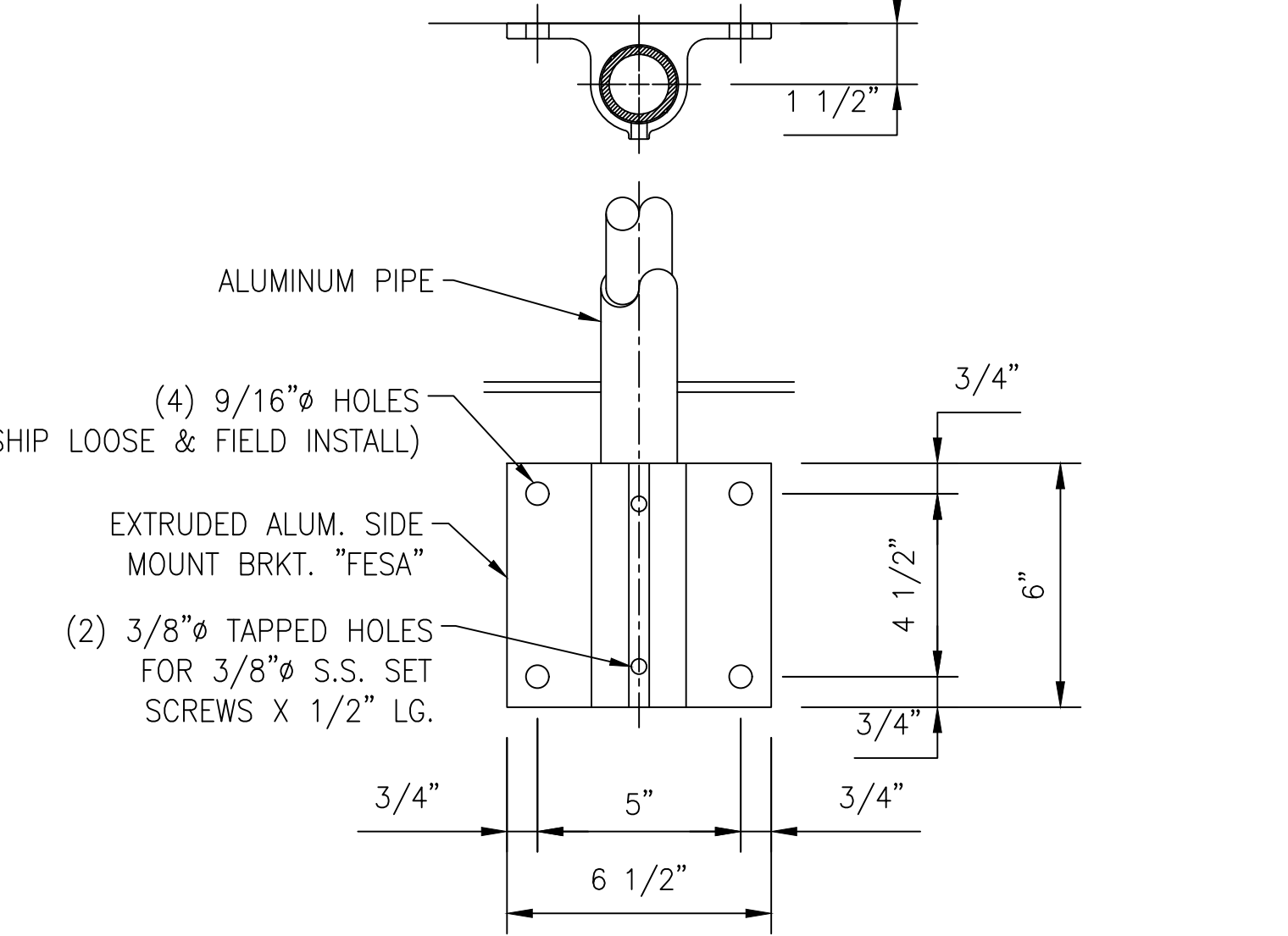


**SIDE MOUNT 4-HOLE**

**EESMA**

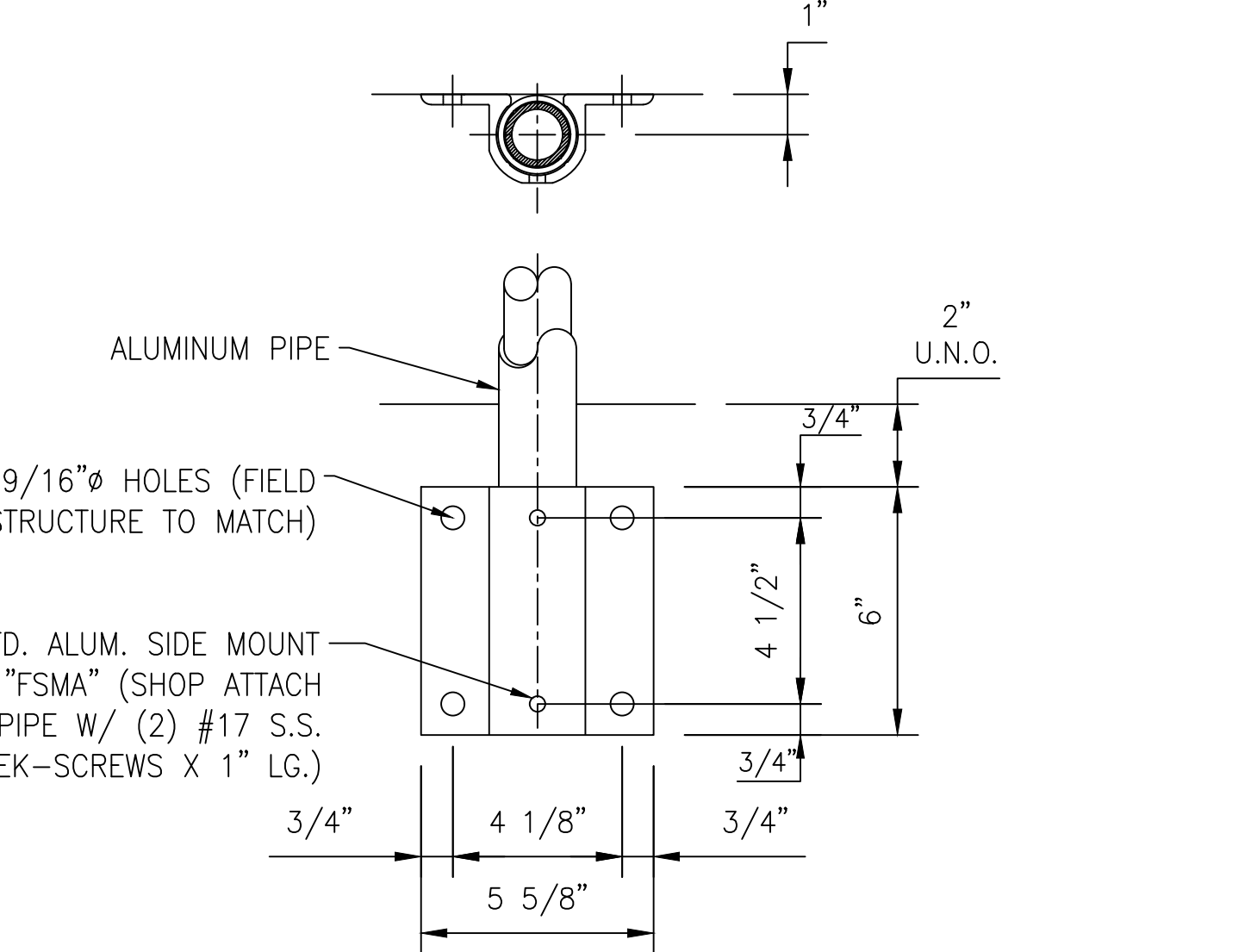
MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MACHINE BOLT	1/2"	2"	N/A
CONCRETE	S.S. ADHESIVE ANCHOR	1/2"	6"	4 1/2"

