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

OFFICE USE ONLY
APPLICATION #: OPM-0149-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: Skytron LLC.

Manufacturer's Technical Representative: Bob Vreeland

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

Telephone: (616) 656-1189 Email: bvreeland@skytron.us

Product Information

Product Name: Skytron Ceiling Mounted Light Fixture Argos II and Lucina 4

Product Type: Hospital Light Fixture

Product Model Number: AR24 and LCN4

General Description: Skytron's AR24 Argos II and Lucina 4 can be used separately or in multiple configurations based on the clinical need or total output requirements. Applications include LDR, LDRP, Cardiac Cath Lab, ICU/CCU, Exam and Treatment Rooms.

Applicant Information

Applicant Company Name: ISAT Seismic Bracing

Contact Person: William V Joerger

Mailing Address: 1020 Crews Road, Suite Q, Matthews NC 28105

Telephone: 510-714-0216 Email: wvjoerger@isatsb.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: October 15, 2014

Title: Principal Structural Engineer Company Name: ISAT Seismic Bracing

Registered Design Professional Preparing Engineering Recommendations

Company Name: ISAT Seismic Bracing

Name: William V Joerger California License Number: S4545

Mailing Address: 1020 Crews Rd, Matthews NC 28105

Telephone: 510-714-0216 Email: wvjoerger@isatsb.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):

Equipment is considered to be rugged. OPM is for anchorage to concrete slabs.

*Use of 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: 01/07/2015

Print Name: Jeffrey Kikumoto

Title: SSE

Condition of Approval (if applicable):

INTERNATIONAL SEISMIC APPLICATION TECHNOLOGY

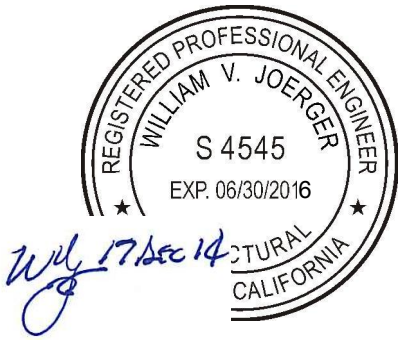
Submittal Documents

OSHPD OPM-0149-13

SUPPORT AND ATTACHMENT OPM CONSTRUCTION DRAWINGS SKYTRON AR24 AND LCN4 LIGHT FIXTURES

SKYTRON

ISAT
1020 Crews Road Suite Q
Matthews, N.C. 28105
704-841-4080



FILE NO.: CLT-1014-134 ***"Empowered by Experience"*** REV 2

OPM-0149-13 DWG i

INTERNATIONAL SEISMIC APPLICATION TECHNOLOGY

OSHPD OPM-0149-13

CONSTRUCTION DRAWING INDEX

DRAWING INDEX

OSHPD OPM-0149-13

MANUFACTURE: SKYTRON

EQUIPMENT TYPE: LIGHTING FIXTURE

GENERAL NOTES FOR ATTACHMENT TO ELEVATED SLABS:

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. SEISMIC CRITERIA USED: S_{DS} = 2.5 I_P = 1.5 ap = 1.0 Rp = 1.5 (LIGHT FIXTURE) z/h ≤ 1.0 FpHorz = 3.0 Wp FpVertical = 0.50 Wp.
3. SUPPORT AND ATTACHMENT FORCES ARE DETERMINED USING ASCE 7-10 CHAPTER 13 "SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS". AN OVERSTRENGTH FACTOR Ω_0 = 1.5 IS USED FOR CONCRETE MATERIALS PER ASCE 7-10 SUPPLEMENT 1 TABLE 13.6-1. LOADS SHOWN ARE STRENGTH DESIGN LOADS PER CBC 2013 SECTION 1909A.
4. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.

RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD

1. CONFIRM THE MATERIAL PROPERTIES AND THICKNESS OF THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ATTACHED MEETS THE REQUIREMENTS OF THIS OPM.
2. PROVIDE A PLAN FOR INSPECTION OF SUPPORTS AND ATTACHMENTS AND VERIFY ITS IMPLEMENTATION.
3. CONFIRM THE SPECIFIED MINIMUM CONCRETE EDGE DISTANCES ARE MAINTAINED BASED ON THE ACTUAL EQUIPMENT LOCATION. VERIFY THAT EXISTING OR NEW ANCHORS ARE AN ADEQUATE DISTANCE FROM THIS UNIT'S ATTACHMENT.
4. VERIFY THAT THE EXISITNG STRUCTURE IS ADEQUATE FOR THE IMPOSED DEAD, LATERAL AND TENSION FORCES SHOWN IN ADDTION TO ALL OTHER LOADS.
5. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH CBC 2013 AND WITH THE OPM-0149-13 DETAILS INCLUDING MATERIALS AND DIMENSIONS OF THE SUPPORT WHERE THE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN.
6. VERIFY THAT THE PROJECT SPECIFIC S_{DS} AND z/h VALUES RESULT IN SEISMIC FORCES (Eh AND Ev) DO NOT EXCEED THE VALUES SHOWN IN THESE DETAILS.

ATTACHMENT GENERAL NOTES:

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. BRACE ARM INCLINATION MAY VARY FROM 30° TO 60° FROM HORIZONTAL.

ELEVATED SLAB NOTES:

3. USE (1) HILTI KWIK BOLT TZ (ICC-ES ESR-1917 FOR MAY 2013) 0.50" x 2.625" HOLE DEPTH (2.00" EFFECTIVE EMBEDMENT) CARBON STEEL ANCHORS IN A SOLID NORMAL WEIGHT CONCRETE SLAB WITH A MINIMUM THICKNESS OF 4 INCH OR A 3 1/4" SAND LIGHT WEIGHT CONCRETE SLAB OVER METAL DECK WITH A 1 INCH MINIMUM COVER AT THE ANCHOR; 40 FT-LBS INSTALLATION TORQUE.
4. CONCRETE STRENGTH USED FOR DESIGN IS A MINIMUM f'c = 3000 PSI AT 28 DAYS.
5. PERIODIC SPECIAL INSPECTION PER CBC 2013 SECTION 1705A AND TABLE 1705A INCLUDING VERIFICATION OF ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, ANCHOR SPACING, EDGE DISTANCES, CONCRETE MEMBER THICKNESS, TIGHTENING TORQUE, HOLE DIMENSIONS, ANCHOR EMBEDMENT AND ADHERENCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. IN ADDITION, FOLLOW THE PROVISIONS OF THE 2013 CALIFONIA BUILDING CODE SECTION 1916A.7.2 BY CONFIRMING THE INSTALLATION TORQUE SPECIFIED BY THE MANUFACTURER. TESTING IS NOT TO OCCUR UNTIL A MINIMUM OF 24 HOURS HAS ELAPSED AFTER THE INSTALLATION OF THE SUBJECT ANCHORS. TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR. TEST 50% OF THE ANCHORS FOR EACH PIECE OF EQUIPMENT. USING A CALIBRATED TORQUE WRENCH VERIFY THE INSTALLATION TORQUE IS OBTAINED WITHIN 1/2 TURN OF THE NUT. REPORT OF TEST REPORTS ARE TO BE SUBMITTED TO OSHPD.
6. MATERIALS: STRUT 1 5/8" x 1 5/8" x 12 GAGE ASTM A653 (Sx = 0.202 IN^3 MIN. Sy = 0.288 IN^3 MIN., STRUT NUT ASTM A576 GRADE M1015, SQUARE WASHER AND WASHER ASTM A1011, BOLTS 1/2" ASTM A307 TORQUE TO 50 FT-LBS, ROD COUPLER ASTM A563 58 KSI TENSILE STRENGTH.

