

ICW USA INC.

J. ROBERSON

SHEET

1

11-2329

ULTRA AND ELITE WALL MOUNTS

4/25/24

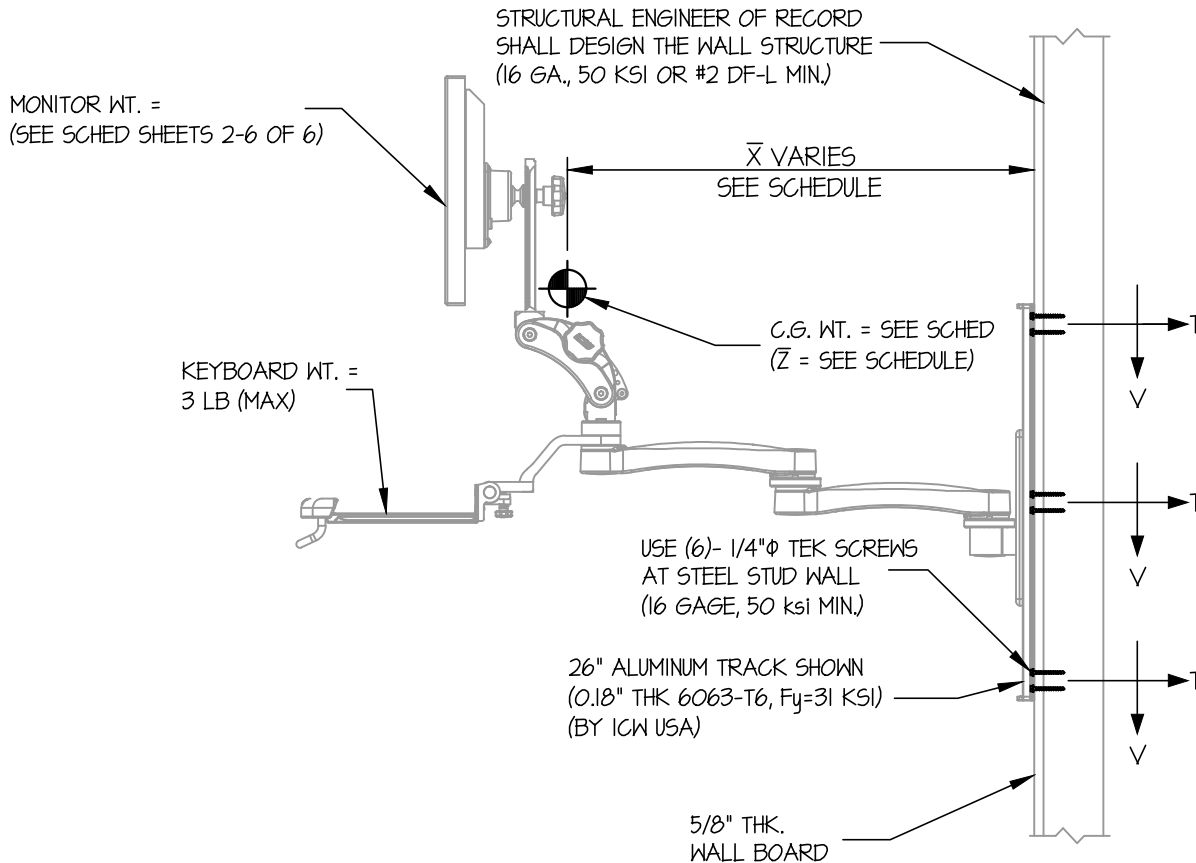
OF

6

SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



STEEL STUD WALL SECTION
(ULTRA 550 MODEL SHOWN)

NOTES:

1. FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED. (EXAMPLE: $S_{ds} = 1.70$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$)

$$\text{HORIZONTAL FORCE (E}_h\text{)} = 3.06 W_p$$

$$\text{VERTICAL FORCE (E}_v\text{)} = 0.34 W_p$$

2. THIS PREAPPROVAL ENCOMPASSES WEIGHTS AND VERTICAL CG POSITIONS UP TO THE VALUES SHOWN.
3. 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.
4. 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.



ICW USA INC.

