



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

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

OFFICE USE ONLY

APPLICATION #: OPM-0697

HCAI Preapproval of Manufacturer's Certification (OPM)

Type:  New  Renewal/Update

Manufacturer Information

Manufacturer: Abbott

Manufacturer's Technical Representative: Claudia Moreno

Mailing Address: 1921 Hurd Drive, Irving, TX 75038

Telephone: (972) 518-7691

Email: Claudia.Moreno@abbott.com

Product Information

Product Name: Abbott Automation Solutions - GLP Systems Track, Abbott Interfaces - Supports & Attachments

Product Type: Automated Pre/Post Analytical Processing Laboratory Instruments

Product Model Number: RBI Alinity h and RBI Alinity s

General Description: The Abbott Automation Solutions - GLP Systems Track, Abbott Interfaces - Supports & Attachments is a modular system designed to automate pre-analytical and post analytical processing, sample handling, and processing in the laboratory. The system consolidates multiple analytical instruments into a unified work station by employing a common sample processing capability.

Applicant Information

Applicant Company Name: CYS Structural Engineers, Inc.

Contact Person: Dieter Siebald

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

Telephone: (916) 920-2020

Email: dieters@cyseng.com

Title: Structural Engineer/Manager

*"A healthier California where all receive equitable, affordable, and quality health care"*

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT**

**Registered Design Professional 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

**HCAI 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, 2022 (CBSC 2022) 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 2022 may be used when approved by HCAI prior to testing.

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

**HCAI Approval**

Date: 8/29/2024  
Name: William Staehlin Title: Senior Structural Engineer  
Condition of Approval (if applicable): \_\_\_\_\_

*"A healthier California where all receive equitable, affordable, and quality health care"*

**STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY**

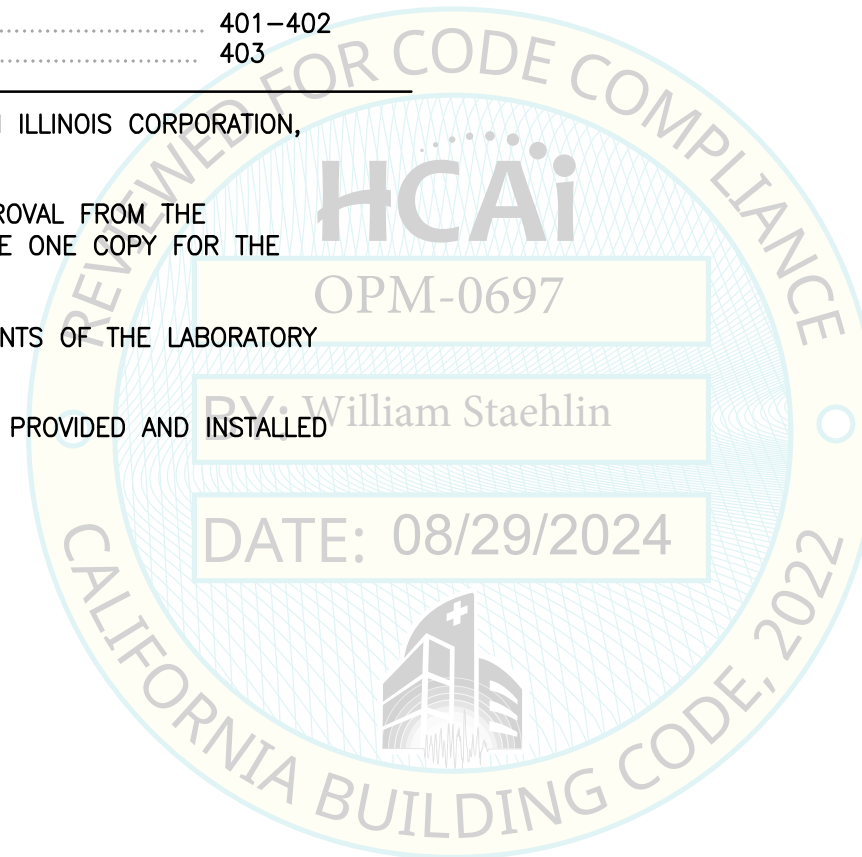


OPM-0697  
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**NOTES:** THESE DRAWINGS ARE PREPARED FOR ABBOTT LABORATORIES, AN ILLINOIS CORPORATION, ABBOTT PARK, ILLINOIS.

1. THE CONTRACTOR SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE HCAI/OSHPD PRE-APPROVAL PROGRAM WEBSITE AND PROVIDE ONE COPY FOR THE INSPECTOR OF RECORD.
2. THIS PRE-APPROVAL COVERS THE SUPPORTS AND ATTACHMENTS OF THE LABORATORY EQUIPMENT TO THE STRUCTURE.
3. BRACKETS, STRUT PLATES & CONCRETE ANCHORS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.

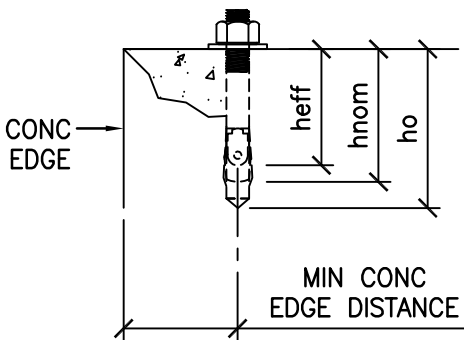


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SHEET TITLE: TABLE OF CONTENTS				Job No: 20097.08 Date: 08/22/2024 By: CYS Page: 101 of -
ABBOTT AUTOMATION SOLUTIONS - GLP SYSTEMS TRACK ABBOTT INTERFACES SUPPORTS & ATTACHMENTS FOR RBI ALINITY h & RBI ALINITY s	<b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com		

**GENERAL NOTES:**

- THIS CALIFORNIA DEPARTMENT OF HEALTH CARE ACCESS & INFORMATION (HCAI) OFFICE OF STATEWIDE HOSPITAL PLANNING & DEVELOPMENT (OSHPD) PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2022. THE DEMAND (DESIGN FORCES) FOR USE W/ THIS OPM SHALL BE BASED ON THE CBC 2022.
- IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
  - THE ADEQUACY OF THE NEW OR (E) STRUCTURE TO RESIST THE FORCES & WT SPECIFIED FOR EACH EQUIP IN ADDITION TO ALL OTHER LOADS. PROVIDE & DESIGN SUPPLEMENTARY MEMBERS AS REQ.
  - THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
  - THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR (E) ANCHORS. THE SPACING SHOWN IN THE TEST LOADS IN TABLE 1 ON THIS PG IS THE REQ MIN SPACING OF THE GIVEN DIA ANCHORS. THE REQ SPACING FROM ANCHORS OF OTHER DIA & EMBEDMENTS MAY VARY & SHALL BE EVALUATED BY THE SEOR.
  - THAT THE INSTALLATION IS IN CONFORMANCE W/ THE CBC 2022 & W/ THE DTLS SHOWN IN THIS PRE-APPROVAL.
  - THAT THE ACTUAL EQUIP'S WT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DTLS, & THE MATERIAL & GA OF THE EQUIP WHERE ATTACHMENTS ARE MADE, AGREE W/ THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.
  - THAT THE CONC SLAB TO WHICH THE EQUIP IS ANCHORED SHALL MEET THE REQUIREMENTS OF THE APPLICABLE ICC REPORT & THIS OPM.
- EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE CARBON STL HILTI KB-TZ2 EXPANSION ANCHORS COMPLYING W/ ESR-4266 REISSUED DECEMBER 2023.
  - INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE W/ THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR & THE PARAMETERS GIVEN IN THE TABLE ON THIS PG. PROVIDE FULL THRD ENGAGEMENT FOR NUT & WASHER.
  - JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE W/ THE TEST LOAD TABLE PROVIDED IN THIS DOCUMENT. TORQUE 50% OF THE INSTALLED ANCHORS. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE SPECIAL INSPECTOR & REPORT OF TEST RESULTS SHALL BE SUBMITTED TO THE INSPECTOR OF RECORD, OWNER & ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE. 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 EQUIP INSTALLATION, HOWEVER, THE NUT SHALL BE RETORQUED TO INSTALLATION TORQUE AFTER EQUIP INSTALL. ALSO, REFER TO 2022 CBC 1910.A "TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".
  - FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLIES FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
    - TORQUE WRENCH METHOD:** THE APPLICABLE TEST TORQUE MUST BE REACHED W/IN THE FOLLOWING LIMITS: WEDGE TYPE: ONE-HALF (1/2) TURN OF THE NUT.
  - AVOID DAMAGING (E) STL REINF IN CONC SLAB WHEN INSTALLING CONC EXPANSION ANCHORS.
  - TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. FOR CASE 2, SEE TABLE 1 BELOW.



**TABLE 1**

CONDITION OF ANCHORAGE	ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h <sub>min</sub>	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST LOAD TORQUE (FT-LBS)
CASE 2	1/2	2 1/2	2	2 3/4	4	12	5 1/2	50

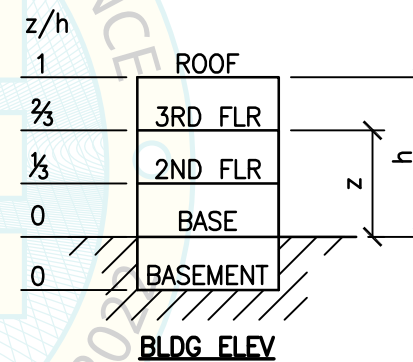
- BOLTS THROUGH CONC ON MTL DECK:
  - BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUT AFTER SNUG TIGHT CONDITION IS ACHIEVED, UNO. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQ TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
  - THRU-BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16")
  - THRU-BOLTS IN CONC SHALL RECEIVE SPECIAL INSPECTION & TESTING IN ACCORDANCE W/ REQUIREMENTS FOR POST-INSTALLED ANCHORS. THRU-BOLTS W/ STL TO STL CONNECTION IN TENSION DO NOT REQUIRE TESTING.
- EXPANSION ANCHORS TO BOTT OF CONC FILL OVER MTL DECK:
  - HILTI KB-TZ2 (ICC ESR-4266) TENSION TEST LOAD. FOR CASE 1, SEE TABLE 2 BELOW.

**TABLE 2**

CONDITION OF ANCHORAGE	ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h <sub>min</sub>	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	MAX INSTALLATION TORQUE (FT-LBS)
CASE 1	1/4	1 3/4	1 1/2	2	3/4	1*	10*	4

\* SEE PG 401 IN THIS OPM & FIGURE 5B IN ESR-4266

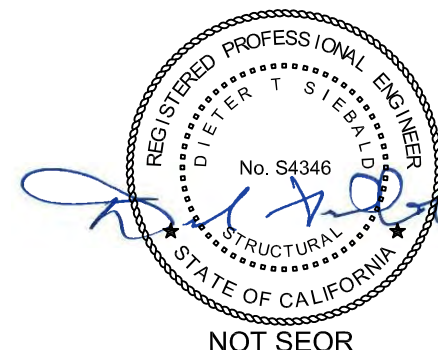
- TWO (2) CASES OF ATTACHMENT ARE SPECIFIED & PRESENTED IN THIS PRE-APPROVAL:



**CASE 1:** ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3 1/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE A325 STL THRD ROD THRU CONC FILL & MTL DECK.

**CASE 2:** ATTACHMENT DETAILS LOCATED AT OR BLW THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 4" NWC SLAB (f'c = 3000 PSI, MIN).

- THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA WHERE S<sub>DS</sub> & z/h ARE LESS THAN OR EQUAL TO THE DESIGN CRITERIA ON PG 103.



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SHEET TITLE: GENERAL NOTES

Rev	Description	Date	Job No:
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			Date: 08/22/2024
			By: CYS
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**ABBOTT** ABBOTT AUTOMATION SOLUTIONS - GLP SYSTEMS TRACK  
 ABBOTT INTERFACES  
 SUPPORTS & ATTACHMENTS FOR RBI ALINITY h & RBI ALINITY s

**CYS STRUCTURAL ENGINEERS, INC.**  
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**DESIGN CRITERIA**

SUPPORT & ATTACHMENT DESIGN IS PER 2022 CBC AT LRFD LEVEL FORCES.

