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

OFFICE USE ONLY

APPLICATION #: OPM-0110

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: ☐ New ☒ Renewal/Update

Manufacturer Information

Manufacturer: Oberon Inc.

Manufacturer's Technical Representative: Rick Conklin

Mailing Address: 1315 S. Allen St. Suite 410, State College, PA 16801

Telephone: (814) 867-2312 Email: rlc@oberonwireless.com

Product Information

Product Name: WIRELESS ROUTER ENCLOSURES

Product Type: Computer

Product Model Number: 105x Series, 106x Series, 107x Series & 305x Series

General Description: Wall & Ceiling Mounted Interior Wireless Router Enclosures

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

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BY: Jeffrey Kikumoto
DATE: 11-09-2022
CALIFORNIA BUILDING CODE, 2022

Registered Design Professonal Preparing Engineering Recommendations

Company Name: EASE LLC

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, 2022 (CBSC 2022) 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 2022 may be used when approved by HCAI prior to testing.

☒ Analysis

☐ Experience Data

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

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HCAI Approval

Date: 9/27/2022

Name: Jeffrey Kikumoto Title: Senior Structural Engineer

Condition of Approval (if applicable):

EASE
EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING
5877 Pine Ave, Ste. 210
Chino Hills, CA. 91709
Phn: (909) 606-7622

The Department of Health Care Access and Information

PREAPPROVAL OF MANUFACTURER'S CERTIFICATION

OPM-0110

THIS PREAPPROVAL CONFORMS TO THE 2022 CALIFORNIA BUILDING CODE

MANUFACTURER: **OBERON, INC**

EQUIPMENT NAME: **WIRELESS ENCLOSURES**

Date: 11/4/22

GENERAL NOTES

1. THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2022 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2022 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 2022 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} = 2.50, a_p = 1.0, 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 SDS IS NOT GREATER THAN 2.50.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. SHEET METAL SCREWS SHALL BE TEKS SCREWS BY ITW BUILDEX (ICC ESR-1976).
8. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
9. 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 2022 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.
   - D. DESIGN BACKING BARS, STUDS, ETC. WHICH THE UNITS ARE ATTACHED TO AS NOTED ON THE DRAWINGS.

REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2024
11/4/22
STRUCTURAL
STATE OF CALIFORNIA

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10. **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
3/8"	Sand Light Weight	3000	Hilti Kwik Bolt TZ2 (CARBON STEEL)	ESR-4266	2"	6.75"	12"	3.25" Over Flutes	30 FT-LB	N/A

B. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE SLAB EDGES, 12" AWAY MINIMUM (i.e. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

C. TESTING AND SPECIAL INSPECTION OF 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) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.

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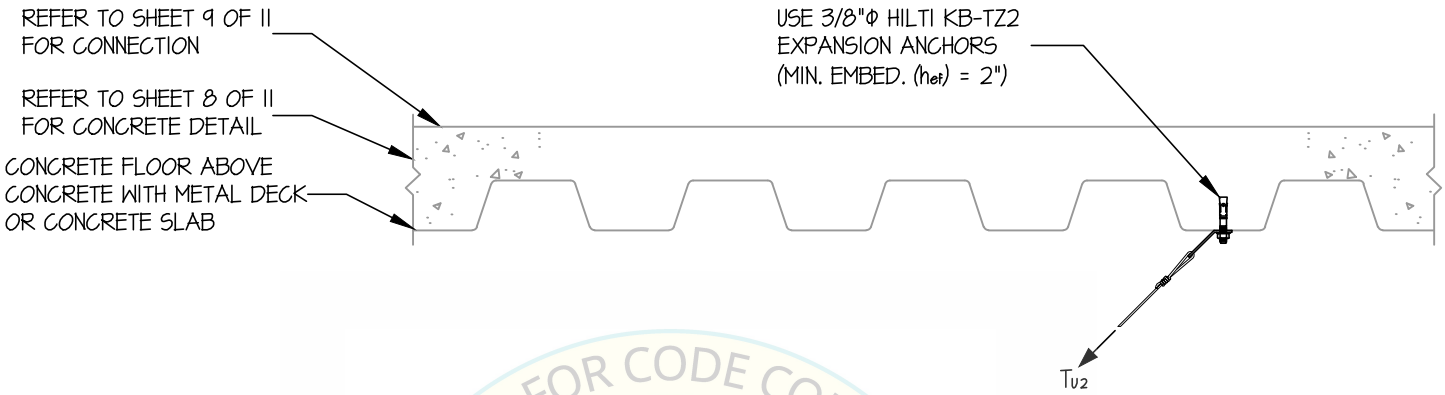
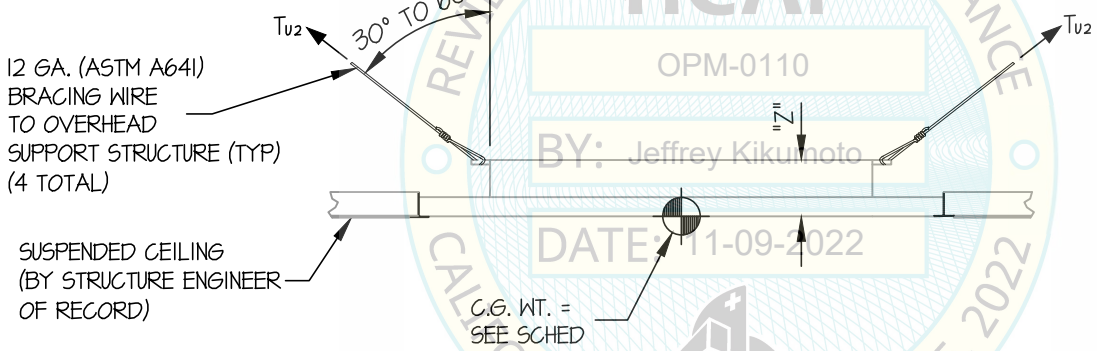
OBERON, INC

