



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR OSHPD PREAPPROVAL
OF MANUFACTURER'S CERTIFICATION (OPM)**

OFFICE USE ONLY	
APPLICATION #:	OPM-0049-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal Update to Pre-CBC 2013 OPA Number: _____

Manufacturer Information

Manufacturer: Knappe & Vogt Waterloo

Manufacturer's Technical Representative: Jon Hamilton

Mailing Address: 501 Manitou Drive, Kitchener, ON, Canada N2C 1L2

Telephone: (519) 748-5060 Email: On File

Product Information

Product Name: Fluid HD, Fluid LT, Fluid CX, Fluid RX

Product Type: Computer OPM-0049-13

Product Model Number: HD, LX, CX, RX BY: William Staehlin

General Description: Wall Mounted Computer Support DATE: 01/23/2014

Applicant Information

Applicant Company Name: EASE Co.

Contact Person: Jonathan Roberson, S.E.

Mailing Address: 5877 Pine Ave. Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622 Email: J.Roberson@EASECo.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant:  Date: 7/3/13

Title: Principal Engineer Company Name: EASE Co.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company Name: EASE Co.

Name: Jonathan Roberson, S.E. California License Number: S4197

Mailing Address: 5877 Pine Ave. Suite 210, Chino Hills, CA. 91709

Telephone: 909-606-7667 Email: J.Roberson@EASECo.com

OSHPD Special Seismic Certification Preapproval (OSP)

- Special Seismic Certification is preapproved under OSP- (Separate application for OSP is required)
- Special Seismic Certification is not preapproved

Certification Method(s)

- Testing in accordance with: ICC-ES AC156 FM 1950-10
- Other* (Please Specify): _____

*Use of test criteria other than those adopted by the California Building Standards Code, 2013 (CBSC 2013) 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 2013 may be used when approved by OSHPD prior to testing.

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

List of Attachments Supporting the Manufacturer's Certification

- Test Report Drawings Calculations Manufacturer's Catalog
- Other(s) (Please Specify): _____

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2013 ONLY

Signature: *William Staehlin* Date: January 23, 2014

Print Name: William Staehlin

Title: Senior Structural Engineer

Condition of Approval (if applicable): _____

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**EQUIPMENT ANCHORAGE
& SEISMIC ENGINEERING**

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

Office of Statewide Health Planning and Development
PREAPPROVAL OF MANUFACTURER'S CERTIFICATION
OPM-0049-13

THIS PREAPPROVAL CONFORMS TO THE 2013 CALIFORNIA BUILDING CODE

MANUFACTURER: **KNAPE & VOGT WATERLOO**
EQUIPMENT NAME: **FLUID HD, FLUID LT, RX & CX W/ WALL TRACK OR H-TRACK OPTION
(WITH OR WITHOUT EXTENSION)**

Sheet: 1 of 8
Date: 12/11/13

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 $S_{ds} = 2.5$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$. SEE FOLLOWING SHEETS FOR Ω_0
5. THE DETAILS IN THIS PREAPPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE SDS IS NOT GREATER THAN 2.5.
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 BUILDDEX (ICC ESR-1976).
8. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE HOSPITAL BUILDING'S 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.