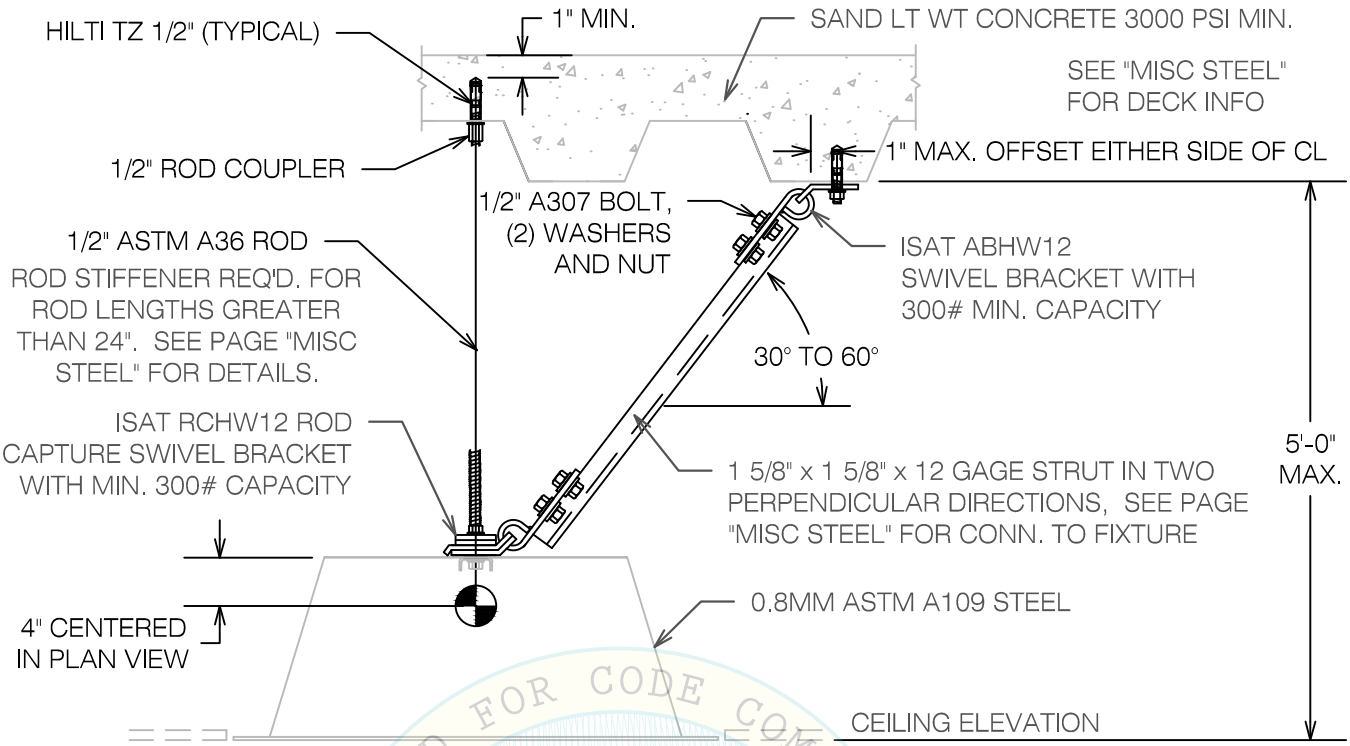
OPM-0149-13
SKYTRON AR24 AND LCN4 LIGHT FIXTURES

ISAT
International Seismic Application Technology
1020 Crews Road, Suite Q, Matthews, NC 28105
704-841-4080 www.isatsb.com

REGISTERED PROFESSIONAL ENGINEER
WILLIAM V. JOERGER
S 4545
EXP. 06/30/2016
17 Dec 14

DRAWN BY: WVJ	
DATE: 10/21/14	
REVISED BY: WVJ	
DATE: 12/17/14	
REV NO: 2	
SCALE N.T.S.	**PAGE** NOTES

OPM-0149-13 DWG 1



HILTI TZ 1/2" = HILTI KWIK BOLT TZ (ESR-1917) 1/2" x 2 5/8" HOLE DEPTH (2" EFF. EMBED.) AND 40 FT-LBS INSTALLATION TORQUE (TYPICAL). ANCHOR MAY BE IN THE HIGH OR LOW FLUTE.

