



a Joint Venture - Nevada

Transmittal

Project [112904] - New VA Medical Center Phase IV
View Date 5/31/2011
VA Contract No. VA101CFM-C-0003
VA Project No. 593CA2202

Clark/Hunt, a Joint Venture - Nevada
 3880 E. Deer Springs Way
 Clark/Hunt Job Trailer
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Transmittal No. 112904-04918

To ★ Mr. Robert Arnold JMA Architecturals 10150 Covington Cross Drive Las Vegas, NV 89144 USA Phone: (702) 731-2033 Fax: (702) 731-2039		Date 5/31/2011 Items listed are being sent <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Under Separate Cover Via Hand Delivered CSI Code 10430 - Exterior Signs
From Mr. Adam Milner (Clark/Hunt, a Joint Venture - Nevada)		
Subject Submittal Package 10430-003.0: Exterior Monument and Post Signage Engineered Drawings		
cc Mr. George Karaboyias (Department of Veterans Affairs)		

We are transmitting the following to you:

- | | | | | |
|----------------------------------------------------------|----------------------------------------|-----------------------------------------------|--------------------------------------|----------------------------------|
| <input type="checkbox"/> Product Data | <input type="checkbox"/> Samples | <input type="checkbox"/> Shop Drawings | <input type="checkbox"/> O&M Manuals | <input type="checkbox"/> Plans |
| <input type="checkbox"/> Architectural Drawings | <input type="checkbox"/> Letters | <input type="checkbox"/> Specifications | <input type="checkbox"/> Prints | <input type="checkbox"/> Addenda |
| <input checked="" type="checkbox"/> Engineering Drawings | <input type="checkbox"/> Change Orders | <input checked="" type="checkbox"/> Submittal | | |

Submittals

Pkg. No./Rev.	Item No./Rev.	Description	Copies	Reason	Action	Due	Response
10430-003.0	10430.1.4.0	EI-15.02 Engineering Calculations	6	For Approval		6/30/2011	
10430-003.0	10430.1.4.0	EN-04.02 Engineering Calculations	6	For Approval		6/30/2011	
10430-003.0	10430.1.4.0	EN-07.02, EI-08.03, EN-03.05 Engineering Calculations	6	For Approval		6/30/2011	
10430-003.0	10430.1.4.0	EN-02.02 Engineering Calculations	6	For Approval		6/30/2011	
10430-003.0	10430.1.4.0	EN-10.2, EN-05.02, EN-12.04, EN-10.1, EN-10.FL, EN-10.6, EN-10.2, EN-10.4, EN-10.9 Engineering Calculations	6	For Approval		6/30/2011	
10430-003.0	10430.1.4.0	EN-16.02 Engineering Calculations	6	For Approval		6/30/2011	

Remarks A quick review of this submittal will be appreciated.

Received By	Printed Name	Date
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Linked Documents

Document Type	Document	Open	Description	Date	Size (KB)
Sub. Pkg.	10430-003.0		Exterior Monument and Post Signage Engineered D...		



Submittal Package

Project [112904] - New VA
Medical Center Phase IV

View Date 5/31/2011

VA Contract No. VA101CFM-C-0003

VA Project No. 593CA2202

Clark/Hunt, a Joint Venture - Nevada
3880 E. Deer Springs Way
Clark/Hunt Job Trailer
North Las Vegas, NV 89086
Phone: (702) 834-3100
Fax: (702) 834-3161

Submittal Package No.
10430-003

General Information

Package No.	10430-003	Package Revision	0
Description	Exterior Monument and Post Signage Engineered Drawings		
Primary CSI Code	10430 - Exterior Signs		
Reviewers	Arnold, Robert (JMA Architecturals)		
Primary Reviewer	Robert Arnold (JMA Architecturals)		
Notes			

Items

CSI Code	Item No./Rev.	Description	Submitting Company	Status	Primary Response
10430	10430.1.4.0	EI-15.02 Engineering Calculations	Architectural Design & Signs	In Review - Priority!	
10430	10430.1.4.0	EN-04.02 Engineering Calculations	Architectural Design & Signs	In Review - Priority!	
10430	10430.1.4.0	EN-07.02, EI-08.03, EN-03.05 Engineering Calculations	Architectural Design & Signs	In Review - Priority!	
10430	10430.1.4.0	EN-02.02 Engineering Calculations	Architectural Design & Signs	In Review - Priority!	
10430	10430.1.4.0	EN-10.2, EN-05.02, EN-12.04, EN-10.1, EN-10.FL, EN-10.6, EN-10.2, EN-10.4, EN-10.9 Engineering Calculations	Architectural Design & Signs	In Review - Priority!	
10430	10430.1.4.0	EN-16.02 Engineering Calculations	Architectural Design & Signs	In Review - Priority!	

(6430-00)

CLARK/HUNT, a Joint Venture-Nevada
New VA Medical Center-Phase 4
CLARK/HUNT Project 112904

Checked for accuracy, completeness
and compliance with the Contract
requirements. This check in no way
relieves the Subcontractor of it's
obligation to comply completely with the
Contract Documents.

