



**EASE**  
**EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING**  
 5877 Pine Ave, Ste. 210  
 Chino Hills, CA. 91709  
 Phn: (909) 606-7622 Fax: (866) 801-4975

**Office of Statewide Health Planning and Development**  
**ANCHORAGE PRE-APPROVAL**  
**OPA-2909-10**

**THIS PRE- APPROVAL CONFORMS TO THE 2010 CALIFORNIA BUILDING CODE**

Equipment Manufacturer: CRIMSON AV MOUNTING SOLUTIONS

Equipment Type: FLAT PANEL TILT WALL MOUNT (MODEL T46)

GENERAL NOTES

1. EXPANSION ANCHORS:

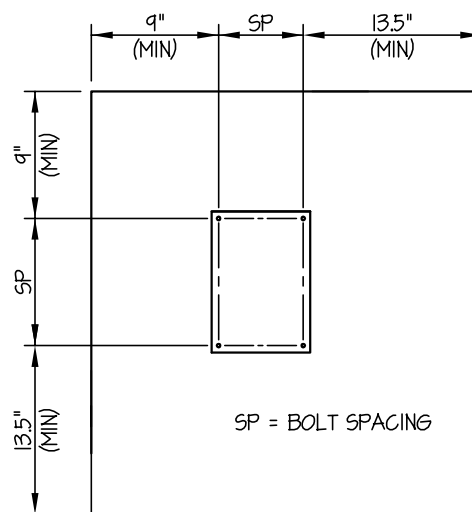
(a) ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT.

Anchor Diameter	Concrete Type	Min. f'c (psi)	Anchor Type	ICC Report No.	Min. Embed.	Min. Spacing	Min. Edge Dist.	Min. Conc. Thickness	Installation Torque	Test Loads
3/8"	Hardrock	3000	Hilti Kwik Bolt TZ	ESR-1917	2"	6"	9"	6"	25 FT-LB	Direct Pull Tension - 1515 lb

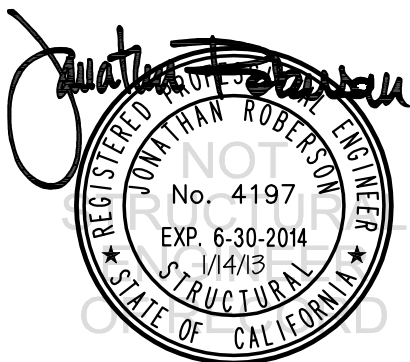
(b) THIS PRE-APPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE SLAB EDGES, 9" AWAY MINIMUM (i.e. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

2. TESTING OF EXPANSION ANCHORS PER 2010 CBC, 1916A.7 : TENSION TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD

- (a) AFTER AT LEAST 24 HOURS HAVE ELAPSED SINCE INSTALLATION, DIRECT PULL TENSION TEST AT LEAST 50% OF THE ANCHORS.
- (b) ACCEPTANCE CRITERIA: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER BECOMES LOOSE.
- (c) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.



TYPICAL CONCRETE EDGE DETAIL



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Pre-approval Program Manager:  
 Anthony R. Pike  
 (916) 440-8470



*Anthony R. Pike*

Reviewed By: Anthony R. Pike 1/14/13



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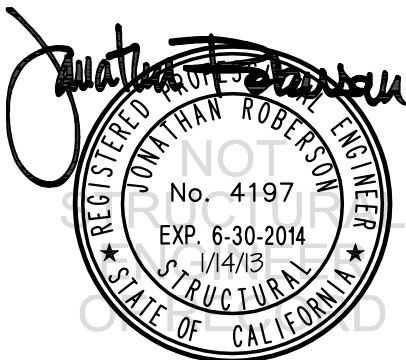
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Equipment Manufacturer: CRIMSON AV MOUNTING SOLUTIONS

Equipment Type: FLAT PANEL TILT WALL MOUNT (MODEL T46)

