

CHATSWORTH PRODUCTS, INC.

FIXED RACKS

DES. J. ROBERSON

JOB NO. 11-1131

DATE 7/25/12

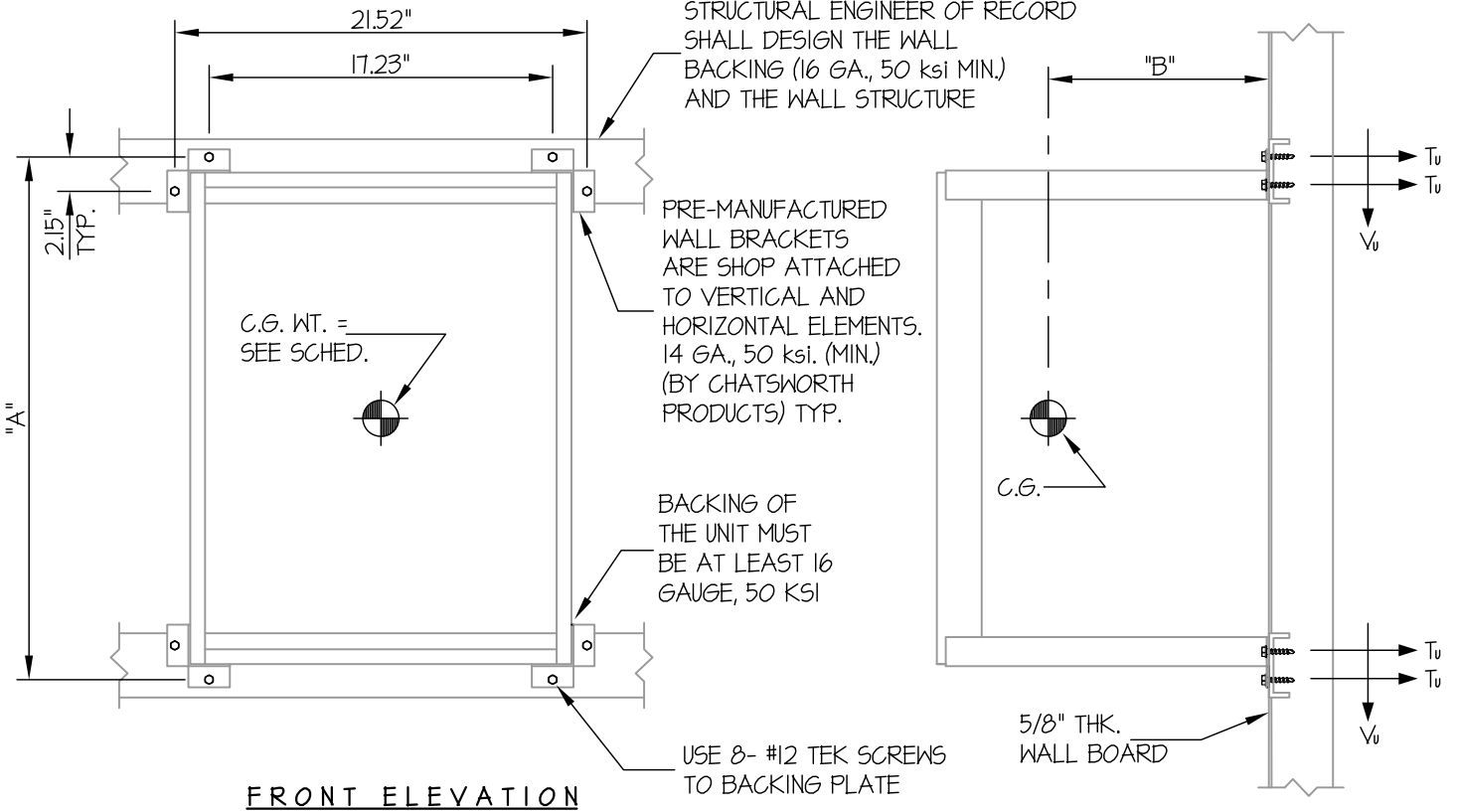
SHEET

1

OF **2** SHEETS

SEISMIC ANCHORAGE

WALL MOUNTED



FRONT ELEVATION

STEEL STUD WALL SECTION

$T_u = 85 \text{ LB/BOLT (MAX)}$
 $V_u = 84 \text{ LB/BOLT (MAX)}$

SEE PAGE 2 OF 2 FOR WEIGHT, AND DIMENSIONS

NOTES:

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

HORIZONTAL FORCE (E_h) = $1.50 W_p$ ($S_{Ds} = 2.00$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 6.0$, $z/h \leq 1.0$)

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 SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.



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SHEET

2

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SEISMIC ANCHORAGE

WALL MOUNTED

MODEL NO.	"A" (in)	"B" (in)	WEIGHT (lbs)
11960-X06	26.5"	4.5"	210
11960-X12	26.5"	9"	211
11960-X18	26.5"	13.5"	212
11961-X06	40.5"	4.5"	210
11961-X12	40.5"	9"	212
11961-X18	40.5"	13.5"	214
11962-X06	75.5"	4.5"	214
11962-X12	75.5"	9"	215
* 11962-X18	75.5"	13.5"	218

* MODEL REPRESENTED IN CALCULATION BELOW

LOADS: PER 2010 CALIFORNIA BUILDING CODE AND ASCE 7-05.

(STRENGTH DESIGN IS USED) ($S_{bs} = 2.00$, $a_p = 2.5$, $l_p = 1.5$, $R_p = 6.0$, $z/h \leq 1.0$)

WEIGHT = 218 LB

HORIZONTAL FORCE (E_h) = $150W_p = 327$ LB

VERTICAL FORCE (E_v) = $0.40W_p = 87$ LB

BOLT FORCES:

#12 TEK SCREWS TO 16 GAGE, 50 KSI

$\phi T = 328$ LB/SCREW

$\phi V = 288$ LB/SCREW

TENSION (T)

$$T_{u \text{ VERTICAL}} = \frac{(1.2(218\#) + 87\#)13.5''}{4_{\text{SCREWS}}(73.35'')} = 16 \text{ LB}$$

$$T_{u \text{ PARALLEL}} = \frac{327\#(13.5'')}{4_{\text{SCREWS}}(19.38'')} = 57 \text{ LB}$$

$$T_{u \text{ PERP.}} = \frac{327\#}{8_{\text{SCREWS}}} = 41 \text{ LB}$$

$$T_{u \text{ MAX}} = 16\# + (0.3)(41) + 57 = 85 \text{ LB/SCREW (MAX)}$$

UNITY CHECK:

$$\left(\frac{T_u}{\phi T} \right) + \left(\frac{V_u}{\phi V} \right) \leq 1.0$$

$$\left(\frac{85}{328} \right) + \left(\frac{84}{288} \right) = 0.55 \leq 1.0 \therefore \text{O.K.}$$

SHEAR (V)

$$V_{u \text{ MAX}} = \frac{1.2(218\#) + 87\# + 327\#}{8_{\text{SCREWS}}} = 84 \text{ LB/SCREW (MAX)}$$