☒ No exception taken
☐ Accepted as noted
☐ Revise as noted and resubmit
☐ Rejected

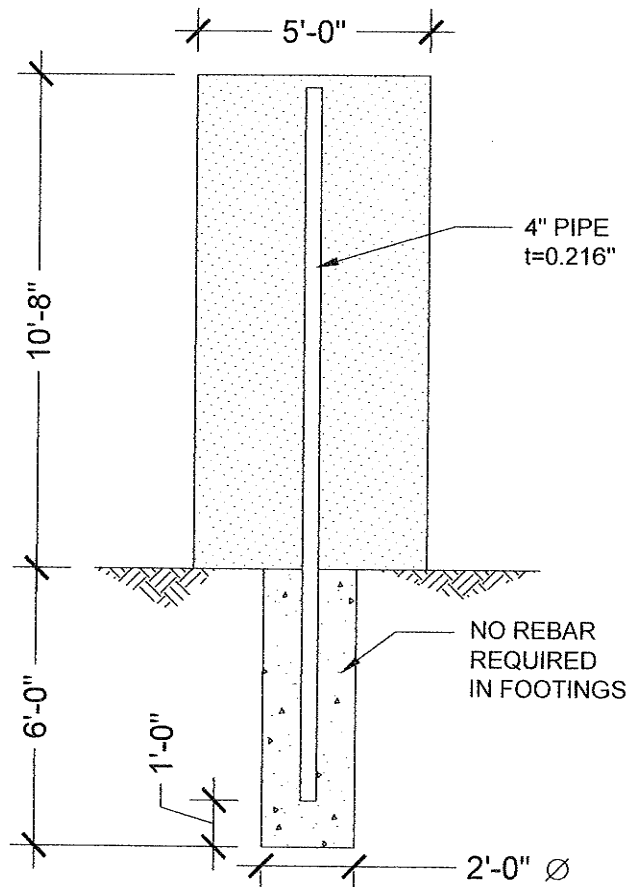
Checked by AA
Date 5/31/11



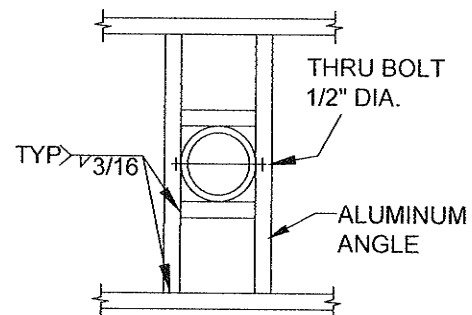
<u>Pages</u>	<u>Sign Type</u>	<u>Description</u>
1-2	EI-15.02.....	Four Panel Monument Kiosk
3-4	EN-04.02.....	Secondary Directional Post
5-6	EN-07.02, EI-08.03..... & EN-03.05	Small You Are Here Map
7-8	EN-02.02.....	Secondary Directional Monument
9-10	EN-05.02, ENB-12.04,... EN-10.1, EN-10.FL, EN-10.6, EN-10.2, EN-10.4 & EN -10.9	Traffic Regulatory
11-12	EN-16.02.....	Monument
13-14	Building ID "North Las Vegas"
15-16	Building ID "VA" Symbol

PROJECT: VA HOSPITAL, NORTH LAS VEGAS, CA
PROJECT #: 699A
CLIENT: AD/S

DATE: 3-14-11
ENGINEER: MFS
PAGES: 1 OF 2



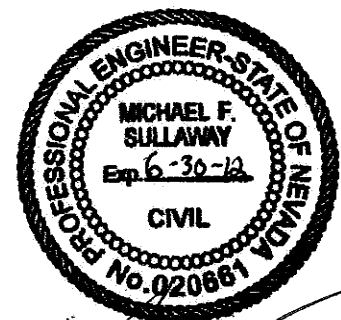
① ELEVATION- SIGN TYPE EI-15.02



② SADDLE DETAIL TYP.

GENERAL NOTES

1. DESIGN CODE: IBC 2003
2. DESIGN LOADS: ASCE 7
3. WIND VELOCITY 90 MPH EXPOSURE C, $I_w=1.15$
4. OCC GROUP U FOR SIGN STRUCTURES
5. SEISMIC DESIGN; $S_s=0.574$, $S_1=0.179$, SITE CLASS C, $S_{ds}=0.448$, $S_{d1}=0.193$, DESIGN CAT. D, $R=3.5$ FOR SIGN STRUCTURES, $I=1.0$
6. PIPE STEEL ASTM A36
7. ALUMINUM EXTRUSION 6061-T6
8. CONCRETE 5000psi
9. FOOTINGS TO BE POURED SOLID
10. SOIL LATERAL PRESSURE CLASS 5 (100PCF)
11. FRAMING DESIGNED AND FABRICATED BY AN APPROVED SHOP
12. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
13. STAINLESS STEEL BOLTS ASTM F593
14. PROVIDE PROTECTION FOR ALUMINUM CAST IN CONCRETE
15. STAINLESS STEEL SCREWS PER ICC-ESR 2196



PROJECT: VA- North Las Vegas Medical Center, Las Vegas, NV
PROJ. NO.: 699A
CLIENT: AD/S

