



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OPM-0143-13

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

Type:  New  Renewal  Update to Pre-CBC 2013 OPA Number: \_\_\_\_\_

**Manufacturer Information**

Manufacturer: Skytron Surgical Products

Manufacturer's Technical Representative: Bob Vreeland

Mailing Address: 5085 Corporate Exchange Blvd, SE, Grand Rapids, MI. 49512

Telephone: (616) 656-1189

Email: [bvreeland@skytron.us](mailto:bvreeland@skytron.us)

**Product Information**

Product Name: Aurora Series (Non-Motorized) Surgical Lights

Product Type: Lighting Fixture

AUA7/AUT7, AUA5/AUT5, AUA75/AUT75, AUA55/AUT55, AUA555/AUT555, AUA7TV/AUT7TV,  
AUA5TV/AUT5TV, AUA7TV5/AUT7TV5, AUA75TV/AUT75TV, AUA55TV/AUT55TV,  
AUA57TV5/AUT57TV5, AUA5-1090/AUT5-1090, AUA5-1285/AUT5-1285, AUA7-895/AUT7-895,  
AUA5TV-1090/AUT5TV-1090, AUA7TV-895/AUT7TV-895, AUA5-2000/AUT5-2000, AUA5-  
1500/AUT5-1500, AUA55-2000/1500/AUT55-2000/1500, AUA7TV5-1500/1300/AUT7TV5-

Product Model Number: 1500/1300, AUA55TV-1500/1300/AUT55TV-1500/1300

General Description: Surgical Lights

**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.

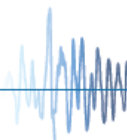
Signature of Applicant: \_\_\_\_\_

Date: 10/3/14

Title: Principal Engineer

Company Name: EASE Co.

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





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION**

**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**

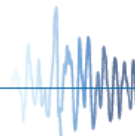
Signature: *William Staehlin* Date: 04/21/2015

Print Name: William Staehlin

Title: SSE

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

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





**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-0143-13**

**THIS PREAPPROVAL CONFORMS TO THE 2013 CALIFORNIA BUILDING CODE**

MANUFACTURER: **SKYTRON SURGICAL PRODUCTS**  
EQUIPMENT NAME: **SUSPENDED SURGICAL LIGHTS AURORA SERIES**

Sheet: 1 of 13  
Date: 4/17/15

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  $S_{Ds} = 2.20$ ,  $a_p = 2.5$ ,  $I_p = 1.5$ ,  $R_p = 2.5$ ,  $z/h \leq 1$ .
5. THE DETAILS IN THIS PREAPPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE  $S_{DS}$  IS NOT GREATER THAN 2.20.
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.



## SKYTRON SURGICAL PRODUCTS

### SUSPENDED SURGICAL LIGHTS AURORA SERIES

DES. **J. ROBERSON**

JOB NO. **11-1339**

DATE **4/17/15**

SHEET

**2**

OF **13** 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	2"	6"	24"	4"	40 FT-LB	N/A
5/8"	Normal Weight	3000	Hilti Kwik Bolt TZ	ESR-1917	4"	6"	24"	6"	60 FT-LB	N/A

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.

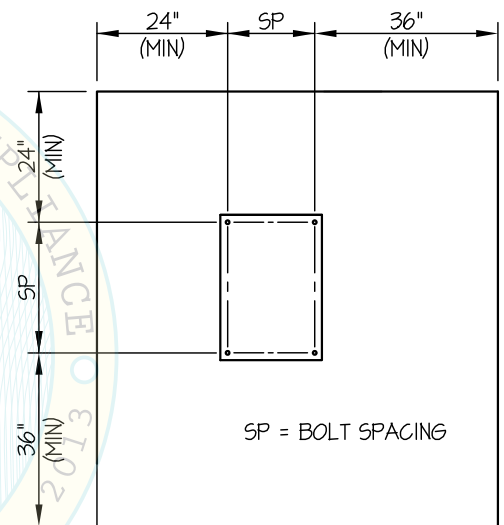
C. TESTING OF EXPANSION ANCHORS PER 2013 CBC, 1913A.7: TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD

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

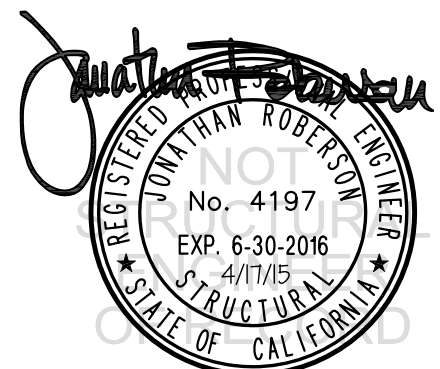
(ii) ACCEPTANCE CRITERIA:

- 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.



