



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD PREAPPROVAL OF
MANUFACTURER'S CERTIFICATION (OPM)

OFFICE USE ONLY

APPLICATION #: OPM-0551

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal/Update

Manufacturer Information

Manufacturer: Mavig Corporation

Manufacturer's Technical Representative: Ben Weisenberg

Mailing Address: 25 Hytec Circle, Rochester, NY 14606

Telephone: (585) 247-1212 Email: ben@ti-ba.com

Product Information

Product Name: Injector Head with Support Arm & T1522-ME Mounting Plate

Product Type: Other Mechanical or Electrical Component

Product Model Number: N/A

General Description: Injector & Support for use in Medical Procedures

Applicant Information

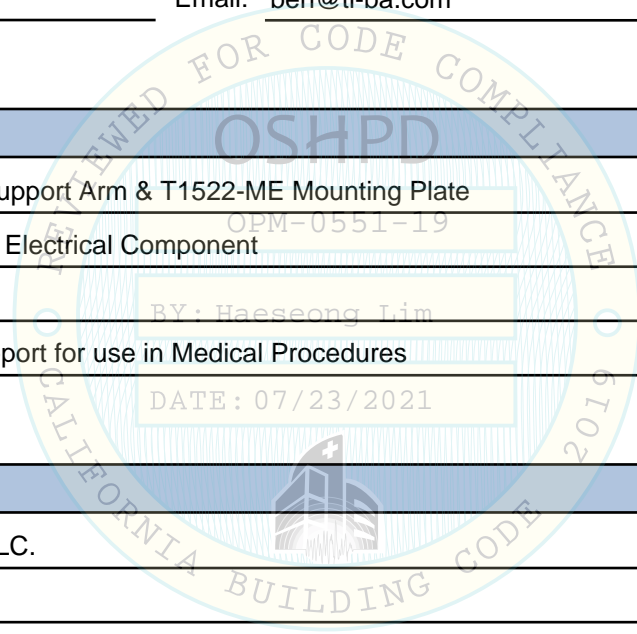
Applicant Company Name: EASE LLC.

Contact Person: Tiffany Tonn

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

Telephone: (406) 541-3273 Email: tiffany@easeco.com

Title: _____



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

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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: (909) - 606-7622 Email: jon@EASECo.com

OSHDP 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 OSHDP prior to testing.

- Analysis
- Experience Data
- Combination of Testing, Analysis, and/or Experience Data (Please Specify): _____

OSHDP Approval

Date: 7/23/2021
Name: Haeseong Lim Title: Senior Structural Engineer
Condition of Approval (if applicable): _____



**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-0551

THIS PREAPPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE

MANUFACTURER: **MAVIG CORPORATION**
EQUIPMENT NAME: **INJECTOR HOLDER SYSTEM GD40030-BO**

Sheet: 1 of 9
Date: 7/16/21

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.
4. FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE $S_{Ds} \leq 2.00$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$.
5. THE DETAILS IN THIS PREAPPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE S_{Ds} IS NOT GREATER THAN 2.00.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
8. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING
 - A. PROVIDE SUPPORTING STRUCTURE REQUIRED 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 SHOWN IN THIS PREAPPROVAL. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
 - C. VERIFY THAT THE COMBINATION OF S_{Ds} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT ARE NOT GREATER THAN THE VALUES ON THE DETAILS.

BY: Haeseong Lim



MAVIG CORPORATION

**INJECTOR HOLDER SYSTEM
GD40030-BO**

DES. **J. ROBERSON**

JOB NO. **11-1919**

DATE **7/16/21**

SHEET

2

OF **9** SHEETS

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. Over Flute	Torque Test	Direct Tension
1/2"	Sand Light Weight	3000	Hilti Kwik Bolt TZ2	ESR-4266	2"	6.75"	12"	3.25"	50 FT-LB	N/A

B. TESTING AND SPECIAL INSPECTION OF EXPANSION ANCHORS SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY EMPLOYED BY THE FACILITY OWNER PER CBC 1704A & 1910A.5 AND CAC 7-149. ALL REPORTS SHALL BE SENT TO THE INSPECTOR OF RECORD, OWNER AND THE ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.

