



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR HCAI PREAPPROVAL OF  
MANUFACTURER'S CERTIFICATION (OPM)**

OFFICE USE ONLY

**APPLICATION #: OPM-0208**

**HCAI Preapproval of Manufacturer's Certification (OPM)**

Type:  New  Renewal/Update

**Manufacturer Information**

Manufacturer: BD

Manufacturer's Technical Representative: Rommel Dumlao

Mailing Address: 10020 Pacific Mesa Blvd., San Diego, CA 92121

Telephone: (858) 617-1562

Email: rommel.dumlao@bd.com

**Product Information**

Product Name: PYXIS DUOSTATION, MEDFLEX 1000 & MEDFLEX 2000

Product Type: Other electrical and mechanical components

Product Model Number: Pyxis DuoStation, MEDFLEX 1000, MEDFLEX 2000

General Description: Systems that allow clinicians to safely and accurately dispense both medications and medical supplies from single dispensing machine

**Applicant Information**

Applicant Company Name: EASE LLC.

Contact Person: Tiffany Tonn

Mailing Address: 1515 FAIRVIEW AVE, STE 205, MISSOULA, MT 59801

Telephone: (406) 541-3273

Email: tiffany@easeco.com

Title: Office Manager

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
FACILITIES DEVELOPMENT DIVISION**

**Registered Design Professional Preparing Engineering Recommendations**

Company Name: EASE

Name: Jonathan Roberson

California License Number: S4197

Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, CA 91709

Telephone: (951) 295-1892

Email: jon@EASECo.com

**HCAI Special Seismic Certification Preapproval (OSP)**

Special Seismic Certification is preapproved under OSP

OSP Number: \_\_\_\_\_

**Certification Method**

Testing in accordance with:  ICC-ES AC156  FM 1950-16

Other(s) (Please Specify): \_\_\_\_\_

\*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2019 may be used when approved by HCAI prior to testing.

Analysis

Experience Data

Combination of Testing, Analysis, and/or Experience Data (Please Specify): \_\_\_\_\_

**HCAI Approval**

Date: 1/24/2022

Name: William Staehlin

Title: Senior Structural Engineer

Condition of Approval (if applicable): \_\_\_\_\_

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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**EQUIPMENT ANCHORAGE  
& SEISMIC ENGINEERING**

5877 Pine Ave, Ste. 210  
Chino Hills, CA. 91709  
Phn: (909) 606-7622

Office of Statewide Health Planning and Development  
**PREAPPROVAL OF MANUFACTURER'S CERTIFICATION**  
**OPM-0208**

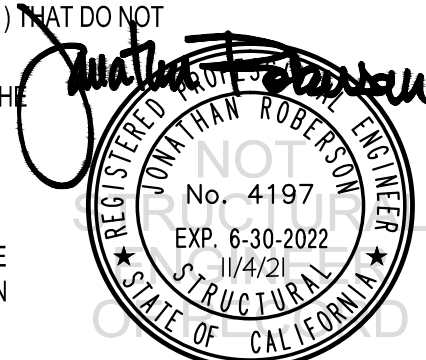
**THIS PREAPPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE**

MANUFACTURER: **BD**  
EQUIPMENT NAME: **PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000**

Sheet: 1 of 12  
Date: 11/4/21

**GENERAL NOTES**

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2019 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2019 CBC
2. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER LISTED ABOVE FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.
3. THIS PREAPPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE WHERE  $S_{ds}$  IS NOT GREATER THAN 1.00 & 1.85. SEE DETAIL FOR APPLICABILITY
4. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3,  
WHERE  $S_{ds} = 1.00$ ,  $a_p = 1.0$ ,  $I_p = 1.5$ ,  $R_p = 1.5$ ,  $z/h = 0$  AT CONCRETE SLAB,  $z/h \leq 1$  AT CONCRETE SLAB ON METAL DECK  
SEE FOLLOWING SHEETS FOR  $\Omega$ .  
WHERE  $S_{ds} = 1.85$ ,  $a_p = 1.0$ ,  $I_p = 1.5$ ,  $R_p = 1.5$ ,  $z/h = 0$  AT CONCRETE SLAB,  $z/h \leq 1$  AT CONCRETE SLAB ON METAL DECK.  
SEE FOLLOWING SHEETS FOR  $\Omega$ .
5. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. CONCRETE SLAB ON METAL DECK DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION IN THE BUILDING. (i.e.  $z/h \leq 1$ )
8. CONCRETE SLAB DETAIL VALID FOR DEMANDS SHOWN AT OR BELOW GRADE. (i.e.  $z/h = 0$ )
9. **RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING**
  - A. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.
  - B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS, MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
  - C. VERIFY THAT PROJECT SPECIFIC VALUES OF  $S_{ds}$  &  $z/h$  RESULT IN SEISMIC FORCES ( $E_h$ ,  $E_v$ ) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
  - D. VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR REPORT AND THIS OPM.
  - E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS (SEE TYPICAL DETAIL ON SHEET 2).
  - F. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE UNIT ATTACHMENTS AND CHECK FOR INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR  $6h_{ef}$  FROM THIS UNIT'S ANCHORS.



### BD

DES. **J. ROBERSON**

SHEET

JOB NO. **11-2125**

# 2

DATE **11/4/21**

OF **12** SHEETS

## PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000

### 10. EXPANSION ANCHORS:

A. ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT.

Anchor Diameter	Concrete Type	Min. f'c (psi)	Anchor Type	ICC Report No.	Min. Embed.	Min. Spacing	Min. Edge Dist.	Min. Conc. Thickness	Torque Test	Direct Tension
1/2"	Sand Light Weight	3000	Hilti Kwik Bolt TZ2 (CARBON STEEL)	ESR-4266	3-1/4"	9.75"	24"	See Detail "A"	50 FT-LB	N/A
1/2"	Normal Weight	3000	Hilti Kwik Bolt TZ2 (CARBON STEEL)	ESR-4266	3-1/4"	8"	24"	6"	50 FT-LB	3026 lb

B. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE SLAB EDGES, 24" AWAY MINIMUM (i.e. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

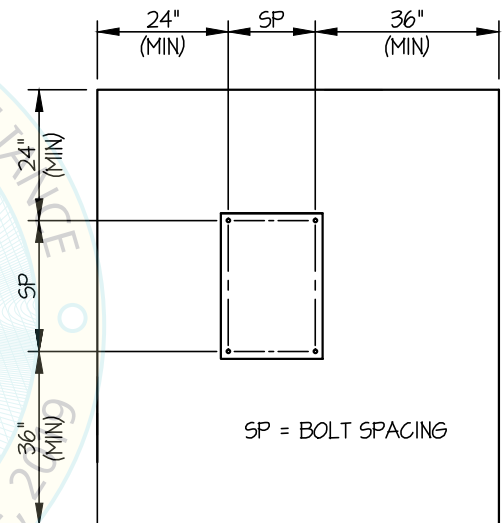
C. TESTING OF EXPANSION ANCHORS PER 2019 CBC, 1913A.7: TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD

(i) AFTER AT LEAST 24 HOURS HAVE ELAPSED SINCE INSTALLATION, DIRECT PULL TENSION TEST OR TORQUE TEST AT LEAST 50% OF THE ANCHORS.