OTHER MECHANICAL OR ELECTRICAL COMPONENTS PER TABLE 13.6-1 OF ASCE 7-16 INCLUDING SUPPLEMENT #1 & ERRATA:

$$S_{Ds} = 2.00 \quad a_p = 1.0 \quad R_p = 1.5 \quad I_p = 1.5 \quad \Omega_0 = 1.5 \text{ (CONC ANCHORS)}$$

W<sub>p</sub> AS NOTED ON COMPONENT BASE PLAN & ELEV. SEE PGS 201 - 202

FOR CASE 1 - UPPER FLRS ABV THE BASE, z/h ≤ 0.8 (LRFD)

$$F_p = 2.08 W_p \quad F_v = 0.40 W_p$$

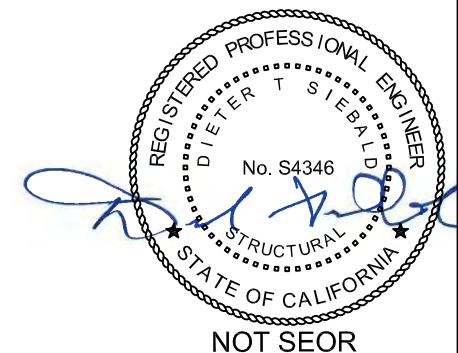
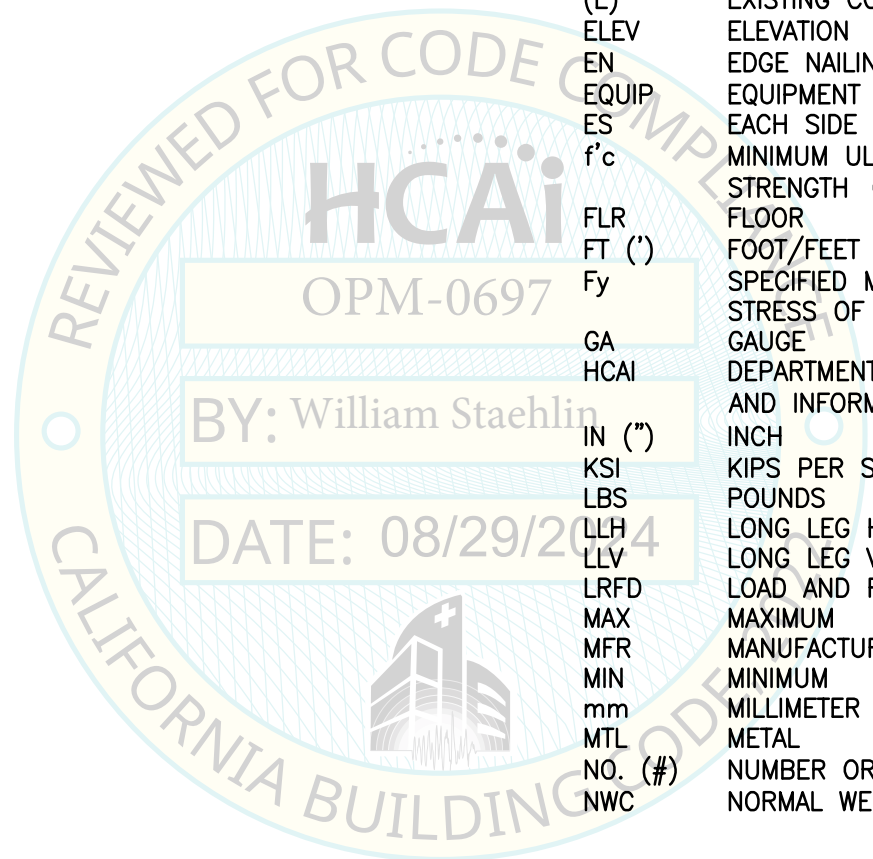
FOR CASE 2 - SLAB AT OR BLW BASE, z/h = 0 (LRFD)

$$F_p = 0.900 W_p \quad F_v = 0.40 W_p$$

**ABBREVIATIONS:**

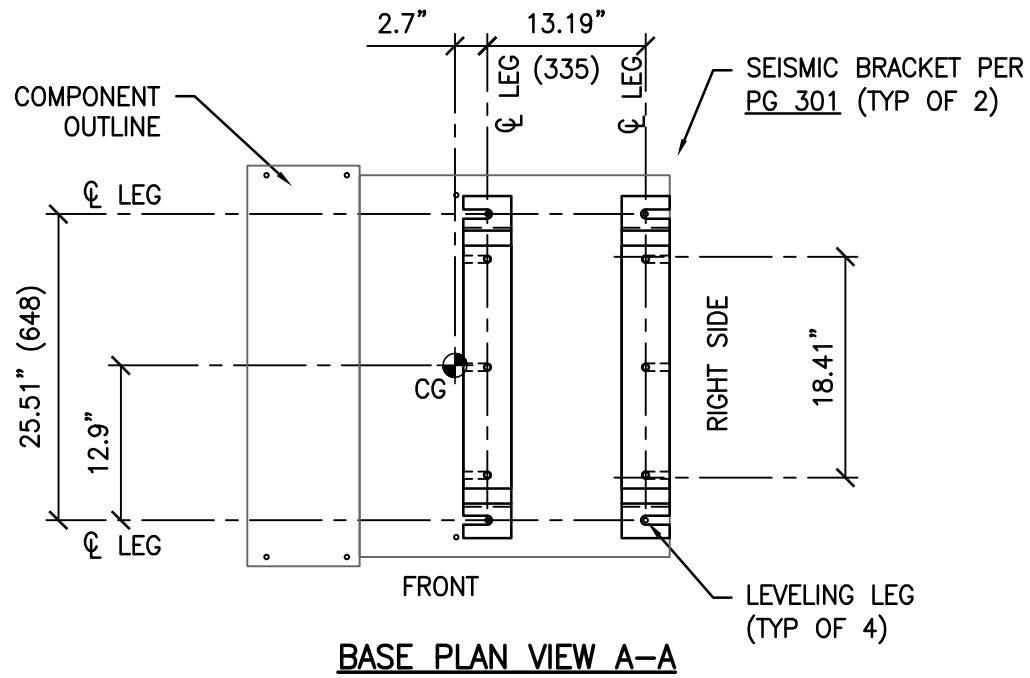
@	AT
ABV	ABOVE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
BLDG	BUILDING
BLW	BELOW
BRCG	BRACING
CBC	CALIFORNIA BUILDING CODE
CG	CENTER OF GRAVITY
CL	CENTERLINE
CONC	CONCRETE
COORD	COORDINATE
DBL	DOUBLE
DIA (∅)	DIAMETER
(E)	EXISTING CONDITION
ELEV	ELEVATION
EN	EDGE NAILING/EDGE FASTENING
EQUIP	EQUIPMENT
ES	EACH SIDE
f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE
FLR	FLOOR
FT (')	FOOT/FEET
Fy	SPECIFIED MINIMUM YIELD STRESS OF STEEL
GA	GAUGE
HCAI	DEPARTMENT OF HEALTHCARE ACCESS AND INFORMATION (aka OSHPD)
IN (")	INCH
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
mm	MILLIMETER
MTL	METAL
NO. (#)	NUMBER OR POUNDS
NWC	NORMAL WEIGHT CONCRETE

OPP	OPPOSITE
OSHPD	OFFICE OF STATEWIDE HOSPITAL PLANNING & DEVELOPMENT
PG	PAGE
PL	PLATE
PSI	POUNDS PER SQUARE INCH
SCHED	SCHEDULE
SEOR	STRUCTURAL ENGINEER OF RECORD
SLWC	SAND-LIGHTWEIGHT CONCRETE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE AT LRFD
THK	THICK/THICKNESS
THRD	THREAD OR THREADED
TYP	TYPICAL
Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE AT LRFD
VERT	VERTICAL
W/	WITH
Wp	OPERATING WEIGHT
WT	WEIGHT

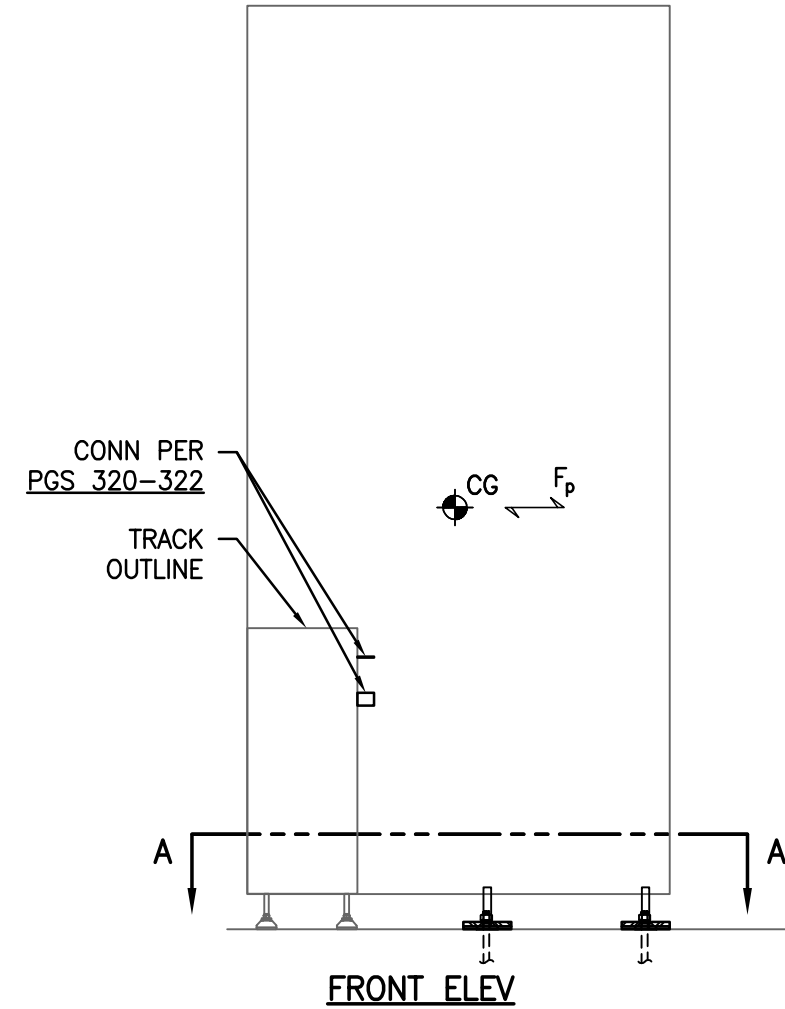


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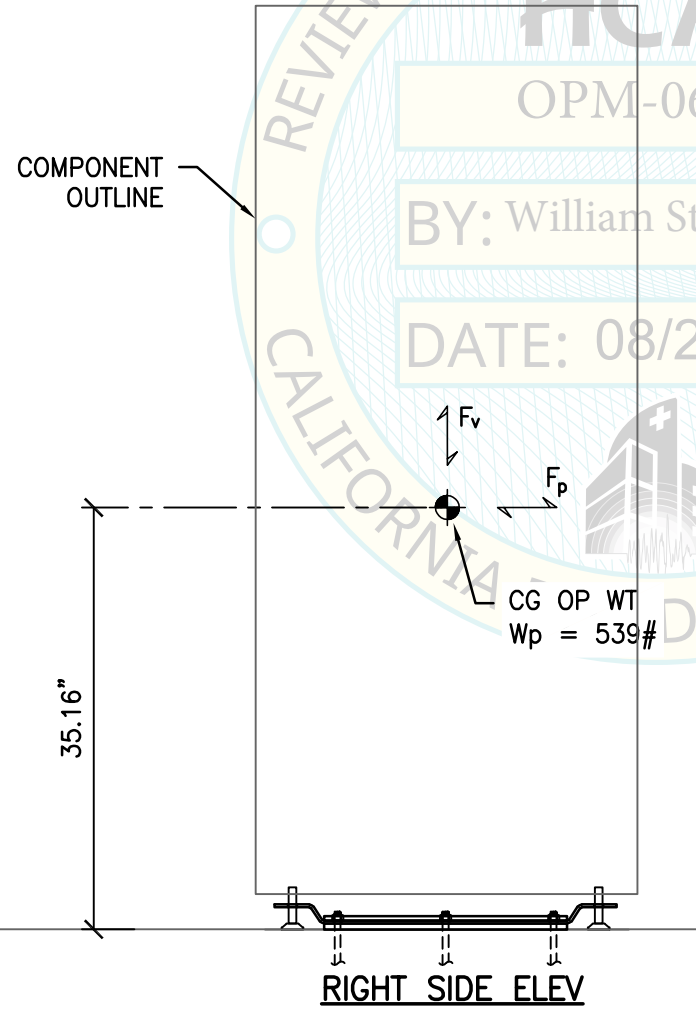
SHEET TITLE: DESIGN CRITERIA & ABBREVIATIONS				Rev	Description	Date	Job No: 20097.08		
ABBOTT AUTOMATION SOLUTIONS - GLP SYSTEMS TRACK ABBOTT INTERFACES SUPPORTS & ATTACHMENTS FOR RBI ALINITY h & RBI ALINITY s				<b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020 SACRAMENTO, CA 95833 www.cyseng.com				Date: 08/22/2024	By: CYS
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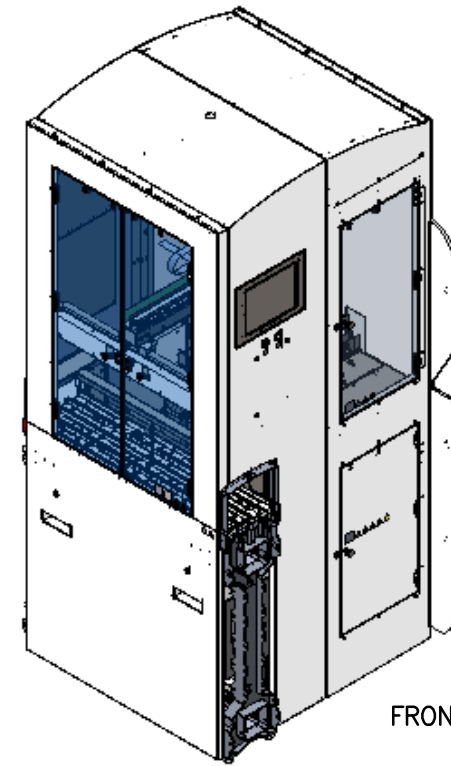
BASE PLAN VIEW A-A