DATE: 3/11/11
ENGINEER: MFS
PAGES: 2 of 2

VI.6 building code; IBC 2003

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-05

$F = q_h * G * C_f * A_s$ with $q_h = 0.00256 K_z K_{zt} K_d V^2 I$ (ASCE 6.5.10 and 6.5.14)
 $C_f = 1.563$ (ASCE Fig. 6-20)
 $K_{zt} = 1.0$ (unless unusual landscape) $I = 1$ for structural category II
 $K_z =$ from ASCE table 6-3 Exposure = C
 $K_d = 0.85$ for signs
 $V = 90$ mph
 $G = 0.85$ (ASCE 6.5.8) weight = 0.533 kips
 $s/h = 0.994$ $M_{DL} = 0.00$ k-ft
 $B/s = 0.47$

Pole Loads	structure component	height at section c.g.	K_z	q_h	pressure $q_h * G * C_f$	Area	shear	Wind Moment M_w	
	1	5.3335	0.85	14.98	19.90	53.335	1061	5660	
					sums:	53	1061	5.66	(M_w) k-ft arm = 5.33
					for $s/h=1$, add 10%:	x 1.10		6.23	
					$P_u = 0.64$ kip			M = 6.23 k-ft	$M = \sqrt{M_{DL}^2 + M_w^2}$
					$M_u = \sqrt{(1.2 M_{DL}^2 + 1.6 M_w^2)} = 9.96$ k-ft				

Pole Design section; pipe

$M_u \geq \phi M_n$ 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	
at grade	9.96	3.80	4	0.237	4.1	

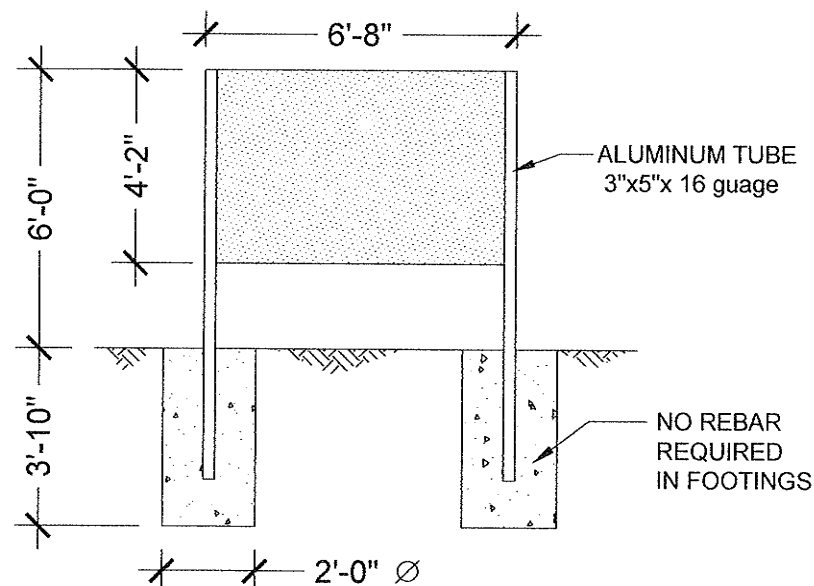
Footing Design footprint: round

$\omega = 1.3$ (IBC 1605.3.2) IBC Table 1804.2 with Note d, sections 1804.3.1 and 1805.7.2
 $P = 1.38$ kip $S1 = S \times d / 3$ $A = 2.34 \times P / (S1 \times b)$ $S = 267$
 $S1 = 532$ $d = 0.5 \times A (1 + (1 + 4.36 \times h/A)^{.5})$
 $A = 3.04$

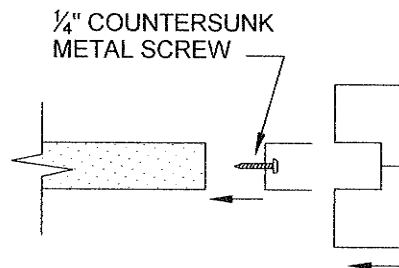
footing: 2' - 0" dia.
6' - 0" deep

PROJECT: VA HOSPITAL, NORTH LAS VEGAS, CA
PROJECT #: 699B
CLIENT: AD/S

DATE: 3-14-11
ENGINEER: MFS
PAGES: 1 OF 2



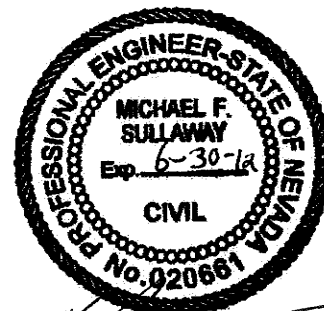
① ELEVATION- SIGN TYPE EN-04.02



② CONNECTION DETAIL

GENERAL NOTES

1. DESIGN CODE: IBC 2003
2. DESIGN LOADS: ASCE 7
3. WIND VELOCITY 90 MPH EXPOSURE C, $I_w=1.15$
4. OCC GROUP U FOR SIGN STRUCTURES
5. SEISMIC DESIGN; $S_s=0.574$, $S_1=0.179$, SITE CLASS C, $S_{ds}=0.448$, $S_{d1}=0.193$,
DESIGN CAT. D, $R=3.5$ FOR SIGN STRUCTURES, $I=1.0$
6. PIPE STEEL ASTM A36
7. ALUMINUM EXTRUSION 6061-T6
8. CONCRETE 5000psi
9. FOOTINGS TO BE POURED SOLID
10. SOIL LATERAL PRESSURE CLASS 5 (100PCF)
11. FRAMING DESIGNED AND FABRICATED BY AN APPROVED SHOP
12. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
13. STAINLESS STEEL BOLTS ASTM F593
14. PROVIDE PROTECTION FOR ALUMINUM CAST IN CONCRETE
15. STAINLESS STEEL SCREWS PER ICC-ESR 2196