(ii) ACCEPTANCE CRITERIA:

- DIRECT TENSION TEST: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER BECOMES LOOSE.
- TORQUE TEST: THE APPLICABLE TORQUE MUST BE ACHIEVED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE : 1/2 TURN OF THE NUT

(iii) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.



TYPICAL CONCRETE EDGE DETAIL  
(SLAB ON GRADE ONLY)

### 11. BOLTS THROUGH CONCRETE ON METAL DECK

- A. BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER THE SNUG TIGHT (THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNLESS OTHERWISE NOTED.
- B. THROUGH BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16) FOR CONCRETE.
- C. THROUGH-BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION AND TESTING (THROUGH BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TENSION TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.



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DES. **J. ROBERSON**

SHEET

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### PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000

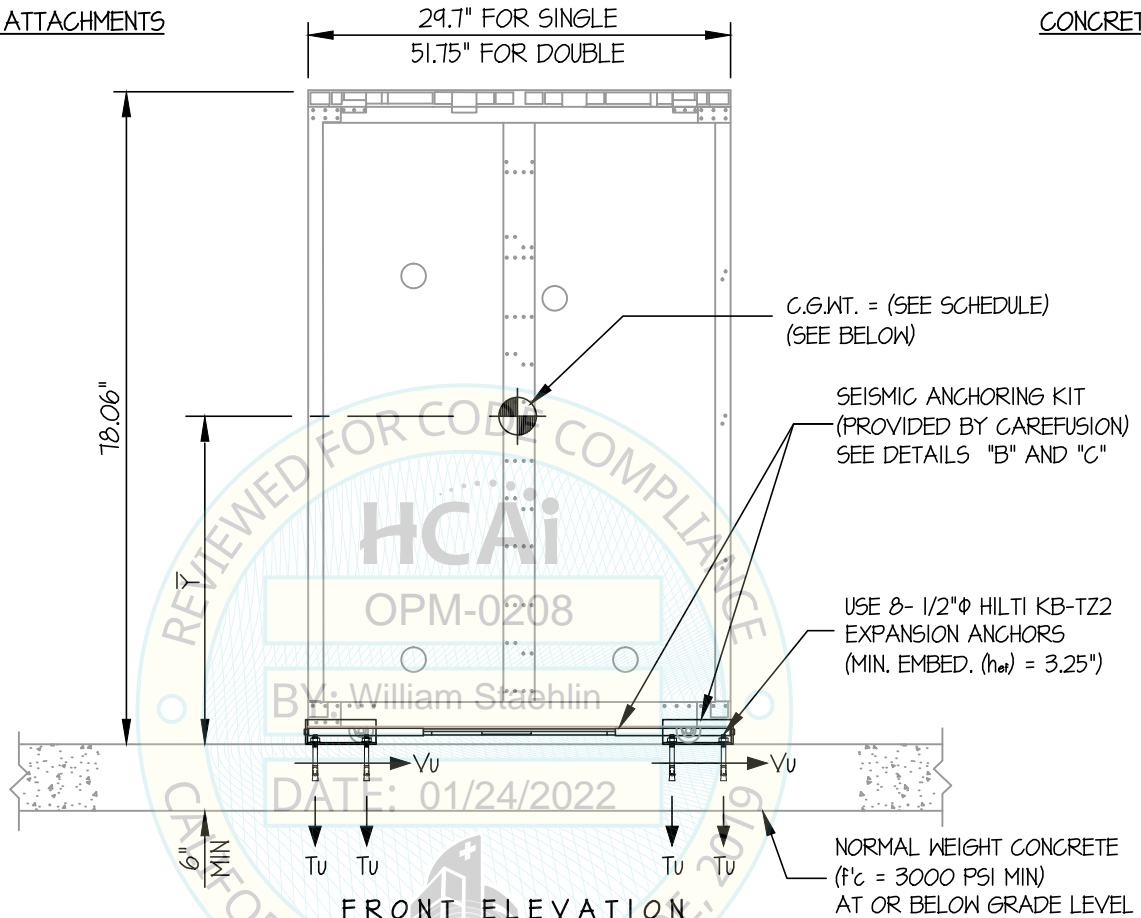
JOB NO. **11-2125**

DATE **11/4/21**

OF **12** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB



FRONT ELEVATION

MAX Sds	MODEL	WEIGHT (lb)	$\bar{Y}$ (in)	* $T_u$	* $V_u$
100	DOUBLE 6 DWR	2810	45.59	2051	619
100	DOUBLE 3 DWR	2873	45.07	2066	633
185	SINGLE 6 DWR	1338	45.1	2059	504
185	SINGLE 3 DWR	1425	42.94	2077	537

NOTE: SEE SHEET 4-5 OF 12 FOR WEIGHTS, DIMENSION & BOLT FORCES

\* VALUES INCLUDE  $\Omega_o$   
 + PYXIS DUOSTATION GOVERNS

**NOTES:**

- FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED. ( $\alpha_p = 1.0$ ,  $l_p = 1.5$ ,  $R_p = 1.5$ ,  $\Omega_o = 1.5$ ,  $z/h = 0$ )
- CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
- CALCULATION COVERS PYXIS STATION DOUBLE UNIT, SYSTEM 30 DOUBLE UNIT & SYSTEMS EC DOUBLE UNIT. ALL UNITS HAVE SAME WEIGHT AND DIMENSIONS.