MOUNTING CONDITIONS				
MATERIAL	FASTENER TYPE	FASTENER DIAMETER	FASTENER LENGTH	MINIMUM EMBED DEPTH
STEEL	S.S. MACHINE BOLT	1/2"	2"	N/A
CONCRETE	S.S. ADHESIVE ANCHOR	1/2"	6"	4 1/2"



**FLUSHED ENCLOSED SIDE**

**FESA**



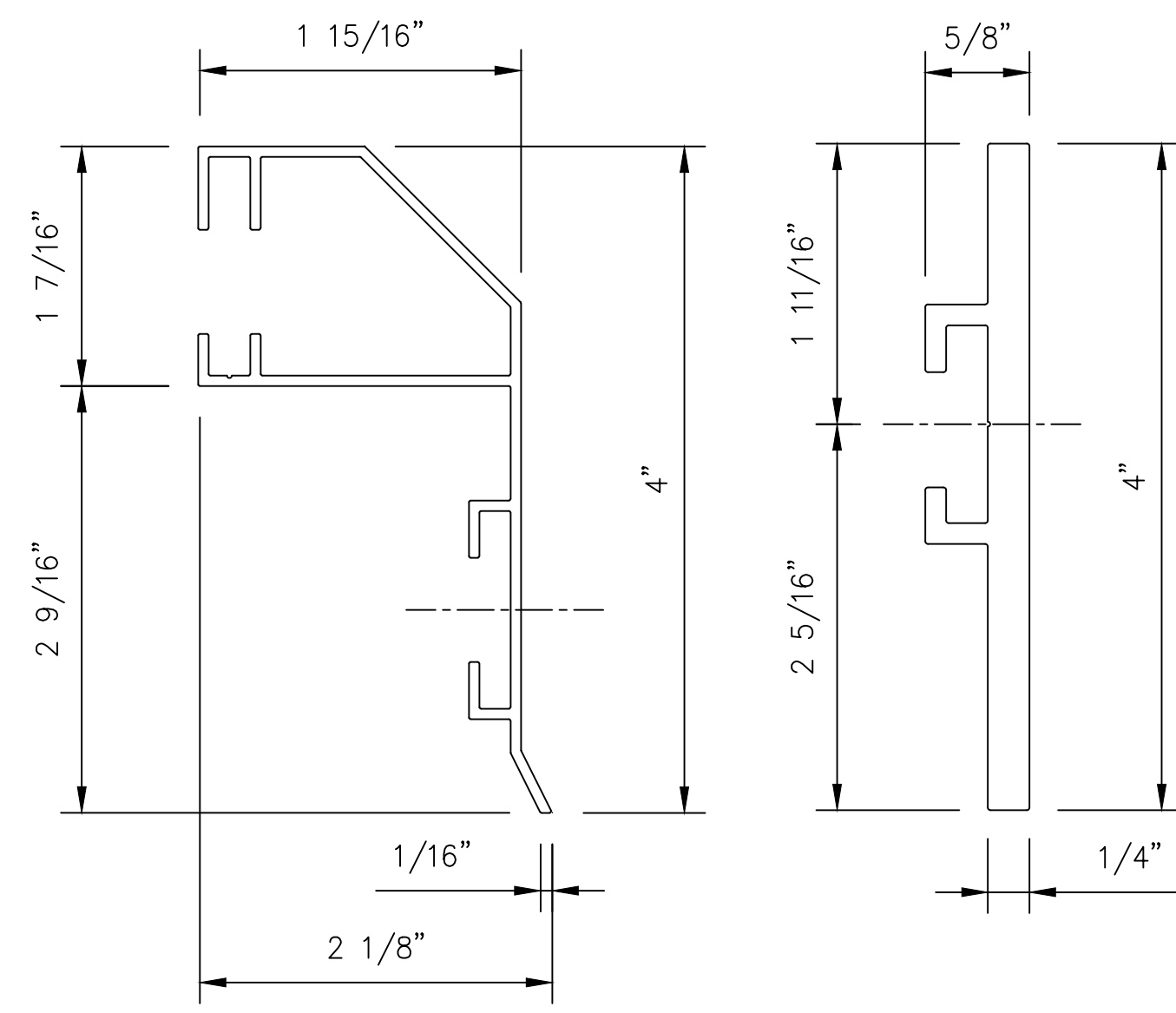
**SIDE MOUNT 4-HOLE**

**FSMA**

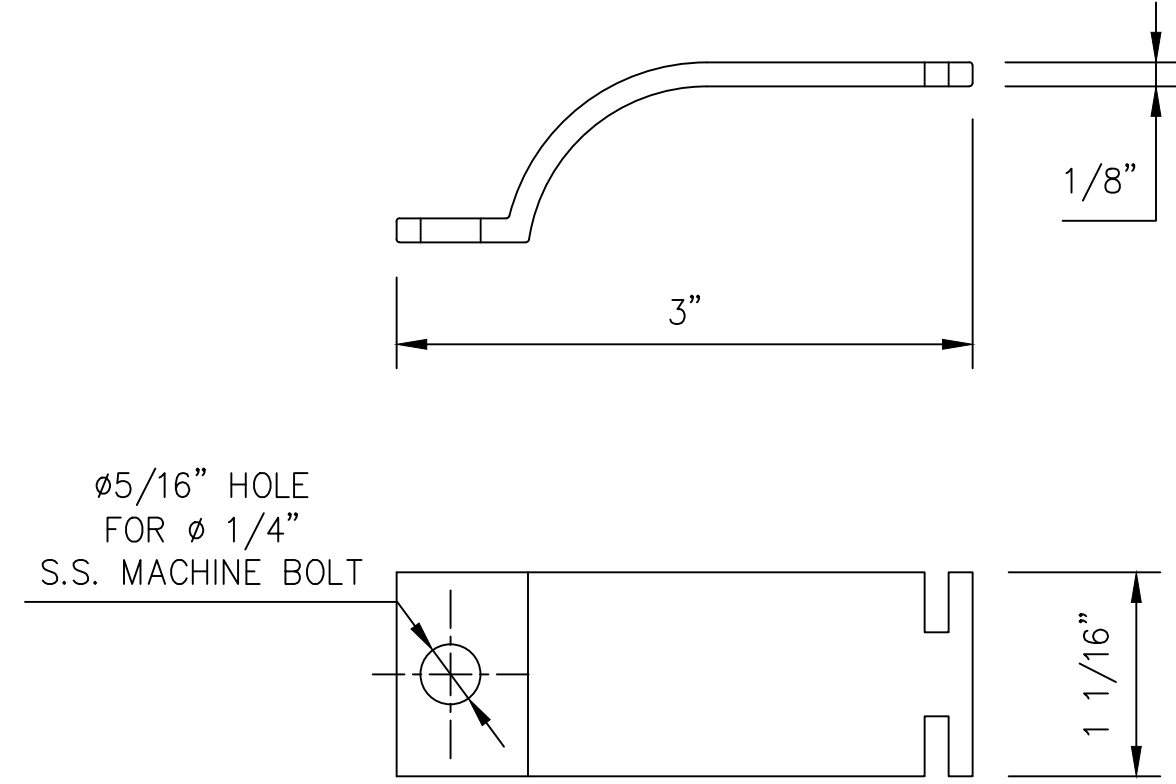
REV	DESCRIPTION	DATE
<b>STANDARD DETAILS</b> CITY, ST <b>ALUMINUM HANDRAIL - RIVET SYSTEM - SUB-ASSEMBLED</b>		
