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

OFFICE USE ONLY

APPLICATION #: OPM-0569

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Abbott

Manufacturer's Technical Representative: Jochen Horn

Mailing Address: 4551 Great America Parkway, Santa Clara, CA 95054

Telephone: (408) 567-3751 Email: jochen.horn@abbott.com

Product Information

Product Name: Alinity hs and Alinity hq

Product Type: Automated laboratory blood analyzers

Product Model Number: Alinity hs and Alinity hq

General Description: The Alinity hs and Alinity hq are automated laboratory instruments used for hematology analysis. These instruments can be installed in stand-alone or integrated configurations. The instruments can be interfaced with an Abbott a3600 Accelerator automation track to automate sample delivery to the instruments.

Applicant Information

Applicant Company Name: Abbott

Contact Person: Jochen Horn

Mailing Address: 4551 Great America Parkway, Santa Clara, CA 95054

Telephone: (408) 567-3751 Email: jochen.horn@abbott.com

Title: Director, Hardware Engineering Hematology

Registered Design Professonal Preparing Engineering Recommendations

Company Name: CYS STRUCTURAL ENGINEERS, INC.

Name: Dieter Siebald California License Number: S4346

Mailing Address: 2495 Natomas Park Drive, Suite 650, Sacramento, CA 95833

Telephone: (916) 920-2020 Email: dieters@cyseng.com

OSHPD Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP OSP Number:

Certification Method

Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-16

☐ Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) 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 2019 may be used when approved by OSHPD prior to testing.

☒ Analysis

☐ Experience Data

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

OSHPD Approval

Date: 6/29/2020

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

ABBOTT LABORATORIES
ALINITY hq, hs & a3600 Interface INSTRUMENTS
OPM–0569–19

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NOTES: THESE DRAWINGS ARE PREPARED FOR ABBOTT LABORATORIES, AN ILLINOIS CORPORATION, ABBOTT PARK, ILLINOIS.

1. THE CONTRACTOR AND THE INSPECTOR SHALL OBTAIN A COPY OF THIS PRE–APPROVAL FROM THE OSHPD WEBSITE.

2. THIS PRE–APPROVAL COVERS THE SUPPORTS AND ATTACHMENTS OF THE LABORATORY EQUIPMENT TO THE STRUCTURE.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: SHEET INDEX

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Date: 6/29/2020
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ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

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GENERAL NOTES:

1. THIS OSHPD PRE–APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2019.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH COMPONENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
   - B. THAT THE ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
   - C. THAT THE ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN IN THE TEST VALUES TABLE ON THIS PAGE IS THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS WILL VARY.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS SHOWN IN THIS PRE–APPROVAL.
   - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE–APPROVAL DOCUMENTS.

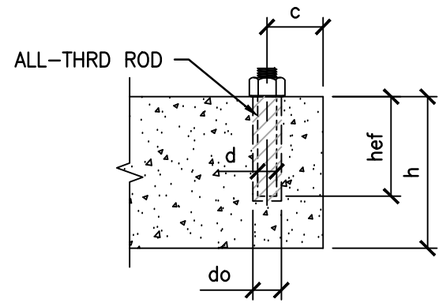
3A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND–LIGHTWEIGHT CONCRETE SHALL BE STAINLESS STEEL HILTI KB–TZ EXPANSION ANCHORS COMPLYING WITH ICC–ES ESR–1917 REVISED JANUARY 2020. ADHESIVE ANCHORS INSTALLED IN NORMAL WEIGHT CONCRETE SHALL BE ASTM F593 CW1 (316) INSTALLED USING HILTI HIT–RE 500 V3 ADHESIVE COMPLYING WITH ICC–ES ESR–3814 REVISED JANUARY 2020.

B. INSTALLATION: INSTALL THE POST–INSTALLED DRILLED–IN CONCRETE ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLES ON THIS PAGE.

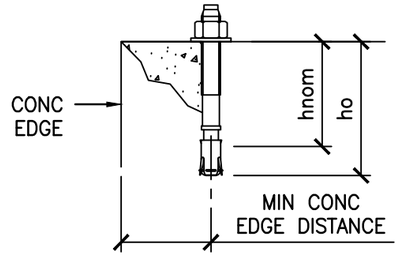
C. TESTING:

- JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TEST LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. FOR TENSION TESTING, THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR SUCH AS DIRECT PULL WITH A HYDRAULIC JACK OR CALIBRATED SPRING LOADING DEVICES. FOR TORQUE TESTING, THE TEST LOAD SHALL BE APPLIED WITH A CALIBRATED TORQUE WRENCH. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1910A.5.5 "TESTS FOR POST–INSTALLED ANCHORS IN CONCRETE".
- FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
  - •• HYDRAULIC RAM METHOD: APPLY AND HOLD TEST LOAD FOR A MINIMUM OF 15 SECONDS. THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD WHERE WASHERS ARE USED. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE OR BY A CONTINUOUS LOSS OF JACKING PRESSURE.
  - •• TORQUE WRENCH METHOD (EXPANSION ANCHORS ONLY): THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE–HALF (½) TURN OF THE NUT.

D. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT.



ADHESIVE ANCHOR
(THRD ROD/REINFORCING BAR)



MECHANICAL ANCHOR
(THRD ROD/REINFORCING BAR)

POST–INSTALLED ADHESIVE ANCHOR SCHEDULE

ANCHOR TYPE & DIA (INCH) d	HOLE DIA (INCH) do	EFFECTIVE EMBED (INCH) hef	MIN CONC THICKNESS (INCH) h	MIN CONC EDGE DISTANCE (INCH) c	MIN AB SPACING UNO (INCH)	TENSION TEST LOAD (LBS)	CONDITION OF ANCHORAGE
½"ø HILTI HAS–R (ASTM F593 CW1 316 SS) ALL THRD ROD	0.5625	2.75	4	12	6.75	2590	CASE 2

POST–INSTALLED MECHANICAL ANCHOR SCHEDULE

ANCHOR TYPE & DIA (INCH)	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) heff	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING UNO (INCH)	TEST LOAD		CONDITION OF ANCHORAGE
							TENSION LOAD (LBS)	TORQUE (FT–LBS)	
KB–TZ 304 SS 0.375"ø	2.3125	2.00	2.625	SEE DTLS	12	6.75 PARALLEL TO MTL DECK FLUTES	1350	25	CASE 1

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SHEET TITLE: GENERAL NOTES

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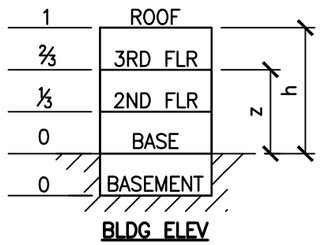
GENERAL NOTES CONTINUED:

4. TWO (2) CONDITIONS OF SUPPORTS & ATTACHMENTS ARE SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:



BLDG ELEV

CASE 1: SUPPORTS & ATTACHMENTS DTLS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG (z/h <= 1.0), IT IS ASSUMED THAT THE FLRS ARE BUILT OF A MIN 3¼" NWC OR SLWC TOPPING OVER MTL DECK (f'c = 3000 PSI, MIN).

CASE 2: SUPPORTS & ATTACHMENTS DTLS LOCATED AT OR BLW THE BASE OF A BLDG (z/h = 0). THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 4" NWC SLAB (f'c = 3000 PSI, MIN).

5. THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA WHERE S_{DS} IS LESS THAN OR EQ TO 2.50.
6. COORDINATE THE ANCHOR BOLT LAYOUT WITH THE COMPONENT IN THE FIELD PRIOR TO SETTING ANCHOR BOLTS.
7. ANCHOR BRACKETS SHALL BE PAINTED WITH A RUST INHIBITIVE PRIMER FOLLOWED BY A COLOR COAT SELECTED BY THE HOSPITAL FACILITY OR MATCH THE COLOR OF THE BASE OF THE EQUIP IF A COLOR IS NOT SPECIFIED BY THE HOSPITAL.
8. FASTENERS AND ASSOCIATED HARDWARE SHALL BE FIELD PAINTED TO MATCH BRACKETS AFTER INSTALLATION IS COMPLETE.
9. STRUCTURAL STEEL SHAPES AND CONNECTORS SHALL CONFORM TO THE FOLLOWING, UNO:
   A. PLATES, ANGLES, BARS & MISCELLANEOUS SHAPES ..... ASTM A36
   B. PLATES AS NOTED ..... ASTM A572 GR 50
   C. MACHINE BOLTS ..... ASTM A307
10. CONTRACTOR SHALL FURNISH AND INSTALL THE SEISMIC SUPPORTS AND ATTACHMENTS (INCLUDING SEISMIC BRACKETS, EXPANSION ANCHORS, THRU-BOLTS, STRUT PLATES BELOW SLABS, HIGH STRENGTH BOLTS, ETC.) IN CONJUNCTION WITH COMPONENT SETTING INSTRUCTIONS FROM ABBOTT FIELD INSTALLATION PERSONNEL.
11. DRAWING SCALES ARE NOT PROVIDED. DO NOT SCALE OFF OF THESE DRAWINGS. THE INTENT OF THESE DRAWINGS IS TO SHOW HOW TO FABRICATE THE SEISMIC BRACKET TO ANCHOR THE EQUIPMENT SPECIFIED. THE REPRESENTATIONS OF THE EQUIPMENT ARE ONLY INTENDED TO SHOW THE COORDINATION WITH THE SEISMIC BRACKETS.
12. BOLTS THROUGH CONCRETE ON METAL DECK:
   A. BOLTS SHALL BE TORQUED BY ¾ TURN OF THE NUTS AFTER SNUG TIGHT (THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNO.
   B. THRU BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16")
   C. THRU BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION & TESTING (THRU BOLTS WITH STEEL-TO-STEEL CONNECTION IN TENSION DO NOT REQUIRE TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.
13. TAKE CARE TO AVOID DAMAGING REBAR OR POST-TENSIONING TENDONS WHEN INSTALLING ANCHORS TO CONCRETE.

WELDING NOTES:

1. WELDING OF SEISMIC BRACKETS SHALL BE PERFORMED BY CERTIFIED WELDERS USING E70XX ELECTRODES (UNO). THE USE OF E70-T4 WELDING WIRE IS NOT ALLOWED FOR ANY APPLICATION. WELDS SHALL BE IN CONFORMITY WITH THE STRUCTURAL WELDING CODE-STEEL OF THE AMERICAN WELDING SOCIETY (AWS D1.1-15). SUBMIT WELDING PROCEDURES AND SPECIFICATIONS TO OWNER'S TESTING LABORATORY FOR REVIEW AND APPROVAL PRIOR TO BEGINNING SEISMIC BRACKET FABRICATION.
2. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC 360-16, SECTION J2.2b.

DESIGN CRITERIA

DESIGN OF SUPPORTS & ATTACHMENTS FOR ALL EQUIP COMPONENTS IS PER 2019 CBC

ASCE 7-16 TABLE 13.6-1
OTHER MECHANICAL OR ELECTRICAL COMPONENTS

S_{DS} = 2.5

I_p = 1.5

a_p = 1.0

R_p = 1.5

Ω_o = 1.5

W_P AS NOTED ON COMPONENT BASE PLANS & ELEVS

SEISMIC LOADS FOR CASE 1 – UPPER FLRS ABV THE BASE, z/h <= 1.0 (LRFD)

F_p = 3.00 W_p

F_v = 0.50 W_p

SEISMIC LOADS FOR CASE 2 – SLAB AT OR BLW BASE, z/h = 0 (LRFD)

F_p = 1.12 W_p

F_v = 0.50 W_p

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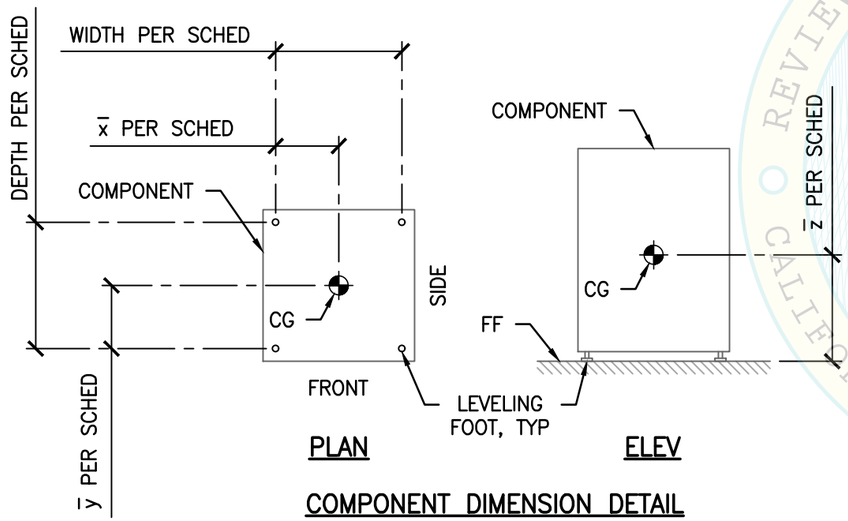
SHEET TITLE: GENERAL NOTES & DESIGN CRITERIA	Rev / Description / Date		Job No: 19103
			Date: 6/29/2020
ABBOTT ALINITY hq, hs & a3600 Interface INSTRUMENTS EQUIPMENT SUPPORTS & ATTACHMENTS			By: MTC
CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020 SACRAMENTO, CA 95833 www.cyseng.com			Page: 3 of 23

COMPONENT DIMENSIONS SCHED:

NO.	COMPONENT	LEVELING FOOT DIMS		CG LOCATION			OP WT (W_p)	PG
		WIDTH	DEPTH	$\bar{x}$	$\bar{y}$	$\bar{z}$		
1.	TYPICAL TRACK MODULE(2)	90" MAX	11.50"	MIDSPAN	5.75"	26.9"	165#	7,8
2.	ALINITY hq	19.70"	27.50"	10.14"	13.29"	26.82"	672#	11
3.	ALINITY hs	25.70"	27.50"	12.59"	12.44"	26.89"	816#	12
4.	INTERFACE MODULE	28.35"	17.32"	11.08"	7.68"	29.25"	214#	13

NOTES:

1. SEE COMPONENT DIMENSION DTL FOR MORE INFO.
2. COMPONENT OP WT (Wp) INCLUDES WT OF TWO TOP TRACKS, BOTT TRACK, & TWO SUPPORT FRAMES AS SHOWN ON PG 7.
3. THE DIMS FURNISHED ABV ARE NOT INTENDED TO BE USED TO LAYOUT THE COMPONENTS. THIS INFORMATION IS BEING FURNISHED FOR USE BY THE SEOR.
4. FRAMES FOR RETURN LANE WEIGH APPROXIMATELY 7 LBS EA. WT IN TABLE IS FOR RETURN LANE ONLY.



