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

OFFICE USE ONLY

APPLICATION #: OPM-0652

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Abbott Diagnostics Division

Manufacturer's Technical Representative: Claudia Moreno

Mailing Address: 1921 Hurd Drive, MS 2-33, Irving, TX 75038

Telephone: (972) 518-7691 Email: Claudia.Moreno@abbott.com

Product Information

Product Name: Abbott Automation Solutions - Archive II, Spiral Element & Elevated Tracks

Product Type: Automated Pre/Post Analytical Processing Laboratory Instruments

Product Model Number: Archive II Single, Archive II Twin, Archive II Loader Module, Archive II Storage, Spiral Element, Elevated Tracks: 20, 40 & 80 cm Straight Sections, 90 Degree Turn Section, 3 & 4 Way Roundabout; Floor Supported Tracks: 20, 40 and 80cm Straight Sections.

General Description: The Abbott Automated Solutions is a Modular System designed to automate pre-analytical and post-analytical processing, sample-handling, and processing in the Laboratory. 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, #650, Sacramento, CA 95833

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

Title: Structural Engineer

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

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: 7/23/2024

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

OPM–0652
TABLE OF CONTENTS

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 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 & INSTALLED BY THE CONTRACTOR.

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

NOT SEOR

SHEET TITLE: TABLE OF CONTENTS

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	101

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ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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TEL (916) 920-2020
www.cyseng.com

GENERAL NOTES:

1. 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.
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 (E) STRUCTURE TO RESIST THE FORCES & WT SPECIFIED FOR EACH EQUIP IN ADDITION TO ALL OTHER LOADS. PROVIDE & DESIGN SUPPLEMENTARY MEMBERS AS REQ.
   B. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
   C. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR (E) ANCHORS. THE SPACING SHOWN IN THE TEST LOADS IN TABLES 1.1 & 1.2 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.
   D. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE CBC 2022 & W/ THE DTLS SHOWN IN THIS PRE-APPROVAL.
   E. 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.
   F. THAT THE CONC SLAB TO WHICH THE EQUIP IS ANCHORED SHALL MEET THE REQUIREMENTS OF THE APPLICABLE ICC REPORT & THIS OPM.

3.1. BRACKETS 1 & 3 EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE CARBON STL HILTI KB-TZ2 EXPANSION ANCHORS COMPLYING W/ ESR-4266 REISSUED DECEMBER 2021.

   A. 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.
   B. 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 1910A.5 "TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".
   C. 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 (½) TURN OF THE NUT.
   D. AVOID DAMAGING (E) STL REINF IN CONC SLAB WHEN INSTALLING CONC EXPANSION ANCHORS.
   E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. FOR CASE 2, SEE TABLE 1.1 BELOW.

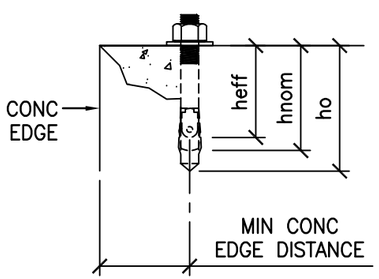


TABLE 1.1

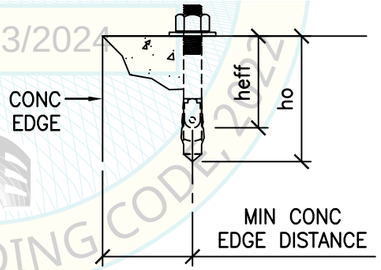
CONDITION OF ANCHORAGE	ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h_{min}	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST LOAD TORQUE (FT-LBS)
CASE 2	½	2½	2	2¾	4	12	5½	50

3.2 BRACKET 2 EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE CARBON STL HILTI HSL4 EXPANSION ANCHORS COMPLYING W/ ESR-4386 REVISED AUGUST 2023.

   A. 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.
   B. 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 1910A.5 "TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".
   C. 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-QUARTER (1/4) TURN OF THE NUT.
   D. AVOID DAMAGING (E) STL REINF IN CONC SLAB WHEN INSTALLING CONC EXPANSION ANCHORS.
   E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. FOR CASE 2, SEE TABLE 1.2 BELOW.

TABLE 1.2

CONDITION OF ANCHORAGE	ANCHOR OUTSIDE DIA (mm) da	NOMINAL ANCHOR DIA	EFFECTIVE EMBED (mm) hef	HOLE DEPTH (mm) ho	MIN CONC THICKNESS (INCH) h_{min}	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST LOAD TORQUE (Nm)
CASE 2	18	M12	80	105	5 3/8	12	4	60



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SHEET TITLE: GENERAL NOTES

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	102

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GENERAL NOTES: (CONTINUED)

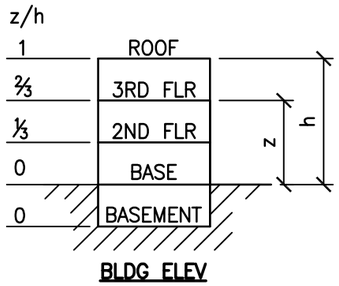
4. BOLTS THROUGH CONC ON MTL DECK:
   A. BOLTS SHALL BE TORQUED BY ¾ TURN OF THE NUT AFTER SNUG TIGHT CONDITION IS ACHIEVED, UNO. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQ TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
   B. THRU–BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16")
   C. 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.
5. EXPANSION ANCHORS TO BOTT OF CONC FILL OVER MTL DECK:
   A. 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_{min}	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	MAX INSTALLATION TORQUE (FT–LBS)
CASE 1	¼	1¾	1½	2	3¼	1*	10*	4

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

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



BLDG ELEV

CASE 1: ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG (z/h≤ PER COMPONENT SCHED ON PG 201). THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3¼" 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 (z/h=0). THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 4" NWC SLAB FOR BRACKETS 1 & 3 & A MIN 5⅜" NWC SLAB FOR BRACKET 2. (f'c = 3000 PSI, MIN).

7. THIS PRE–APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA WHERE S_{DS} IS LESS THAN OR EQUAL TO VALUES PUBLISHED IN COMPONENT SCHED ON PG 201.

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SHEET TITLE: GENERAL NOTES (CONTINUED)

Rev	Description	Date

Job No: 20097.005
Date: 07/11/2024
By: CYS
Page: 102.1

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DESIGN CRITERIA

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

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

a_p = 1.0 R_p = 1.5 I_p = 1.5 Ω_0 = 1.5 (CONC ANCHORS)

W_P AS NOTED ON COMPONENT SCHEDULE ON PG 201

FOR CASE 1 – UPPER FLRS ABV THE BASE, z/h ≤ VALUES PER COMPONENT SCHEDULE OF PG 201
S_{DS} = PER COMPONENT SCHEDULE OF PG 201

FOR CASE 2 – SLAB AT OR BLW BASE, z/h = 0
S_{DS} = PER COMPONENT SCHEDULE OF PG 201

ELEVATED TRACKS:
DISTRIBUTION SYSTEM: ELECTRICAL CONDUIT & CABLE TRAYS.

a_p = 2.5 R_p = 6 I_p = 1.5 Ω_0 = 1.5 (CONC ANCHORS)

W_P = AS NOTED ON COMPONENT SCHED ON PG 201

FOR CASE 1 – UPPER FLRS ABV THE BASE, z/h ≤ VALUES PER COMPONENT SCHEDULE OF PG 201
S_{DS} = PER COMPONENT SCHEDULE OF PG 201

LOAD COMBINATIONS
$(0.9 - 0.2\ S_{DS})\ D - \Omega_0\ F_p$ (FOR MAX TENSION)
$(1.2 + 0.2\ S_{DS})\ D + \Omega_0\ F_p$ (FOR MAX COMPRESSION)

DESIGN PARAMETERS & BRACING GUIDELINES – ELEVATED TRACKS

1. DESIGN & INSTALLATION OF THE SEISMIC BRCG FOR THE ELEVATED TRACK SYSTEMS MUST CONFORM TO ACSE/SEI 7-16 SECTION 13 & 2022 CBC SECTION 1617A.1.24.
2. THE SPACING & DETAILS OF THE SUPPORT & BRCG OF ELEVATED TRACK SYSTEMS MUST COMPLY W/ ASCE/SEI 7-16 SECTION 13.6 AND 2022 CBC SECTIONS 1601A.1.4 & 1617A.1.17 APPLICABLE ONLY TO HCAI 1,2,4,5 DESIGNATED PROJECTS.
3. SEISMIC BRCG MUST HAVE A MAX SPACING NOT EXCEEDING THAT SPECIFIED IN THESE DRAWINGS.
4. SEISMIC BRACE ANCHORAGE MUST BE AT LEAST 6" AWAY FROM ANY OTHER ANCHORAGE OR CONC EDGES, UNO.

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
℄	CENTERLINE
CONC	CONCRETE
COORD	COORDINATE
DBL	DOUBLE
DIA (ø)	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 HEALTH CARE ACCESS AND INFORMATION
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
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

FRACTION & UNIT CONVERSIONS (FOR REFERENCE ONLY)

FRACTION	DECIMAL	mm
1/32	0.03	0.8
1/16	0.06	1.6
3/32	0.09	2.4
1/8	0.13	3.2
5/32	0.16	4.0
3/16	0.19	4.8
7/32	0.22	5.6
1/4	0.25	6.4
9/32	0.28	7.1
5/16	0.31	7.9
11/32	0.34	8.7
3/8	0.38	9.5
13/32	0.41	10.3
7/16	0.44	11.1
15/32	0.47	11.9
1/2	0.50	12.7

FRACTION	DECIMAL	mm
17/32	0.53	13.5
9/16	0.56	14.3
19/32	0.59	15.1
5/8	0.63	15.9
21/32	0.66	16.7
11/16	0.69	17.5
23/32	0.72	18.3
3/4	0.75	19.1
25/32	0.78	19.8
13/16	0.81	20.6
27/32	0.84	21.4
7/8	0.88	22.2
29/32	0.91	23.0
15/16	0.94	23.8
31/32	0.97	24.6

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SHEET TITLE: DESIGN CRITERIA & ABBREVIATIONS

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	103

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	PAGE NO.	COMPONENT	LEVELING FOOT DIMS		CG LOCATION			WEIGHT (W_p)	COMPONENT TYPE			ANCHOR P/ BRACKET REF	SEISMIC DESIGN VALUES		
									FLR MOUNTED MODULE	FLR SUPPORTED TRACKS	ELEVATED TRACK		CASE 1		CASE 2
			WIDTH	DEPTH	$\bar{x}$	$\bar{y}$	$\bar{z}$						S_{ps}	z/h	S_{ps}
ARCHIVE II	210.01	ARCHIVE II SINGLE	SEE PG 210.01					N/A	X			N/A	1.90	0.90	2.50
	210.02	ARCHIVE II TWIN	SEE PG 210.02					N/A	X			N/A	1.90	0.90	2.50
	210.02A	ARCHIVE II – LOADER MODULE	26.9"	22.8"	12.42"	16.29"	33.09"	587#	X			PGS 301–301B	1.90	0.90	2.50
	210.02B	ARCHIVE II – STORAGE	52.8"	25.8"	27.01"	13.78"	36.61"	1778#	X			PG 302	1.1	0.90	1.9
ELEVATED TRACK COMPONENTS	210.03	SPIRAL ELEMENT	SEE PG 210.03		17.98"	17.54"	50.29"	561#	X			PG 303	2.50	1.0	2.50
	210.04	STRAIGHT SECTION– 20cm	N/A		5.45"	2.80"	3.48"	11#			X	SEE PGS 501–503	2.50	1.0	N/A
	210.05	STRAIGHT SECTION– 40cm			9.71"	2.80"	3.54"	13#			X				
	210.06	STRAIGHT SECTION– 80cm			17.93"	2.80"	3.57"	26#			X				
	210.07	90 DEGREE TURN SECTION			4.88"	5.75"	3.53"	13#			X				
	210.08	ROUNDABOUT – 3–WAY			15.91"	15.91"	3.41"	66#			X				
	210.08	ROUNDABOUT – 4–WAY			15.91"	15.91"	3.41"	66#			X				
FLR SUPPORTED TRACKS	210.09	STRAIGHT SECTION – 20cm	7.95"	6.69"	3.98"	3.35"	19.33"	26#		X		SEE PGS 220 & 310	2.50	1.0	2.50
	210.10	STRAIGHT SECTION – 40cm	15.91"	6.69"	7.95"	3.35"	20.33"	50#		X					
	210.11	STRAIGHT SECTION – 80cm	31.81"	6.69"	15.91"	3.35"	20.86"	83#		X					

