



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0705

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [] Renewal/Update

Manufacturer Information

Manufacturer: BLE Smoke and Fire Curtains

Manufacturer's Technical Representative: Nick Holdridge

Mailing Address: Unit 3, Velum house Woodhouse Link, Inno, Woodhouse Mill, CA 91709

Telephone: (909) 606-7622 Email: nholdridge@blecurtains.com

Product Information

Product Name: ESC (Smoke-Containment System) OPM-0705

Product Type: other mechanical and electrical components

Product Model Number: Lengths from 53" to 120" BY: William Staehlin

General Description: Provide a smoke- and draft-control assembly

Applicant Information

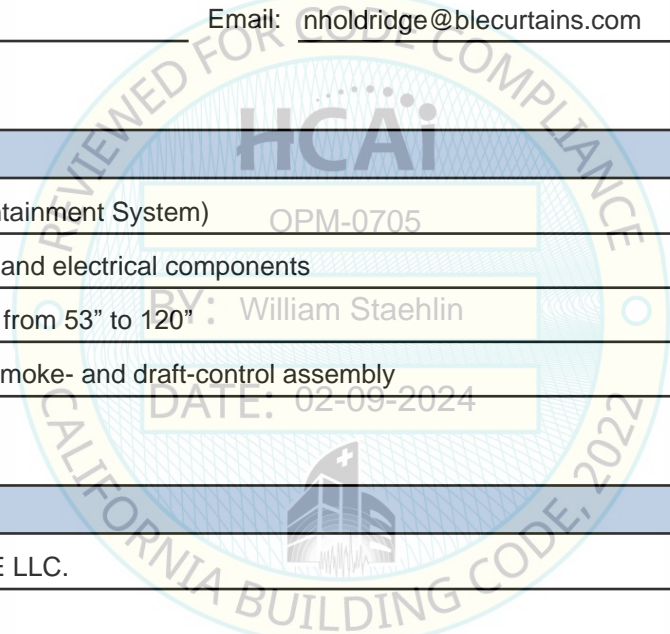
Applicant Company Name: EASE LLC.

Contact Person: Tiffany Tonn

Mailing Address: 1515 FAIRVIEW AVE, STE 205, MISSOULA, MT 59801

Telephone: (406) 541-3273 Email: tiffany@easeco.com

Title: Office Assistant



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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company Name: EASE LLC
Name: Jonathan Roberson California License Number: S4197
Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, CA 91709
Telephone: (951) 295-1892 Email: jon@EASECo.com

HCAI Special Seismic Certification Preapproval (OSP)

Special Seismic Certification is preapproved under OSP OSP Number: _____

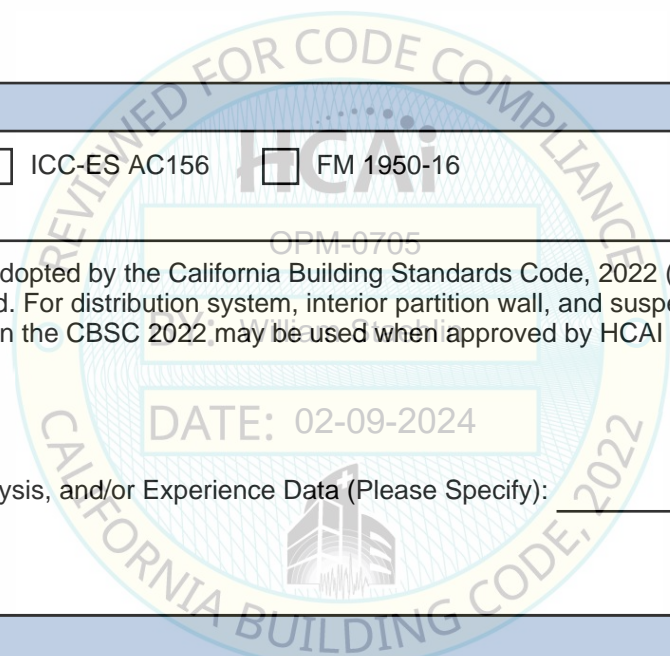
Certification Method

Testing in accordance with: ICC-ES AC156 FM 1950-16

Other(s) (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2022 (CBSC 2022) 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 2022 may be used when approved by HCAI prior to testing.

