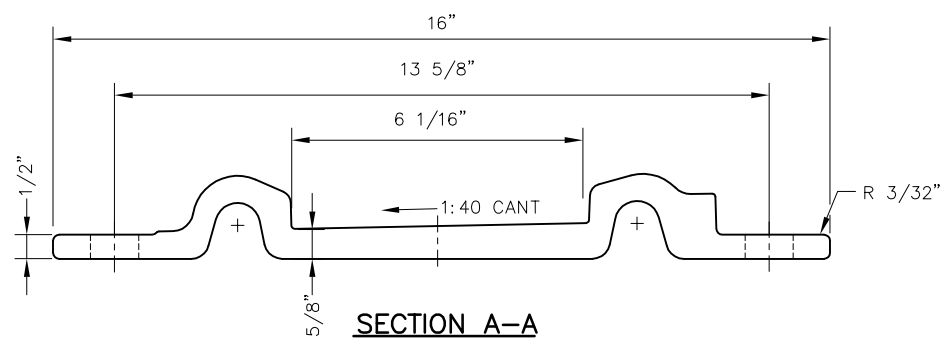


**TOP VIEW**



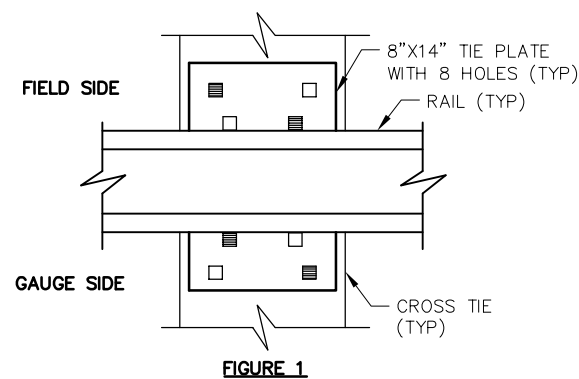
**SECTION A-A  
PANDROL TIE PLATE**

**NOTES FOR PANDROL PLATE:**

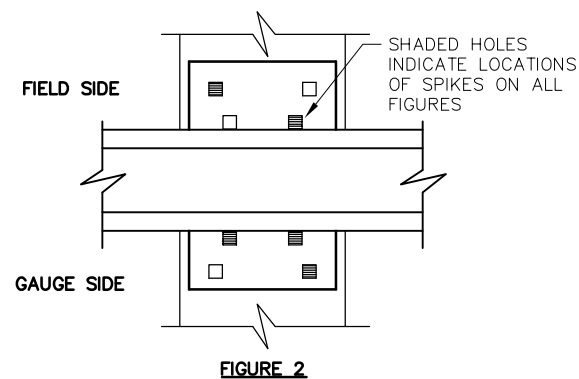
- TOLERANCES FOR SHEARING AND PUNCHING WILL BE IN ACCORDANCE WITH AREMA FOR STANDARD TIE PLATE SECTIONS
- SQUARE HOLES SHALL BE USED FOR INITIAL ATTACHMENT OF PLATES USING CUT SPIKES; CUT SPIKES WILL NOT BE REMOVED ONCE INSTALLED
- 6" LONG SCREW SPIKES WITH SQUARE HEAD SHALL BE USED FOR STANDARD TRACK SECTIONS AND 6 1/2" LONG GEVERGRIP GALVANIZED SCREW SPIKES SHALL BE USED FOR AT-GRADE CROSSING TRACKS
- SCREW SPIKE MATERIAL SHALL BE AMERICAN IRON AND STEEL INSTITUTE (AISI) 1045 STEEL, MEETING OR EXCEEDING THE FOLLOWING MINIMUM MECHANICAL REQUIREMENTS:  

YIELD STRENGTH:	44,000
PSI ELONGATION:	18% IN 2"
TENSILE STRENGTH:	73,000 PSI
- THE FOLLOWING INFORMATION TO BE FORGED INTO HEAD OF THE SCREW SPIKES:  
 A. MANUFACTURER'S NAME OR INITIALS.  
 B. YEAR OF MANUFACTURE  
 C. SIZE OF SCREW: MUST BE HOT FORGED AND CENTERED RELATIVE TO SHANK
- PREBORE TIMBER TIES WITH DIAMETER "A" BIT, TO A DEPTH OF "B" FROM TOP OF TIE. DO NOT PUNCTURE BOTTOM OF TIE  

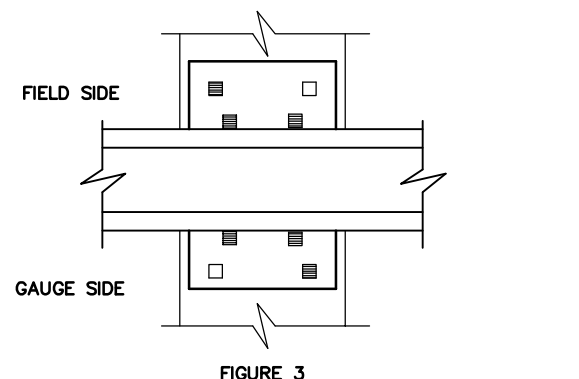
	A	B	
6" SCREW	11/16"	5"	
6 1/2" SCREW	11/16"	5 1/2"	
- FOR USE IN PLATES WITH 1" ROUND HOLES



