Joe Frogge
Digitally signed by Joe Frogge
DN: CN=Joe Frogge, O=KS, OU=KS, E=KS, C=US
Date: 2023.06.08 14:03:55-05'00'

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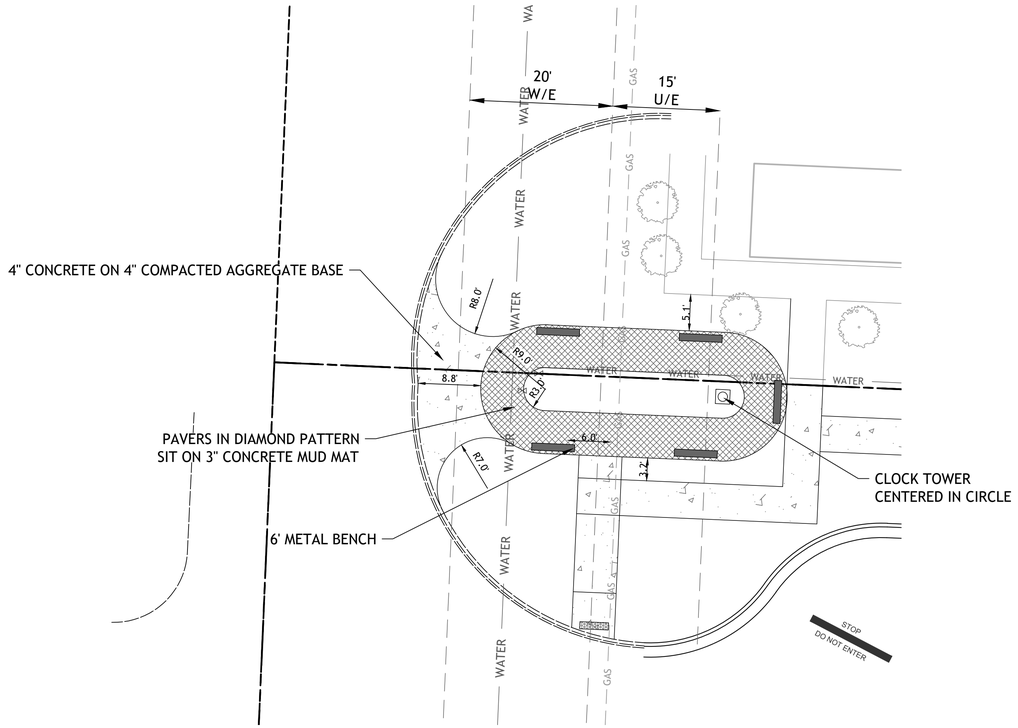
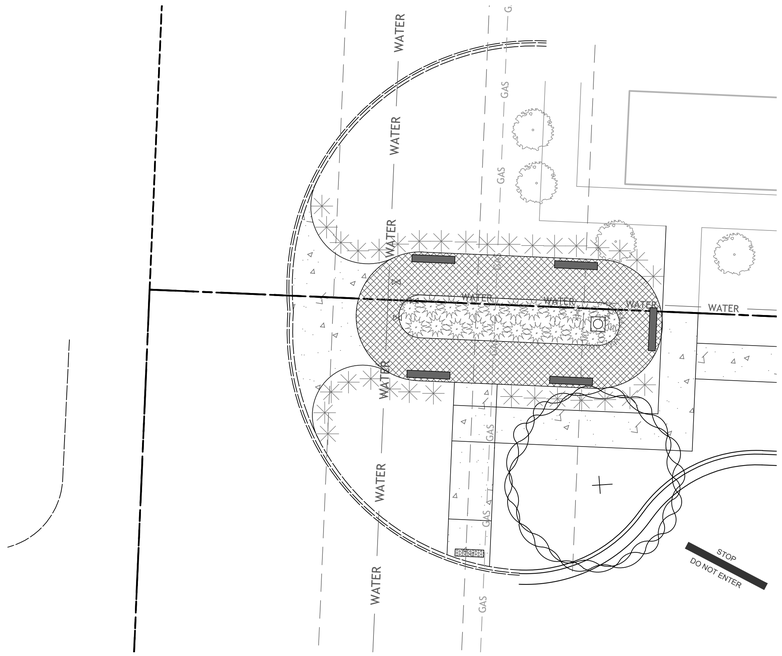
Development Services Department
City of Pryor, Missouri
Date



