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

OFFICE USE ONLY
APPLICATION #: OPM-0371-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: **Stoebich Fire Protection Systems**

Manufacturer's Technical Representative: Christian Holz

Mailing Address: 1941 Savage Road, Suite 200B, Charleston, SC. 29407

Telephone: On File Email: On File

Product Information

Product Name: **Smoke Curtain GX**

Product Type: Other Mechanical and Electrical Components

Product Model Number: GX

General Description: Automated Smoke Barrier in Case of Fire

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, 2016.

Signature of Applicant: _____ Date: 7/29/16

Title: Principal Engineer Company Name: **EASE Co.**

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: 909-606-7622 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 1950-16

☐ Other* (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2016 (CBSC 2016) 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 2016 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 2016 & ALL PRE-2016 CODE BASED PROJECTS

Signature: Date: 02-02-2017

Print Name: Jeffrey Enzler

Title: DSE

Condition of Approval (if applicable):

EASE
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-0371-13

THIS PREAPPROVAL CONFORMS TO THE 2016 CALIFORNIA BUILDING CODE

MANUFACTURER: **STOEBICH FIRE PROTECTION SYSTEMS**

EQUIPMENT NAME: **SMOKE CURTAIN CURTAIN GX**

Date: 12/22/16

GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2016 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2016 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 2016 CALIFORNIA BUILDING CODE WHERE S_{DS} IS NOT GREATER THAN 1.30 & 2.20.
4. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3,

   WHERE S_{DS} = 1.30, a_p = 1.0, I_p = 1.5, R_p = 1.5, $z/h \leq 1$ WOOD STUD WALL. SEE FOLLOWING SHEETS FOR Ω_o

   WHERE S_{DS} = 2.20, a_p = 1.0, I_p = 1.5, R_p = 1.5, $z/h \leq 1$ STEEL & CONCRETE WALLS. SEE FOLLOWING SHEETS FOR Ω_o FOR CONCRETE
5. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
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. CONCRETE WALL DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION. (i.e. $z/h \leq 1$)
9. SMOKE CURTAIN FOR INTERIOR LOCATIONS ONLY NOT SUBJECT TO WIND LOADS.
10. **RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING**

   A. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.

   B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2016 CBC AND WITH THE DETAILS, MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.

   C. 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.

   D. VERIFY THAT THE CONCRETE WALL TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR.

   E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY CONCRETE WALL EDGES OR OPENINGS (SEE TYPICAL DETAIL ON SHEET 2).

   F. 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 6hef FROM THIS UNIT'S ANCHORS.

   G. DESIGN BACKING BARS, STUDS, ETC. WHICH THE UNITS ARE ATTACHED TO AS NOTED ON THE DRAWINGS.

REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2018
12/22/16
STRUCTURAL
STATE OF CALIFORNIA

STOEBICH FIRE PROTECTION SYSTEMS

SMOKE CURTAIN CURTAIN GX

DES. J. ROBERSON
JOB NO. 11-1619
DATE 12/22/16
SHEET 2 OF 7 SHEETS

11. 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
1/4"	Normal Weight	3000	Hilti Kwik HUS	ESR-3027	1.92"	12"	2.25"	6"	N/A	779

B. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE WALL EDGES, 2.25" AWAY MINIMUM (i.e. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

C. TESTING OF CONCRETE SCREW ANCHORS PER 2016 CBC, 1910A.5: 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 AT LEAST 50% OF THE ANCHORS.

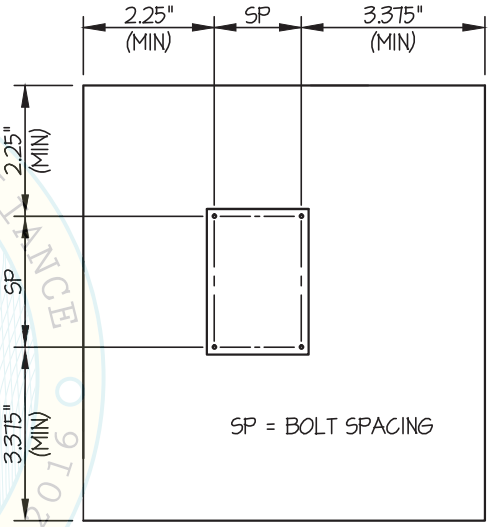
(ii) ACCEPTANCE CRITERIA:

- 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.