TYPICAL CONCRETE EDGE DETAIL



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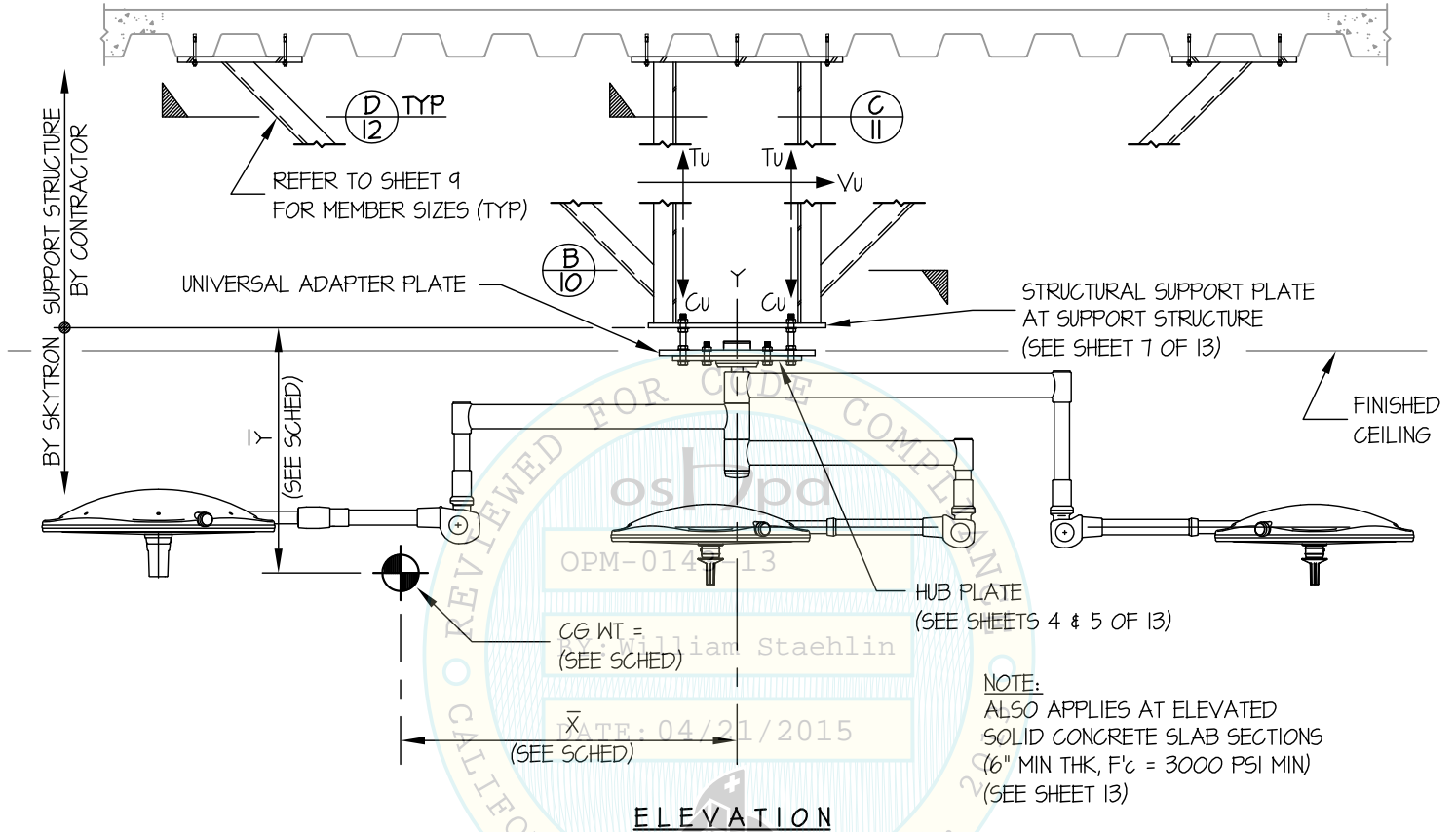
SHEET

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OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



**ELEVATION**

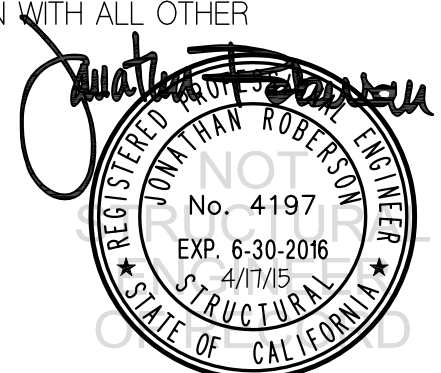
**NOTES:**

- FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED. ( $Sds = 2.20$ ,  $a_p = 2.5$ ,  $I_p = 15$ ,  $R_p = 2.5$ ,  $z/h \leq 1$ )

HORIZONTAL FORCE ( $E_h$ ) =  $3.96 W_p$

VERTICAL FORCE ( $E_v$ ) =  $0.44 W_p$

- 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.



