

NOTES:

1. DESIGNED PER THE 2021 IBC / 2022 CBC / 2023 LABC,
Fa = 1.2 & Ss = 1.82
2. STORAGE CAPACITY: **2,150#** MAX. WEIGHT.
3. ANCHORS: HILTI KWIK BOLT TZ 2.
ICC #**ESR-4266** W/ LABC SUPPLEMENT
4. CONCRETE: **5" THICK x 2,500 PSI.**
5. SOIL BEARING PRESSURE: **500 PSF.** (MIN. REQ'D).
6. EVALUATION BASED ON NORTHRIDGE LOCATION
(ONE OF THE HIGHEST LA FAULT AREAS)
WITH THE FOLLOWING CALCULATION AS A TYPICAL EXAMPLE:
(ASSUMED GROUND FLOOR INSTALLATION)

LOADS & DISTRIBUTION:

ANALYSIS BASED ON SECTION 13.3 OF THE ASCE 7-16 SPECIFICATION
REFERENCED IN CHAPTER 16 OF THE 2021 IBC/2022 CBC/2023 LABC

Fp (13.3-1)= $0.4 \times a_p \times S_{DS} \times W_p / [R_p / I_p]$	0.234 x Wp	
Fp (13.3-2)= $1.6 \times S_{DS} \times I_p \times W_p$	2.336 x Wp	SHALL NOT BE GREATER THAN
Fp (13.3-3)= $0.3 \times S_{DS} \times I_p \times W_p$	0.438 x Wp	SHALL NOT BE LESS THAN

SITE CLASS = D
 Fa = **1.2**
 Ss = **1.82**
 Sps = 1.46
 Ip = 1.00
 Rp = 2.5
 ap = 1

ASCE 7-16 Table 13.5-1
 ASCE 7-16 Table 13.5-1

$W_p = 2150 \text{ LB}$

$$\begin{aligned} 0.7F_p &= 0.7 * 0.438 * W_p \\ &= 0.31 * 2150 \text{ LB} \\ &= 659 \text{ LB} \end{aligned}$$

OVERTURNING ANALYSIS:

CABINET HEIGHT, $H_t = 68.0$ IN
ANCHORS SPACING, $D = 12.0$ IN

$$\begin{aligned} \text{Mot} &= V_{\text{total}} * (1/2 \text{ Ht}) \\ &= 659 \text{ LB} * 68 \text{ IN} * 1/2 \\ &= 22,412 \text{ IN-LB} \end{aligned}$$

$$\begin{aligned} M_{st} &= W_p \cdot D/2 \\ &= 2150 \text{ LB} \cdot 12 \text{ IN}/2 \\ &= 12,900 \text{ IN-LB} \end{aligned}$$