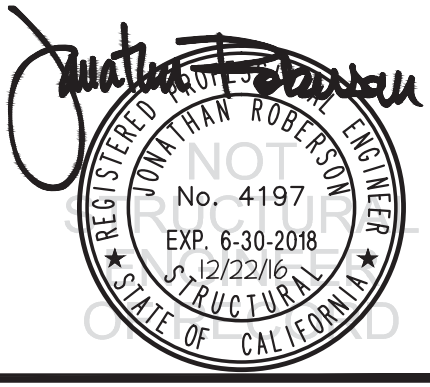
(iii) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.

D. AVOID DAMAGING EXISTING STEEL REINFORCING IN CONCRETE WALL WHEN INSTALLING CONCRETE SCREW ANCHORS

E. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.



TYPICAL CONCRETE EDGE DETAIL



STOEBICH FIRE PROTECTION SYSTEMS

SMOKE CURTAIN CURTAIN GX

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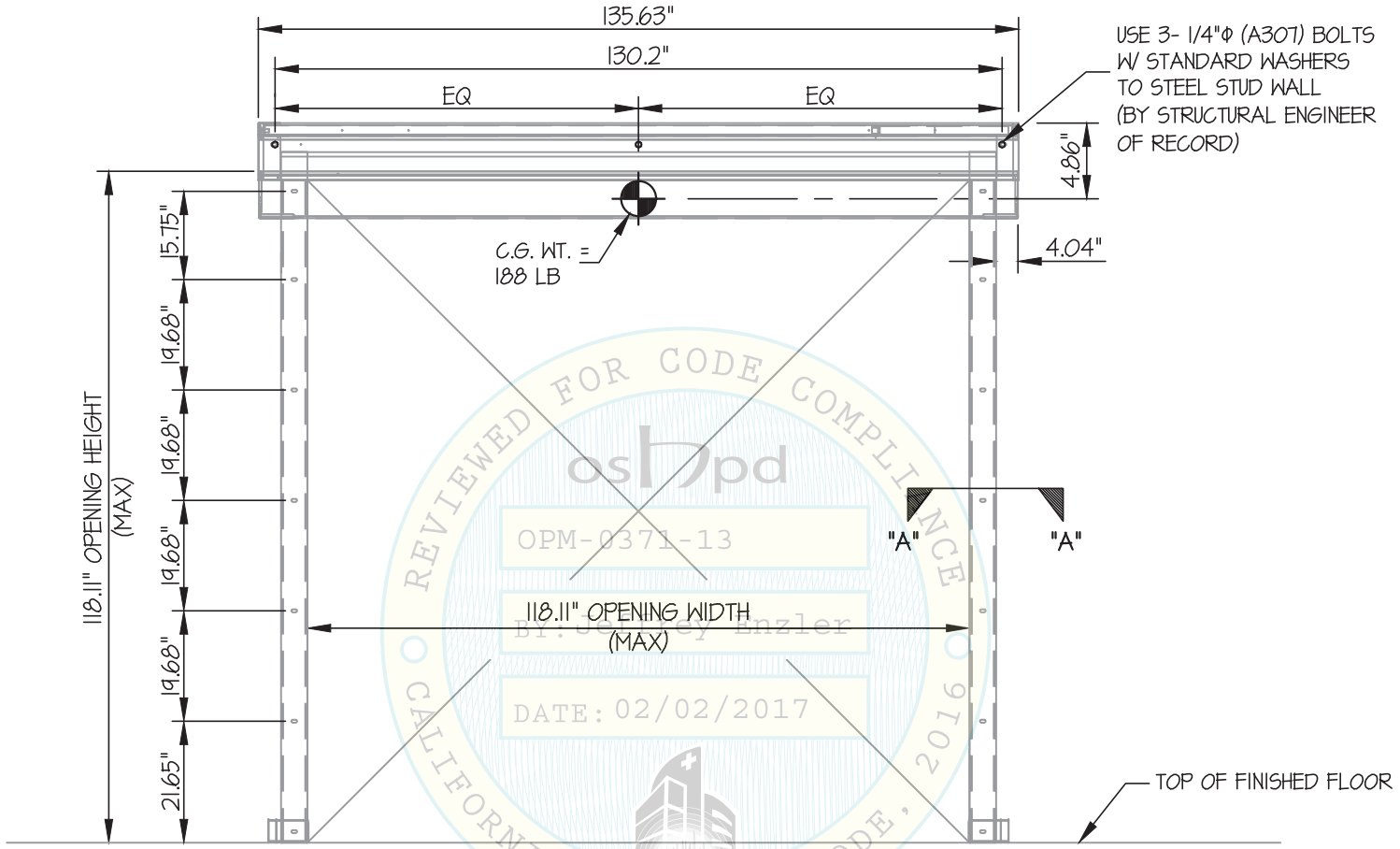
DATE 12/22/16
SHEET 3 OF 7 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