KNAPE & VOGT WATERLOO

**FLUID HD, FLUID LT, RX & CX W/ WALL TRACK
OR H-TRACK OPTION (WITH OR WITHOUT EXTENSION)**

DES. **J. ROBERSON**

JOB NO. **11-1330**

DATE **12/11/13**

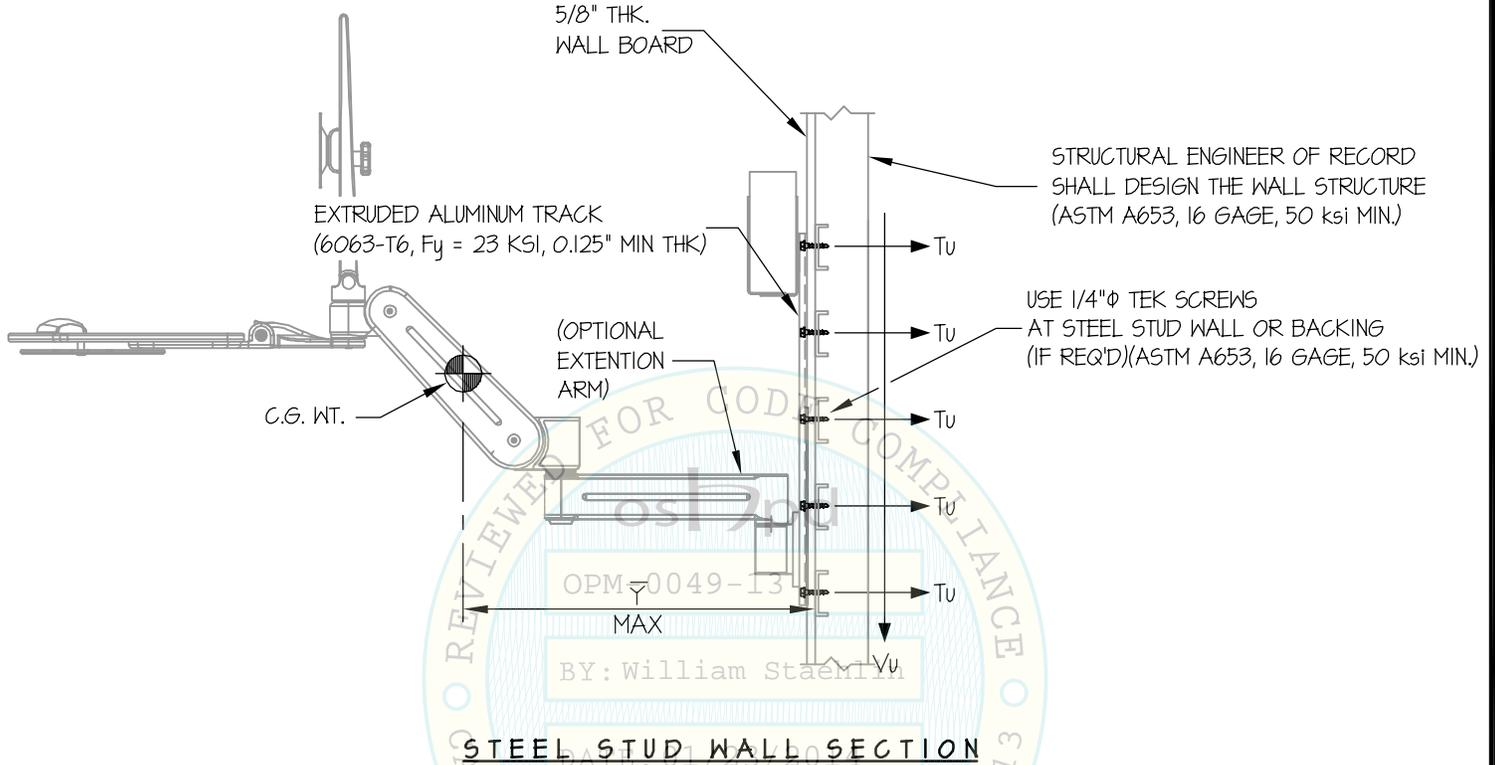
SHEET

2

OF **8** SHEETS

SEISMIC ANCHORAGE

WALL MOUNTED



NOTES:

- FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED.

HORIZONTAL FORCE (E_h) = $4.50 W_p$ ($S_{Ds} = 2.50$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$)

VERTICAL FORCE (E_v) = $0.50 W_p$

- 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: SHEETS 1.