DESIGNER	DESIGNER	CUSTOMER
CUSTOMER JOB #	XXXX-XX	PRINT DATE
3/13/2020	ISSUE DATE	3/13/2020
CONTRACT NO.	XXX-XXX	DRAWING NO.
SD-3		

NOTICE TO CONTRACTOR AND ERECTOR:  
 BACK CHARGES FOR CORRECTIVE WORK OR REPLACEMENT MATERIALS WILL NOT BE ACCEPTED UNLESS AUTHORIZED BY PEAK TO PEAK ENGINEERED RAILINGS, INC. BEFORE SUCH COSTS ARE INCURRED.

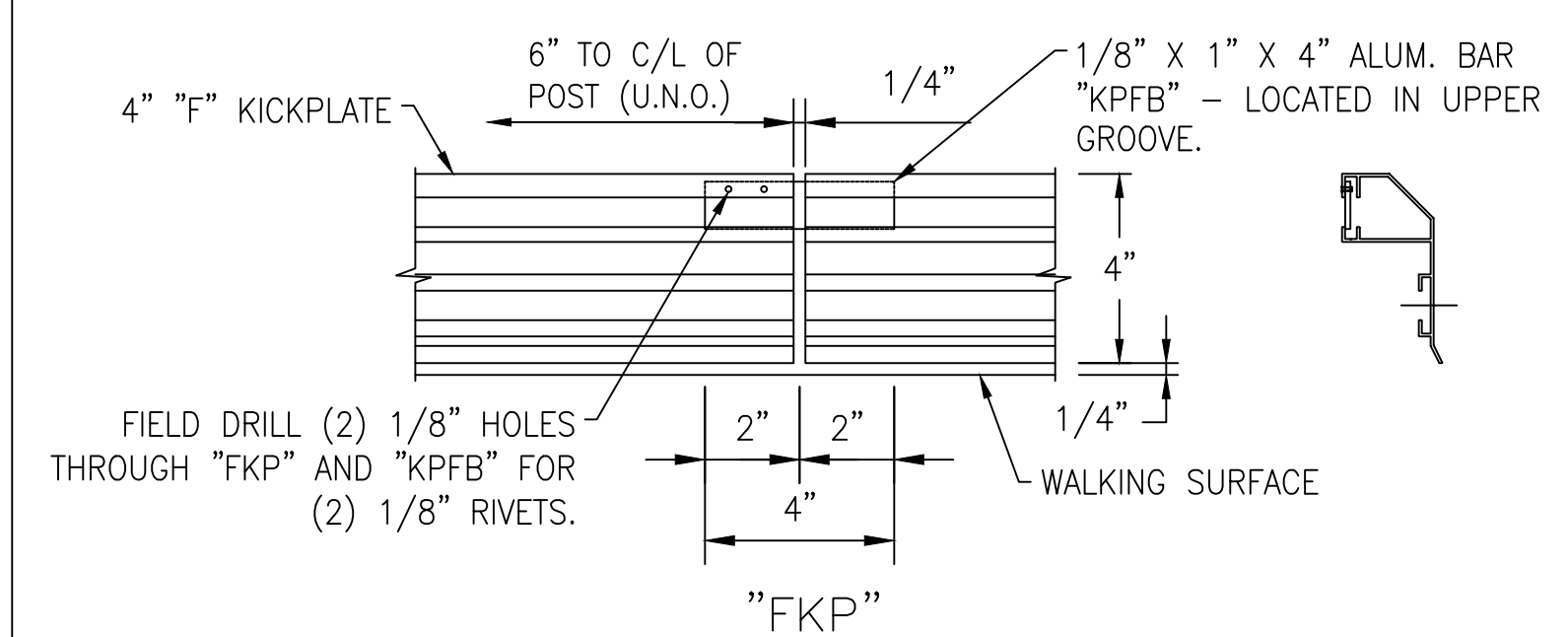
3000 YOUNGFIELD ST. SUITE 275 WHEAT RIDGE, CO 80215  
 Ph. (720)568-3819 FAX (720)409-3843