SECTION AT LIGHT FIXTURE SUPPORTS

AR24 AND LCN4 ATTACHMENT FORCES								
DIMENSIONS ARE IN INCHES - WEIGHT IS IN POUNDS						MAXIMUM ATTACHMENT FORCES		
Model	Length	Width	Height	Weight	FpHorz	Tension at Brace	Shear at Brace	Tension at Rod
AR24	20.5	20.5	9.06	25	3.00	195 Lbs.	113 Lbs.	259 Lbs.
LCN4	19.7	19.7	12.3	25	3.00	195 Lbs.	113 Lbs.	259 Lbs.

STRENGTH DESIGN WAS USED FOR ANCHOR FORCE CALCULATIONS. Tu AND Vu ARE TABULATED ABOVE INCLUDING Ω PER ACI 318-11 WHERE REQUIRED FOR ATTACHMENT TO CONCRETE.

OPM-0149-13

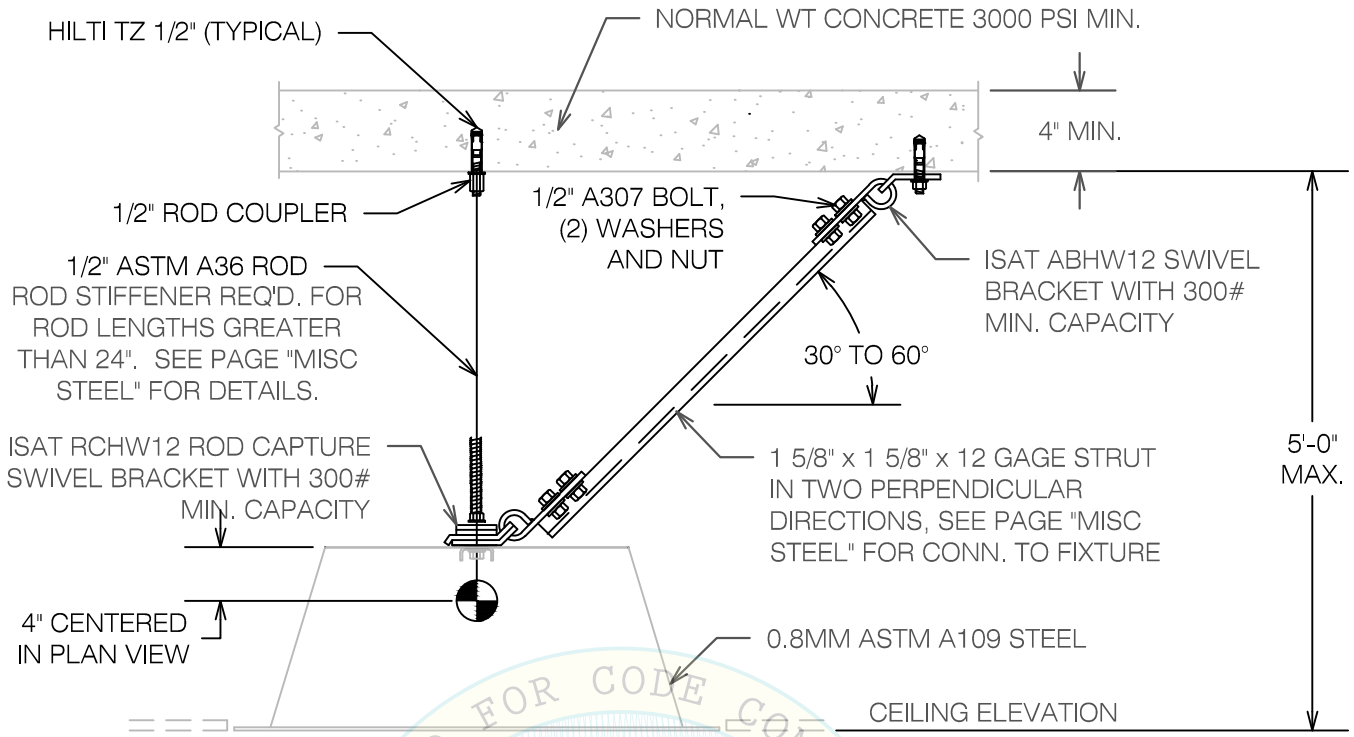
SKYTRON AR24 AND LCN4 LIGHT FIXTURES AT METAL DECK SLAB