**BD**

DES. **J. ROBERSON**

SHEET

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**PYXIS DUOSTATION, MEDFLEX 1000  
AND MEDFLEX 2000**

JOB NO. **11-2125**

DATE **11/4/21**

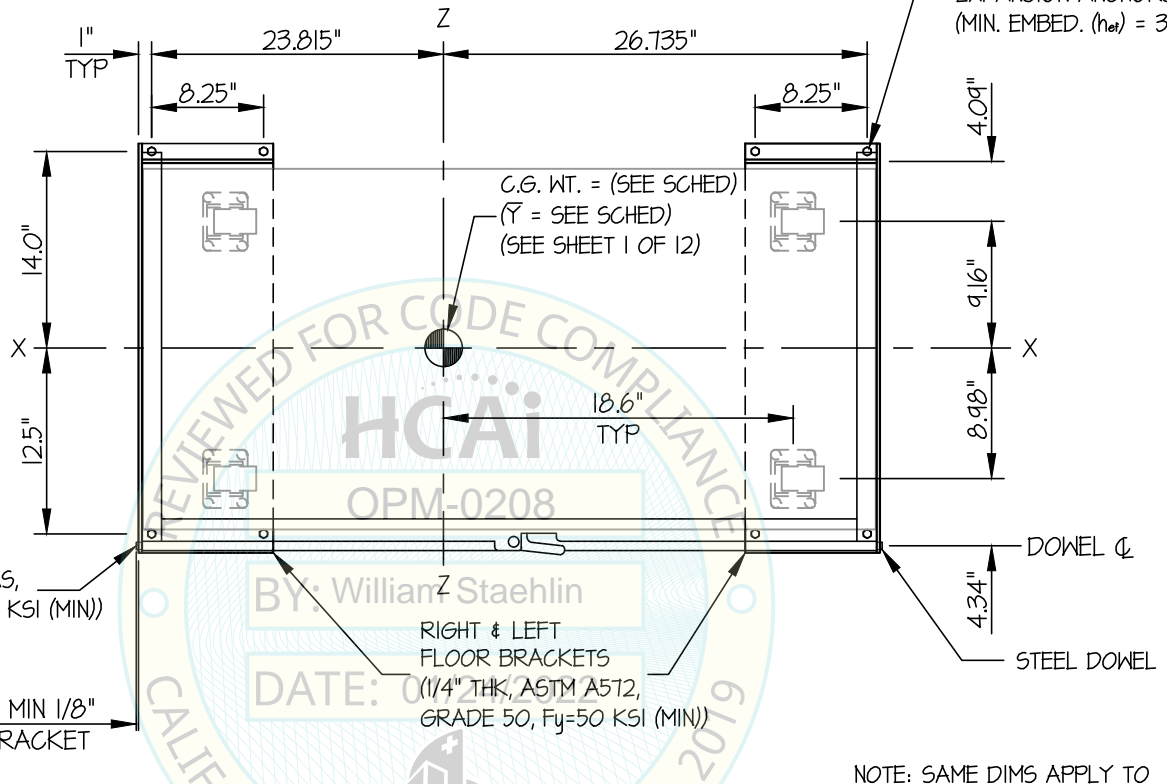
OF **12** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

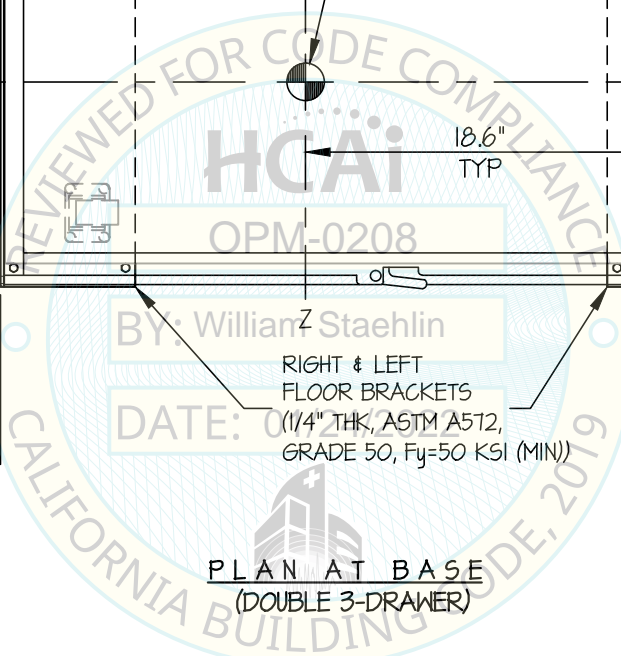
MAX  $S_{Ds} \leq 1.00$

CONCRETE SLAB

USE 8- 1/2"  $\phi$  HILTI KB-TZ2  
EXPANSION ANCHORS  
(MIN. EMBED. ( $h_{ef}$ ) = 3.25")



