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

OFFICE USE ONLY
APPLICATION #: OPM-0085-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: ☒ New ☐ Renewal ☐ Update to Pre-CBC 2013 OPA Number: _____

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 TS1522-ME Plate Mount – 360 Degree Column

Product Type: Suspended

Product Model Number: N/A

General Description: Ceiling Supported Medical Equipment, column rotates 360 degrees freely

Applicant Information

Applicant Company Name: **EASE Co.**

Contact Person: Jonathan Roberson, S.E.

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

Telephone: (909) 606-7622 Email: J.Roberson@EASECo.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: _____ Date: 3/19/14

Title: Principal Engineer Company Name: **EASE Co.**

Registered Design Professional Preparing Engineering Recommendations

Company Name: EASE Co.

Name: Jonathan Roberson, S.E. California License Number: S4197

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

Telephone: 909-606-7667 Email: J.Roberson@EASECo.com

OSHPD Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP-
(Separate application for OSP is required)

☒ Special Seismic Certification is not preapproved

Certification Method(s)

☐ Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-10

☐ Other* (Please Specify):

*Use of test criteria other than those adopted by the California Building Standards Code, 2013 (CBSC 2013) 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 2013 may be used when approved by OSHPD prior to testing.

☒ Analysis

☐ Experience Data

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

List of Attachments Supporting the Manufacturer's Certification

☐ Test Report ☒ Drawings ☒ Calculations ☐ Manufacturer's Catalog

☐ Other(s) (Please Specify):

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2013 ONLY

Signature: Date: 09/29/2014

Print Name: William Staehlin

Title: SSE

Condition of Approval (if applicable):

EASE
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-0085-13

THIS PREAPPROVAL CONFORMS TO THE 2013 CALIFORNIA BUILDING CODE

MANUFACTURER: **MAVIG CORPORATION**

EQUIPMENT NAME: **INJECTOR HEAD W/ TS1522- ME MOUNTING PLATE**

Date: 9/16/14

GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2013 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2013 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 2013 CALIFORNIA BUILDING CODE.
4. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE S_{DS} = 2.5, a_p = 2.5, I_p = 1.5, R_p = 2.5, $z/h \leq 1$. SEE FOLLOWING SHEETS FOR Ω_0
5. THE DETAILS IN THIS PREAPPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE S_{DS} IS NOT GREATER THAN 2.5.
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 2013 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.

REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2016
9/16/14
STRUCTURAL
STATE OF CALIFORNIA

MAVIG CORPORATION

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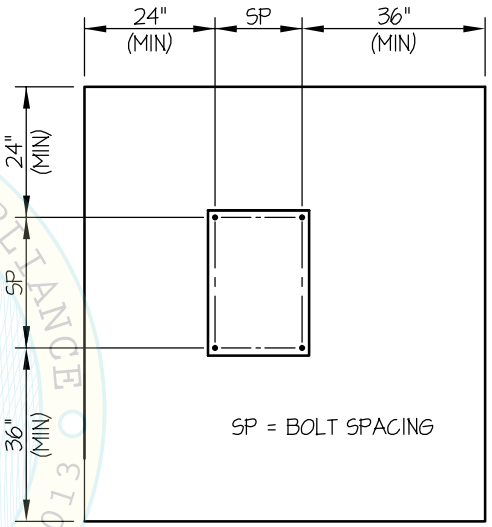
DES. J. ROBERSON | JOB NO. 11-1331 | DATE 9/16/14 | SHEET 2 OF 10 SHEETS

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. Thickness	Torque Test	Direct Tension
1/2"	Normal Weight	3000	Hilti Kwik Bolt TZ	ESR-1917	3-1/4"	10"	24"	6"	40 FT-LB	3281 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.



TYPICAL CONCRETE EDGE DETAIL

C. TESTING OF EXPANSION ANCHORS PER 2013 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

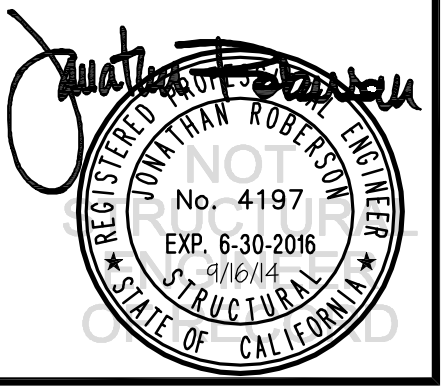
(iii) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.

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.