FRONT ELEV



RIGHT SIDE ELEV

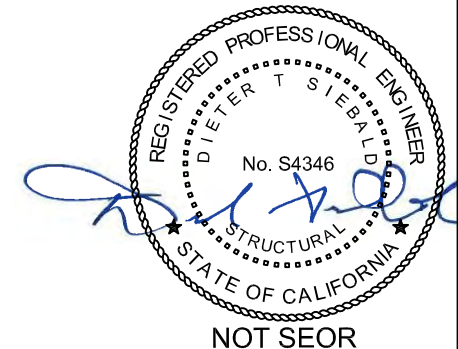
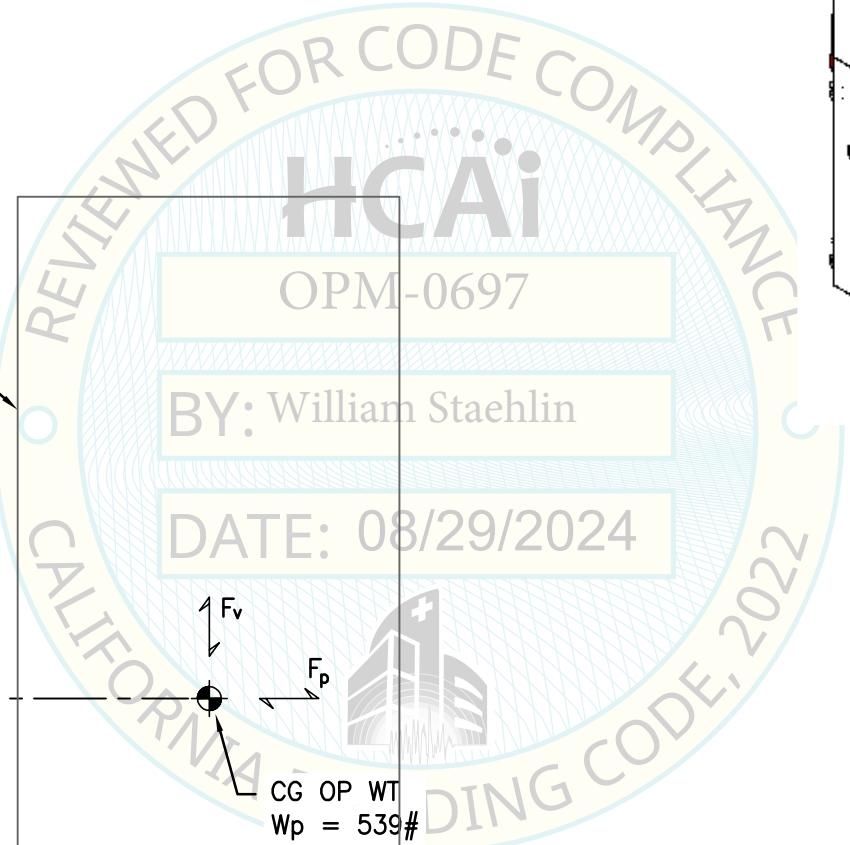


ISOMETRIC VIEW

MAX ANCHOR FORCES AT LRFD AT LEVELING LEG

	T <sub>max</sub>	C <sub>max</sub>	V <sub>max</sub>
CASE 1 <sup>1</sup>	1769#	2200#	422#
CASE 2 <sup>2</sup>	1179#	1610#	274#

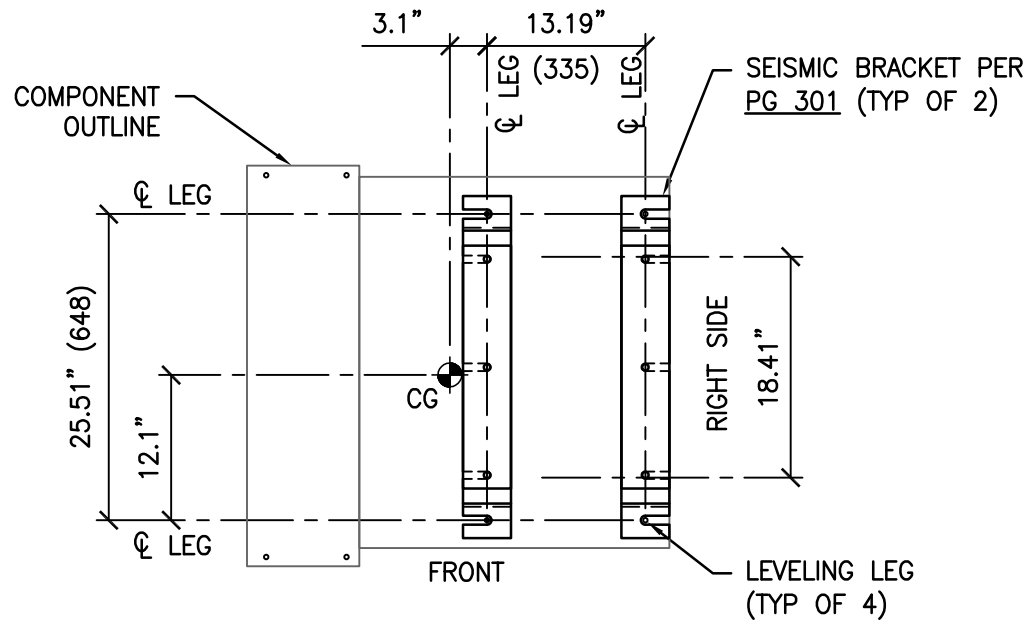
1. OVERSTRENGTH FACTOR ( $\Omega_o$ ) MUST BE APPLIED FOR ANCHORAGE TO CONC.
2. INCLUDES OVERSTRENGTH FACTOR ( $\Omega_o$ ).



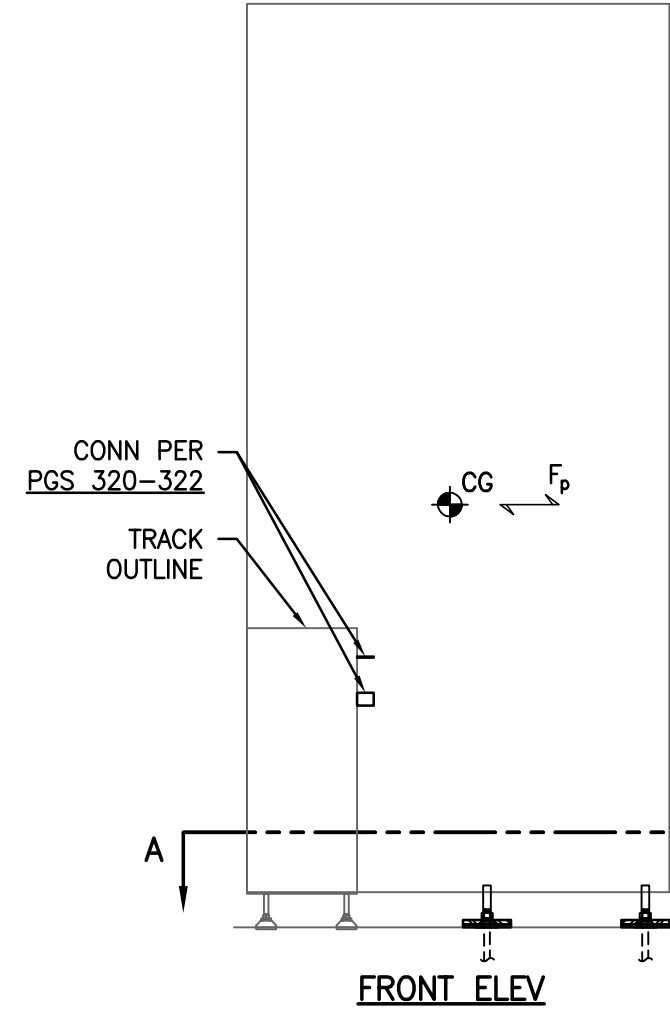
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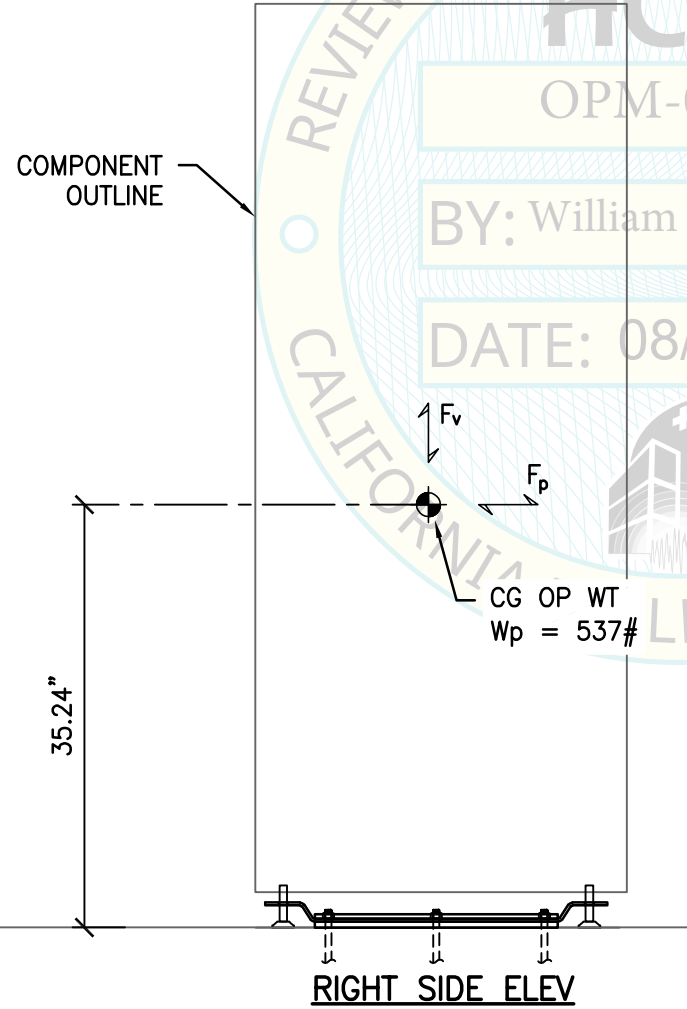
SHEET TITLE: FLOOR SUPPORTED MODULE: RBI ALINITY h BASE PLAN & ELEVATIONS				Rev	Description	Date	Job No: 20097.08	
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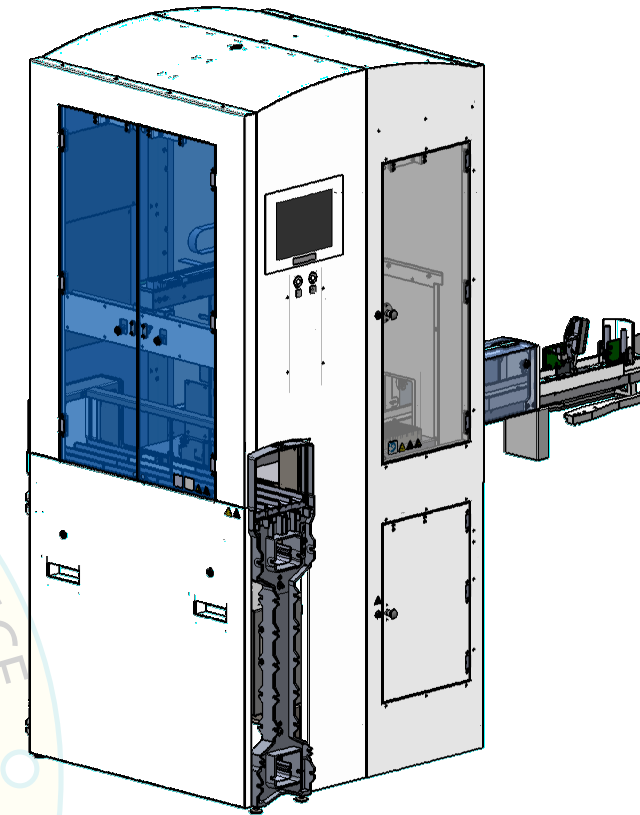
BASE PLAN VIEW A-A



