



**EQUIPMENT ANCHORAGE
& SEISMIC ENGINEERING**

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Office of Statewide Health Planning and Development
PREAPPROVAL OF MANUFACTURER'S CERTIFICATION
OPM-0162-13

THIS PREAPPROVAL CONFORMS TO THE 2013 CALIFORNIA BUILDING CODE

MANUFACTURER: **GCX CORPORATION**
EQUIPMENT NAME: **GCX VHC**

Sheet: 1 of 4
Date: 12/9/14

GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2013 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2013 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 2013 CALIFORNIA BUILDING CODE.
4. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE $S_{ds} = 2.20$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$.
5. THE DETAILS IN THIS PREAPPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE SDS IS NOT GREATER THAN 2.20.
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. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
9. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING
 - A. PROVIDE SUPPORTING STRUCTURE REQUIRED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
 - B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2013 CBC AND WITH THE DETAILS SHOWN IN THIS PREAPPROVAL. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
 - C. VERIFY THAT THE COMBINATION OF S_{ds} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT ARE NOT GREATER THAN THE VALUES ON THE DETAILS.
 - D. DESIGN BACKING BARS, STUDS, ETC. WHICH THE UNITS ARE ATTACHED TO AS NOTED ON THE DRAWINGS.



GCX CORPORATION

DES. **J. ROBERSON**

SHEET

2

GCX VHC

JOB NO. **11-1441**

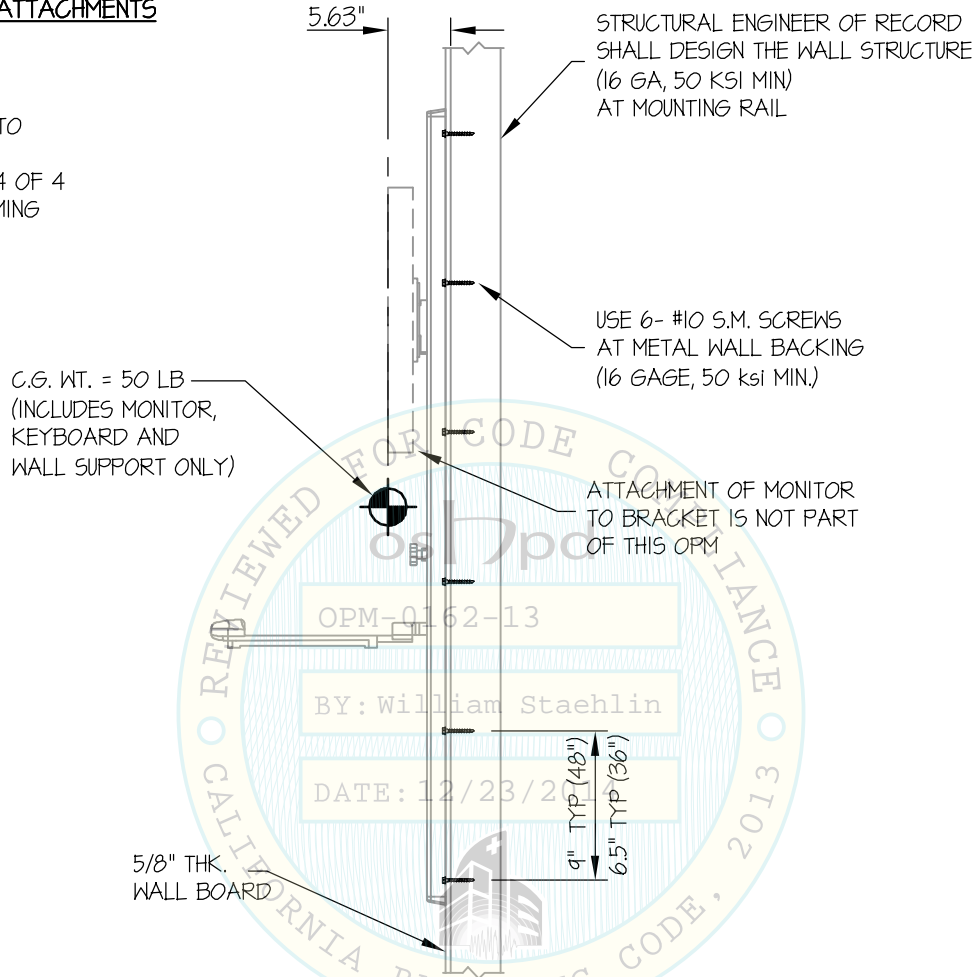
DATE **12/9/14**

OF **4** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED

NOTE:
THIS DETAIL APPLIES TO
METAL STUD FRAMING
REFER TO SHEET 3 & 4 OF 4
FOR WOOD STUD FRAMING



STEEL STUD WALL SECTION

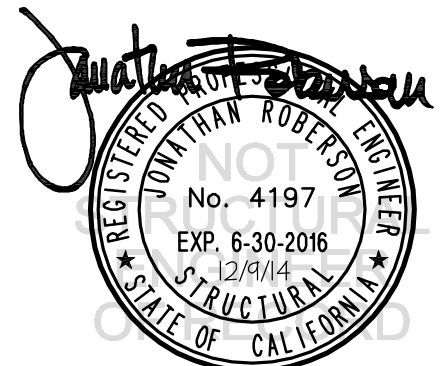
NOTES:

- FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED. ($S_d_s = 2.20$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$)

HORIZONTAL FORCE (E_h) = $3.96 W_p$

VERTICAL FORCE (E_v) = $0.44 W_p$

- CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- 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.
- SEE GENERAL NOTES; SHEET 1.



GCX CORPORATION

DES. **J. ROBERSON**

SHEET

3

JOB NO. **11-1441**

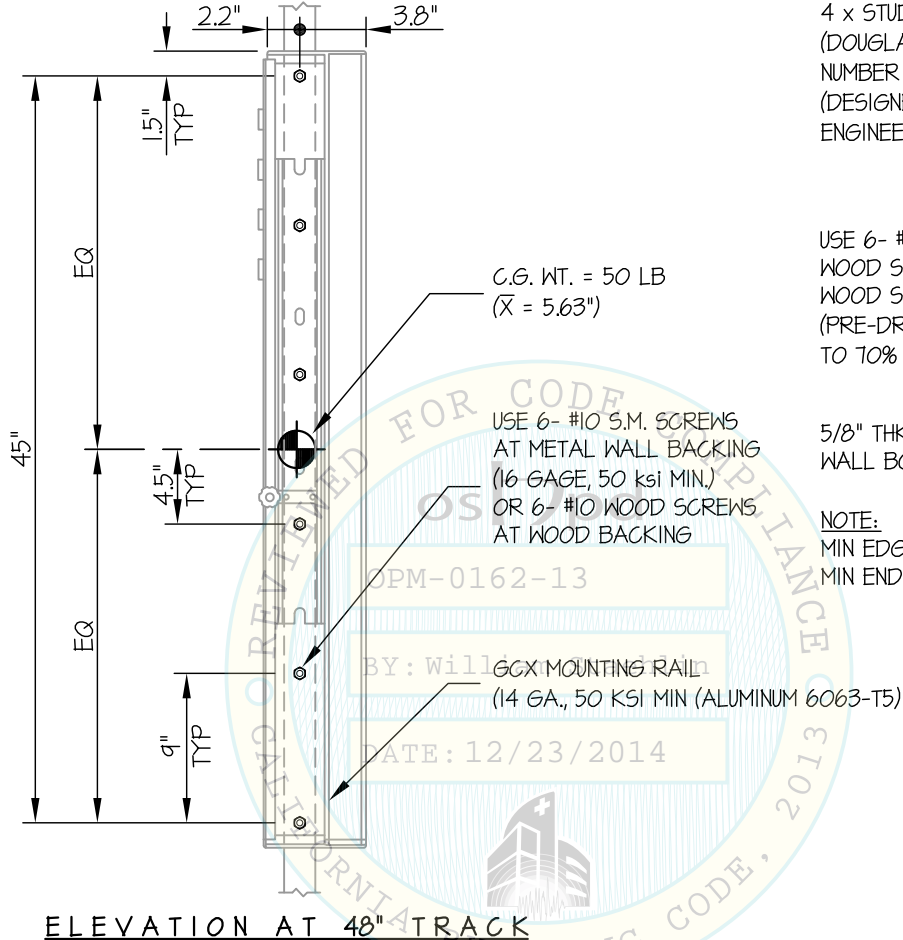
GCX VHC

DATE **12/9/14**

OF **4** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



4 x STUD OR 4 x BLKG (DOUGLAS-FIR LARCH NUMBER 2 MIN.) (DESIGNED BY STRUCTURAL ENGINEER OF RECORD)