COMPONENT DIMENSION DETAIL

ABBREVIATIONS:

@	AT
AB	ANCHOR BOLT
ABV	ABOVE
ADJ	ADJACENT
AISC	AMERICAN INSTITUTE FOR STEEL CONSTRUCTION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASD	ALLOWABLE STRENGTH DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
AWS	AMERICAN WELDING SOCIETY
BLDG	BUILDING
BLW	BELOW
BOTT	BOTTOM
CBC	CALIFORNIA BUILDING CODE
CG	CENTER OF GRAVITY
CJP	COMPLETE JOINT PENETRATION
CLR	CLEAR OR CLEARANCE
CLSE	CALIFORNIA LICENSED STRUCTURAL ENGINEER
℄	CENTERLINE
CONC	CONCRETE
CONN	CONNECTION
COORD	COORDINATE
CTR	CENTER
DBL	DOUBLE
DIA (ø)	DIAMETER
DIM	DIMENSION
DTL	DETAIL
DWG	DRAWING
(E)	EXISTING CONDITION
EA	EACH
EE	EACH END
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE
FF	FINISHED FLOOR
FLG	FLANGE
FLR	FLOOR
FRMG	FRAMING
FT (')	FOOT/FEET
F_y	SPECIFIED YIELD STRENGTH OF REINFORCING, PSI OR SPECIFIED MINIMUM YIELD STRESS OF STEEL, KSI
GA	GAUGE
GC	GENERAL CONTRACTOR
HEIGHT	HT
ICC	INTERNATIONAL CODE COUNCIL
IN (")	INCH
KSI	KIPS PER SQUARE INCH
L	LENGTH
LBS	POUNDS
LRFD	LOAD & RESISTANCE FACTOR DESIGN
LFRS	LATERAL FORCE RESISTING SYSTEM
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MTL	METAL
NO. (#)	NUMBER OR POUNDS
NTS	NOT TO SCALE
NS&FS	NEAR SIDE & FAR SIDE
NWC	NORMAL WEIGHT CONCRETE
OPG	OPENING
OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
PG(S)	PAGE(S)
ℙ	PLATE
PSI	POUNDS PER SQUARE INCH
R	RADIUS
REQ	REQUIRED
SEOR	STRUCTURAL ENGINEER OF RECORD
SIM	SIMILAR
SLWC	SAND LIGHT WEIGHT CONCRETE
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STL	STEEL
T&B	TOP & BOTTOM
TEMP	TEMPORARY
THRD	THREAD OR THREADED
TOC	TOP OF CONCRETE
Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	ANCHORAGE SHEAR REAC
VERT	VERTICAL
Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE
W/	WITH
W_p	COMPONENT SELF-WEIGHT

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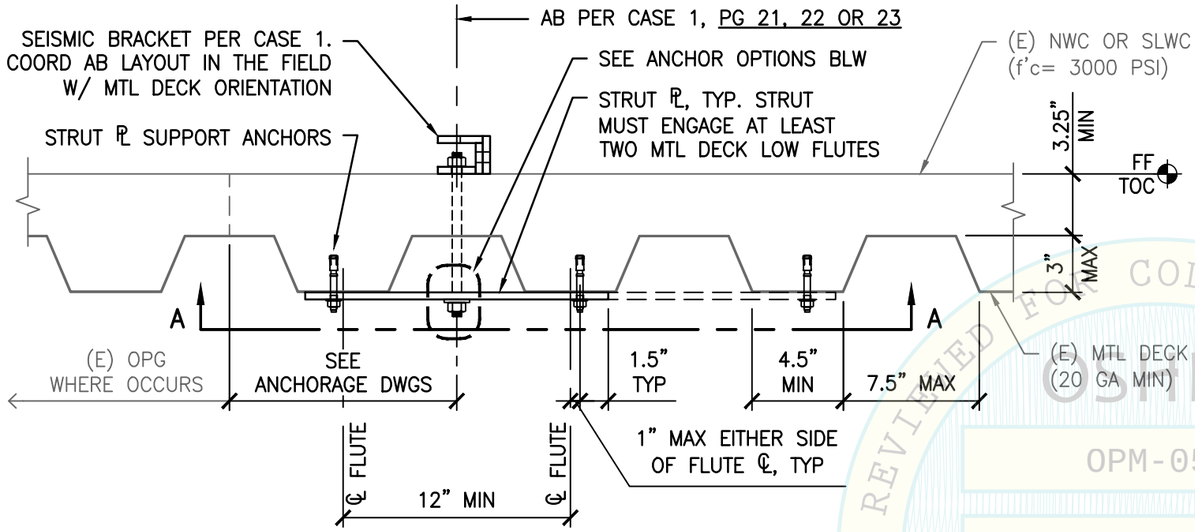
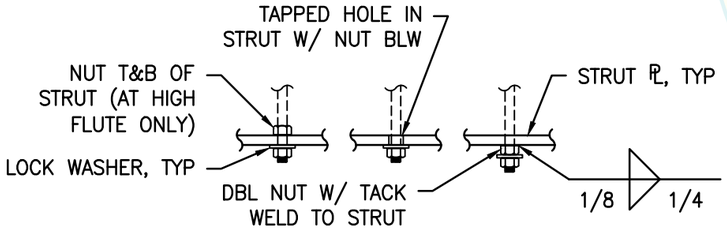
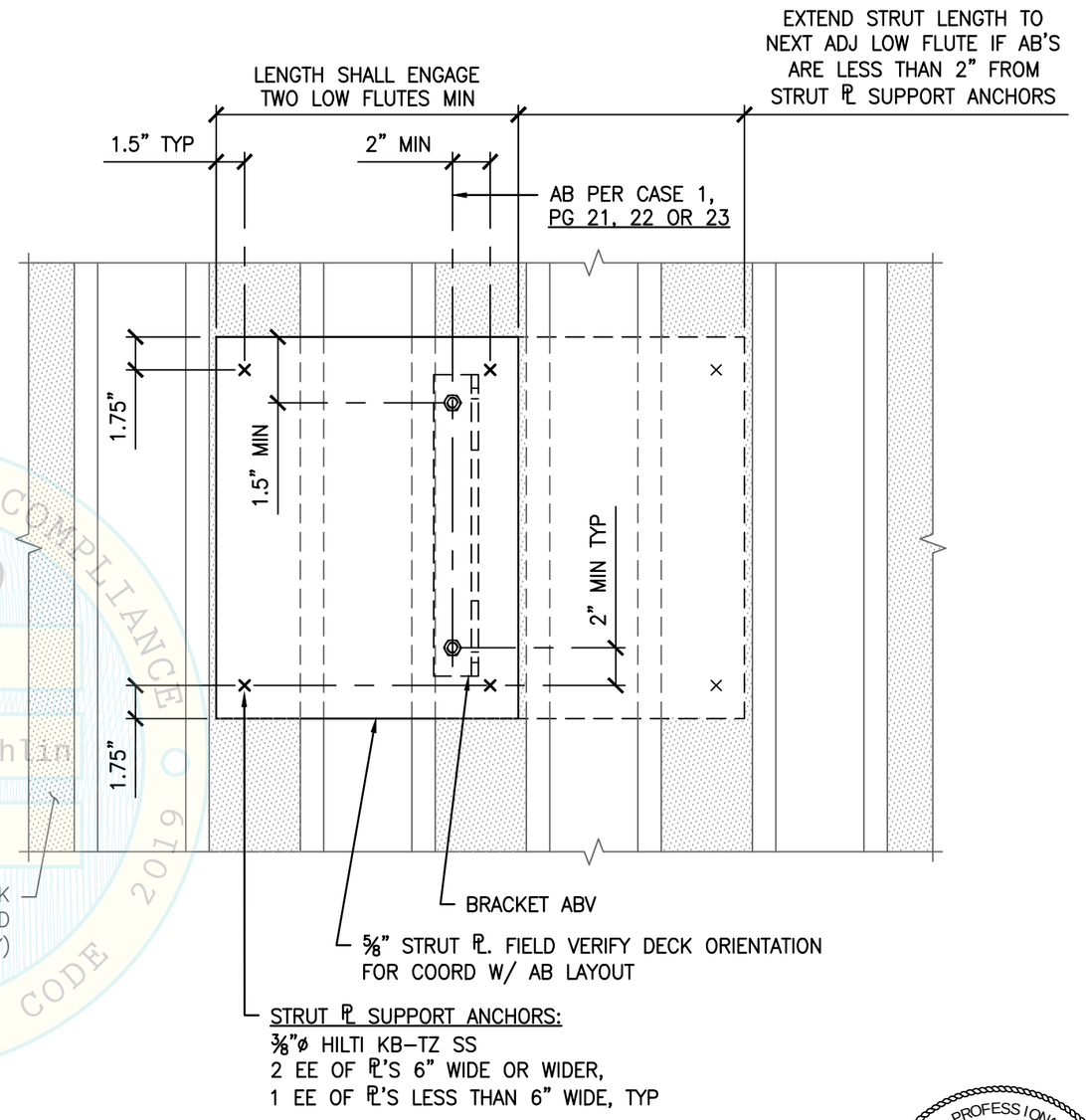




ANCHOR OPTIONS



SECTION A–A

REGISTERED PROFESSIONAL ENGINEER
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SHEET TITLE: TYPICAL STRUT DETAILS

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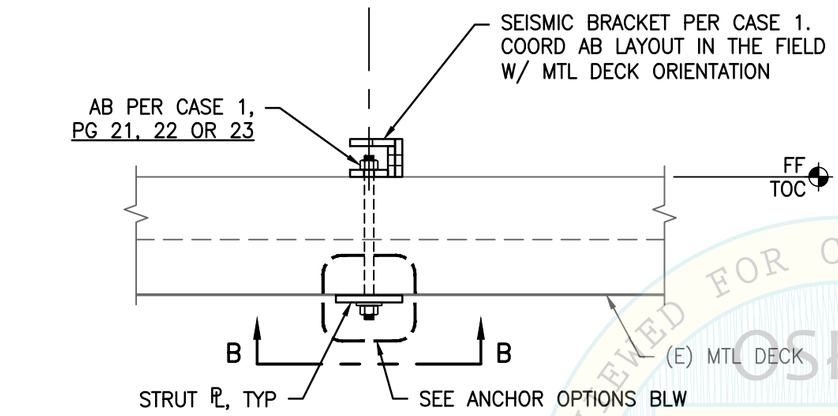
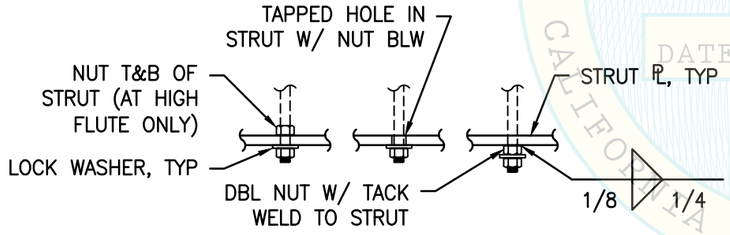
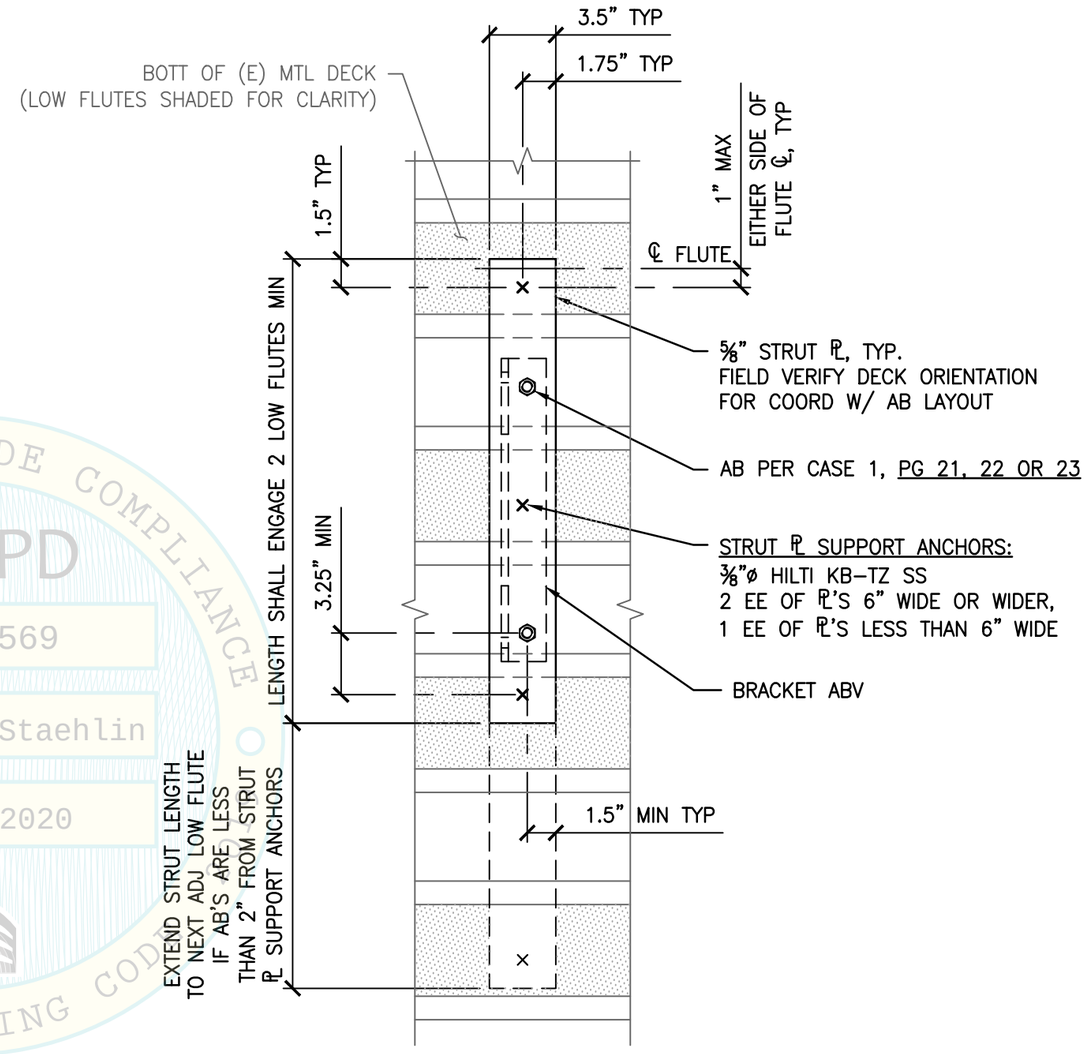


NOTE:
STIFF PL NOT SHOWN FOR CLARITY.