KNAPE & VOGT WATERLOO

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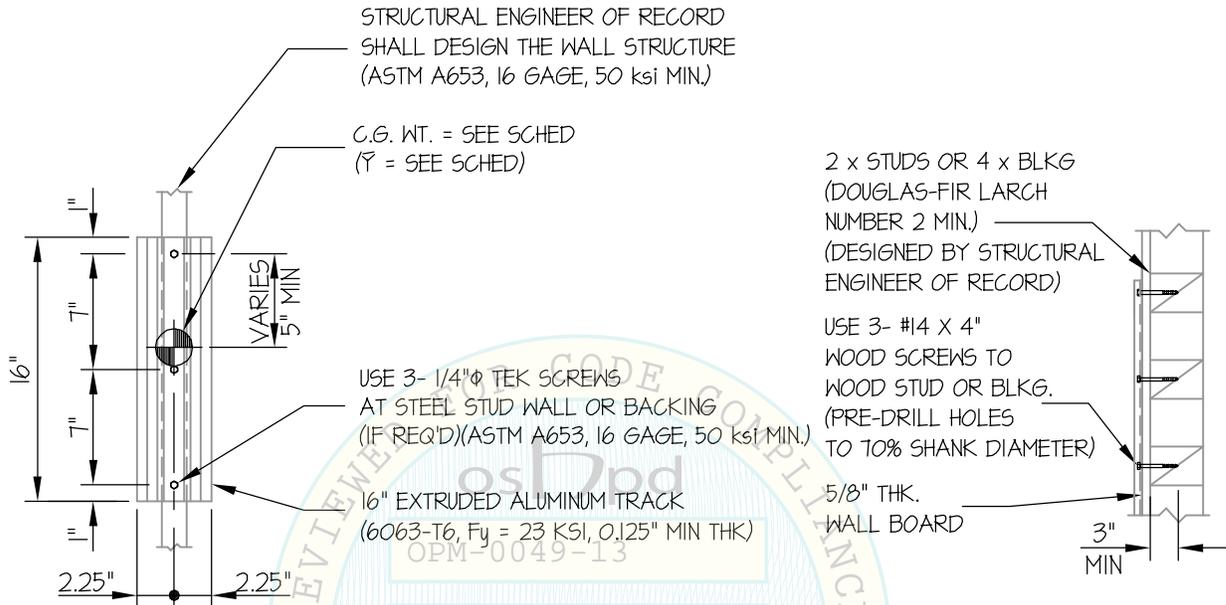
3

OF **8** SHEETS

SEISMIC ANCHORAGE

16" TRACK

WALL MOUNTED

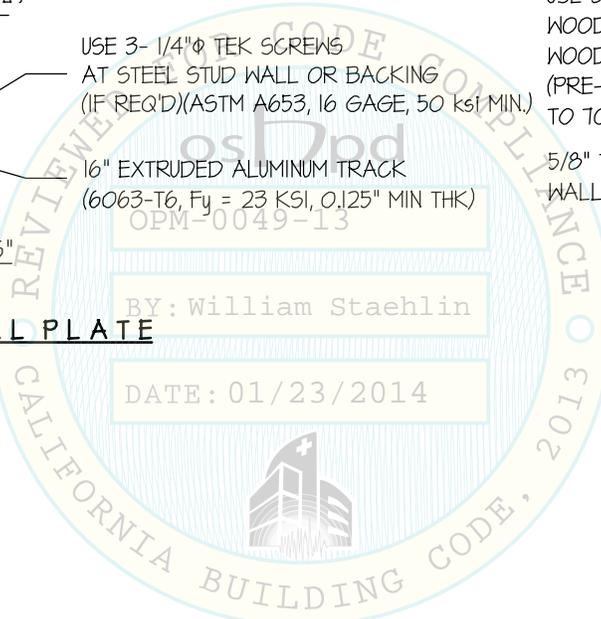


ELEVATION AT WALL PLATE

WOOD STUD WALL SECTION

BY: William Staehlin

DATE: 01/23/2014



SERIES	MAX OPERATING WEIGHT	C.G. WT	\bar{Y} MAX	Tu MAX	Vu @ Tu MAX	Vu MAX
Fluid LT (NO EXT)	49#	49#	15.6"	167#	28#	169#
Fluid HD (NO EXT)	67#	67#	14.6"	220#	38#	223#
RX (154320)	42#	42#	24.7"	189#	24#	190#

Jonathan Roberson
REGISTERED PROFESSIONAL ENGINEER
No. 4197
EXP. 6-30-2014
12/11/13
STATE OF CALIFORNIA

KNAPE & VOGT WATERLOO

FLUID HD, FLUID LT, RX & CX W/ WALL TRACK OR H-TRACK OPTION (WITH OR WITHOUT EXTENSION)

DES. **J. ROBERSON**

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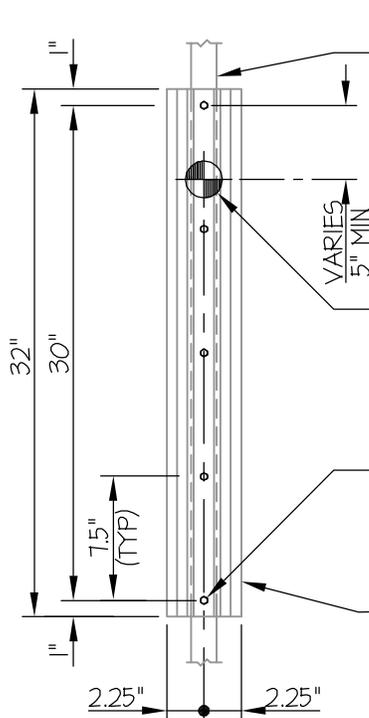
4

OF **8** SHEETS

SEISMIC ANCHORAGE

32" TRACK

WALL MOUNTED



STRUCTURAL ENGINEER OF RECORD SHALL DESIGN THE WALL STRUCTURE (ASTM A653, 16 GAGE, 50 ksi MIN.)