**PLAN AT BASE  
(DOUBLE 3-DRAWER)**



**BD**

DES. **J. ROBERSON**

SHEET

**5**

JOB NO. **11-2125**

DATE **11/4/21**

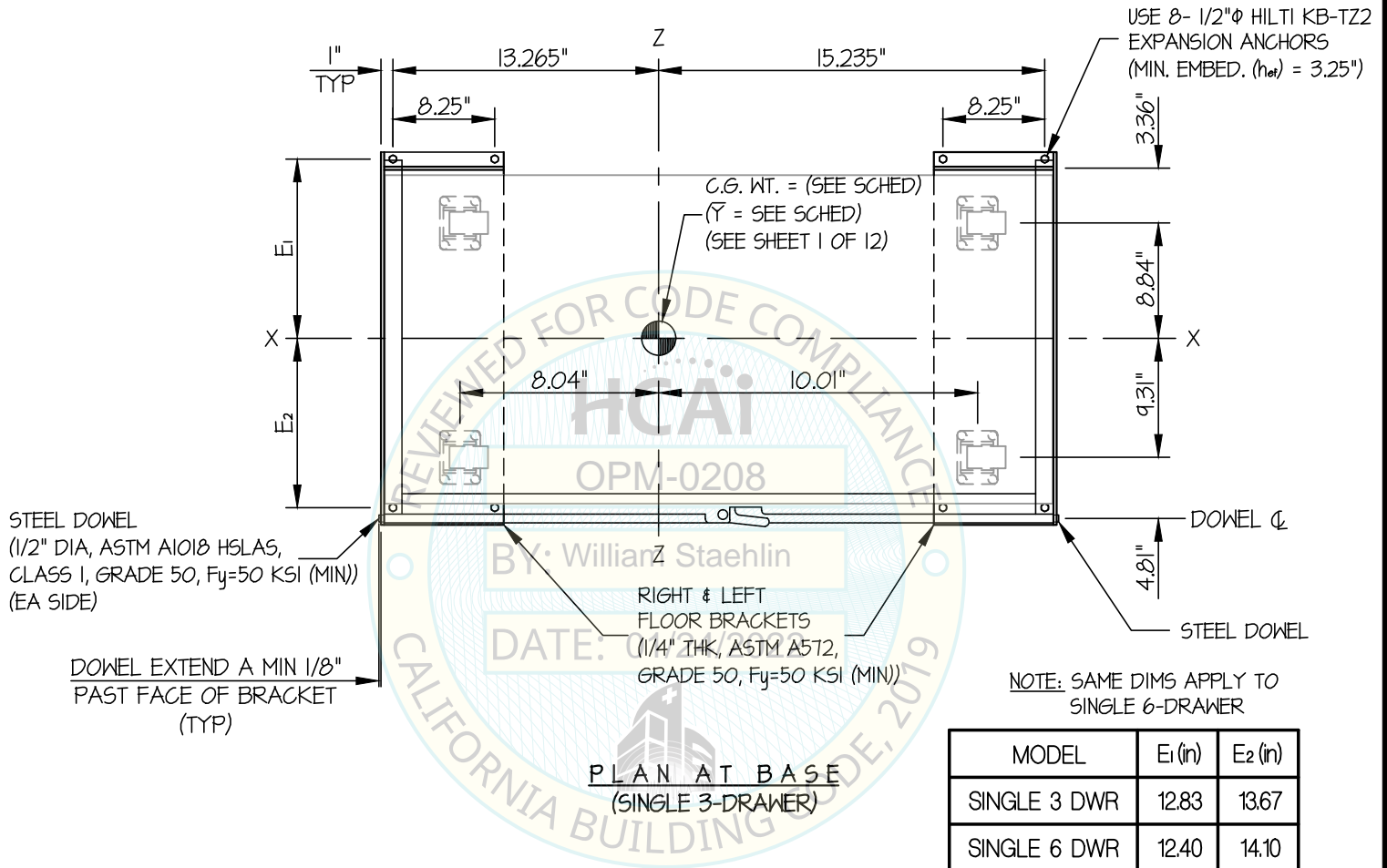
OF **12** SHEETS

### PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000

SEISMIC SUPPORTS & ATTACHMENTS

MAX Sps  $\leq 1.85$

CONCRETE SLAB



*Jonathan Roberson*

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 No. 4197  
 EXP. 6-30-2022  
 11/4/21  
 STRUCTURAL  
 STATE OF CALIFORNIA

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DES. **J. ROBERSON**

SHEET

**6**

JOB NO. **11-2125**

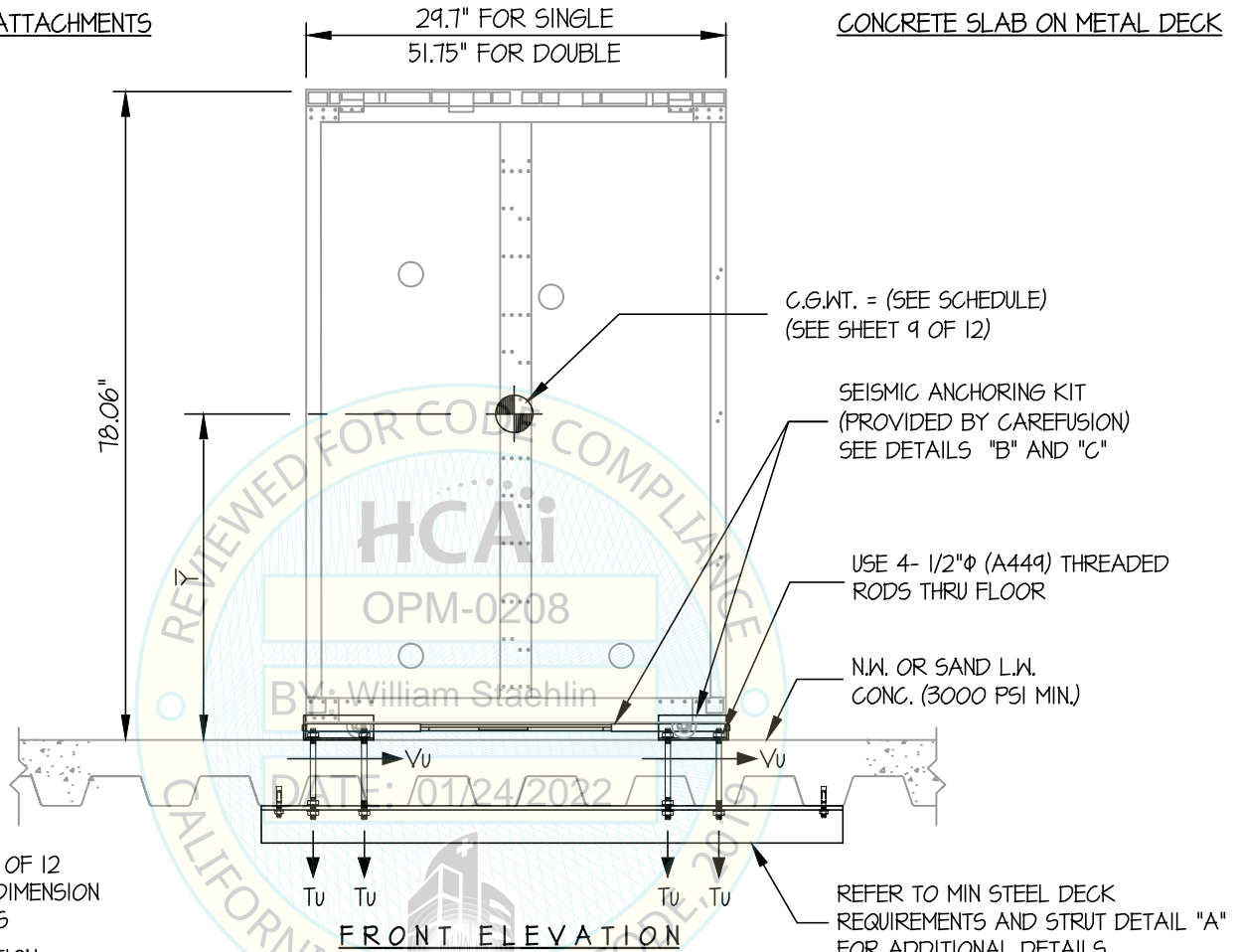
DATE **11/4/21**

OF **12** SHEETS

### PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK



NOTE: SEE SHEET 7-8 OF 12  
FOR WEIGHTS, DIMENSION  
& BOLT FORCES  
PYXIS DUOSTATION  
GOVERNS

NOTES:

1. FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16

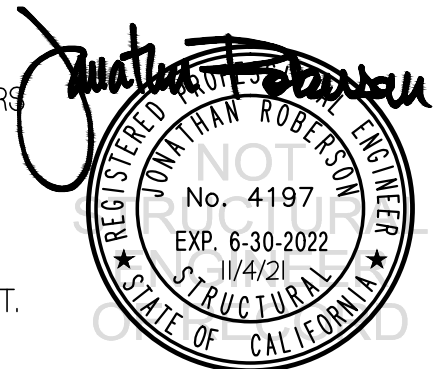
STRENGTH DESIGN IS USED. ( $\alpha_p = 1.0$ ,  $l_p = 1.5$ ,  $R_p = 1.5$ ,  $\Omega_o = 1.5 z/h \leq 1$ )

Sds	1.00	1.85
HORIZONTAL FORCE ( $E_h$ )	1.20 $W_p$	2.22 $W_p$
HORIZONTAL FORCE ( $E_{mh}$ )	1.80 $W_p$	3.33 $W_p$
VERTICAL FORCE ( $E_v$ )	0.20 $W_p$	0.37 $W_p$

( $E_{mh} = E_h \times \Omega_o$ ; FOR CONCRETE ANCHORAGE)

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.





**BD**

DES. **J. ROBERSON**

SHEET

**7**

JOB NO. **11-2125**

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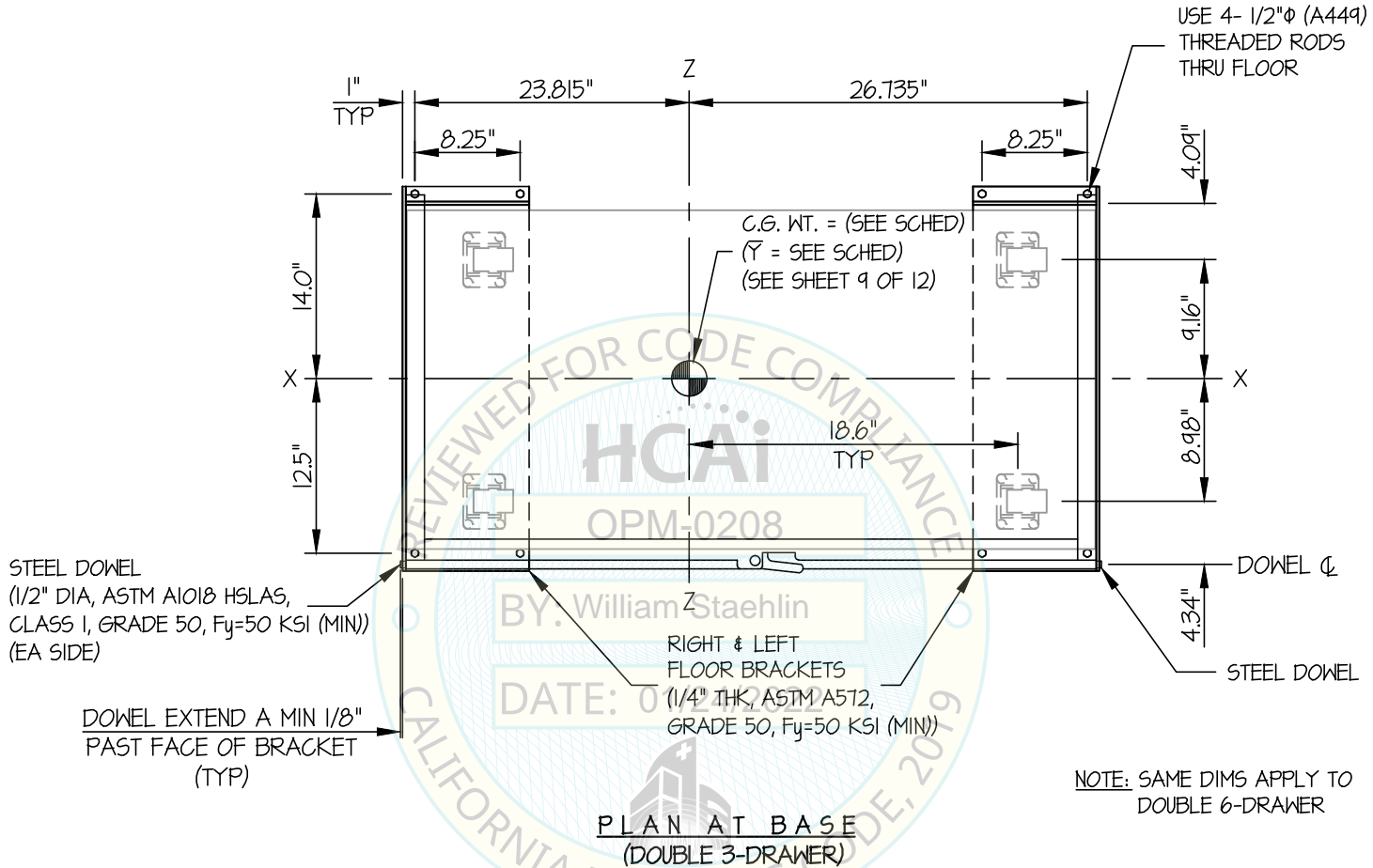
OF **12** SHEETS

## PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000

SEISMIC SUPPORTS & ATTACHMENTS

MAX  $S_{Ds} \leq 1.00$

CONCRETE SLAB ON METAL DECK



NOTE: SAME DIMS APPLY TO DOUBLE 6-DRAWER

*Jonathan Roberson*  
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 EXP. 6-30-2022  
 11/4/21  
 STRUCTURAL  
 STATE OF CALIFORNIA