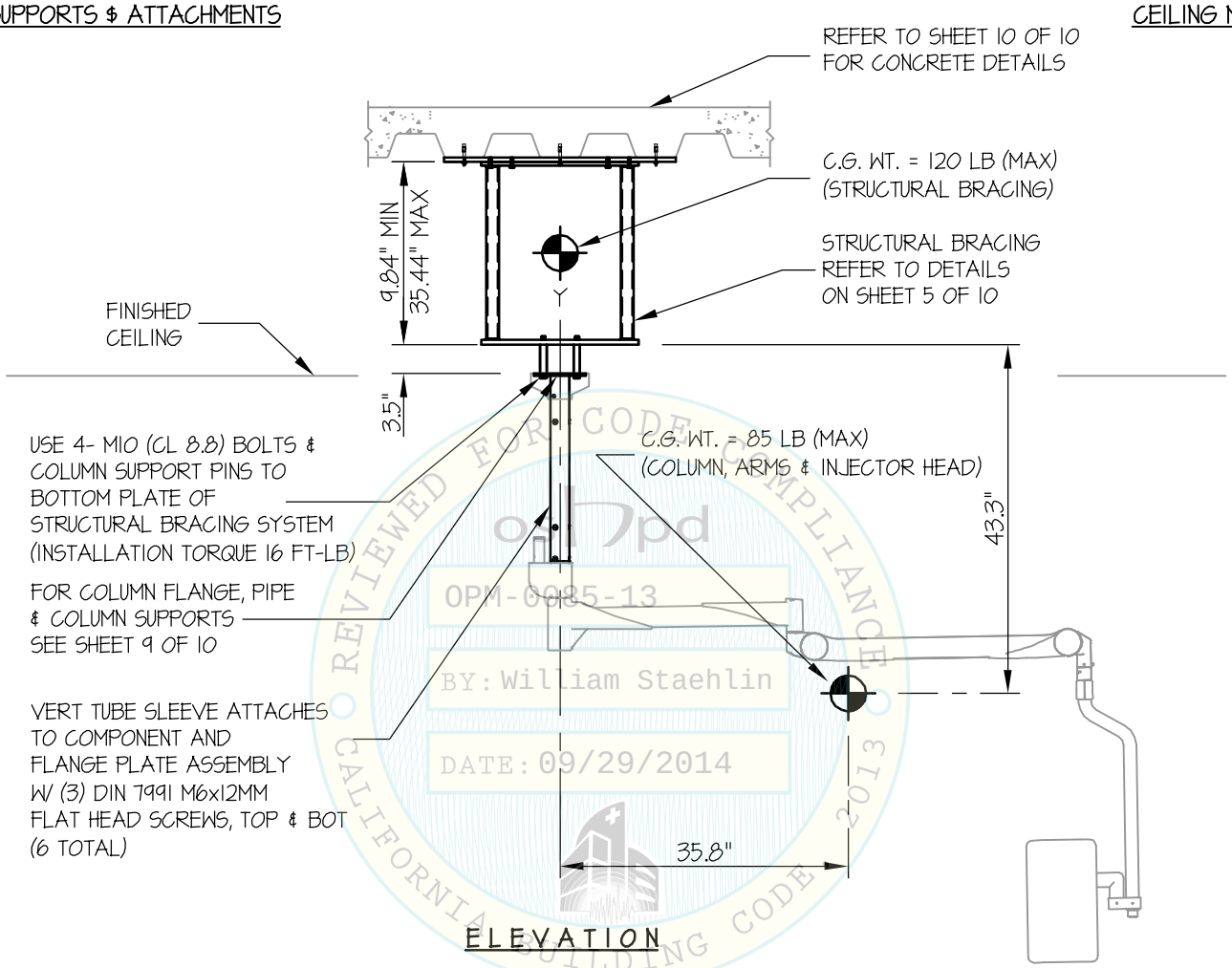
MAVIG CORPORATION

INJECTOR HEAD W/ TS1522-ME MOUNTING PLATE

DES. J. ROBERSON
JOB NO. 11-1331
DATE 9/16/14
SHEET 3 OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



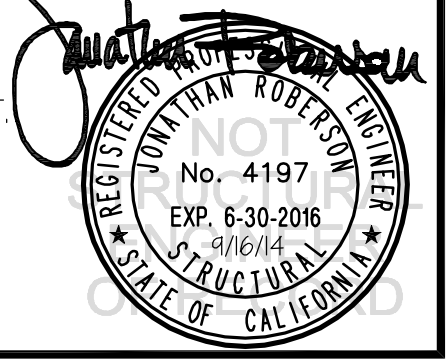
ELEVATION

NOTES:

1. FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED. (S_{DS} = 2.5, a_p = 2.5, I_p = 1.5, R_p = 2.5, Ω_o = 2.5, $z/h \leq 1$)

   HORIZONTAL FORCE (E_h) = 4.50 W_p
   HORIZONTAL FORCE (E_{mh}) = 11.25 W_p (FOR CONCRETE ANCHORAGE)
   VERTICAL FORCE (E_v) = 0.50 W_p

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 WEIGHT AND FORCES SHOWN, IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
4. SEE GENERAL NOTES: SHEET 1.