C.G. WT. = SEE SCHED
 \bar{Y} = SEE SCHED

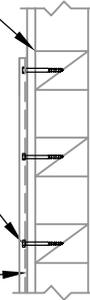
USE 5- 1/4" ϕ TEK SCREWS AT STEEL STUD WALL OR BACKING (IF REQ'D)(ASTM A653, 16 GAGE, 50 ksi MIN.)

32" EXTRUDED ALUMINUM TRACK (6063-T6, Fy = 23 KSI, 0.125" MIN THK)

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

USE 5- #14 x 4" WOOD SCREWS TO WOOD STUD OR BLKG. (PRE-DRILL HOLES TO 70% SHANK DIAMETER)

5/8" THK. WALL BOARD



WOOD STUD WALL SECTION

ELEVATION AT WALL PLATE



SERIES	MAX OPERATING WEIGHT	C.G. WT	\bar{Y} MAX	Tu MAX	Vu @ Tu MAX	Vu MAX
Fluid LT (W/ EXT)	73#	73#	25.2"	172#	25#	174#
Fluid LT (NO EXT)	65#	65#	15.6"	116#	22#	118#
Fluid HD (W/ EXT)	91#	91#	25"	211#	31#	214#
Fluid HD (NO EXT)	83#	83#	14.6"	144#	28#	48#
RX (154120)	58#	58#	8.8"	81#	20#	83#
RX (154020)	57#	57#	4.6"	66#	19#	69#
RX (154320)	44#	44#	22.8"	96#	15#	98#
CX	63#	63#	14.4"	108#	22#	111#



KNAPE & VOGT WATERLOO

**FLUID HD, FLUID LT, RX & CX W/ WALL TRACK
OR H-TRACK OPTION (WITH OR WITHOUT EXTENSION)**

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JOB NO. **11-1330**

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SHEET

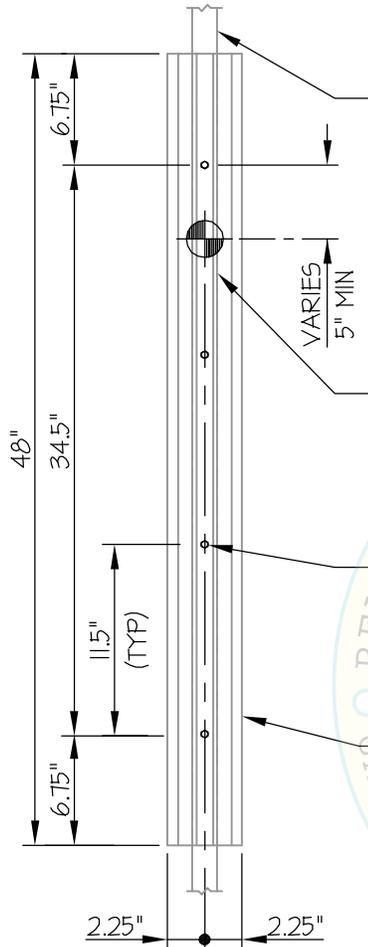
5

OF **8** SHEETS

SEISMIC ANCHORAGE

48" TRACK

WALL MOUNTED



STRUCTURAL ENGINEER OF RECORD SHALL DESIGN THE WALL STRUCTURE (ASTM A653, 16 GAGE, 50 ksi MIN.)

C.G. WT. = SEE SCHED
(\bar{Y} = SEE SCHED)

USE 4- 1/4" ϕ TEK SCREWS AT STEEL STUD WALL AND BACKING (IF REQ'D) (ASTM A653, 16 GAGE, 50 ksi MIN.)