International Seismic Application Technology
1020 Crews Road, Suite Q, Matthews, NC 28105
704-841-4080 www.isatsb.com

REGISTERED PROFESSIONAL ENGINEER
WILLIAM V. JOERGER
S 4545
EXP. 06/30/2016
17 Dec 14

DRAWN BY: WVJ	
DATE: 10/21/14	
REVISED BY: WVJ	
DATE: 11/14/14	
REV NO: 1	
SCALE N.T.S.	**PAGE** METAL DECK

OPM-0149-13 DWG 2



HILTI TZ 1/2" = HILTI KWIK BOLT TZ (ESR-1917) 1/2" x 2 5/8" HOLE DEPTH (2" EFF. EMBED.) AND 40 FT-LBS INSTALLATION TORQUE (TYPICAL).

SECTION AT LIGHT FIXTURE SUPPORTS

AR24 AND LCN4 ATTACHMENT FORCES

DIMENSIONS ARE IN INCHES - WEIGHT IS IN POUNDS						MAXIMUM ATTACHMENT FORCES		
Model	Length	Width	Height	Weight	FpHorz	Tension at Brace	Shear at Brace	Tension at Rod
AR24	20.5	20.5	9.06	25	3.00	195 Lbs.	113 Lbs.	259 Lbs.
LCN4	19.7	19.7	12.3	25	3.00	195 Lbs.	113 Lbs.	259 Lbs.

STRENGTH DESIGN WAS USED FOR ANCHOR FORCE CALCULATIONS. Tu AND Vu ARE TABULATED ABOVE INCLUDING Ω PER ACI 318-11 WHERE REQUIRED FOR ATTACHMENT TO CONCRETE.

OPM-0149-13

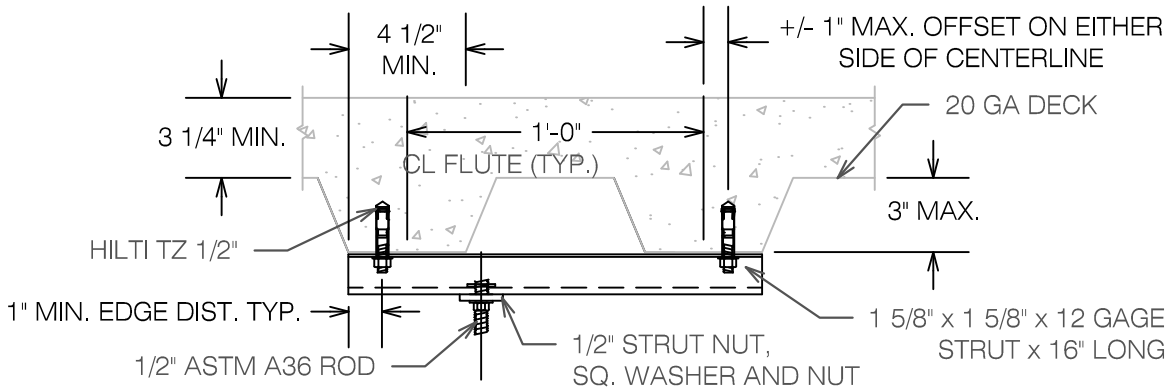
SKYTRON AR24 AND LCN4 LIGHT FIXTURES AT SOLID CONCRETE SLAB

International Seismic Application Technology
1020 Crews Road, Suite Q, Matthews, NC 28105
704-841-4080 www.isatsb.com