FRONT ELEV



RIGHT SIDE ELEV



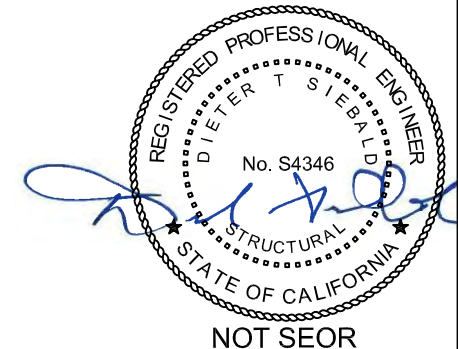
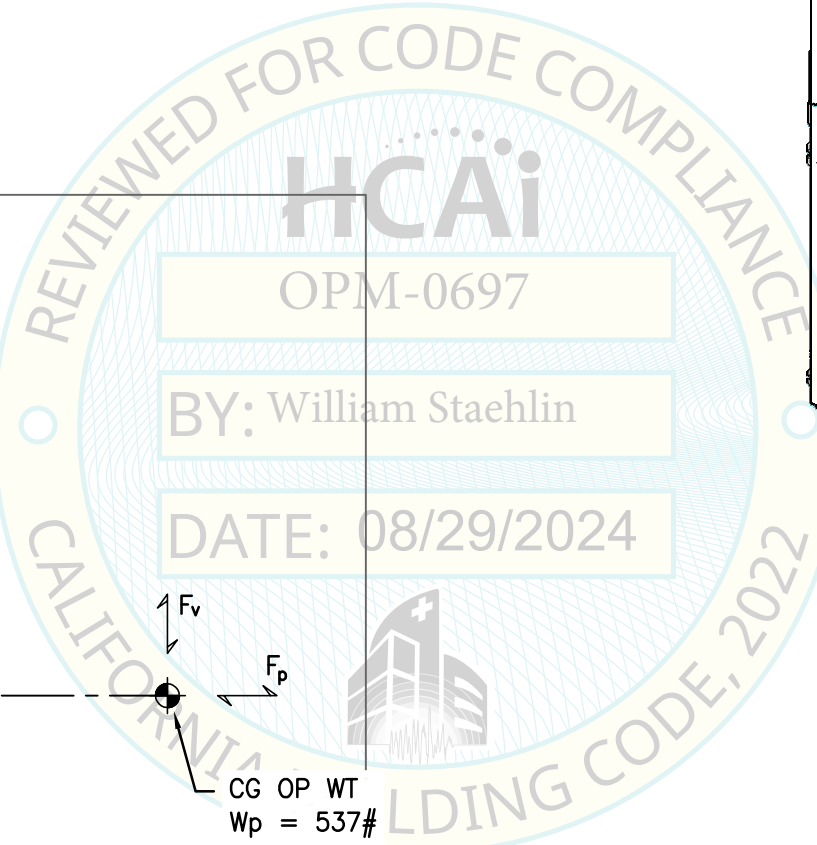
FRONT

ISOMETRIC VIEW

MAX ANCHOR FORCES AT LRFD AT LEVELING LEG

	T <sub>max</sub>	C <sub>max</sub>	V <sub>max</sub>
CASE 1 <sup>1</sup>	1792#	2222#	423#
CASE 2 <sup>2</sup>	1203#	1632#	274#

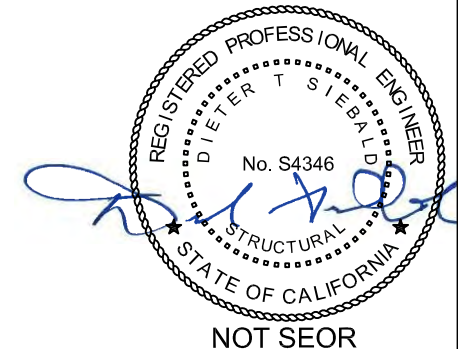
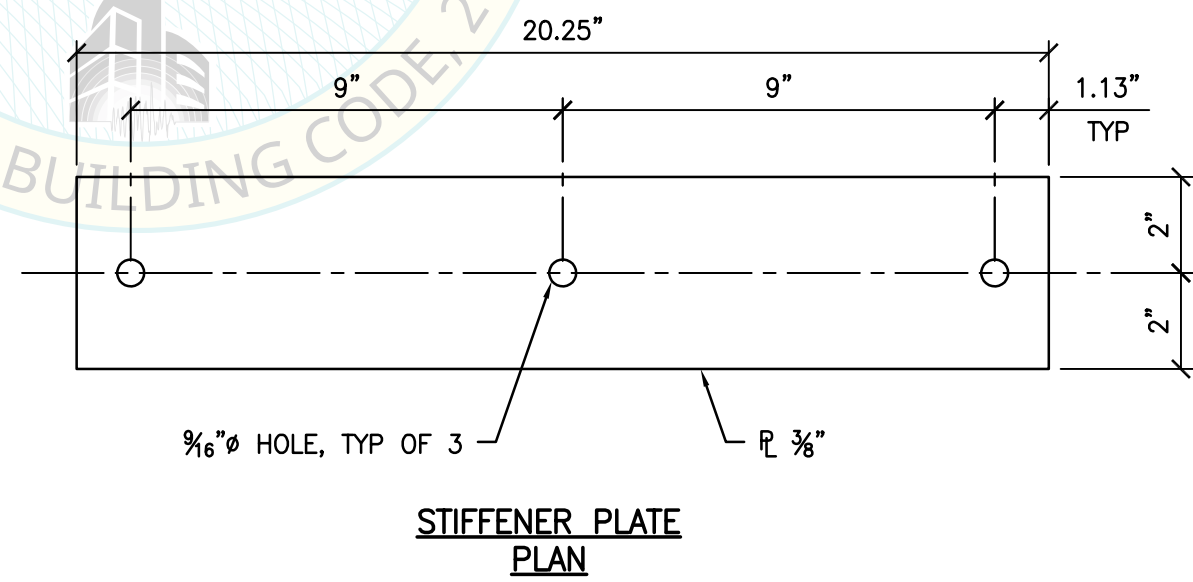
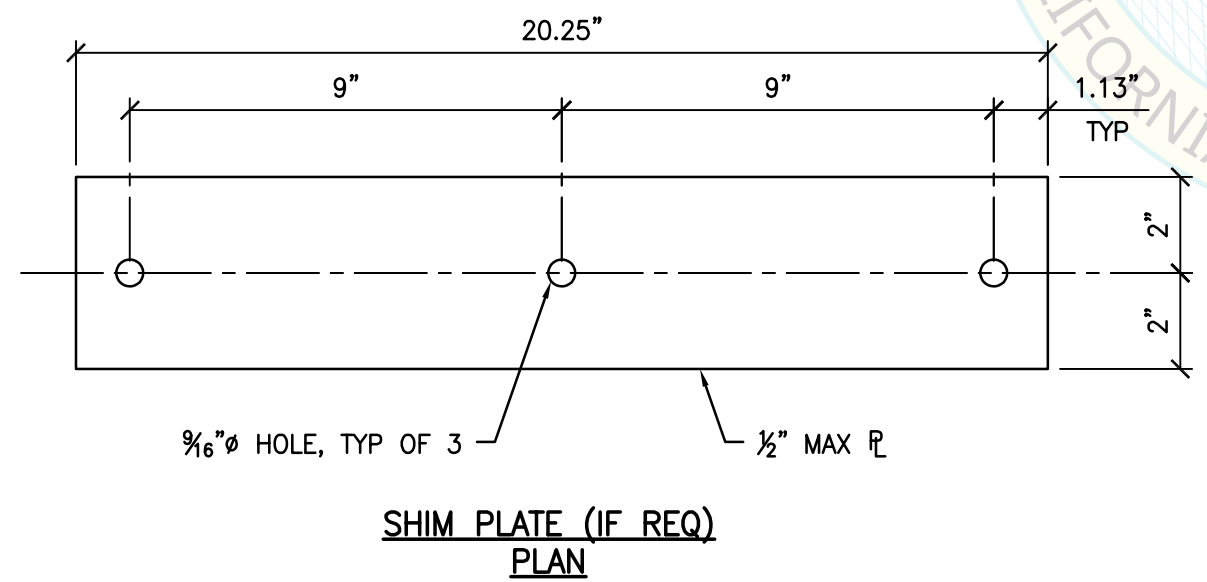
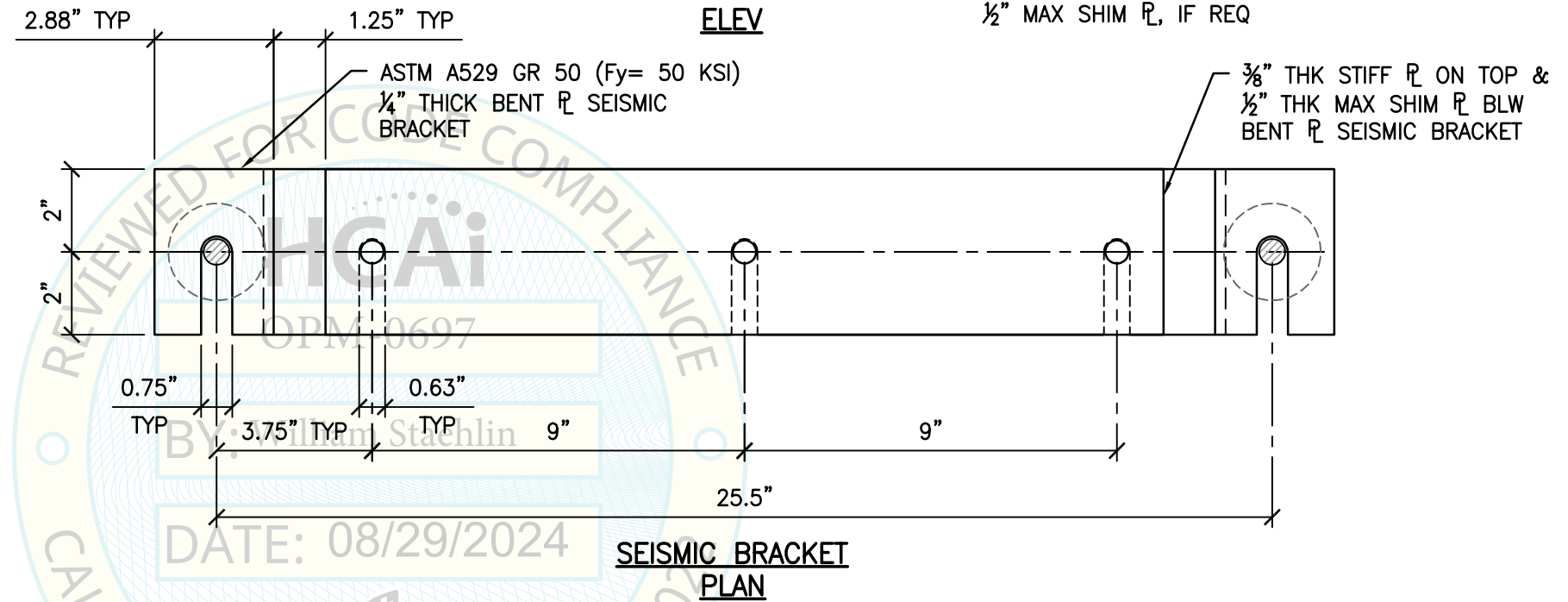
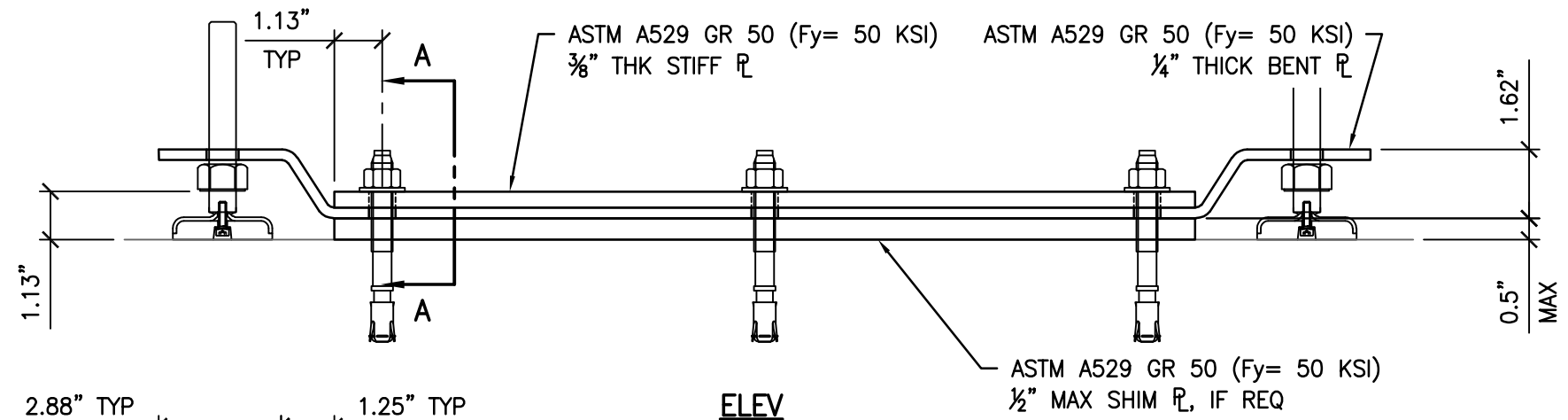
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SHEET TITLE: FLOOR SUPPORTED MODULE: RBI ALINITY s BASE PLAN & ELEVATIONS				Rev	Description	Date	Job No: 20097.08
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CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833							By: CYS
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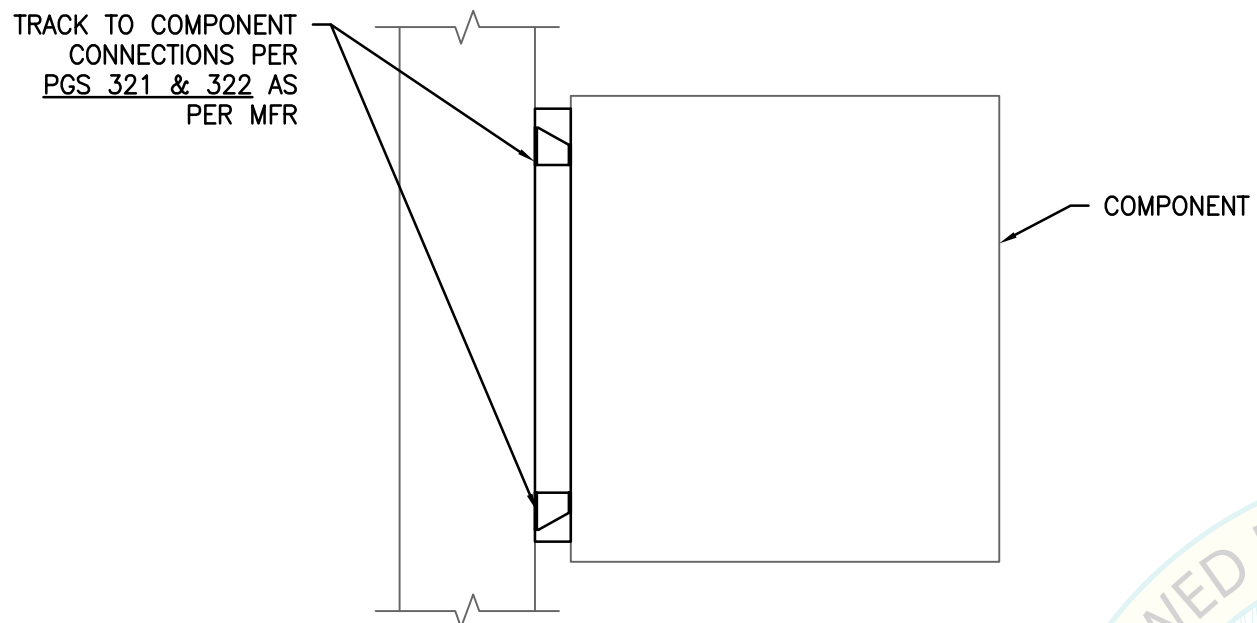
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			By: CYS
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**Abbott** ABBOTT AUTOMATION SOLUTIONS - GLP SYSTEMS TRACK  
ABBOTT INTERFACES  
SUPPORTS & ATTACHMENTS FOR RBI ALINITY h & RBI ALINITY s