PROJECT: VA- North Las Vegas Medical Center, Las Vegas, NV
PROJ. NO.: 699C
CLIENT: AD/S

DATE: 3/11/11
ENGINEER: MFS
PAGES: 2 of 2

V1.6 building code; IBC 2003

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-05

$F = q_h * G * C_f * A_s$		with $q_h = 0.00256 K_z K_{zt} K_d V^2 I$		(ASCE 6.5.10 and 6.5.14)	
$C_f =$	1.623	(ASCE Fig. 6-20)			
$K_{zt} =$	1.0	(unless unusual landscape)		$I =$	1 for structural category II
$K_z =$	from ASCE table 6-3		$Exposure =$	C	
$K_d =$	0.85	for signs			
$V =$	90	mph			
$G =$	0.85	(ASCE 6.5.8)		$weight =$	0.287 kips
$s/h =$	0.695			$M_{DL} =$	0.00 k-ft
$B/s =$	1.60				

Pole Loads	structure component	height at section c.g.	K_z	q_h	pressure $q_h * G * C_f$	Area	shear	Wind Moment M_w		
	1	0.915	0.85	14.98	20.66	0.915	19	17		
	2	3.915	0.85	14.98	20.66	27.8139	575	2250		
	sums:					29	594	2.27	(M_w) k-ft	arm= 3.82
	two pole distribution factor (asce fig. 6-20):				x 0.71		421	1.61		
		$P_u =$	0.34	kip			$M =$	1.61	k-ft	$M = \sqrt{(M_{DL}^2 + M_w^2)}$
	$M_u = \sqrt{(1.2M_{DL}^2 + 1.6M_w^2)} =$		2.57	k-ft						

Pole Design

$M_u \geq \phi M_n$ with $M_n = f_y Z$		$f_y =$	32	ksi	$\phi =$	0.9	
H	M_u (k-ft)	Z req'd. (in)	Size(in)	t (in)	Z		
at grade	2.57	1.07	2.5	0.188	1.3		use 3x5x16 guage, z=1.3

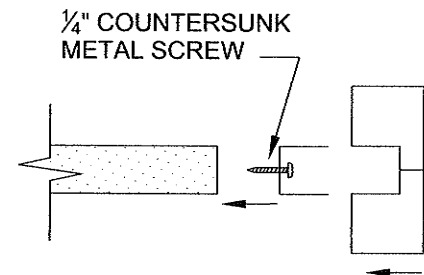
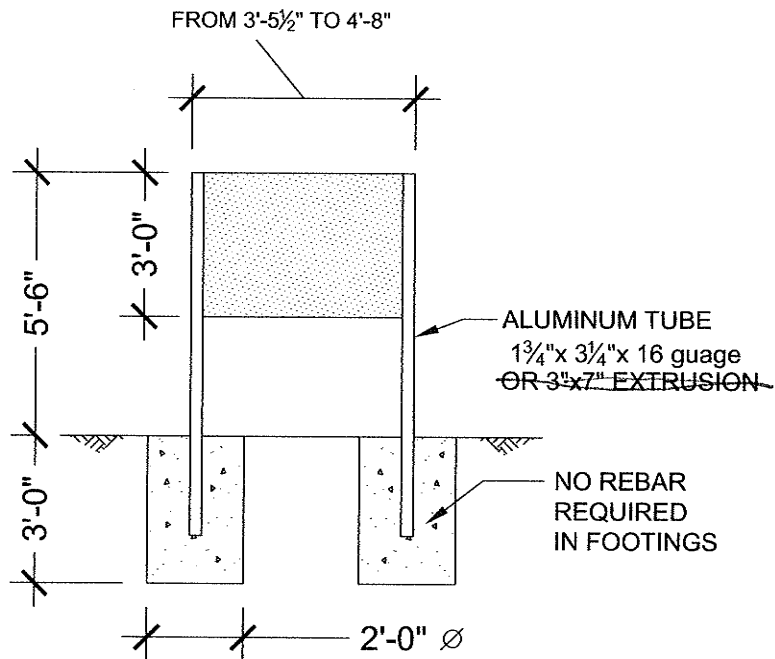
Footing Design **footprint: round**