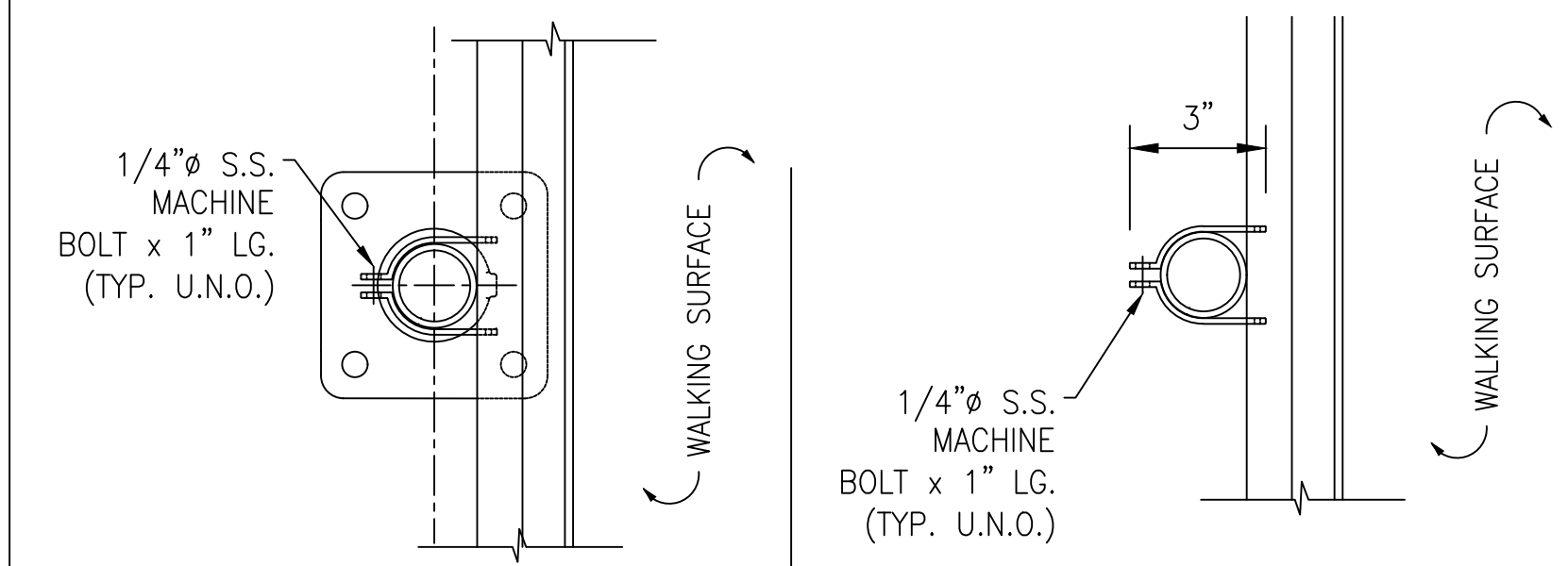
"FKP" "SKP"  
**"FKP" KICK PLATE SECTION**