- Analysis
- Experience Data
- Combination of Testing, Analysis, and/or Experience Data (Please Specify): _____



HCAI Approval

Date: 2/9/2024
Name: William Staehlin Title: Senior Structural Engineer
Condition of Approval (if applicable): _____

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**EQUIPMENT ANCHORAGE
& SEISMIC ENGINEERING**

5877 Pine Ave, Ste. 210
Chino Hills, CA. 91709
Phn: (909) 606-7622

The Department of Health Care Access and Information
PREAPPROVAL OF MANUFACTURER'S CERTIFICATION
OPM-0705

THIS PREAPPROVAL CONFORMS TO THE 2022 CALIFORNIA BUILDING CODE

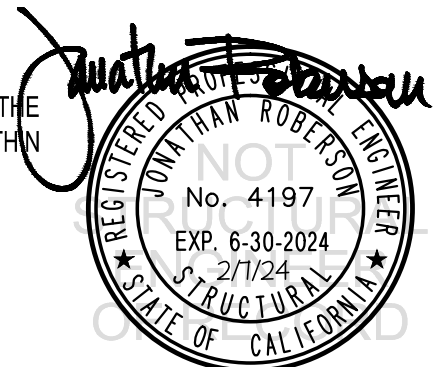
MANUFACTURER: **BLE SMOKE AND FIRE CURTAINS**
EQUIPMENT NAME: **ESC PROTECTIVE SMOKE CURTAIN**

Sheet: 1 of 5

Date: 2/7/24

GENERAL NOTES

1. THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2022 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2022 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 2022 CALIFORNIA BUILDING CODE WHERE S_{ds} IS NOT GREATER THAN 2.30.
4. FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3,
WHERE $S_{ds} = 2.30$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$, $z/h \leq 1$ AT CONCRETE SLAB ON METAL DECK. SEE FOLLOWING SHEETS FOR Ω_o .
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. CONCRETE WALL VALID FOR DEMANDS SHOWN AT ANY ELEVATION IN THE BUILDING. (i.e. $z/h \leq 1$)
8. REFER TO ESR-4888 FOR 'ESC' SYSTEM'S SMOKE PROTECTION APPROVAL.
9. **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 2022 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 SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR REPORT AND THIS OPM.
 - E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB 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 $6h_{ef}$ FROM THIS UNIT'S ANCHORS.



BLE SMOKE AND FIRE CURTAINS

DES. J. ROBERSON

SHEET

2

JOB NO. 11-2322

ESC PROTECTIVE SMOKE CURTAIN

DATE 2/7/24

OF 5 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
3/8"	Normal Weight	3000	Hilti Kwik Bolt TZ2 (CARBON STEEL)	ESR-4266	2"	6"	2.5"	6"	30 FT-LB	1654 lb

B. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE SLAB EDGES, 2.5" AWAY MINIMUM (i.e. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

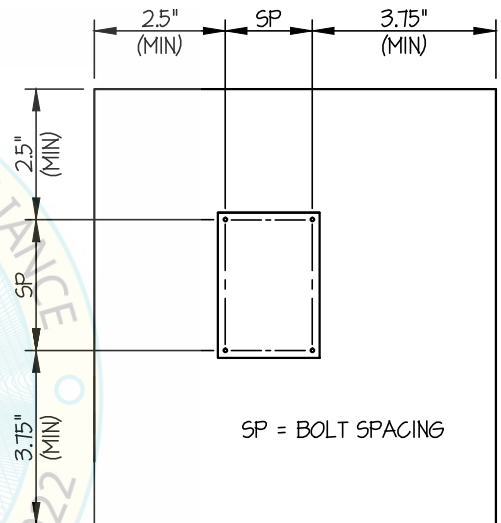
C. TESTING AND SPECIAL INSPECTION OF EXPANSION ANCHORS SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY EMPLOYED BY THE FACILITY OWNER PER CBC 1704A & 1910A.5 AND CAC 7-149. ALL REPORTS SHALL BE SENT TO THE INSPECTOR OF RECORD, OWNER AND THE ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.