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

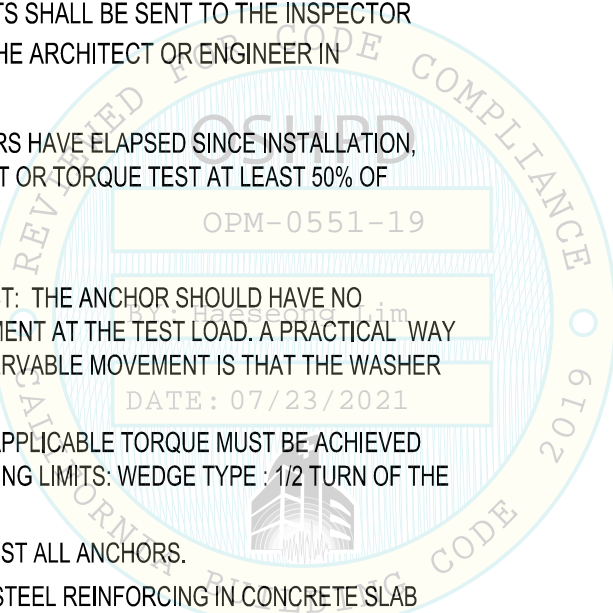
(ii) ACCEPTANCE CRITERIA:

- 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.

C. AVOID DAMAGING EXISTING STEEL REINFORCING IN CONCRETE SLAB WHEN INSTALLING CONCRETE EXPANSION ANCHORS.

D. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.



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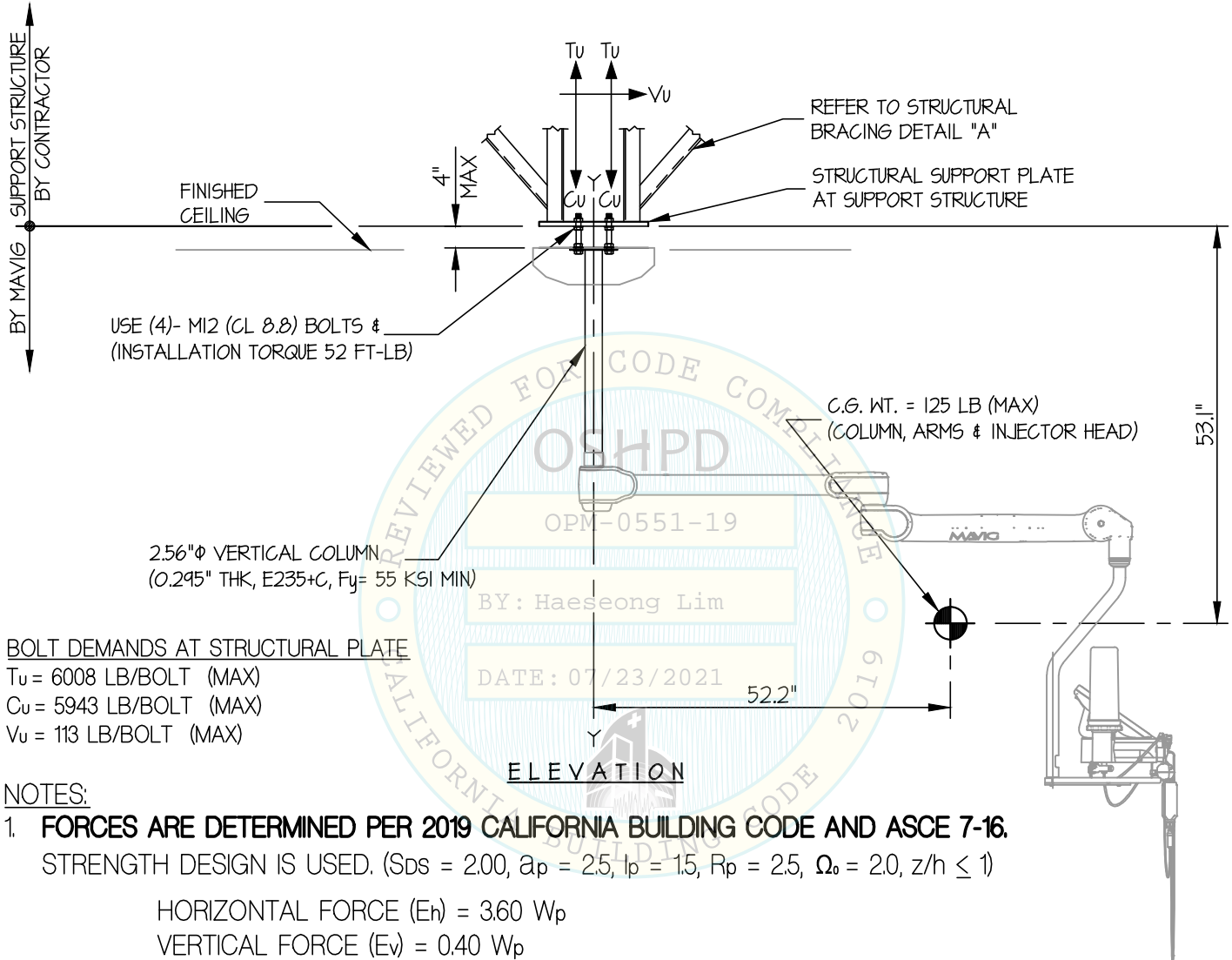
SHEET