LAYOUT PLAN



LANDSCAPE PLAN

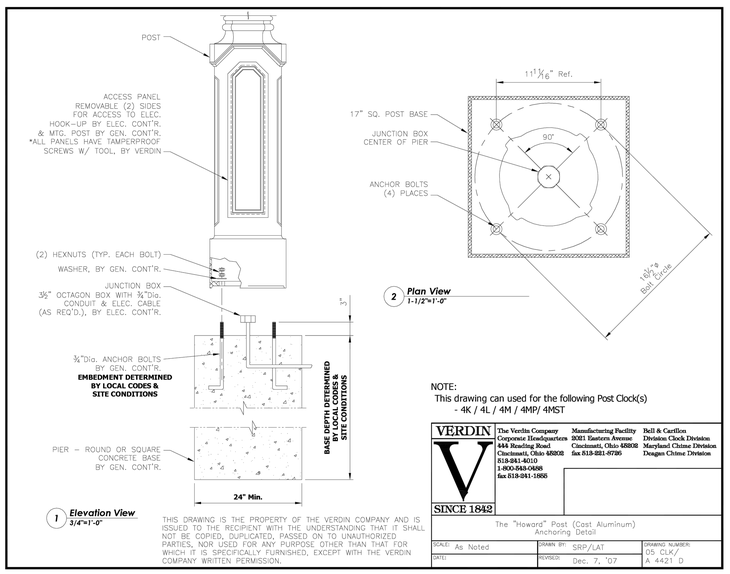
Tree List

Symbol	Quantity	Common Name	Botanical Name	Size	Condition	Spacing
+	1	October Glory Maple	Acer Rubrum 'October Glory'	3" cal	BB	As Shown

Shrub List

Symbol	Quantity	Common Name	Botanical Name	Size	Condition	Spacing
—	23	Hamlen's Dwarf Fountain Grass	Pennisetum Alopecuroides 'Hameln'	1 gal.	Cont.	1.5'o.c.
—	33	Morning Light Maiden Grass	Miscanthos Sinensis 'Morning Light'	18"-24"sp.	Cont.	4'o.c.

1"=10'
0 5' 10'



NOTE:
This drawing can used for the following Post Clock(s)
- 4K / 4L / 4M / 4MP/ 4MST

VERDIN
SINCE 1842

The Verdin Company — Corporate Headquarters — 444 Reading Road — Cincinnati, Ohio 45202 — 513-241-8010 — 1-800-543-0488 — fax 513-241-1666

Manufacturing Facility — 2021 Eastern Avenue — Cincinnati, Ohio 45202 — fax 513-221-0795

Bell & Carillon — Division Clock Division — Maryland Chime Division — Deagan Chime Division

The "Howard" Post (Cast Aluminum)
Anchoring Detail

SCALE: As Noted	DRAWN BY: SRP/LAT	DRAWING NUMBER: 05 CLK/ A 4421 D
DATE:	REVISED: Dec. 7, '07	

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SM Engineering
5507 High Meadow Circle
Manhattan Kansas, 66503
smcivilengr@gmail.com
785.341.9747

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Revisions
5-24-23 CITY COMMENTS