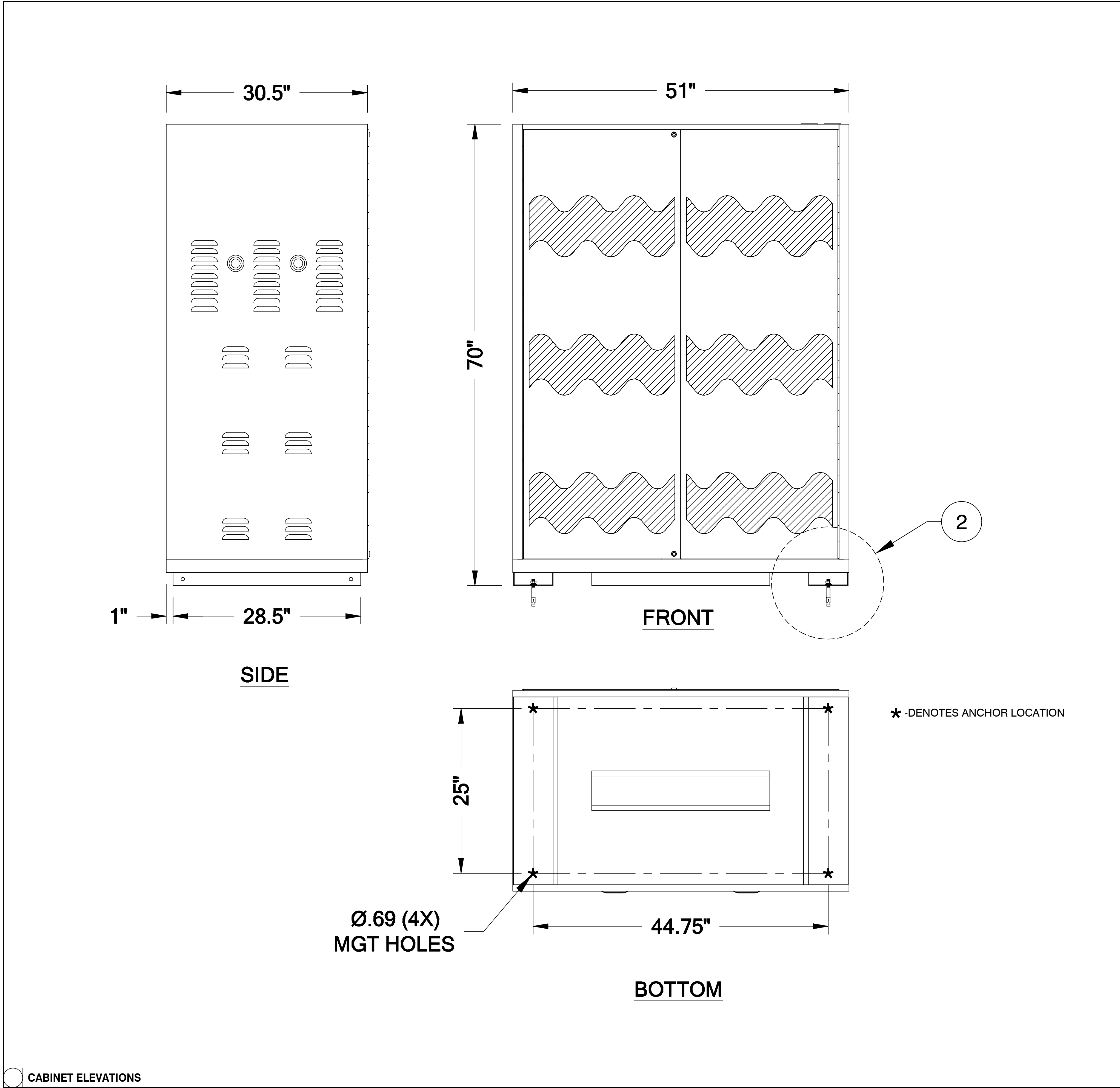
$$\begin{aligned}\text{Puplift} &= (\text{Mot} - 0.6 * \text{Mst}) / D \\ &= (22412 \text{ IN-LB} - 0.6 * 12900 \text{ IN-LB}) / 12 \text{ IN} \\ &= 1223 \text{ LB} \quad \leq \text{UPLIFT}\end{aligned}$$

ANCHORS
ALLOWABLE CAPACITY PER ICC REPORT AND ACI 318-19 CHAPTER 17

PULLOUT : 1170 LB	$T_{\text{allowable, ASD}}$
SHEAR : 2390 LB	$V_{\text{allowable, ASD}}$

$$\begin{aligned}\text{COMBINED STRESS} &= (1223 \text{ LB}/2340 \text{ LB}) + (659 \text{ LB}/9560 \text{ LB}) \\ &= 0.59 < 1.2 \text{ OK}\end{aligned}$$

USE 1/2"Ø x 3"MIN. EMBED. HILTI KB-TZ2 (ICC ESR-4266) OR APPROVED EQUAL
(4) PER CABINET, (2) PER ANCHOR BRACKET



CABINET ELEVATIONS

1 ANCHOR BRACKET DETAIL

2 ANCHOR DETAIL

NOTES:

- DESIGNED PER THE 2021 IBC / 2022 CBC / 2023 LABC, Fa = 1.2 & Ss = 1.82
- STORAGE CAPACITY: **4,640#** MAX. WEIGHT.
- ANCHORS: HILTI KWIK BOLT TZ 2, ICC #**ESR-4266** W/ LABC SUPPLEMENT
- CONCRETE: **5" THICK x 2,500 PSI.**
- SOIL BEARING PRESSURE: **500 PSF.** (MIN. REQ'D).
- EVALUATION BASED ON NORTHRIDGE LOCATION (ONE OF THE HIGHEST LA FAULT AREAS) WITH THE FOLLOWING CALCULATION AS A TYPICAL EXAMPLE. (ASSUMED GROUND FLOOR INSTALLATION)

LOADS & DISTRIBUTION:

ANALYSIS BASED ON SECTION 13.3 OF THE ASCE 7-16 SPECIFICATION REFERENCED IN CHAPTER 16 OF THE 2021 IBC/2022 CBC/2023 LABC

