

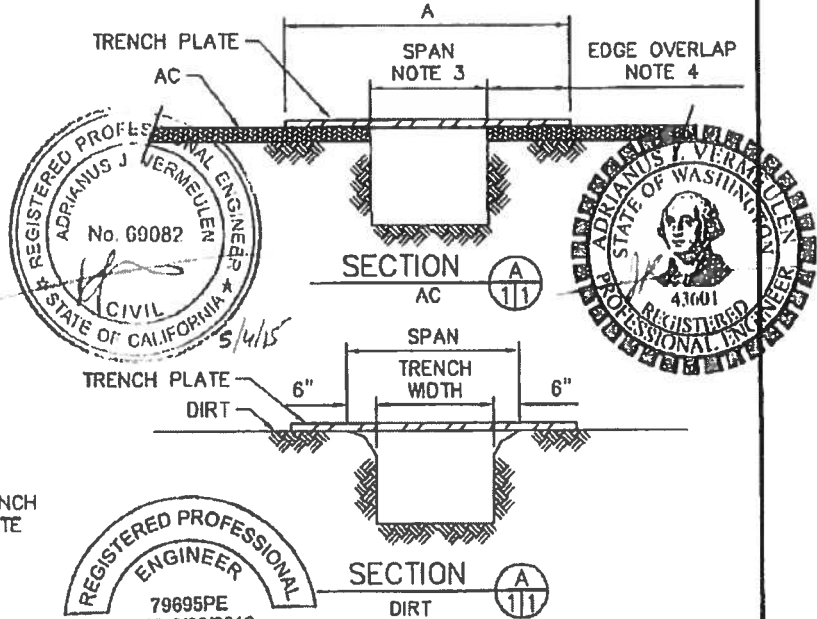
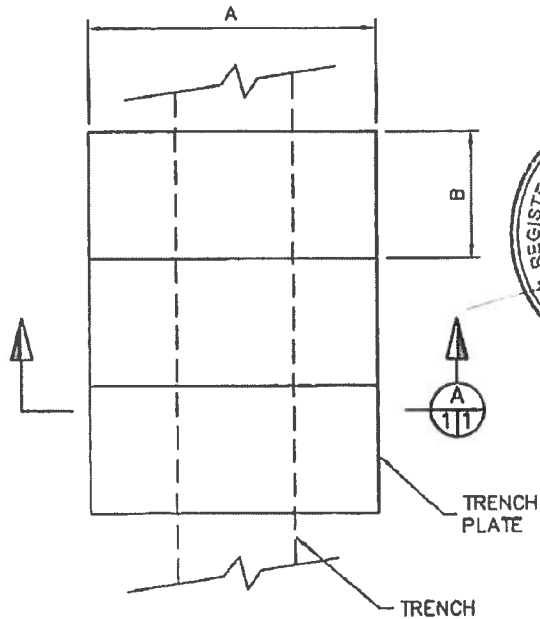
# D. P. NICOLI INC.

## MANUFACTURERS TABULATED DATA SHEET

### TRENCH PLATES

#### HS-20-44 LOADING

PLATE THICKNESS	MAX ALLOW. SPAN (FT)	PLATE SIZE (FT x FT) / WEIGHT (LB)								
		4'x6'	4'x8'	5'x8'	6'x10'	6'x12'	8'x10'	8'x12'	8'x16'	8'x20'
3/4"	2'-6"	735 #	979 #	1224 #	1836 #	2203 #	2448 #	2938 #	3917 #	4896 #
7/8"	3'-4"	857 #	1142 #	1428 #	2142 #	2571 #	2856 #	3427 #	4570 #	5712 #
1"	4'-6"	979 #	1305 #	1632 #	2448 #	2938 #	3254 #	3917 #	5223 #	6528 #
1 1/4"	7'	-	1632 #	2040 #	3060 #	3672 #	4080 #	4896 #	6529 #	8160 #
1 1/2"	10'	-	-	-	-	4407 #	-	5876 #	7835 #	9792 #



**NOTES:** PLAN VIEW

1. PLATES ARE ASTM A36 MIN. STEEL,  $F_y = 36$  KSI.
2. PLATES ARE DESIGNED FOR HS-20-44 LOADING.
3. THE SPAN IS FROM ASPHALT EDGE TO ASPHALT EDGE OR TRENCH WIDTH + 12".
4. EDGE OVERLAP SHALL BE AS FOLLOWS:
  - TRAFFIC SPEED LESS THAN 45 MPH; 12" MINIMUM.
  - TRAFFIC SPEED OVER 45 MPH; 24" MINIMUM.
5. CHART IS BASED ON STABLE TRENCH. STABILITY TO BE DETERMINED BY COMPETENT PERSON OR ENGINEER.
6. IF SPEED EXCEEDS 45 mph, PLATE MAY REQUIRE ANCHORAGE.
7. IF SPEEDS ARE LOWER THAN 10 mph SPANS MAY BE INCREASED BY 20%.

TITLE: **TRENCH PLATES**

**D.P. NICOLI INC.**

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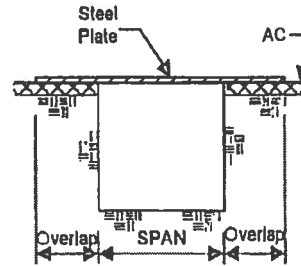
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Check Steel Plates:

Check 1.5" Plates

Plate Thickness (in):  $t := 1.5$   
 Maximum Clear Span (ft):  $L_{max} := 10.0$   
 Yield Stress (ksi):  $F_y := 36.0$   
 Allowable Stress (ksi):  $f := 0.75 \cdot F_y \cdot 1.33$   $f = 35.9$   
 Actual Width of Plate (in):  $b := 48$



Check Bending:

Section Modulus of Plate (in<sup>3</sup>):

$$S_{ww} := \frac{b \cdot t^2}{6} \quad S = 18.0$$

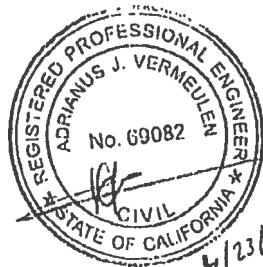
HS-20-44 Loading (kips):  $P_{max} := 20.8$  ((16 kips Load)(1.3 Impact Factor) = 20.8 kips)

Maximum Moment (k<sup>2</sup>ft):  $M_{max} := \frac{P_{max} \cdot L}{4}$   $M_{max} = 52.0$

$$f_b := \frac{M_{max} \cdot 12}{S} \quad f_b = 34.7$$

$F_b := f$   $F_b = 35.9$   $f_b < F_b$  OK

Use 1.5" Steel Plates  
for a 10'-0" Span



4/23/15