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SHEET TITLE: COMPONENT SCHEDULE

Rev	Description	Date

Job No: 20097.005
Date: 07/11/2024
By: CYS
Page: 201

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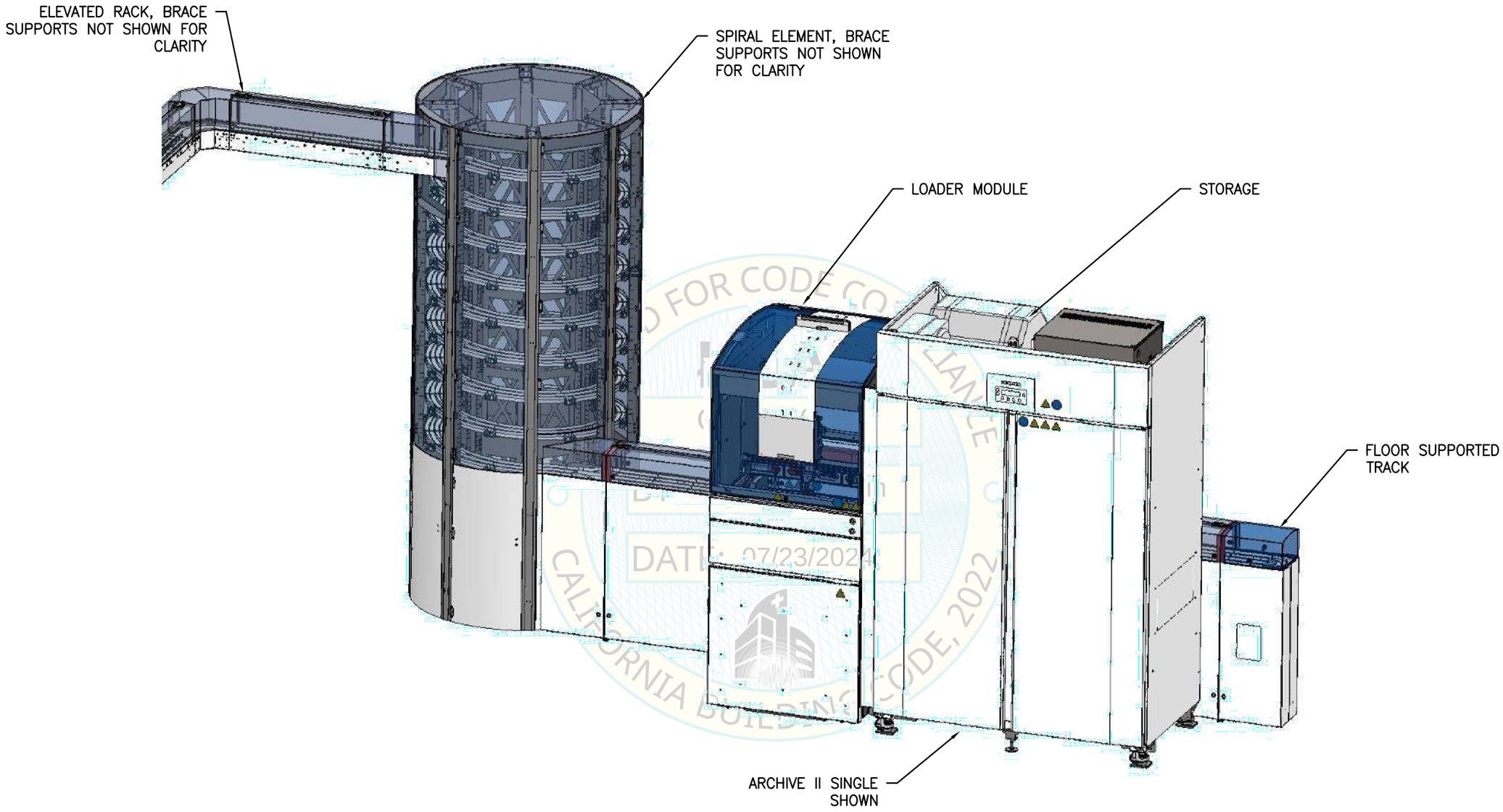

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SHEET TITLE: COMPONENT CONFIGURATION

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	202

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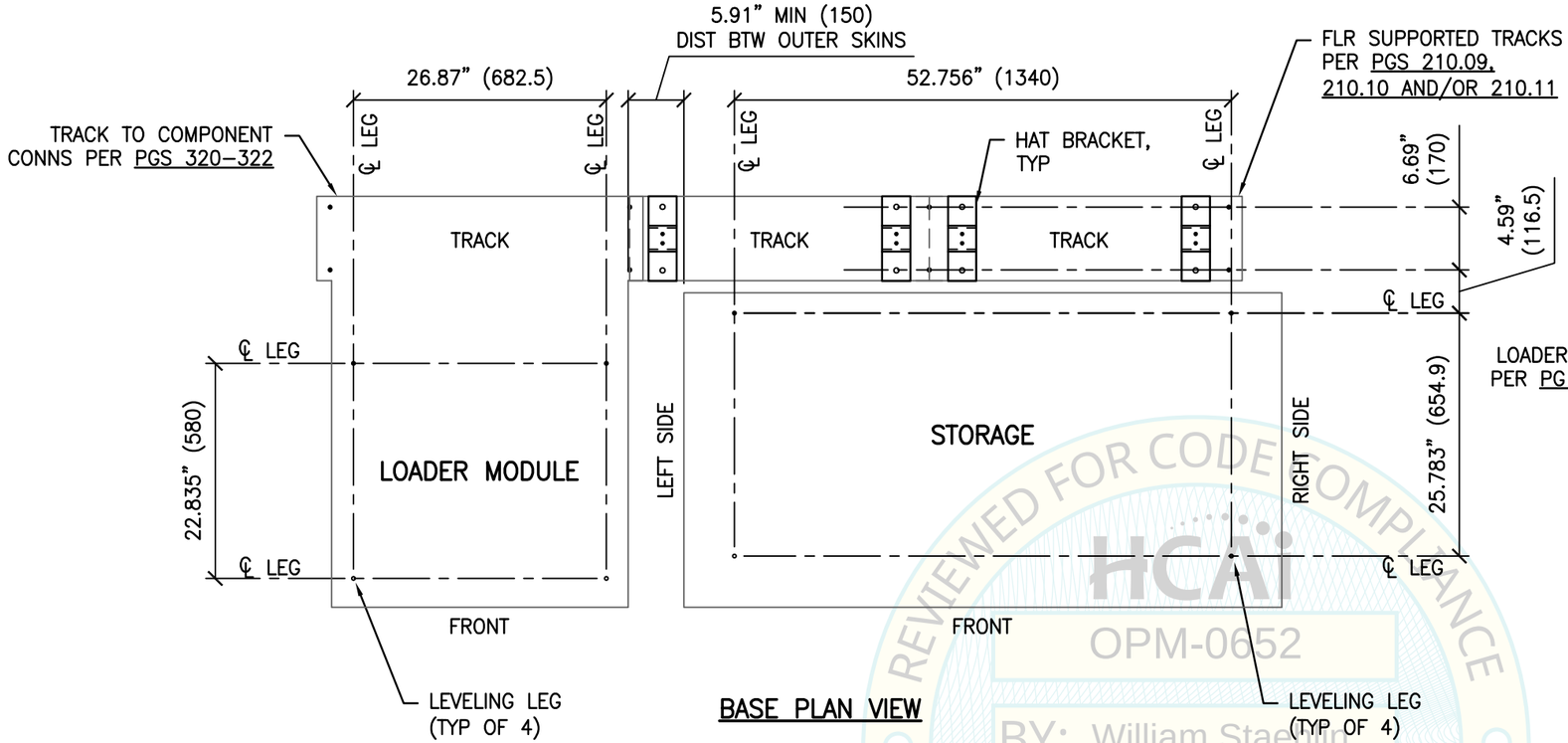
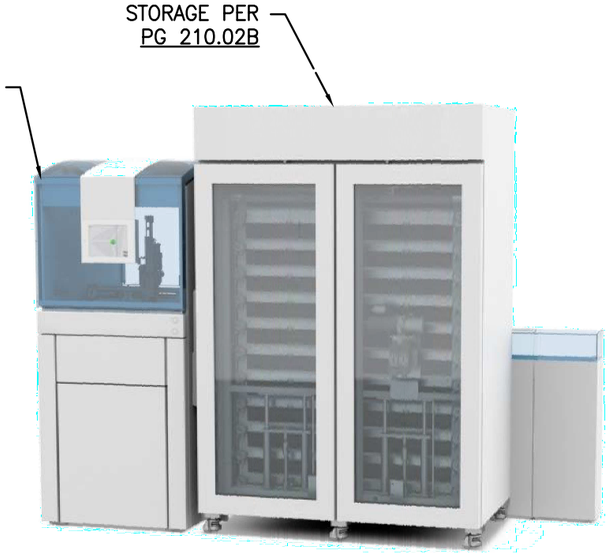


BASE PLAN VIEW



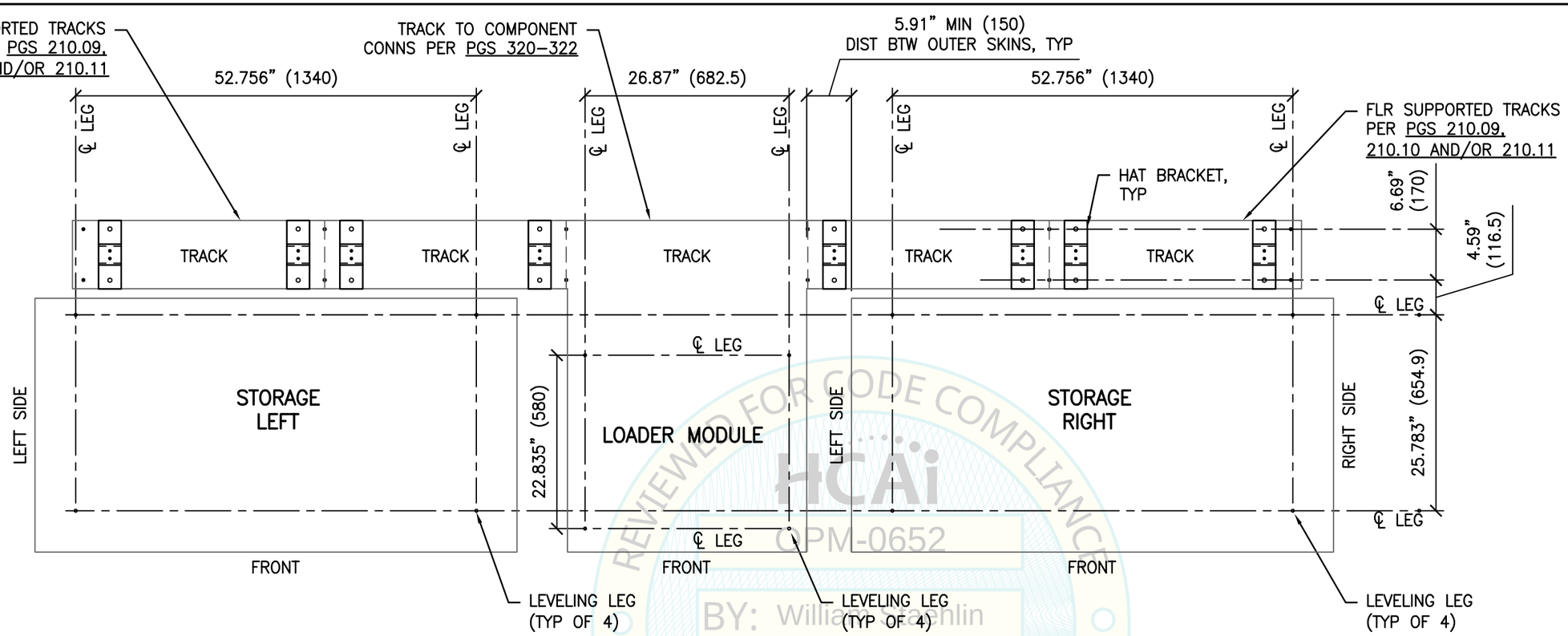
NOTE: THE STORAGE COMPONENT MAY BE PLACED ON THE RIGHT OR LEFT SIDE OF THE LOADER MODULE

