





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
LICENSING AND REGULATORY SERVICES DIVISION**

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-700 (REV 5/30/13)

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**Registered Design Professional Preparing Engineering Recommendations**

Company Name: Kam Yan and Associates

Name: Kam Yan California License Number: S3312

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**OSHPD Special Seismic Certification Preapproval (OSP)**

- Special Seismic Certification is preapproved under OSP- (Separate application for OSP is required)
- Special Seismic Certification is no preapproved

**Certification Method(s)**

- Testing in accordance with:  ICC-ES AC156  FM 1950-10
- Other\* (Please Specify): OPM-0053-13

\*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: 30 October 2013

Print Name: Jeffrey Y. Kikumoto

Title: Senior Structural Engineer

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





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DATE: 10/29/2013  
KYASE JOB#:13.261A  
D.E: GL

X-RAY TRANSFORMER  
0170, ARCOMA-IMIX

1  
OF 2 SHEETS

**Office of Statewide Health Planning and Development**  
OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM)  
**OPM - 0053-13**

EQUIPMENT MANUFACTURE: ARCOMA  
EQUIPMENT TYPE: X-RAY TRANSFORMER

GENERAL NOTES

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DESIGN FORCES FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. THE SUPPORT AND ATTACHMENT DETAILS INCLUDED IN THIS APPROVAL MAY BE USED AT ANY HEIGHT AND AT ANY INDOOR LOCATION IN THE STATE OF CALIFORNIA WHERE  $S_{DS}$  DOES NOT EXCEED 2.5g.
3. THE SUPPORT AND ATTACHMENT DESIGN WAS BASED ON STRENGTH LEVEL LOADS AND MAY BE USED FOR LOAD AND RESISTANCE FACTOR DESIGN (LRFD).
4. FORCES PER ASCE 7-10 SECTION 13.3.1, WHERE  $S_{DS} = 2.5$ ,  $a_p = 1.0$ ,  $I_p = 1.5$ ,  $R_p = 2.5$ ,  $\Omega_0 = 2.5$ , &  $Z_H = 1$ .
5. THIS PRE-APPROVAL COVERS THE SUPPORTS AND ATTACHMENTS OF THE UNIT ONLY.

RESPONSIBILITIES OF THE SEOR OF THE BUILDING:

1. PROVIDE ANY SUPPORTING STRUCTURE REQUIRED TO SUPPORT THE WEIGHT AND FORCES SHOWN ON THIS PRE-APPROVAL DOCUMENTS, IN ADDITION TO ALL OTHER LOADS.
2. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2013 CBC AND THE DETAILS SHOWN IN THIS PRE-APPROVAL.
3. VERIFY THAT PROJECT SPECIFIC VALUES OF  $S_{DS}$  AND  $Z_H$  RESULT IN SEISMIC FORCES ( $E_h$  &  $E_v$ ) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
4. VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ATTACHED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC-ES ESR.
5. VERIFY THAT THE ANCHORS ARE AT ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS (SEE TABLE BELOW).
6. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE UNIT ATTACHMENTS AND CHECK FOR INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR  $6xh_{ef}$  FROM THIS UNIT'S ANCHORS.
7. VERIFY THAT THE ACTUAL EQUIPMENT AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.
8. ATTACHMENT SHALL BE MADE WITH THE EXPANSION ANCHORS SPECIFIED IN THE TABLE BELOW AND INSTALLED PER CORRESPONDING ICC-ES ESR REPORT.

UNIT WEIGHT AND SEISMIC FORCES

UNIT WEIGHT ( $W_p$ ) = 330 LBS  
HORIZONTAL FORCE ( $E_h$ ) =  $1.80 \times W_p = 594$  LBS  
VERTICAL FORCE ( $E_v$ ) =  $0.2 S_{DS} \times W_p = 165$  LBS

**TESTING AND INSTALLATION OF ANCHOR**

ANCHOR $\phi$	SUB-STRATE	$F'_c$ MIN. (psi)	ATTACH-MENT	ICC-ES ESR	$h_{ef}$ , MIN. EMBED.	MIN. SPACING	MIN. EDGE DISTANCE	MIN. THICKNESS	INSTALLATION TORQUE (LB-FT)	TORQUE TEST (LB-FT)
3/8"	SAND L.W.C	3000	HILTI KWIK BOLT TZ	1917	2"	4"	9"	3/4"	25	25
3/8"	N.W.C	3000	HILTI KWIK BOLT TZ	1917	2"	3 5/8"	9"	4"	25	25