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OF **9** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



BOLT DEMANDS AT STRUCTURAL PLATE

Tu = 6008 LB/BOLT (MAX)
Cu = 5943 LB/BOLT (MAX)
Vu = 113 LB/BOLT (MAX)

NOTES:

1. **FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16.** STRENGTH DESIGN IS USED. (Sbs = 2.00, ap = 2.5, lp = 1.5, Rp = 2.5, Ωo = 2.0, z/h ≤ 1)

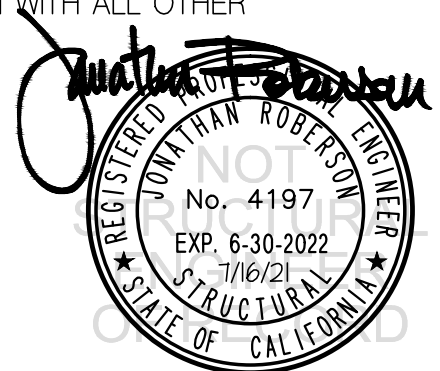
HORIZONTAL FORCE (Eh) = 3.60 Wp

VERTICAL FORCE (Ev) = 0.40 Wp

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THESE CALCULATIONS ENCOMPASS 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.

4. SEE GENERAL NOTES: SHEETS 1 AND 2



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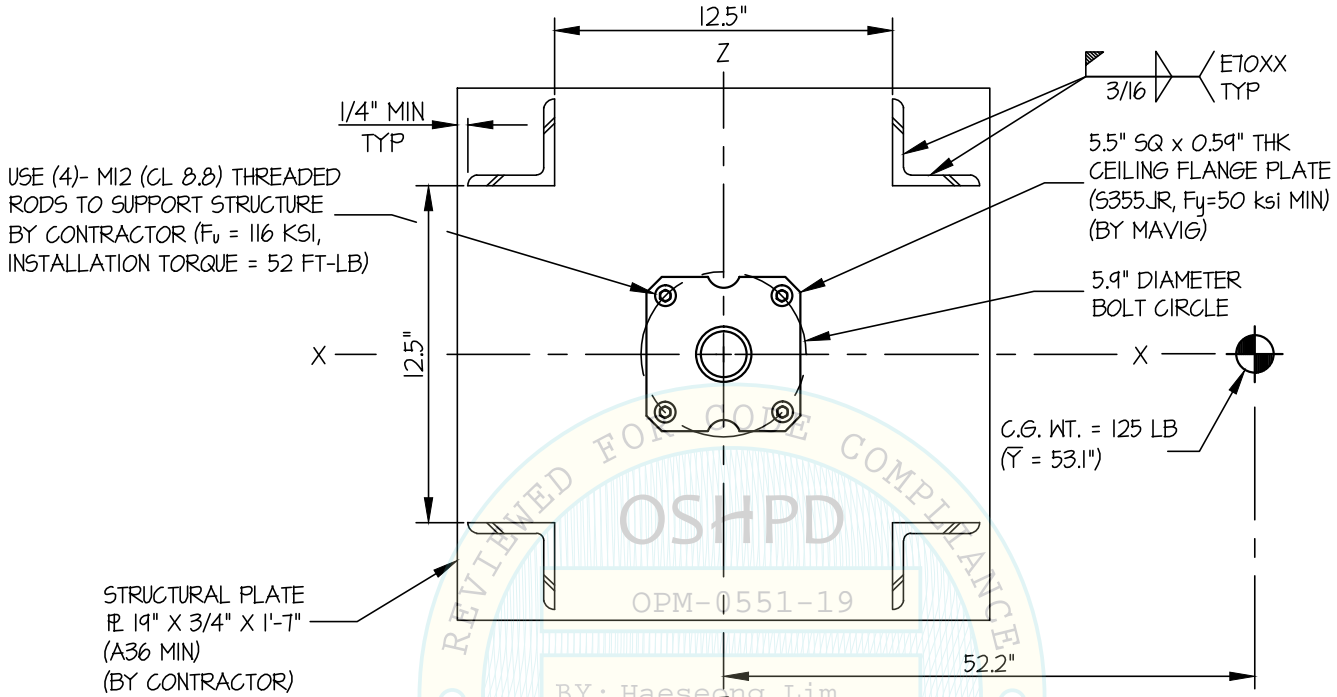
SHEET