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

(ii) ACCEPTANCE CRITERIA:

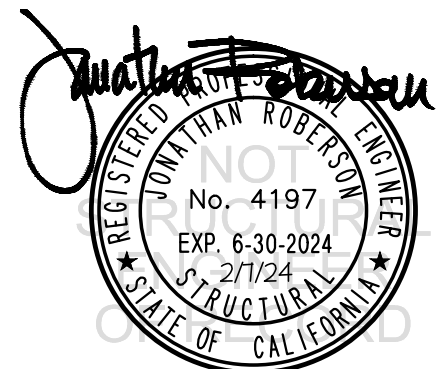
- DIRECT TENSION TEST: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE TEST LOAD, A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER BECOMES LOOSE.
- TORQUE TEST: THE APPLICABLE TORQUE MUST BE ACHIEVED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE : 1/2 TURN OF THE NUT

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



TYPICAL CONCRETE EDGE DETAIL

DATE: 02-09-2024



BLE SMOKE AND FIRE CURTAINS

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SHEET

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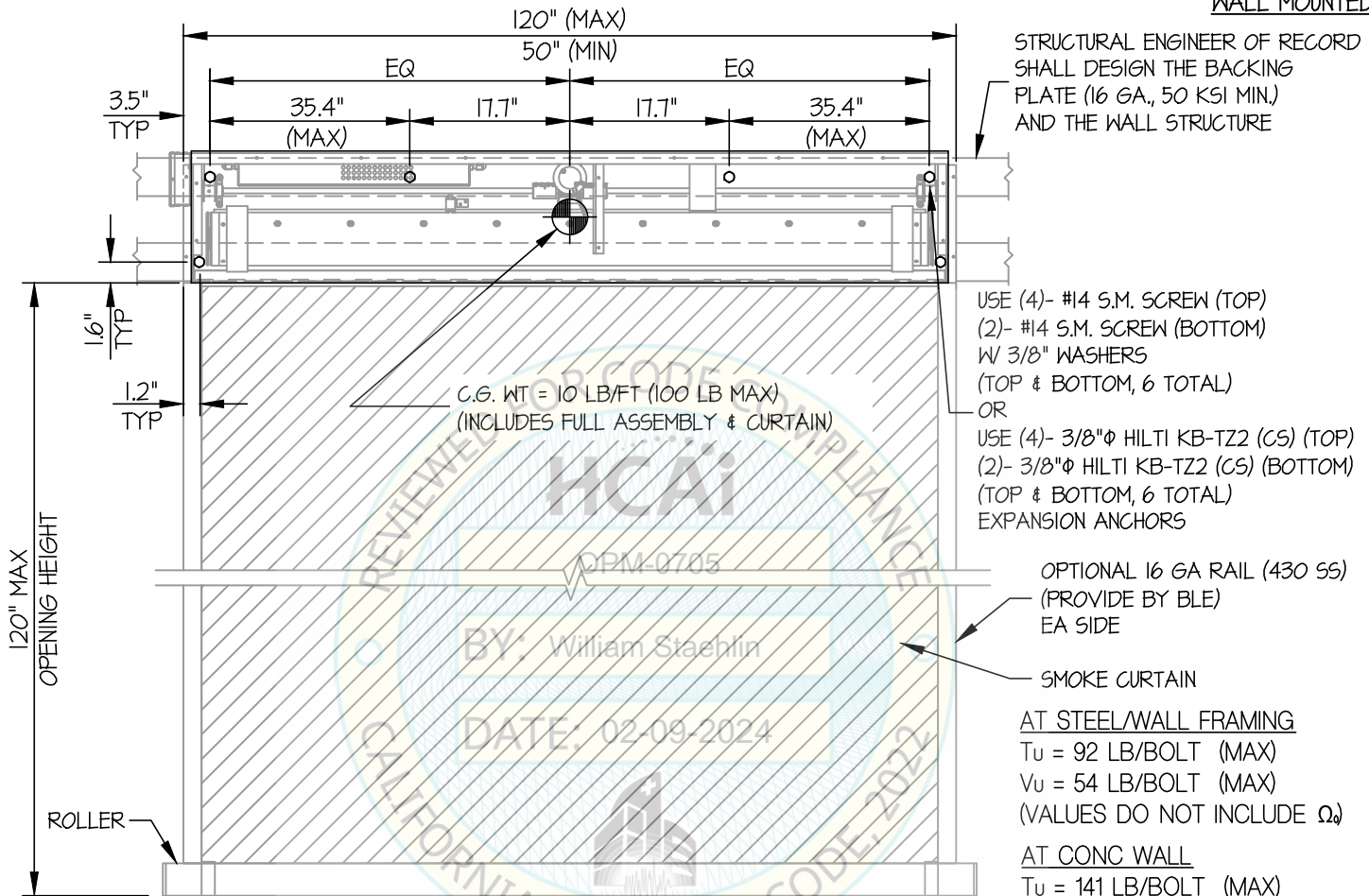
JOB NO. 11-2322