Fp (13.3-1)= 0.4 x ap x Sps x Wp/ [Rp/ Ip]	0.234 x Wp	SHALL NOT BE GREATER THAN SHALL NOT BE LESS THAN
Fp (13.3-2)= 1.6 x Sps x Ip x Wp	2.336 x Wp	
Fp (13.3-3)= 0.3 x Sps x Ip x Wp	0.438 x Wp	

SITE CLASS = D
Fa = **1.2**
Ss = **1.82**
Sps = 1.46
Ip = 1.00
Rp = 2.5
ap = 1

ASCE 7-16 Table 13.5-1
ASCE 7-16 Table 13.5-1

Wp = **4640 LB**

0.7Fp = 0.7*0.438*Wp
= 0.31*4640 LB
= 1,423 LB

OVERTURNING ANALYSIS:

CABINET HEIGHT, Ht = 70.0 IN
ANCHORS SPACING, D = 25.0 IN

Mot = Vtotal*(1/2 Ht)
= 1423 LB * 70 IN * 1/2
= 49,792 IN-LB

Mst = Wp*D/2
= 4640 LB * 25 IN/2
= 58,000 IN-LB

Puplift = (Mot - 0.6*Mst)/D
= (49792 IN-LB - 0.6 * 58000 IN-LB)/25 IN
= 600 LB <= UPLIFT

ANCHORS
ALLOWABLE CAPACITY PER ICC REPORT AND ACI 318-19 CHAPTER 17
PULLOUT : 1170 LB Tallowable, ASD
SHEAR : 2390 LB Vallowable, ASD

COMBINED STRESS = (600 LB/2340 LB) + (1423 LB/9560 LB)
= 0.41 < 1.2 OK

USE 1/2"Ø x 3"MIN. EMBED. HILTI KB-TZ2 (ICC ESR-4266) OR APPROVED EQUAL
(4) PER CABINET

CALCULATIONS

ADDRESS:

POWER COMPANY
9301 TAMPA AVE.
NORTHRIDGE, CA 91324

REV	DATE	BY	DESCRIPTION

SEIZMIC

EST. 1985
SEIZMIC ENGINEERING, INC.
1130 E. Cypress St.
Covina, California 91724
Tel.(909)869-0989

DRAWN BY: M.V. / T.C.
DATE: 01/11/23
LAST REV. BY:
REV. DATE:
TYPE:
SCALE: N.T.S.
APRVD BY: SAL E. FATEEN

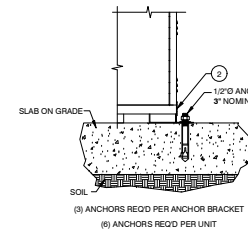
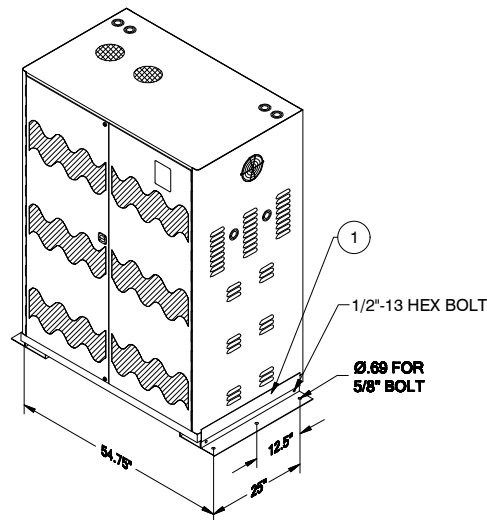
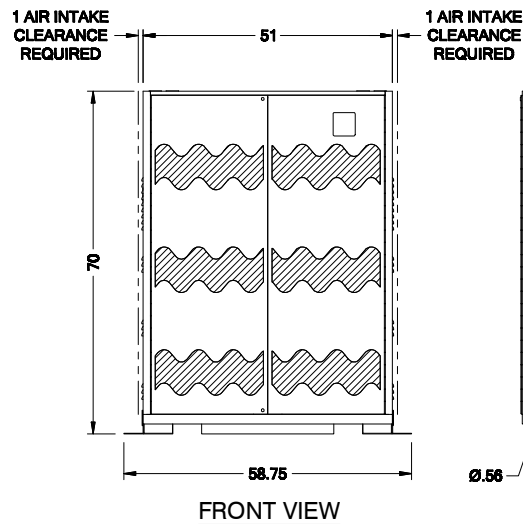
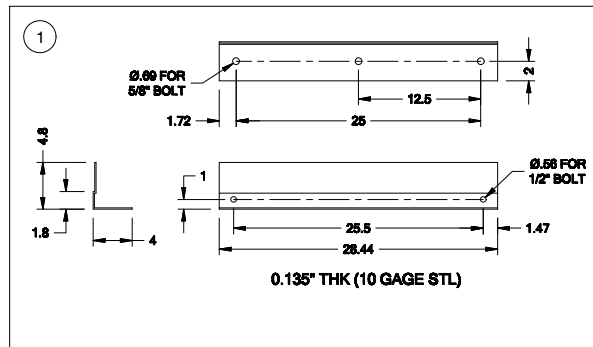
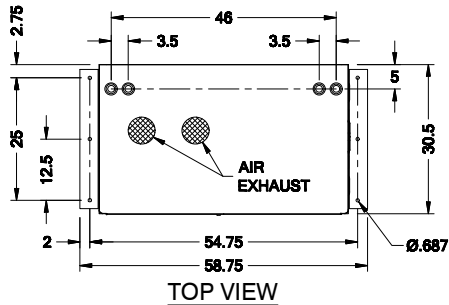
REGISTERED PROFESSIONAL ENGINEER
SAL E. FATEEN
No. 25069
CIVIL
STATE OF CALIFORNIA
EXPIRES 12-31-2025