WIRELESS ENCLOSURES

DES. J. ROBERSON
JOB NO. 11-1913
DATE 11/4/22
SHEET 3 OF 11 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS — CEILING MOUNTED





SECTION AT SUSPENDED CEILING

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NOTES:

1. **FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16.**
   STRENGTH DESIGN IS USED. (S_{DS} = 2.50, a_p = 1.0, I_p = 1.5, R_p = 2.5, Ω_o = 2.0, z/h ≤ 1)

   HORIZONTAL FORCE (E_h) = 1.80 W_p
   HORIZONTAL FORCE (E_{mh}) = 3.60 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. 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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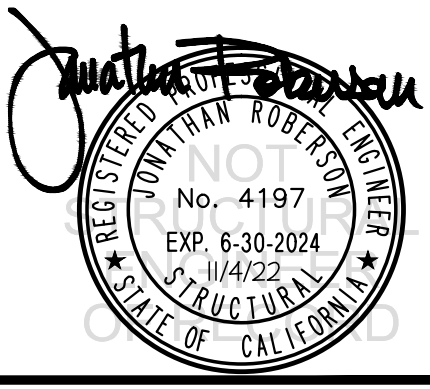
SHEET 4 OF 11 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS — CEILING MOUNTED

SUMMARY TABLE

SERIES	WEIGHT (lb.)	"X" (in.)	"Y" (in.)	"Z" (in.)	Eh (LB.)	Ev (LB.)	T_{U1} (VERTICAL)	T_{U2} (BRACING)	SUPPORT TYPE
1028-XX	18.0	14.00	15.84	9.10	33	9	31	33	SUSPENDED
1064-00	11.0	11.66	15.92	1.68	20	6	20	20	SUSPENDED
1064-T	11.0	11.66	15.92	1.68	20	6	20	20	SUSPENDED
1068-00	11.0	9.5	17.15	1.86	20	6	20	20	SUSPENDED
1052-XX	16.5	13.25	12.75	4.56	30	8	28	30	SUSPENDED
1074-XX	15.5	23.54	23.04	6.25	28	8	27	28	SUSPENDED
1076-XX	12.0	12.75	12.75	3.10	22	6	21	22	SUSPENDED
1077-XX	12.0	13.25	12.75	3.10	22	6	21	22	SUSPENDED
1040-XX	4.0	18.0	2.81	3.04	8	2	7	8	SUSPENDED
1042-XX	6.0	11.0	11.0	3.00	11	3	11	11	SUSPENDED
1044-XX	10.0	11.50	11.0	3.05	18	5	17	18	SUSPENDED
1046-XX	13.0	13.19	13.41	3.05	24	7	23	24	SUSPENDED
1047-XX	16.0	19.12	19.34	3.05	29	8	28	29	SUSPENDED
3057-SMTBOX	7.0	13.00	16.00	2.50	13	4	7	4	WALL (SURF MT)
3057-SMTBOX	7.0	13.00	16.00	2.50	13	4	7	4	CEILING (SURF MT)
1051-XX	15.0	16.00	16.00	4.56	27	8	11	7	RECESS MOUNT CLG
3057-00	13.5	16.00	16.00	2.36	125	7	9	7	RECESS MOUNT CLG