## SKYTRON SURGICAL PRODUCTS

### SUSPENDED SURGICAL LIGHTS AURORA SERIES

DES. **J. ROBERSON**

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SHEET

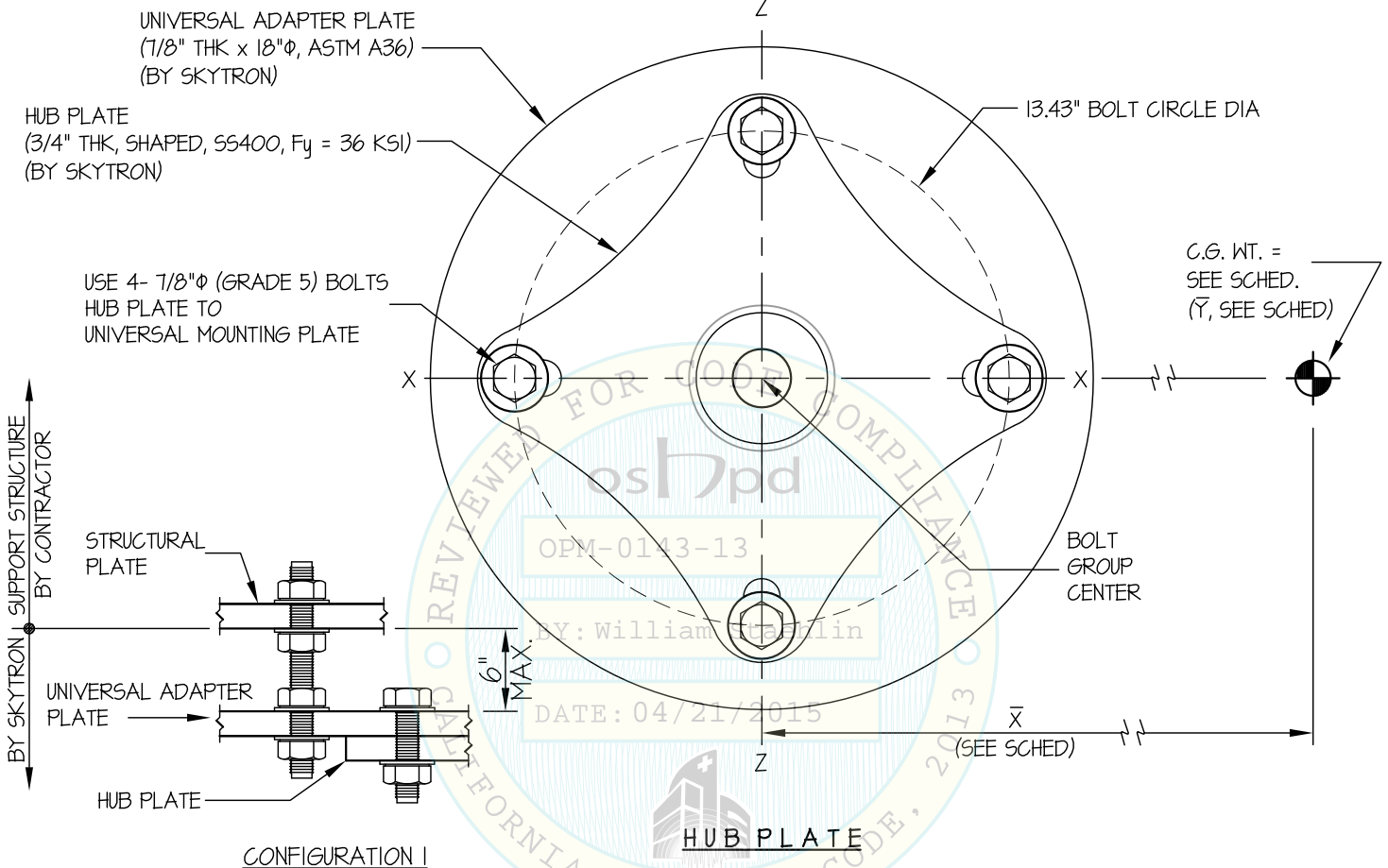
**4**

OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CONFIGURATION I

CEILING MOUNTED



*Jonathan Roberson*

REGISTERED PROFESSIONAL ENGINEER  
JONATHAN ROBERSON  
No. 4197  
EXP. 6-30-2016  
4/17/15  
STRUCTURAL  
STATE OF CALIFORNIA

### SKYTRON SURGICAL PRODUCTS

### SUSPENDED SURGICAL LIGHTS AURORA SERIES

DES. J. ROBERSON

JOB NO. 11-1339

DATE 4/17/15

SHEET

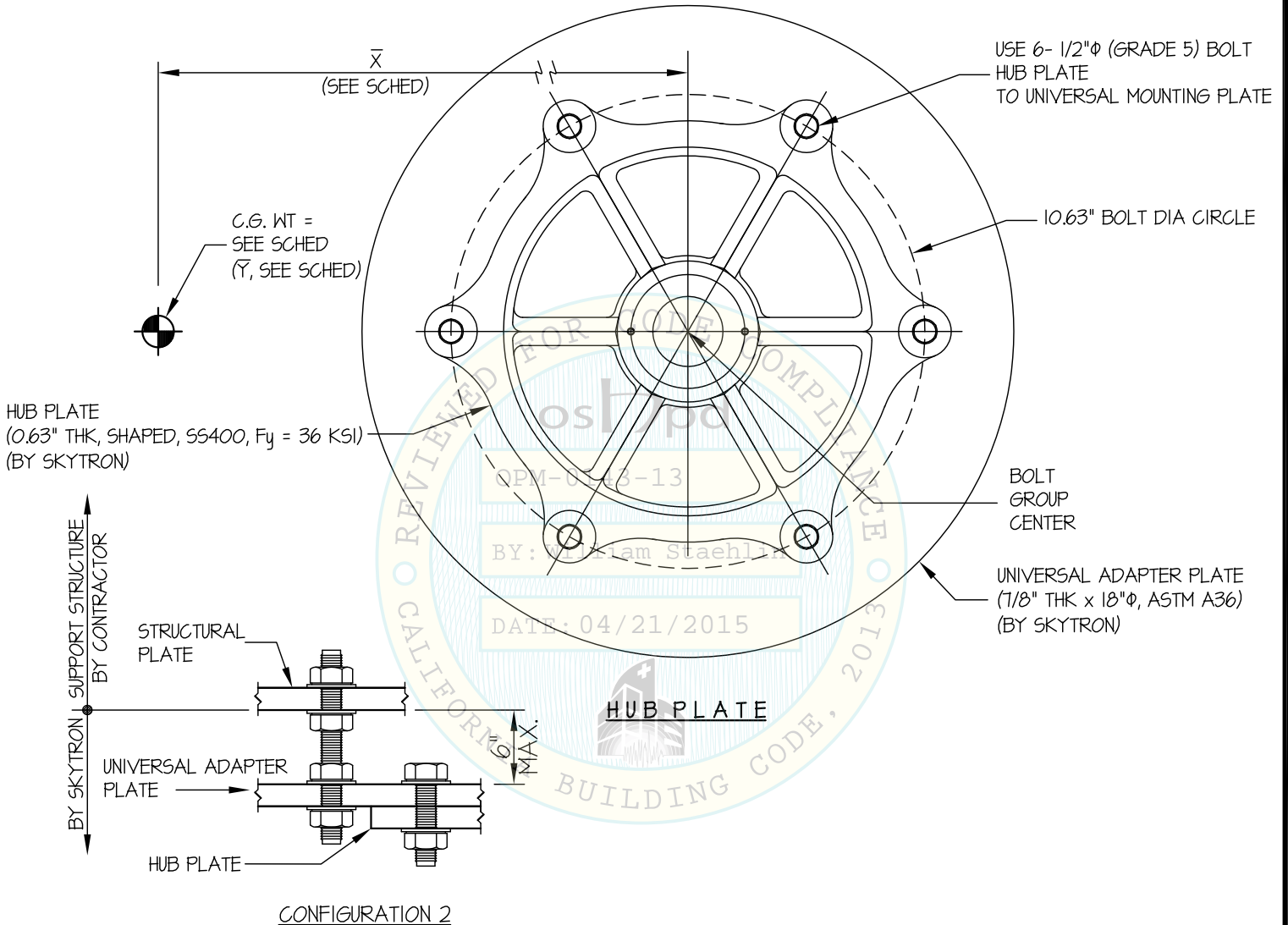
# 5

OF 13 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CONFIGURATION 2

CEILING MOUNTED



*Jonathan Roberson*

REGISTERED PROFESSIONAL ENGINEER  
JONATHAN ROBERSON  
No. 4197  
EXP. 6-30-2016  
4/17/15  
STRUCTURAL  
STATE OF CALIFORNIA

## SKYTRON SURGICAL PRODUCTS

### SUSPENDED SURGICAL LIGHTS AURORA SERIES

DES. **J. ROBERSON**

JOB NO. **11-1339**

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SHEET

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OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED

**TABLE: FLANGE PLATE TO ADAPTER PLATE**

	SYSTEM CONFIGURATION	WEIGHT (lb.)	"X" (in.)	"Y" (in.)	Mxx	Tu (lb.)	Vu (lb.)
CONFIGURATION 2	AUA7 / AUT7	134	31.93	40.28	28,407	1817	89
	AUA5 / AUT5	115	25.14	34.73	20,554	1320	76
	AUA75 / AUT75	249	28.54	39.00	50,121	3210	164
	AUA55 / AUT55	232	27.54	35.73	43,312	2778	153
	AUA555 / AUT555	352	29.75	36.14	67,557	4330	232
	AUA7TV / AUT7TV	141	32.41	42.10	30,985	1981	93
	AUA5TV / AUT5TV	120	25.55	36.42	22,333	1433	79
	AUA7TV5 / AUT7TV5	255	28.89	43.37	55,880	3572	168
	AUA75TV / AUT75TV	254	28.67	39.73	51,918	3324	168
	AUA55TV / AUT55TV	237	27.68	36.58	45,100	2891	157
	AUA57TV5 / AUT57TV5	375	30.54	39.04	76,757	4913	248
	AUA5-1090 / AUT5-1090	117	30.41	34.02	21,572	1384	77
	AUA5-1285 / AUT5-1285	120	35.61	33.35	22,856	1465	79
	AUA7-895 / AUT7-895	137	37.41	39.08	29,615	1894	91
	AUA5TV-1090 / AUT5TV-1090	123	30.91	35.70	23,617	1514	81
AUA7TV-895 / AUT7TV-895	143	37.97	41.38	32,329	2065	94	
CONFIGURATION 1	AUA5-2000 / AUT5-2000	159	48.29	28.93	30,820	2360	158
	AUA5-1500 / AUT5-1500	152	36.52	29.92	27,120	2081	151
	AUA55-2000/1500 / AUT55-2000/1500	321	40.62	47.45	81,683	6212	318
	AUA7TV5-1500/1300 / AUT7TV5-1500/1300	336	34.39	50.95	86,770	6597	333
	AUA55TV-1500/1300 / AUT55TV-1500/1300	327	40.94	48.50	84,768	6445	324





## SKYTRON SURGICAL PRODUCTS

### SUSPENDED SURGICAL LIGHTS AURORA SERIES

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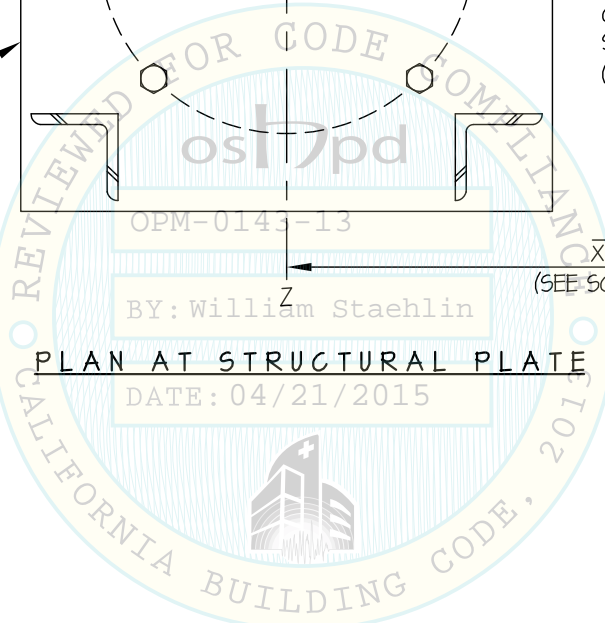
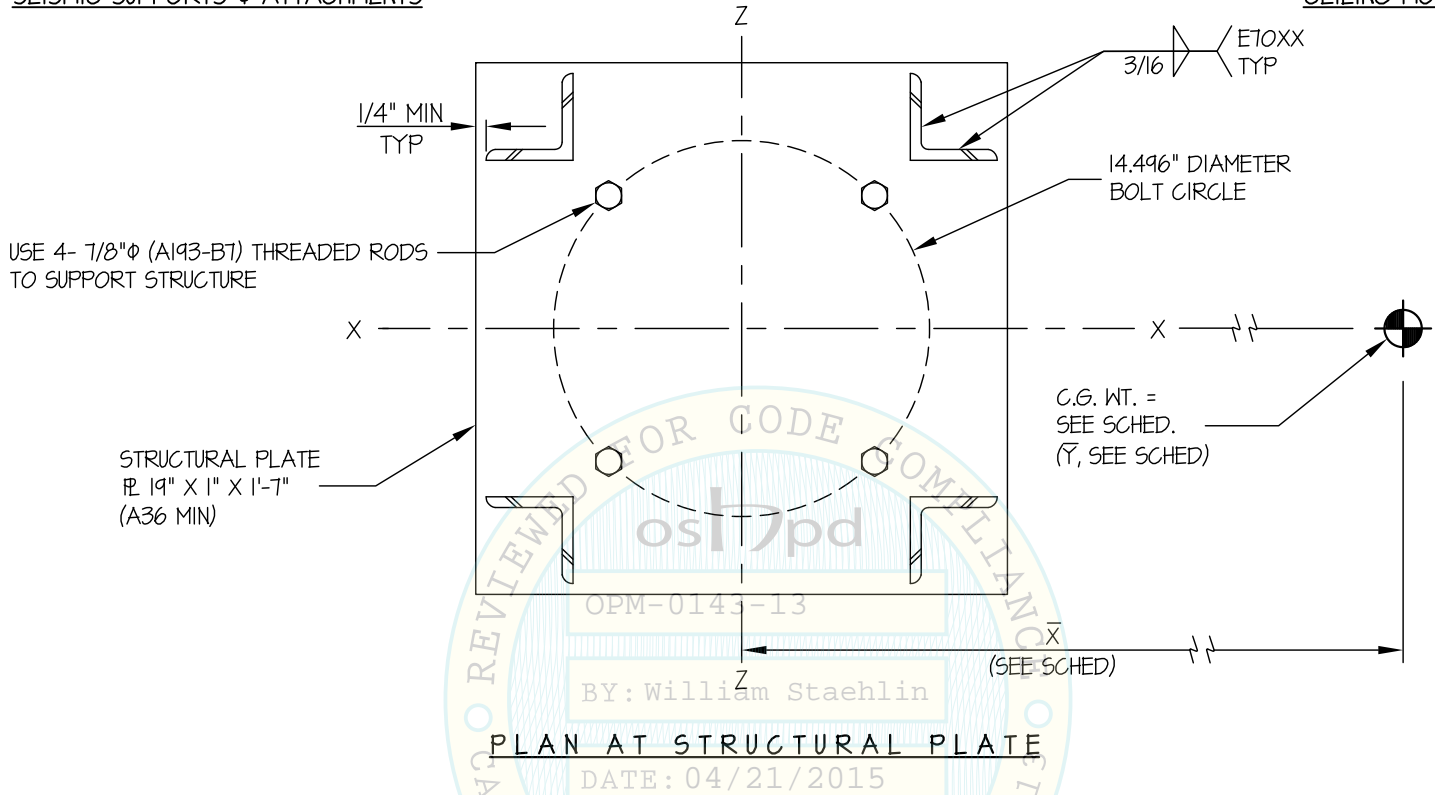
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OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