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OF **9** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



PLAN AT STRUCTURAL PLATE
DATE: 07/23/2021



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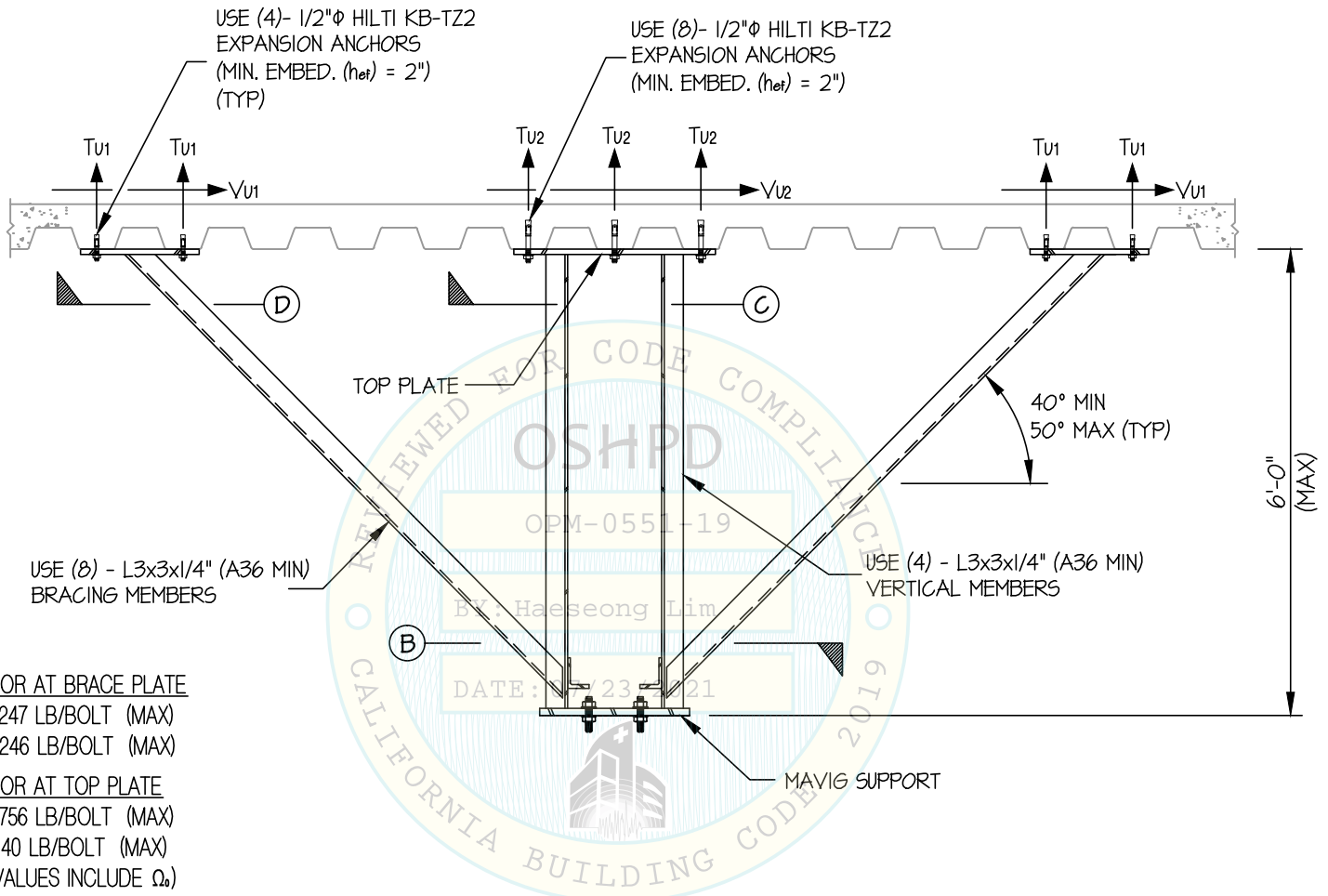
SHEET