NOTES: 1. CG LOCATION IS CONSERVATIVELY USED AT DISTANCE "Z"
2. Eh DOES NOT INCLUDE Ω_0 FACTOR



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WIRELESS ENCLOSURES

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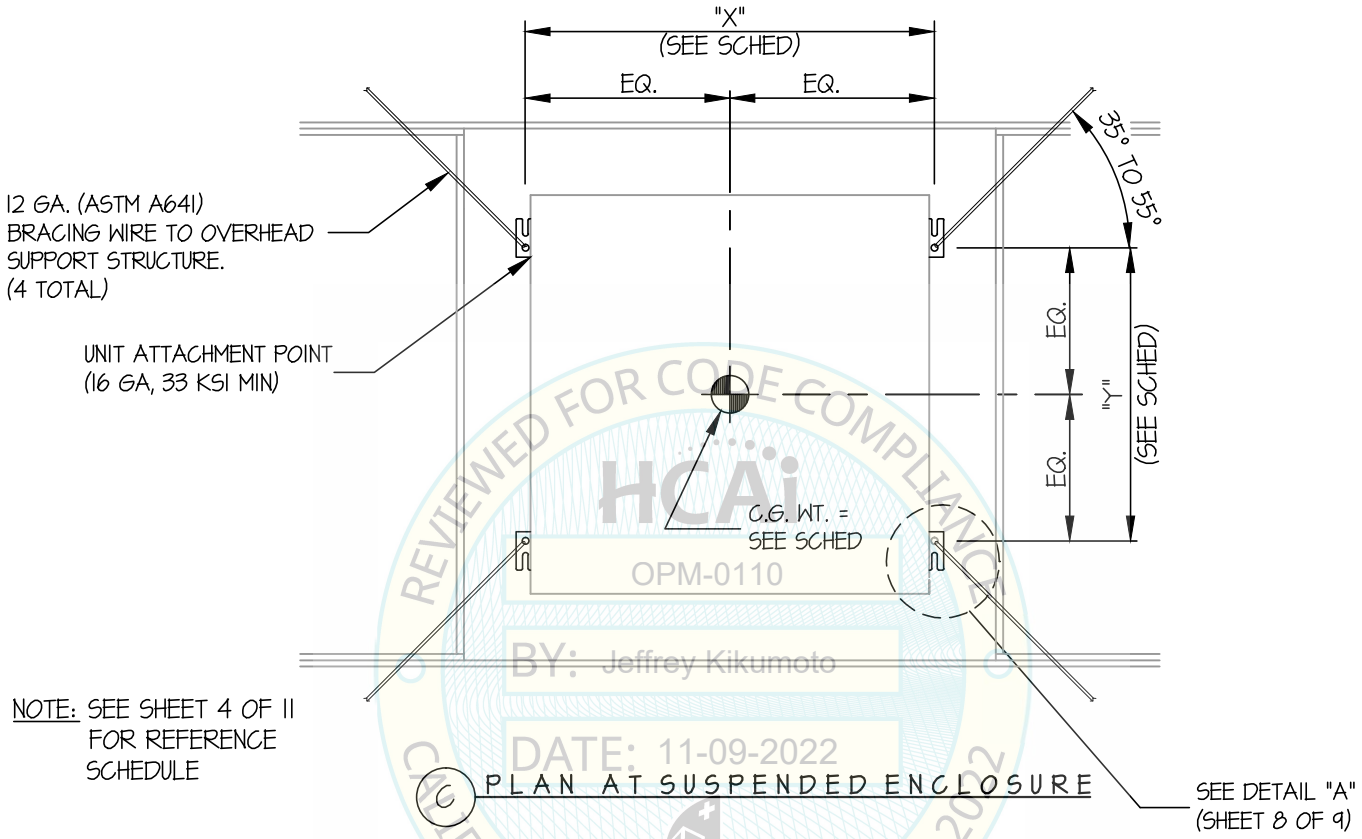
SHEET 5 OF 11 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



C PLAN AT SUSPENDED ENCLOSURE

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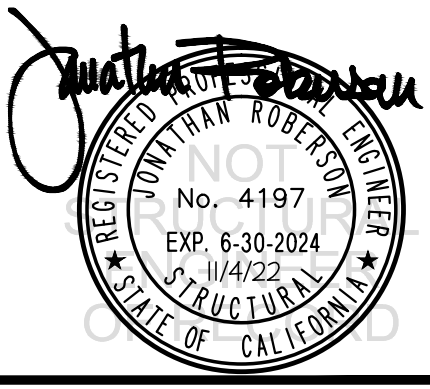