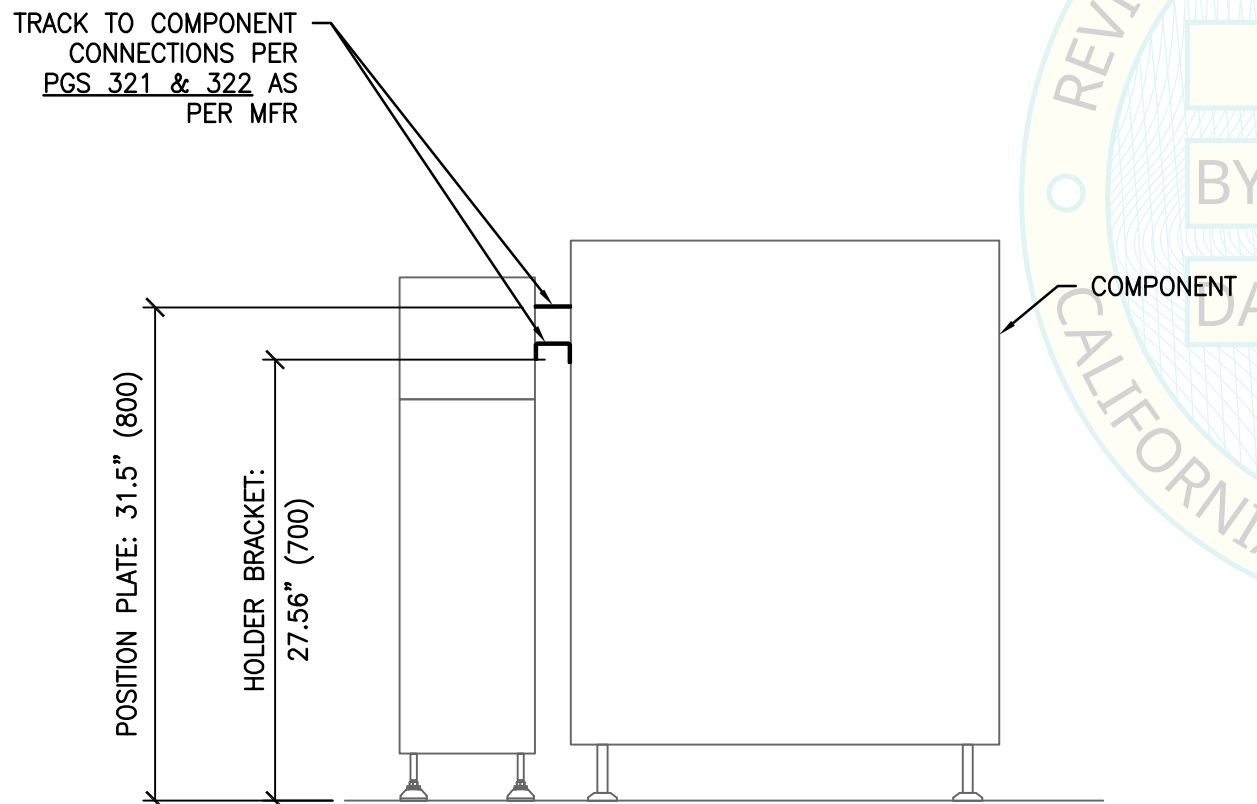
**CYS STRUCTURAL ENGINEERS, INC.**  
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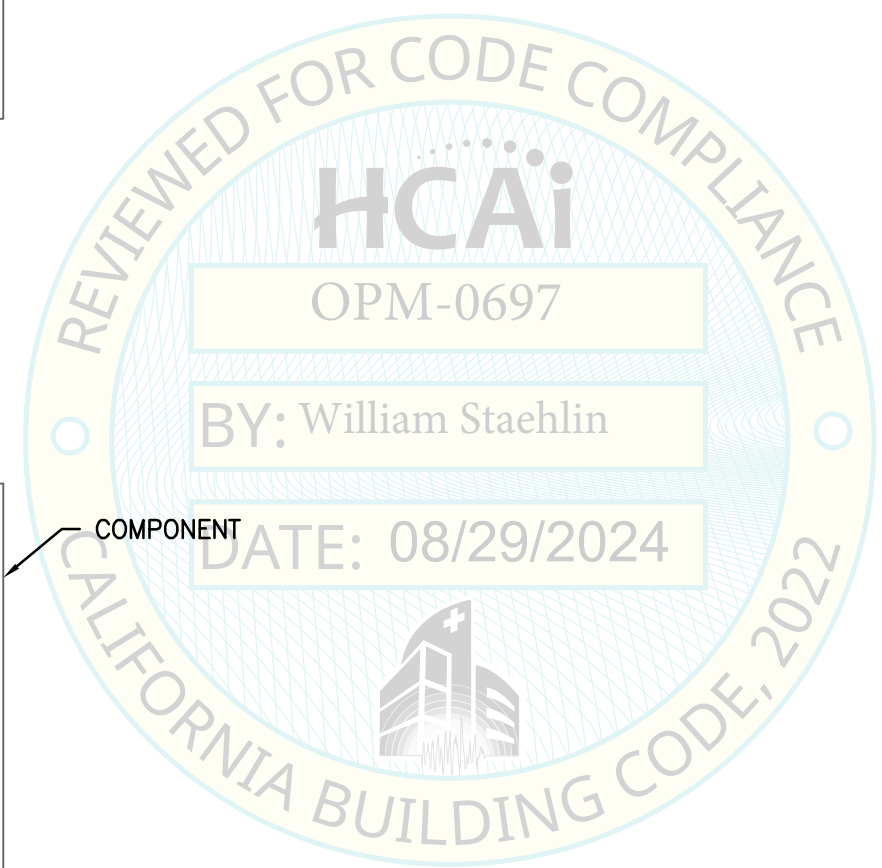
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PLAN VIEW



IN LINE ELEV



NOT SEOR

SHEET TITLE: TRACK TO COMPONENT CONNECTION

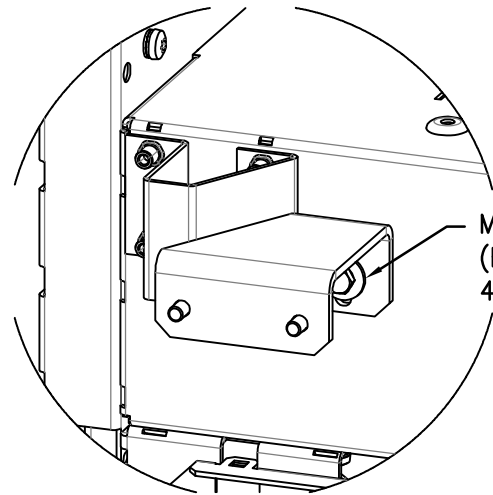
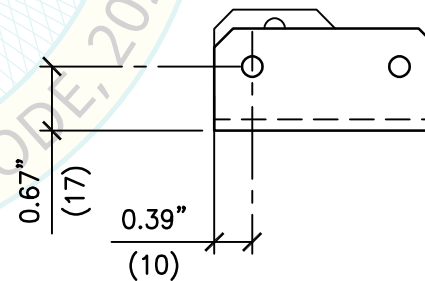
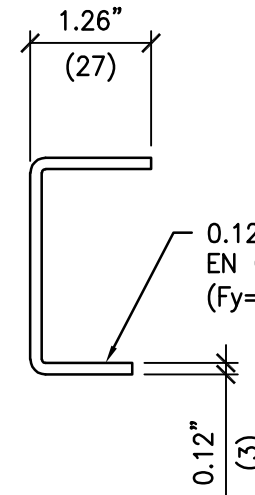
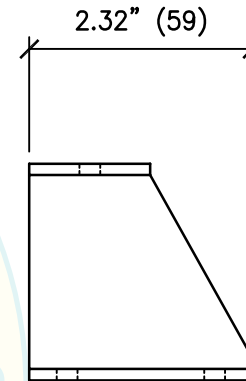
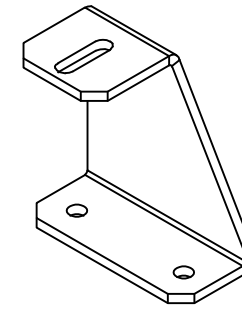
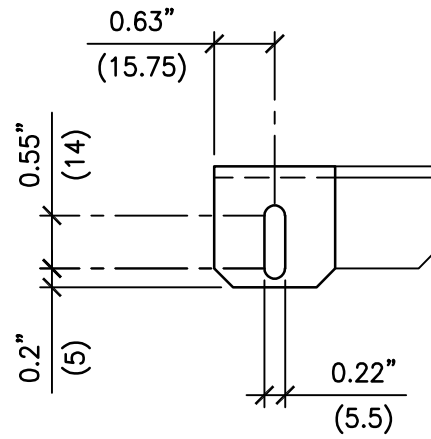
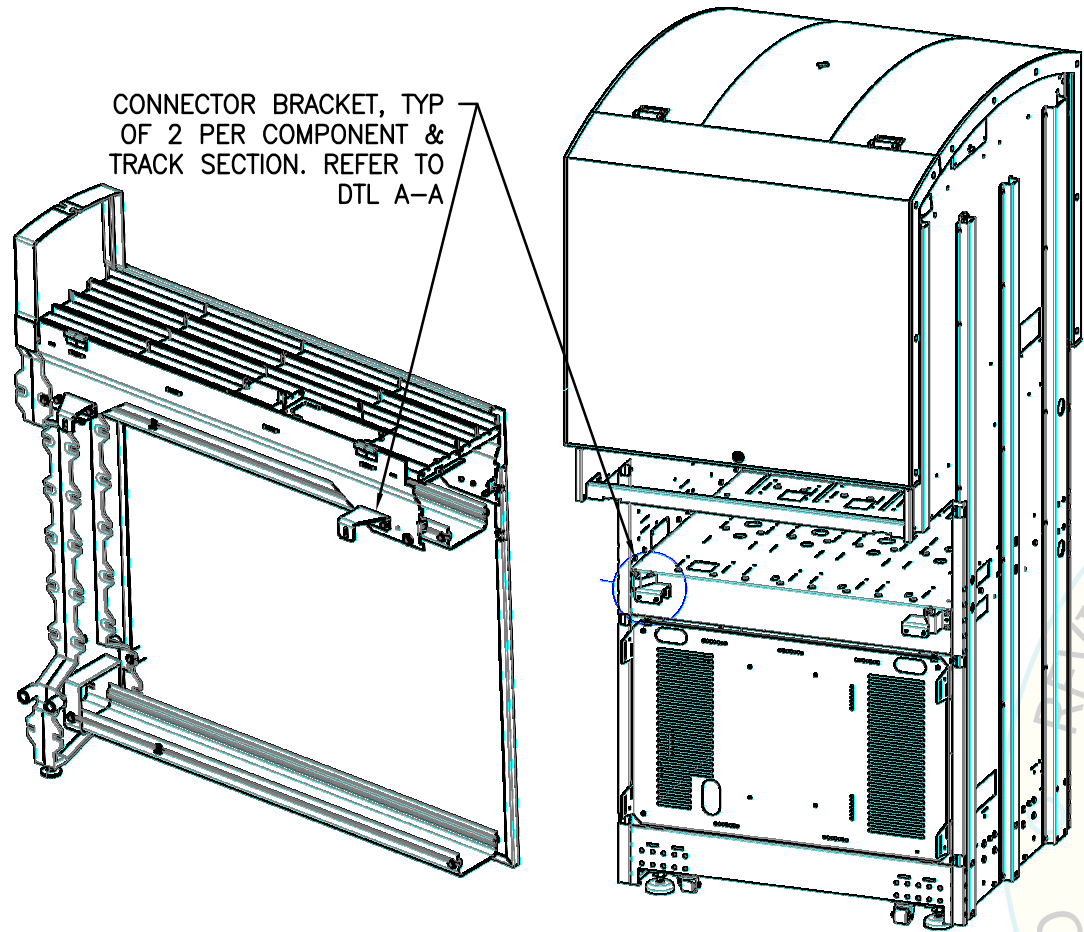
**Abbott** ABBOTT AUTOMATION SOLUTIONS - GLP SYSTEMS TRACK  
 ABBOTT INTERFACES  
 SUPPORTS & ATTACHMENTS FOR RBI ALINITY h & RBI ALINITY s