ANCHOR OPTIONS



SECTION B-B

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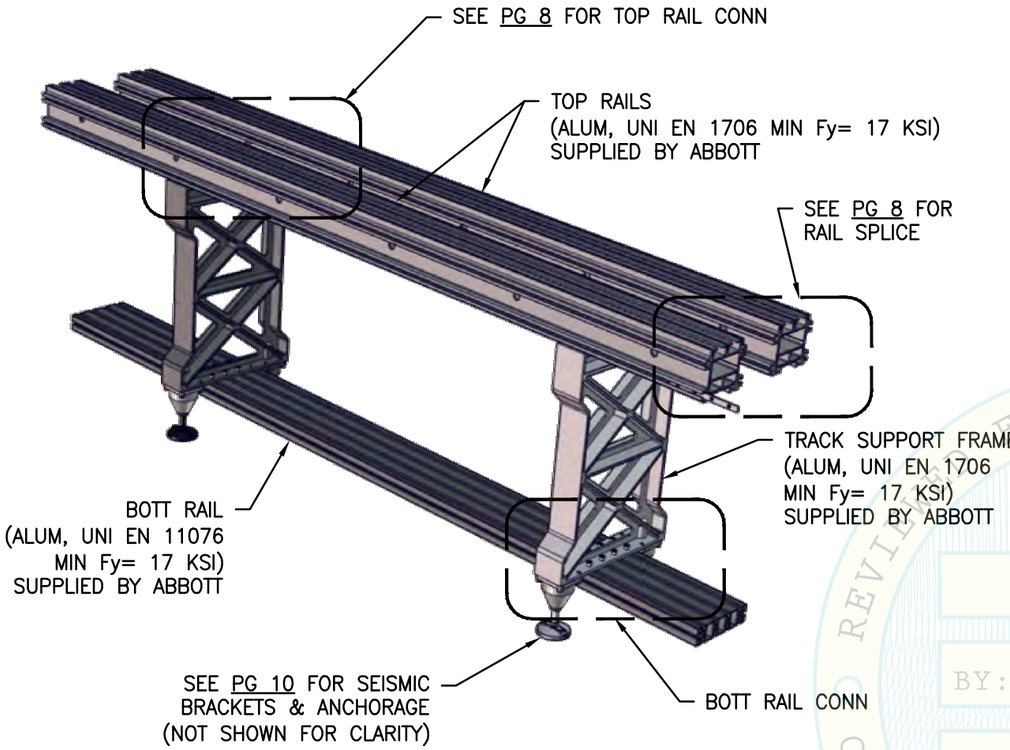
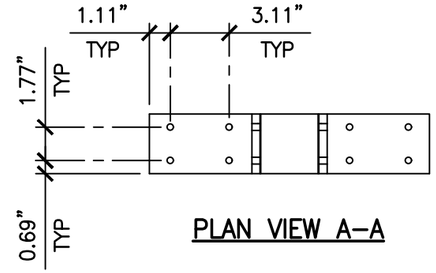
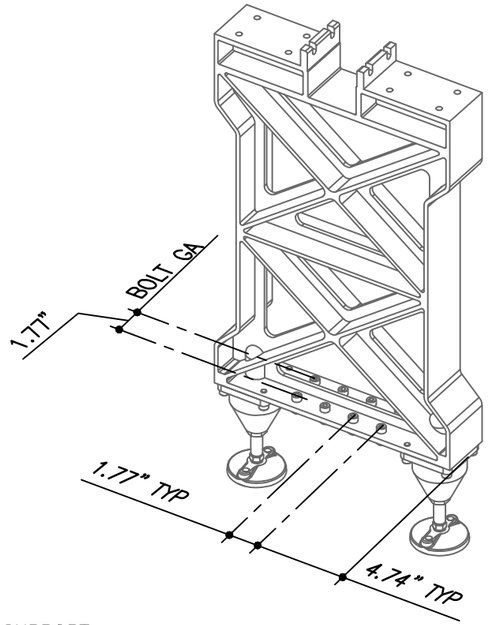
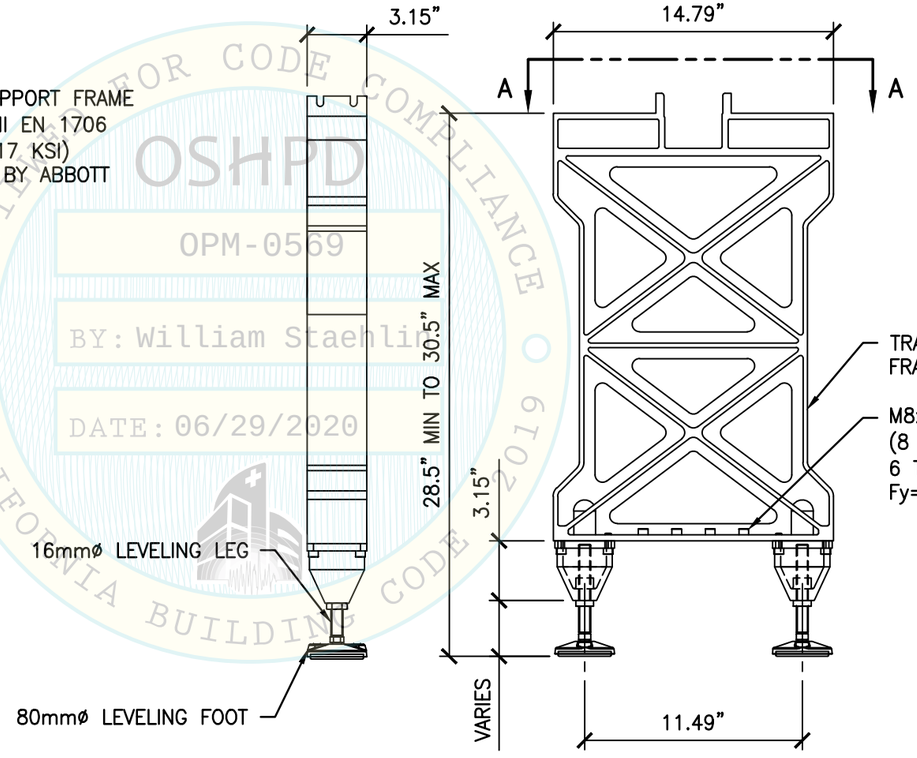




PLAN VIEW A–A



ISOMETRIC VIEW



SIDE VIEW

ELEV VIEW

NOTES:
1. MAX OPERATING WT Wp= 165 LBS INCLUDING SUPPORT FRAMES, T&B RAIL, TRACK, COVERS, ETC.
2. COMPONENT SUB–ASSEMBLY CONNS SHALL BE PERFORMED BY ABBOTT, NOT BY THE GENERAL CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

TRACK SUPPORT FRAME

SHEET TITLE: MODULE SUB-ASSEMBLY DETAILS
TYPICAL TRACK MODULE

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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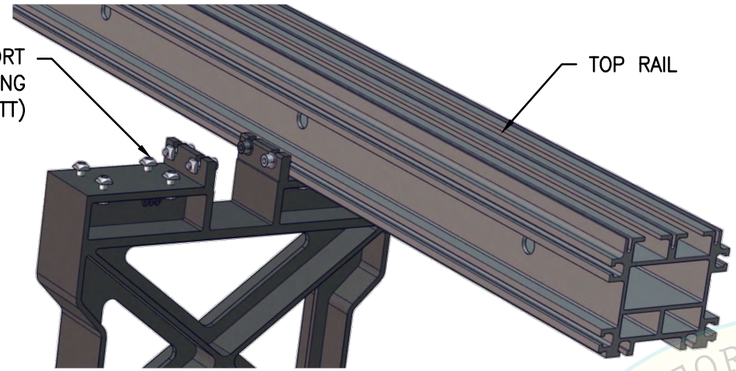
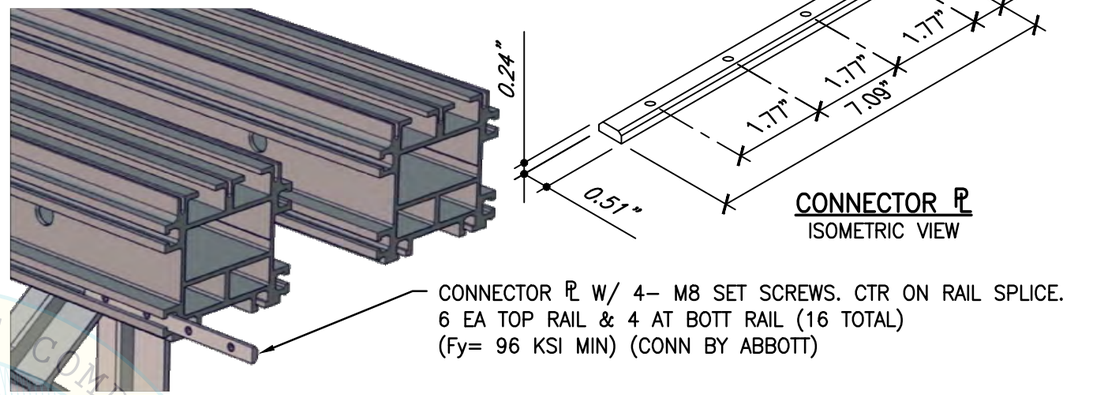
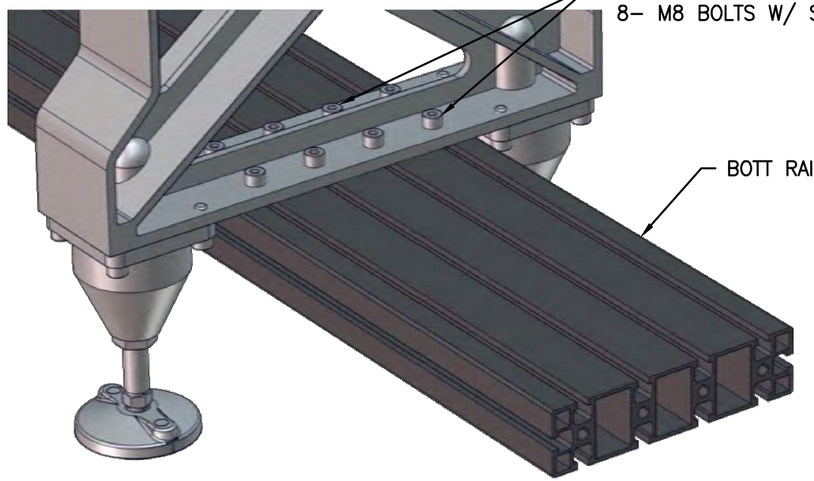


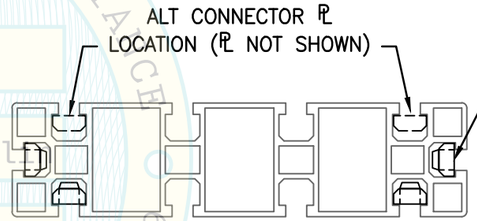


TOP RAIL CONN



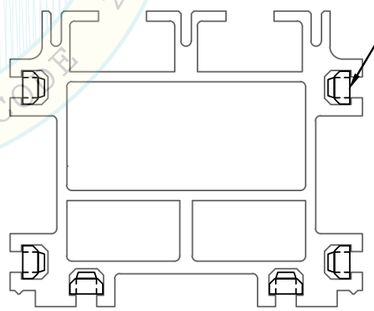
BOTT RAIL CONN

RAIL SPLICE



CONNECTOR PL (STL, Fe 37 GALV MIN Fy= 37 KSI), TYP OF 4 AT BOTT RAIL
SECTION PROPERTIES:
A= 0.1070 IN^2; S= 0.00353 IN^3; I= 0.000454 IN^4
TWO CONNECTOR PL'S ARE REQ AT ES OF THE RAIL IN ANY OF THE 3 LOCATIONS.