USE 6- #10 X 4" WOOD SCREWS TO WOOD STUD OR BLKG. (PRE-DRILL HOLES TO 70% SHANK DIAMETER)

5/8" THK. WALL BOARD

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

WOOD STUD WALL SECTION

$T_u = 120$ LB/SCREW (MAX)
 $V_u = 80$ LB/SCREW (MAX)

Jonathan Roberson
REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2016
12/9/14
STRUCTURAL
STATE OF CALIFORNIA

GCX CORPORATION

DES. **J. ROBERSON**

SHEET

4

JOB NO. **11-1441**

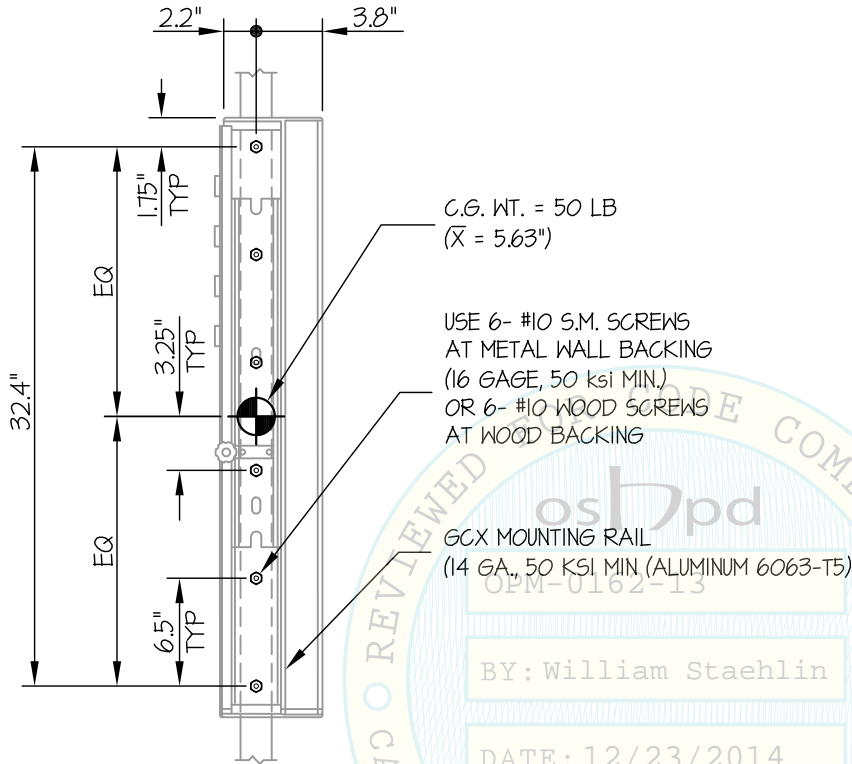
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OF **4** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED

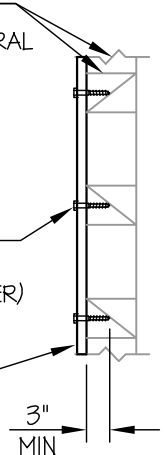


ELEVATION AT 36" TRACK

4 x STUD OR 4 x BLKG
(DOUGLAS-FIR LARCH
NUMBER 2 MIN.)
(DESIGNED BY STRUCTURAL
ENGINEER OF RECORD)

USE 6- #10 X 4"
WOOD SCREWS TO
WOOD STUD OR BLKG.
(PRE-DRILL HOLES
TO 70% SHANK DIAMETER)

5/8" THK.
WALL BOARD



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

WOOD STUD WALL SECTION

$T_u = 122 \text{ LB/SCREW (MAX)}$

$V_u = 80 \text{ LB/SCREW (MAX)}$

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