ELEVATION

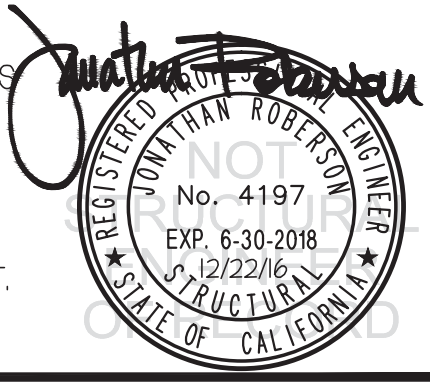
NOTES:

1. **FORCES ARE DETERMINED PER 2016 CALIFORNIA BUILDING CODE AND ASCE 7-10.**
   STRENGTH DESIGN IS USED. (a_p = 1.0, I_p = 1.5, R_p = 1.5, Ω_o = 1.5, z/h ≤ 1)

S_{DS}	1.30 @ WOOD STUD WALL	2.20 @ STEEL STUD & CONC WALL
HORIZONTAL FORCE (Eh)	1.56 Wp	2.64 Wp
HORIZONTAL FORCE (Emh)	2.34 Wp	3.96 Wp
VERTICAL FORCE (Ev)	0.26 Wp	0.44 Wp

   (Emh = Eh x Ω_o; FOR CONCRETE ANCHORAGE)

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



STOEBICH FIRE PROTECTION SYSTEMS

SMOKE CURTAIN CURTAIN GX

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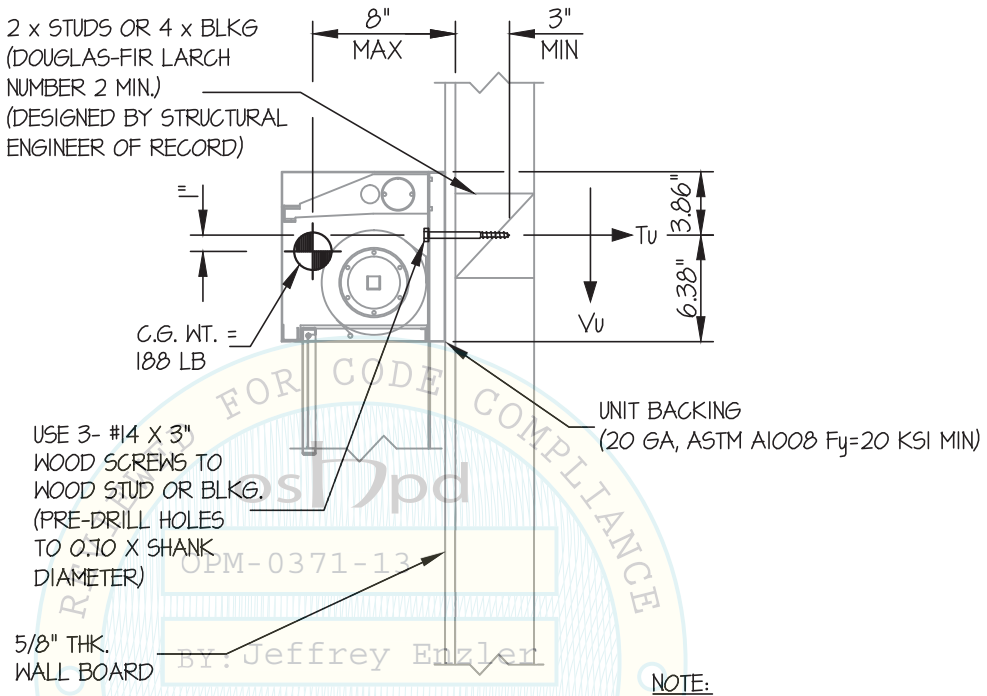
SHEET 4 OF 7 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