BOTT RAIL SPLICE



CONNECTOR PL (STL, Fe 37 GALV MIN Fy= 36 KSI), TYP OF 6 AT TOP RAIL
SECTION PROPERTIES:
A= 0.1070 IN^2; S= 0.00353 IN^3;
I= 0.000454 IN^4

TOP RAIL SPLICE

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: MODULE SUB-ASSEMBLY DETAILS
TYPICAL TRACK MODULE

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

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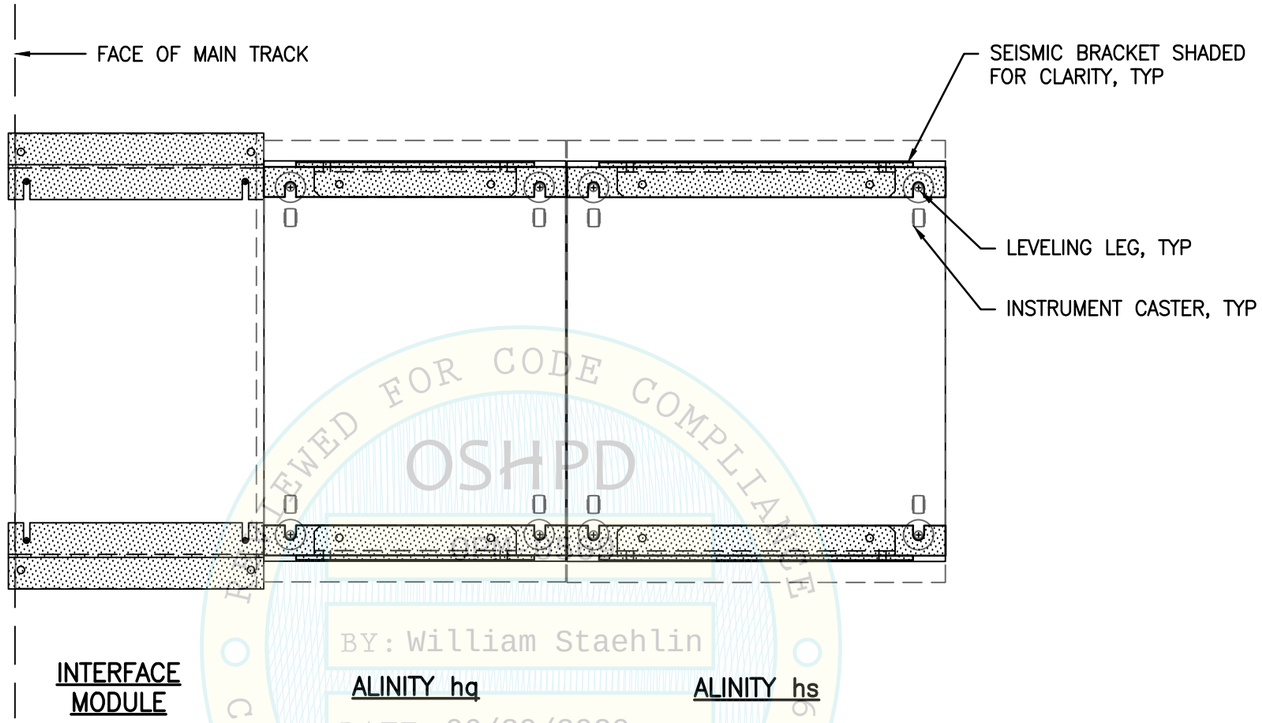

PLAN VIEW

NOTE:
COMBINATION & NUMBER OF hs & hq INSTRUMENTS IS DEPENDENT UPON THE NEEDS OF THE HOSPITAL FACILITY & NOT A FUNCTION OF SEISMIC RETENTION. EA INSTRUMENT HAS ITS OWN SEISMIC BRACKETS FOR SEISMIC RETENTION. THIS GRAPHIC DEPICTS A GENERAL UNDERSTANDING OF THE SEISMIC RESTRAINTS.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ASSEMBLY (CONNECTION BY ABBOTT)
PLAN VIEW CONFIGURATION

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

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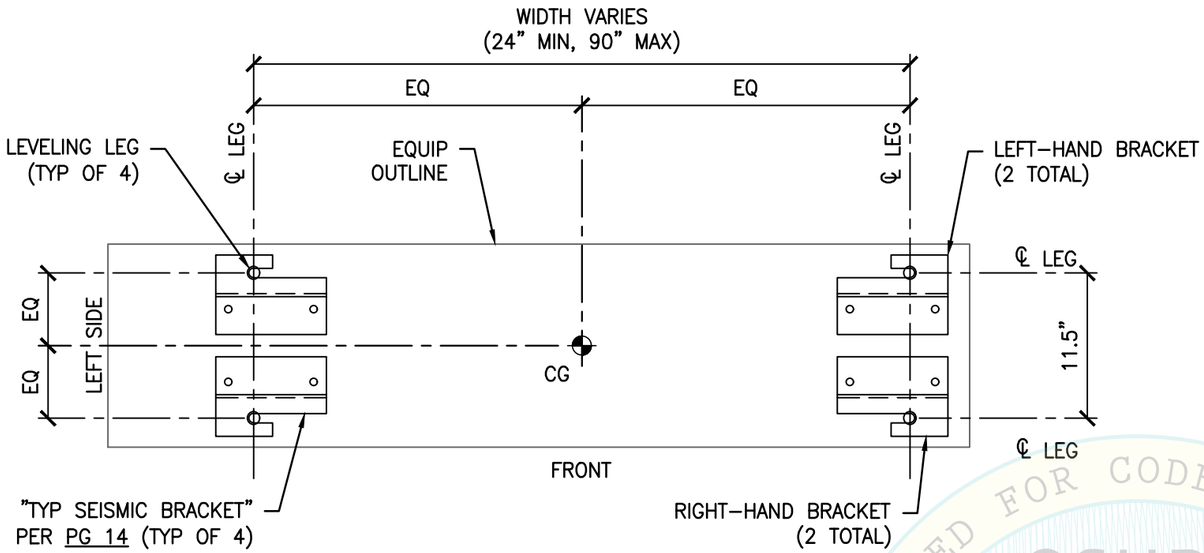
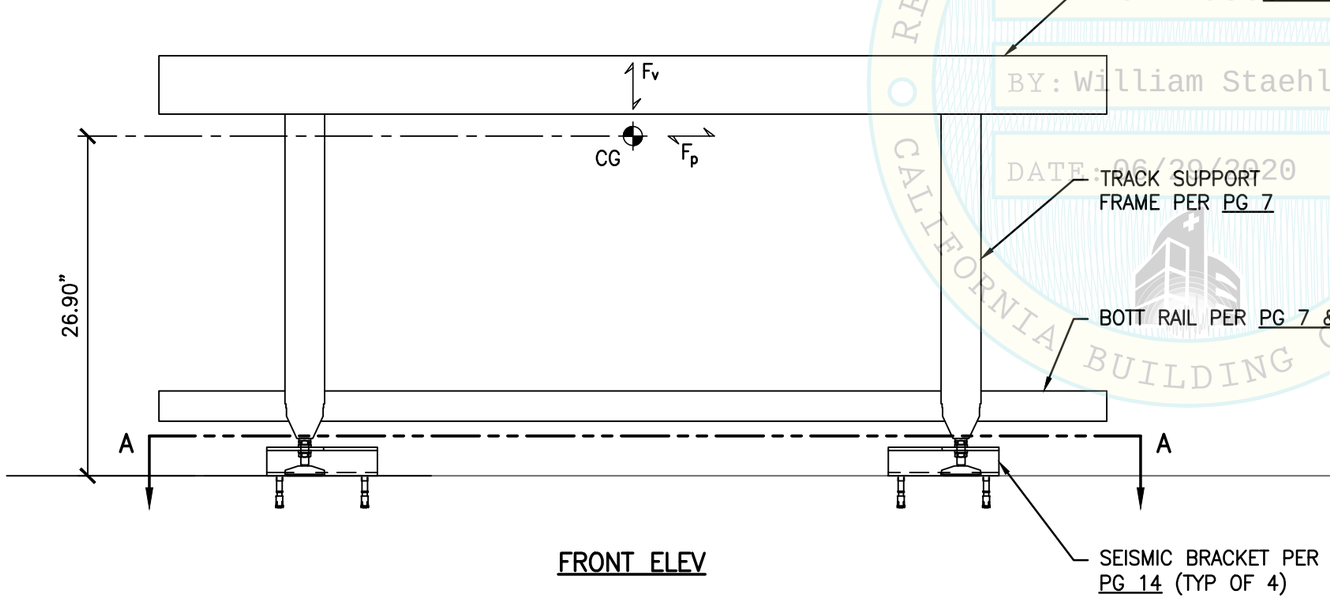


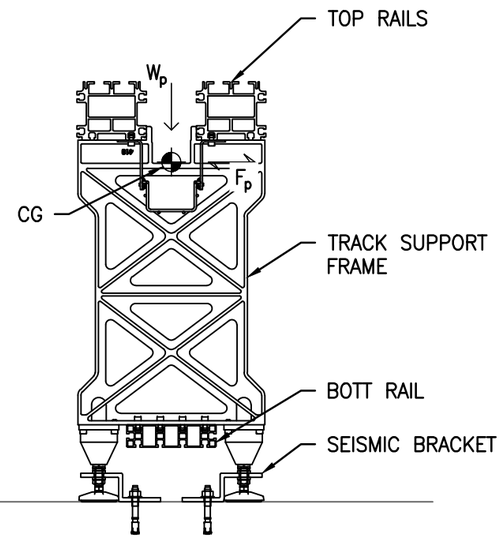
BASE PLAN A–A

	MAX ANCHOR FORCES AT LRFD AT LEVELING LEG[1]		
	T_{max}	C_{max}	V_{max}
CASE 1 [3]	1362#	1584#	508#
CASE 2 [2]	748#	969#	286#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
3. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



FRONT ELEV



RIGHT SIDE ELEV

NOTE:
A DISTANCE OF 5.5" BTW AB OF ADJ BRACKETS IS ACCEPTABLE.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ASSEMBLY DETAIL (CONNECTION BY ABBOTT)
INTERFACE MODULE

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

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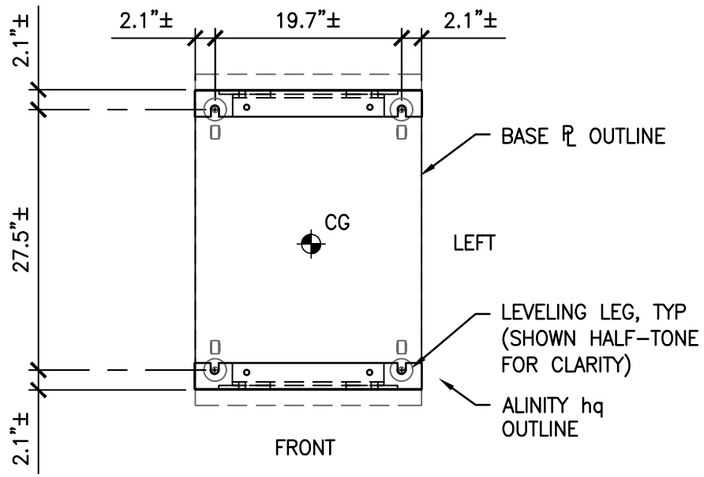
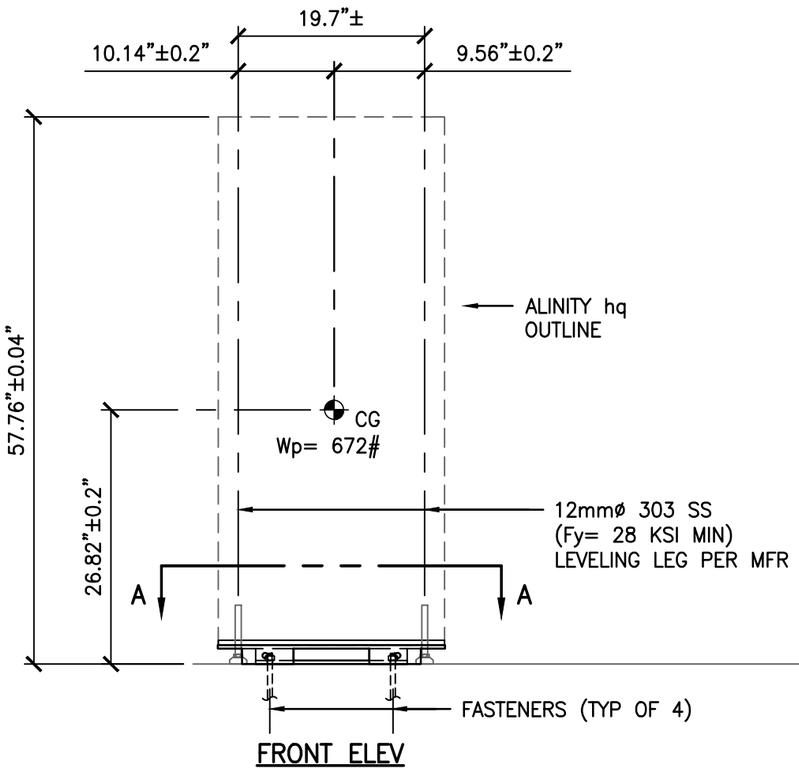
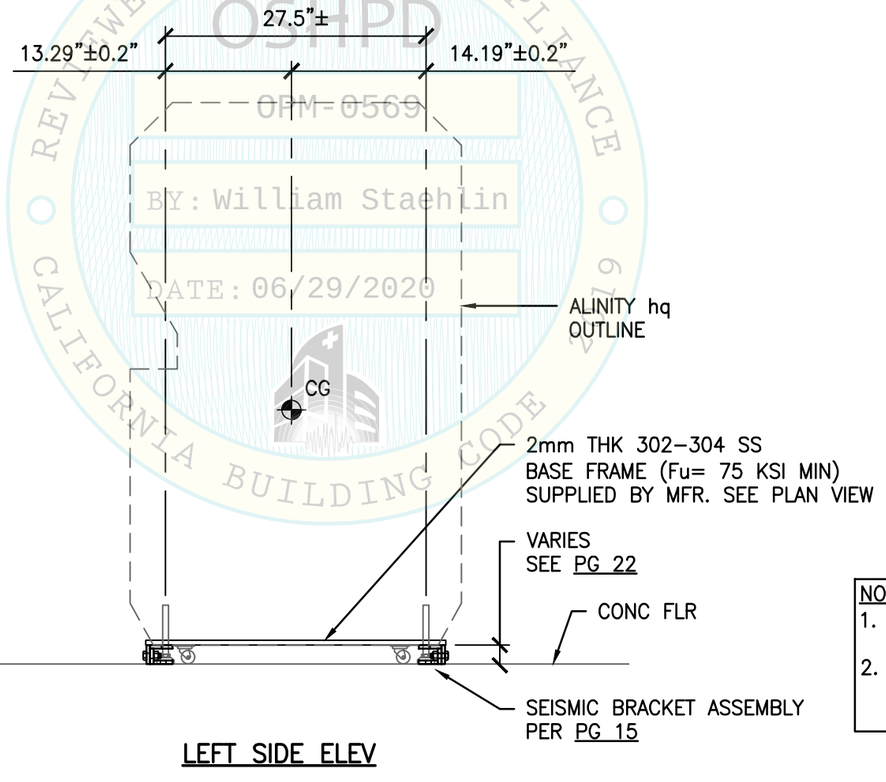