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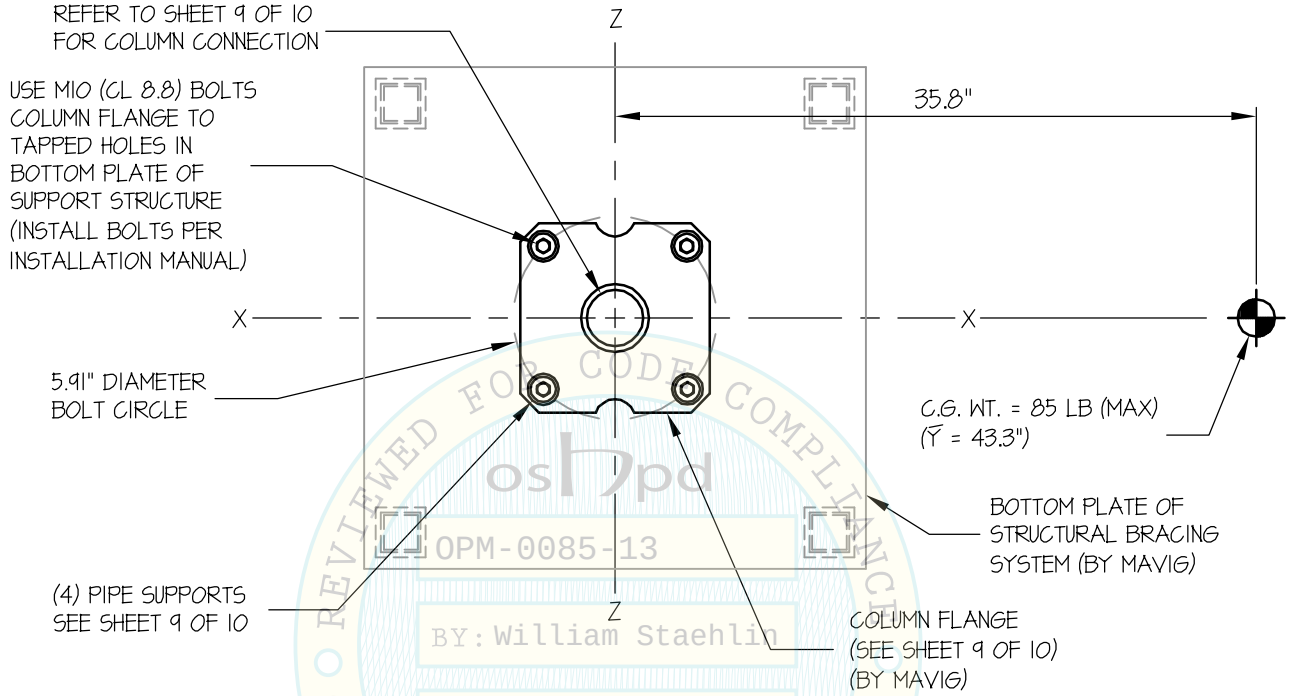
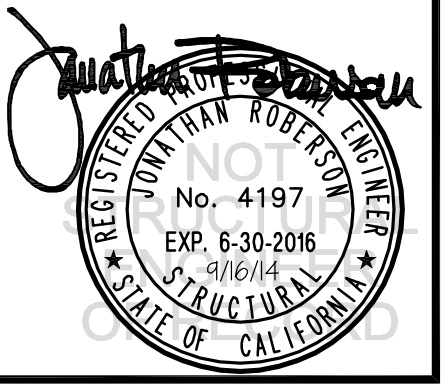
SHEET 4 OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS — CEILING MOUNTED



PLAN AT BASE FLANGE (SECTION C-C)
(REFLECTED PLAN)

T_u = 3728 LB/BOLT (MAX)
C_u = 3684 LB/BOLT (MAX)
V_u = 96 LB/BOLT (MAX)