## SKYTRON SURGICAL PRODUCTS

### SUSPENDED SURGICAL LIGHTS AURORA SERIES

DES. **J. ROBERSON**

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SHEET

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OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED

**TABLE: UNIVERSAL ADAPTER PLATE TO STRUCTURAL PLATE**

	SYSTEM CONFIGURATION	WEIGHT (lb.)	"X" (in.)	"Y" (in.)	Mxx	Tu (lb.)	Cu (lb.)	Vu (lb.)	Mu (in.-lb.)
CONFIGURATION 2	AUA7 / AUT7	134	31.93	40.28	28,407	2014	1944	133	324
	AUA5 / AUT5	115	25.14	34.73	20,554	1465	1404	114	278
	AUA75 / AUT75	249	28.54	39.00	50,121	3559	3428	247	602
	AUA55 / AUT55	232	27.54	35.73	43,312	3082	2960	230	561
	AUA555 / AUT555	352	29.75	36.14	67,557	4803	4618	349	851
	AUA7TV / AUT7TV	141	32.41	42.10	30,985	2195	2121	140	341
	AUA5TV / AUT5TV	120	25.55	36.42	22,333	1589	1526	119	290
	AUA7TV5 / AUT7TV5	255	28.89	43.37	55,880	3958	3824	253	617
	AUA75TV / AUT75TV	254	28.67	39.73	51,918	3685	3551	252	614
	AUA55TV / AUT55TV	237	27.68	36.58	45,100	3207	3083	235	573
	AUA57TV5 / AUT57TV5	375	30.54	39.04	76,757	5447	5250	371	904
	AUA5-1090 / AUT5-1090	117	30.41	34.02	21,572	1536	1474	116	283
	AUA5-1285 / AUT5-1285	120	35.61	33.35	22,856	1625	1562	119	290
	AUA7-895 / AUT7-895	137	37.41	39.08	29,615	2098	2027	136	332
	AUA5TV-1090 / AUT5TV-1090	123	30.91	35.70	23,617	1679	1615	122	297
AUA7TV-895 / AUT7TV-895	143	37.97	41.38	32,329	2288	2213	142	346	
CONFIGURATION 1	AUA5-2000 / AUT5-2000	159	48.29	28.93	30,820	2191	2107	158	385
	AUA5-1500 / AUT5-1500	152	36.52	29.92	27,120	1933	1853	151	368
	AUA55-2000/1500 / AUT55-2000/1500	321	40.62	47.45	81,683	5765	5596	318	775
	AUA7TV5-1500/1300 / AUT7TV5-1500/1300	336	34.39	50.95	86,770	6122	5945	333	812
	AUA55TV-1500/1300 / AUT55TV-1500/1300	327	40.94	48.50	84,768	5980	5808	324	790



## SKYTRON SURGICAL PRODUCTS

### SUSPENDED SURGICAL LIGHTS AURORA SERIES

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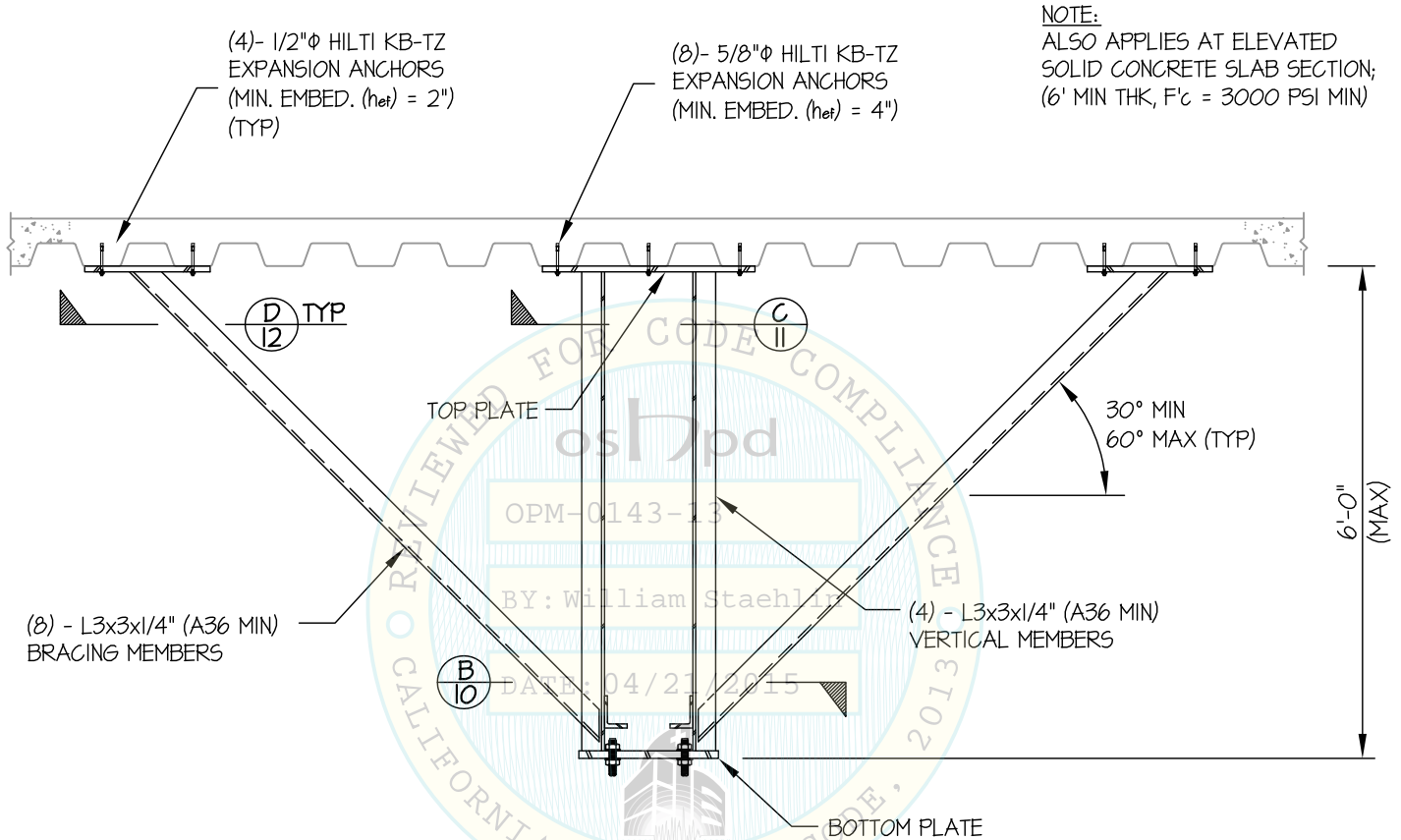
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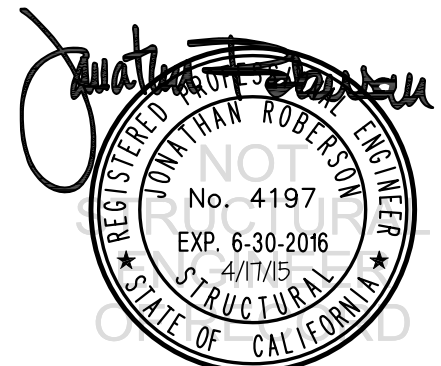
SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