PLAN VIEW A-A
AT BASE



FRONT ELEV



LEFT SIDE ELEV

	MAX ANCHOR FORCES AT LRFD AT EA COMPONENT ATTACHMENT TO SUPPORT		
	T_{max}	C_{max}	V_{max}
CASE 1	1638#	2004#	509#
CASE 2	575#	941#	191#

NOTES:
1. STIFFENER ℄ & LEVELING LEGS NOT SHOWN IN ALL VIEWS FOR CLARITY.
2. SEISMIC BRACKET & HARDWARE SHALL BE FURNISHED & INSTALLED BY THE GENERAL CONTRACTOR, UNO.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ALINITY hq MODULE
BASE PLAN & ELEVATIONS

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

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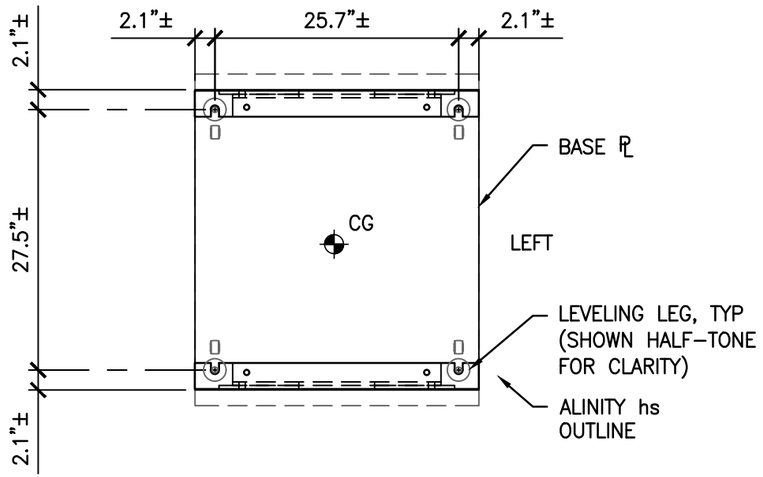
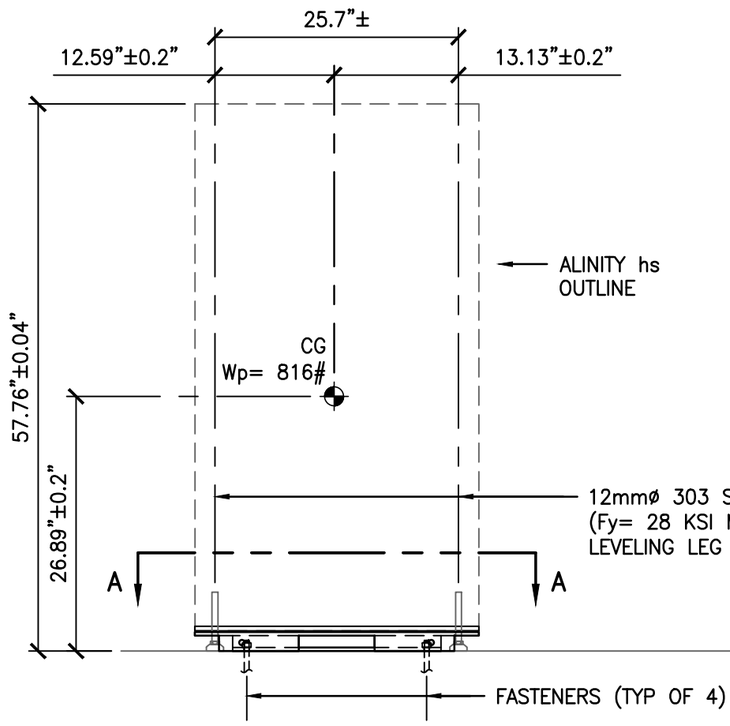
	MAX ANCHOR FORCES AT LRFD AT EA COMPONENT ATTACHMENT TO SUPPORT		
	T_{max}	C_{max}	V_{max}
CASE 1	1694#	2153#	618#
CASE 2	590#	1049#	232#

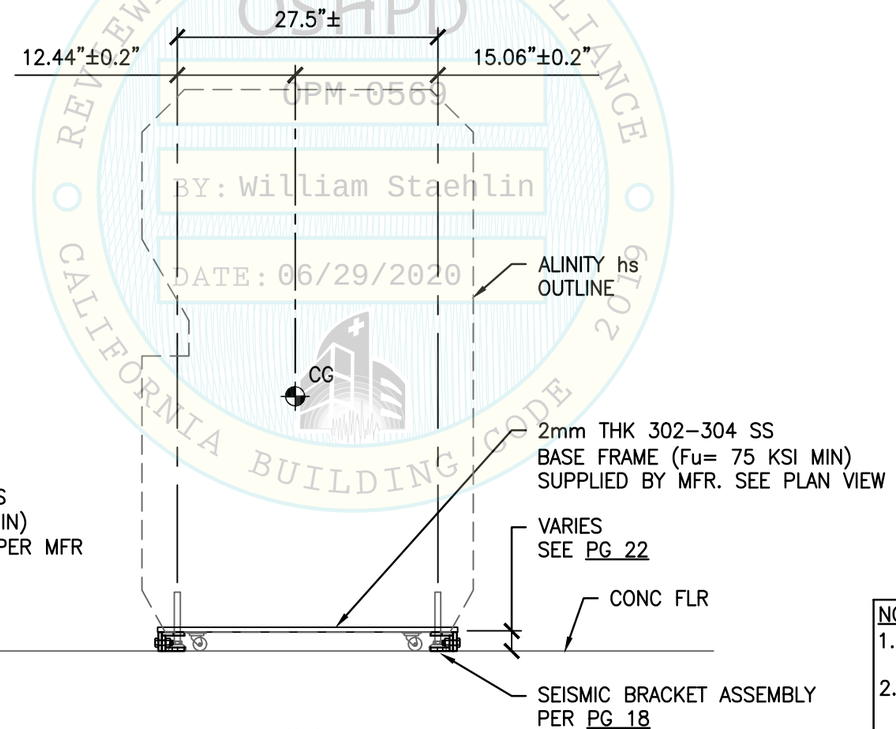


FRONT

PLAN VIEW A-A
AT BASE



FRONT ELEV



LEFT SIDE ELEV

NOTES:
1. STIFFENER PL & LEVELING LEGS NOT SHOWN IN ALL VIEWS FOR CLARITY.
2. SEISMIC BRACKET & HARDWARE SHALL BE FURNISHED & INSTALLED BY THE GENERAL CONTRACTOR, UNO.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ALINITY hs MODULE
BASE PLAN & ELEVATIONS

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

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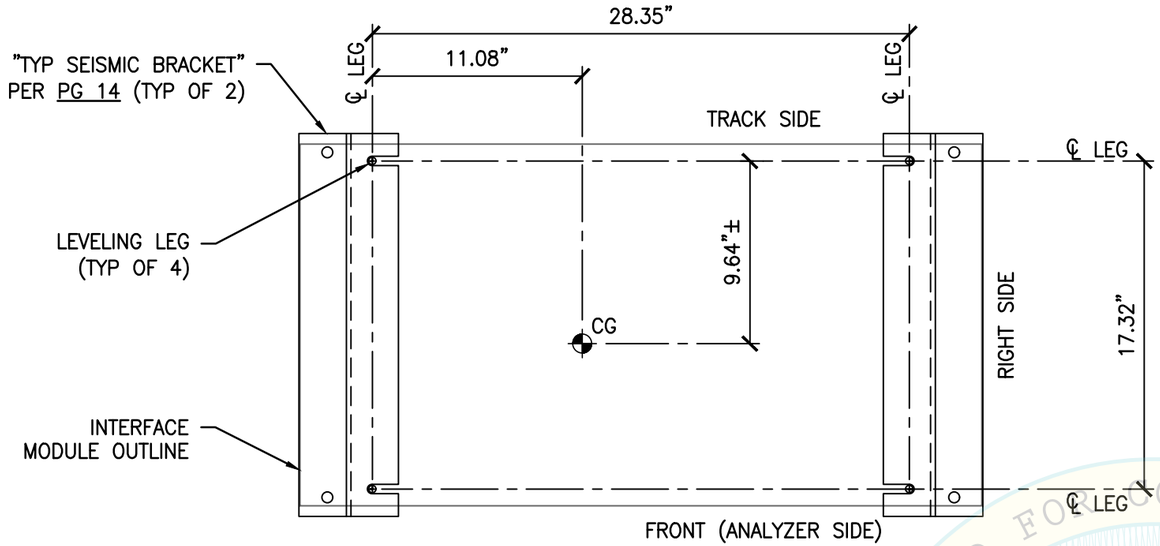
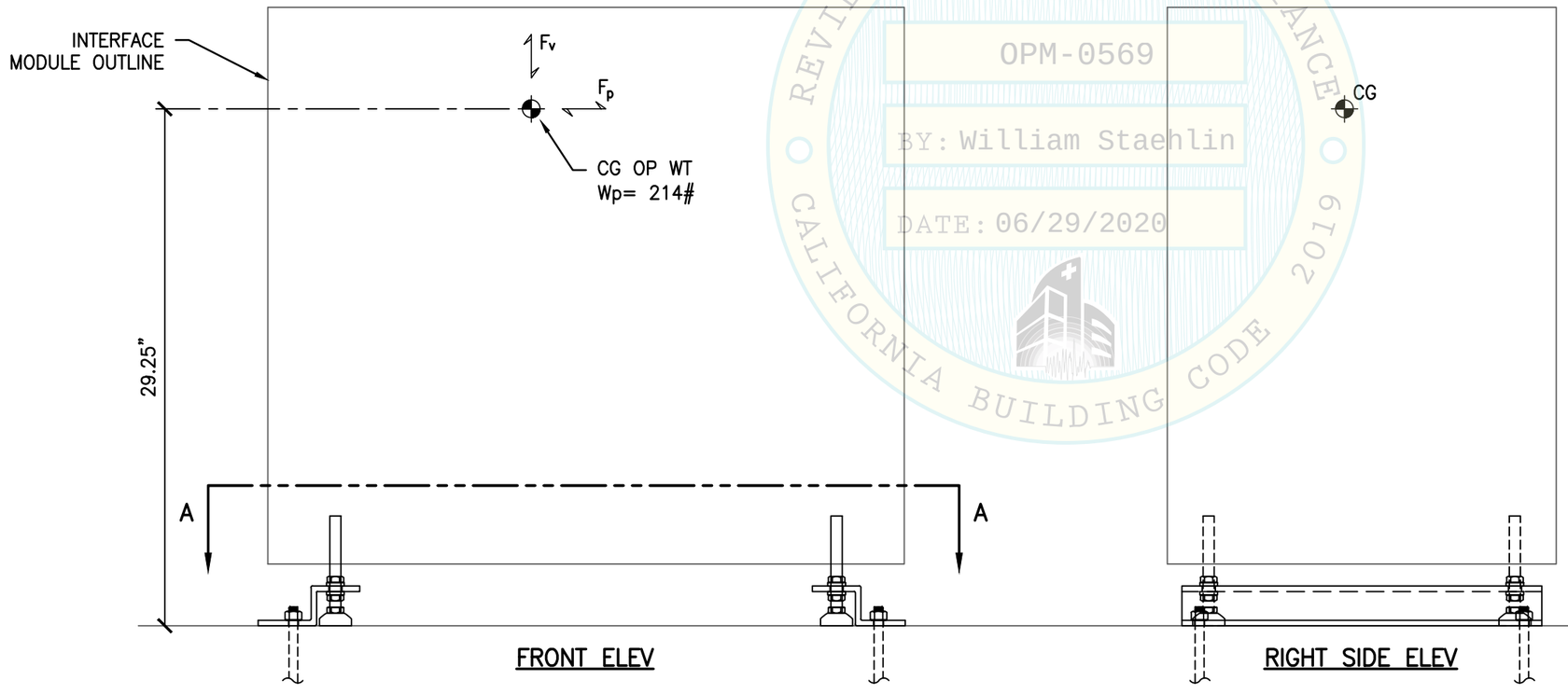


BASE PLAN VIEW A–A



FRONT ELEV

RIGHT SIDE ELEV

	MAX ANCHOR FORCES AT LRFD AT LEVELING LEG[1]		
	T_{max}	C_{max}	V_{max}
CASE 1 [3]	751#	914#	384#
CASE 2 [2]	409#	572#	216#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
3. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: INTERFACE MODULE
BASE PLAN & ELEVATIONS

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

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INTERFACE MODULE SEISMIC BRACKET:

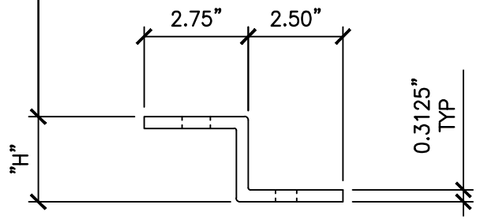
"H" VARIES TO ACCOMMODATE VERT ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 2.00" FOR 2.14" ≤ CLR ≤ 2.33"

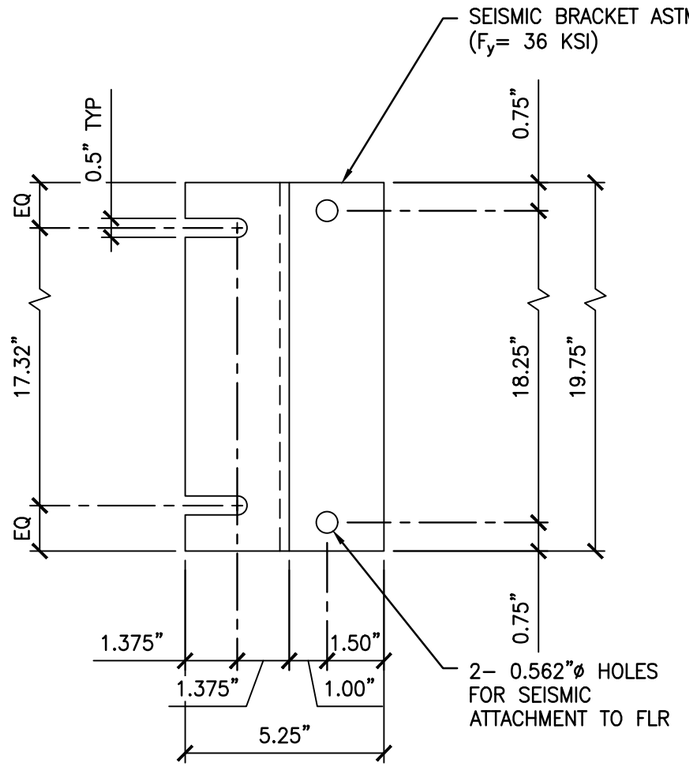
BRACKET B: "H" = 2.33" FOR 2.33" ≤ CLR ≤ 2.66"

BRACKET C: "H" = 2.66" FOR 2.66" ≤ CLR ≤ 2.94"

NOTES:
1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PG 23 FOR THE INTERFACE MODULE.
2. GENERAL CONTRACTOR SHALL PROVIDE & INSTALL SEISMIC BRACKET.