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

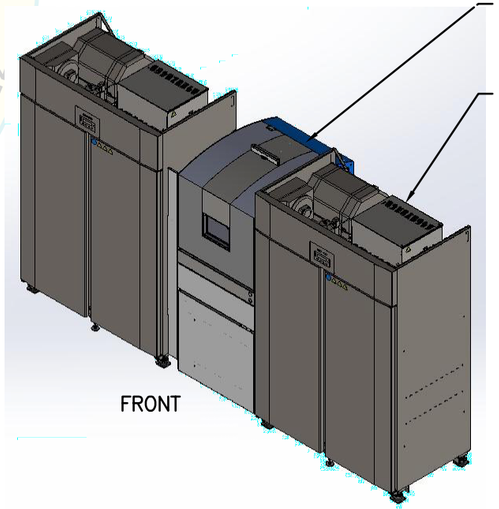
NOT SEOR

SHEET TITLE: MODULE: ARCHIVE II SINGLE BASE PLAN & ELEVATIONS	Rev	Description	Date
ABBOTT AUTOMATION SOLUTIONS ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS SUPPORTS & ATTACHMENTS			
CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N TEL (916) 920-2020 SACRAMENTO, CA 95833 www.cyseng.com			

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.01



BASE PLAN VIEW



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

NOT SEOR

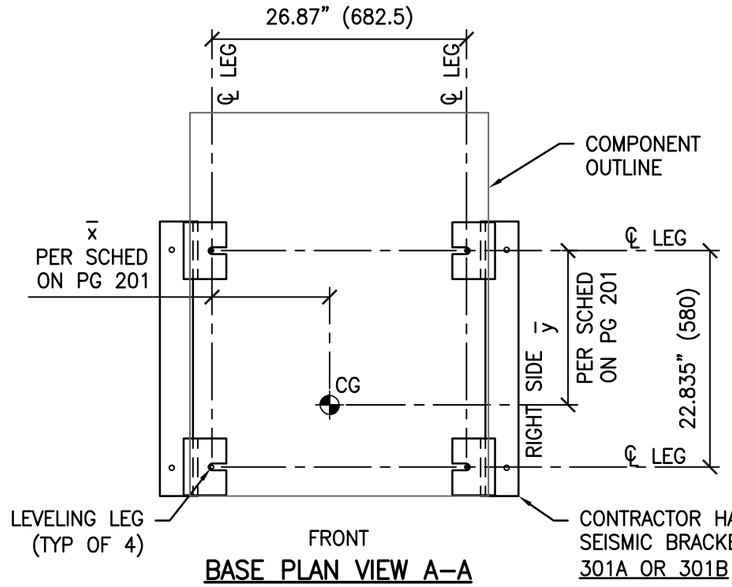
SHEET TITLE: MODULE: ARCHIVE II TWIN
BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

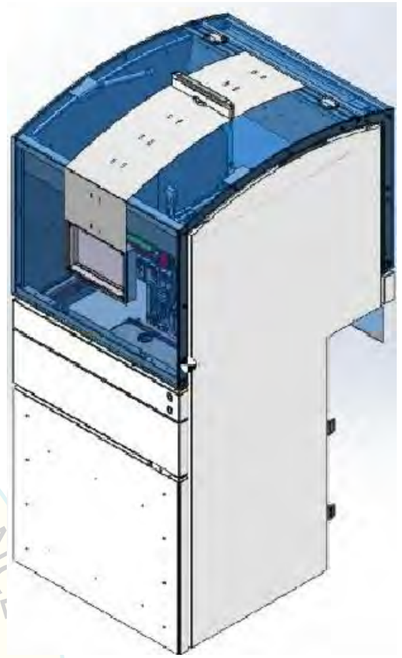
CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.02

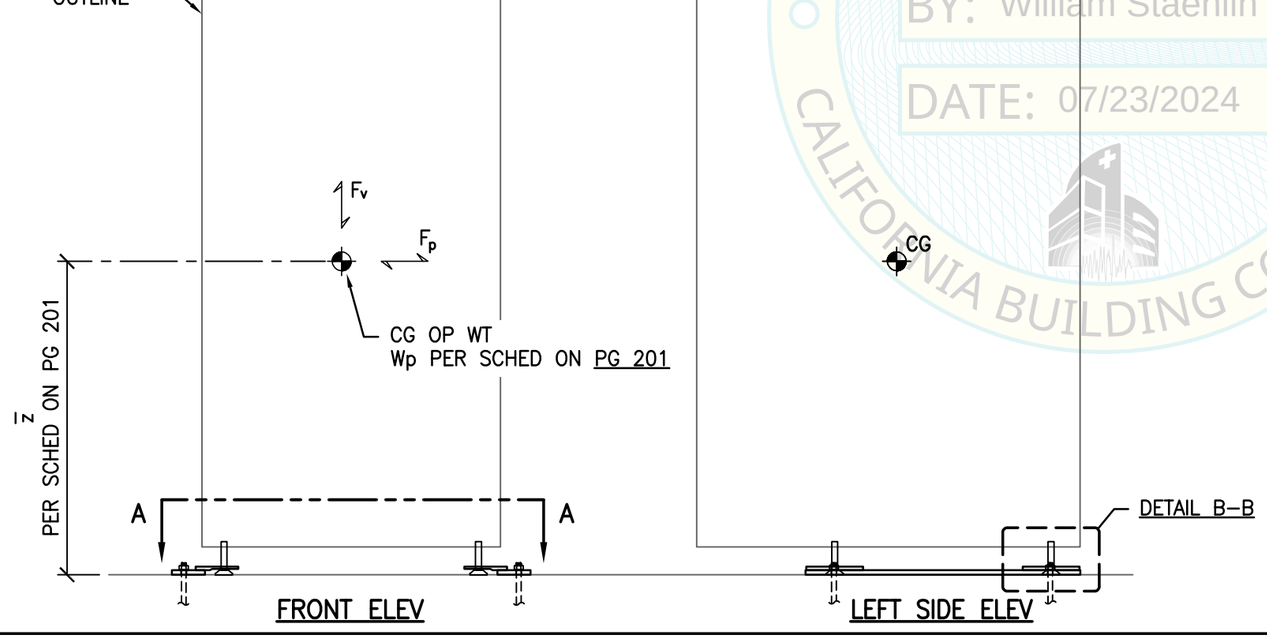


BASE PLAN VIEW A–A



	MAX ANCHOR FORCES AT LRFD AT LEVELING LEG		
	T_{max}	C_{max}	V_{max}
CASE 1 [2]	1182#	1571#	413#
CASE 2 [1]	698#	1087#	249#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



FRONT ELEV

LEFT SIDE ELEV

DETAIL B–B

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

NOT SEOR

SHEET TITLE: MODULE: ARCHIVE II LOADER MODULE
BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
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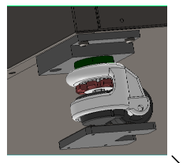
Rev	Description	Date

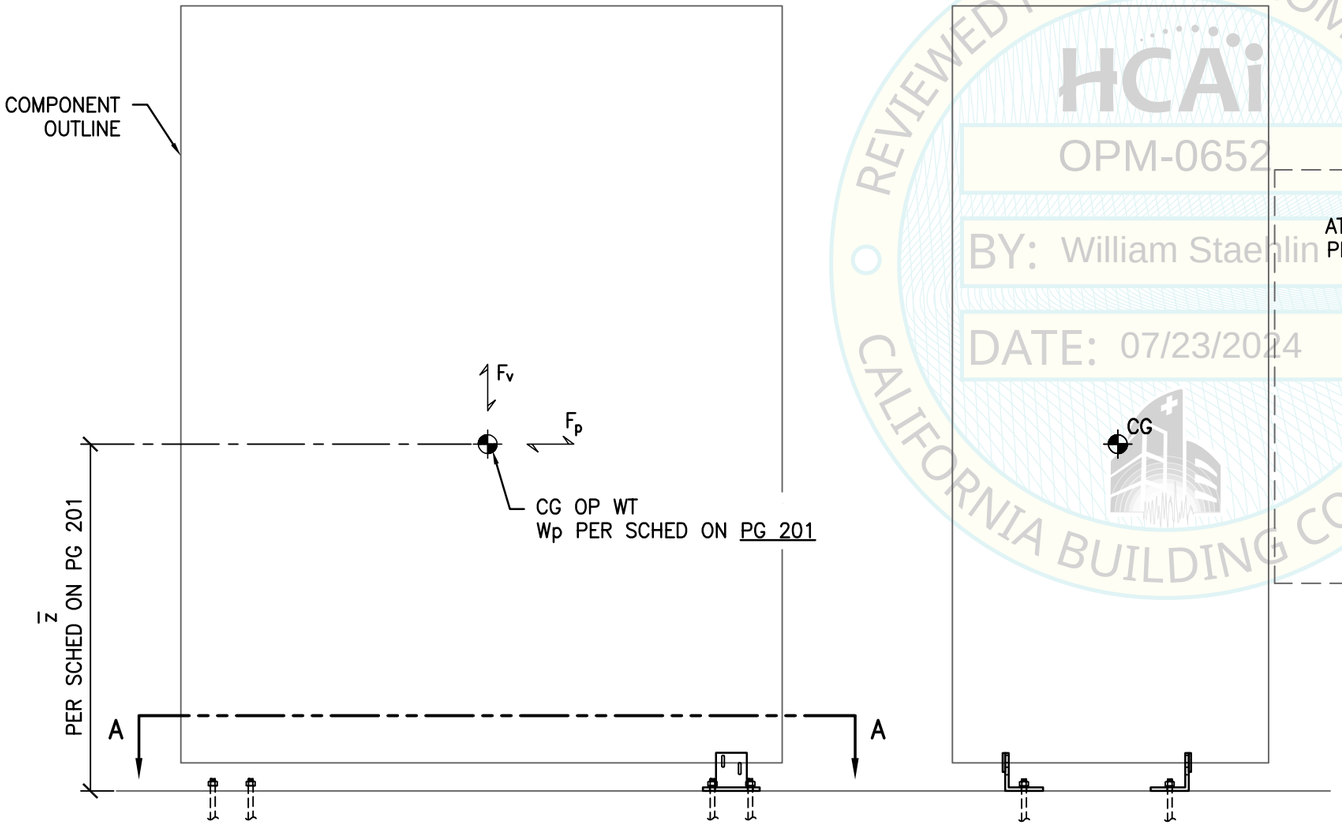
Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.02A



FRONT

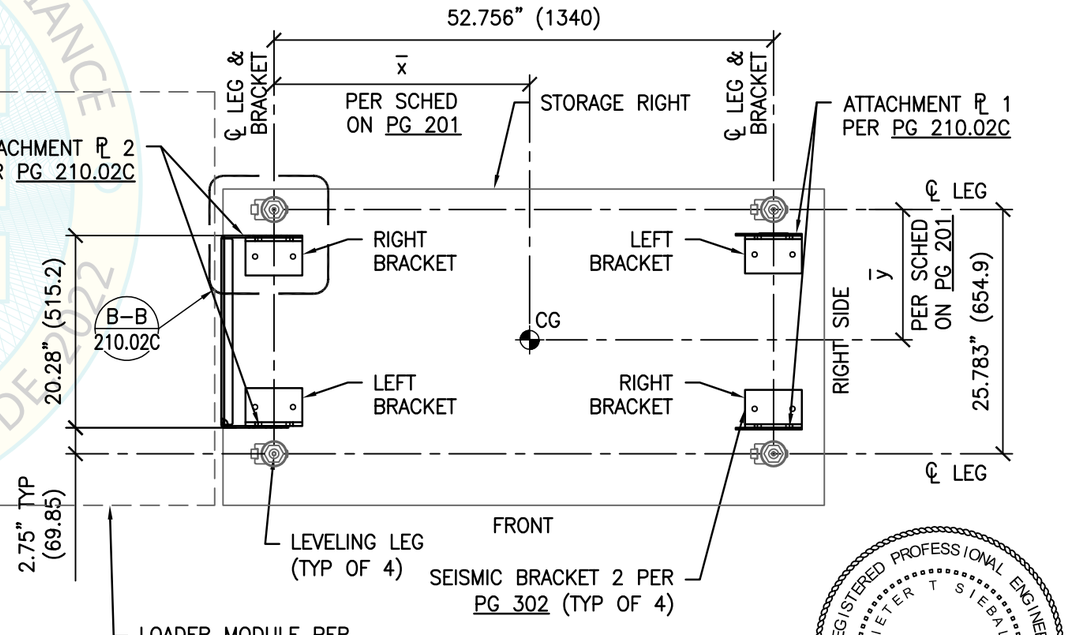
	MAX ANCHOR FORCES AT LRFD AT LEVELING LEG		
	T_{max}	C_{max}	V_{max}
CASE 1 [2]	2440#	3416#	978#
CASE 2 [1]	1940#	2926#	776#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