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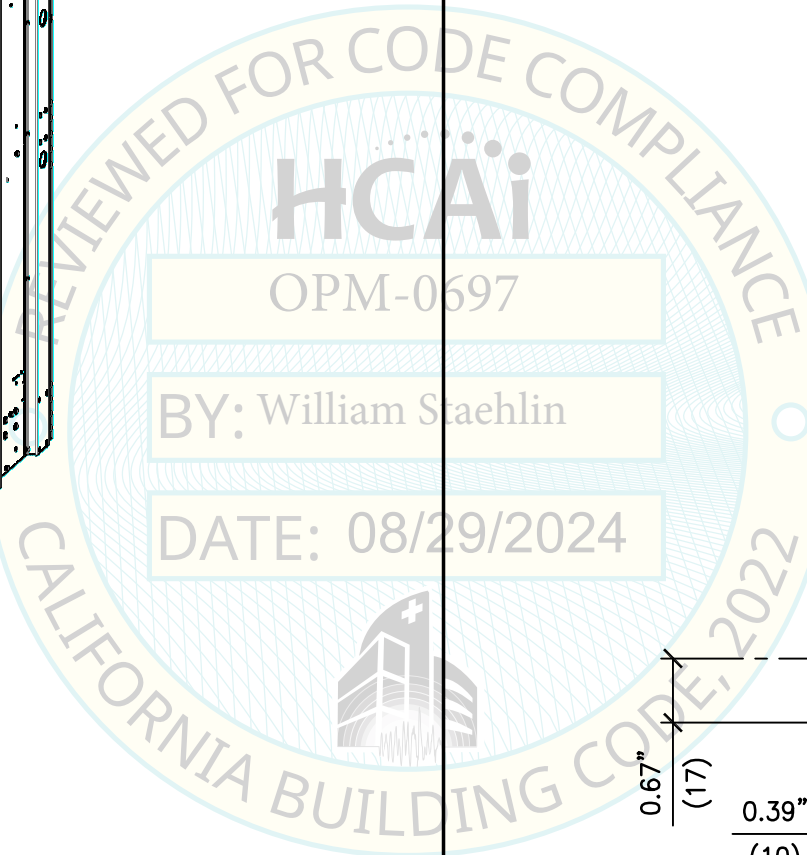
**HOLDER BRACKET CONNECTION**

**HOLDER BRACKET DETAIL**



M5x8 A2-70 DIN 933 BOLT (Fu= 100 KSI) TORQUE TO 4.5 FT-LBS (54 IN-LBS), TYP

**DETAIL A-A**



NOT SEOR

SHEET TITLE: TRACK TO COMPONENT CONNECTION  
HOLDER BRACKET

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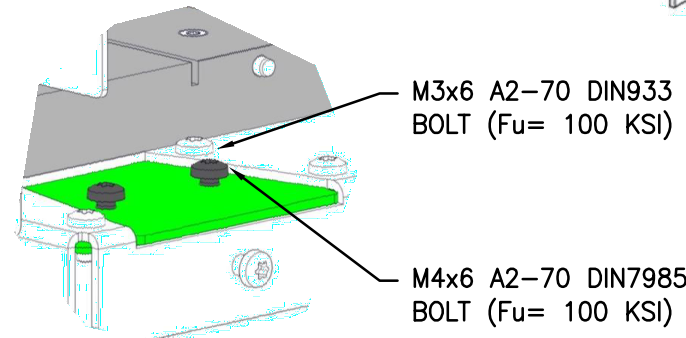
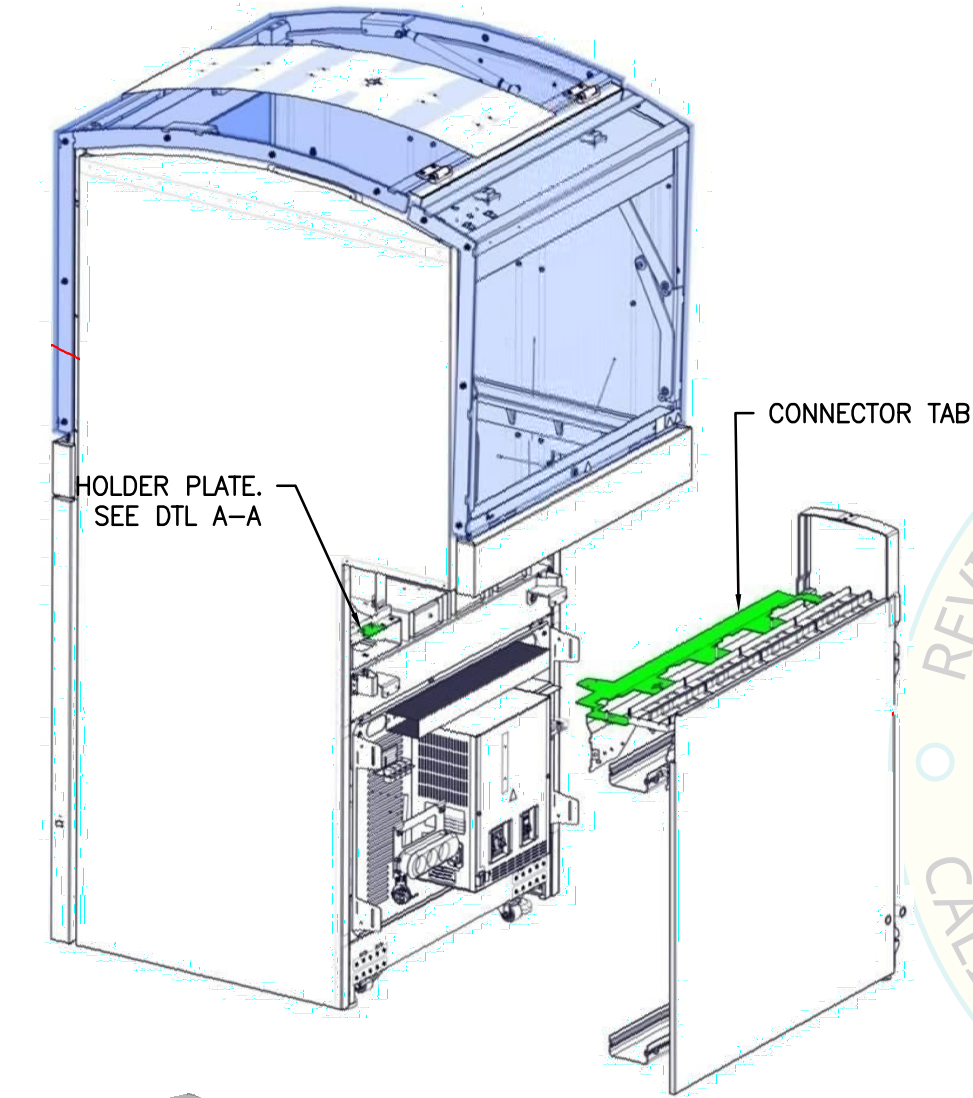


ABBOTT AUTOMATION SOLUTIONS - GLP SYSTEMS TRACK  
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SUPPORTS & ATTACHMENTS FOR RBI ALINITY h & RBI ALINITY s



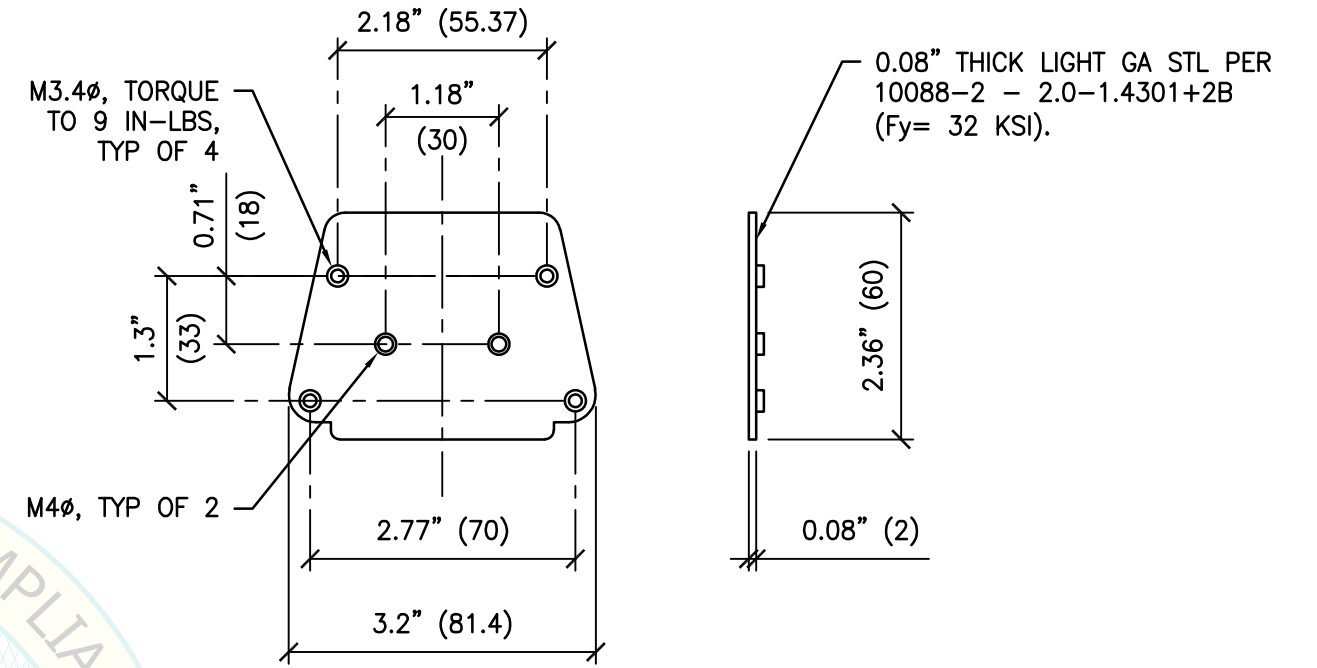
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**POSITION PLATE CONNECTION**

