PERFORM TRACK CONSTRUCTION UNDER THE DIRECTION OF QUALIFIED AND COMPETENT SUPERVISORY PERSONNEL EXPERIENCED IN RAILROAD CONSTRUCTION.

SUBMIT A COMPLETE SCHEDULE OF THE MATERIALS PROPOSED FOR INSTALLATION WITHIN 60 DAYS OF RECEIPT OF NOTICE TO PROCEED, AND BEFORE INSTALLATION OF THE MATERIALS; INCLUDE A LIST OF EQUIPMENT PROPOSED FOR THE WORK.

**SUBMIT** MANUFACTURER'S CERTIFICATES OF CONFORMANCE FOR THE FOLLOWING MATERIALS:

- TIE PLATES
- TRACK BOLTS, NUTS, & SPRING WASHERS
- JOINT BARS
- RAIL ANCHORS
- BALLAST MATERIAL

## **BALLAST**

SUPPLEMENT EXISTING BALLAST AS NECESSARY TO ACHIEVE PRESCRIBED GRADES.

EXCAVATE AND WASTE FOULED OR MUDDY BALLAST, AS IDENTIFIED BY THE CONTRACTING OFFICER, OUTSIDE OF THE TRACK AREA WHERE IT WILL NOT INTERFERE WITH DRAINAGE OF THE TRACK.

PREPARED BALLAST MUST BE CRUSHED STONE, SIZE NO. 4, CONFORMING TO CHAPTER 1, PART 2, OF AREMA ENG MAN FOR QUALITY, SOUNDNESS AND GRADATION

TABLE 1. MINIMUM PROPERTY REQUIREMENTS — BALLAST			
PROPERTY	MAXIMUM VALUE	MINIMUM VALUE	TEST METHOD
PERCENT PASSING NO. 200 SIEVE	1.0 PERCENT		ASTM C136/C136M ASTM C117
BULK SPECIFIC GRAVITY			
ROCK		2.60	ASTM C127
BLAST FURNACE SLAG		2.30	
ABSORPTION			
ROCK	2.0 PERCENT		ASTM C127
BLAST FURNACE	5.0 PERCENT		
CLAY LUMPS & FRIABLE PARTICLES	0.5 PERCENT		ASTM C142/C142M
DEGRADATION SOUNDNESS	35 PERCENT		ASTM C535
SODIUM SULFATE - 5 CYCLES	10 PERCENT		ASTM C88
FLAT OR ELONGATED PARTICLES	5 PERCENT		ASTM D4791

## JOINT BARS

USE NEW JOINT BARS WITH NEW RAIL. USE JOINT BARS OF THE "TOELESS" AND "HEAD FREE DESIGN" TO MATCH RAIL SECTION. ENSURE NEW JOINT BARS CONFORM TO THE REQUIREMENTS OF "SPECIFICATIONS FOR HIGH-CARBON STEEL JOINT BARS" OR "SPECIFICATIONS FOR QUENCHED CARBON-STEEL JOINT BARS AND FORGED COMPROMISE JOINT BARS" FOUND IN CHAPTER 4, PART 2 OF AREMA ENG MAN FOR THE JOINT BAR AND ASSEMBLIES RECOMMENDED IN CHAPTER 4, PART 1 OF AREMA ENG MAN.

SUBMIT MANUFACTURER'S DATA ON NEW RAIL INCLUDING: RAIL WEIGHT, RAIL SECTION, DRILLING, RAIL LENGTH, DATE ROLLED, AND THE NAME OF THE MILL WHERE THE RAIL WAS ROLLED.

## RAIL

PROVIDE NEW RAIL CONSISTING OF A 132 LBS./YD SECTION OR HEAVIER AND CONFORMING TO THE SPECIFICATIONS IN CHAPTER 4, PARTS 1 & 2 OF AREMA ENG MAN THAT WERE IN EFFECT AT THE TIME OF ITS MANUFACTURE. PROVIDE NÉW RAIL IN 39 FT LENGTHS.

PROVIDE NEW RAIL WITH THE RAIL ENDS DRILLED. DRILL UNIFORMLY AND TO THE 132 RE 6 PATTERN. ENSURE RAIL IS DRILLED TO MATCH JOINT BARS PROVIDED.