MAVIG CORPORATION

INJECTOR HEAD W/ TS1522-ME MOUNTING PLATE

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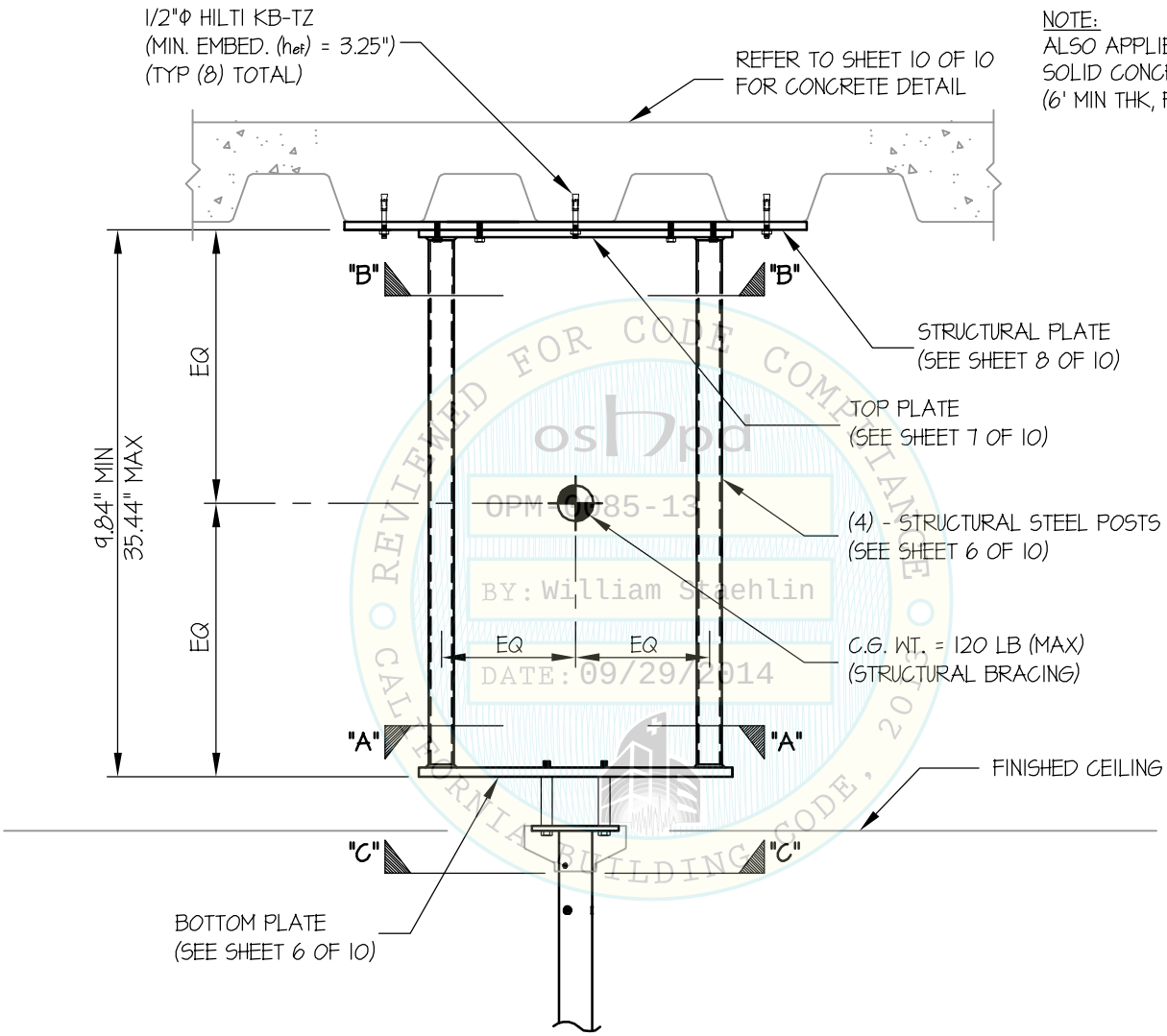
SHEET 5 OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



ELEVATION AT STRUCTURAL BRACING SYSTEM

REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
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EXP. 6-30-2016
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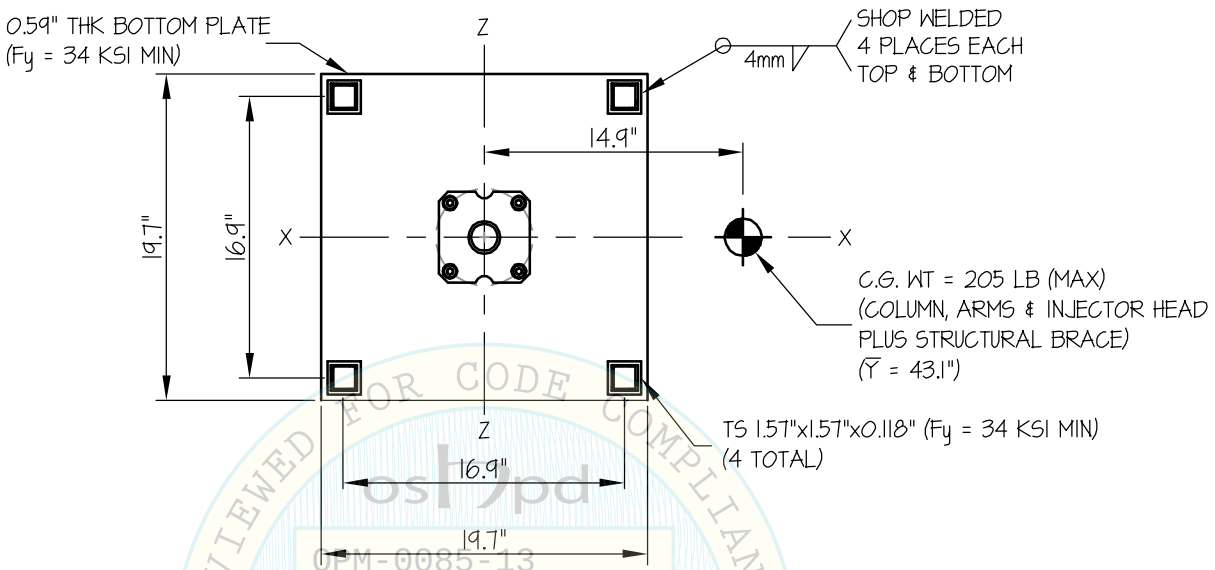
SHEET 6 OF 10 SHEETS