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DES. **J. ROBERSON**

SHEET

**8**

### PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000

JOB NO. **11-2125**

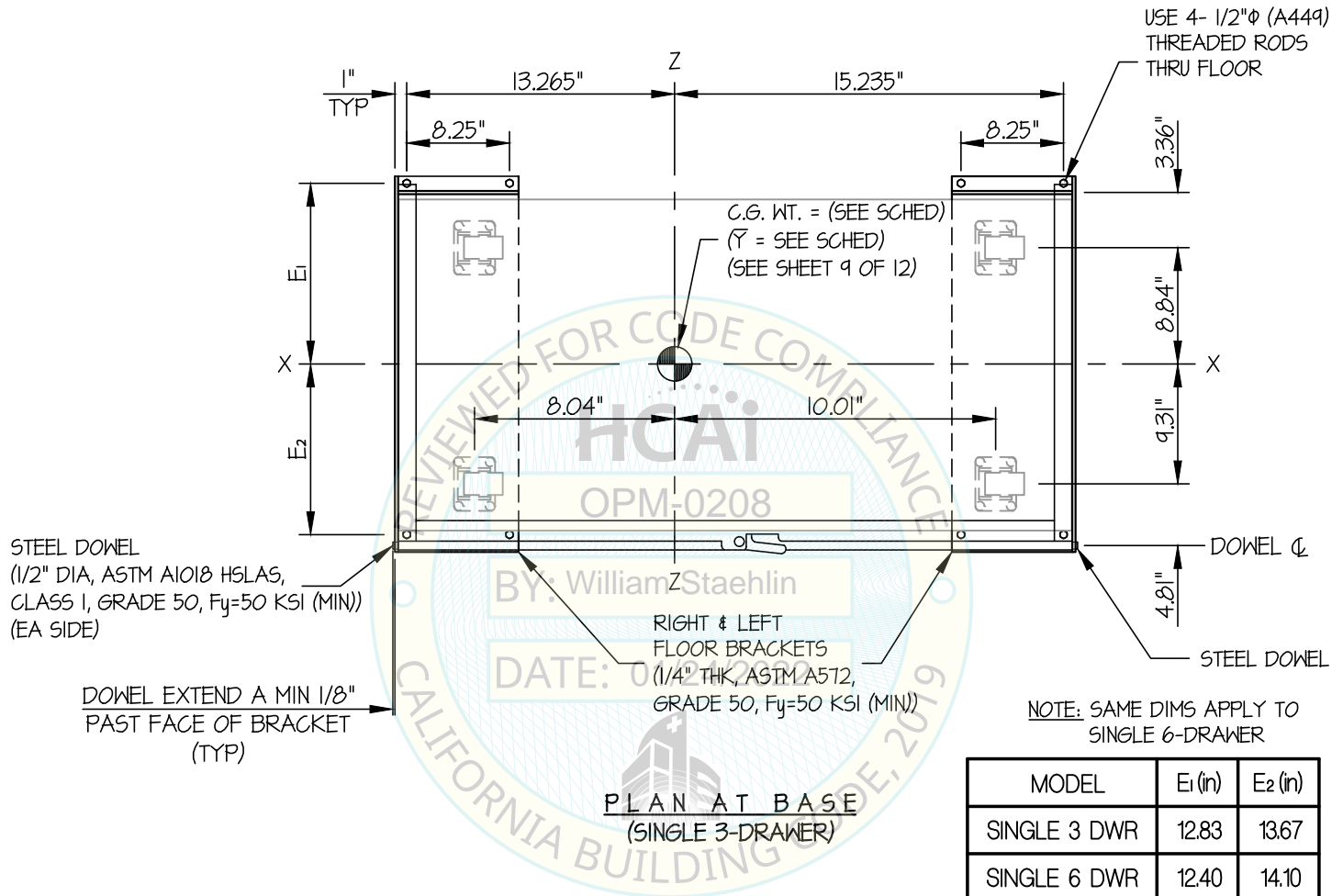
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OF **12** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

MAX  $S_{Ds} \leq 1.05$

CONCRETE DETAIL



*Jonathan Roberson*

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EXP. 6-30-2022  
11/4/21  
STRUCTURAL  
STATE OF CALIFORNIA

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DES. **J. ROBERSON**

SHEET

**9**

JOB NO. **11-2125**

DATE **11/4/21**

OF **12** SHEETS

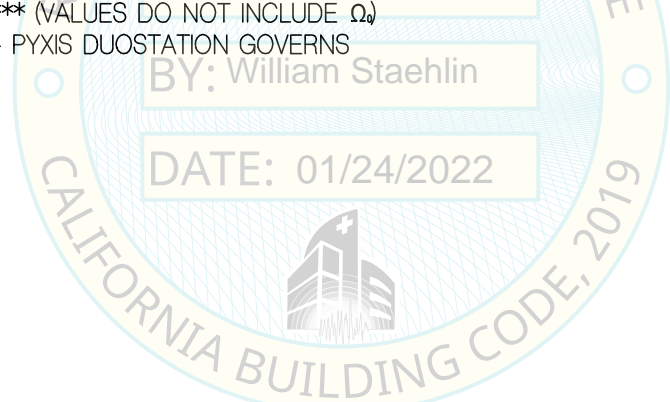
**PYXIS DUOSTATION, MEDFLEX 1000  
AND MEDFLEX 2000**

SEISMIC SUPPORTS & ATTACHMENTS

BASE DETAIL

Sds	MODEL	WEIGHT (LB)	$\bar{Y}$ (in)	*** TU (lb)	*** VU (lb)
**	1.85 SINGLE 3-DWR	1425	42.94	3857	953
	1.85 SINGLE 6-DWR	1338	45.1	3814	895
*	1.00 DOUBLE 3-DWR	2873	45.07	4100	1118
	1.00 DOUBLE 6-DWR	2810	45.59	4063	1093

- \* THIS UNIT IS USED IN CALCULATION ON SHEET 7 OF 12
- \*\* THIS UNIT IS USED IN CALCULATION ON SHEET 8 OF 12
- \*\*\* (VALUES DO NOT INCLUDE  $\Omega_0$ )
- + PYXIS DUOSTATION GOVERNS