REGISTERED PROFESSIONAL ENGINEER WILLIAM V. JOERGER S 4545 EXP. 06/30/2016

DRAWN BY: WVJ	
DATE: 10/21/14	
REVISED BY: WVJ	
DATE: 12/17/14	
REV NO: 2	
SCALE N.T.S.	**PAGE** SOLID SLAB

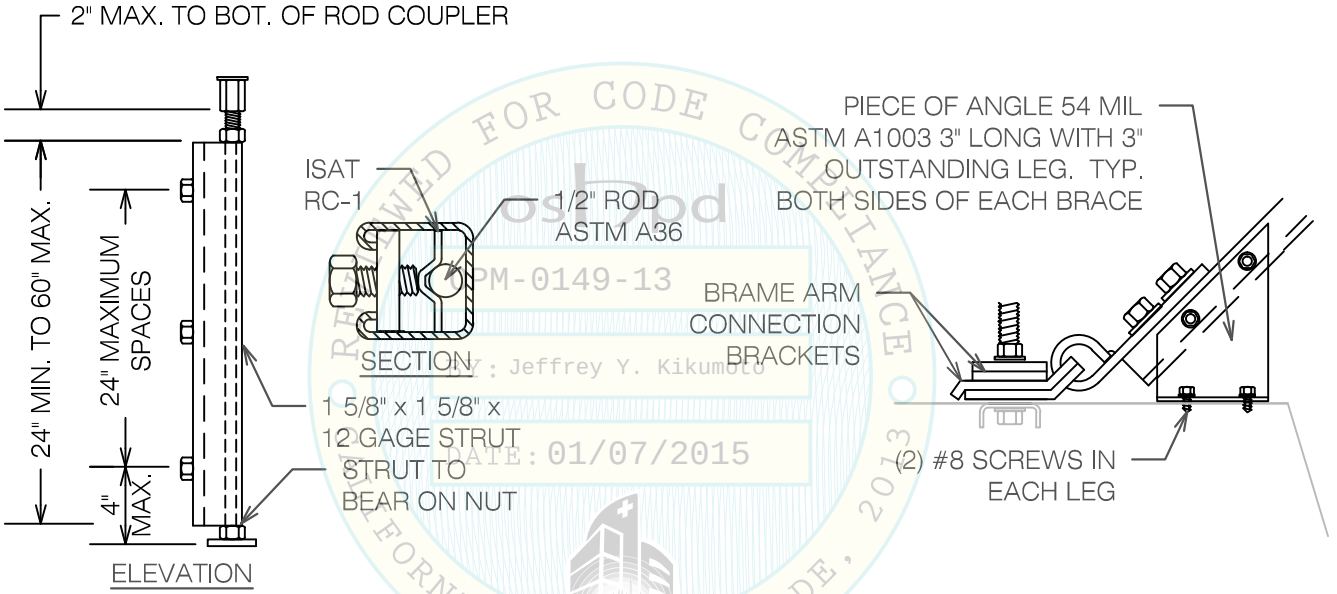
OPM-0149-13 DWG 3



HILTI TZ 1/2" = HILTI KWIK BOLT TZ (ESR-1917) 1/2" x 2 5/8" HOLE DEPTH (2" EFF. EMBED.) AND 40 FT-LBS INSTALLATION TORQUE (TYPICAL). ANCHORS ARE IN THE LOW FLUTE AS SHOWN.

SUPPLEMENTAL STRUT AT METAL DECK

USE THIS DETAIL WHEN VERTICAL ROD ANCHOR CLEARANCES CANNOT BE MET.



OPM-0149-13

SKYTRON AR24 AND LCN4 LIGHT FIXTURES MISCELLANEOUS STEEL

ISAT
International Seismic Application Technology
1020 Crews Road, Suite Q, Matthews, NC 28105
704-841-4080 www.isatsb.com

REGISTERED PROFESSIONAL ENGINEER
WILLIAM V. JOERGER
S 4545
EXP. 06/30/2016
17 Dec 14

DRAWN BY: WVJ	
DATE: 10/21/14	
REVISED BY: WVJ	
DATE: 12/17/14	
REV NO: 2	
SCALE N.T.S.	**PAGE** MISC. STEEL