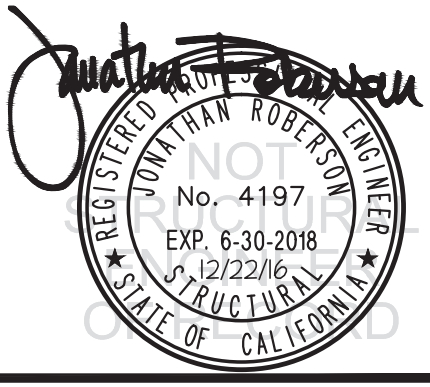
WALL MOUNTED



Tu = 218 LB/BOLT (MAX)
Vu = 134 LB/BOLT (MAX)
(VALUES DO NOT INCLUDE Ω_0)

NOTE:
MIN EDGE DISTANCE = 1"
MIN END DISTANCE = 2"

SECTION AT WOOD STUD WALL



STOEBICH FIRE PROTECTION SYSTEMS

SMOKE CURTAIN CURTAIN GX

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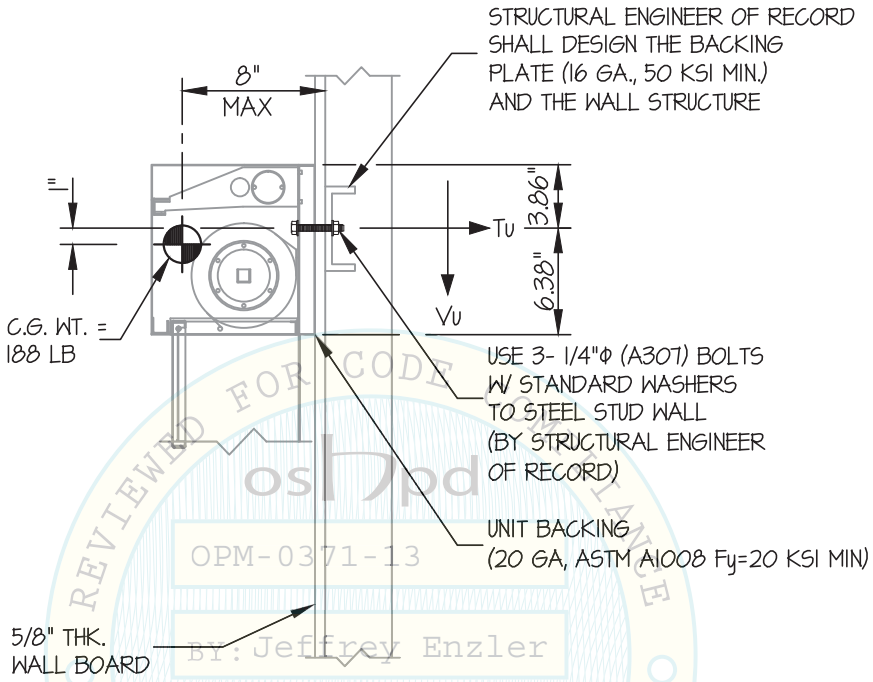
SHEET 5 OF 7 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



Tu = 303 LB/BOLT (MAX)
Vu = 195 LB/BOLT (MAX)
(VALUES DO NOT INCLUDE Ωo)

SECTION AT STEEL STUD WALL

STOEBICH FIRE PROTECTION SYSTEMS

SMOKE CURTAIN CURTAIN GX

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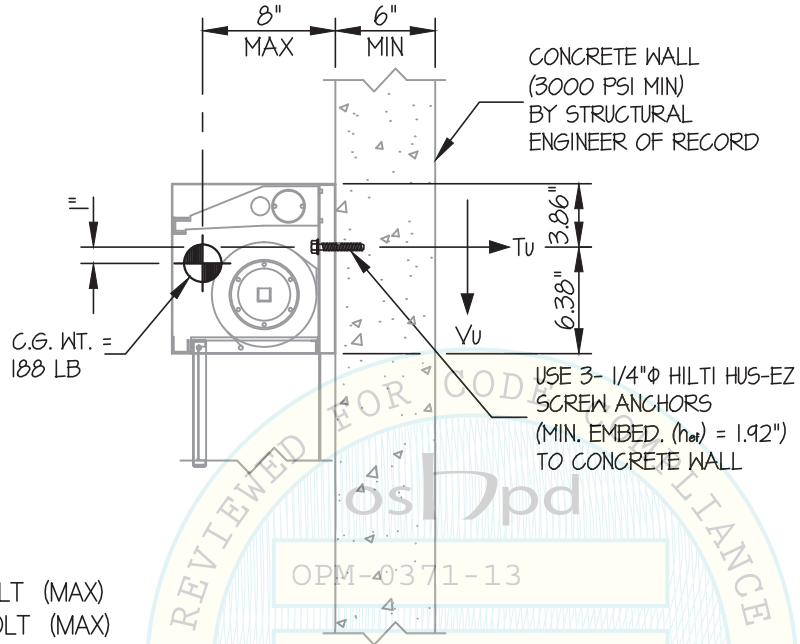
SHEET 6 OF 7 SHEETS