STREETS OF WEST PRYOR
LOT 9
LEE'S SUMMIT, MO

sheet
C1.0
Civil
CLOCK TOWER
permit
11 NOVEMBER 2022

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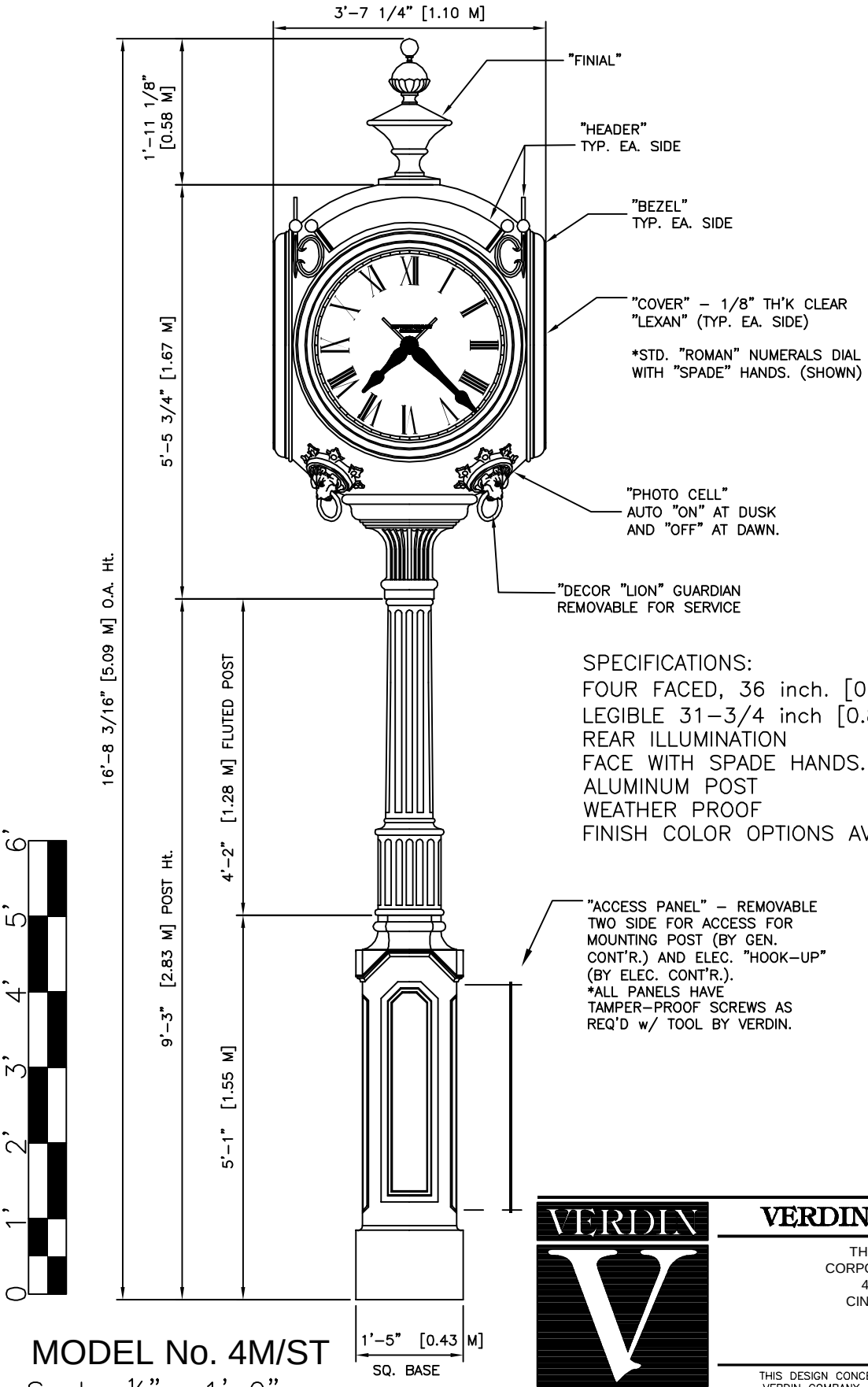
06/08/2023

HOWARD REPLICA/SETH THOMAS



SPECIFICATIONS:
FOUR FACED, 36 inch. [0.91 M]
LEGIBLE 31-3/4 inch [0.81 M]
REAR ILLUMINATION
FACE WITH SPADE HANDS.
ALUMINUM POST
WEATHER PROOF
FINISH COLOR OPTIONS AVAILABLE

MODEL No. 4M/ST
Scale: ½"= 1' 0"

VERDIN DESIGN

VERDIN DESIGN GROUP
THE VERDIN COMPANY
CORPORATE HEADQUARTERS
444 READING ROAD
CINCINNATI, OHIO 45202
1-800-543-0488
sales@verdin.com
www.verdin.com