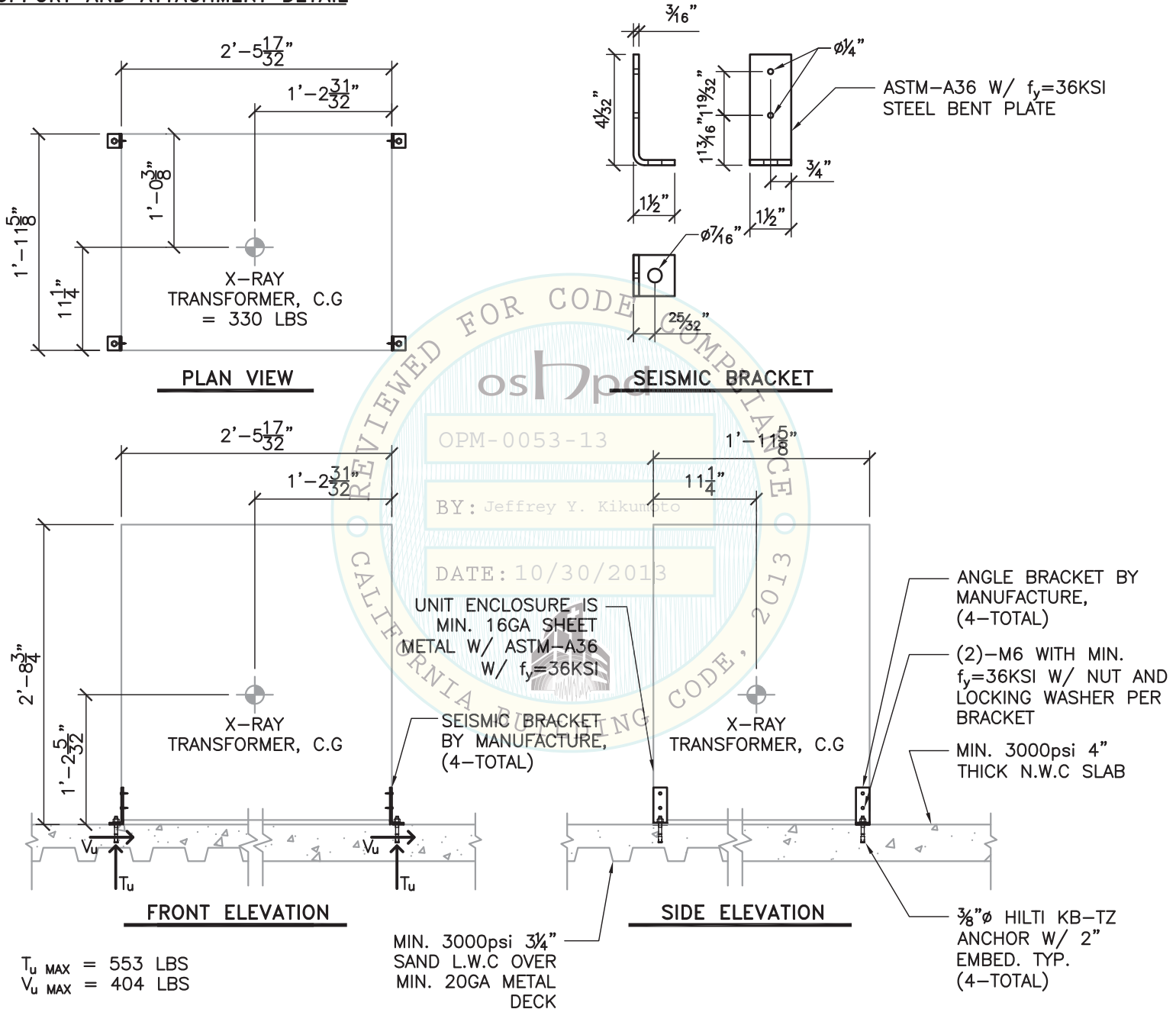
- a. TESTING OF EXPANSION ANCHORS SHALL BE PER CBC 2013 SECTION 1913A.7.
- b. TORQUE TESTING SHALL BE DONE IN PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TESTING RESULTS SHALL BE SUBMITTED TO OSHPD.
- c. AFTER A MINIMUM OF 24 HOURS HAS ELAPSED SINCE THE INSTALLATION, TORQUE TEST AT LEAST 50% OF THE ANCHORS.
- d. ACCEPTANCE CRITERIA: ANCHOR SHALL BE TESTED USING A CALIBRATED TORQUE WRENCH AND ANCHOR MUST ATTAIN THE SPECIFIED TORQUE TEST LOAD WITHIN 1/2 TURN OF THE NUT.
- e. IF ANY ANCHOR FAILS, TEST ALL ANCHORS.

**X-RAY TRANSFORMER  
0170, ARCOMA-IMIX**

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OF 2 SHEETS

**SUPPORT AND ATTACHMENT DETAIL**



$T_u$  MAX = 553 LBS  
 $V_u$  MAX = 404 LBS

**NOTE:**

1. 3/8"  $\phi$  HILTI KB-TZ EXPANSION ANCHORS SHALL BE INSTALLED WITH MINIMUM 9" FROM EDGE OF CONCRETE.
2. SEE GENERAL NOTES AND RESPONSIBILITIES OF SEOR ON SHEET 1 OF 2.
3. CENTER OF GRAVITY (C.G), HEIGHT AND WEIGHT SHOWN ARE MAXIMUM. THE PRE-APPROVAL ENCOMPASSES ALL C.G, HEIGHT AND WEIGHT UP TO THE MAXIMUM SHOWN.