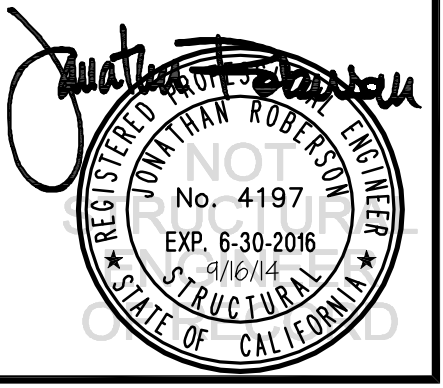
SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



STRUCTURAL BRACE SYSTEM
(SECTION A-A)
(PROVIDED BY MAVIG)

T_u = 1974 LB/BOLT (MAX)
C_u = 1866 LB/BOLT (MAX)
V_u = 4043 LB/BOLT (MAX)



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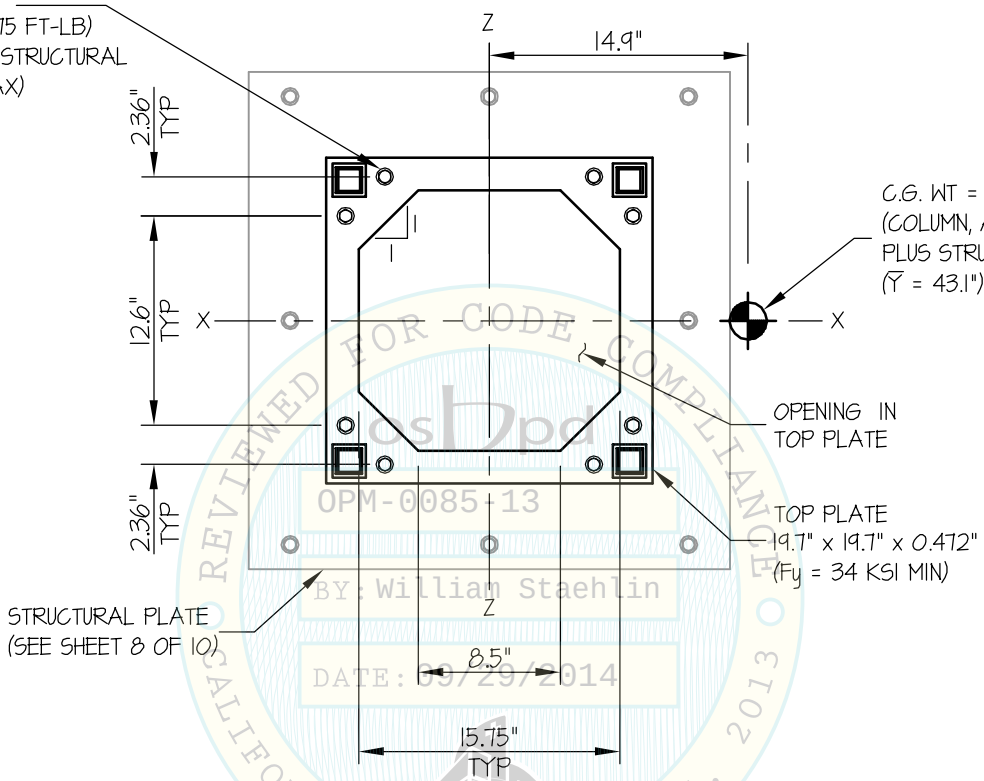
SHEET 7 OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS

USE (8)- 1/2"Φ (GRADE 5) BOLTS
INTO TAPPED HOLES
IN STRUCTURAL PLATE
(INSTALLATION TORQUE 75 FT-LB)
(BOLT EMBEDMENT INTO STRUCTURAL
PLATE: 7/16" MIN, 1/2" MAX)



REFLECTED PLAN AT TOP PLATE
(SECTION B-B)
(PROVIDED BY MAVIG)

Tu = 1173 LB/BOLT (MAX)
Vu = 116 LB/BOLT (MAX)