$\omega = 1.3$	ibc 1605.3.2)	IBC Table 1804.2 with Note d, sections 1804.3.1 and 1805.7.2		
P= 0.55	kip	$S1 = S \times d / 3$	$A = 2.34 \times P / (S1 \times b)$	S= 267
S1= 344		$d = 0.5 \times A (1 + (1 + 4.36 \times h/A)^{.5})$		
A= 1.86				

footing: 2' - 0" dia.
3' - 10" deep

PROJECT: VA HOSPITAL, NORTH LAS VEGAS, CA
PROJECT #: 699C
CLIENT: AD/S

DATE: 3-14-11
ENGINEER: MFS
PAGES: 1 OF 2

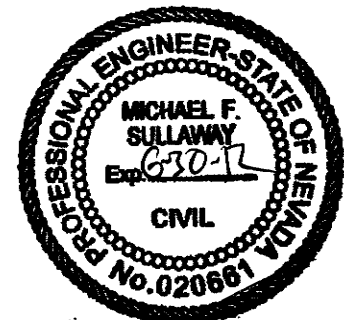


① ELEVATION- SIGN TYPE EN-07.02, EI-08.03, EN-03.05

2 CONNECTION DETAIL

GENERAL NOTES

1. DESIGN CODE: IBC 2003
2. DESIGN LOADS: ASCE 7
3. WIND VELOCITY 90 MPH EXPOSURE C, $I_w=1.15$
4. OCC GROUP U FOR SIGN STRUCTURES
5. SEISMIC DESIGN; $S_s=0.574$, $S_1=0.179$, SITE CLASS C, $S_{ds}=0.448$, $S_{d1}=0.193$,
DESIGN CAT. D, $R=3.5$ FOR SIGN STRUCTURES, $I=1.0$
6. PIPE STEEL ASTM A36
7. ALUMINUM EXTRUSION 6061-T6
8. CONCRETE 5000psi
9. FOOTINGS TO BE POURED SOLID
10. SOIL LATERAL PRESSURE CLASS 5 (100PCF)
11. FRAMING DESIGNED AND FABRICATED BY AN APPROVED SHOP
12. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
13. STAINLESS STEEL BOLTS ASTM F593
14. PROVIDE PROTECTION FOR ALUMINUM CAST IN CONCRETE
15. STAINLESS STEEL SCREWS PER ICC-ESR 2196



PROJECT: VA- North Las Vegas Medical Center, Las Vegas, NV
PROJ. NO.: 699C
CLIENT: AD/S

DATE: 3/11/11
ENGINEER: MFS
PAGES: 2 of 2

V1.6 building code; IBC 2003

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-05

$F = q_h * G * C_f * A_s$ with $q_h = 0.00256 K_z K_{zt} K_d V^2 I$ (ASCE 6.5.10 and 6.5.14)
 $C_f = 1.699$ (ASCE Fig. 6-20)
 $K_{zt} = 1.0$ (unless unusual landscape) $I = 1$ for structural category II
 $K_z =$ from ASCE table 6-3 Exposure = C
 $K_d = 0.85$ for signs
 $V = 90$ mph
 $G = 0.85$ (ASCE 6.5.8) weight = 0.147 kips
 $s/h = 0.545$ $M_{DL} = 0.00$ k-ft
 $B/s = 1.56$

Pole Loads	structure component	height at section c.g.	K_z	q_h	pressure $q_h * G * C_f$	Area	shear	Wind Moment M_w
	1	1.25	0.85	14.98	21.64	0.725	16	20
	2	4	0.85	14.98	21.64	14.01	303	1213
sums:						14.7	319	1.23 (M_w) k-ft
two pole distribution factor (asce fig. 6-20):						x 0.69	221	0.86
$P_u = 0.18$ kip							M = 0.86	k-ft $M = \sqrt{M_{DL}^2 + M_w^2}$
$M_u = \sqrt{1.2 M_{DL}^2 + 1.6 M_w^2} = 1.37$ k-ft								

Pole Design section; tube

$M_u \geq \phi M_n$ with $M_n = f_y Z$		$f_y =$	32	ksi	$\phi =$	0.9
H	M_u (k-ft)	Z req'd. (in)	Size(in)	t (in)	Z	
at grade	1.37	0.57	2	0.25	1.0	Use 1.75x3.25x16 guage z=0.58

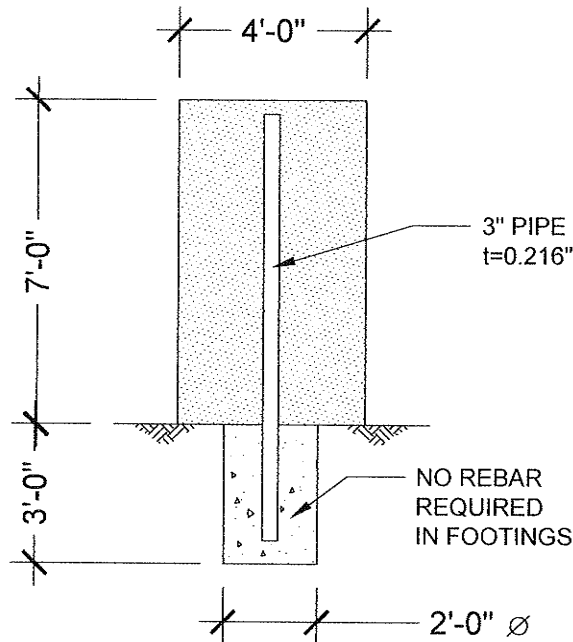
Footing Design footprint: round

$\omega = 1.3$ ibc 1605.3.2) IBC Table 1804.2 with Note d, sections 1804.3.1 and 1805.7.2
 $P = 0.29$ kip $S1 = S \times d / 3$ $A = 2.34 \times P / (S1 \times b)$ $S = 267$
 $S1 = 268$ $d = 0.5 \times A (1 + (1 + 4.36 \times h/A)^{.5})$
 $A = 1.26$