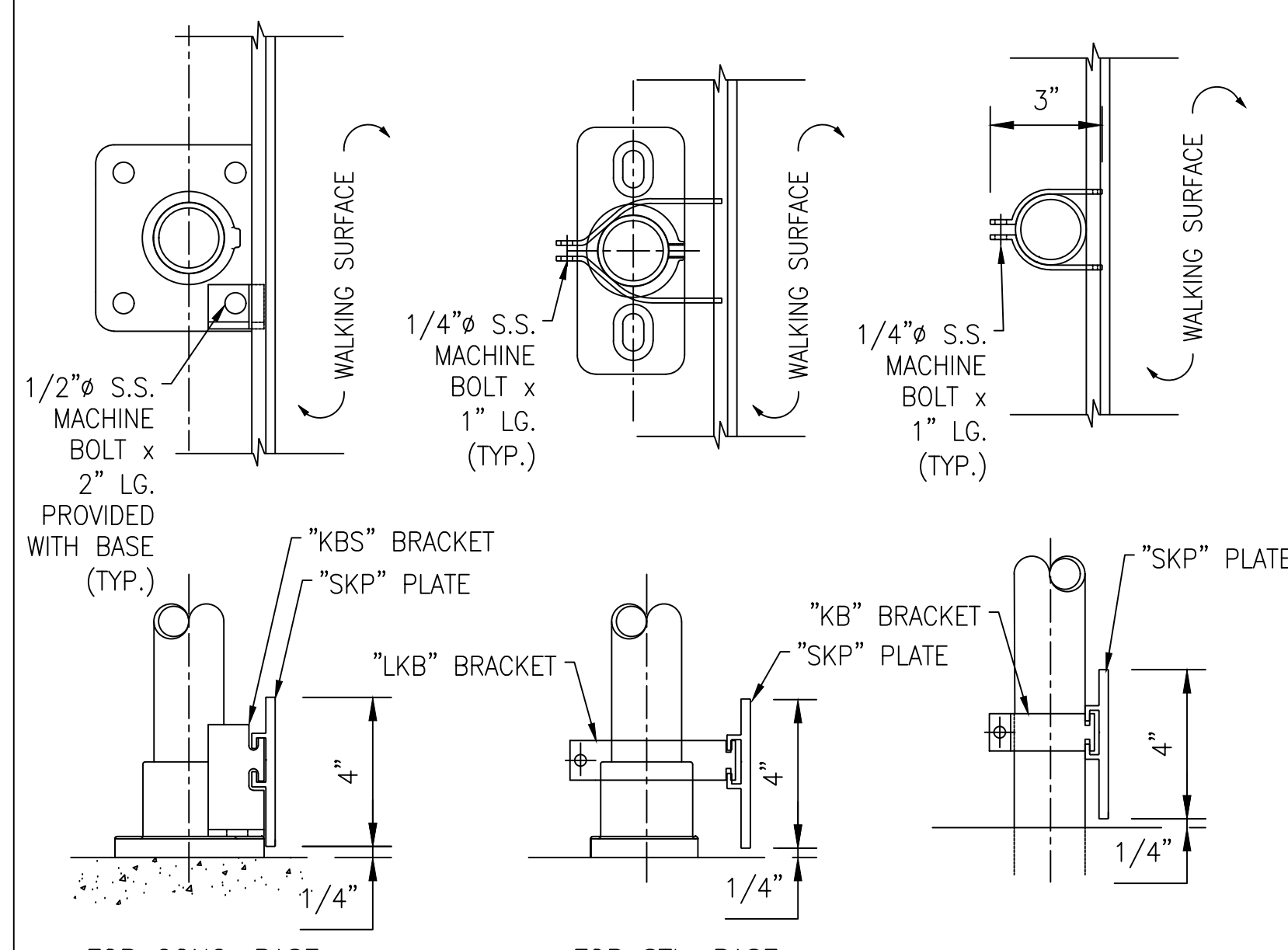
**"KB" BRACKET**



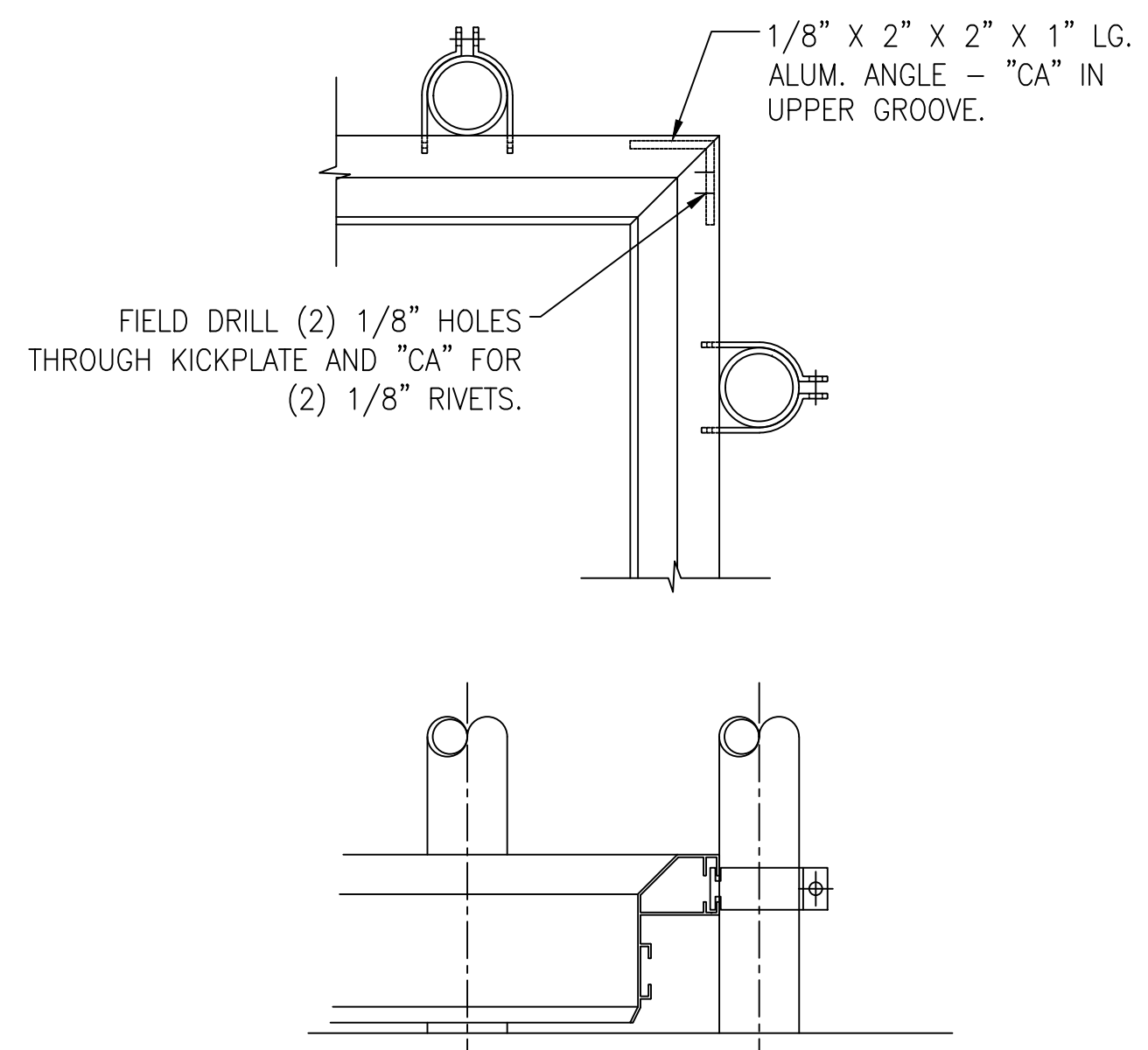
**PLATE EXPANSION JOINT**



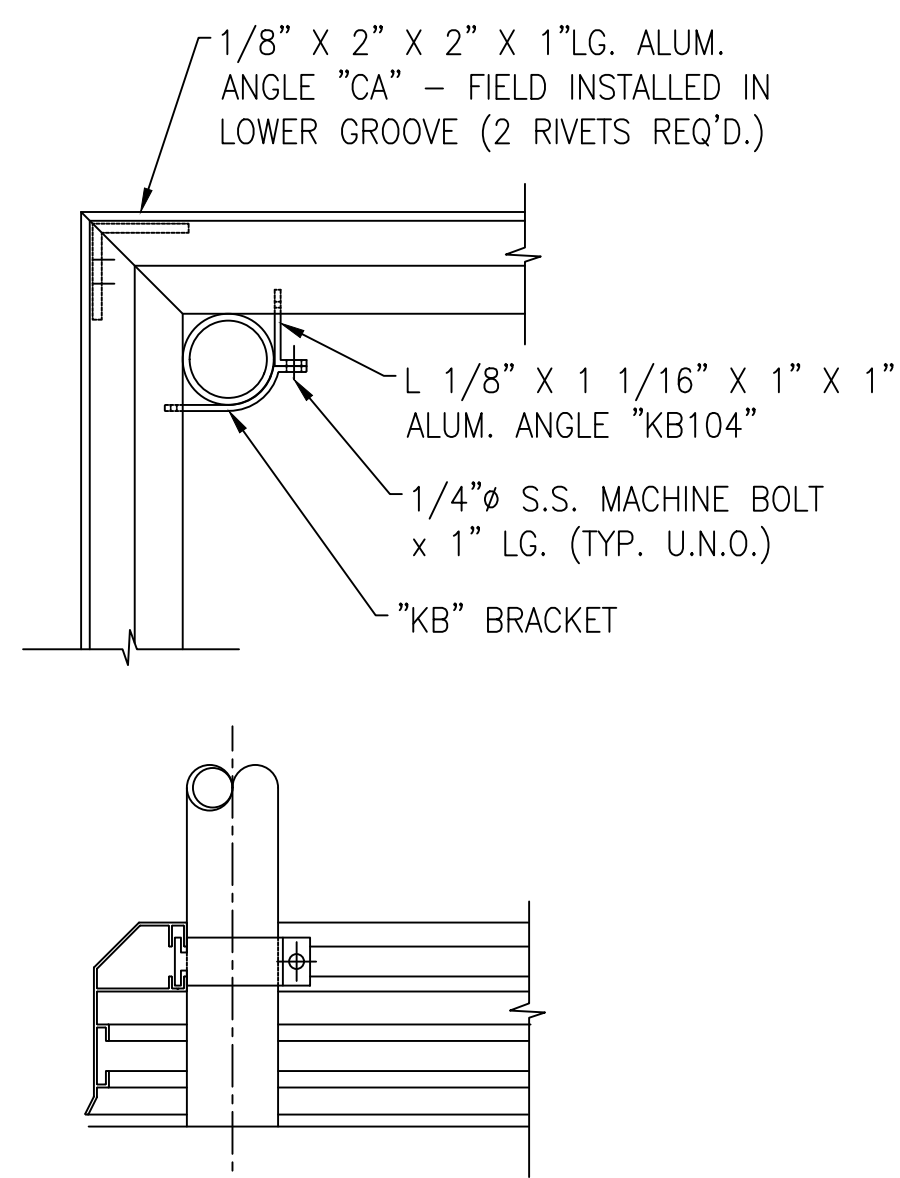
**"FKP" INSTALLATION DETAIL**



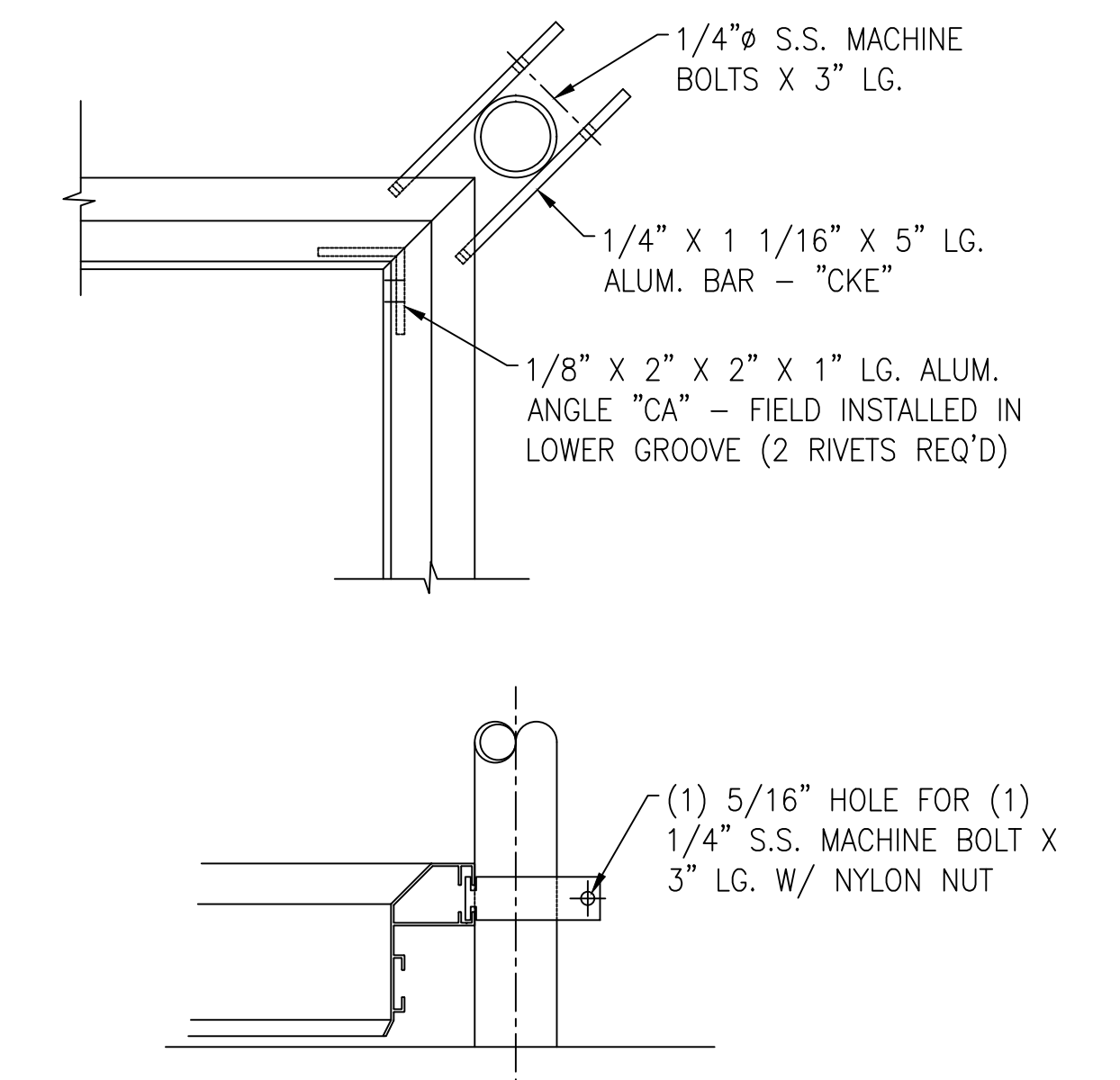
**"SKP" INSTALLATION DETAIL**



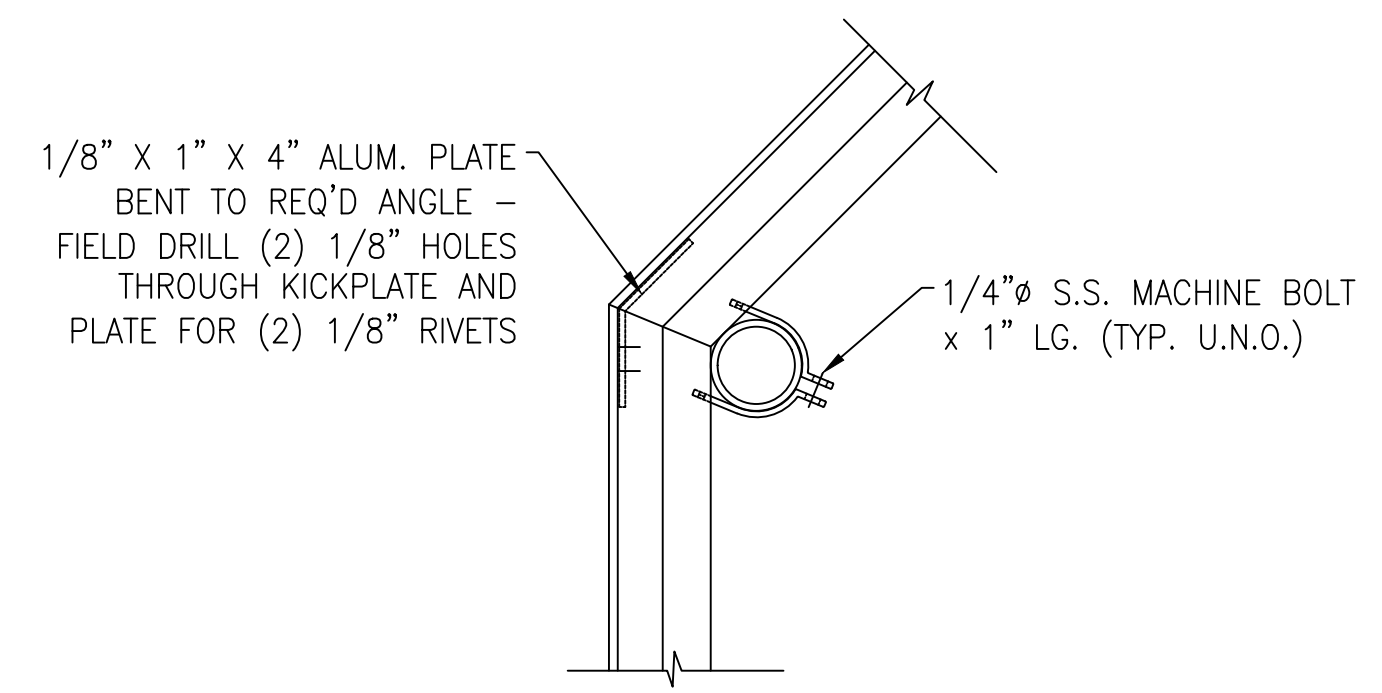
**INSIDE 90 CORNER DETAIL**



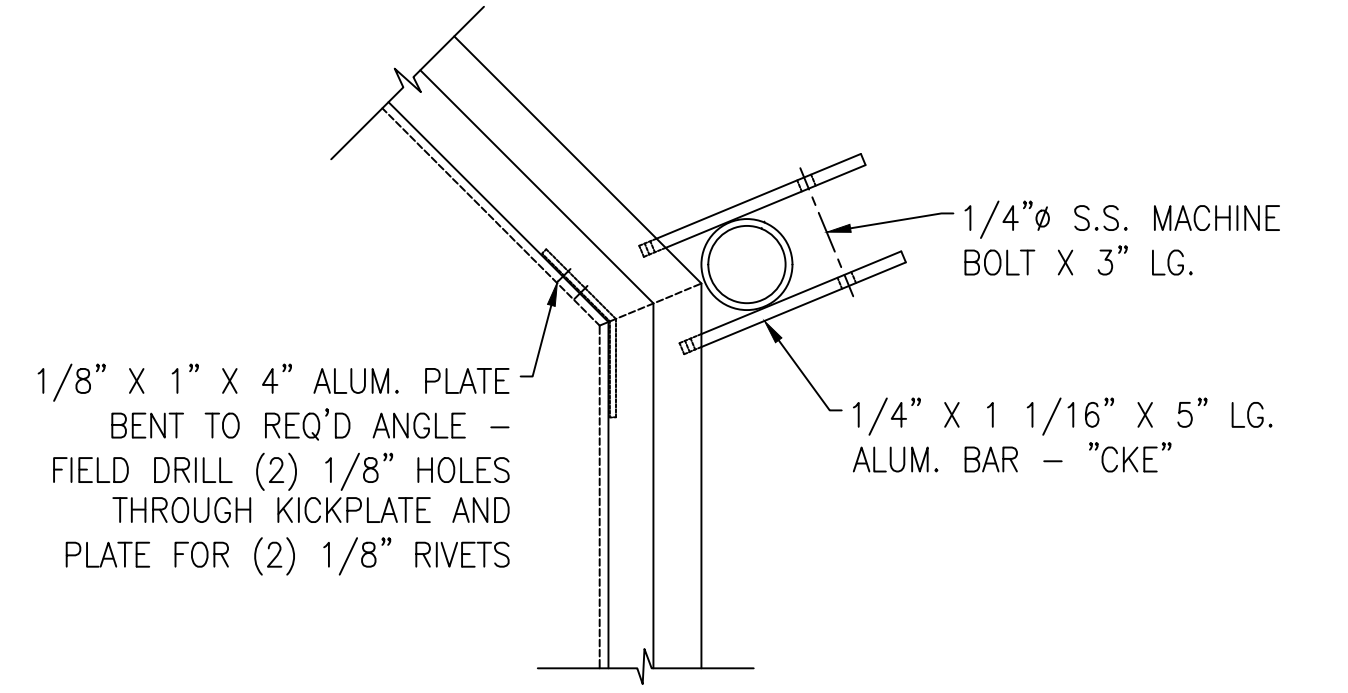