ELEV



PLAN

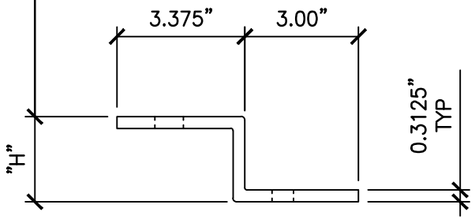
TRACK SEISMIC BRACKET DETAIL:

"H" VARIES TO ACCOMMODATE VERT ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 2.25" FOR 2.25" ≤ CLR ≤ 3.50"

BRACKET B: "H" = 3.50" FOR 3.50" ≤ CLR ≤ 4.75"

NOTES:
1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PG 21 FOR THE TYP TRACK MODULE.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 10.
3. LEFT–HAND BRACKET SHOWN. SEE BASE PLAN A–A ON PG 10 FOR RIGHT–HAND BRACKET CONFIGURATION.
4. GENERAL CONTRACTOR SHALL PROVIDE & INSTALL SEISMIC BRACKET.



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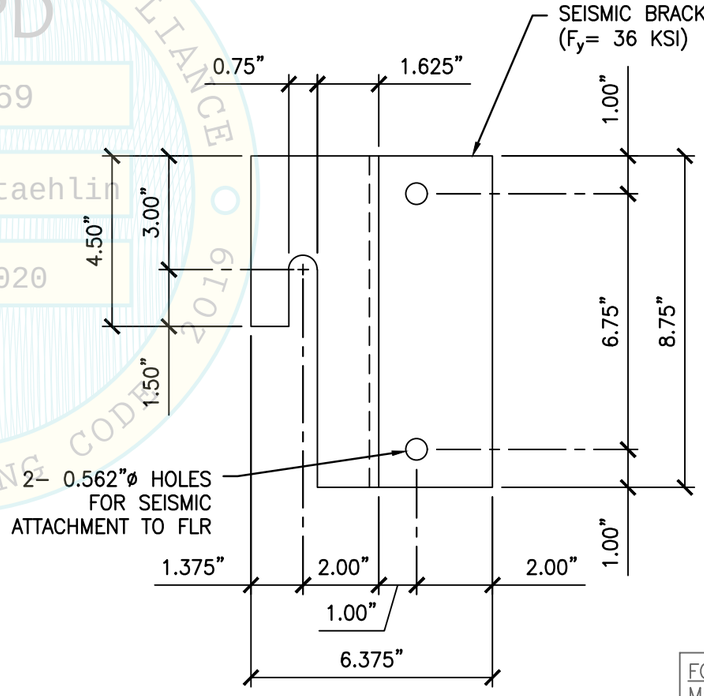

PLAN

FOR ABBOTT USE:
MAX TRACK HT
PER BRACKET
A = 888mm
B = 920mm

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: TYPICAL TRACK MODULE & INTERFACE MODULE SEISMIC BRACKET FABRICATION DETAIL

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

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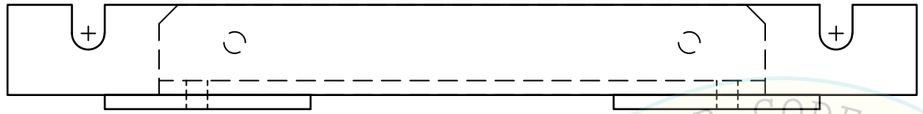
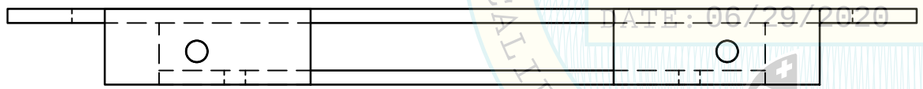
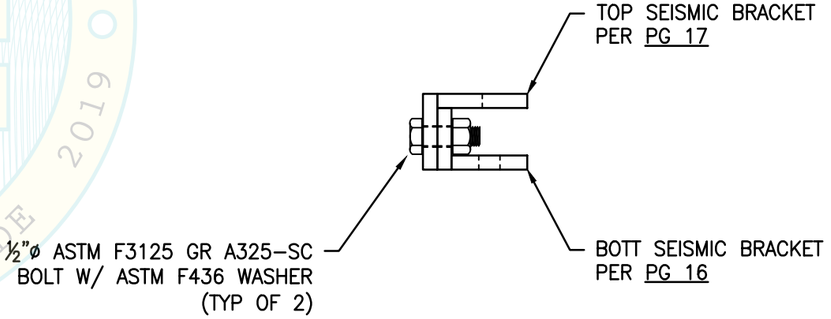
SEISMIC BRACKET ASSEMBLY:



PLAN VIEW
(TOP DOWN)



ELEV



SIDE ELEV

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ALINITY hq SEISMIC BRACKET ASSEMBLY DETAIL	Rev	Description	Date
ABBOTT ALINITY hq, hs & a3600 Interface INSTRUMENTS EQUIPMENT SUPPORTS & ATTACHMENTS			

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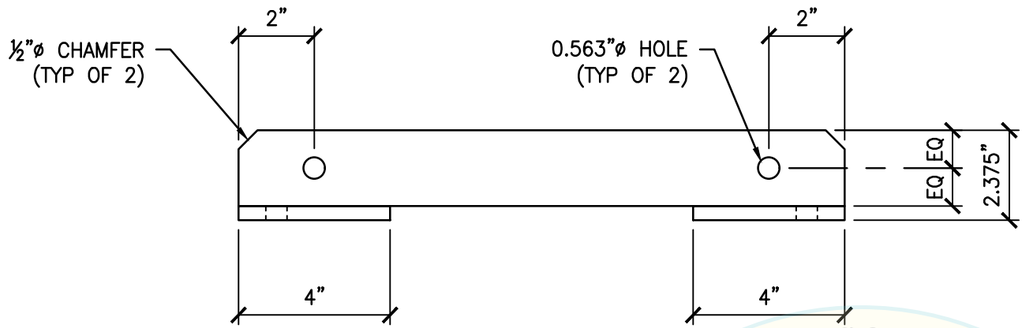
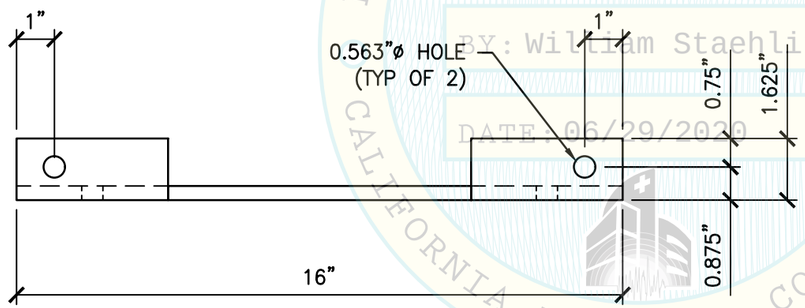
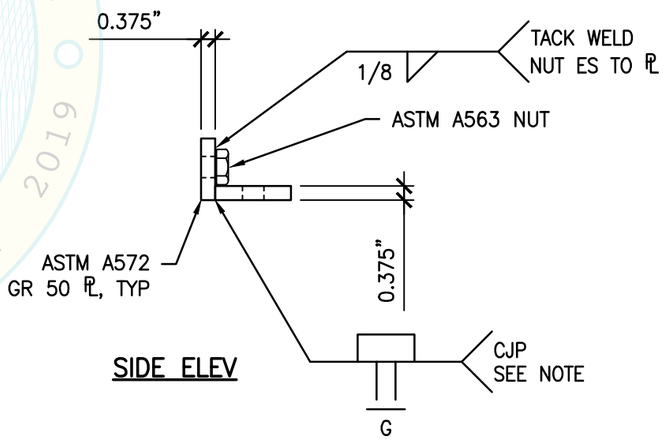
BOTTOM BRACKET DETAIL:



PLAN VIEW
(TOP DOWN)



ELEV



SIDE ELEV

NOTE:
REMOVE BACKER BAR. MACHINE RE-ENTRANT CORNER FOR FIT-UP AS SHOWN. NO RADIUS

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
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STRUCTURAL
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SHEET TITLE: ALINITY hq BOTTOM SEISMIC BRACKET FABRICATION DETAIL	Rev	Description	Date
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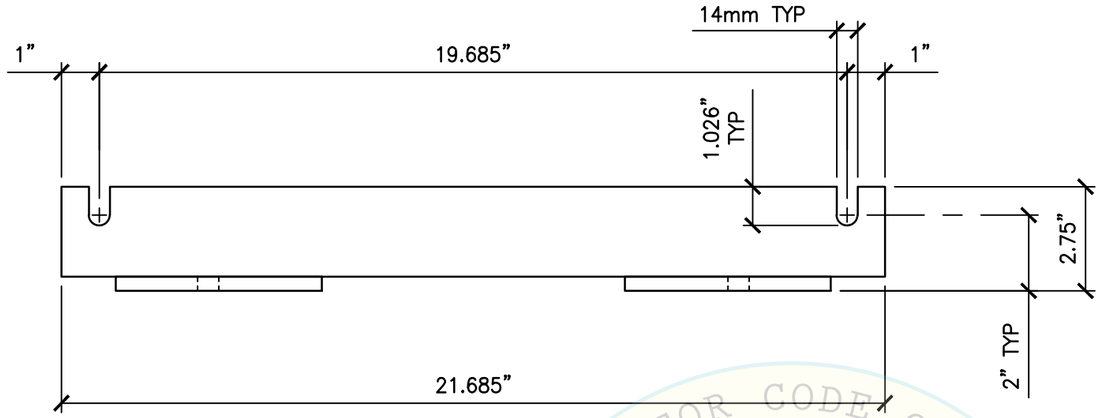
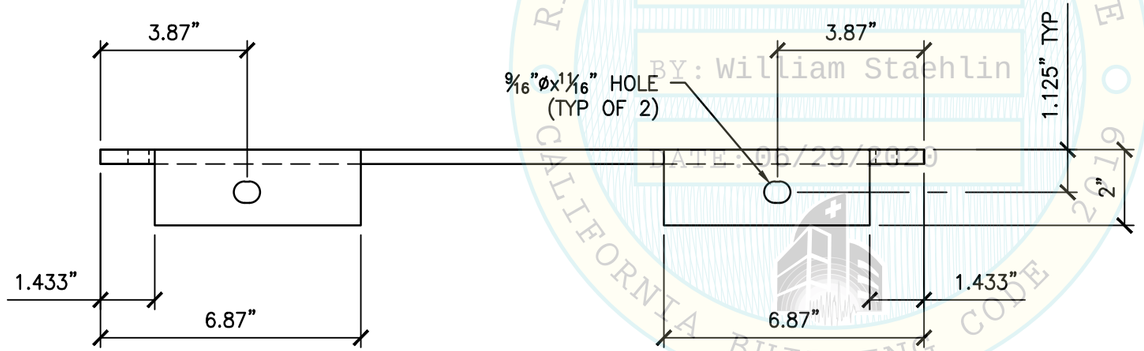
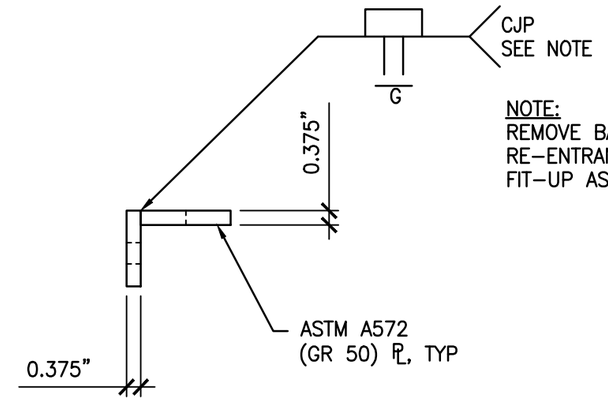
TOP BRACKET DETAIL:



PLAN VIEW
(TOP DOWN)