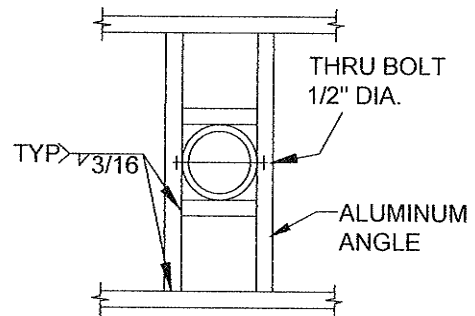
footing: 2' - 0" dia.
3' - 0" deep

PROJECT: VA HOSPITAL, NORTH LAS VEGAS, CA
PROJECT #: 699D
CLIENT: AD/S

DATE: 3-14-11
ENGINEER: MFS
PAGES: 1 OF 2



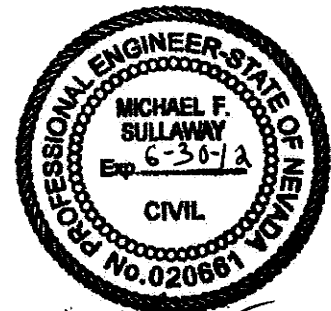
① ELEVATION- SIGN TYPE EN-02.02



② SADDLE DETAIL TYP.

GENERAL NOTES

1. DESIGN CODE: IBC 2003
2. DESIGN LOADS: ASCE 7
3. WIND VELOCITY 90 MPH EXPOSURE C, $I_w=1.15$
4. OCC GROUP U FOR SIGN STRUCTURES
5. SEISMIC DESIGN; $S_s=0.574$, $S_1=0.179$, SITE CLASS C, $S_{ds}=0.448$, $S_{d1}=0.193$, DESIGN CAT. D, $R=3.5$ FOR SIGN STRUCTURES, $I=1.0$
6. PIPE STEEL ASTM A36
7. ALUMINUM EXTRUSION 6061-T6
8. CONCRETE 5000psi
9. FOOTINGS TO BE POURED SOLID
10. SOIL LATERAL PRESSURE CLASS 5 (100PCF)
11. FRAMING DESIGNED AND FABRICATED BY AN APPROVED SHOP
12. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
13. STAINLESS STEEL BOLTS ASTM F593
14. PROVIDE PROTECTION FOR ALUMINUM CAST IN CONCRETE
15. STAINLESS STEEL SCREWS PER ICC-ESR 2196



PROJECT: VA- North Las Vegas Medical Center, Las Vegas, NV
PROJ. NO.: 699D
CLIENT: AD/S

DATE: 3/11/11
ENGINEER: MFS
PAGES: 2 of 2

V1.6 building code; IBC 2003

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-05

$F = q_h * G * C_f * A_s$ with $q_h = 0.00256 K_z K_{zt} K_d V^2 I$ (ASCE 6.5.10 and 6.5.14)
 $C_f = 1.536$ (ASCE Fig. 6-20)
 $K_{zt} = 1.0$ (unless unusual landscape) $I = 1$ for structural category II
 $K_z =$ from ASCE table 6-3 Exposure = C
 $K_d = 0.85$ for signs
 $V = 90$ mph
 $G = 0.85$ (ASCE 6.5.8) weight = 0.280 kips
 $s/h = 1.000$ $M_{DL} = 0.00$ k-ft
 $B/s = 0.57$

Pole Loads	structure component	height at section c.g.	K_z	q_h	pressure $q_h * G * C_f$	Area	shear	Wind Moment M_w	
	1	3.5	0.85	14.98	19.56	28	548	1917	
					sums:	28	548	1.92	(M_w) k-ft
					for $s/h=1$, add 10%:			2.11	arm = 3.50
					$P_u = 0.34$ kip			$M = 2.11$ k-ft	$M = \sqrt{M_{DL}^2 + M_w^2}$
					$M_u = \sqrt{(1.2 M_{DL})^2 + 1.6 M_w^2} = 3.37$ k-ft				

Pole Design section; pipe

$M_u \geq \phi M_n$ with $M_n = f_y Z$ $f_y = 32$ ksi $\phi = 0.9$

H	M_u (k-ft)	Z req'd. (in)	Size(in)	t (in)	Z
at grade	3.37	1.41	3	0.216	2.2

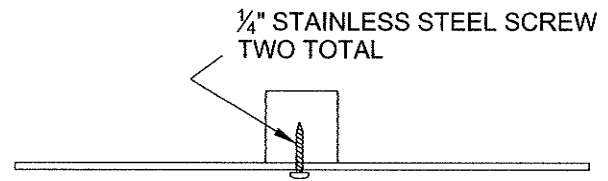
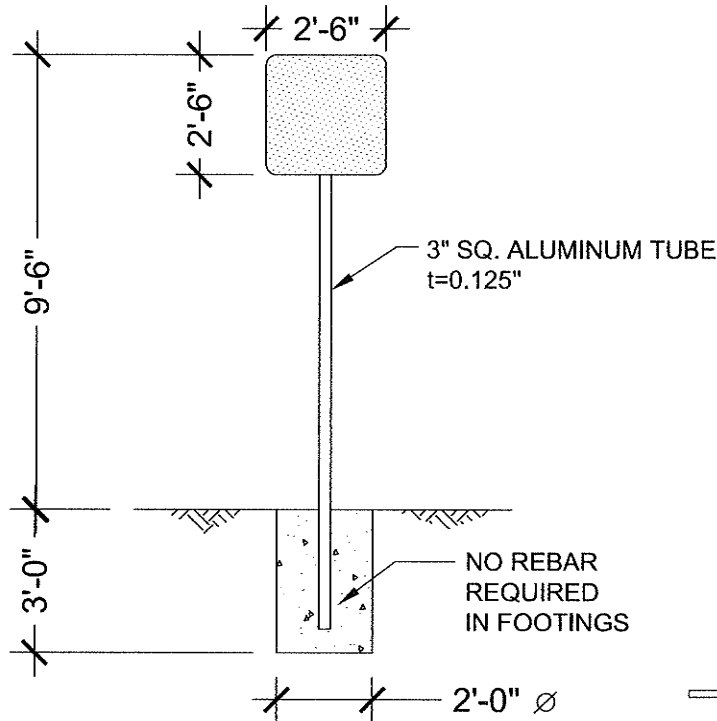
Footing Design footprint: round