**OUTSIDE 90 CORNER ENDPOST DETAIL**



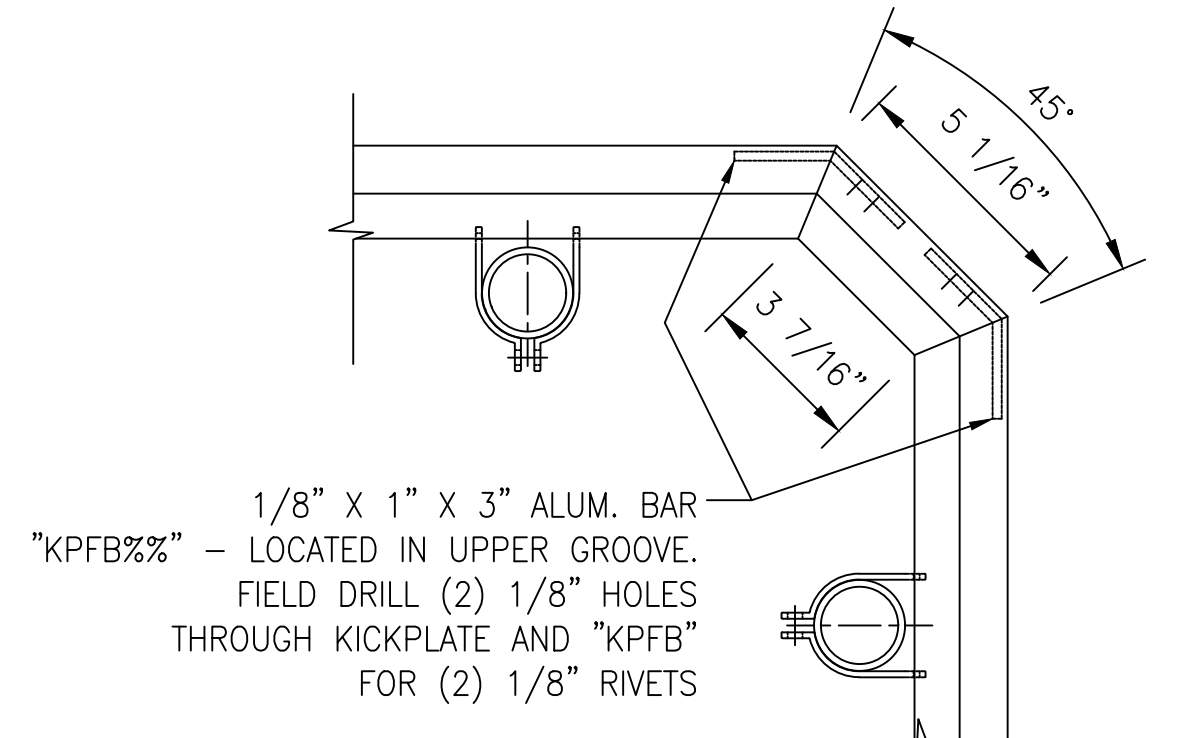
**INSIDE 90 CORNER ENDPOST DETAIL**



**OUTSIDE BEND CORNER DETAIL**



**INSIDE BEND CORNER DETAIL**



**OUTSIDE 90 CORNER DETAIL**

**TYPICAL NOTES:**

- 1.) ALL KICK PLATE SHALL BE:
  - a) 4" EXTRUDED ALUMINUM "FKP" OR "SKP" PLATE.
  - b) SHIPPED LOOSE IN 24'-0" STOCK LENGTHS FOR FIELD CUTTING AND DRILLING AS REQ'D.
