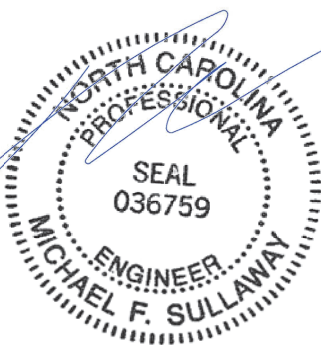
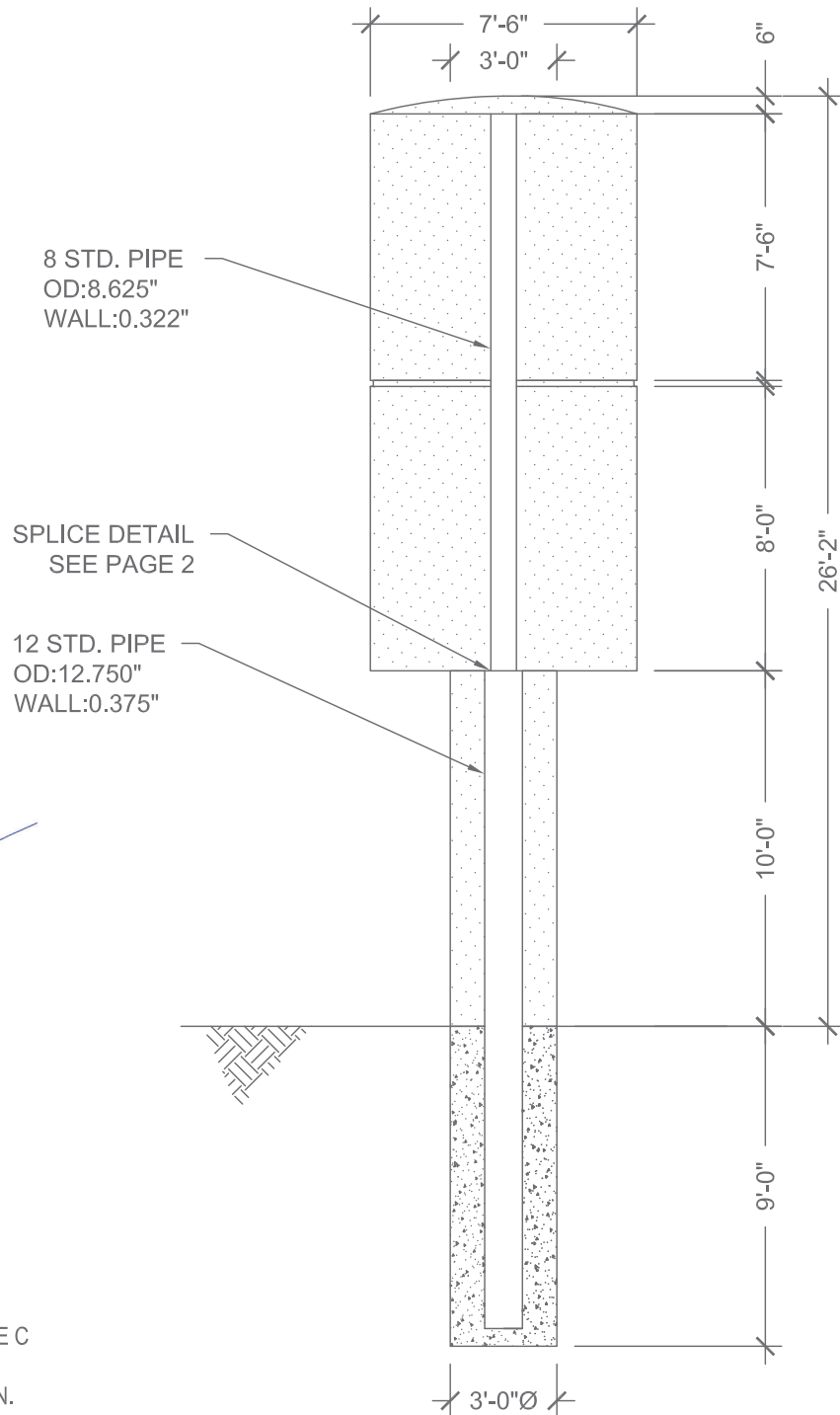




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PROJECT: MAIN STREET HEALTH - 25 PROFESSIONAL PARK ERWIN, NC
 PROJECT #: 36177
 CLIENT: GENERAL SIGN COMPANY

DATE: 7-28-2022
 ENGINEER: HL
 LAST REVISED:



7-29-2022

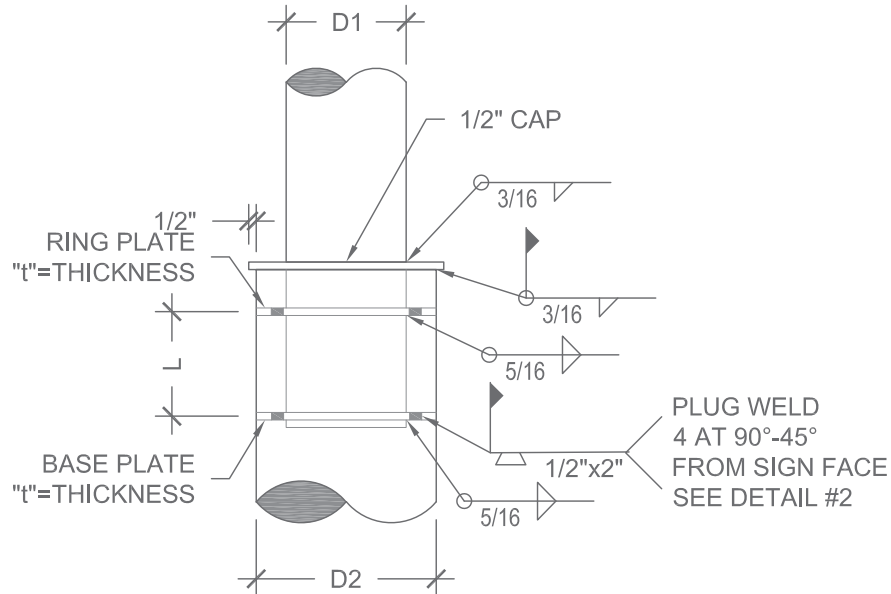
GENERAL NOTES

1. DESIGN CODE: IBC 2018
2. DESIGN LOADS: ASCE 7-16
3. WIND VELOCITY: 120 MPH EXPOSURE C
4. CONCRETE 2500 PSI MIN.
5. PIPE STEEL ASTM A53, Fy= 35 KSI MIN.
6. ALUMINUM ELEMENTS 6061-T6
7. PROVIDE PROTECTION AGAINST DISSIMILAR METALS USING ANTI-CORROSIVE PAINT OR NEOPRENE GASKETS.
8. LATERAL SOIL BEARING PER IBC CLASS 4 (150 PSF/FT)
9. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION.

1 FRONT ELEVATION

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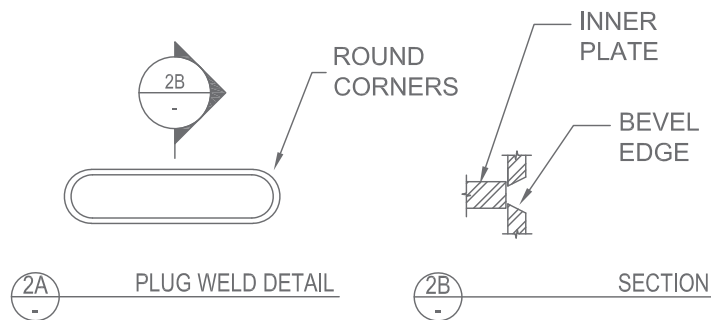
① - SPLICE DETAIL

NOTES:

1. THIS DETAIL MAY BE USED FOR PIPE AND SQUARE TUBE SECTIONS.
2. $L = 1.5 \times D1$ OR 12" , WHICHEVER IS LARGEST

THICKNESS (t)

FOR D1 THRU 16" DIA., USE $t = 1/2"$ PL.
 FOR 16" DIA. < D1 < 30" DIA., USE $t = 3/4"$ PL.
 FOR D1 > 30" DIA., USE $t = 1"$ PL.





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v5.5

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-16

$F = q_z * G * C_f * A_f$ with $q_z = 0.00256 K_z K_{zt} K_d V^2$ (29.3.2 & 29.4)
 $C_f = 1.727$ (Fig. 29.3-1) 1.00 0 max. height= 26.17
 $K_{zt} = 1.0$ (26.8.2) (=1.0 unless unusual landscape) $s = 16.17$
 $K_z =$ from table 28.3-1 Exposure= c
 $K_d = 0.85$ for signs (table 26.6-1)
 $V = 120$ mph
 $G = 0.85$ (26.9) weight= 1.512 kips
 $s/h = 0.618$ $M_{DL} = 0.00$ k-ft
 $B/s = 0.46$

Pole Loads	structure component	height at section c.g.	pressure K_z	q_z	$q_z * G * C_f$	A_f	shear	Wind Moment M_w		
	1	5.0	0.850	26.6	39.09	30.0	1173	5863		
	2	12.5	0.850	26.6	39.09	37.5	1466	18322		
	3	16.5	0.866	27.1	39.82	22.5	896	14785		
	4	18.0833333	0.882	27.6	40.56	1.2	50	905		
	5	19.0833333	0.892	28.0	41.02	13.8	564	10763		
	6	22.5	0.921	28.9	42.34	37.5	1588	35728		
	7	25.5833333	0.945	29.6	43.45	8.8	380	9726		
sums:							151.2	6117	96.09	(M_w) k-ft arm= 15.7
			$P_u = 1.81$ kip				$M = 96.09$ k-ft	$M = \sqrt{M_{DL}^2 + M_w^2}$		
			$M_u = \sqrt{1.2 M_{DL}^2 + 1.0 M_w^2} = 96.09$ k-ft							

Pole Design section; pipe

$M_u \leq \phi M_n$ with $M_n = f_y Z$ $f_y = 35$ ksi $\phi = 0.9$

H	M_u (k-ft)	Z req'd. (in)	Size(in)	t (in)	Z	USE
at grade	96.1	36.61	10	0.365	36.9	12 STD. PIPE, $\Phi M_n = 141$ k-ft
splice at 10 ft	40.8	15.5	8	0.322	20.8	8 STD. PIPE, $\Phi M_n = 54.6$ k-ft

Footing Design footprint: round

$\omega = 1.3$ IBC 1605.3.2 IBC Table 1806.2, sections 1806.3.4, 1807.3.2 $S = (1.3x2x)$
 $P = 4.77$ kip $S_1 = S \times d / 3$ $A = 2.34 \times P / (S_1 \times b)$ $S = 400$
 $S_1 = 1200$ $d = 0.5 \times A (1 + (1 + 4.36 \times h/A)^{.5})$ IBC 1807.3.2.1
 $A = 3.10$

footing: **3' - 0" dia.** **9' - 0" deep**