DES. J. ROBERSON

SHEET

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JOB NO. 11-2329

ULTRA AND ELITE WALL MOUNTS

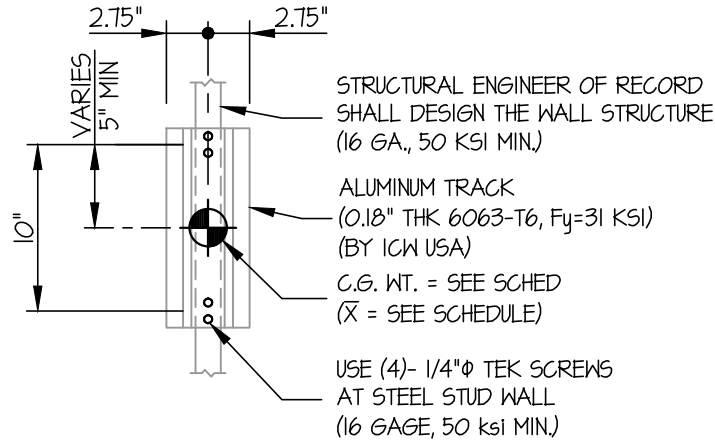
DATE 4/25/24

OF 6 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

12" TRACK

WALL MOUNTED



ELEVATION AT WALL PLATE
(STEEL STUD WALL SHOWN)

MODEL	MONITOR WEIGHT (LB)	TOTAL LOAD (LB)	$\bar{X}$ (in)	(AFW) T_u (lb)	(AFW) V_u (lb)	(AW) T_u (lb)	(AW) V_u (lb)
UL182EV7-W3-KUS-A1	32	61	31.6	195	52	87	197
* ELP5220-WT-KUS	28	62	48.0	277	53	88	277
UL550-W3-KUB-A2	32	50	25.8	138	43	71	138

* THIS UNIT USED IN THE CALCULATION BELOW.

LOADS:

WEIGHT (W_p) = 62 LB
 HORIZONTAL FORCE (E_h) = $3.06 W_p$ = 190 LB
 VERTICAL FORCE (E_v) = $0.34 W_p$ = 21 LB
 (EXAMPLE: $S_d s = 1.70$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$)

SCREW SPEC: 1/4"Ø TEK SCREWS

ΦT = 418 LB/SCREW

ΦV = 362 LB/SCREW

TENSION (T) (AWAY FROM WALL (AFW))

$$T_{u \text{ VERTICAL}} = \frac{(12(62\#) + 21\#)48''}{2 \text{ SCREWS}(10'')} = 229 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = 0 \text{ LB (FREE TO ROTATE)}$$

$$T_{u \text{ PERP.}} = \frac{190\#}{4 \text{ SCREWS}} = 48 \text{ LB/SCREW}$$

$$T_{u \text{ MAX}} = 229\# + 48\# = 277 \text{ LB/SCREW (MAX)}$$

TENSION (T) AT SHEAR MAX (AGAINST WALL (AW))

$$T_{u \text{ VERTICAL}} = \frac{(12(62\#) + 21\#)4''}{2 \text{ SCREWS}(10'')} = 19 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = \frac{190\#(4'')}{4 \text{ SCREWS}(2.75'')} = 69 \text{ LB/SCREW}$$

$$T_{u \text{ PERP.}} = 0 \text{ LB (FREE TO ROTATE)}$$

$$T_{u \text{ MAX}} = 19\# + 69\# = 88 \text{ LB/SCREW (MAX)}$$

SHEAR (V)

$$V_{u \text{ AGAINST WALL}} = \sqrt{\left(\frac{(12(62\#) + 21\#)(48'')}{2 \text{ SCREWS}(10'')} + \frac{190\#}{4 \text{ SCREWS}}\right)^2 + \left(\frac{12(62\#) + 21\#}{4 \text{ SCREWS}}\right)^2} = 277 \text{ LB/SCREW (MAX) } \therefore \underline{\text{OK}}$$

$$V_{u \text{ MAX @ } T_{u \text{ MAX}}} = \sqrt{\left(\frac{12(62\#) + 21\#}{4 \text{ SCREWS}}\right)^2 + \left(\frac{190\#}{4 \text{ SCREWS}}\right)^2} = 54 \text{ LB/SCREW (MAX)}$$