  - c) FIELD ATTACHED TO POSTS.
- 2.) ALL RIVETS ARE TO BE STAINLESS STEEL.
- 3.) INSTALL USING 1/4" S.S. BOLT (U.N.O.)

REV	DESCRIPTION	DATE
<p>3000 YOUNGFIELD ST. SUITE 275 WHEAT RIDGE, CO 80215 Ph. (720)568-3819 FAX. (720)409-3843</p>		
<p><b>STANDARD DETAILS</b> CITY, ST ALUMINUM HANDRAIL - RIVET SYSTEM - SUB-ASSEMBLED</p>		
DESIGNER	DESIGNER	CUSTOMER
CUSTOMER JOB #	XXXX-XX	PRINT DATE
DATE	3/13/2020	ISSUE DATE
SCALE	NTS	CONTRACT NO
DRAWING NO.	XXX-XXX	DRAWING NO.
Detailed by	INT	CHECKER
INT	INT	SCALE
NTS	XXX-XXX	KP-1

NOTICE TO CONTRACTOR AND ERECTOR:  
BACK CHARGES FOR CORRECTIVE WORK OR REPLACEMENT MATERIALS WILL NOT BE ACCEPTED UNLESS AUTHORIZED BY PEAK TO PEAK ENGINEERED RAILINGS, INC. BEFORE SUCH COSTS ARE INCURRED