FRONT ELEV

LEFT SIDE ELEV



BASE PLAN VIEW A–A

NOTE:
STORAGE RIGHT SHOWN.
STORAGE LEFT MIRRORED

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

NOT SEOR

SHEET TITLE: MODULE: ARCHIVE II STORAGE
BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
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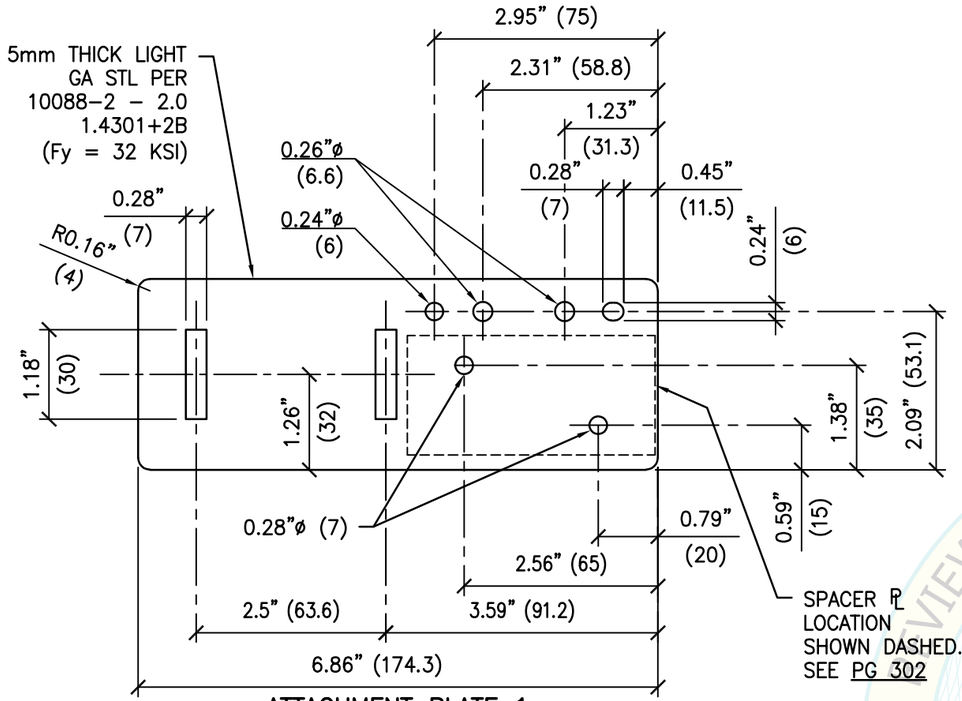
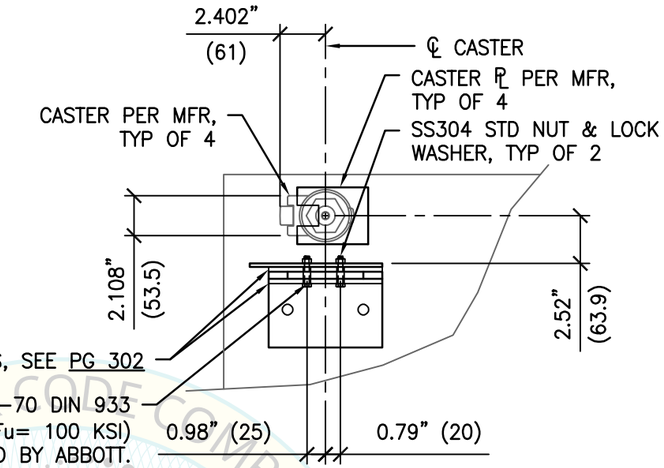
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.02B



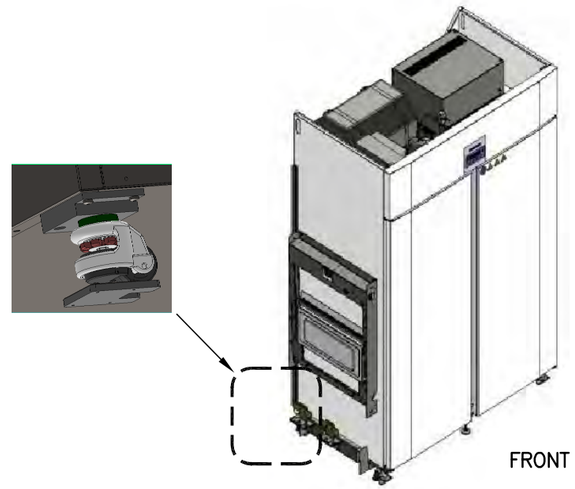
ATTACHMENT PLATE 1

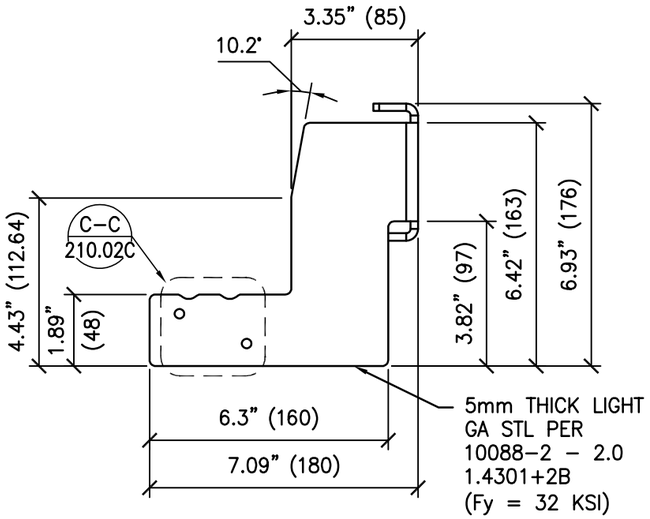


DETAIL B–B

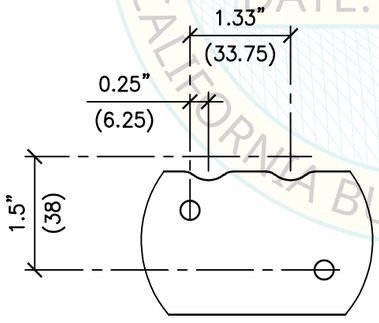
	MAX ANCHOR FORCES AT LRFD AT LEVELING LEG		
	T_{max}	C_{max}	V_{max}
CASE 1 [2]	1690#	2660#	551#
CASE 2 [1]	2064#	3054#	634#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.

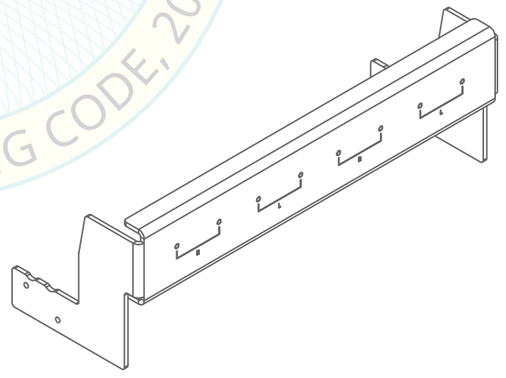




ATTACHMENT PLATE 2



DETAIL C–C



NOT SEOR

SHEET TITLE: MODULE: ARCHIVE II STORAGE ATTACHMENT PLATE DETAILS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
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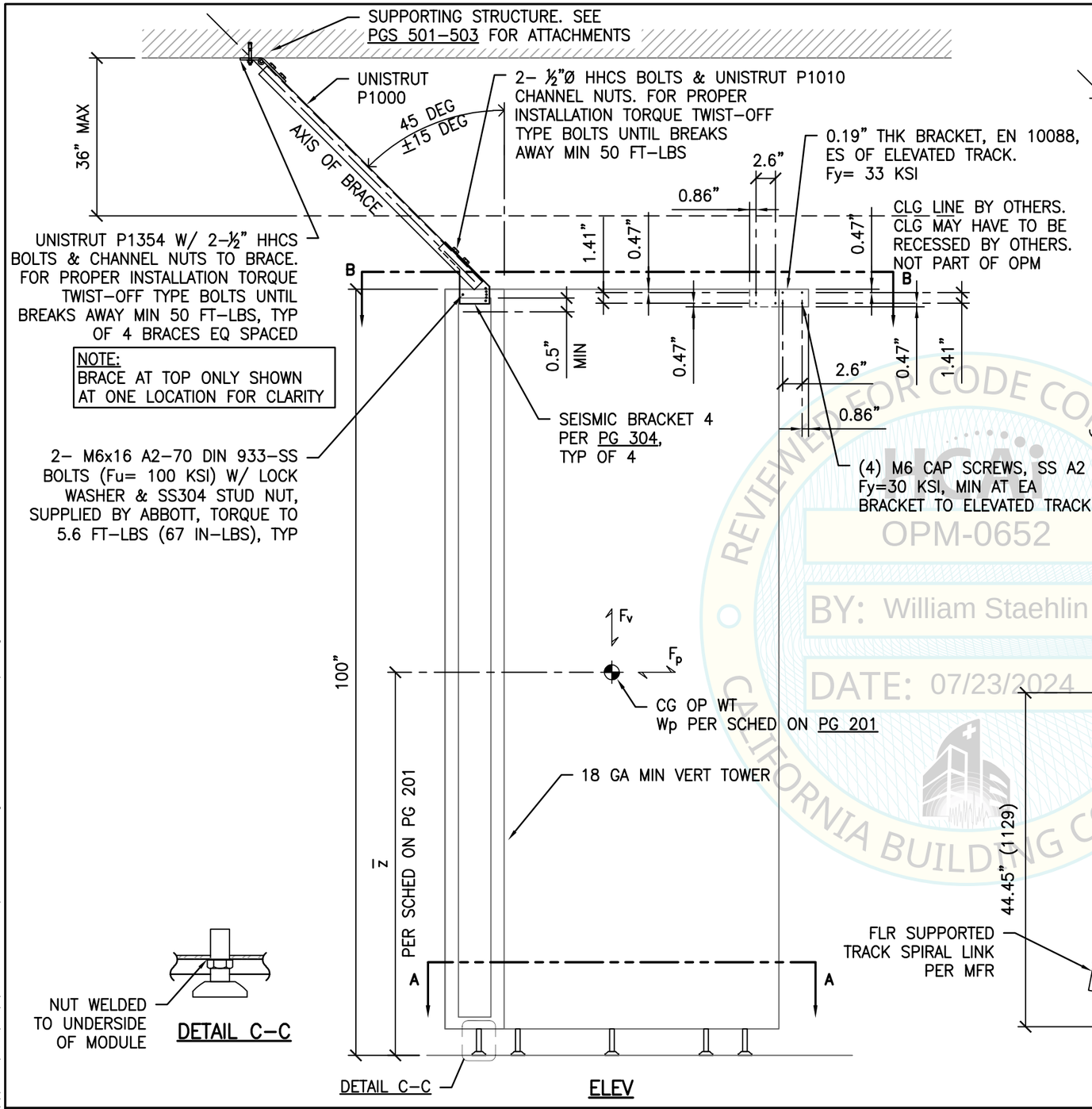
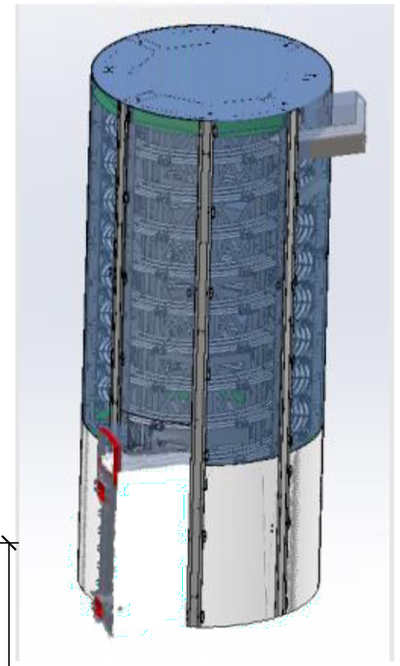
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.02C