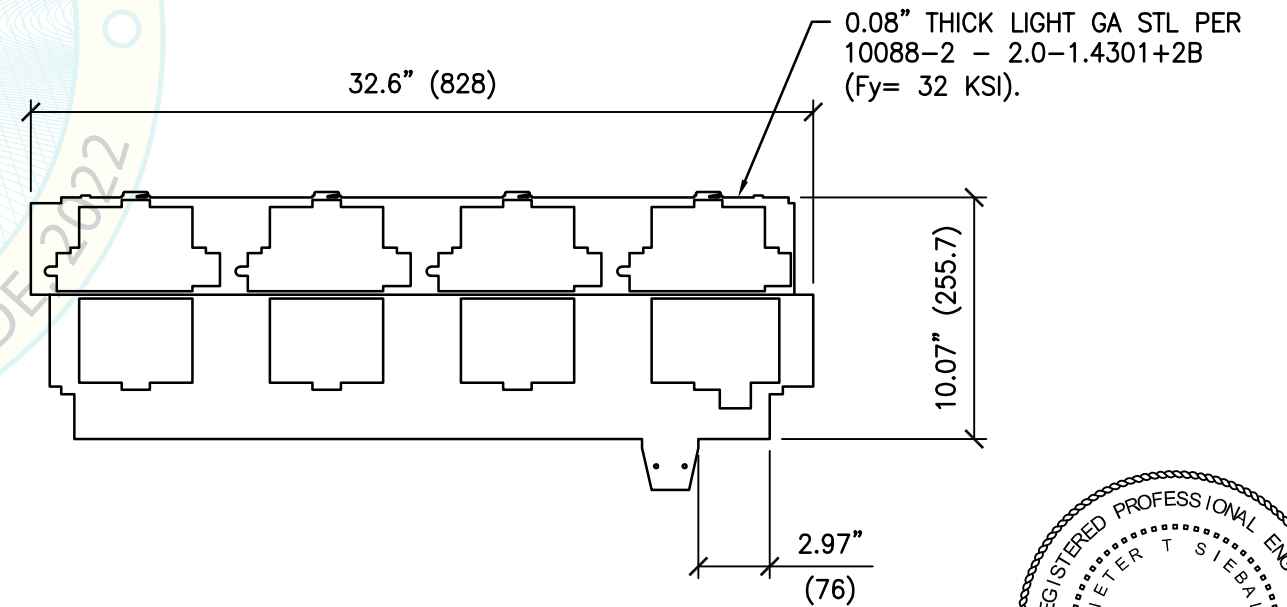


**DETAIL A-A**

**HOLDER PLATE DETAIL**



**POSITION PLATE DETAIL**



NOT SEOR

SHEET TITLE: TRACK TO COMPONENT CONNECTION  
POSITION PLATE

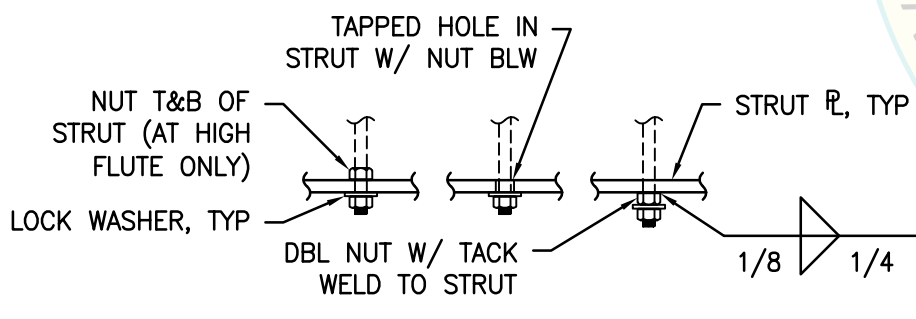
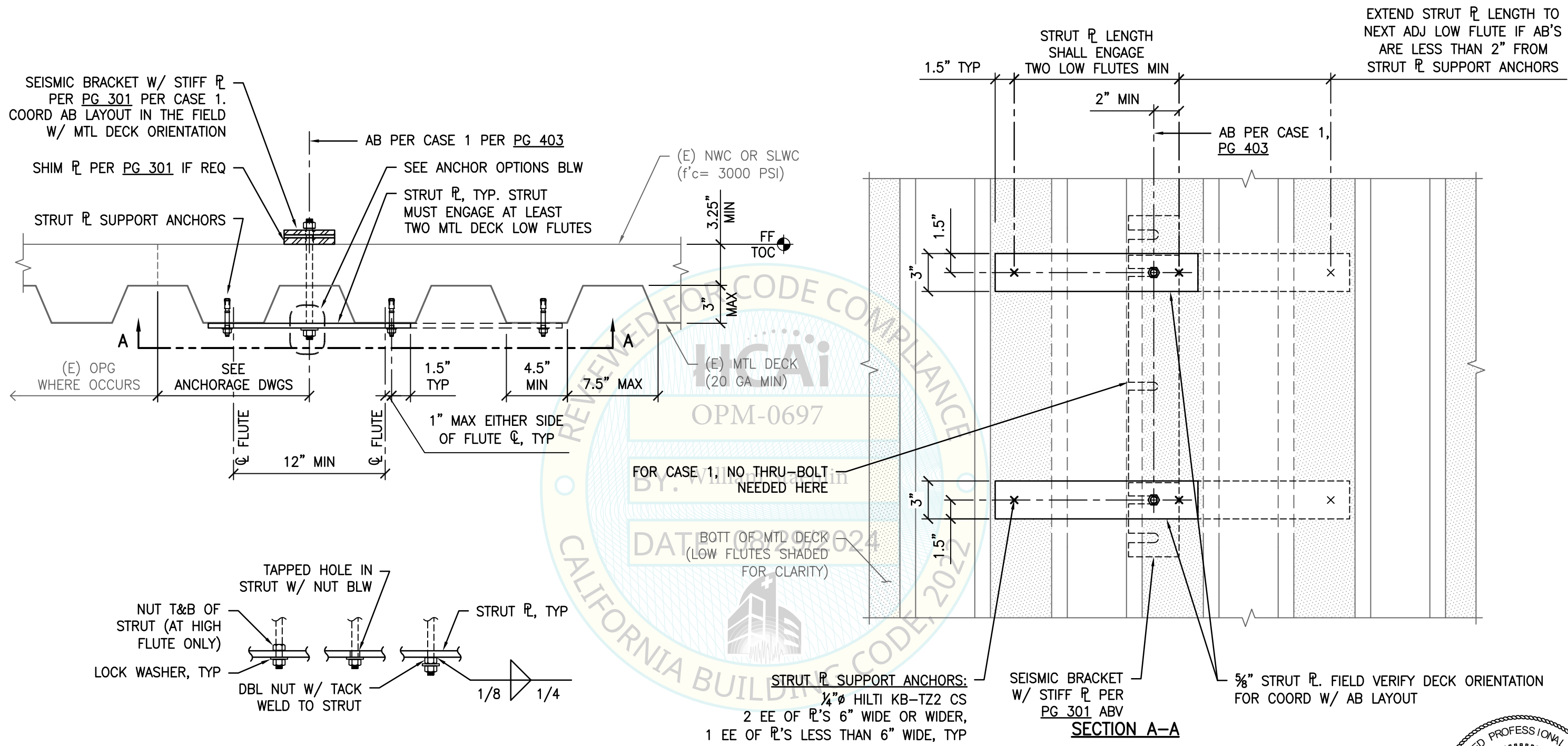
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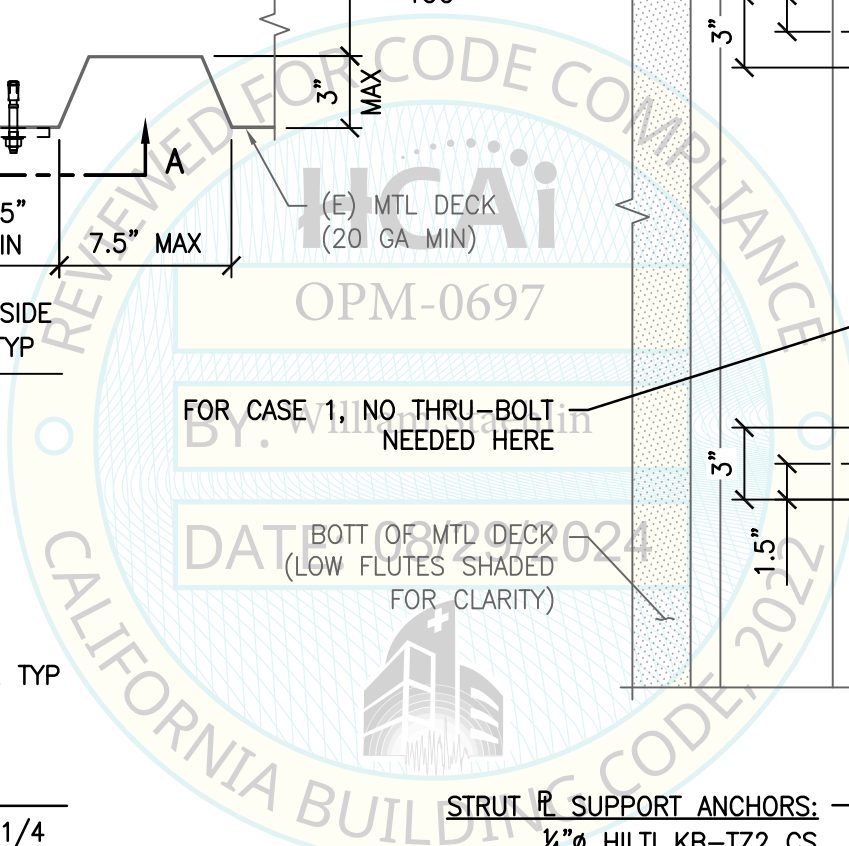
**ANCHOR OPTIONS**

**STRUT R SUPPORT ANCHORS:**  
 1/4" HILTI KB-T22 CS  
 2 EE OF R'S 6" WIDE OR WIDER,  
 1 EE OF R'S LESS THAN 6" WIDE, TYP

**SEISMIC BRACKET W/ STIFF R PER PG 301 ABV**  
**SECTION A-A**

5/8" STRUT R. FIELD VERIFY DECK ORIENTATION FOR COORD W/ AB LAYOUT

EXTEND STRUT R LENGTH TO NEXT ADJ LOW FLUTE IF AB'S ARE LESS THAN 2" FROM STRUT R SUPPORT ANCHORS



NOT SEOR

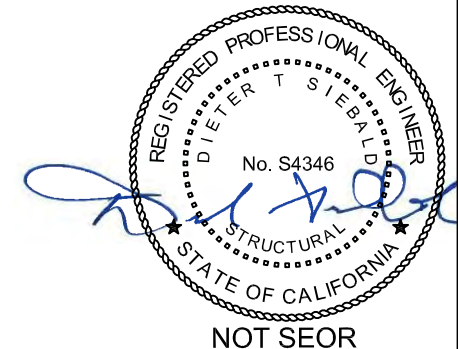
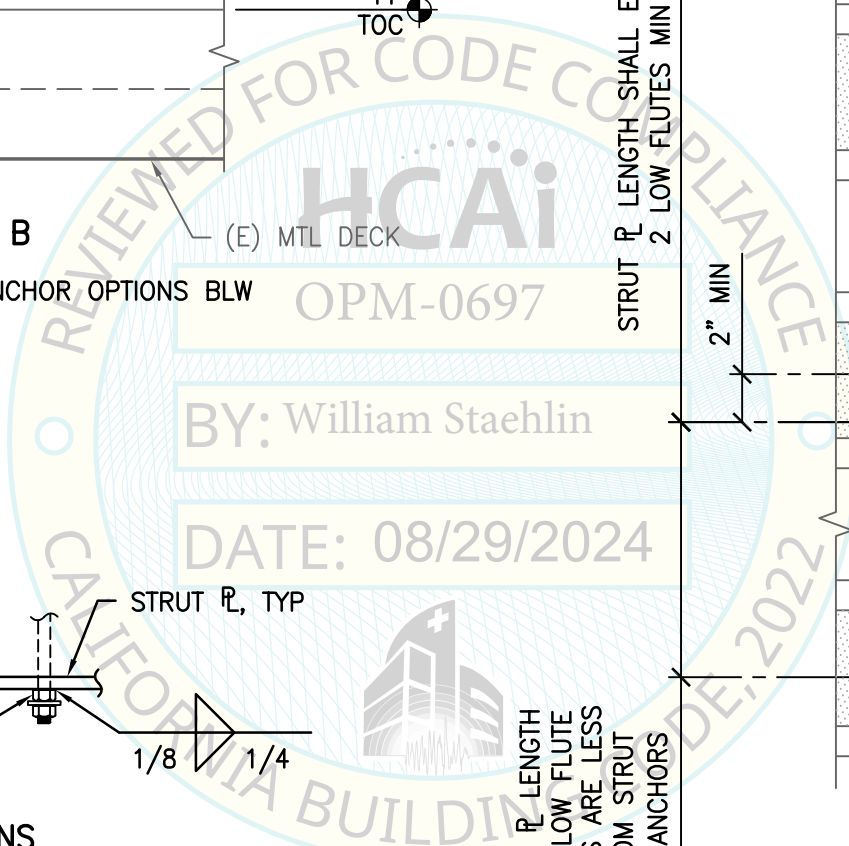
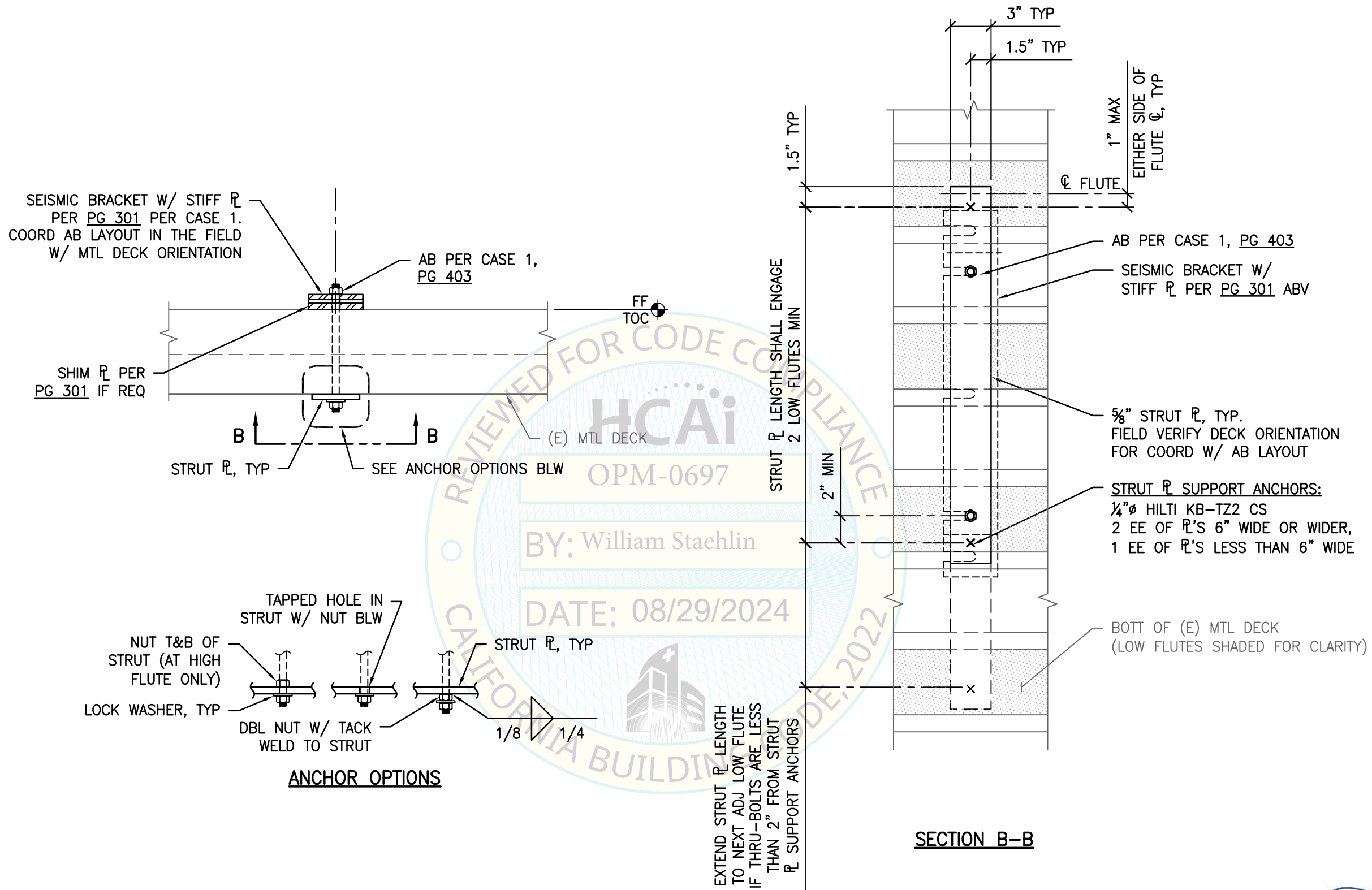
SHEET TITLE: CASE 1 - TYPICAL STRUT DETAILS