**BD**

DES. **J. ROBERSON**

SHEET

**10**

JOB NO. **11-2125**

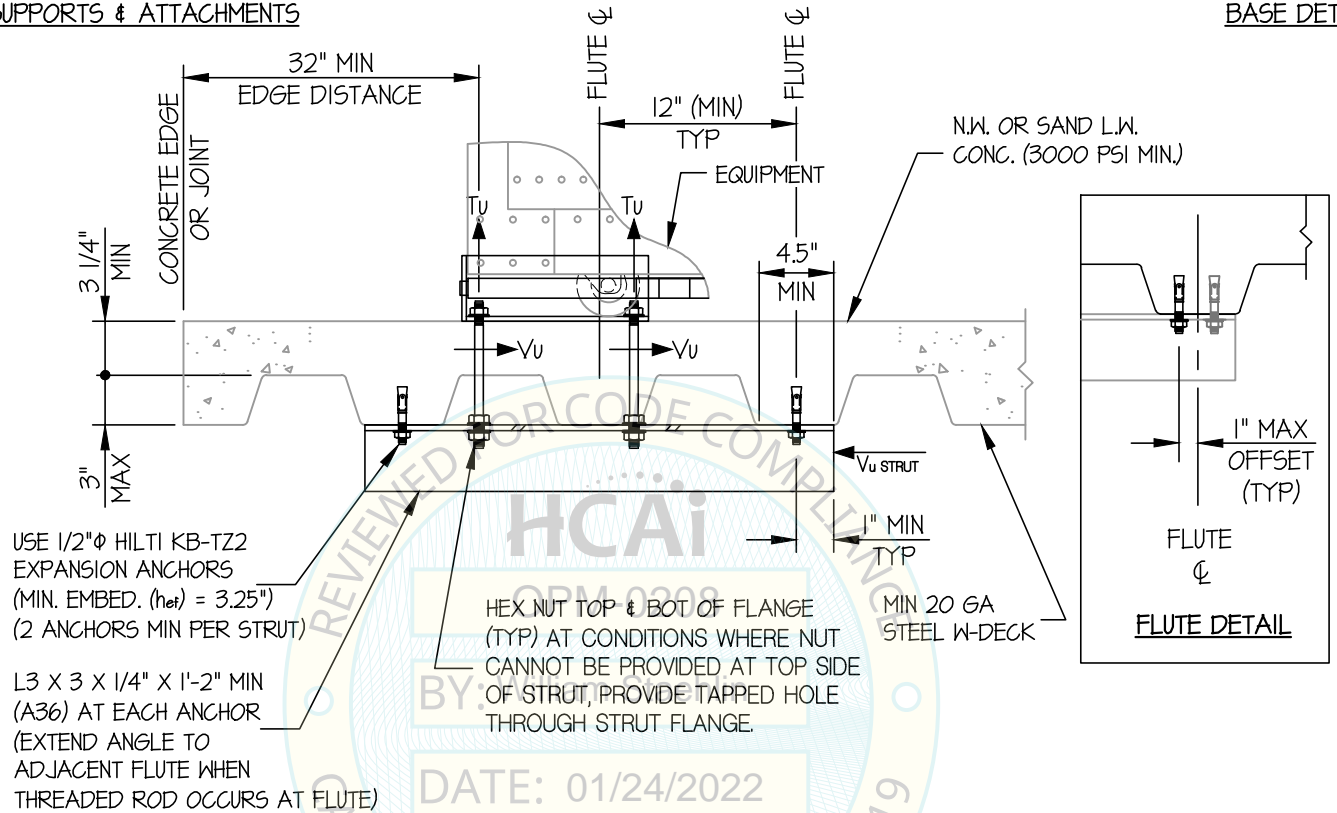
DATE **11/4/21**

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## PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000

SEISMIC SUPPORTS & ATTACHMENTS

BASE DETAIL



MIN STEEL DECK REQUIREMENTS AND STRUT DETAIL (A)



**BD**

DES. **J. ROBERSON**

SHEET

**11**

JOB NO. **11-2125**

DATE **11/4/21**

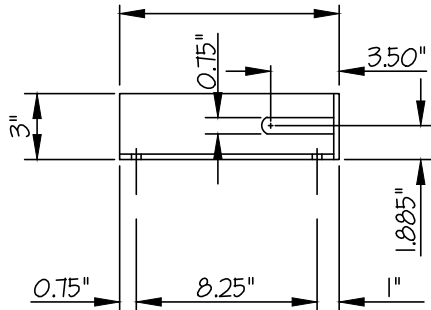
OF **12** SHEETS

## PYXIS DUOSTATION, MEDFLEX 1000 AND MEDFLEX 2000

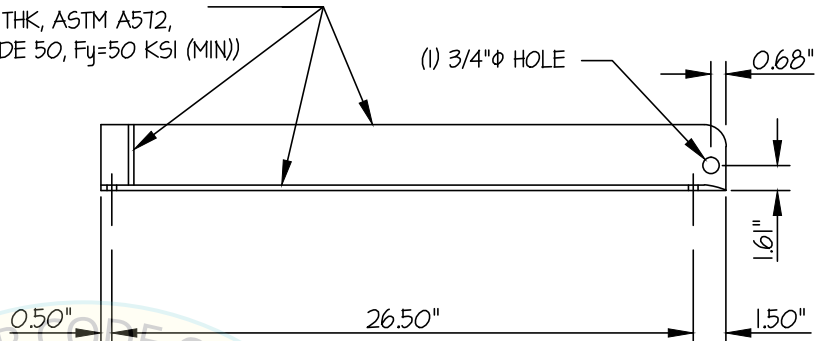
SEISMIC SUPPORTS & ATTACHMENTS

BASE DETAIL

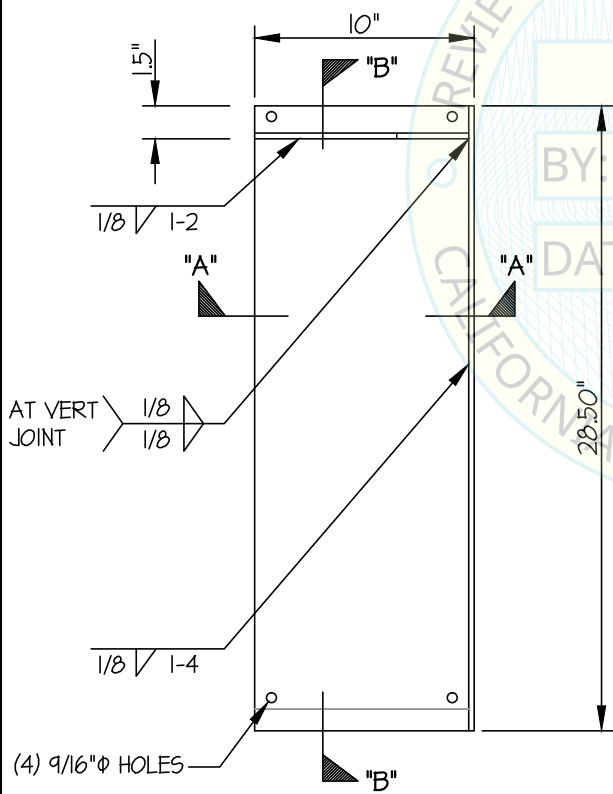
RIGHT & LEFT  
FLOOR BRACKETS  
(1/4" THK, ASTM A572,  
GRADE 50, F<sub>y</sub>=50 KSI (MIN))