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OF **9** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



ANCHOR AT BRACE PLATE

T_{U1} = 247 LB/BOLT (MAX)
V_{U1} = 246 LB/BOLT (MAX)

ANCHOR AT TOP PLATE

T_{U2} = 756 LB/BOLT (MAX)
V_{U2} = 40 LB/BOLT (MAX)
(ALL VALUES INCLUDE Ω_b)

STRUCTURAL BRACING DETAIL (A)



MAVIG CORPORATION INJECTOR HOLDER SYSTEM GD40030-BO

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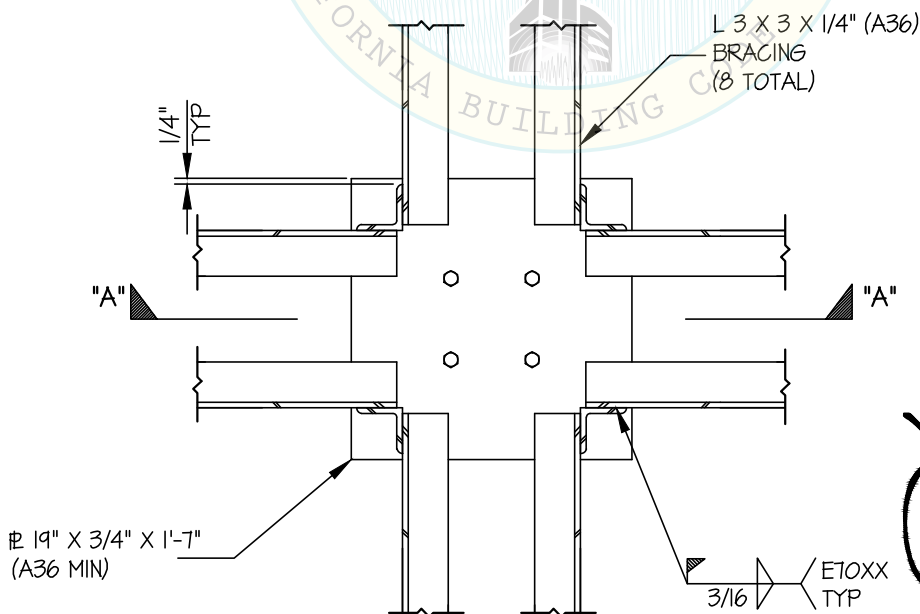
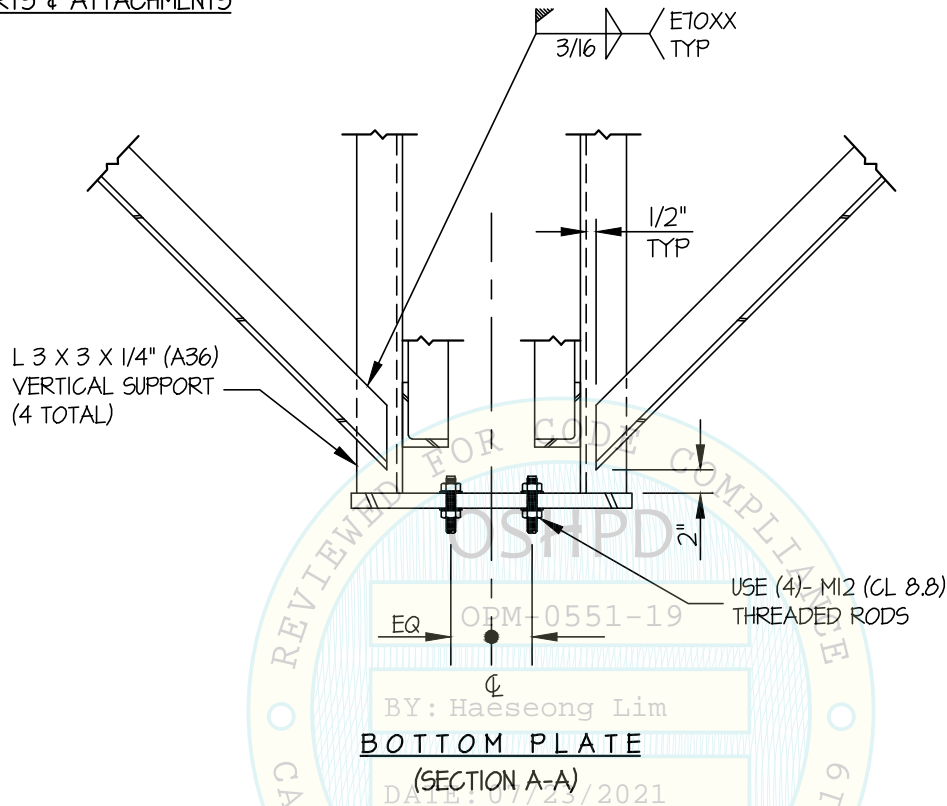
SHEET