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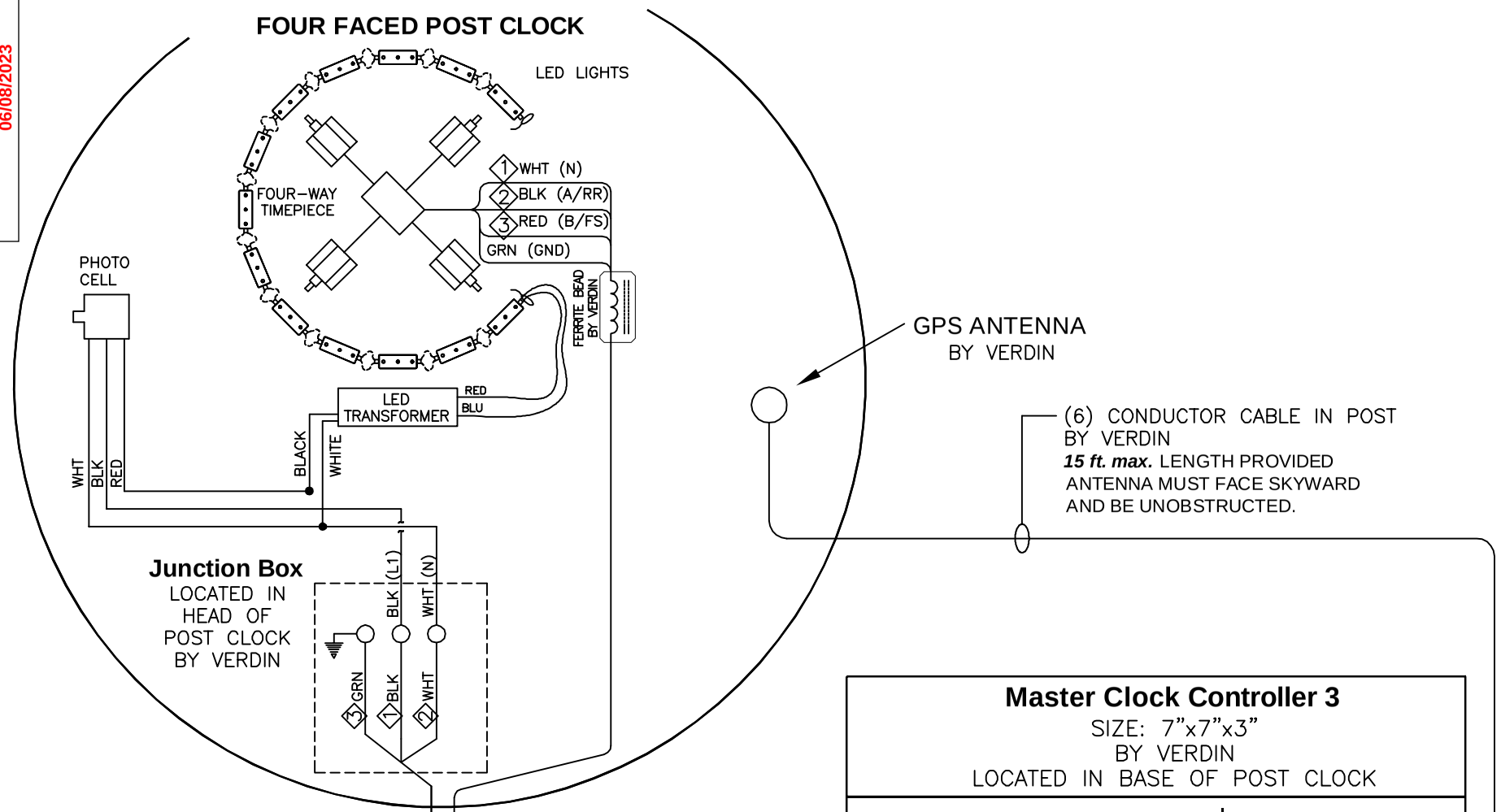
FOUR FACED POST CLOCK



SERVICE

120 VAC
60 HZ
20 AMP
SINGLE PHASE

DEDICATED

(2) No.12 WIRES &
(1) No.12 WIRE [GND]
RUN IN CONDUIT TO POST CLOCK
BY ELEC. CONT'R.

NOTES:

A) All electrical equipment is to be earth grounded.

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VERDIN
SINCE 1842

The Verdin Company
Corporate Headquarters
444 Reading Road
Cincinnati, Ohio 45202
513-241-4010 1-800-543-0488

Manufacturing Facility
3900 Kellogg Avenue
Cincinnati, Ohio 45226
fax 513-241-1855

This drawing can used for the following Post Clocks
- Models 4J / 4M / 4MP / 4MST/ 4MSTII / 4ST / 4SZ / 4T / 4V

Electrical Wiring Diagram for a
(4) Faced Post Clock (LED Lights) with a MCC3 with GPS

SCALE: None	DRAWN BY: GLFJ	DRAWING NUMBER: 11 ELEC/ B 4678 B
DATE: Sep 7,'11	REVISED: Mar. 12,'13	

BOB D. CAMPBELL & CO.
Structural Engineers Since 1957
4338 Belleview Ave. 816.531.4144
Kansas City, MO 64111 www.bdc-engrs.com