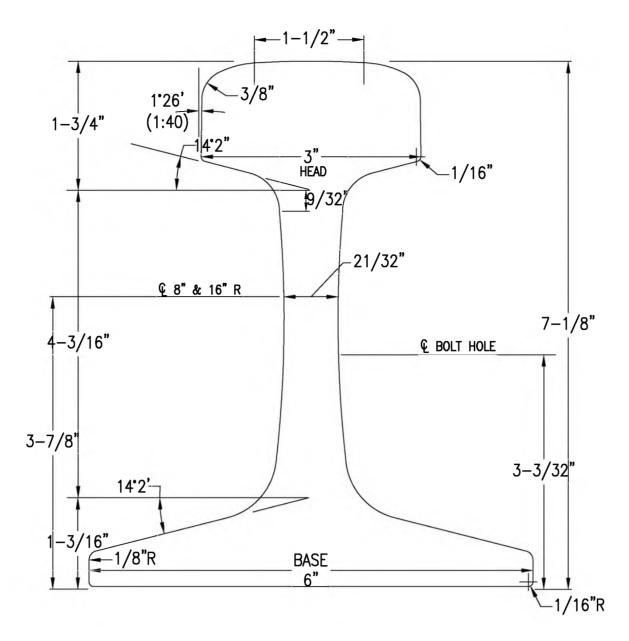
PROVIDE TIE PLATES OF THE DIMENSIONS AND PUNCHING PATTERN (A OR B) TO FIT THE RAIL. USE NEW TIE PLATES CONFORMING TO CHAPTER 5, PART 1 OF AREMA ENG MAN WITH NEW RAIL.

## CONCRETE TIES

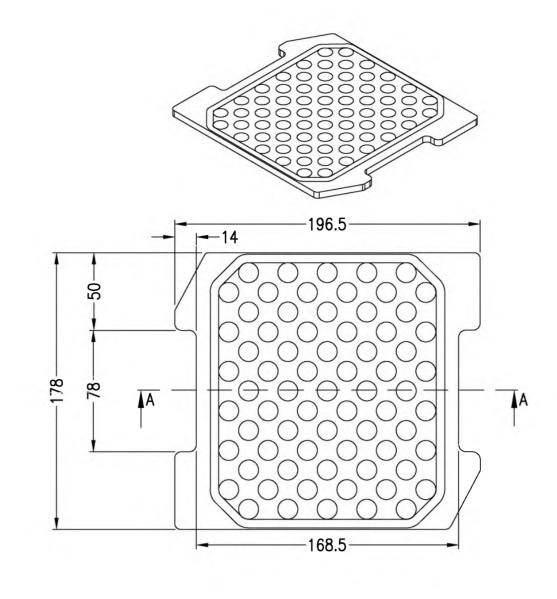
SUBMIT NAME OF THE TIE MANUFACTURER. DIMENSIONS, TYPE OF FIXATION AND THE CHEMICAL ANALYSIS OF THE CONCRETE MIX. PROVIDE CONCRETE TIES AND FASTENING SYSTEM COMPLYING WITH THE MATERIAL AND STRENGTH REQUIREMENTS SPECIFIED IN CHAPTER 30 OF AREMA ENG MAN.

FURNISH CONCRETE WITH DUAL DUROMETER RUBBER PADS, WHICH HAVE 50 TO 60 SHORE A DUROMETER ON THE BOTTOM SURFACE AND 75 TO 85 SHORE A REINFORCED RUBBER ON THE TOP SURFACE.

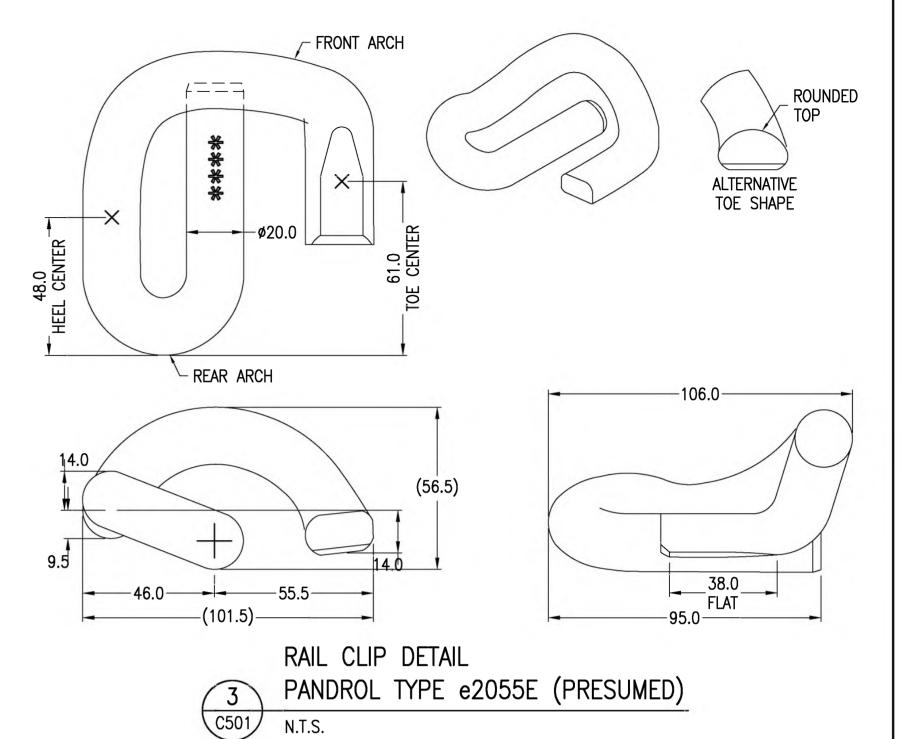
PERFORM INSPECTION TO ENSURE THAT ALL THE REQUIREMENTS OF THESE SPECIFICATIONS ARE MET. INSPECT BOLTED JOINTS FOR LOOSE BOLTS AND FOR SMOOTH TRANSITIONS BETWEEN RAILS OF DIFFERENT SECTIONS. CHECK RAIL, TIE PLATES, AND TIES TO ENSURE THAT THE RAIL IS PROPERLY SEATED AND HAS FULL BEARING ON THE TIE PLATE AND TIE. UPON COMPLETION OF CONSTRUCTION, TAKE AND RECORD MEASUREMENTS OF TRACK GAGE, CROSS LEVEL, AND ALIGNMENT AT LEAST ONCE EVERY 100 FEET OF TRACK CENTERLINE LENGTH. PROVIDE A COPY OF THESE MEASUREMENTS TO THE CONTRACTING OFFICER.

