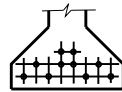
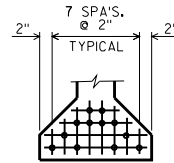


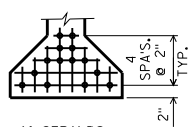
8 STRANDS



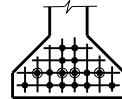
10 STRANDS



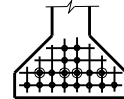
12 STRANDS



14 STRANDS



\*16 STRANDS

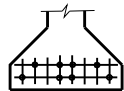


\*18 STRANDS

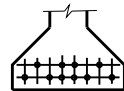
\* NEEDS BOND BREAKERS AT ENDS. SEE BOND BREAKER DETAIL.

⊙ INDICATES STRAND TO BE DEBONDED

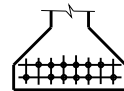
**STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF 0.6"φ STRANDS**



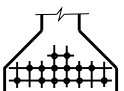
8 STRANDS



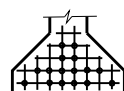
10 STRANDS



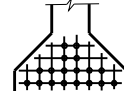
12 STRANDS



14 STRANDS



16 STRANDS



18 STRANDS

**ARRANGEMENT AT  $\frac{1}{4}$  SPAN - FOR GIRDERS WITH DRAPED 0.5"φ STRANDS**

**28" GIRDER**

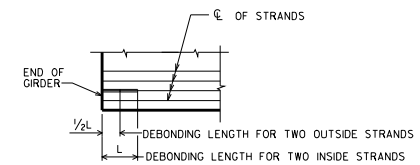
A = 312 SQ. IN.  
 $r^2 = 91.95 \text{ IN.}^2$   
 $y_T = 14.58 \text{ IN.}$   
 $y_B = -13.42 \text{ IN.}$   
 $I = 28,687 \text{ IN.}^4$   
 $S_T = 1,968 \text{ IN.}^3$   
 $S_B = -2,138 \text{ IN.}^3$   
 WT. = 325 #/FT.

**PRE-TENSION**

$f_s = 270,000 \text{ P.S.I.}$   
 $f_s = 0.75 \times 270,000 = 202,500 \text{ P.S.I.}$   
 for low relaxation strands  
 $P_i \text{ PER } 0.5" \phi \text{ STRAND} = 0.1531 \times 202,500 = 31.00 \text{ KIPS}$   
 $P_i \text{ PER } 0.6" \phi \text{ STRAND} = 0.217 \times 202,500 = 43.94 \text{ KIPS}$   
 $\frac{y_B}{r^2} = \frac{-13.42}{91.95} = -0.1459 \text{ IN./IN.}^2$   
 $f_B (\text{init.}) = \frac{A_s f_s}{A} (1 + e_s \frac{y_B}{r^2})$

(COMPRESSION IS POSITIVE)

NO. STRANDS	$e_s$ (inches)	$P(\text{init.}) = A_s f_s$ (KIPS)	$f_B (\text{init.})$ (K/sq.in.)
<b>STANDARD STRAND PATTERNS FOR UNDRAPED STRANDS (0.6"φ)</b>			
8	-10.40	352	2.841
10	-9.80	439	3.419
12	-8.73	527	3.841
14	-7.97	615	4.264
*16	-9.4	703	5.345
*18	-9.6	791	6.087
<b>STANDARD STRAND PATTERNS FOR DRAPED STRANDS (0.5"φ)</b>			
8	-10.4	248	2.001
10	-10.6	310	2.531
12	-10.4	372	3.002
14	-10.0	434	3.421
16	-9.4	496	3.771
18	-9.6	558	4.294



**BOND BREAKER DETAIL**

SHOWING LENGTHS OF DEBONDING FROM END OF GIRDER. DEBOND LENGTHS TO BE DESIGNED. STRAND TRANSFER LENGTH IS 60 X STRAND DIAMETER.

**28" PRESTRESSED GIRDER DESIGN DATA**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION  
 STRUCTURES DEVELOPMENT SECTION

APPROVED: Scot Becker DATE: 7-08