INTERACTION: (AGAINST WALL GOVERNS)

$$\left(\frac{T_u}{\Phi T}\right) + \left(\frac{V_u}{\Phi V}\right) \leq 1.0 \left(\frac{88}{418}\right) + \left(\frac{277}{362}\right) = 0.98 \leq 1.0 \therefore \underline{\text{OK}}$$

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ULTRA AND ELITE WALL MOUNTS

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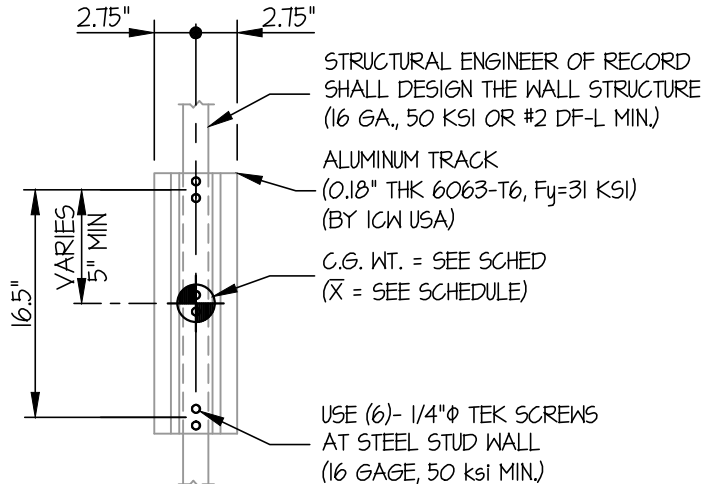
3

OF 6 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

19" TRACK

WALL MOUNTED



ELEVATION AT WALL PLATE
(STEEL STUD WALL SHOWN)

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

USE (6)- 1/4"Φ 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

MODEL	MONITOR WEIGHT (LB)	TOTAL LOAD (LB)	$\bar{X}$ (in.)	(AFW) T_u (lb.)	(AFW) V_u (lb.)	(AW) T_u (lb.)	(AW) V_u (lb.)
UL182EV7-W3-KUS-A1	32	61	31.6	121	49	57	138
* ELP5220-WT-KUS	28	62	48.0	171	50	58	187
UL550-W3-KUB-A2	32	50	25.8	86	29	46	99

* THIS UNIT USED IN THE CALCULATION BELOW.

LOADS:

WEIGHT (W_p) = 62 LB
HORIZONTAL FORCE (E_h) = $3.06 W_p$ = 190 LB
VERTICAL FORCE (E_v) = $0.34 W_p$ = 21 LB
(EXAMPLE: $S_d s = 1.70$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$)

1/4"Φ WOOD SCREWS

ΦT = 596 LB/SCREW

ΦV = 275 LB/SCREW

SCREW SPEC: 1/4"Φ TEK SCREWS

ΦT = 418 LB/SCREW

ΦV = 362 LB/SCREW

TENSION (T) (AWAY FROM WALL (AFW))

$$T_{u \text{ VERTICAL}} = \frac{(1.2(62\#) + 21\#)(48")}{2 \text{ SCREWS}(16.5")} = 139 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = 0 \text{ LB (FREE TO ROTATE)}$$

$$T_{u \text{ PERP.}} = \frac{190\#}{6 \text{ SCREWS}} = 32 \text{ LB/SCREW}$$

$$T_{u \text{ MAX}} = 139\# + 32\# = 171 \text{ LB/SCREW (MAX)}$$

TENSION (T) AT SHEAR MAX (AGAINST WALL (AW))

$$T_{u \text{ VERTICAL}} = \frac{(1.2(62\#) + 21\#)(4")}{2 \text{ SCREWS}(16.5")} = 12 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = \frac{190\#(4")}{6 \text{ SCREWS}(2.75")} = 46 \text{ LB/SCREW}$$

$$T_{u \text{ PERP.}} = 0 \text{ LB (FREE TO ROTATE)}$$

$$T_{u \text{ MAX}} = 12\# + 46\# = 58 \text{ LB/SCREW (MAX)}$$

SHEAR (V)