48" EXTRUDED ALUMINUM TRACK (6063-T6, $F_y = 23$ KSI, 0.125" MIN THK)

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

USE 4- #14 X 4" WOOD SCREWS TO WOOD STUD OR BLKG. (PRE-DRILL HOLES TO 70% SHANK DIAMETER)

5/8" THK. WALL BOARD

WOOD STUD WALL

BY: William Staehlin

ELEVATION AT WALL PLATE

SERIES	MAX OPERATING WEIGHT	C.G. WT	\bar{Y} MAX	Tu MAX	Vu @ Tu MAX	Vu MAX
Fluid LT (W/ EXT)	75#	75#	24.2"	174#	32#	177#
Fluid LT (NO EXT)	67#	67#	14.8"	125#	29#	128#
Fluid HD (W/ EXT)	93#	93#	24.1"	216#	40#	219#
Fluid HD (NO EXT)	85#	85#	14.4"	156#	36#	160#
RX (154120)	60#	60#	8.0"	91#	26#	95#
RX (154020)	59#	59#	4.2"	79#	25#	83#
RX (154320)	46#	46#	21.2"	100#	20#	102#
CX	65#	65#	13.4"	116#	28#	120#



KNAPE & VOGT WATERLOO

**FLUID HD, FLUID LT, RX & CX W/ WALL TRACK
OR H-TRACK OPTION (WITH OR WITHOUT EXTENSION)**

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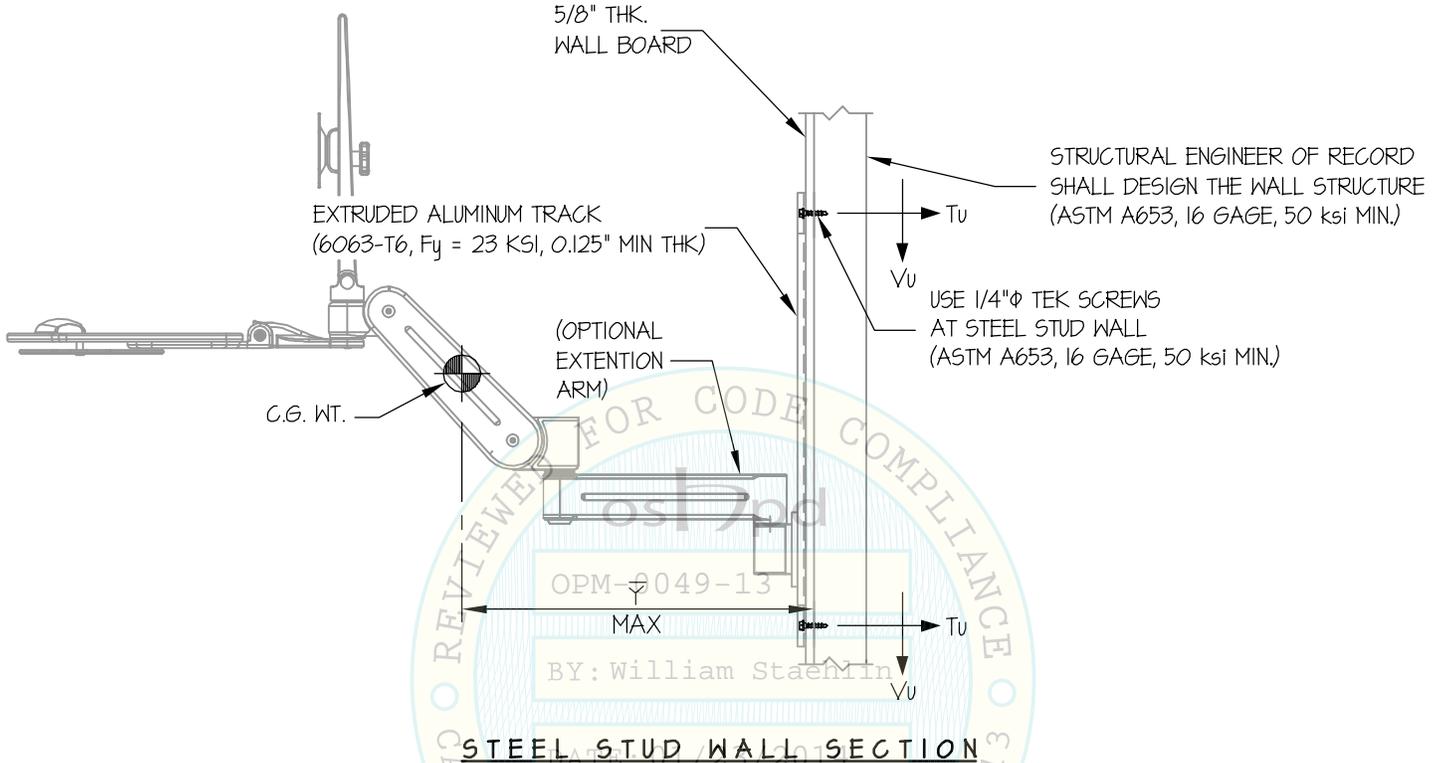
6

OF **8** SHEETS

SEISMIC ANCHORAGE

(H-FRAME OPTION)

WALL MOUNTED



NOTES:

- FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED.