MAX ANCHOR FORCES AT LRFD AT LEVELING LEG		
	C_{max}	V_{max}
CASE 1 [2]	246#	213#
CASE 2 [1]	246#	120#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



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

NOT SEOR

SHEET TITLE: SPIRAL ELEMENT BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
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Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.03

TRANSVERSE LATERAL BRACE. LOCATE 1– BRACE EVERY 94.5" (3– 80cm TRACK SEGMENTS) MAX

20, 40 OR 80cm ELEVATED TRACK SEGMENT, TYP

STRUT FRAME, TYP

A

94.5" MAX

M6 THRD ROD, TYP AT VERT TRACK SUPPORTS, ATTACH TO STRUCTURE W/ P1320 SIM TO ELEV A–A

LONGITUDINAL BRACE. LOCATE 2– BRACES EVERY 94.5" MAX

A

LAYOUT PLAN VIEW

$\bar{x}$ PER SCHED ON PG 201

$\bar{y}$ PER SCHED ON PG 201

VERT HANGER ROD, TYP EA CORNER. 4– TOTAL

CG

FRONT

A

TYP TRACK SECTION

PLAN VIEW

$\bar{z}$ PER SCHED ON PG 201

CG OP WT Wp PER SCHED ON PG 201

0.19" THK BRACKET, EN 10088, ES OF TRACK. Fy= 33 KSI

0.47"

1.41"

0.47"

4– M6 CAP SCREWS, SS A2. Fy= 30 KSI MIN AT EA BRACKET TO ADJ SECTION

0.86" 2.6" 2.6" 0.86"

0.94"

SIDE ELEV

0.5" MIN GAP 1.25" MAX

SUPPORTING STRUCTURE. SEE PGS 501–503 FOR ATTACHMENTS

ASTM A36 PL ¼"x6"x1'–4"

2–½"ø A307 THRU BOLTS W/ LOCK WASHERS & LOCK NUTS

HSS3½x3½x3⁄16x0'–3¼" W/ 2–9⁄16"ø HOLES CTRD

1/4

45° ± 15°

AXIS OF BRACE

UNISTRUT P1000 BRACE ON 2– ORTHOGONAL SIDES OF HSS

5'–0" MAX

P2073A SQ (TYP OF 2) CONNECTED TO P1001 W/ ½"ø HEX HEAD CAP SCREW & WASHER W/ NUT, TYP OF 4 PER P2073A SQ (8– TOTAL)

HSS3x3x¼

P1354 NS OR FS

P1354

B

ON PG 210.05

B

1/4

6" MAX

M6 THRD ROD GRADE 8.8, TYP OF 2

+9'–0" ASSUMED CLG HT

P1320 TO SUPPORT PL NS & FS, TYP OF 2

1/8 1.5

P1320 W/ M6 NUT & WASHER T&B. SNUG TIGHT, TYP OF 2

6mm GN 751 CLEVIS FORK W/ 6mm PIN W/ CIRCLIP DIN 471. Fy= 33 KSI MIN

ELEVATED TRACK

7.30"

0.06" THK TRACK SUSPENSION ARCH @ 95.4" OC EN 10152. Fy= 20 KSI

6– M6 CAP SCREWS, SS A2. Fy= 30 KSI MIN

2'–0" MAX

P1026 T&B, TYP OF 4

10.44"

CG

0.06" THK TRACK HOLDING BRACKET @ 95.4" OC EN 10152. Fy= 20 KSI

P1001, TYP OF 2

BOTT OF ELEVATED TRACK

P1538A W/ 1– ½"ø HEX HEAD CAP SCREW & CHANNEL NUT INTO P1000 & 2– M6x8 SS A2 SCREWS (Fy= 30 KSI) INTO ES OF ELEVATED TRACK, TYP OF 2

5.6"

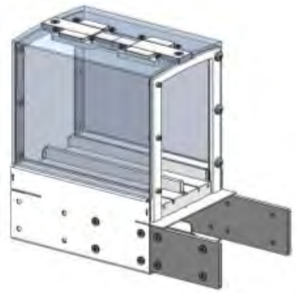
15"

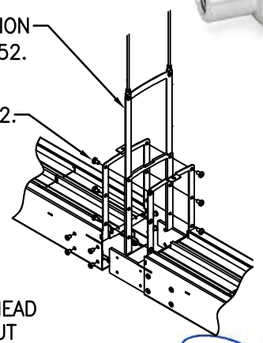
P1001

FRONT ELEV A–A

MAX ANCHOR FORCES AT LRFD		
	T_{max}	V_{max}
CASE 1	954#	551#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.





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

NOT SEOR

SHEET TITLE: ELEVATED TRACK COMPONENTS: STRAIGHT SECTION - 20cm BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833
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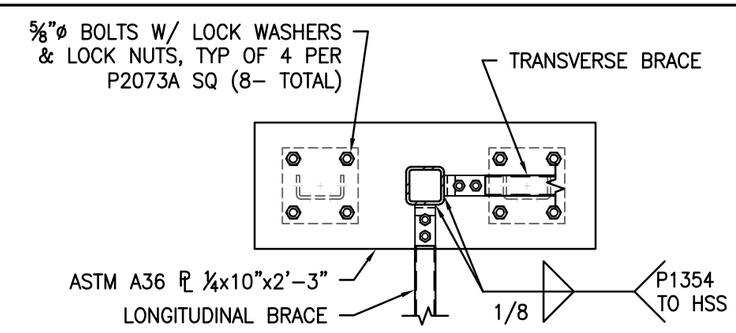
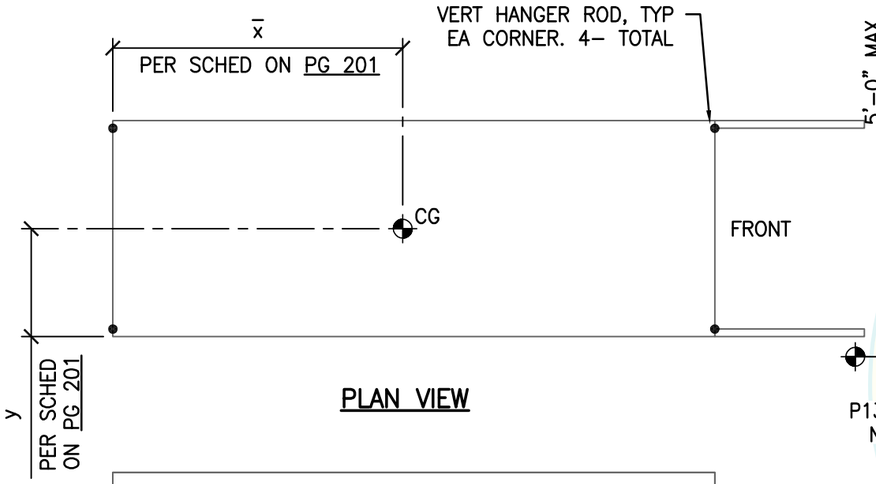
Rev	Description	Date

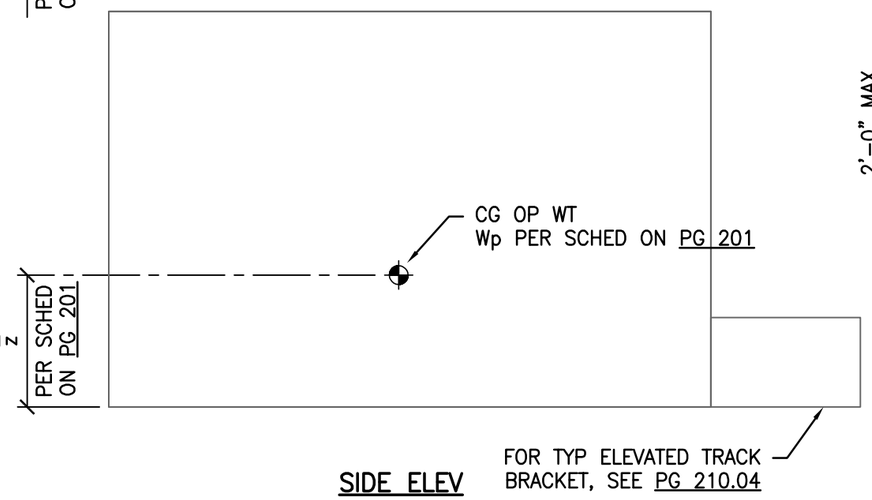
Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.04



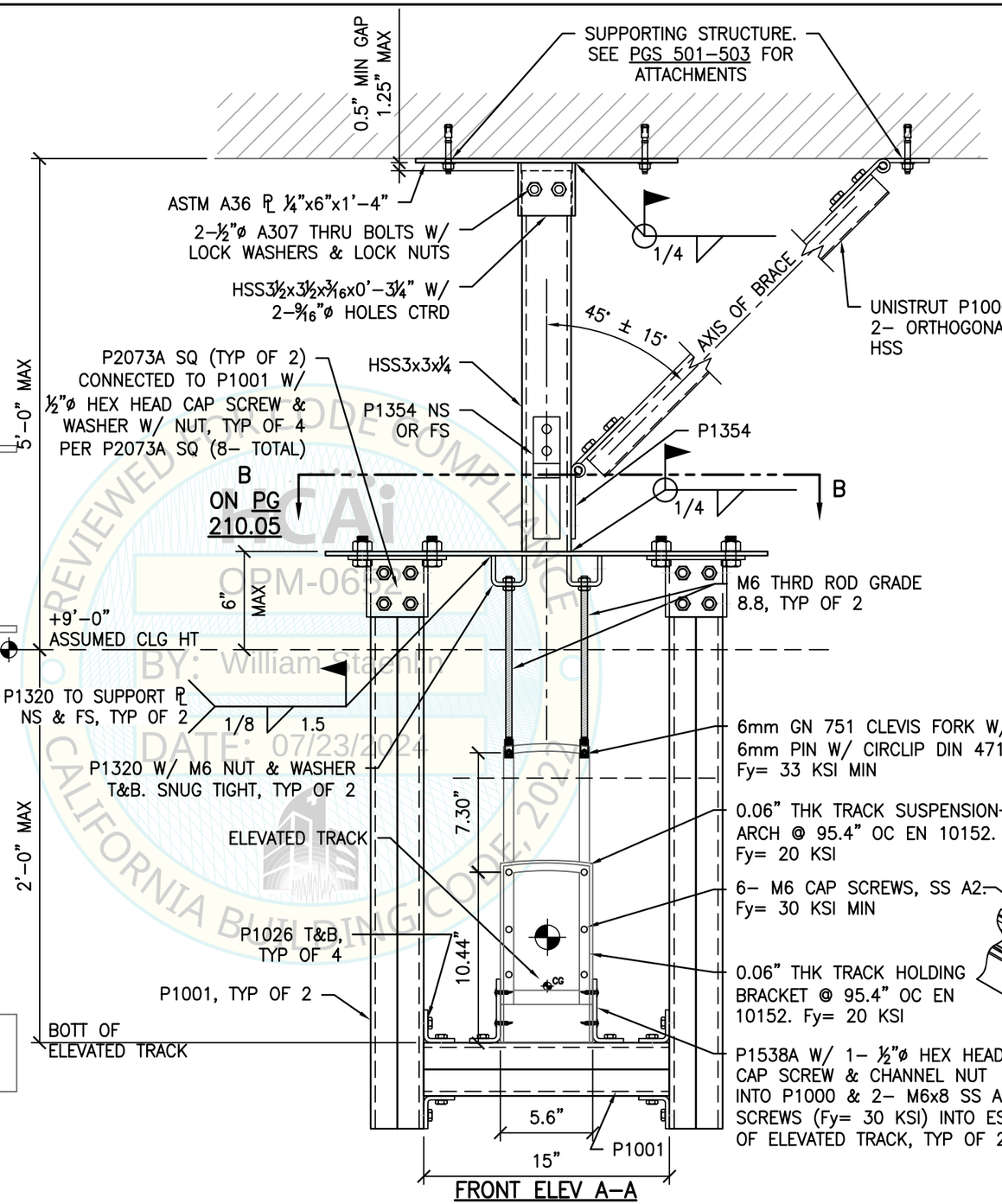
PLAN VIEW B–B



PLAN VIEW



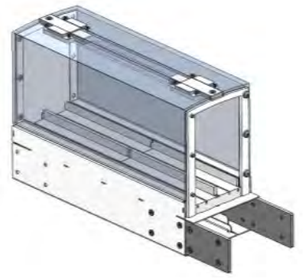
SIDE ELEV

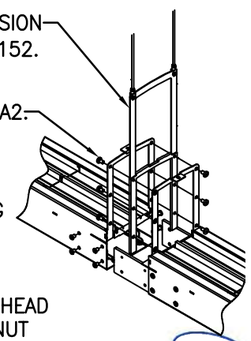


FRONT ELEV A–B

	MAX ANCHOR FORCES AT LRFD	
	T_{max}	V_{max}
CASE 1	954#	551#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.