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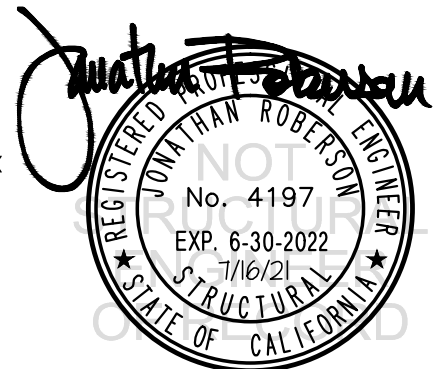
OF 9 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



BOTTOM PLATE DETAIL (C)



MAVIG CORPORATION

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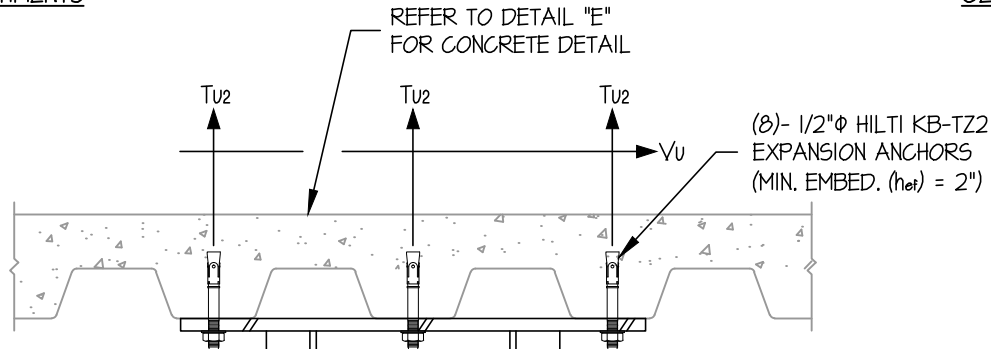
SHEET