$$V_{u \text{ AGAINST WALL}} = \sqrt{\left(\frac{(1.2(62\#) + 21\#)(48")}{2 \text{ SCREWS}(16.5")} + \frac{190\#}{4 \text{ SCREWS}}\right)^2 + \left(\frac{1.2(62\#) + 21\#}{6 \text{ SCREWS}}\right)^2} = 187 \text{ LB/SCREW (MAX)} \therefore \text{OK}$$

$$V_{u \text{ MAX @ } T_{u \text{ MAX}}} = \sqrt{\left(\frac{1.2(62\#) + 21\#}{6 \text{ SCREWS}}\right)^2 + \left(\frac{190\#}{4 \text{ SCREWS}}\right)^2} = 50 \text{ LB/SCREW (MAX)}$$

INTERACTION: (AGAINST WALL GOVERNS)

$$\left(\frac{T_u}{\Phi T}\right) + \left(\frac{V_u}{\Phi V}\right) \leq 1.0 \left(\frac{58}{418}\right) + \left(\frac{187}{362}\right) = 0.66 \leq 1.0 \therefore \text{OK}$$

INTERACTION: (WOOD SCREW)

$$\left(\frac{58}{596}\right) + \left(\frac{187}{275}\right) = 0.78 \leq 1.0 \therefore \text{OK}$$

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ULTRA AND ELITE WALL MOUNTS

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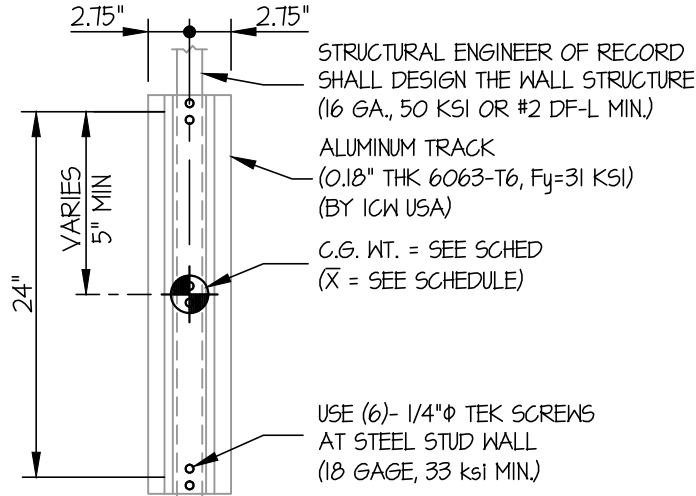
SHEET

4

OF 6 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

26" TRACK



ELEVATION AT WALL PLATE
(STEEL STUD WALL SHOWN)

MODEL	MONITOR WEIGHT (LB)	TOTAL LOAD (LB)	X̄ (in.)	(AFW) Tu (lb.)	(AFW) Vu (lb.)	(AW) Tu (lb.)	(AW) Vu (lb.)
UL182EV7-W3-KUS-A1	32	61	31.6	93	49	53	110
* ELP5220-WT-KUS	28	62	48.0	127	50	54	144
UL550-W3-KUB-A2	32	50	25.8	67	29	44	81

* THIS UNIT USED IN THE CALCULATION BELOW.

LOADS:

WEIGHT (Wp) = 62 LB
 HORIZONTAL FORCE (Eh) = 3.06 Wp = 190 LB
 VERTICAL FORCE (Ev) = 0.34 Wp = 21 LB
 (EXAMPLE: Sds = 170, ap = 2.5, Ip = 1.5, Rp = 2.5, z/h ≤ 1)

TENSION (T) (AWAY FROM WALL (AFW))

$$T_{u \text{ VERTICAL}} = \frac{(12(62\#) + 21\#)(48\#)}{2 \text{ SCREWS}(24\#)} = 95 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = 0 \text{ LB (FREE TO ROTATE)}$$

$$T_{u \text{ PERP.}} = \frac{190\#}{6 \text{ SCREWS}} = 32 \text{ LB/SCREW}$$

$$T_{u \text{ MAX}} = 95\# + 32\# = 127 \text{ LB/SCREW (MAX)}$$

TENSION (T) AT SHEAR MAX (AGAINST WALL (AW))