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

NOT SEOR

SHEET TITLE: ELEVATED TRACK COMPONENTS: STRAIGHT SECTION - 40cm BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS SUPPORTS & ATTACHMENTS

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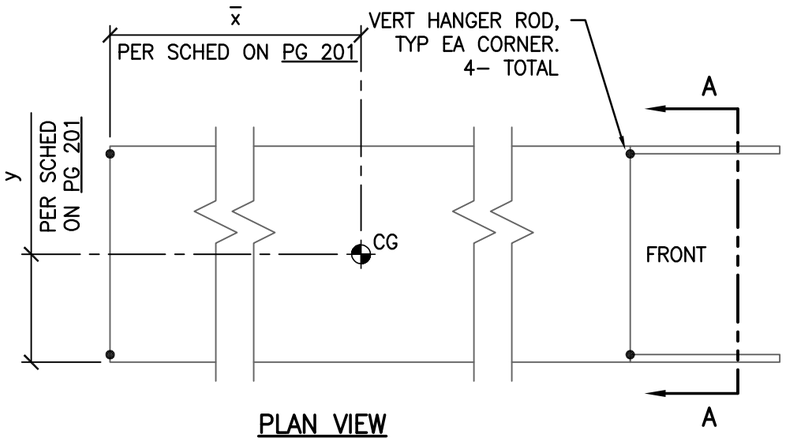
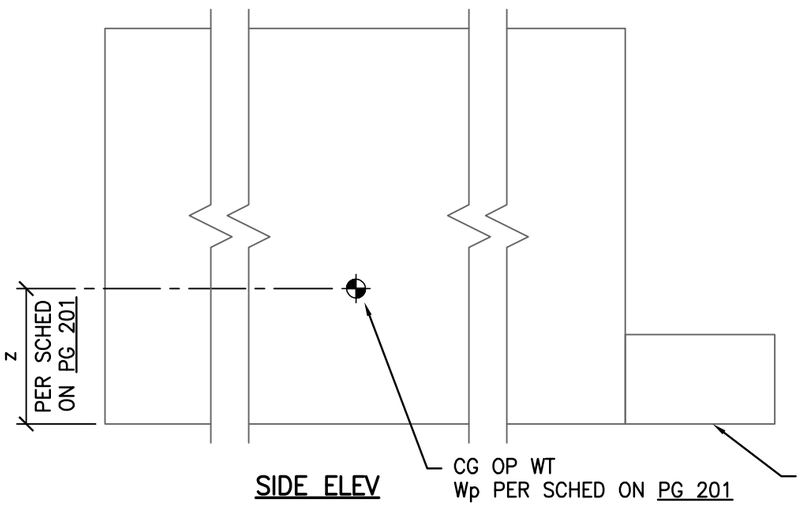
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.05

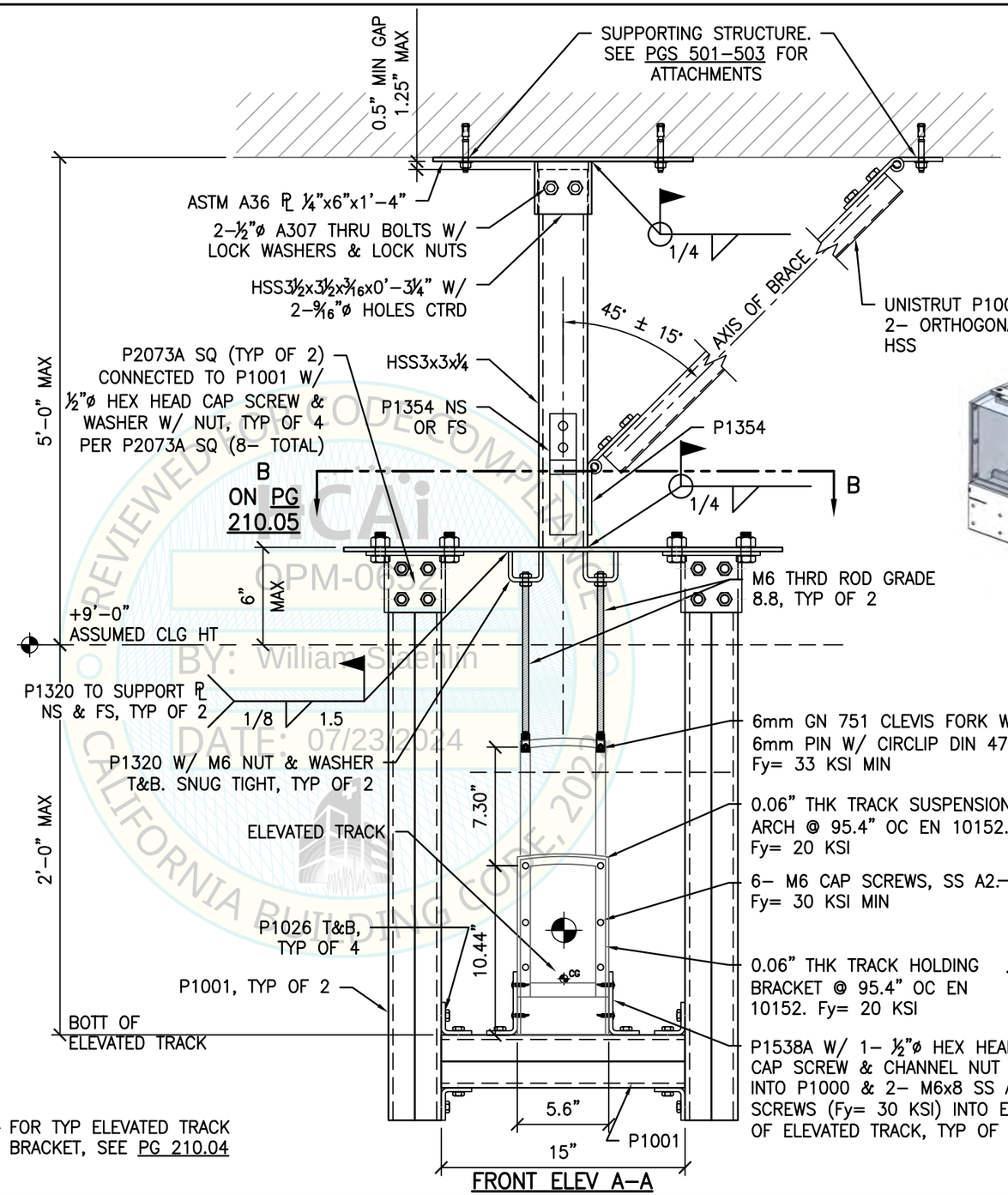
NOTES:
1. 1– TRANSVERSE LATERAL BRACE MUST OCCUR EVERY 95.4" MAX. SEE LAYOUT PLAN VIEW ON PG 210.04 SIM.
2. 1– LONGITUDINAL BRACE EVERY 95.4" MAX. SEE LAYOUT PLAN VIEW ON PG 210.04 SIM.



PLAN VIEW



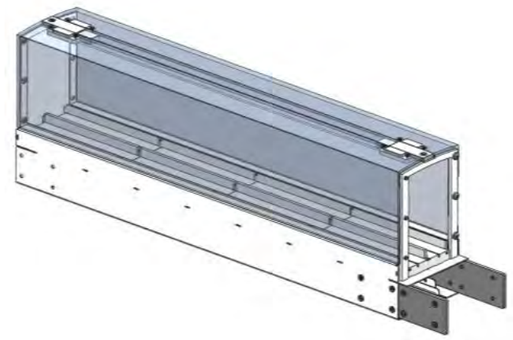
SIDE ELEV

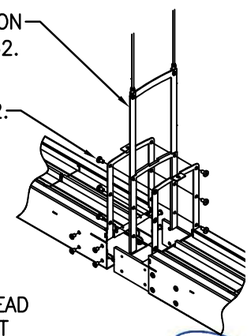


FRONT ELEV A–A

	MAX ANCHOR FORCES AT LRFD	
	T_{max}	V_{max}
CASE 1	954#	551#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.





NOT SEOR

SHEET TITLE: ELEVATED TRACK COMPONENTS: STRAIGHT SECTION - 80cm
BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833
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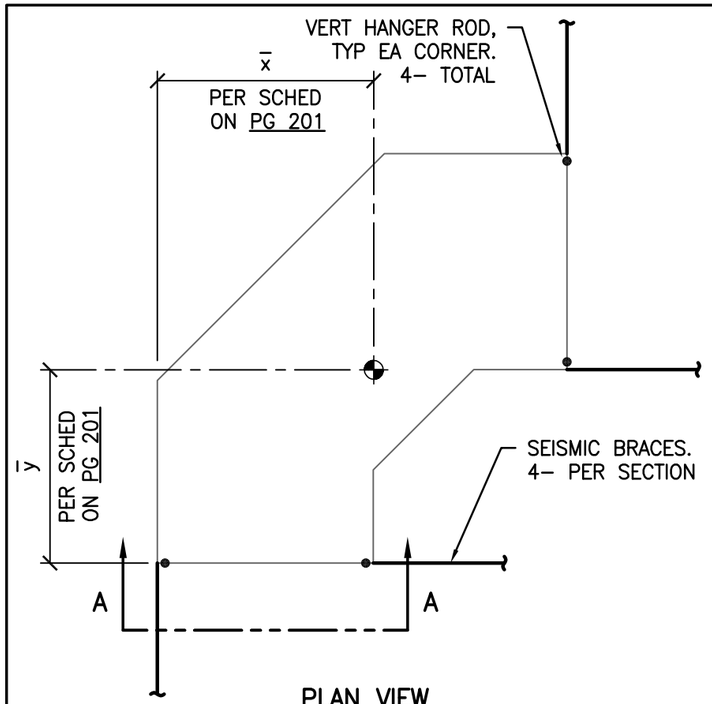
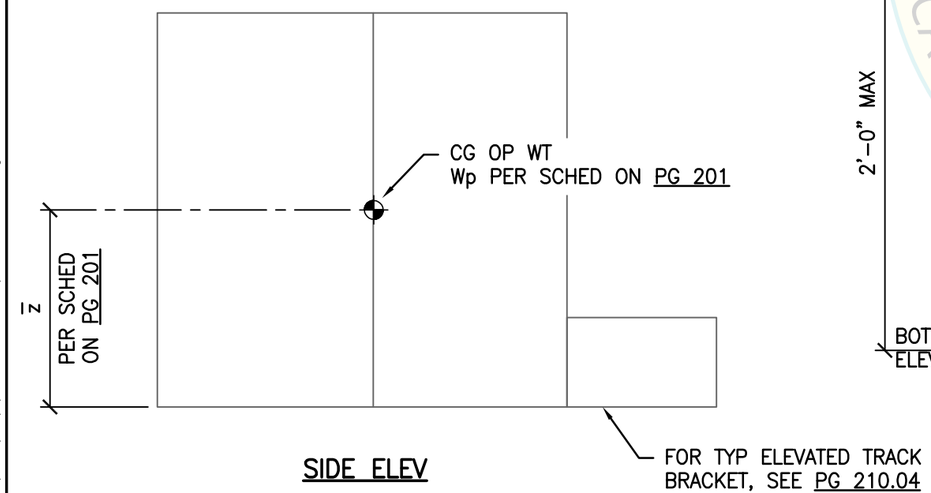
Rev	Description	Date

