

CHATSWORTH PRODUCTS, INC.

TRIANGULAR SUPPORT BRACKET

DES. J. ROBERSON

JOB NO. 11-1131

DATE 6/7/12

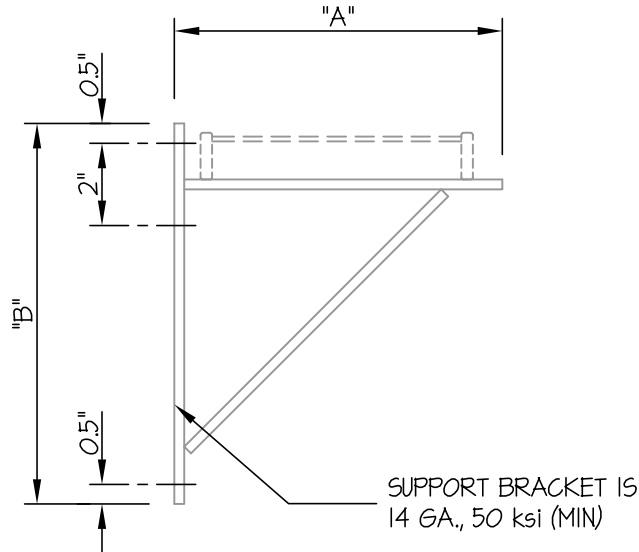
SHEET

1

OF **2** SHEETS

SEISMIC ANCHORAGE

WALL MOUNTED



SIDE ELEVATION

MODEL	"A" (in.)	"B" (in.)	MAX. LOAD (lbs)	T _U (lbs/screw)	V _U (lbs/screw)
* X06	7.75	9.25	140	177	134
X12	13.75	15.25	140	171	126
X18	19.75	21.25	140	170	123

* THIS MODEL USED IN CALCULATION BELOW

NOTES:

- FORCES ARE DETERMINED 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 ≤ 10)

VERTICAL FORCE (E_v) = 0.40 W_p

- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.



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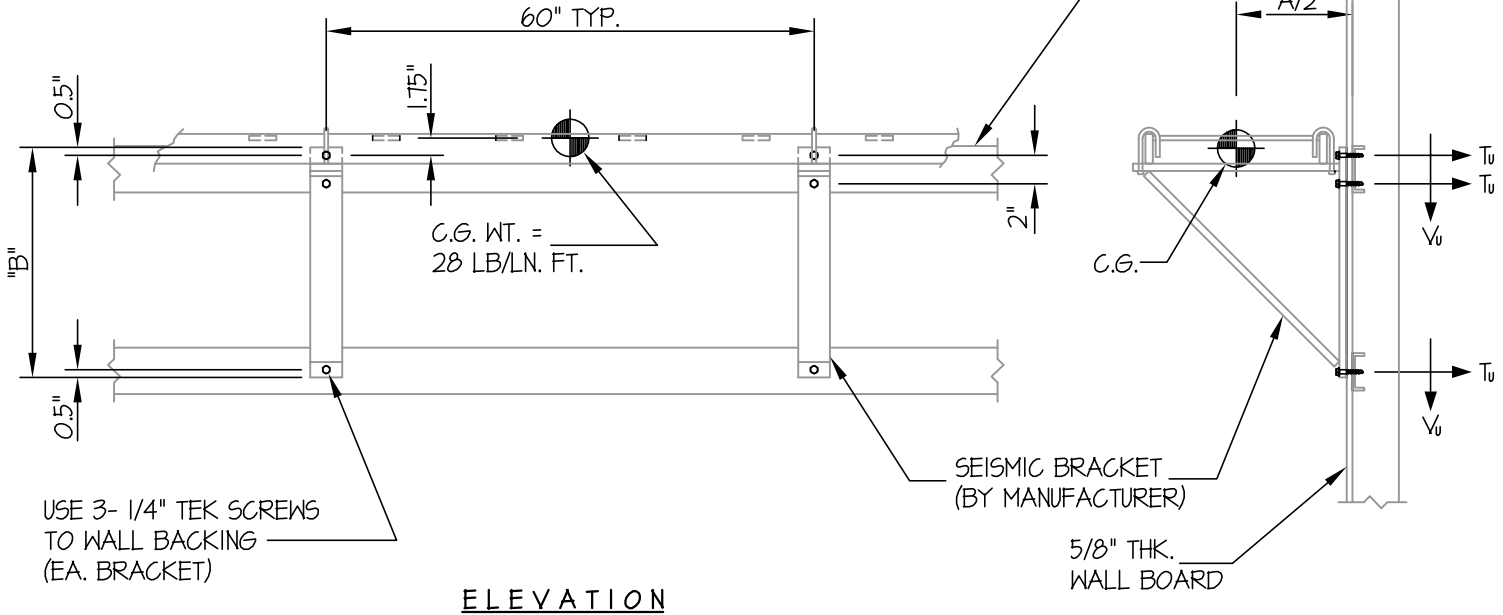
2

OF **2** SHEETS

SEISMIC ANCHORAGE

WALL MOUNTED

STRUCTURAL ENGINEER OF RECORD SHALL DESIGN THE WALL BACKING (14 GA., 50 KSI MIN.) AND THE WALL STRUCTURE



ELEVATION

STEEL STUD WALL SECTION

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

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

WEIGHT = 140 LB (SUPPORTS @ 5'-0" O.C.)

HORIZONTAL FORCE (E_h) = $1.44W_p = 202$ LB

VERTICAL FORCE (E_v) = $0.40W_p = 56$ LB

1/4"Ø TEK SCREWS TO 14 GAGE, 50 KSI

$\phi_T = 440$ LB/SCREW

$\phi_V = 362$ LB/SCREW

SCREW FORCES: MODEL X06 USED IN CALCULATION

TENSION (T)

$$T_u \text{ VERTICAL} = \frac{(1.2(140\#) + 56\#)3.88"}{2 \text{ SCREWS}(8.25")} = 53 \text{ LB}$$

$$T_u \text{ PARALLEL} = \frac{202\#(3.88")(10")}{2 \text{ SCREWS}(60")(8.25")} = 8 \text{ LB}$$

$$T_u \text{ PERP.} = \frac{202\#(10")}{2 \text{ SCREWS}(8.25")} = 122 \text{ LB}$$

$$T_u \text{ MAX} = 53\# + 0.3(8\#) + 122\# = 177 \text{ LB/SCREW (MAX)}$$

UNITY CHECK:

$$\left(\frac{T_u}{\phi_T}\right) + \left(\frac{V_u}{\phi_V}\right) \leq 1.0$$

$$\left(\frac{177}{440}\right) + \left(\frac{134}{362}\right) = 0.77 \leq 1.0 \therefore \text{O.K.}$$

SHEAR (V)

$$V_u \text{ MAX} = \sqrt{\left(\frac{1.2(140\#) + 56\#}{4 \text{ SCREWS}}\right)^2 + \left(\frac{202\#(10")}{2 \text{ SCREWS}(8.25")}\right)^2} = 134 \text{ LB/SCREW (MAX)}$$