GENERAL NOTES

1. FORCES PER ASCE 7-05 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE  $S_{ds} = 2.0$ ,  $a_p = 1.0$ ,  $I_p = 1.5$ ,  $R_p = 2.5$ ,  $z/h \leq 1.0$
  2. THIS PRE-APPROVAL CONFORMS TO THE 2010 CALIFORNIA BUILDING CODE.
  3. THE DETAILS IN THIS PRE-APPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE SDS IS NOT GREATER THAN 2.0.
  4. ALL ANCHOR FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
  5. SHEET METAL SCREWS SHALL BE TEKS SCREWS BY ITW BULDEX (ICC ESR-1976).
  6. THIS PRE-APPROVAL COVERS ONLY THE ANCHORAGE OF THE UNIT TO THE HOSPITAL BUILDING'S STRUCTURE
- RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING
7. VERIFY THAT PROJECT SPECIFIC VALUES OF  $S_{ds}$  &  $z/h$  RESULT IN SEISMIC FORCES ( $E_h, E_v$ ) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
  8. VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR
  9. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS (SEE TYPICAL DETAIL ON SHEET 1).
  10. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PRE-APPROVAL. SEOR SHALL VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR  $6h_{ef}$  FROM THIS UNIT'S ANCHORS
  11. DESIGN BACKING PLATES, STUDS, ETC TO WHICH THE EQUIPMENT IS ATTACHED, AS NOTED ON THE DRAWINGS.
  12. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS. VERIFY THE ADEQUACY OF THE STRUCTURES (SUCH AS WALLS AND FLOORS) WHICH SUPPORT THE EQUIPMENT FOR THE LOADS IMPOSED ON THEM BY THE EQUIPMENT IN ADDITION TO ALL OTHER LOADS.
  13. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2010 CBC AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND



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Reviewed By: Anthony R. Pike	1/14/13

**CRIMSON AV MOUNTING SOLUTIONS**

**FLAT PANEL TILT  
WALL MOUNT (MODEL T46)**

DES. **J. ROBERSON**

JOB NO. **11-1261**

DATE **1/14/13**

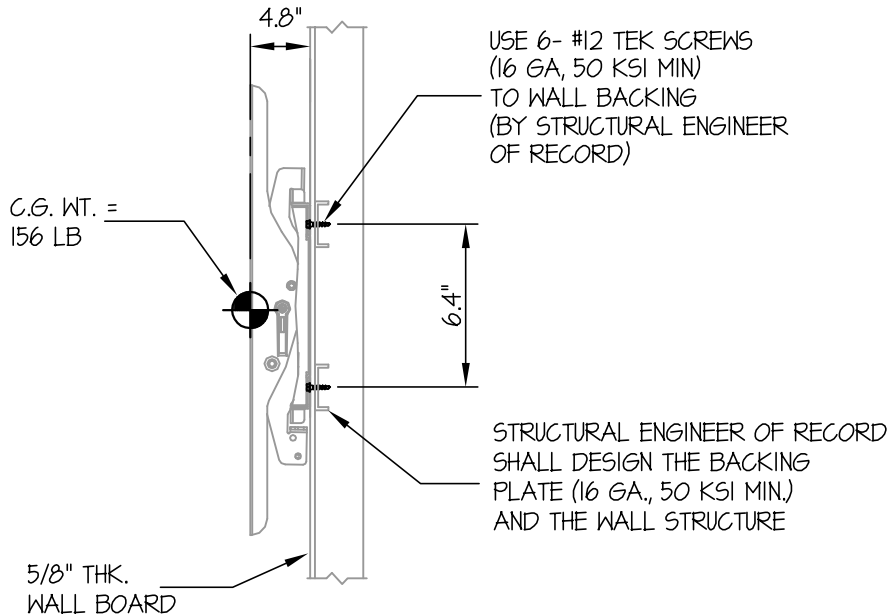
SHEET

**3**

OF **5** SHEETS

SEISMIC ANCHORAGE

WALL MOUNTED



STEEL STUD WALL SECTION

$T_u = 110 \text{ LB/BOLT (MAX)}$   
 $V_u = 79 \text{ LB/BOLT (MAX)}$

NOTES:

1. ANCHORAGE DESIGN PER 2010 CALIFORNIA BUILDING CODE AND ASCE 7-05 STRENGTH DESIGN IS USED.

HORIZONTAL FORCE ( $E_h$ ) =  $1.44 W_p$  ( $S_{Ds} = 2.00, a_p = 1.0, I_p = 1.5, R_p = 2.5, z/h \leq 1.0$ )

VERTICAL FORCE ( $E_v$ ) =  $0.40 W_p$

2. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES 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 ADDITION TO ALL OTHER LOADS.
4. SEE GENERAL NOTES: SHEET 1 AND 2.