DATE 2/7/24

OF 5 SHEETS

ESC PROTECTIVE SMOKE CURTAIN

WALL MOUNTED



STRUCTURAL ENGINEER OF RECORD SHALL DESIGN THE BACKING PLATE (16 GA., 50 KSI MIN.) AND THE WALL STRUCTURE

USE (4)- #14 S.M. SCREW (TOP)
(2)- #14 S.M. SCREW (BOTTOM)
W/ 3/8" WASHERS
(TOP & BOTTOM, 6 TOTAL)
OR
USE (4)- 3/8"φ HILTI KB-TZ2 (CS) (TOP)
(2)- 3/8"φ HILTI KB-TZ2 (CS) (BOTTOM)
(TOP & BOTTOM, 6 TOTAL)
EXPANSION ANCHORS

OPTIONAL 16 GA RAIL (430 SS)
(PROVIDE BY BLE)
EA SIDE

SMOKE CURTAIN
AT STEEL/WALL FRAMING
 $T_u = 92 \text{ LB/BOLT (MAX)}$
 $V_u = 54 \text{ LB/BOLT (MAX)}$
(VALUES DO NOT INCLUDE Ω)

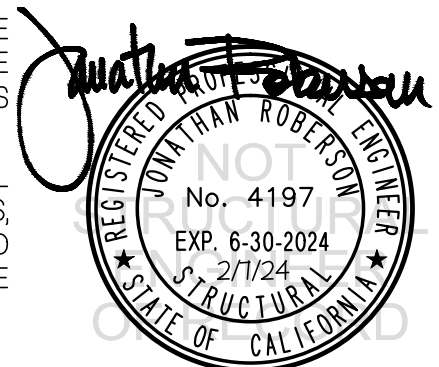
AT CONC WALL
 $T_u = 141 \text{ LB/BOLT (MAX)}$
 $V_u = 96 \text{ LB/BOLT (MAX)}$
(VALUES INCLUDE Ω)

ELEVATION

NOTES:

- FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED. (EXAMPLE: $S_{ds} = 2.30$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$, $\Omega_o = 2.0$, $z/h \leq 1$)

HORIZONTAL FORCE (E_h)	=	$2.76 W_p$
HORIZONTAL FORCE (E_{mh})	=	$5.52 W_p$ (FOR CONCRETE ANCHORAGE)
VERTICAL FORCE (E_v)	=	$0.46 W_p$
- THIS PREAPPROVAL ENCOMPASSES WEIGHTS AND VERTICAL CG POSITIONS UP TO THE VALUES SHOWN.
- THIS PREAPPROVAL WAS PREPARED WITHOUT KNOWLEDGE OF ANY SITE CONDITION. COMPATIBILITY FOR USE WITH A SITE SHALL BE EVALUATED BY THE STRUCTURAL ENGINEER OF RECORD OF THE INSTALLATION (SEOR). USE REQUIRES APPROVAL BY THE SEOR.
- STRUCTURAL ENGINEER OF RECORD FOR THE INSTALLATION SHALL VERIFY ALL CONDITIONS, EVALUATE INTERACTION WITH ADJACENT EQUIPMENT AND ANCHORS, AND PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
- SEE GENERAL NOTES: SHEETS 1 AND 2



BLE SMOKE AND FIRE CURTAINS

DES. J. ROBERSON

SHEET

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JOB NO. 11-2322

ESC PROTECTIVE SMOKE CURTAIN

DATE 2/7/24

OF 5 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED

USE (4)- #14 S.M. SCREW (TOP)
(2)- #14 S.M. SCREW (BOTTOM)
W/ 3/8" WASHERS
(TOP & BOTTOM, 6 TOTAL)

STRUCTURAL ENGINEER OF RECORD
SHALL DESIGN THE BACKING
PLATE (16 GA., 50 KSI MIN)
AND THE WALL STRUCTURE

C.G. WT = 10 LB/FT (100 LB MAX)
(INCLUDES FULL ASSEMBLY & CURTAIN)