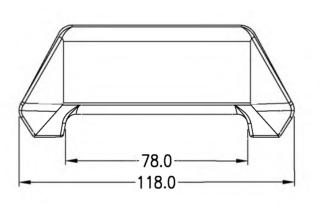


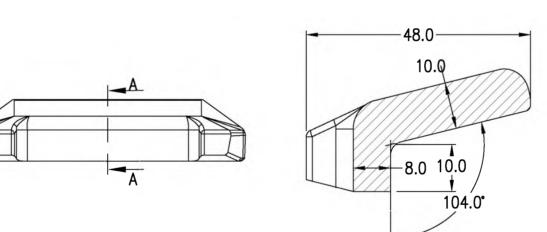
RAIL DETAIL 132 RE (PRESUMED) C501 N.T.S.



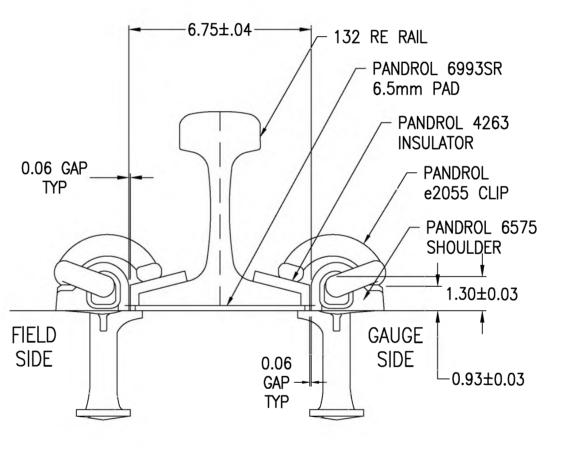
6.5mm eCLIP RAIL PAD



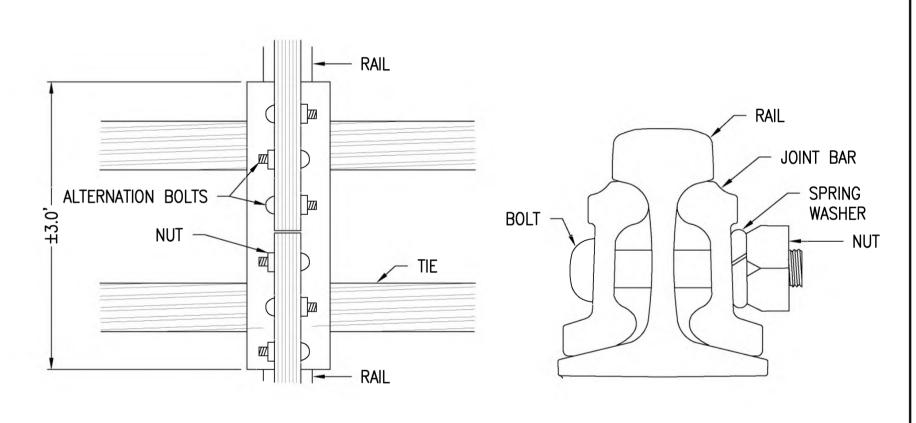








RAIL FASTENING DETAIL



N.T.S.

JOINT BAR DETAIL