NOT FOR STRUCTURAL ENGINEERED OR RELEASED

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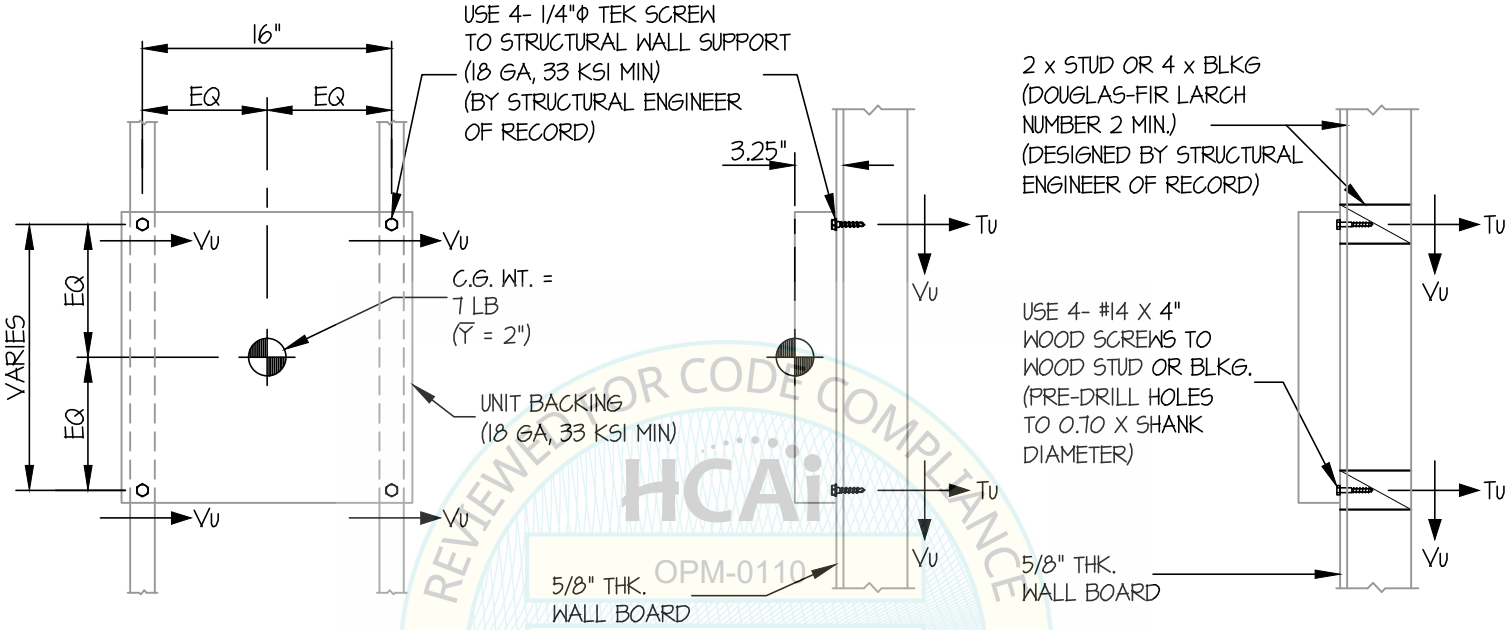
SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



FRONT ELEVATION
(SURFACE WALL MOUNT)

STEEL STUD WALL SECTION

WOOD STUD WALL SECTION

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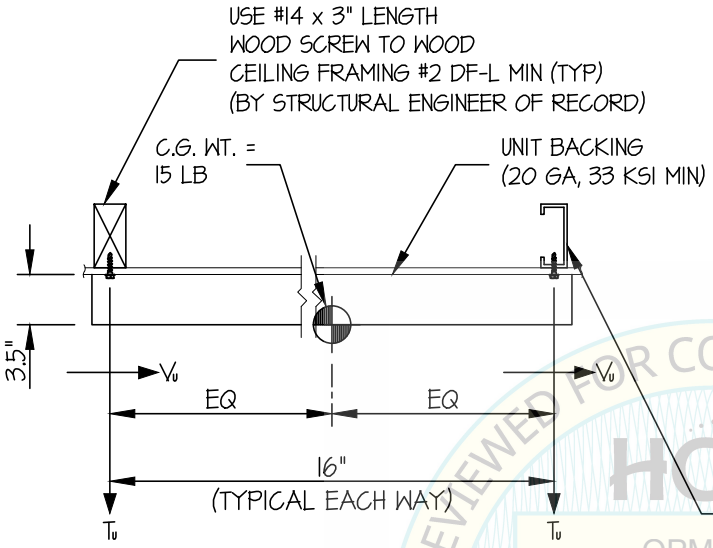
SEISMIC SUPPORTS & ATTACHMENTS

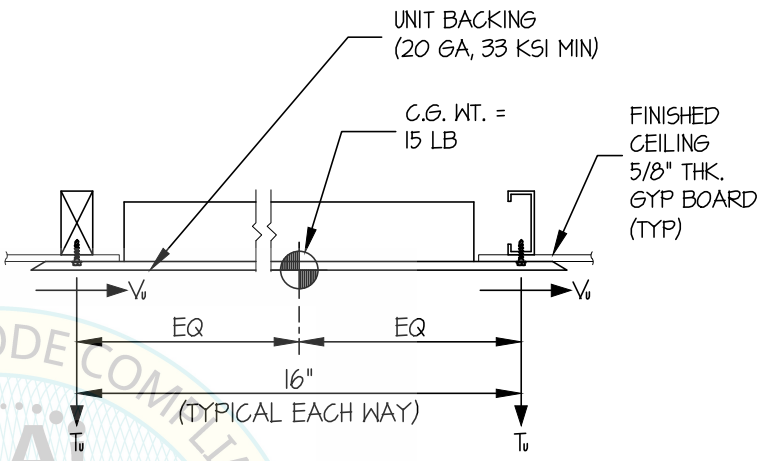
CEILING MOUNTED



CEILING SECTION

(SURFACE MOUNT)