HORIZONTAL FORCE (Eh) = 4.50 Wp (Sds = 2.5, ap = 2.5, lp = 1.5, Rp = 2.5, z/h ≤ 1)

VERTICAL FORCE (Ev) = 0.50 Wp

- 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.



KNAPE & VOGT WATERLOO

**FLUID HD, FLUID LT, RX & CX W/ WALL TRACK
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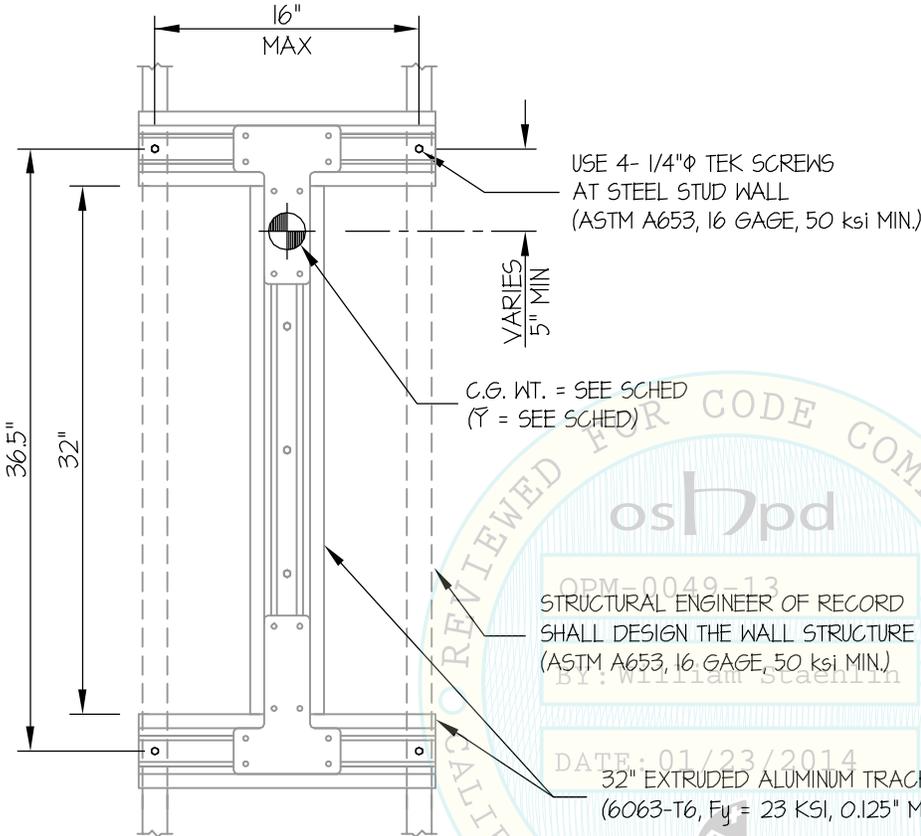
7

OF **8** SHEETS

SEISMIC ANCHORAGE

32" TRACK (H-FRAME OPTION)

WALL MOUNTED



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

USE 4- #14 X 4"
WOOD SCREWS TO
WOOD STUD
(PRE-DRILL HOLES
TO 70% SHANK DIAMETER)

5/8" THK.
WALL BOARD

WOOD STUD WALL SECTION

ELEVATION AT WALL PLATE

SERIES	MAX OPERATING WEIGHT	C.G. WT	\bar{Y} MAX	T_u MAX	$V_u @ T_u$ MAX	V_u MAX
Fluid LT (W/ EXT)	82#	82#	21.1"	133#	35#	137#
Fluid LT (NO EXT)	74#	74#	12.6"	105#	31#	110#
* Fluid HD (W/ EXT)	100#	100#	21.2"	162#	43#	167#
Fluid HD (NO EXT)	92#	92#	12.4"	130#	39#	136#
RX (154120)	67#	67#	6.1"	85#	29#	90#
RX (154020)	66#	66#	3.2"	79#	28#	84#
RX (154320)	53#	53#	16.7"	80#	23#	84#
CX	72#	72#	10.5"	99#	31#	103#