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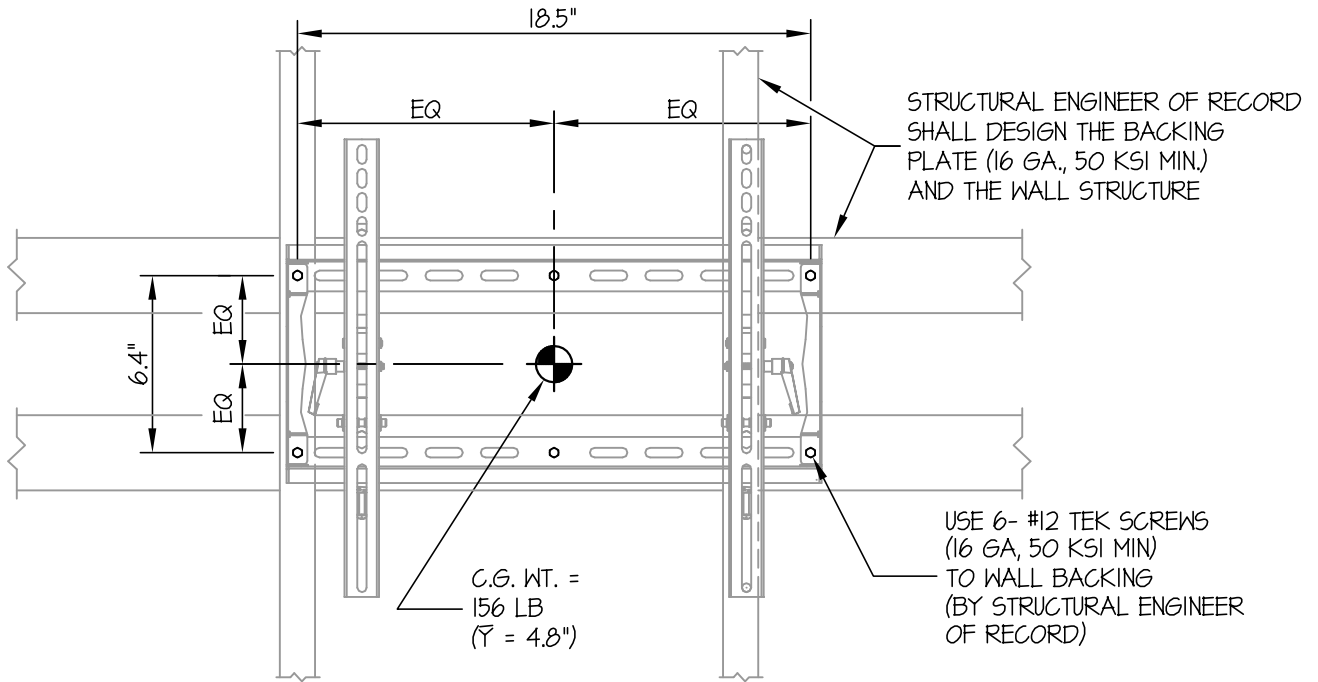
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SHEET  
**4**

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SEISMIC ANCHORAGE

WALL MOUNTED



ELEVATION AT WALL PLATE



**CRIMSON AV MOUNTING SOLUTIONS**

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SHEET  
**5**

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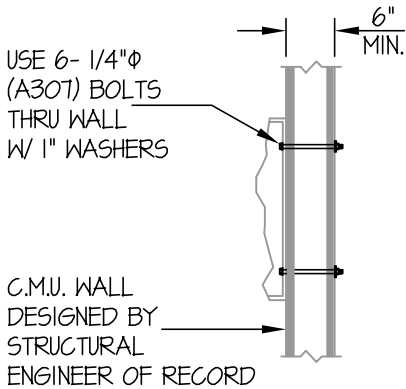
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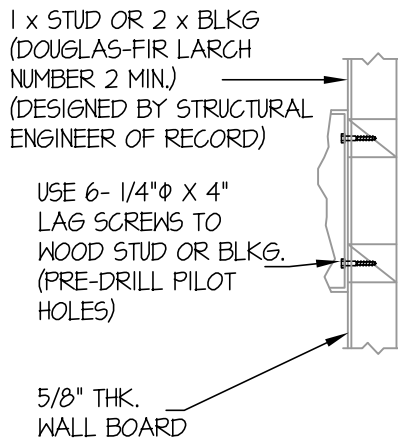
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SEISMIC ANCHORAGE

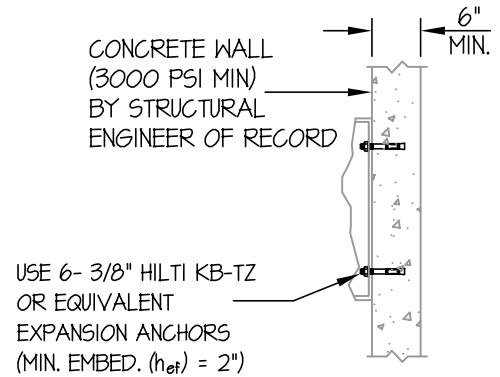
WALL MOUNTED



SECTION AT BLOCK WALL



SECTION AT WOOD STUD WALL



SECTION AT CONCRETE WALL