$\omega = 1.3$ ibc 1605.3.2) IBC Table 1804.2 with Note d, sections 1804.3.1 and 1805.7.2
 $P = 0.71$ kip $S1 = S \times d / 3$ $A = 2.34 \times P / (S1 \times b)$ $S = 267$
 $S1 = 375$ $d = 0.5 \times A (1 + (1 + 4.36 \times h/A)^{.5})$
 $A = 2.22$

footing: 2' - 0" dia.
3' - 0" deep

PROJECT: VA HOSPITAL, NORTH LAS VEGAS, CA
PROJECT #: 699E
CLIENT: AD/S

DATE: 3-14-11
ENGINEER: MFS
PAGES: 1 OF 2

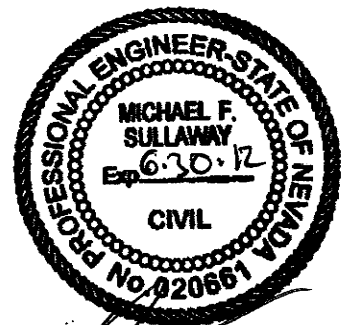


2 CONNECTION DETAIL

- 1 ELEVATION- SIGN TYPE EN-10.2
DESIGN COVERS SIGN TYPES;
EN-05.02
EN-12.04
EN-10.1
EN-10.FL
EN-10.6
EN-10.2
EN-10.4
EN-10.9

GENERAL NOTES

1. DESIGN CODE: IBC 2003
2. DESIGN LOADS: ASCE 7
3. WIND VELOCITY 90 MPH EXPOSURE C, $I_w=1.15$
4. OCC GROUP U FOR SIGN STRUCTURES
5. SEISMIC DESIGN; $S_s=0.574$, $S_1=0.179$, SITE CLASS C, $S_{ds}=0.448$, $S_{d1}=0.193$, DESIGN CAT. D, $R=3.5$ FOR SIGN STRUCTURES, $I=1.0$
6. PIPE STEEL ASTM A36
7. ALUMINUM EXTRUSION 6063
8. CONCRETE 5000psi
9. FOOTINGS TO BE POURED SOLID
10. SOIL LATERAL PRESSURE CLASS 5 (100PCF)
11. FRAMING DESIGNED AND FABRICATED BY AN APPROVED SHOP
12. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
13. STAINLESS STEEL BOLTS ASTM F593
14. PROVIDE PROTECTION FOR ALUMINUM CAST IN CONCRETE
15. STAINLESS STEEL SCREWS PER ICC-ESR 2196



PROJECT: VA- North Las Vegas Medical Center, Las Vegas, NV
PROJ. NO.: 699E
CLIENT: AD/S

DATE: 3/11/11
ENGINEER: MFS
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V1.6 building code; IBC 2003

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-05

$F = q_h * G * C_f * A_s$ with $q_h = 0.00256 K_z K_{zt} K_d V^2 I$ (ASCE 6.5.10 and 6.5.14)
 $C_f = 1.433$ (ASCE Fig. 6-20)
 $K_{zt} = 1.0$ (unless unusual landscape) $I = 1$ for structural category II
 $K_z =$ from ASCE table 6-3 Exposure = C
 $K_d = 0.85$ for signs
 $V = 90$ mph
 $G = 0.85$ (ASCE 6.5.8) weight = 0.080 kips
 $s/h = 1.000$ $M_{DL} = 0.00$ k-ft
 $B/s = 1.34$

Pole Loads	structure component	height at section c.g.	K_z	q_h	pressure $q_h * G * C_f$	Area	shear	Wind Moment M_w
	1	3.5	0.85	14.98	18.25	1.75	32	112
	2	8.25	0.85	14.98	18.25	6.25	114	941
					sums:	8	146	1.05 (M_w) k-ft
					for $s/h=1$, add 10%:	x 1.10		1.16
					$P_u = 0.10$ kip		$M = 1.16$ k-ft	$M = \sqrt{M_{DL}^2 + M_w^2}$
					$M_u = \sqrt{1.2 M_{DL}^2 + 1.6 M_w^2} = 1.85$ k-ft			