3057-SMTBOX w/ 3057-0



CEILING SECTION

(RECESS MOUNT)

1051-XX & 3057-00

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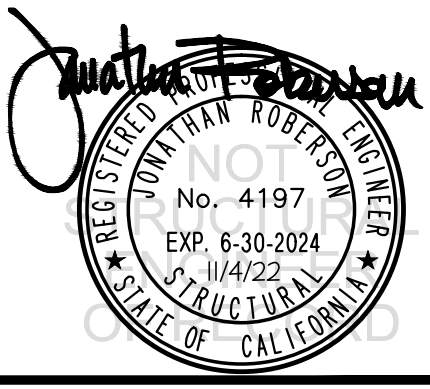

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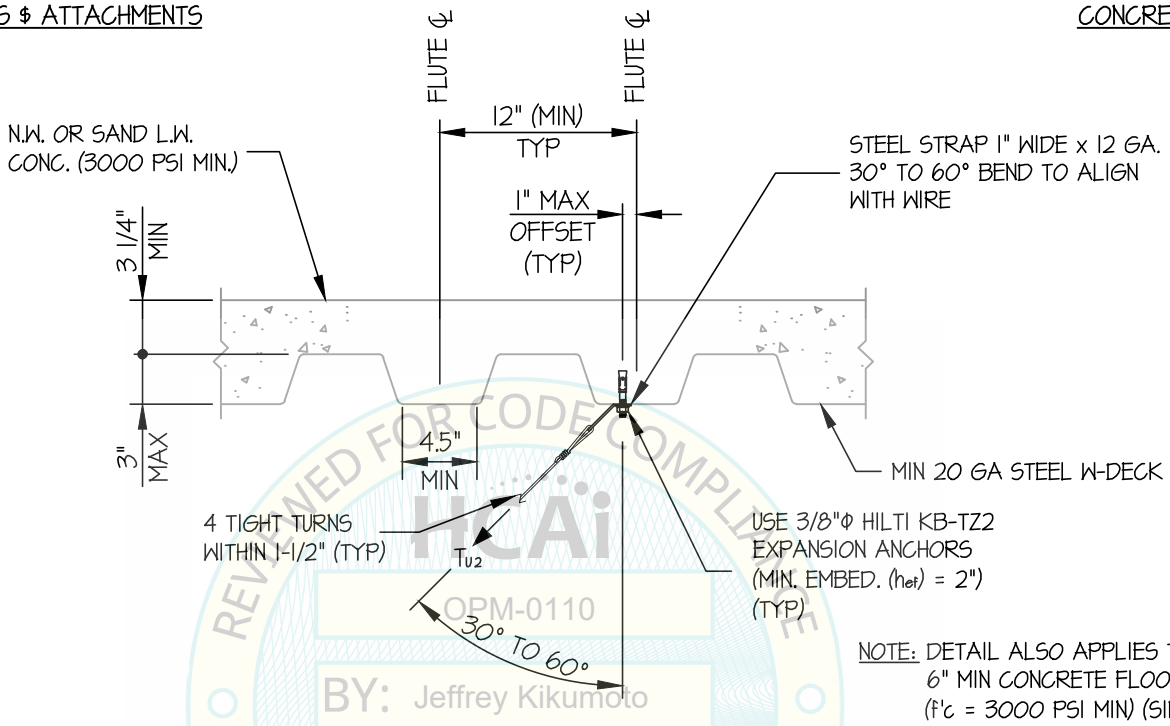
SHEET 8 OF 11 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE DETAIL



NOTE: DETAIL ALSO APPLIES TO 6" MIN CONCRETE FLOOR SLABS (f'c = 3000 PSI MIN) (SIM)

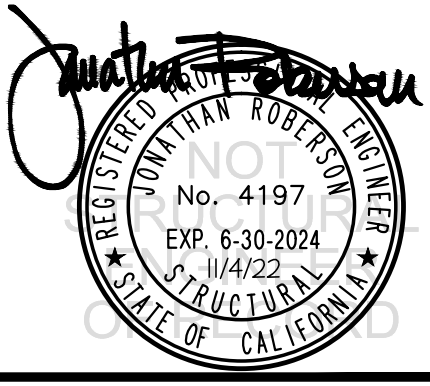
NOTES:

SUPPORT AND BRACING DETAIL AT FLOOR ABOVE

1. "HANGER WIRE" SHALL CONFORM WITH GALVANIZED SOFT ANNEALED MILD STEEL WIRE AS DEFINED IN ASTM A641 (CLASS 1 COATING) WITH 70 KSI MINIMUM TENSILE STRENGTH.
2. 4 TWISTS OF WIRE WITHIN 1.5" DEVELOPS THE ALLOWABLE LOAD FOR THE WIRE.