DESCRIPTION:

CABINET DETAILS

DRAWING NUMBER:

23-0067-B



NOTES:

1. DESIGNED PER THE 2021 IBC / 2022 CBC / 2023 IABC.
2. STORAGE CAPACITY: 4,640# MAX. WEIGHT.
3. ANCHORS: HILTI KWIK BOLT T2 Z.
4. CONCRETE: 4\"/>

LOADS & DISTRIBUTION: CABINET

ANALYSIS BASED ON SECTION 13.3 OF THE ASCE 7-16 SPECIFICATION
REFERENCED IN CHAPTER 16 OF THE 2021 IBC/2022 CBC/2023 IABC

F_p (13.3-1): $0.4 \times ap \times S_{ps} \times W_p / (R_p / I_p)$	$0.234 \times W_p$	SHALL NOT BE GREATER THAN SHALL NOT BE LESS THAN
F_p (13.3-2): $1.6 \times S_{ps} \times I_p \times W_p$	$2.336 \times W_p$	
F_p (13.3-3): $0.3 \times S_{ps} \times I_p \times W_p$	$0.438 \times W_p$	

SITE CLASS = D

$F_a = 1.2$

$S_s = 1.83$

$S_{ps} = 1.46$

$I_p = 1.00$

$ap = 2.5$

$ap = 1$

ASCE 7-16 Table 13.5-1

ASCE 7-16 Table 13.5-1

$W_p = 4640 \text{ LB}$

$D \cdot F_p = 0.7 \cdot D \cdot 438 \cdot W_p$

$= 0.31 \cdot 4640 \text{ LB}$

$= 1,423 \text{ LB}$

OVERTURNING ANALYSIS:

CABINET HEIGHT, $H = 70.0 \text{ IN}$

ANCHORS SPACING, $D = 25.0 \text{ IN}$

$M_{ot} = V_{total} \cdot H / 2$

$= 1423 \text{ LB} \cdot 70 \text{ IN} \cdot 1/2$

$= 49,792 \text{ IN-LB}$

$M_{st} = W_p \cdot D / 2$

$= 4640 \text{ LB} \cdot 25 \text{ IN} / 2$

$= 58,000 \text{ IN-LB}$

$P_{u\text{lift}} = (M_{ot} - 0.6 \cdot M_{st}) / D$

$= (49,792 \text{ IN-LB} - 0.6 \cdot 58,000 \text{ IN-LB}) / 25 \text{ IN}$

$= 600 \text{ LB}$

$\leq UPLIFT$

ANCHORS

ALLOWABLE CAPACITY PER ICC REPORT AND ACI 318-14 CHAPTER 17

PULLOUT: 1170 LB

SHEAR: 2590 LB

$V_{allowable, ACI}$

COMBINED STRESS $= (600 \text{ LB} / 3510 \text{ LB}) + (1423 \text{ LB} / 14340 \text{ LB})$

< 0.27

USE 1/2" x 3" MIN. EMBED. HILTI KB-T2Z (ICC ESR-4266) OR APPROVED EQUAL

(6) PER CABINET

POWER COMPANY
NORTHBRIDGE, CA 91364

NOTES:

DESCRIPTION:

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CABINET ELEVATIONS

CALCULATIONS

DESCRIPTION:

CABINET
DETAILS

DRAWING NUMBER:

24-0186-B