**NOTE:**  
ALSO APPLIES AT ELEVATED  
SOLID CONCRETE SLAB SECTION;  
(6' MIN THK, F'c = 3000 PSI MIN)

**A**  
**9** ELEVATION AT STRUCTURAL BRACING SYSTEM



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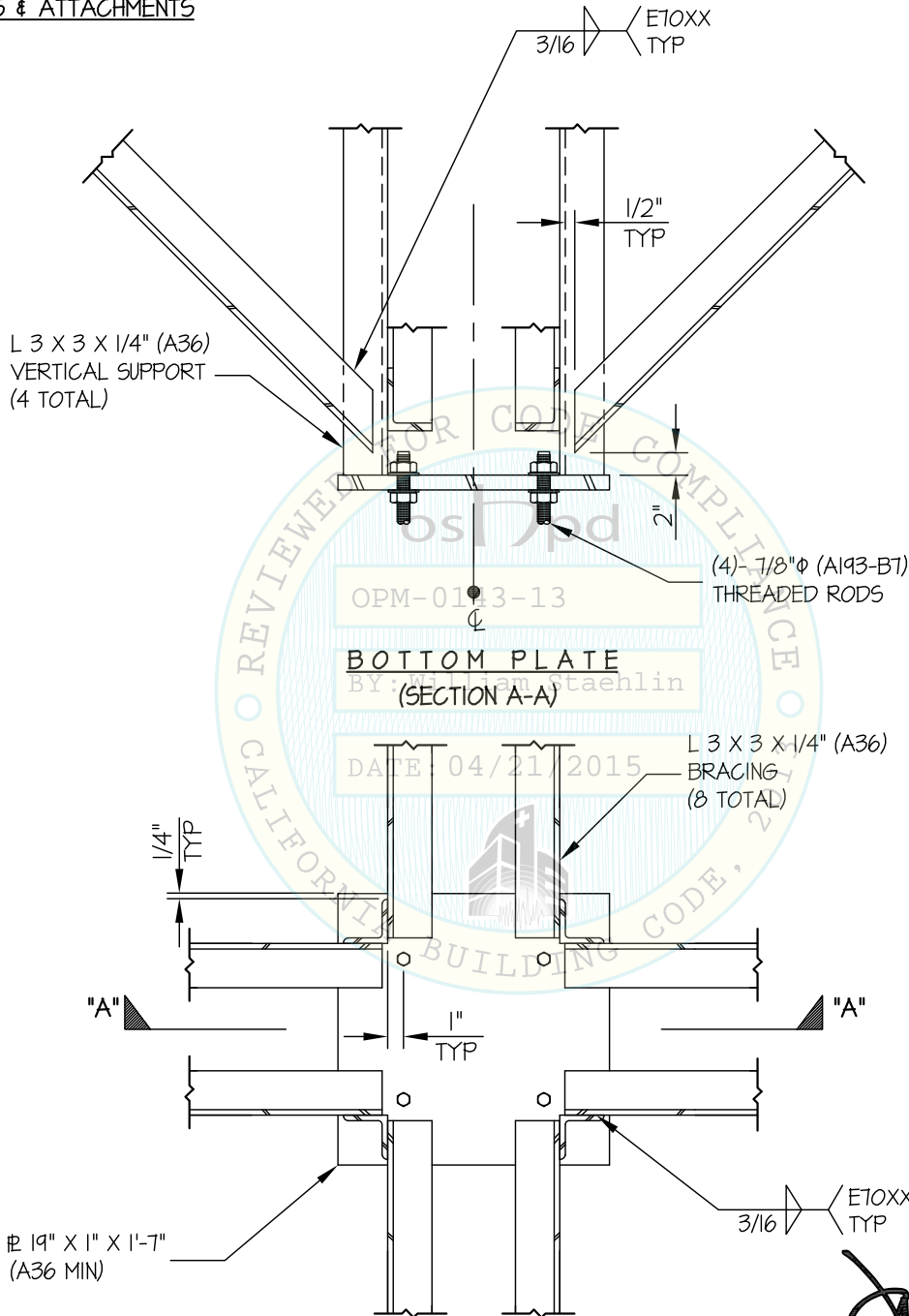
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# 10

OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



**B**  
10 **BOTTOM PLATE**



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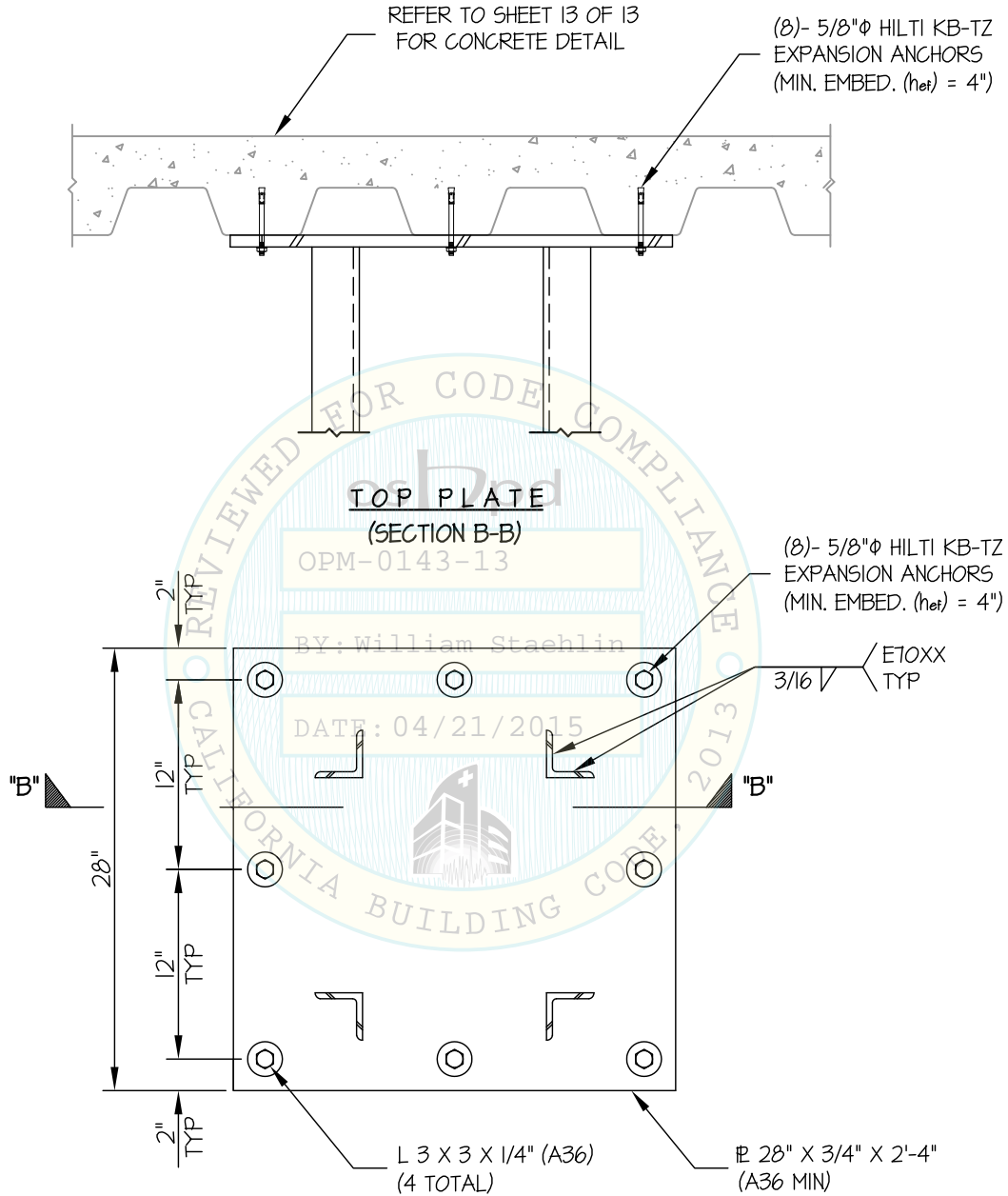
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OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



C TOP PLATE II



## SKYTRON SURGICAL PRODUCTS

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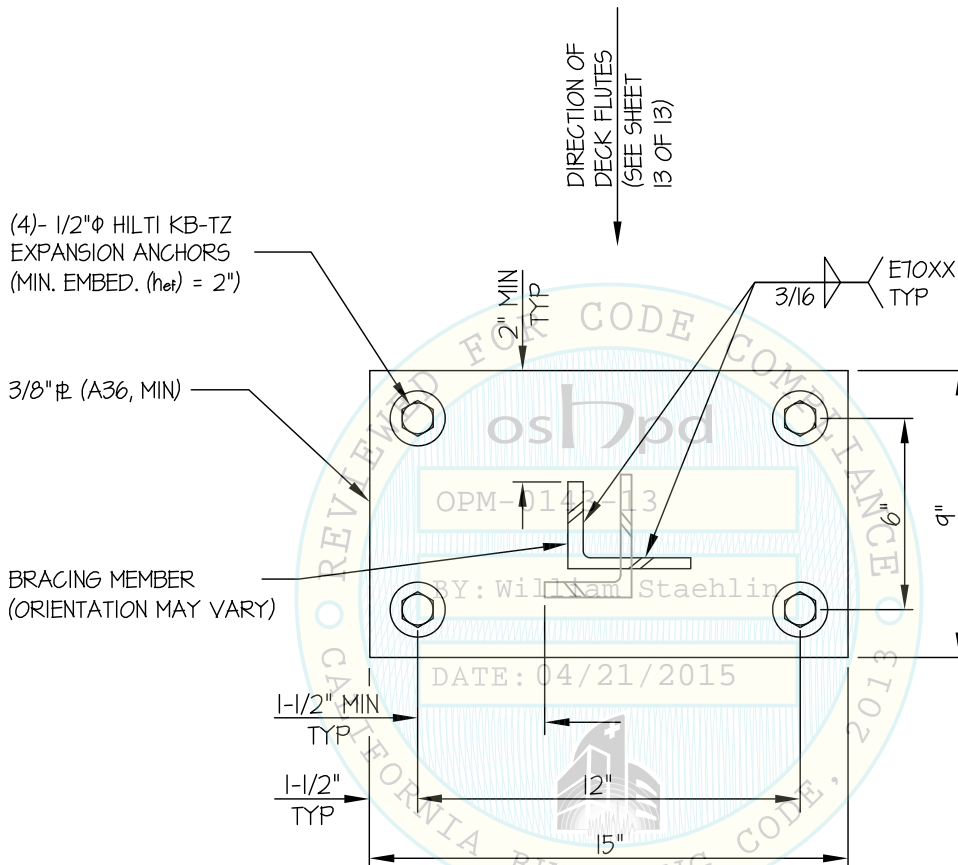
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OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