ATTACHMENT OF HANGER AND BRACING WIRES:

3. FASTEN #12 HANGER WIRES WITH NOT LESS THAN THREE (3) TIGHT TURN 1 INCH. HANGER WIRE LOOPS SHALL BE TIGHTLY WRAPPED AND SHARPLY BENT TO PREVENT ANY VERTICAL MOVEMENT OR ROTATION OF THE MEMBER WITHIN THE LOOPS.
4. FASTEN #12 BRACING WIRES WITH FOUR (4) TIGHT TURNS. MAKE ALL TIGHT TURNS WITHIN A DISTANCE OF 1 $\frac{1}{2}$ INCHES.
5. HANGER OR BRACING WIRE ANCHORED TO THE STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHOR ALIGNS AS CLOSELY AS POSSIBLE WITH THE DIRECTION OF THE WIRE.
6. SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST SIX (6) INCHES FROM ALL UN-BRACED DUCTS, PIPES, CONDUIT, ETC.
7. HANGER WIRES SHALL NOT BE ATTACHED TO OR BEND AROUND INTERFERING MATERIAL OR EQUIPMENT. PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCTIONS TO TYPICAL HANGER SPACING. PROVIDE ADDITIONAL HANGERS, STRUTS OR BRACES AS REQUIRED AT ALL CEILING BREAKS, SOFFITS OR DISCONTINUOUS AREAS.



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SEISMIC SUPPORTS $ ATTACHMENTS

OBERON, INC

WIRELESS ENCLOSURES

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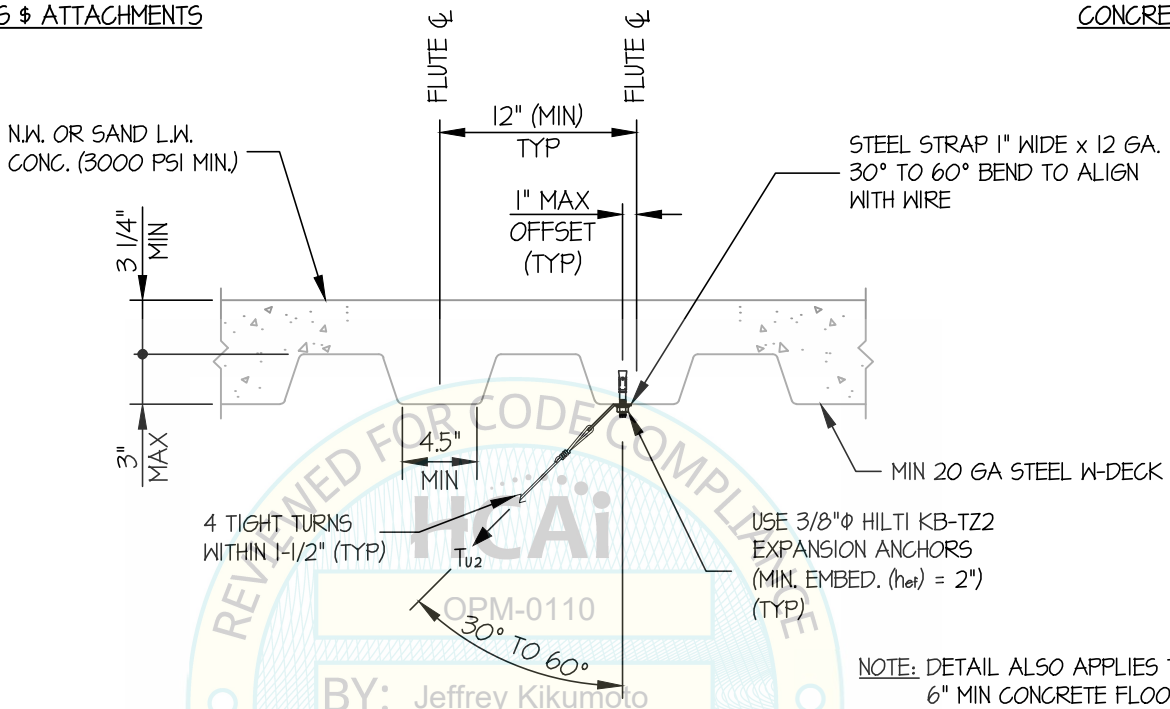
SHEET 9 OF 11 SHEETS

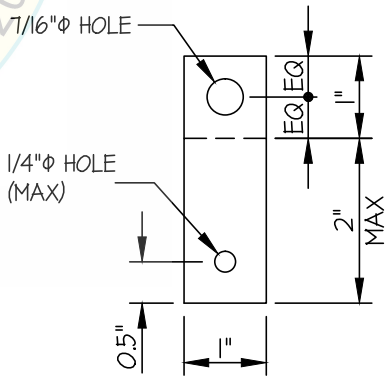
SEISMIC SUPPORTS $ ATTACHMENTS

CONCRETE DETAIL



NOTE: DETAIL ALSO APPLIES TO 6" MIN CONCRETE FLOOR SLABS (f'c = 3000 PSI MIN) (SIM)