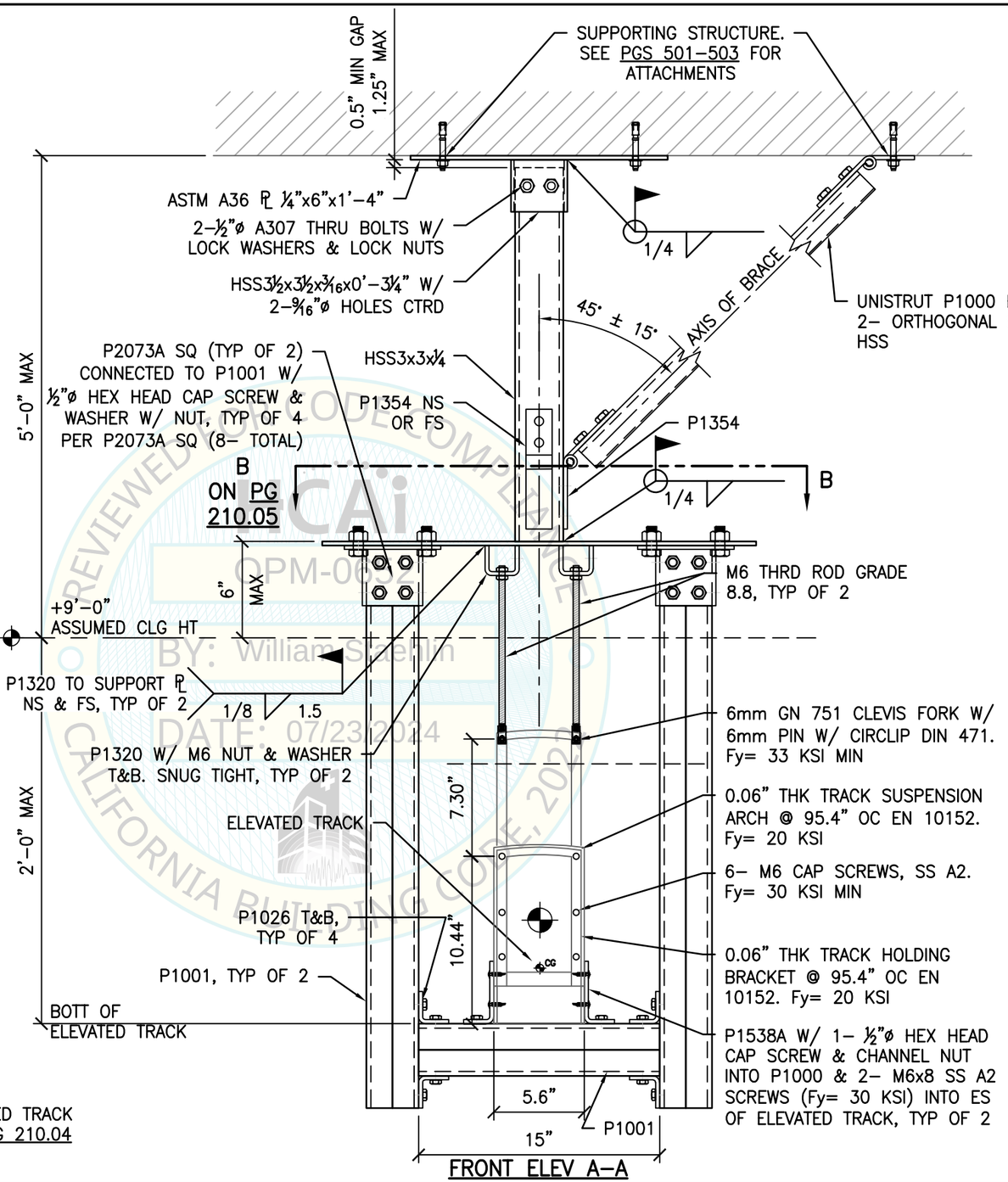
Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.06



PLAN VIEW



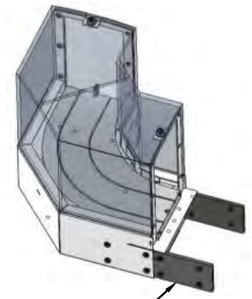
SIDE ELEV



FRONT ELEV A–A

	MAX ANCHOR FORCES AT LRFD	
	T_{max}	V_{max}
CASE 1 [2]	954#	551#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



FOR TYP ELEVATED TRACK BRACKET, SEE PG 210.04

ISOMETRIC OF 90 DEG TURN SECTION

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

NOT SEOR

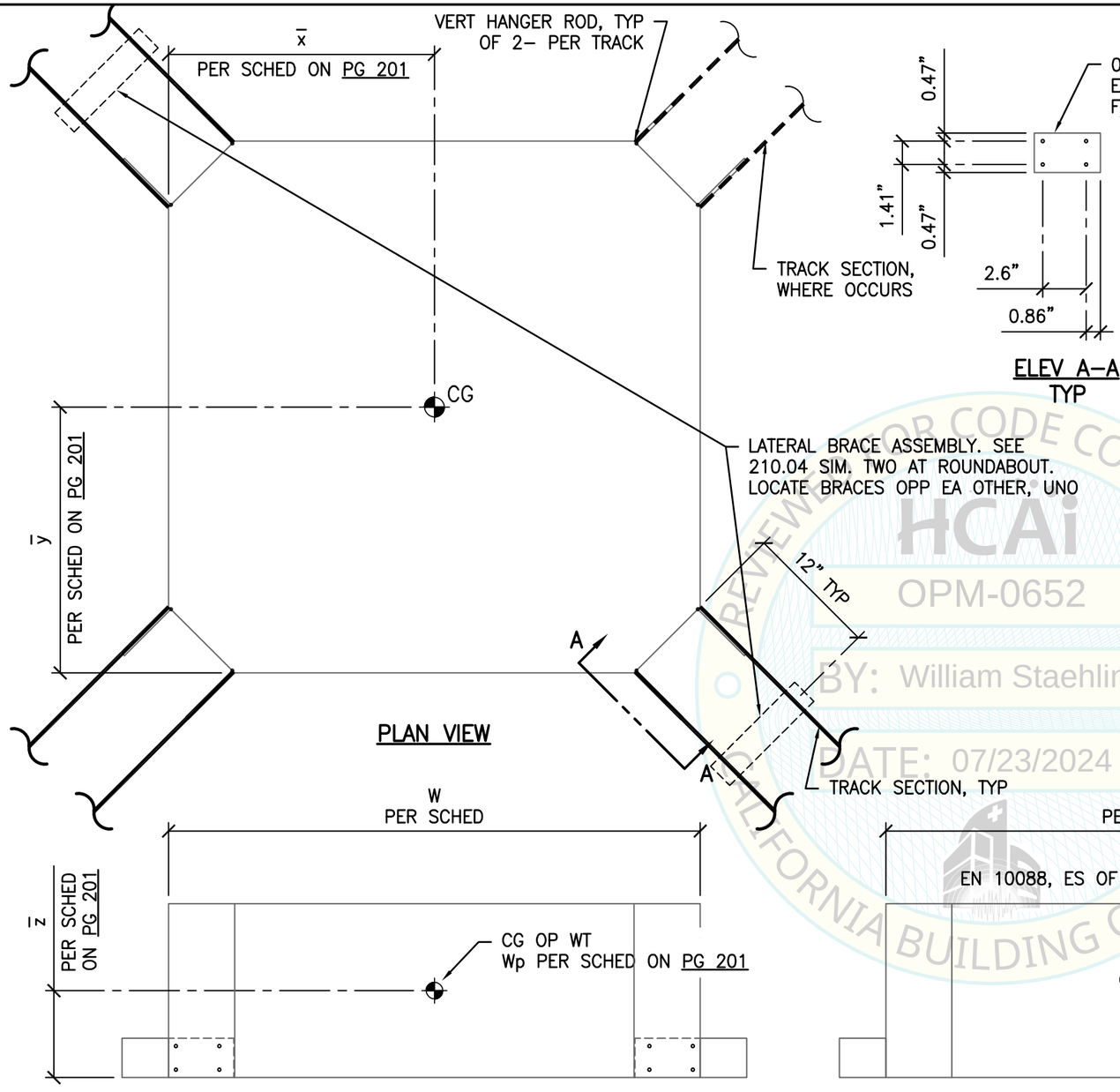
SHEET TITLE: ELEVATED TRACK COMPONENTS: 90 DEGREE TURN SECTION BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS SUPPORTS & ATTACHMENTS

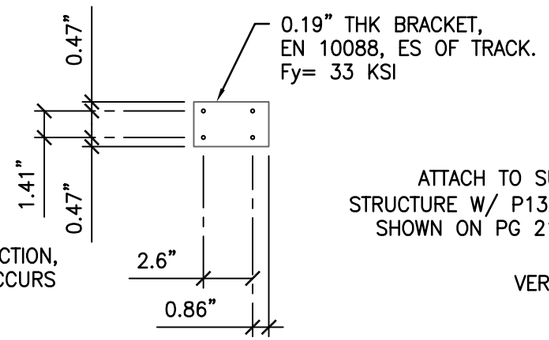
CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.07



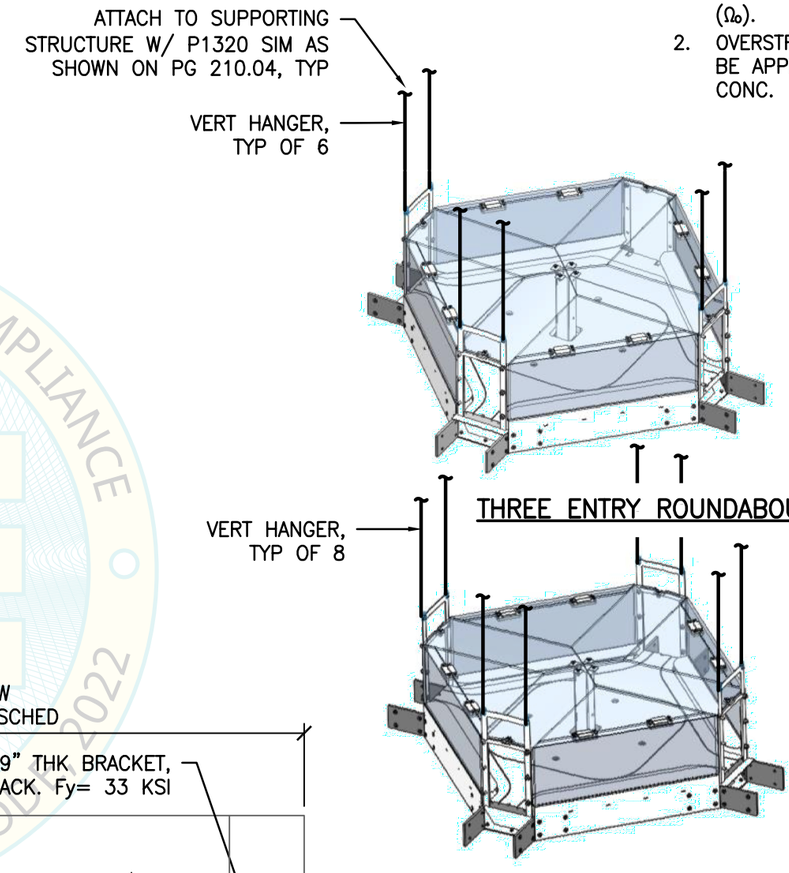
PLAN VIEW



ELEV A–A
TYP

	MAX ANCHOR FORCES AT LRFD		
	T_{max}	C_{max}	V_{max}
CASE 1 [2]	773#	716#	446#

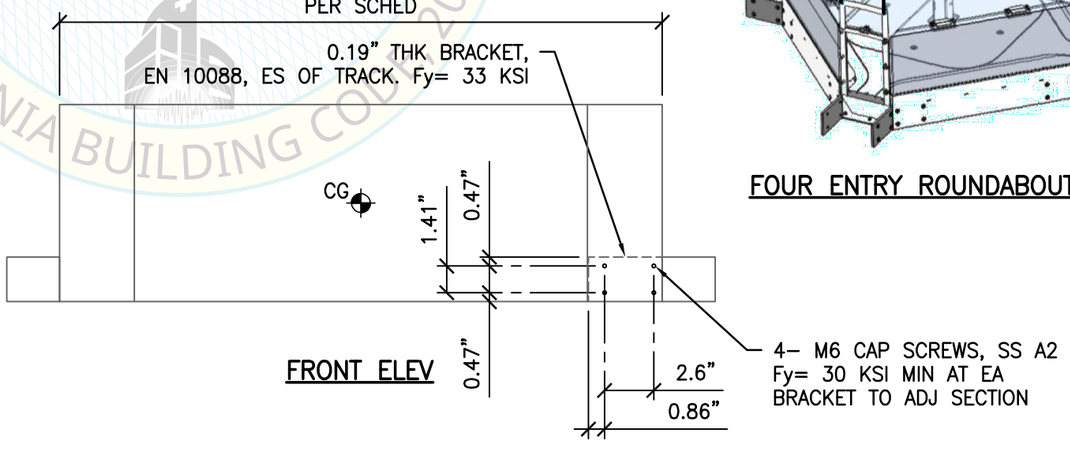
1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