$$T_{u \text{ VERTICAL}} = \frac{(12(62\#) + 21\#)(4\#)}{2 \text{ SCREWS}(24\#)} = 8 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = \frac{190\#(4\#)}{6 \text{ SCREWS}(2.75\#)} = 46 \text{ LB/SCREW}$$

$$T_{u \text{ PERP.}} = 0 \text{ LB (FREE TO ROTATE)}$$

$$T_{u \text{ MAX}} = 8\# + 46\# = 54 \text{ LB/SCREW (MAX)}$$

SHEAR (V)

$$V_{u \text{ AGAINST WALL}} = \sqrt{\left(\frac{(12(62\#) + 21\#)(48\#)}{2 \text{ SCREWS}(24\#)} + \frac{190\#}{4 \text{ SCREWS}}\right)^2 + \left(\frac{12(62\#) + 21\#}{6 \text{ SCREWS}}\right)^2} = 144 \text{ LB/SCREW (MAX) } \therefore \text{OK}$$

$$V_{u \text{ MAX @ } T_{u \text{ MAX}}} = \sqrt{\left(\frac{12(62\#) + 21\#}{6 \text{ SCREWS}}\right)^2 + \left(\frac{190\#}{4 \text{ SCREWS}}\right)^2} = 50 \text{ LB/SCREW (MAX)}$$

INTERACTION: (AGAINST WALL GOVERNS)

$$\left(\frac{T_u}{\Phi T}\right) + \left(\frac{V_u}{\Phi V}\right) \leq 1.0 \quad \left(\frac{54}{418}\right) + \left(\frac{144}{362}\right) = 0.53 \leq 1.0 \therefore \text{OK}$$

INTERACTION: (WOOD SCREW)

$$\left(\frac{54}{596}\right) + \left(\frac{144}{275}\right) = 0.61 \leq 1.0 \therefore \text{OK}$$

WALL MOUNTED

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

USE (6)- 1/4" 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

ICW USA INC.

DES. J. ROBERSON

SHEET

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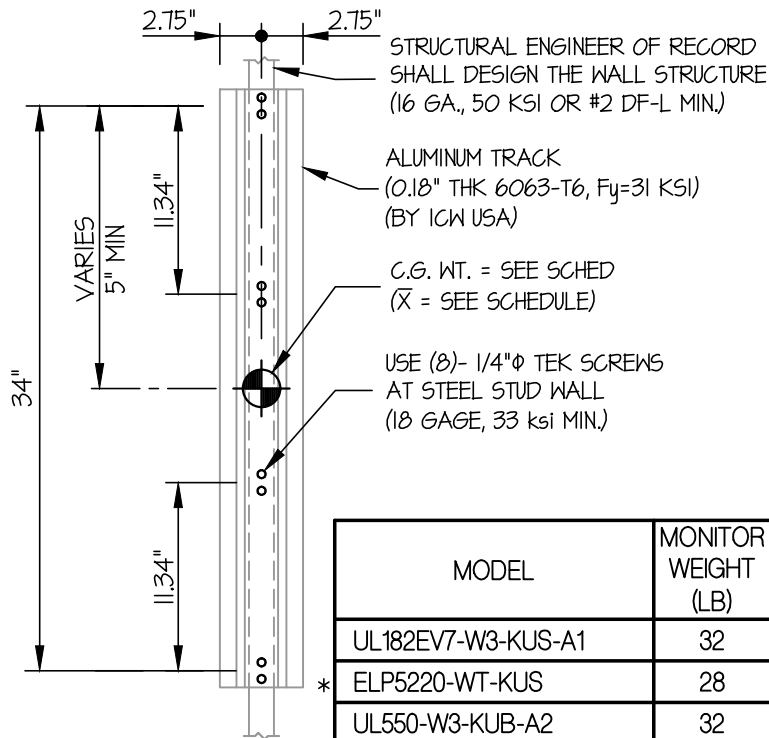
JOB NO. 11-2329