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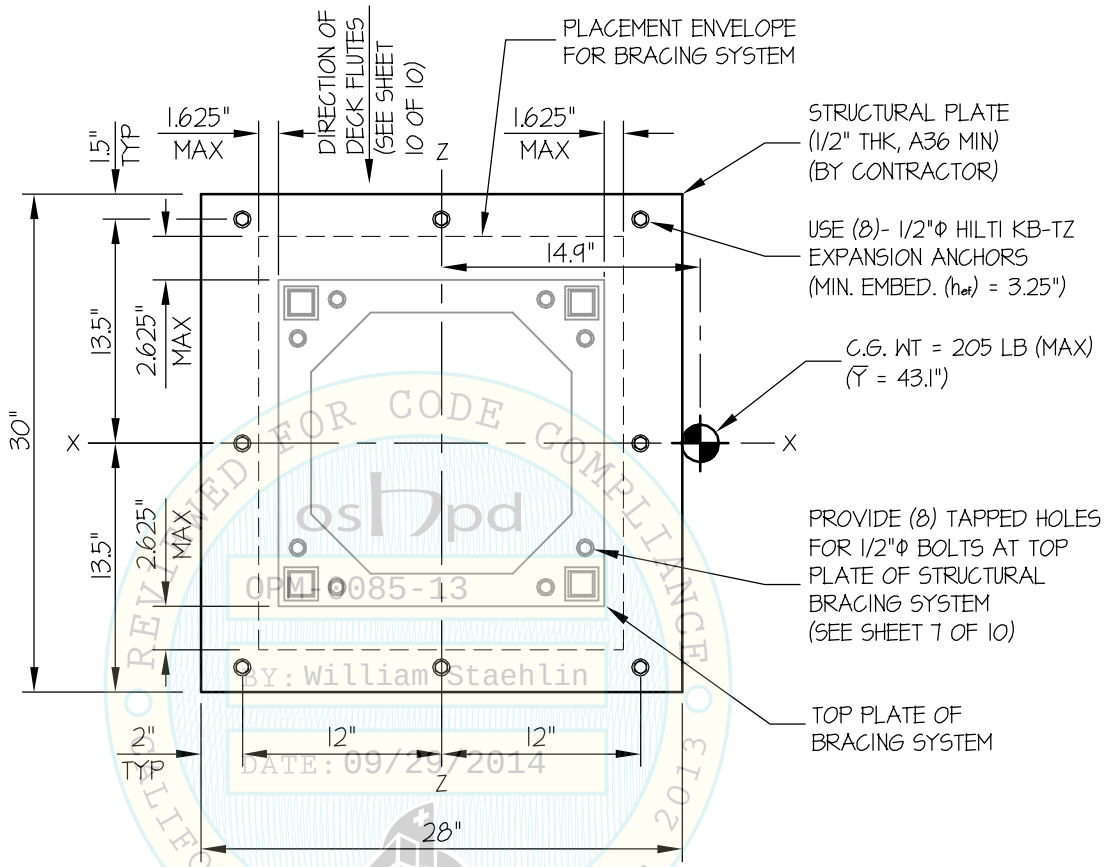
SHEET 8 OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



REFLECTED PLAN AT STRUCTURAL PLATE
(SECTION B-B)

T_u = 1523 LB/BOLT (MAX)
V_u = 458 LB/BOLT (MAX)