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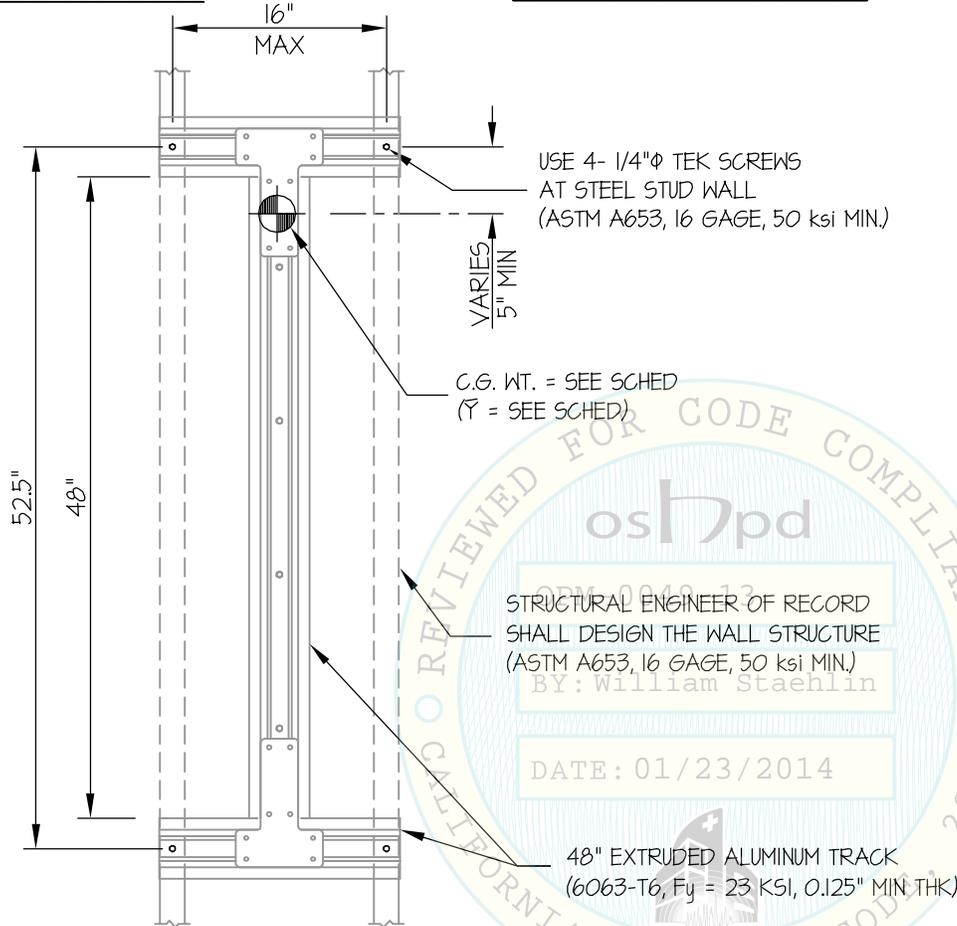
8

OF **8** SHEETS

SEISMIC ANCHORAGE

48" TRACK (H-FRAME OPTION)

WALL MOUNTED



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

USE 4- #14 X 4" WOOD SCREWS TO WOOD STUD (PRE-DRILL HOLES TO 70% SHANK DIAMETER)

5/8" THK. WALL BOARD

WOOD STUD WALL

ELEVATION AT WALL PLATE

SERIES	MAX OPERATING WEIGHT	C.G. WT	\bar{Y} MAX	Tu MAX	Vu @ Tu MAX	Vu MAX
Fluid LT (W/ EXT)	84#	84#	20.4"	122#	36#	127#
Fluid LT (NO EXT)	76#	76#	12.1"	100#	32#	105#
Fluid HD (W/ EXT)	102#	102#	20.5"	149#	43#	155#
Fluid HD (NO EXT)	94#	94#	11.9"	124#	40#	130#
RX (154120)	69#	69#	5.7"	84#	29#	89#
RX (154020)	68#	68#	3.0"	80#	29#	85#
RX (154320)	55#	55#	15.8"	76#	24#	80#
CX	74#	74#	9.9"	95#	31#	100#

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