**Abbott** ABBOTT AUTOMATION SOLUTIONS - GLP SYSTEMS TRACK  
 ABBOTT INTERFACES  
 SUPPORTS & ATTACHMENTS FOR RBI ALINITY h & RBI ALINITY s

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SHEET TITLE: CASE 1 - TYPICAL STRUT DETAILS

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MAX ANCHOR FORCES  
AT LRFD AT EA AB<sup>(1)</sup>

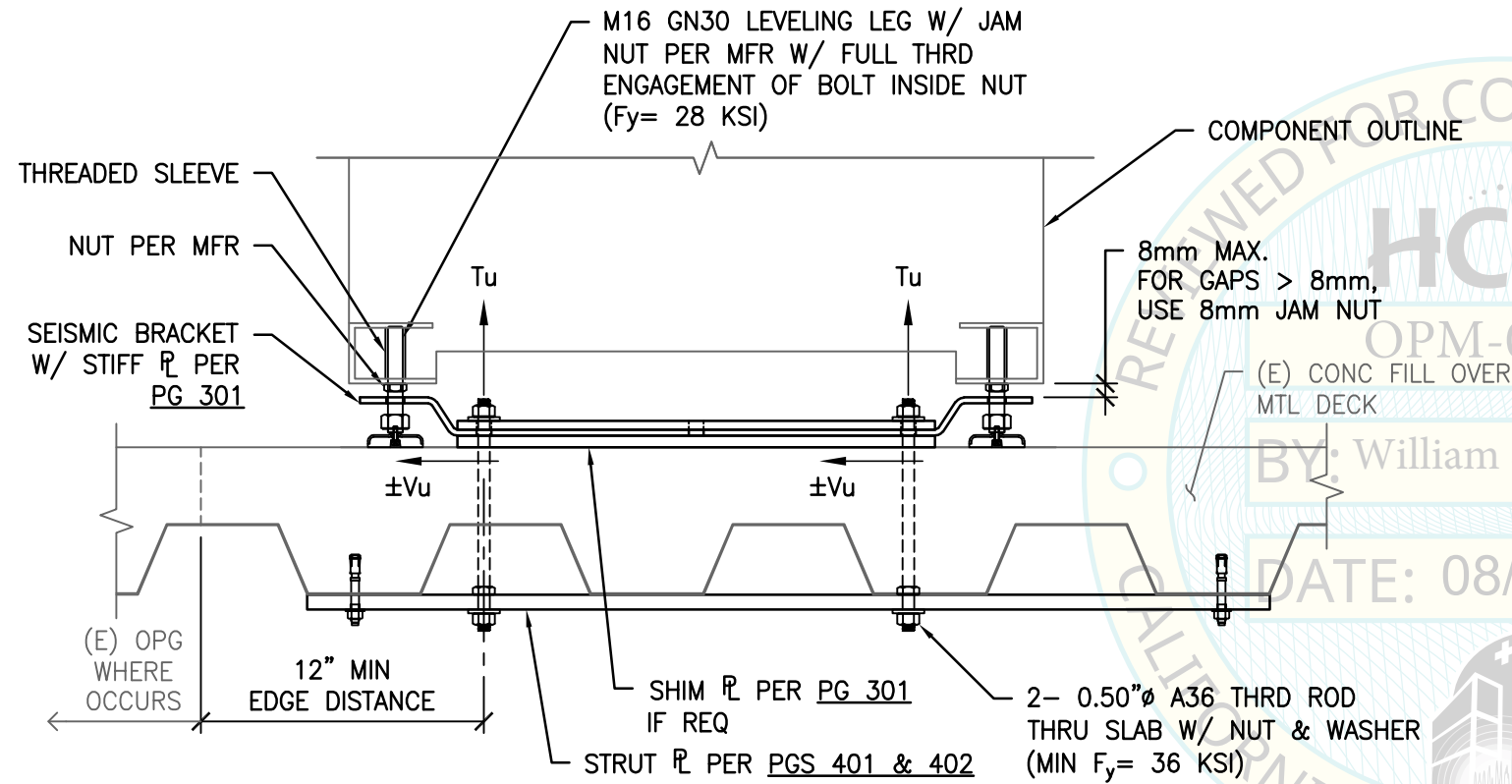
	Tu	Vu
CASE 1 z/h ≤ 0.8	2102#	846#

OVERSTRENGTH FACTOR ( $\Omega_b$ ) MUST BE APPLIED TO  $V_u$  FOR ANCHORAGE TO CONC.  
<sup>(1)</sup>VALUES ARE NON-CONCURRENT. FOR A BREAKDOWN, REFER TO INDIVIDUAL COMPONENTS.

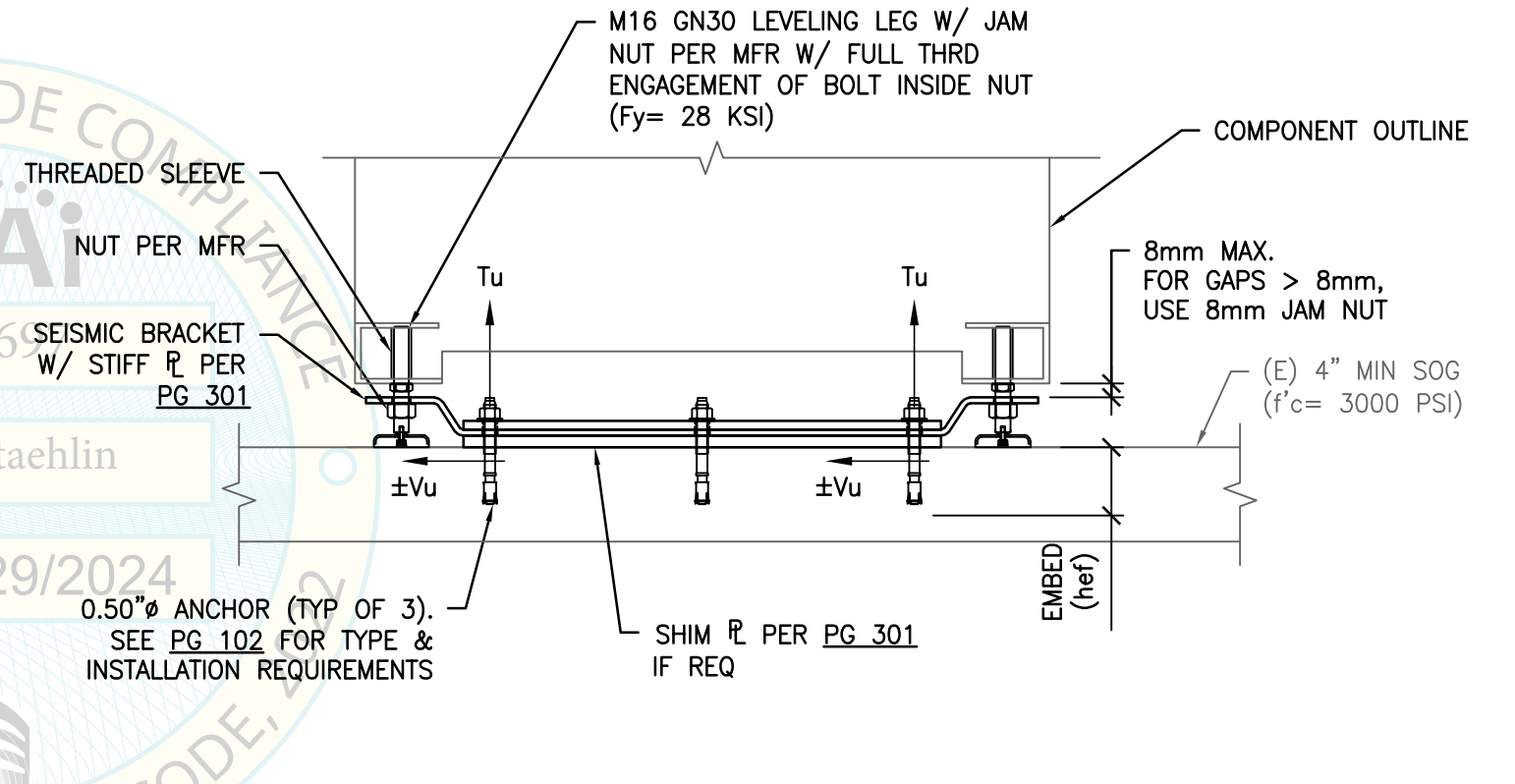
MAX ANCHOR FORCES  
AT LRFD AT EA AB<sup>(1)</sup>

	Tu	Vu
CASE 2 z/h = 0	1411#	365#

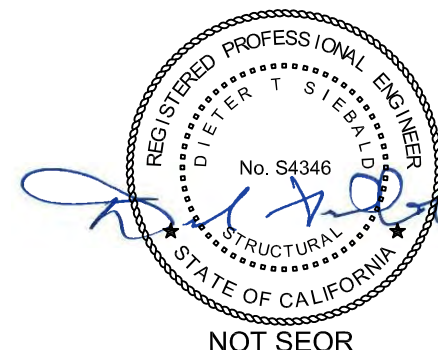
INCLUDES OVERSTRENGTH FACTOR ( $\Omega_b$ )  
<sup>(1)</sup>VALUES ARE NON-CONCURRENT. FOR A BREAKDOWN, REFER TO INDIVIDUAL COMPONENTS.



**CASE 1 – SUSPENDED FLR W/ THRU-BOLTS**



**CASE 2 – SOG  
(SLAB AT OR BLW GRADE)**



NOT SEOR

SHEET TITLE: CASE 1 & 2 SEISMIC BRACKETS



ABBOTT AUTOMATION SOLUTIONS - GLP SYSTEMS TRACK  
ABBOTT INTERFACES  
SUPPORTS & ATTACHMENTS FOR RBI ALINITY h & RBI ALINITY s



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