OF **6** SHEETS

ULTRA AND ELITE WALL MOUNTS

SEISMIC SUPPORTS & ATTACHMENTS

36" TRACK



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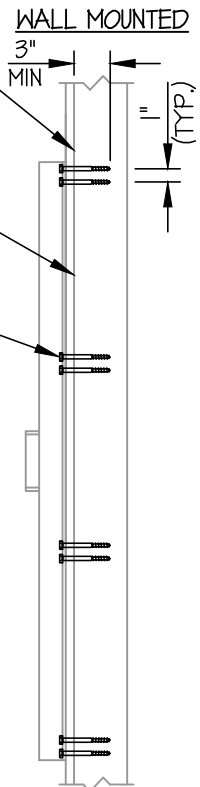
VERTICAL 4 x STUD MIN.
(DOUGLAS-FIR LARCH
NUMBER 2 MIN.)
(DESIGNED BY STRUCTURAL
ENGINEER OF RECORD)

5/8" THK.
WALL BOARD

USE (8)- 1/4"Φ X 4"
WOOD SCREWS TO
WOOD STUD OR BLKG.
(PRE-DRILL HOLES
TO 70% SHANK DIAMETER)

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

MODEL	MONITOR WEIGHT (LB)	TOTAL LOAD (LB.)	$\bar{X}$ (in.)	(AFW) T _u (lb.)	(AFW) V _u (lb.)	(AW) T _u (lb.)	(AW) V _u (lb.)
UL182EV7-W3-KUS-A1	32	61	316	67	48	40	91
*ELP5220-WT-KUS	28	62	48.0	91	49	40	116
UL550-W3-KUB-A2	32	50	25.8	48	21	32	68



ELEVATION AT WALL PLATE
(STEEL STUD WALL SHOWN)

LOADS:

WEIGHT (W_p) = 62 LB
HORIZONTAL FORCE (E_h) = $3.06 W_p$ = 190 LB
VERTICAL FORCE (E_v) = $0.34 W_p$ = 21 LB
(EXAMPLE: $Sps = 170$, $a_p = 2.5$, $l_p = 15$, $R_p = 2.5$, $z/h < 1$)

TENSION (T) (AWAY FROM WALL (AFW))

$$T_{u \text{ VERTICAL}} = \frac{(1.2(62\#) + 21\#)48''}{2 \text{ SCREWS}(34'')} = 67 \text{ LB/SCREW}$$

$$T_{\text{UPARALLEL}} = 0 \text{ LB} \quad (\text{FREE TO ROTATE})$$

$$T_{u \text{ PERP.}} = \frac{190\#}{8 \text{ SCREWS}} = 24 \text{ LB/SCREW}$$

$$T_{U\text{ MAX}} = 67\# + 24\# = 91 \text{ LB/SCREW (MAX)}$$

SHEAR (V)

$$V_u \text{ AGAINST WALL} = \sqrt{\left(\frac{(12(62\#) + 21\#)(48'')}{2 \text{ SCREWS}(34'')} + \frac{190\#}{4 \text{ SCREWS}}\right)^2 + \left(\frac{12(62\#) + 21\#}{8 \text{ SCREWS}}\right)^2} = 116 \text{ LB/SCREW (MAX)} \therefore \underline{\text{OK}}$$

$$V_{u \text{ MAX @ } T_{u \text{ MAX}}} = \sqrt{\left(\frac{12(62\#) + 21\#}{8 \text{ SCREWS}}\right)^2 + \left(\frac{190\#}{4 \text{ SCREWS}}\right)^2} = 49 \text{ LB/SCREW (MAX)}$$

INTERACTION: (AGAINST WALL GOVERNS)

$$\left(\frac{T_u}{\Phi T}\right) + \left(\frac{V_u}{\Phi V}\right) \leq 1.0 \quad \left(\frac{41}{418}\right) + \left(\frac{116}{362}\right) = 0.42 \leq 1.0 \quad \therefore \text{O.K.}$$

WOOD STUD WALL SECTION

1/4"Ø WOOD SCREWS

$$\Phi T = 596 \text{ LB/SCREW}$$
 $\Phi V = 275 \text{ LB/SCREW}$

SCREW SPEC: 1/4"Ø TEK SCREWS

$$\Phi T = 418 \text{ LB/SCREW}$$
$$\Phi V = 362 \text{ LB/SCREW}$$

TENSION (T) AT SHEAR MAX (AGAINST WALL (AW))

$$T_{u \text{ VERTICAL}} = \frac{(1.2(62\#) + 21\#)4''}{2 \text{ SCREWS}(34'')} = 6 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = \frac{190 \#(4'')}{8 \text{ SCREWS}(2.75'')} = 35 \text{ LB/SCREW}$$

$$T_{\text{H PERP}} = 0 \text{ LB} \quad (\text{FREE TO ROTATE})$$

$$T_{U\text{ MAX}} = 6\# + 35\# = 41 \text{ LB/SCREW (MAX)}$$

INTERACTION: (WOOD SCREW)

$$\left(\frac{41}{596}\right) + \left(\frac{116}{275}\right) = 0.49 \leq 1.0 \therefore \underline{\text{O.K.}}$$

ICW USA INC.