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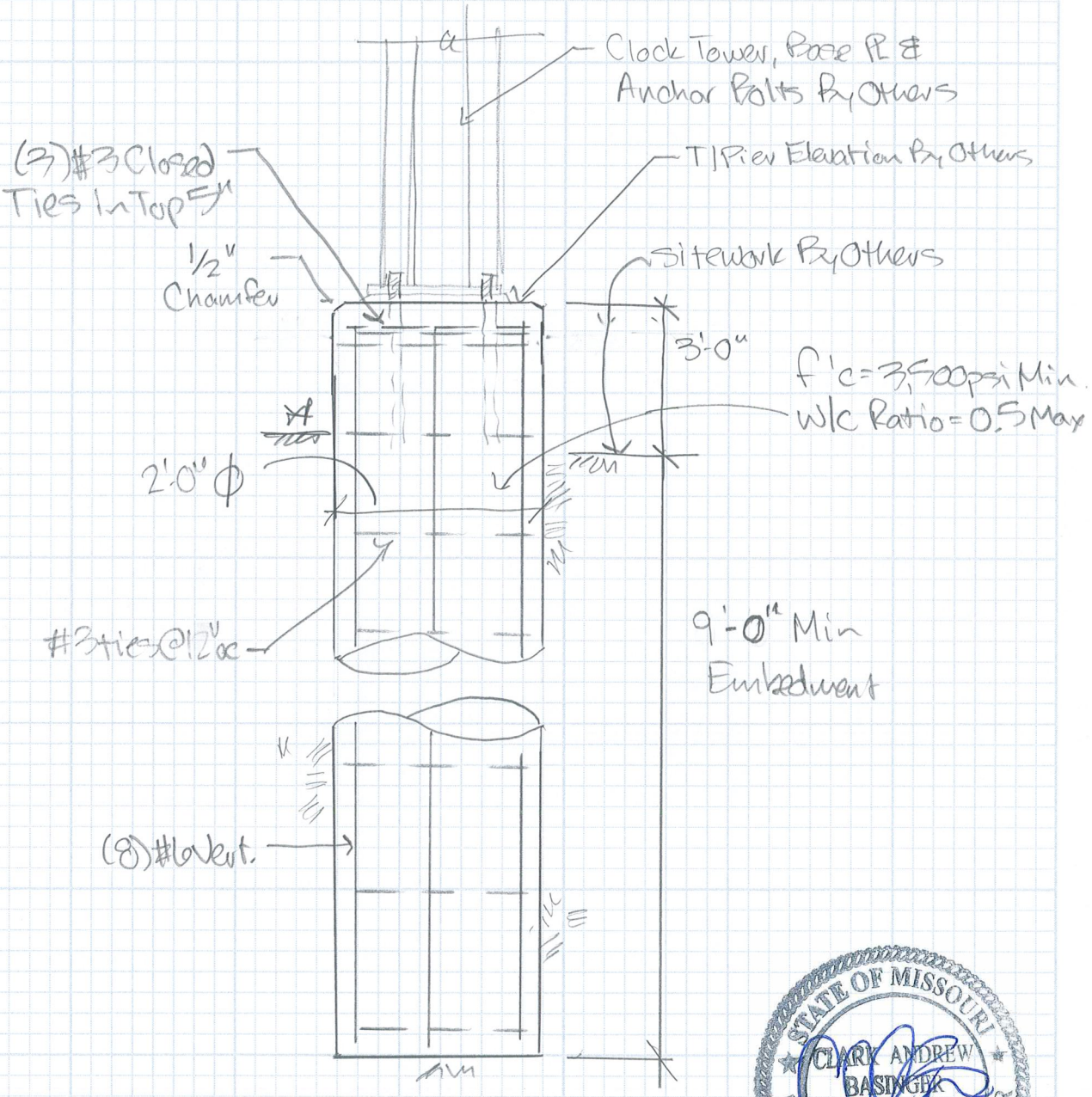
06/08/2023

Project Clock Tower

Date 6/2/23 Page 1 of 1



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BOB D. CAMPBELL & CO.
Structural Engineers Since 1957
4338 Belleview Ave. 816.531.4144
Kansas City, MO 64111 www.bdc-engrs.com

Project:	***CLOCK TOWER***
Location:	***LEE'S SUMMIT, MO***
By:	***CAB***
Date:	***6/2/2023***