MAVIG CORPORATION

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DES. J. ROBERSON
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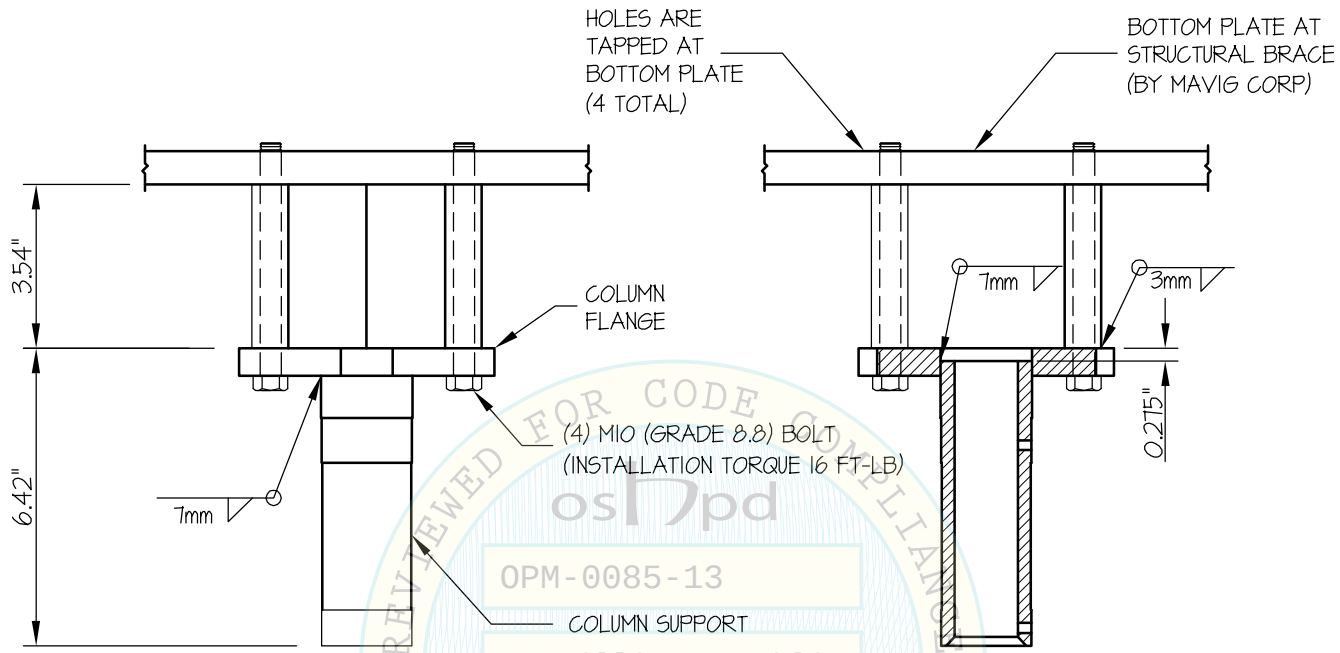
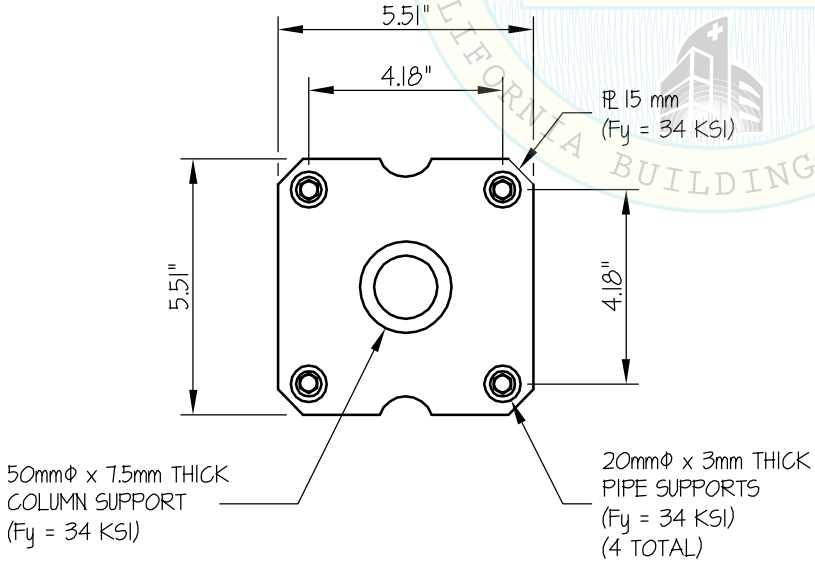
SHEET 9 OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

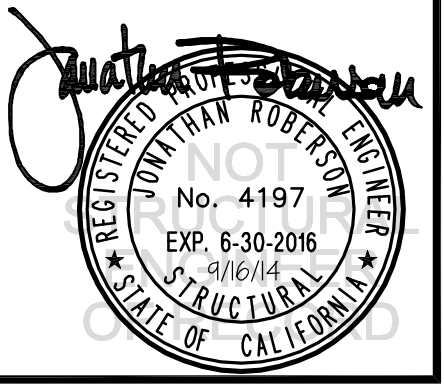
COLUMN DETAILS





NOTE: ALL WELDS SHOWN ARE SHOP WELDED
ALL COMPONENTS SHOWN ARE PROVIDED BY MAVIG CORP

PLAN AT COLUMN FLANGE
(SECTION C-C)