ELEV



NOTE:
REMOVE BACKER BAR. MACHINE RE-ENTRANT CORNER FOR FIT-UP AS SHOWN. NO RADIUS

SIDE ELEV

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ALINITY hq TOP SEISMIC BRACKET FABRICATION DETAIL	Rev	Description	Date	Job No: 19103
				Date: 6/29/2020
ABBOTT ALINITY hq, hs & a3600 Interface INSTRUMENTS EQUIPMENT SUPPORTS & ATTACHMENTS				By: MTC
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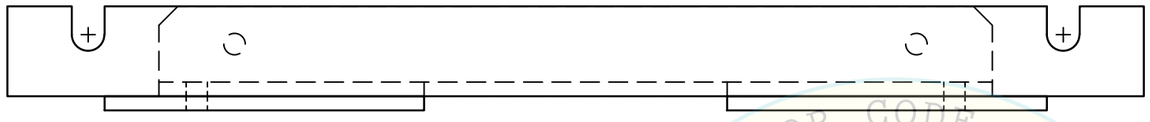
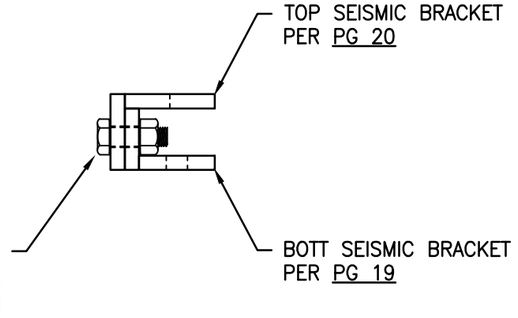
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

SEISMIC BRACKET ASSEMBLY:



PLAN VIEW
(TOP DOWN)

ELEV



SIDE ELEV

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ALINITY hs SEISMIC BRACKET ASSEMBLY DETAIL	Rev	Description	Date
ABBOTT ALINITY hq, hs & a3600 Interface INSTRUMENTS EQUIPMENT SUPPORTS & ATTACHMENTS			
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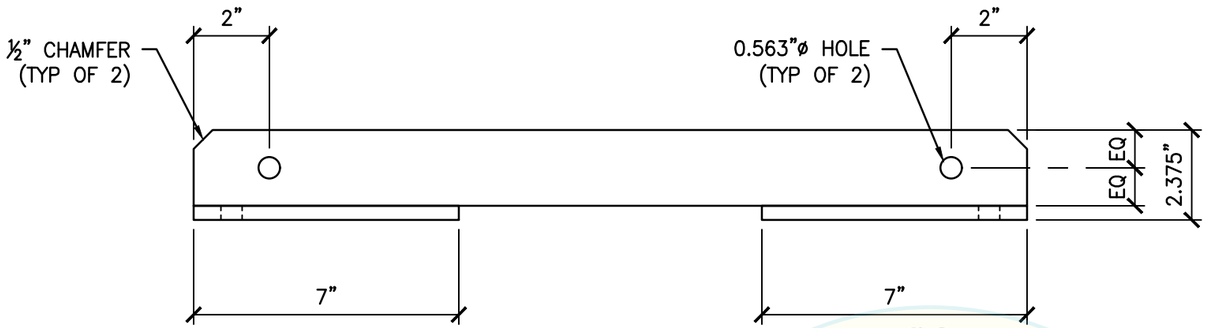
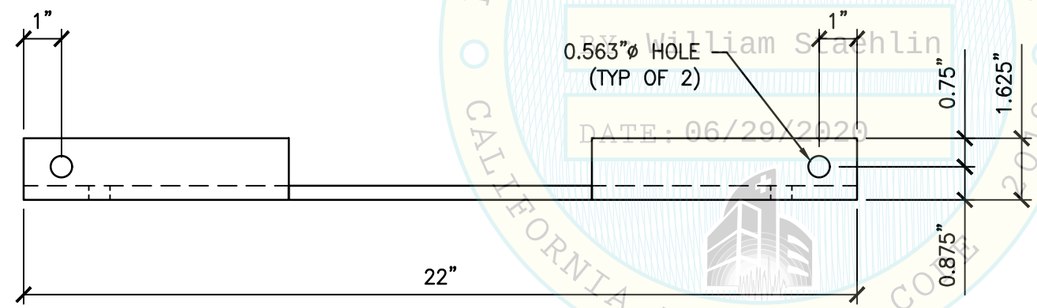
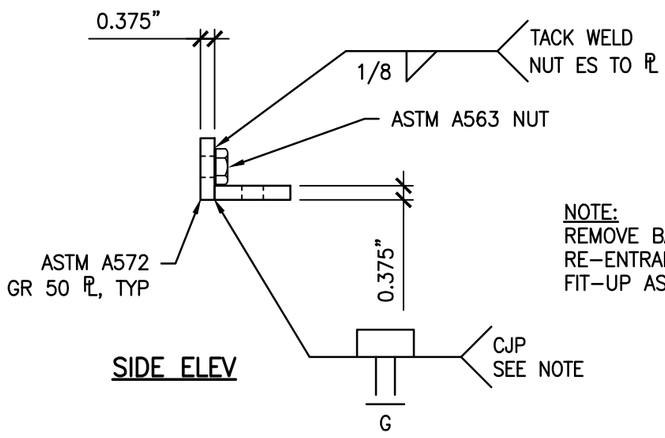
BOTTOM BRACKET DETAIL:



PLAN VIEW
(TOP DOWN)



ELEV



SIDE ELEV

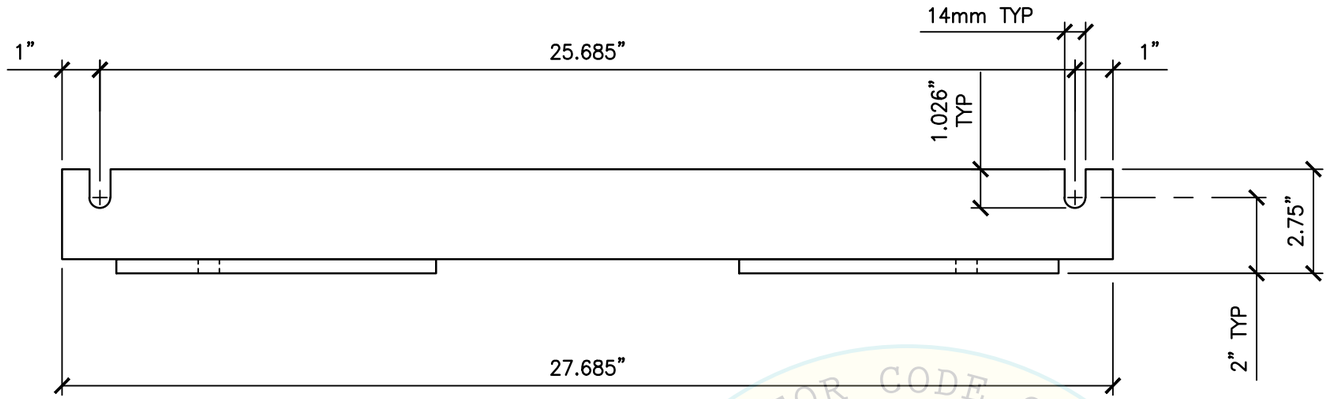
NOTE:
REMOVE BACKER BAR. MACHINE RE-ENTRANT CORNER FOR FIT-UP AS SHOWN. NO RADIUS

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

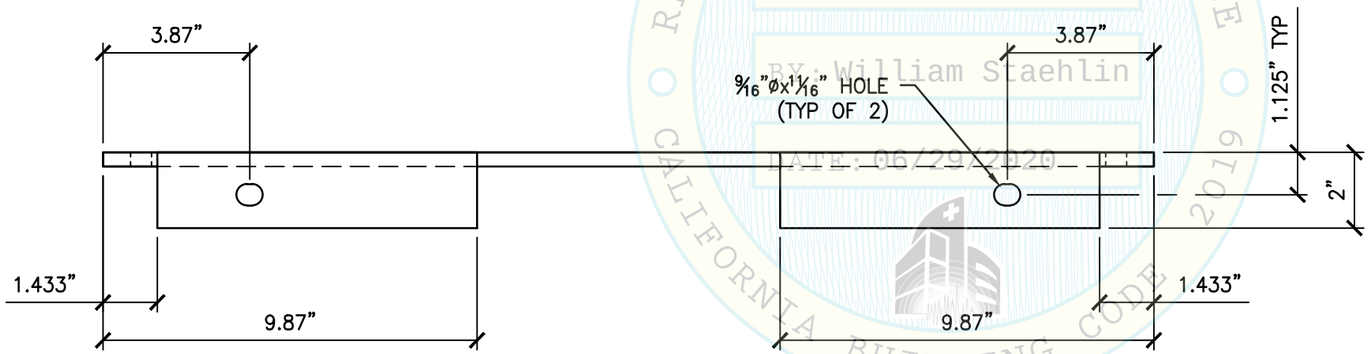
SHEET TITLE: ALINITY hs BOTTOM SEISMIC BRACKET FABRICATION DETAIL	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020 SACRAMENTO, CA 95833 www.cyseng.com	Job No: 19103 Date: 6/29/2020 By: MTC Page: 19 of 23
ABBOTT ALINITY hq, hs & a3600 Interface INSTRUMENTS EQUIPMENT SUPPORTS & ATTACHMENTS		

Rev	Description	Date

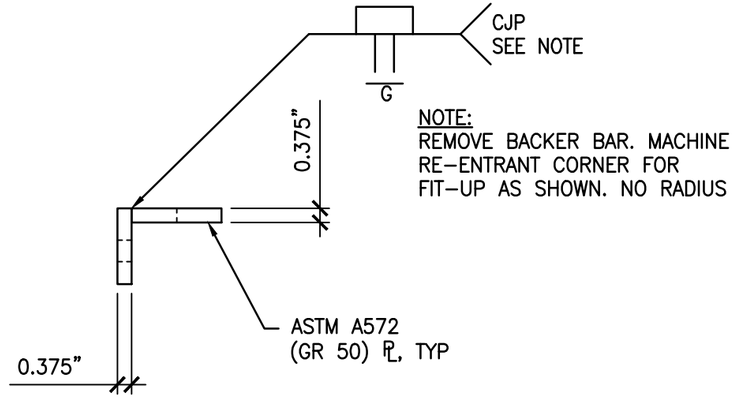
TOP BRACKET DETAIL:



PLAN VIEW
(TOP DOWN)



ELEV



SIDE ELEV

REGISTERED PROFESSIONAL ENGINEER
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STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ALINITY hs TOP SEISMIC BRACKET FABRICATION DETAIL	Rev	Description	Date
ABBOTT ALINITY hq, hs & a3600 Interface INSTRUMENTS EQUIPMENT SUPPORTS & ATTACHMENTS			

CYS STRUCTURAL ENGINEERS, INC.
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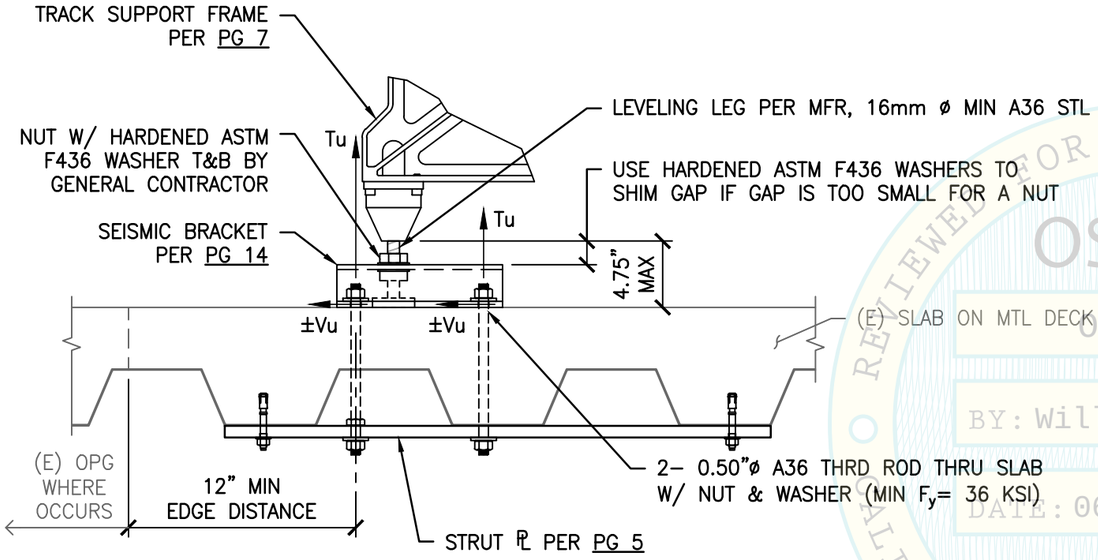
	MAX ANCHOR FORCES AT LRFD AT EA AB	
	Tu	Vu
CASE 1 z/h ≤ 1.0	2808#	364#

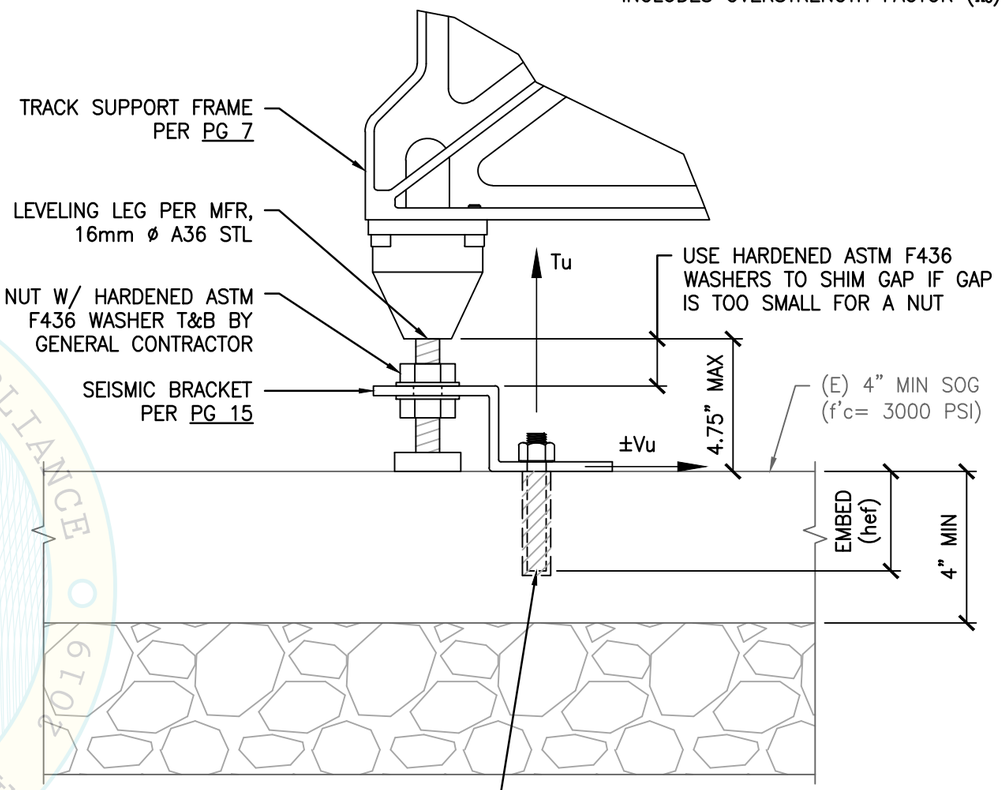
OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO Vu FOR ANCHORAGE TO CONC.