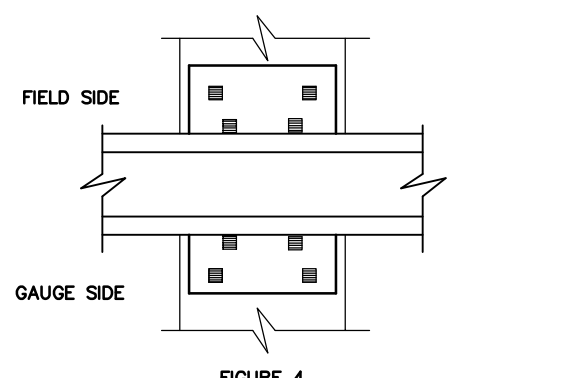
**FIGURE 1**



**FIGURE 2**

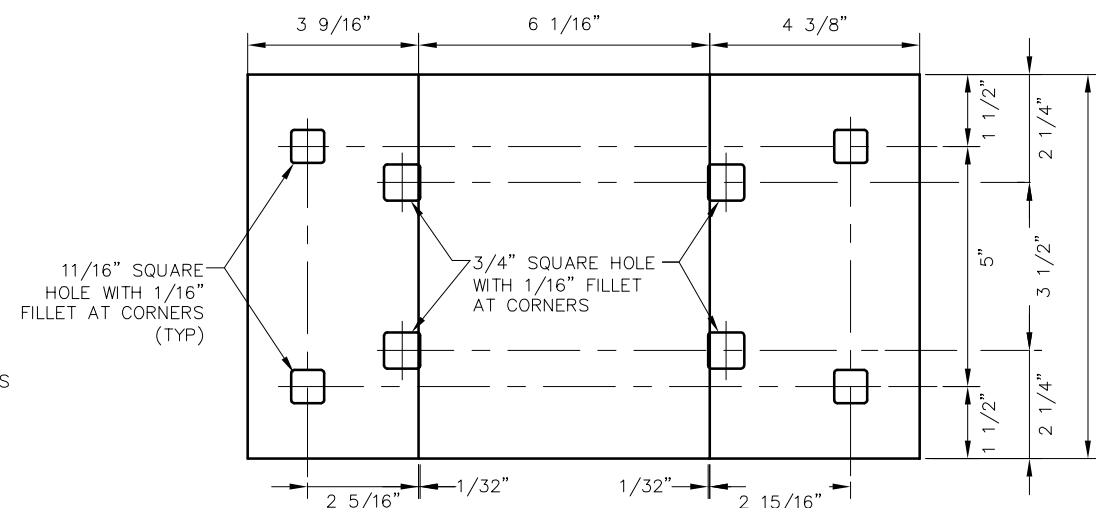


**FIGURE 3**



**FIGURE 4**

**8-HOLE PUNCH TIE PLATE  
WITH HOLD-DOWN  
SPIKE HOLES**



**8" X 14" TIE PLATE WITH 8 HOLES  
FOR MAINTENANCE REFERENCE ONLY  
NOT FOR NEW CONSTRUCTION**

**NOTES FOR TIE PLATE:**

- TIE PLATE SPIKING FOR PLATES WITH HOLD-DOWN SPIKE HOLES
  - FIGURES 1: - TANGENT AND CURVES TO 2° 00' - 4 SPIKES REQUIRED (2 LINE AND 2 HOLD-DOWN)
  - FIGURES 2: - CURVES 2° 01' TO 4° 00' INCLUSIVE - 5 SPIKES REQUIRED (3 LINE AND 2 HOLD-DOWN)
  - FIGURES 3: - CURVES OVER 4° 00' - 6 SPIKES REQUIRED (4 LINE AND 2 HOLD-DOWN)
- ANY VARIATIONS IN THE SPIKING PATTERNS ILLUSTRATED IN FIGURES 1 THRU 3 SHALL BE APPROVED BY THE CALTRAIN DEPUTY DIRECTOR OF ENGINEERING
- CUT SPIKES MAY BE USED ON "PANDROL" PLATE SQUARE HOLES FOR TEMPORARY ASSEMBLY OF TRACK. THE CUT SPIKES WILL NOT BE REMOVED AFTER INSTALLATION OF SCREW SPIKES
- SPIKES SHALL CONFORM TO CURRENT AREMA FOR SOFT STEEL TRACK SPIKES

REV	DATE	BY	CHK	APP	DESCRIPTION

<b>PENINSULA CORRIDOR JOINT POWERS BOARD</b>		<b>STANDARD DRAWINGS</b>	GADD FILE NO.: SD-2221
APPROVED BY: <i>Bernard Anagnostis</i> <i>Steph Chen</i>		TRACK RAILS, TIES, AND FASTENERS FASTENING ASSEMBLIES PANDROL PLATES AND TIE PLATES	REV 0     DATE 093011
ENGINEERING MANAGER     DEPUTY DIRECTOR OF ENGINEERING			STANDARD NO.: SD-2221
1250 San Carlos Avenue San Carlos, CA 94070			