Pole Design section; tube Aluminum 6063

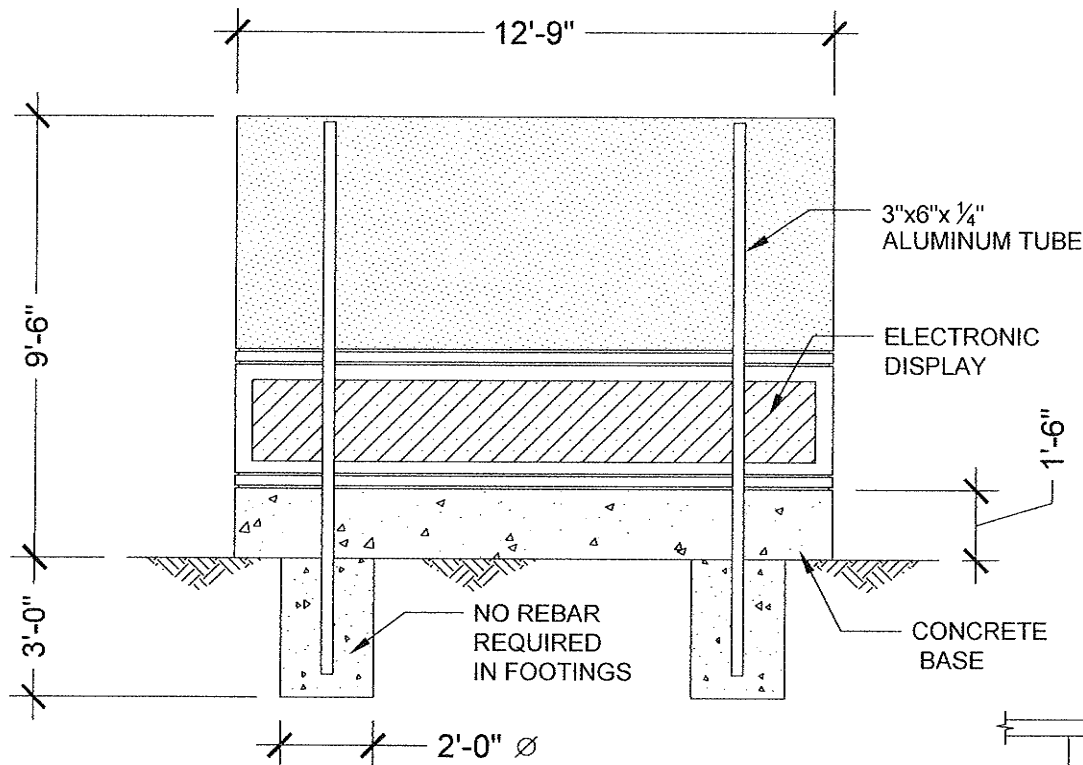
$M_u \geq \phi M_n$ with $M_n = f_y Z$		$f_y =$	19	ksi	$\phi =$	0.9
H	M_u (k-ft)	Z req'd. (in)	Size(in)	t (in)	Z	
at grade	1.85	1.30	2.5	0.188	1.3	Use 3" SQ AL. Tube Z=1.55

Footing Design footprint: round

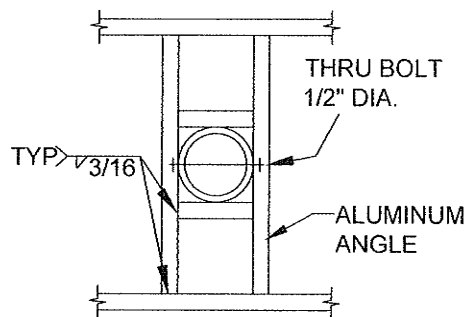
$\omega = 1.3$ ibc 1605.3.2) IBC Table 1804.2 with Note d, sections 1804.3.1 and 1805.7.2
 $P = 0.19$ kip $S1 = S \times d / 3$ $A = 2.34 \times P / (S1 \times b)$ $S = 267$
 $S1 = 267$ $d = 0.5 \times A (1 + (1 + 4.36 \times h/A)^{.5})$
 $A = 0.83$
 footing: 2' - 0" dia.
 3' - 0" deep

PROJECT: VA HOSPITAL, NORTH LAS VEGAS, CA
PROJECT #: 699F
CLIENT: AD/S

DATE: 3-14-11
ENGINEER: MFS
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1 ELEVATION- SIGN TYPE EN-16.02



2 SADDLE DETAIL TYP.

GENERAL NOTES

1. DESIGN CODE: IBC 2003
2. DESIGN LOADS: ASCE 7
3. WIND VELOCITY 90 MPH EXPOSURE C, $I_w=1.15$
4. OCC GROUP U FOR SIGN STRUCTURES
5. SEISMIC DESIGN; $S_s=0.574$, $S_1=0.179$, SITE CLASS C, $S_{ds}=0.448$, $S_{d1}=0.193$, DESIGN CAT. D, $R=3.5$ FOR SIGN STRUCTURES, $I=1.0$
6. PIPE STEEL ASTM A36
7. ALUMINUM EXTRUSION 6061-T6
8. CONCRETE 5000psi
9. FOOTINGS TO BE POURED SOLID
10. SOIL LATERAL PRESSURE CLASS 5 (100PCF)
11. FRAMING DESIGNED AND FABRICATED BY AN APPROVED SHOP
12. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
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