**D** BRACE PLATE  
**12**



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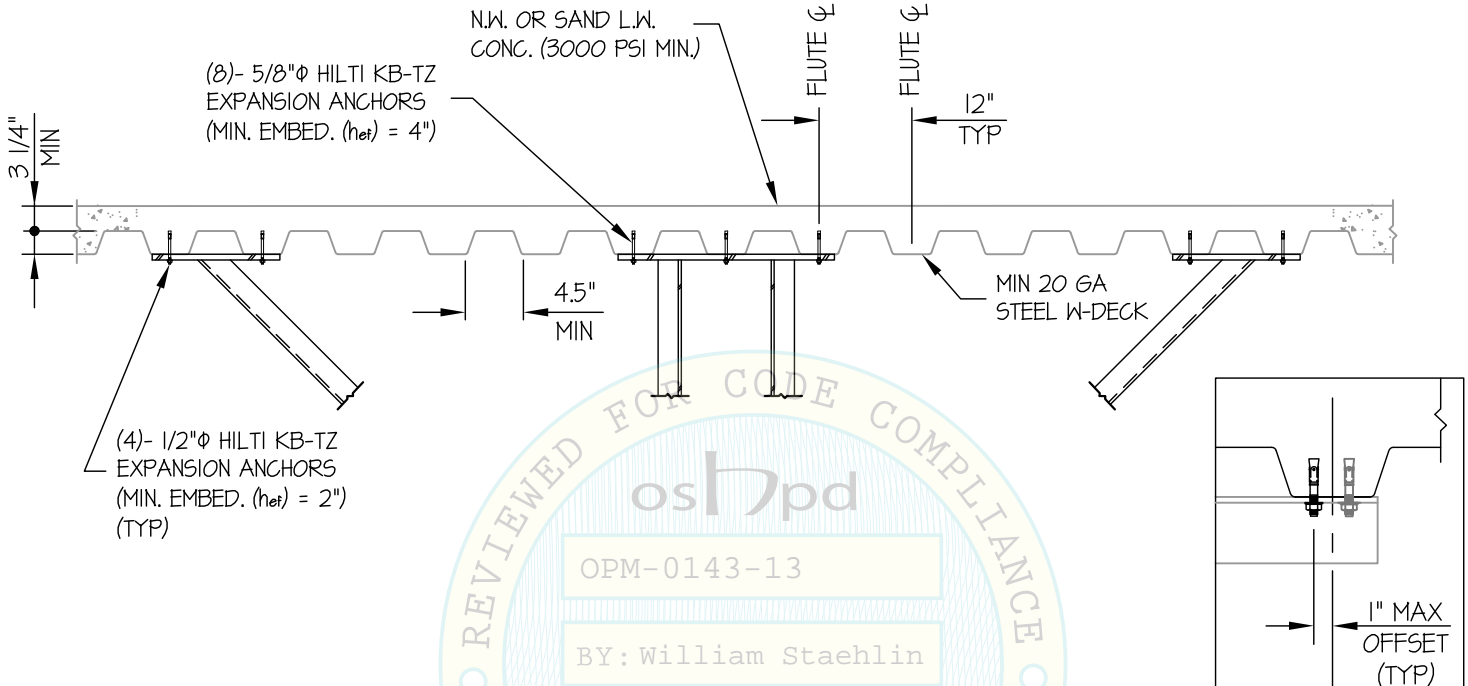
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# 13

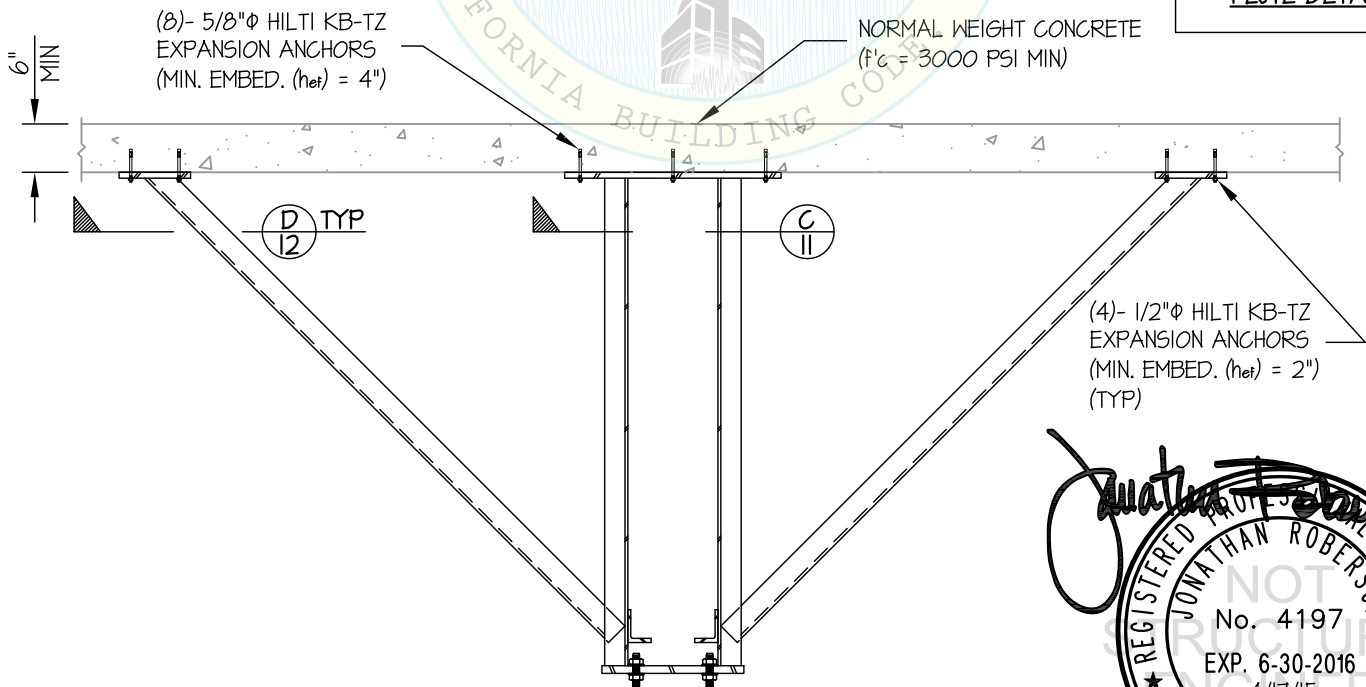
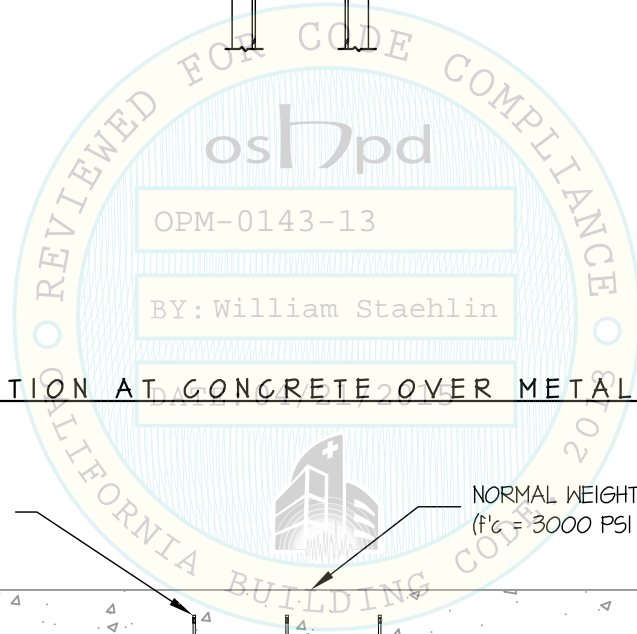
OF **13** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



**E** SECTION AT CONCRETE OVER METAL DECK  
13



**F** SECTION CONCRETE SLAB OPTION  
13