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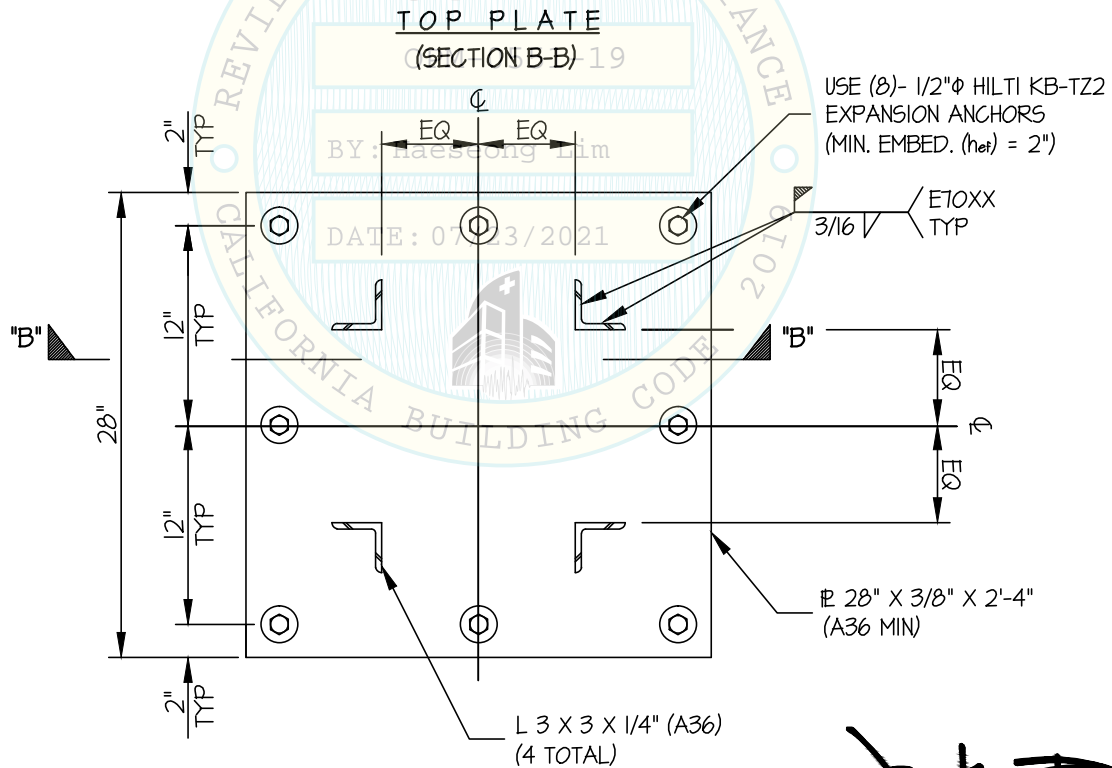
OF **9** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



ANCHOR AT TOP PLATE
 $T_{U2} = 756 \text{ LB/BOLT (MAX)}$
 $V_{U2} = 40 \text{ LB/BOLT (MAX)}$
 (VALUES INCLUDE Ω_d)



TOP PLATE DETAIL (C)



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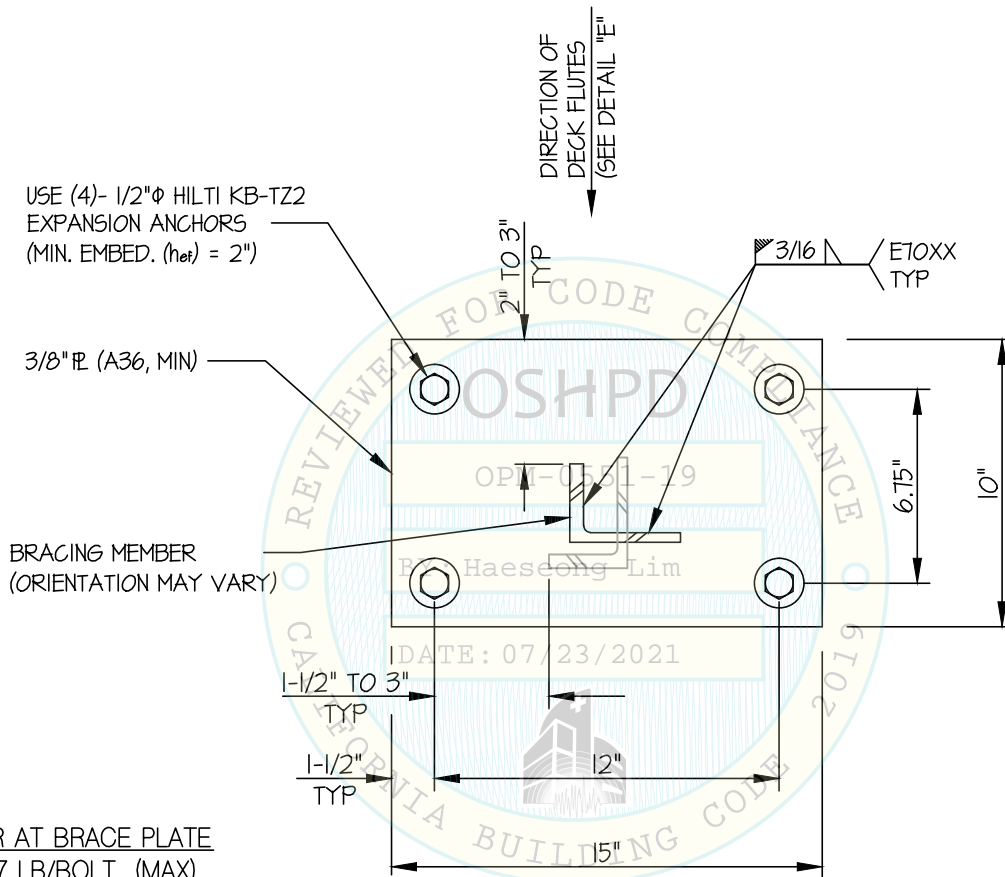
SHEET