ULTRA AND ELITE WALL MOUNTS

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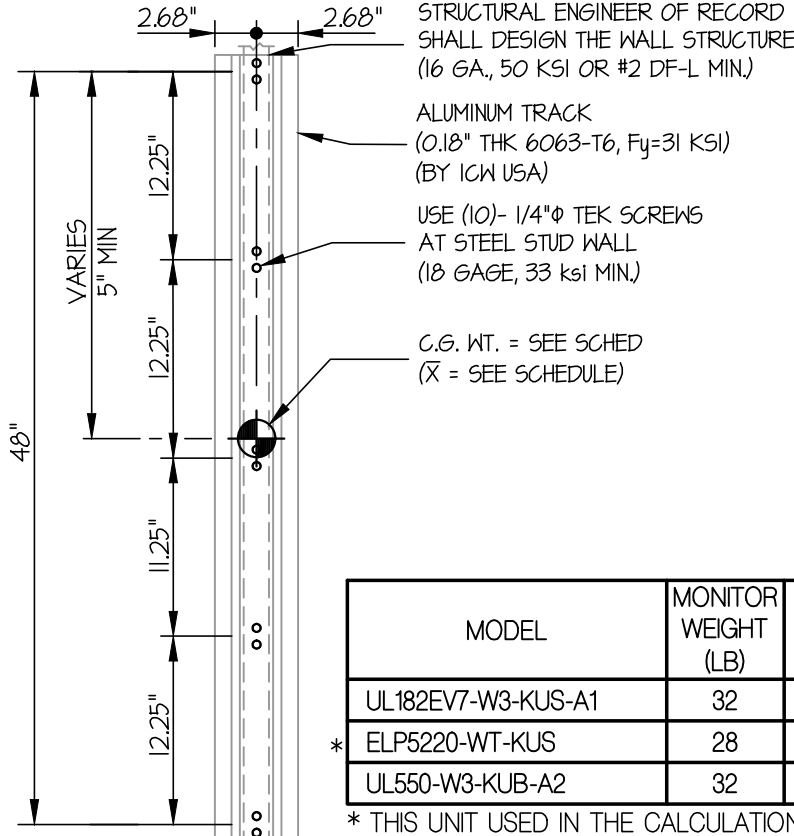
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OF 6 SHEETS