Pole Foundation - Clock Tower

PROJECT:	CLOCK TOWER
FACILITY LOCATION:	LEE'S SUMMIT, MO
DESIGN CODE:	2016 IBC

HIGH SIGN *(Forces on sign and pole calculated per ASCE 7, Chapter 29)*

Top of sign el. (h) =	19.67	ft	
Sign Height (s) =	7.67	ft	
Sign Width (B) =	3.58	ft	
Wind Speed, V =	110.00	mph	*Figure 26.5-1*
Wind Directionality Factor, K_d =	0.85		*Table 26.6-1*
Exposure Category =	C		*Section 26.7*
Topographic Factor, K_{zt} =	1.00		*Figure 26.8-1*
Gust-effect Factor, G =	0.85		*Section 26.9*
Velocity Pressure Coefficient, K_h =	0.899		*Exposure C. Table 29.3-1*
Velocity Pressure, q_h =	23.66	psf	*Equation 29.3-1*
B/s =	0.467		
s/h =	0.390		
Force Coefficient, C_f =	1.85		*Only CASE A&B considered*
Wind Force, F =	1.02	kip	*Equation 29.4-1*
High Sign Moment =	16.18	k-ft	

LOW SIGN *(Forces on sign and pole calculated per ASCE 7, Chapter 29)*

Top of sign el. (h) =	0.00	ft	
Sign Height (s) =	0.00	ft	
Sign Width (B) =	0.00	ft	
Wind Speed, V =	110	mph	*Figure 26.5-1*
Wind Directionality Factor, K_d =	0.85		*Table 26.6-1*
Exposure Category =	C		*Section 26.7*
Topographic Factor, K_{zt} =	1.00		*Figure 26.8-1*
Gust-effect Factor, G =	0.85		*Section 26.9*
Velocity Pressure Coefficient, K_h =	0.000		*Exposure C. Table 29.3-1*
Velocity Pressure, q_h =	0.00	psf	*Equation 29.3-1*
B/s =	0.000		
s/h =	0.000		
Force Coefficient, C_f =	1.95		*Only CASE A&B considered*
Wind Force, F =	0.00	kip	*Equation 29.4-1*
Low Sign Moment =	0.00	k-ft	

POLE *(Forces on sign and pole calculated per ASCE 7, Chapter 29)*

Top of pole el. (h) =	12.25	ft	
Pole Height (s) =	12.25	ft	
Pole Diameter (B) =	1.42	ft	
Wind Speed, V =	110	mph	*Figure 26.5-1*
Wind Directionality Factor, K_d =	0.85		*Table 26.6-1*
Exposure Category =	C		*Section 26.7*
Topographic Factor, K_{zt} =	1.00		*Figure 26.8-1*
Gust-effect Factor, G =	0.85		*Section 26.9*
Velocity Pressure Coefficient, K_h =	0.813		*Exposure C. Table 29.3-1*
Velocity Pressure, q_h =	21.42	psf	*Equation 29.3-1*
B/s =	0.116		
s/h =	1.000		
Force Coefficient, C_f =	1.7		*Only CASE A&B considered*
Wind Force, F =	0.54	kip	*Equation 29.4-1*
Pole Moment =	3.30	k-ft	

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Lee's Summit, Missouri
06/08/2023

PIER/POLE BASE ANALYSIS

WIGGINS METHOD

MA =	11.69	k-ft	APPLIED MOMENT AT TOP OF PIER *(Inclues ASD 0.6 factor)*
P =	0.94	kip	SHEAR AT TOP OF PIER OR FOUNDATION *(Includes ASD 0.6 factor)*
D =	2.00	ft	PIER DIAMETER
R =	3.00	ft	PROJECTION ABOVE GRADE
E =	9.00	ft	EMBEDMENT LENGTH
G =	3.00	ft	DEPTH OF SOIL FROM TOP OF GRADE IGNORED *(Frost Depth)*

Alternative Method - IBC 1807.3

Assumes pier is nonconstrained at the top

Check depth calculated above using IBC equations

Table S1 =	200.00	psf/ft	*400psf typ. (IBC Table 1806.2)*
Depth (d) =	9.0	ft	
Pier Ø (b) =	2.0	ft	
S1 = depth * S1	600	psf/ft	*Increased to 1/3 of assumed depth, 12' depth max*
P =	936.1	lbs	*Applied lateral force*
M =	11686.1	lb-ft	*Moment at top of pier*
h =	12.48	ft	*Equivalent height of applied force for base moment*
A = (2.34*P) / (S1*b)	1.825		*See IBC 1807.3.2.1*
Required Depth (d) =	5.98	ft	*IBC Eq. 18-1*
Depth + Neglected Depth =	8.979	ft	