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OF 9 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



USE (4)- 1/2"φ HILTI KB-TZ2
EXPANSION ANCHORS
(MIN. EMBED. (net) = 2")

3/8" PL (A36, MIN)

BRACING MEMBER
(ORIENTATION MAY VARY)

ANCHOR AT BRACE PLATE
 $T_{u2} = 247$ LB/BOLT (MAX)
 $V_{u2} = 246$ LB/BOLT (MAX)
 (VALUES INCLUDE Ω)

BRACE PLATE DETAIL (D)



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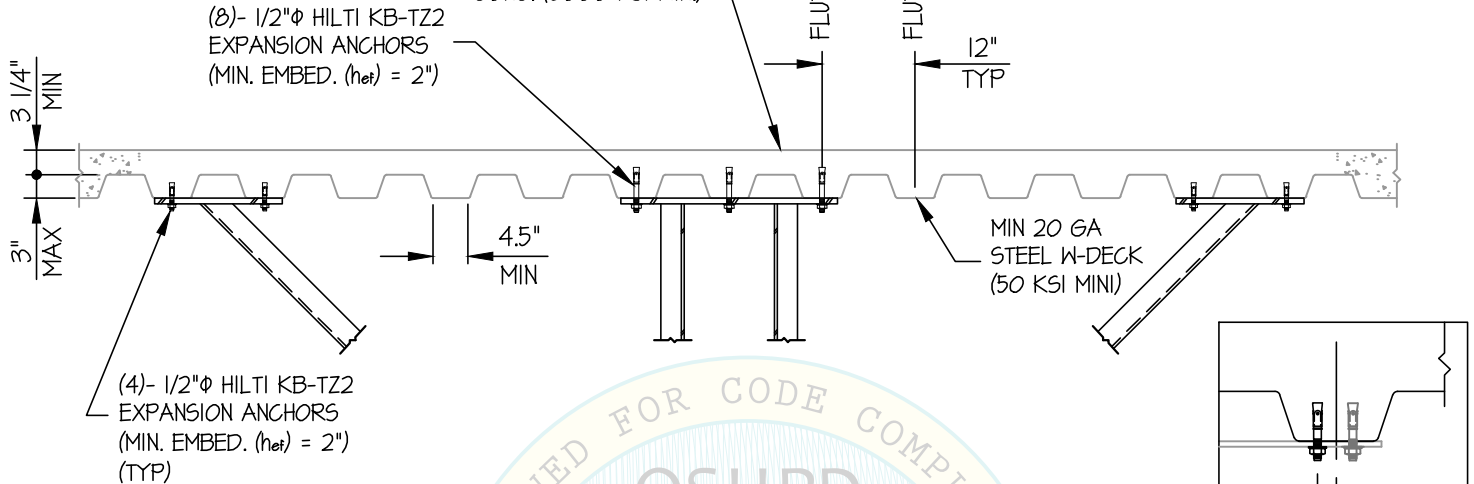
9

OF **9** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

N.W. OR SAND L.W.
CONC. (3000 PSI MIN.)

CEILING MOUNTED



MIN STEEL DECK REQUIREMENTS AND STRUT DETAIL (E)