UNIT BACKING
(ASTM 1008 14 GA, 33 KSI MIN)

5/8" THK.
WALL BOARD
(2 LAYERS MAX)

6" MAX

2"

3"

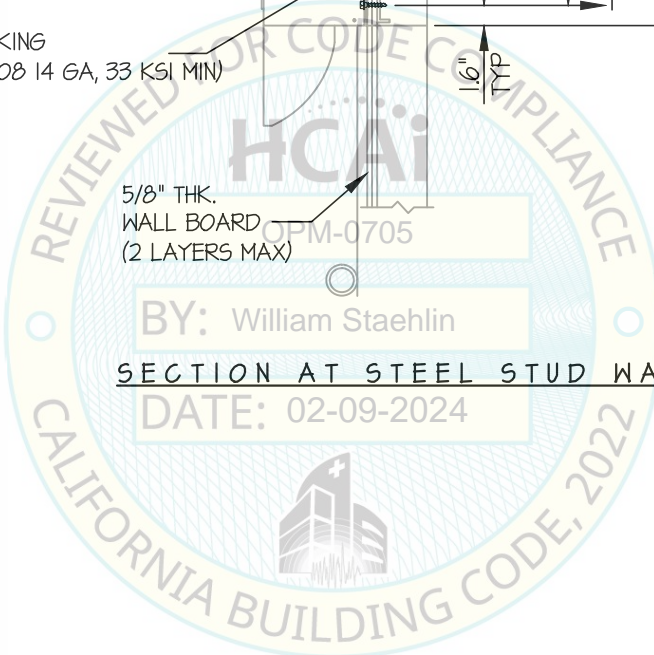
6.4"

T

T

10"

TOP OF OPENING



BY: William Staehlin

SECTION AT STEEL STUD WALL

DATE: 02-09-2024

Jonathan Roberson
REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2024
2/7/24
STRUCTURAL
STATE OF CALIFORNIA

BLE SMOKE AND FIRE CURTAINS

DES. J. ROBERSON

SHEET

5

JOB NO. 11-2322

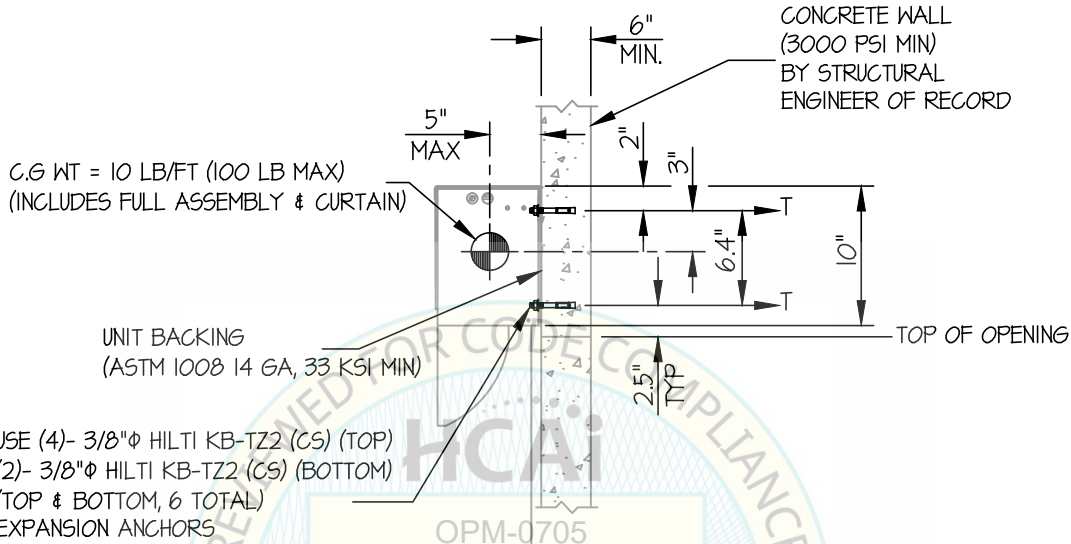
ESC PROTECTIVE SMOKE CURTAIN

DATE 2/7/24

OF 5 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



BY: William Staehlin

SECTION AT CONCRETE WALL

DATE: 02-09-2024