CASE 1 – SUSPENDED FLR W/ THRU–BOLTS

	MAX ANCHOR FORCES AT LRFD AT EA AB	
	Tu	Vu
CASE 2 z/h = 0	1098#	92#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



CASE 2 – SOG

(SLAB AT OR BLW GRADE)

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: TYPICAL TRACK MODULE SUPPORT & ATTACHMENT DETAILS

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS EQUIPMENT SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
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TEL (916) 920-2020
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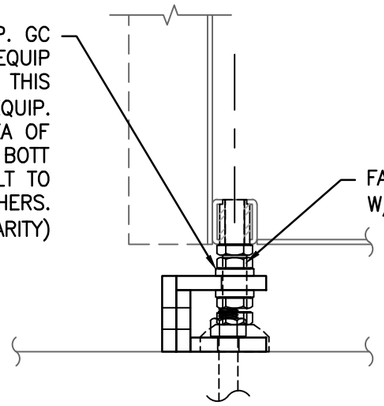
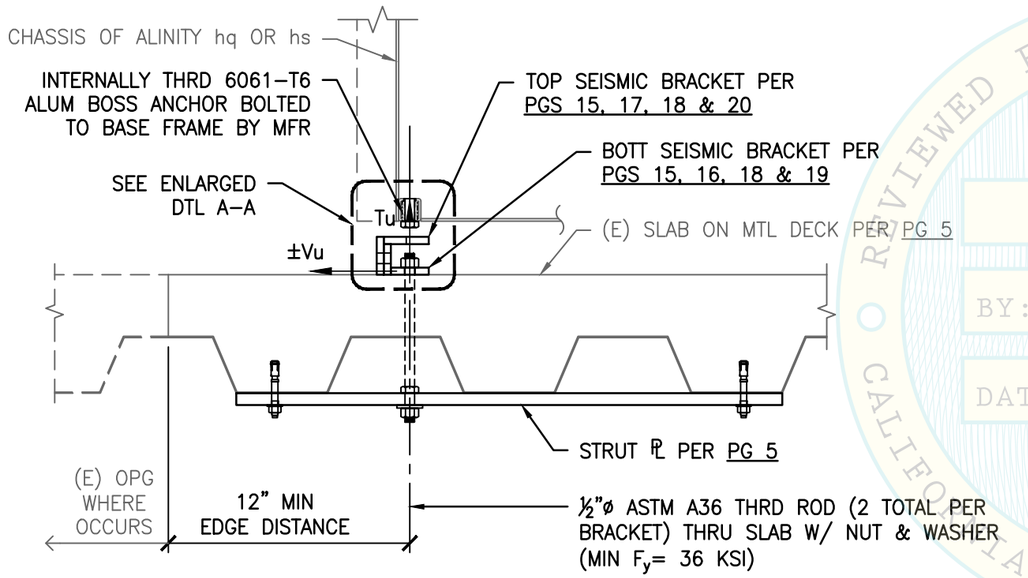
GC SHALL PROVIDE & INSTALL JAM NUT, TYP. GC SHALL OMIT TOP NUT IF CLR BLW BRACKET & EQUIP IS LESS THAN THE HT OF A NUT & REPLACE THIS NUT W/ SS FINGER SHIMS AS REQ TO LEVEL EQUIP. SHIMS MUST BE SAME DIMS AS BRG AREA OF BRACKET FLG. WHEN CLR BTW T.O. BRACKET & BOTT OF COMPONENT IS 7mm OR LESS. AS AN ALT TO SHIMS USE STACKED HARDENED F436 WASHERS. (SHIMS OR WASHERS NOT SHOWN FOR CLARITY)



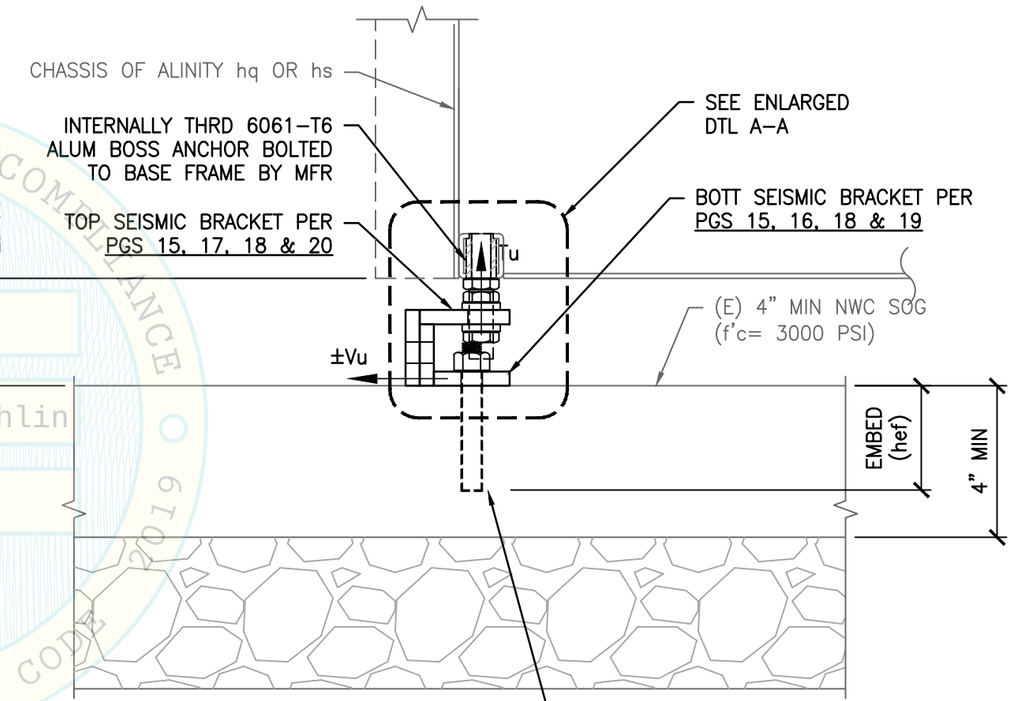
ENLARGED DTL A–A

	MAX ANCHOR FORCES AT LRFD AT EA AB	
	Tu	Vu
CASE 1 $z/h \leq 1.0$	2505#	927#[1]
CASE 2 $z/h = 0$	1382#[1]	348#[1]

1. INCLUDES MATERIAL OVERSTRENGTH FACTOR (Ω_o) IN ACCORDANCE W/ ACI 318–14 SECTION 17.2.3.4.3(d) FOR TENSION OR SECTION 17.2.3.5.3(c) FOR SHEAR.



CASE 1 – SUSPENDED FLR W/ THRU–BOLTS



CASE 2 – SOG
(SLAB AT OR BLW GRADE)

NOTES:
1. SUPPORTS & ATTACHMENTS INSTALLATION BY CONTRACTOR.
2. LEVELING LEGS & BOLTS CONNECTING BRACKETS NOT SHOWN FOR CLARITY.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: SUPPORT & ATTACHMENT DETAILS

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS
EQUIPMENT SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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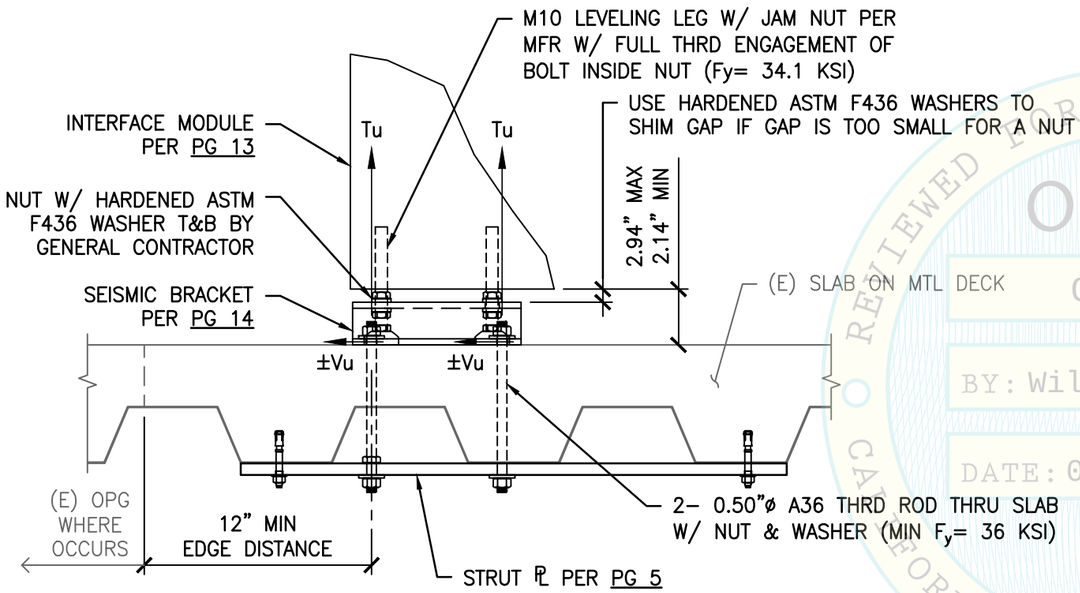
	MAX ANCHOR FORCES AT LRFD AT EA AB	
	Tu	Vu
CASE 1 z/h ≤ 1.0	2188#	384#

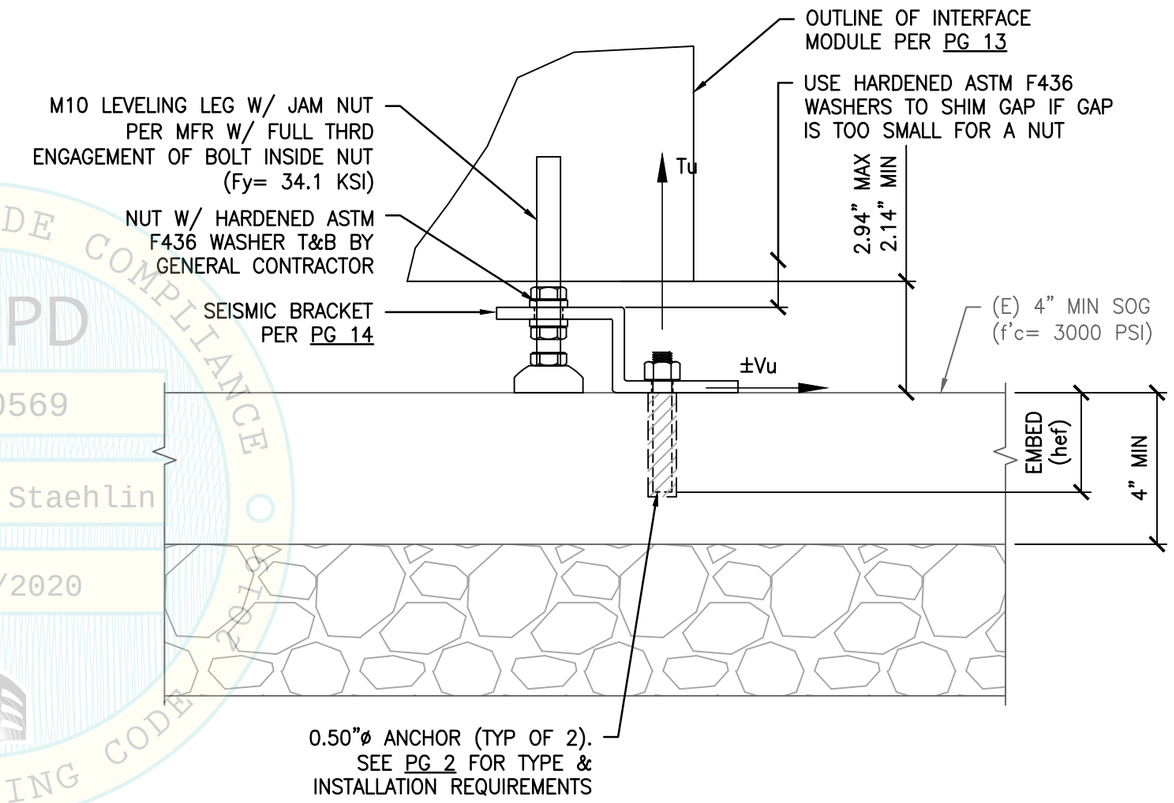
OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO Vu FOR ANCHORAGE TO CONC.



CASE 1 – SUSPENDED FLR W/ THRU–BOLTS

	MAX ANCHOR FORCES AT LRFD AT EA AB	
	Tu	Vu
CASE 2 z/h = 0	1192#	216#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



CASE 2 – SOG

(SLAB AT OR BLW GRADE)

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: INTERFACE MODULE SUPPORT & ATTACHMENT DETAILS

ABBOTT
ALINITY hq, hs & a3600 Interface INSTRUMENTS EQUIPMENT SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
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L:\Jobs\19\19103 Abbott Alinity hq, hs & a3600 Interface OPM\ACAD\STRU\S1.dwg Time:Jun26,2020-09:45am Login:shawnm Dimscale:1 LTScale:6