SUPPORT AND BRACING DETAIL AT FLOOR ABOVE



12 GA (A1008) STEEL STRAP

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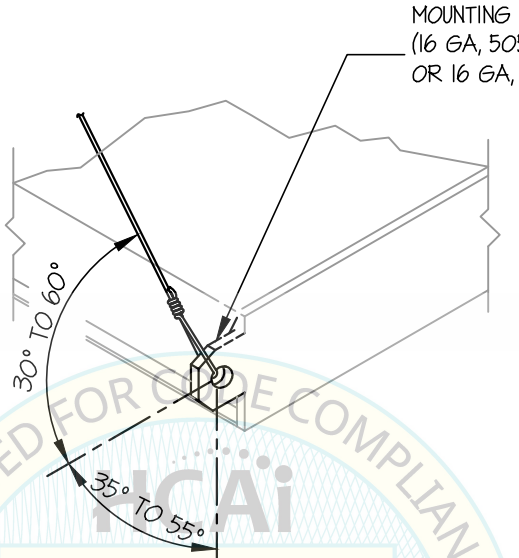
SHEET 10 OF 11 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

EQUIPMENT DETAIL

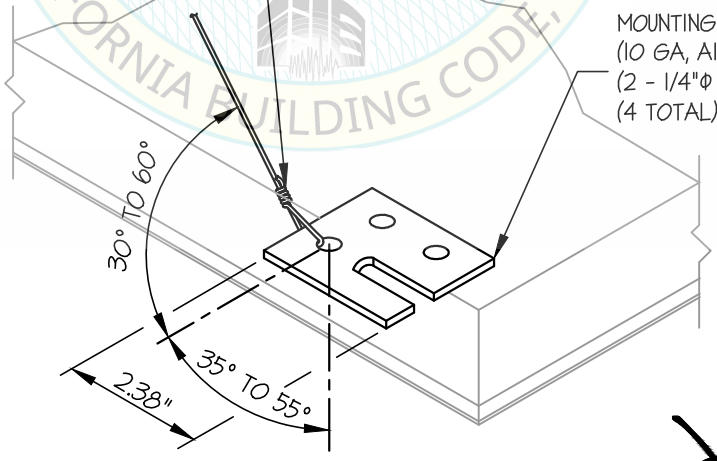


DETAIL "B"
(TAB CONNECTION)

ALUMINUM TAB:
106x SERIES
1077 SERIES
1051 SERIES
3057 SERIES

STEEL TAB:
105X SERIES
3050-00 SERIES

NOTE: PROVIDE 4 TIGHT TURNS IN 1.5" AT WIRE CONNECTION (TYP.)



RELATED MODELS
107x SERIES

DETAIL "A"
(HORIZONTAL CLIP SUPPORT)

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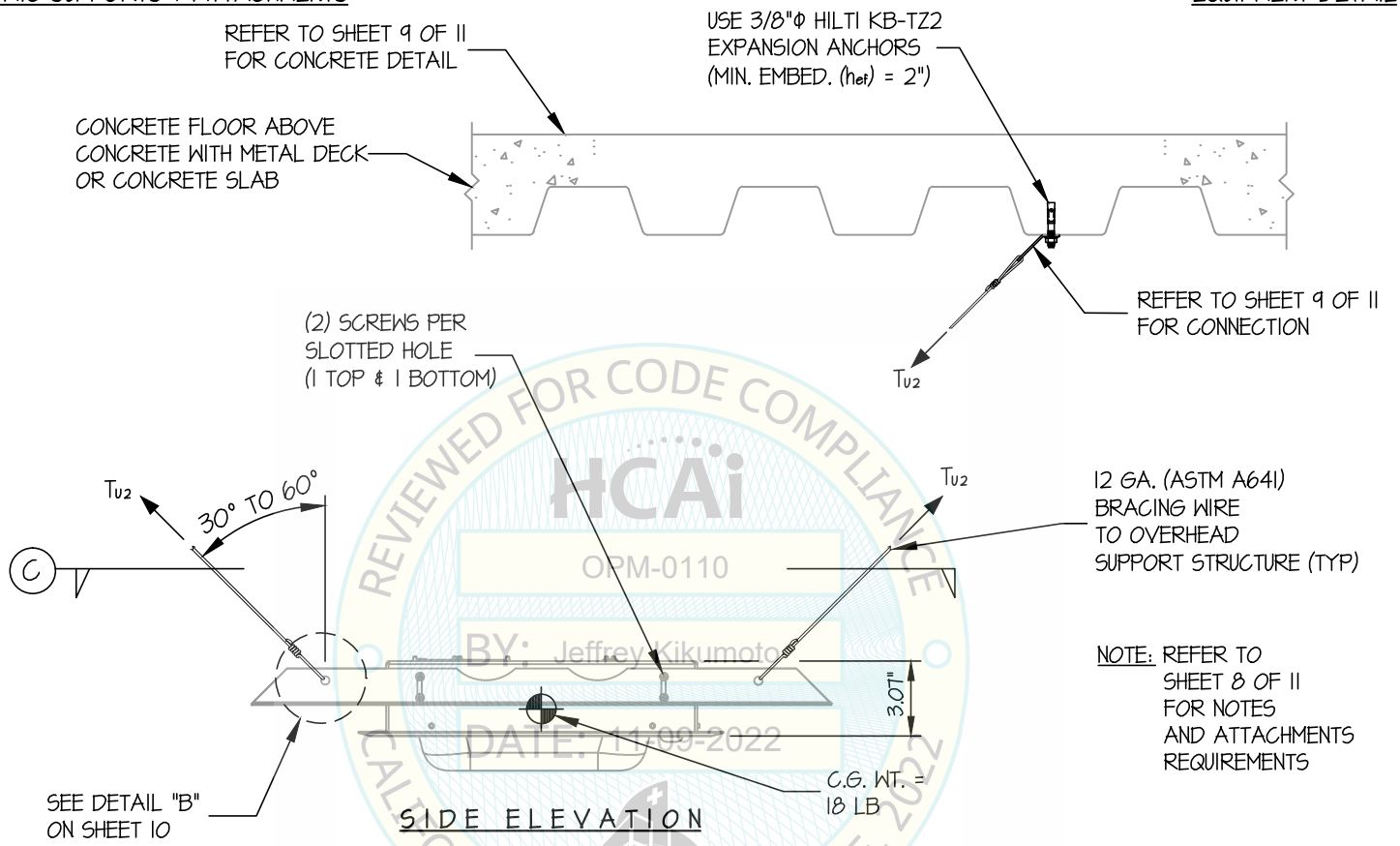
SHEET 11 OF 11 SHEETS