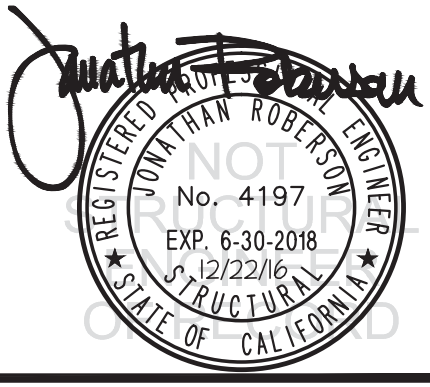
SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



Tu = 391 LB/BOLT (MAX)
Vu = 269 LB/BOLT (MAX)
(VALUES INCLUDE Ω_0)

CONCRETE WALL SECTION



STOEBICH FIRE PROTECTION SYSTEMS

SMOKE CURTAIN CURTAIN GX

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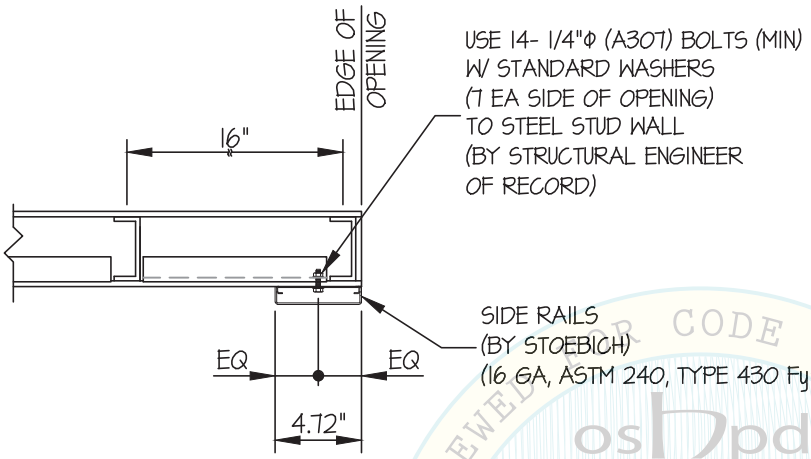
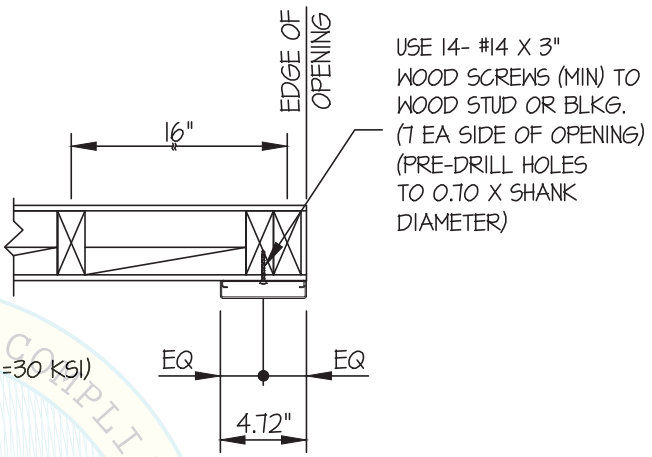
SEISMIC SUPPORTS & ATTACHMENTS

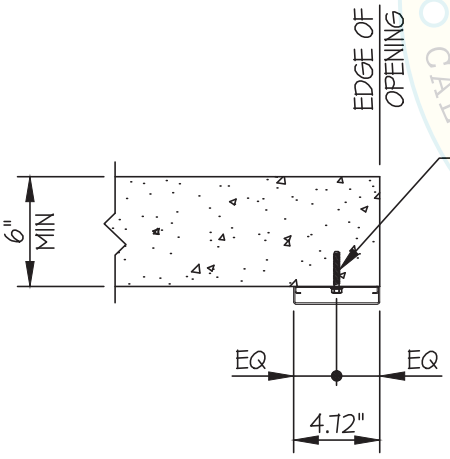
RAIL DETAILS



SECTION AT STEEL STUD WALL
(AUXILIARY RAIL)



SECTION AT WOOD STUD WALL
(AUXILIARY RAIL)



SECTION AT CONCRETE WALL
(AUXILIARY RAIL)

SECTION A-A