ASCE 7, Chapter 29 - Coefficient Lookup Values

HIGH SIGN LOOKUP VALUES

Cf, Case A & Case B - ASCE 7 Figure 29.4-1

B/s LOOKUP VALUE			0.467	0.200									
s/h LOOKUP VALUE			0.3899339	0.300									
s/h		B/s											
		0.05	0.1	0.2	0.5	1	2	4	5	10	20	30	45
0.16	1	1.80	1.70	1.65	1.55	1.45	1.40	1.35	1.35	1.30	1.30	1.30	1.30
0.2	0.9	1.85	1.75	1.70	1.60	1.55	1.50	1.45	1.45	1.40	1.40	1.40	1.40
0.3	0.7	1.90	1.85	1.75	1.70	1.65	1.60	1.60	1.55	1.55	1.55	1.55	1.55
0.5	0.5	1.95	1.85	1.80	1.75	1.75	1.70	1.70	1.70	1.70	1.70	1.70	1.75
0.7	0.3	1.95	1.90	1.85	1.80	1.80	1.80	1.80	1.80	1.80	1.85	1.85	1.85
0.9	0.2	1.95	1.90	1.85	1.80	1.80	1.80	1.80	1.80	1.85	1.90	1.90	1.95
1	0.16	1.95	1.90	1.85	1.85	1.80	1.80	1.85	1.85	1.85	1.90	1.90	1.95

LOW SIGN LOOKUP VALUES

Cf, Case A & Case B - ASCE 7 Figure 29.4-1

B/s LOOKUP VALUE			0.050	0.050									
s/h LOOKUP VALUE			0.160	0.160									
s/h		B/s											
		0.05	0.1	0.2	0.5	1	2	4	5	10	20	30	45
0.16	1	1.80	1.70	1.65	1.55	1.45	1.40	1.35	1.35	1.30	1.30	1.30	1.30
0.2	0.9	1.85	1.75	1.70	1.60	1.55	1.50	1.45	1.45	1.40	1.40	1.40	1.40
0.3	0.7	1.90	1.85	1.75	1.70	1.65	1.60	1.60	1.55	1.55	1.55	1.55	1.55
0.5	0.5	1.95	1.85	1.80	1.75	1.75	1.70	1.70	1.70	1.70	1.70	1.70	1.75
0.7	0.3	1.95	1.90	1.85	1.80	1.80	1.80	1.80	1.80	1.80	1.85	1.85	1.85
0.9	0.2	1.95	1.90	1.85	1.80	1.80	1.80	1.80	1.80	1.85	1.90	1.90	1.95
1	0.16	1.95	1.90	1.85	1.85	1.80	1.80	1.85	1.85	1.85	1.90	1.90	1.95

POLE LOOKUP VALUES

Cf, Case A & Case B - ASCE 7 Figure 29.4-1

B/s LOOKUP VALUE			0.116	0.100									
s/h LOOKUP VALUE			1.000	1.000									
s/h		B/s											
		0.05	0.1	0.2	0.5	1	2	4	5	10	20	30	45
0.16	1	1.80	1.70	1.65	1.55	1.45	1.40	1.35	1.35	1.30	1.30	1.30	1.30
0.2	0.9	1.85	1.75	1.70	1.60	1.55	1.50	1.45	1.45	1.40	1.40	1.40	1.40
0.3	0.7	1.90	1.85	1.75	1.70	1.65	1.60	1.60	1.55	1.55	1.55	1.55	1.55
0.5	0.5	1.95	1.85	1.80	1.75	1.75	1.70	1.70	1.70	1.70	1.70	1.70	1.75
0.7	0.3	1.95	1.90	1.85	1.80	1.80	1.80	1.80	1.80	1.80	1.85	1.85	1.85
0.9	0.2	1.95	1.90	1.85	1.80	1.80	1.80	1.80	1.80	1.85	1.90	1.90	1.95
1	0.16	1.95	1.90	1.85	1.85	1.80	1.80	1.85	1.85	1.85	1.90	1.90	1.95