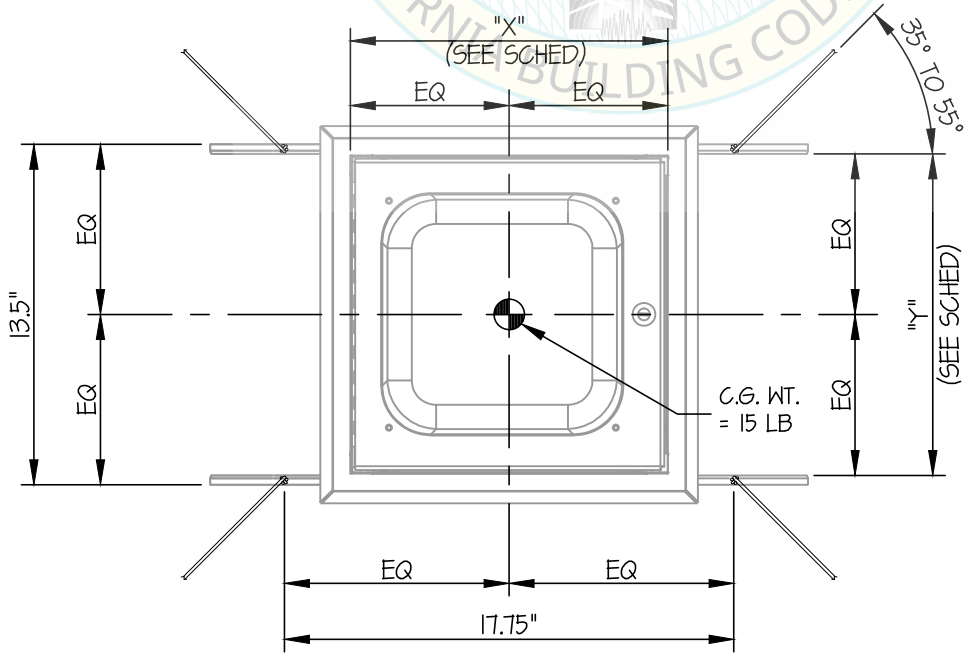
SEISMIC SUPPORTS & ATTACHMENTS

EQUIPMENT DETAIL



SIDE ELEVATION

NOTE: REFER TO SHEET 8 OF 11 FOR NOTES AND ATTACHMENTS REQUIREMENTS



REFLECTED CEILING PLAN

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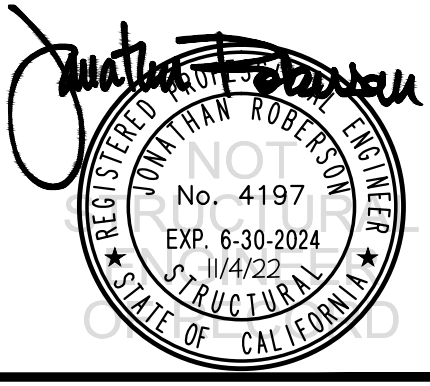

NOT STRUCTURAL ENGINEER OF RECORD