SECTION A-A



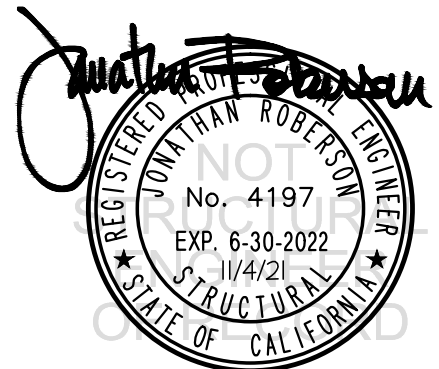
SECTION B-B



PLAN  
(RIGHT FLOOR BRACKET SHOWN)

NOTE: THE SEISMIC ANCHORING KIT CONSISTS OF TWO FLOOR BRACKETS, A RIGHT FLOOR BRACKET AND A LEFT FLOOR BRACKET (SHOWN HERE) AND FRAME ASSEMBLY (SEE DETAIL "C") (TYP)

BRACKET DETAIL (B)



**BD**

DES. **J. ROBERSON**

SHEET

**12**

JOB NO. **11-2125**

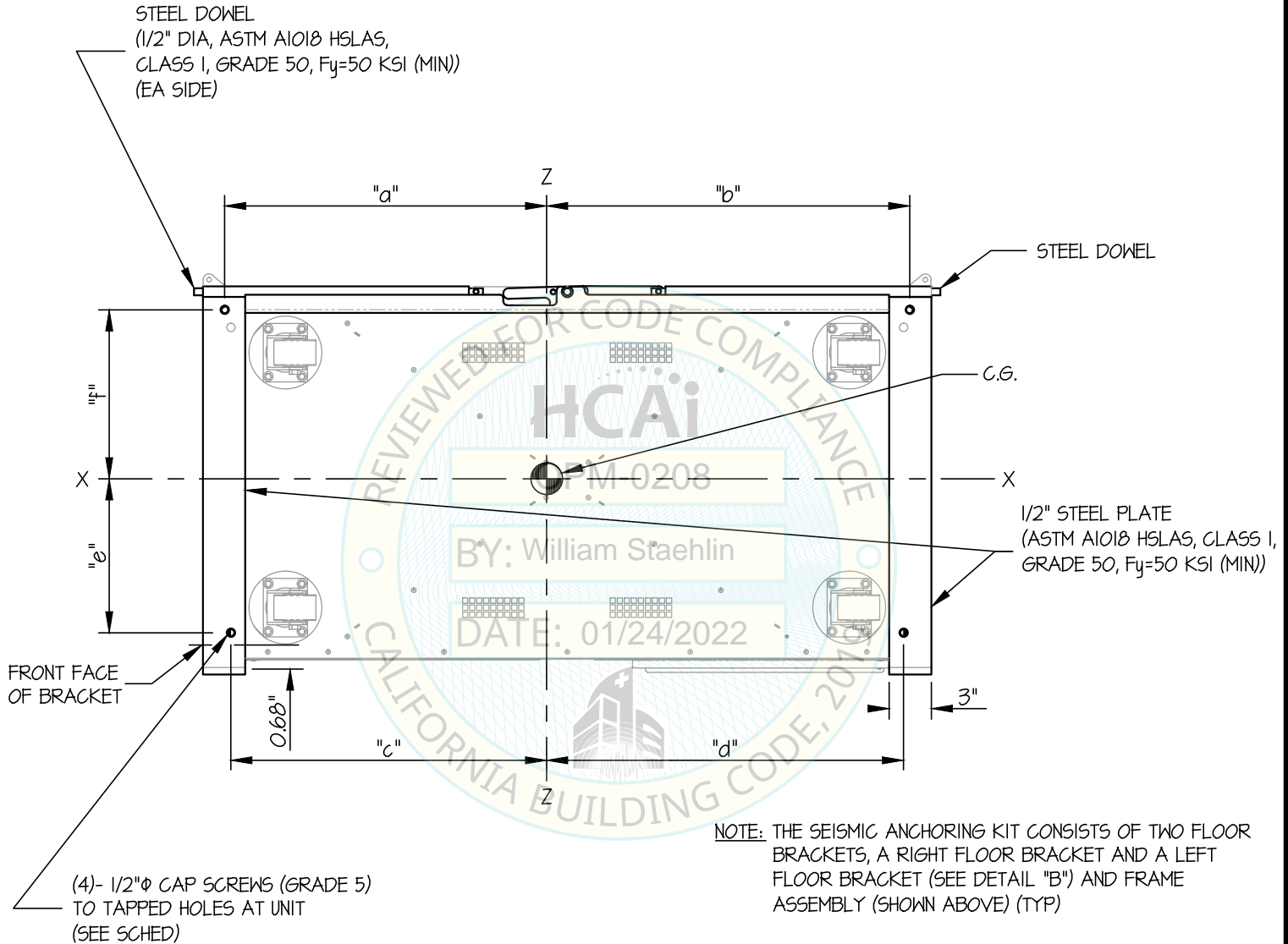
DATE **11/4/21**

OF **12** SHEETS

**PYXIS DUOSTATION, MEDFLEX 1000  
AND MEDFLEX 2000**

SEISMIC SUPPORTS & ATTACHMENTS

BASE DETAIL



REFLECTED PLAN AT FRAME ASSEMBLY DETAIL (C)  
(FRAME ASSEMBLY SHOP ATTACHED TO UNDERSIDE OF UNIT BY MFG)

MODEL	"a" (in)	"b" (in)	"c" (in)	"d" (in)	"e" (in)	"f" (in)
DOUBLE 6-DWR	22.90	25.82	22.46	25.38	10.95	12.03
DOUBLE 3-DWR	22.90	25.82	22.46	25.38	10.95	12.03
SINGLE 6-DWR	12.35	14.32	11.91	13.88	12.36	10.62
SINGLE 3-DWR	12.35	14.32	11.91	13.88	12.36	10.62

+ PYXIS DUOSTATION GOVERNS