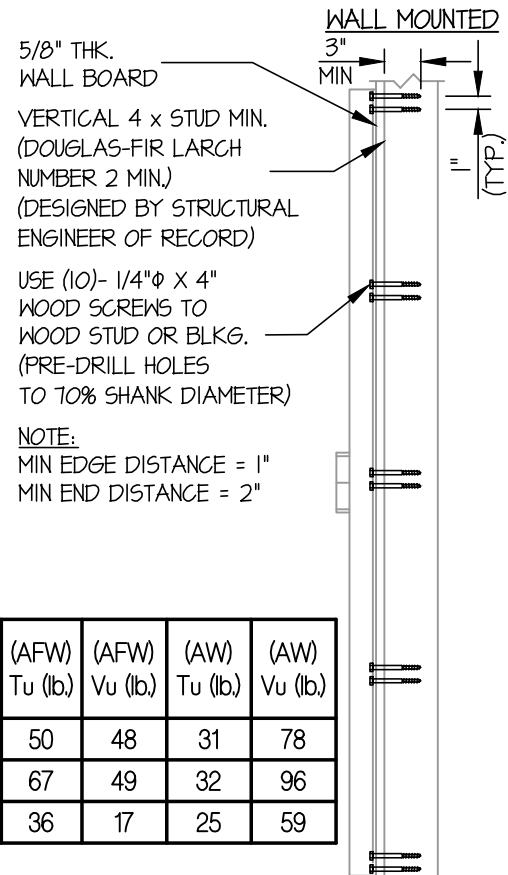
SEISMIC SUPPORTS & ATTACHMENTS

50° TRACK



MODEL	MONITOR WEIGHT (LB)	TOTAL LOAD (LB.)	X̄ (in.)	(AFW) T _u (lb.)	(AFW) V _u (lb.)	(AW) T _u (lb.)	(AW) V _u (lb.)
UL182EV7-W3-KUS-A1	32	61	31.6	50	48	31	78
* ELP5220-WT-KUS	28	62	48.0	67	49	32	96
UL550-W3-KUB-A2	32	50	25.8	36	17	25	59

* THIS UNIT USED IN THE CALCULATION BELOW.



ELEVATION AT WALL PLATE (STEEL STUD WALL SHOWN)

LOADS:

WEIGHT (W_p) = 62 LB
 HORIZONTAL FORCE (E_h) = 3.06 W_p = 190 LB
 VERTICAL FORCE (E_v) = 0.34 W_p = 21 LB
 (EXAMPLE: S_{ds} = 1.70, a_p = 2.5, I_p = 15, R_p = 2.5, z/h ≤ 1)

TENSION (T) (AWAY FROM WALL (AFW))

$$T_{u \text{ VERTICAL}} = \frac{(12(62\#) + 21\#)48''}{2 \text{ SCREWS}(48'')} = 48 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = 0 \text{ LB (FREE TO ROTATE)}$$

$$T_{u \text{ PERP.}} = \frac{190\#}{10 \text{ SCREWS}} = 19 \text{ LB/SCREW}$$

$$T_{u \text{ MAX}} = 48\# + 19\# = 67 \text{ LB/SCREW (MAX)}$$

SHEAR (V)

$$V_{u \text{ AGAINST WALL}} = \sqrt{\left(\frac{(12(62\#) + 21\#)(48'')}{2 \text{ SCREWS}(48'')} + \frac{190\#}{4 \text{ SCREWS}}\right)^2 + \left(\frac{12(62\#) + 21\#}{10 \text{ SCREWS}}\right)^2} = 96 \text{ LB/SCREW (MAX) } \therefore \text{OK}$$

$$V_{u \text{ MAX @ } T_{u \text{ MAX}}} = \sqrt{\left(\frac{12(62\#) + 21\#}{10 \text{ SCREWS}}\right)^2 + \left(\frac{190\#}{4 \text{ SCREWS}}\right)^2} = 49 \text{ LB/SCREW (MAX)}$$

INTERACTION: (AGAINST WALL GOVERNS) (TEK SCREWS)

$$\left(\frac{T_u}{\Phi T}\right) + \left(\frac{V_u}{\Phi V}\right) \leq 1.0 \left(\frac{32}{418}\right) + \left(\frac{96}{362}\right) = 0.34 \leq 1.0 \therefore \text{OK}$$

WOOD STUD WALL SECTION

1/4"Φ WOOD SCREWS

ΦT = 596 LB/SCREW

ΦV = 275 LB/SCREW

SCREW SPEC: 1/4"Φ TEK SCREWS

ΦT = 418 LB/SCREW

ΦV = 362 LB/SCREW

TENSION (T) AT SHEAR MAX (AGAINST WALL (AW))

$$T_{u \text{ VERTICAL}} = \frac{(12(62\#) + 21\#)4''}{2 \text{ SCREWS}(48'')} = 4 \text{ LB/SCREW}$$

$$T_{u \text{ PARALLEL}} = \frac{190\#(4'')}{10 \text{ SCREWS}(2.75'')} = 28 \text{ LB/SCREW}$$

$$T_{u \text{ PERP.}} = 0 \text{ LB (FREE TO ROTATE)}$$

$$T_{u \text{ MAX}} = 4\# + 28\# = 32 \text{ LB/SCREW (MAX)}$$

INTERACTION: (WOOD SCREW)

$$\left(\frac{32}{596}\right) + \left(\frac{96}{275}\right) = 0.40 \leq 1.0 \therefore \text{OK}$$