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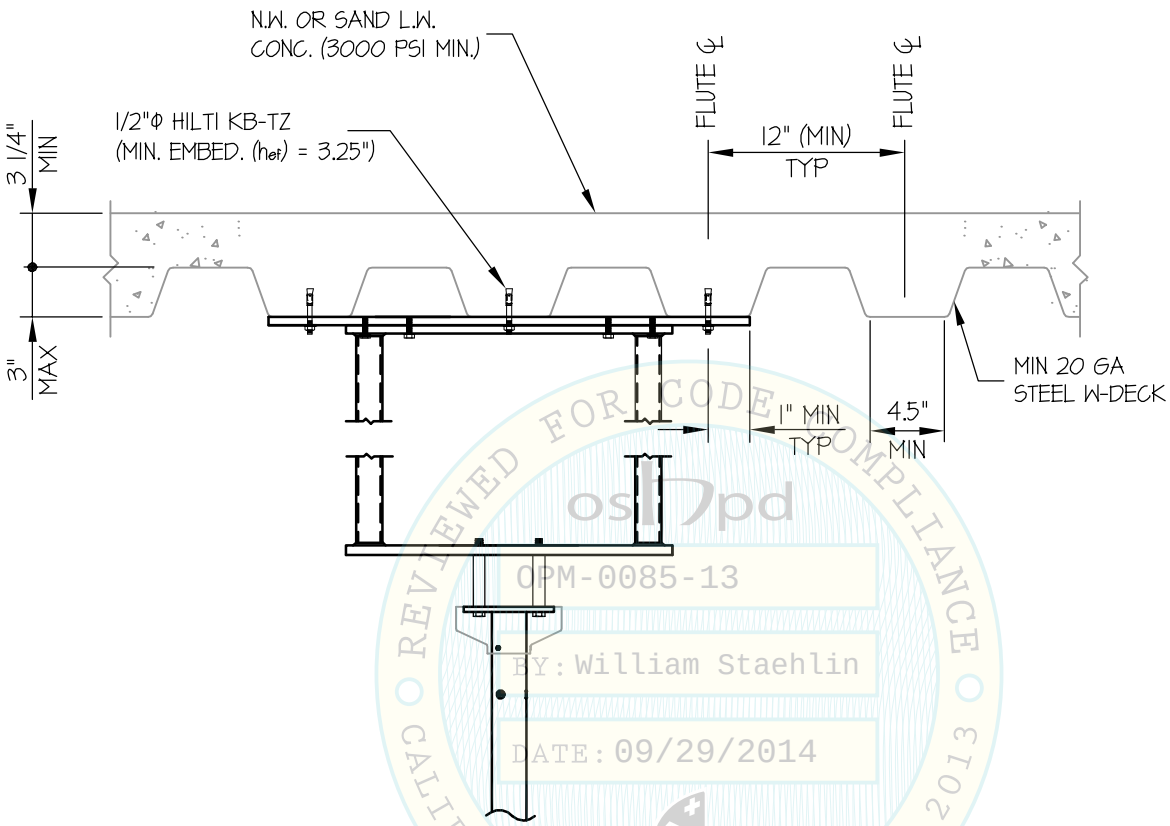
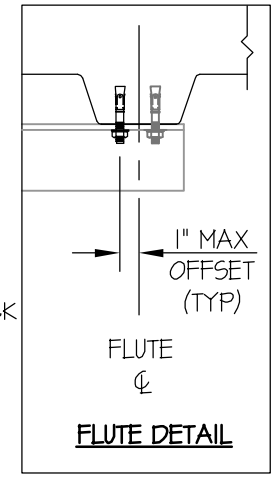
SHEET 10 OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

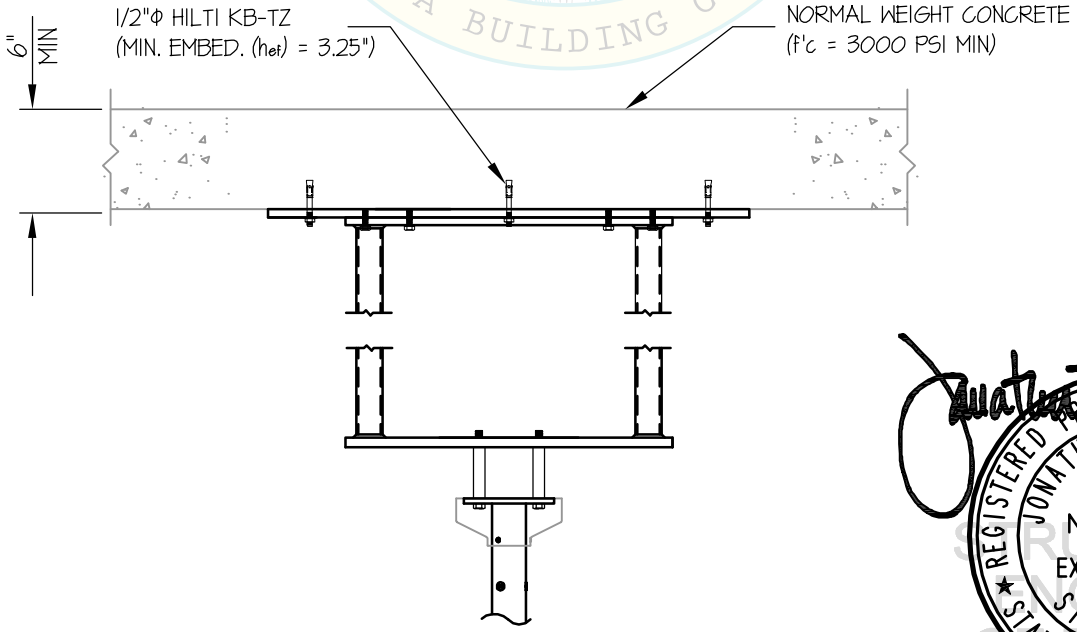
CONCRETE DETAILS



SECTION AT CONCRETE OVER METAL DECK



FLUTE DETAIL



SECTION CONCRETE SLAB OPTION