THREE ENTRY ROUNDABOUT

FOUR ENTRY ROUNDABOUT

SIDE ELEV



FRONT ELEV

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

NOT SEOR

SHEET TITLE: ELEVATED TRACK COMPONENTS: ROUNDABOUT SECTIONS
BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
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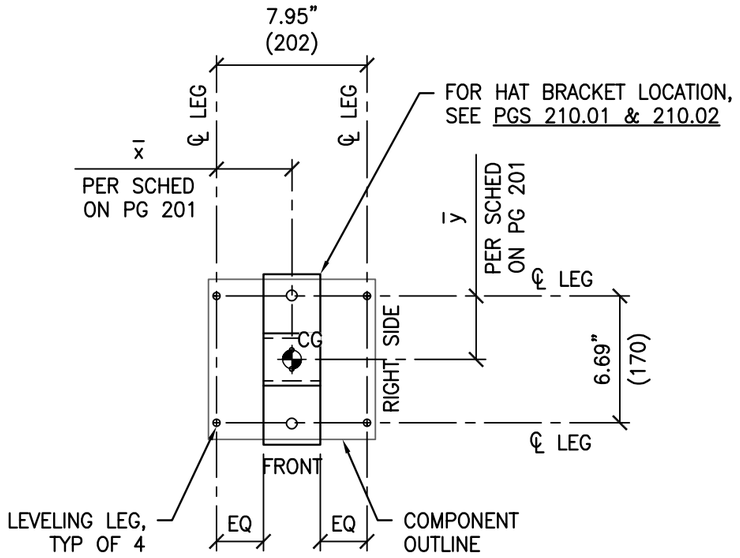
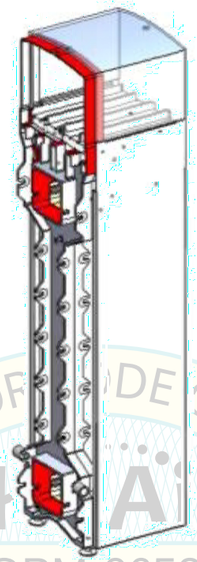
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.08

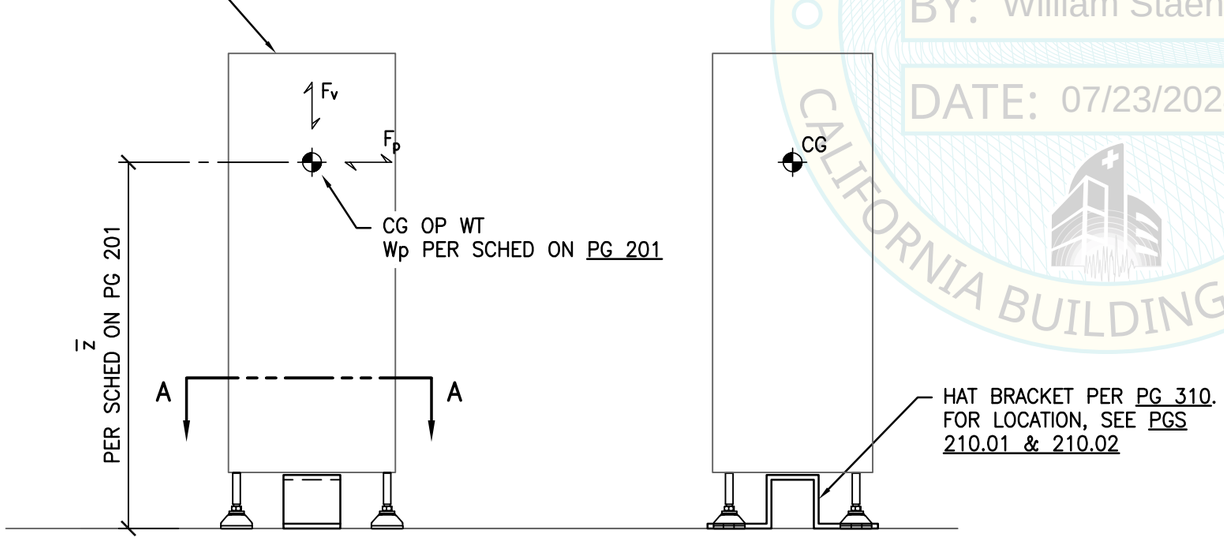


BASE PLAN VIEW A–A



	MAX ANCHOR FORCES AT LRFD AT LEVELING LEG		
	T_{max}	C_{max}	V_{max}
CASE 1 [2]	294#	321#	40#
CASE 2 [1]	163#	191#	22#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



FRONT ELEV

LEFT SIDE ELEV

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

NOT SEOR

SHEET TITLE: FLOOR SUPPORTED TRACK: STRAIGHT SECTION - 20cm
BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
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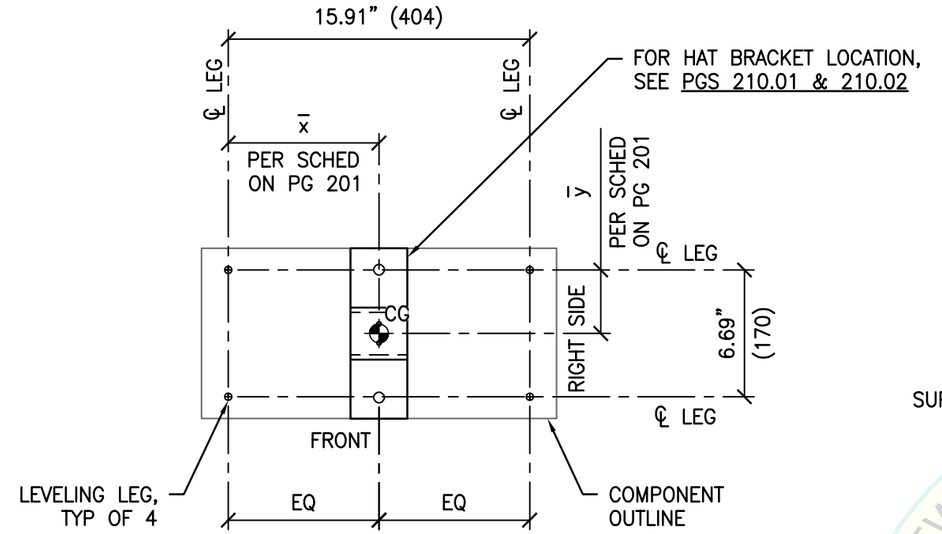
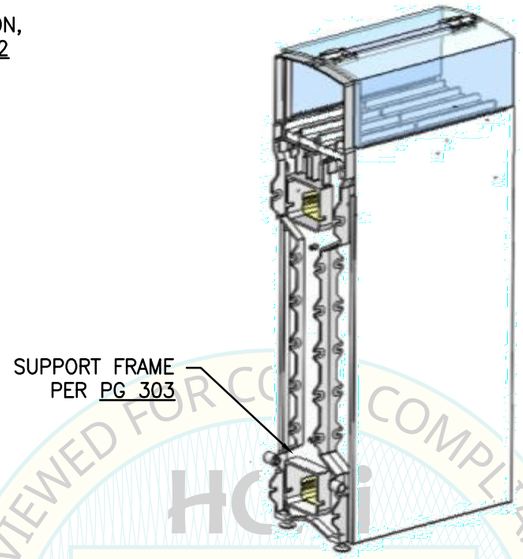
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.09

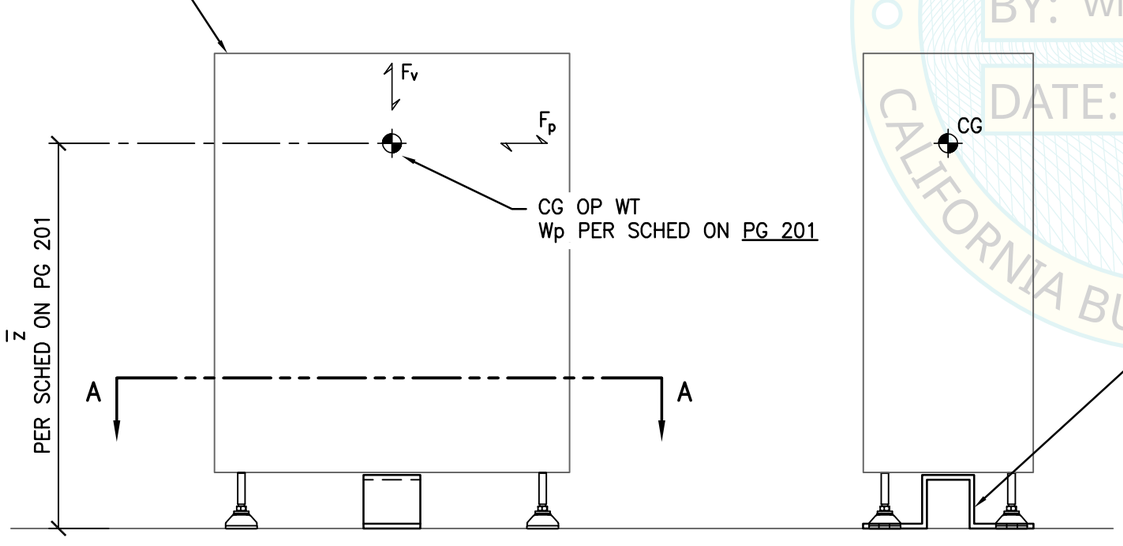


BASE PLAN VIEW A–A

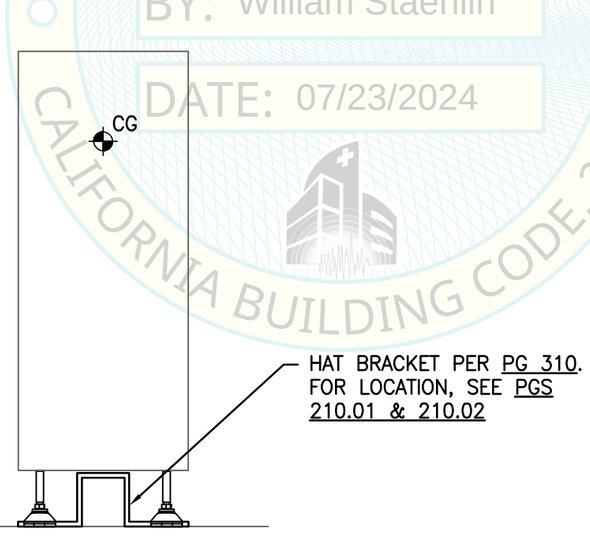


	MAX ANCHOR FORCES AT LRFD AT LEVELING LEG		
	T_{max}	C_{max}	V_{max}
CASE 1 [2]	488#	552#	81#
CASE 2 [1]	272#	335#	46#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



FRONT ELEV



LEFT SIDE ELEV

NOT SEOR

SHEET TITLE: FLOOR SUPPORTED TRACK: STRAIGHT SECTION - 40cm
BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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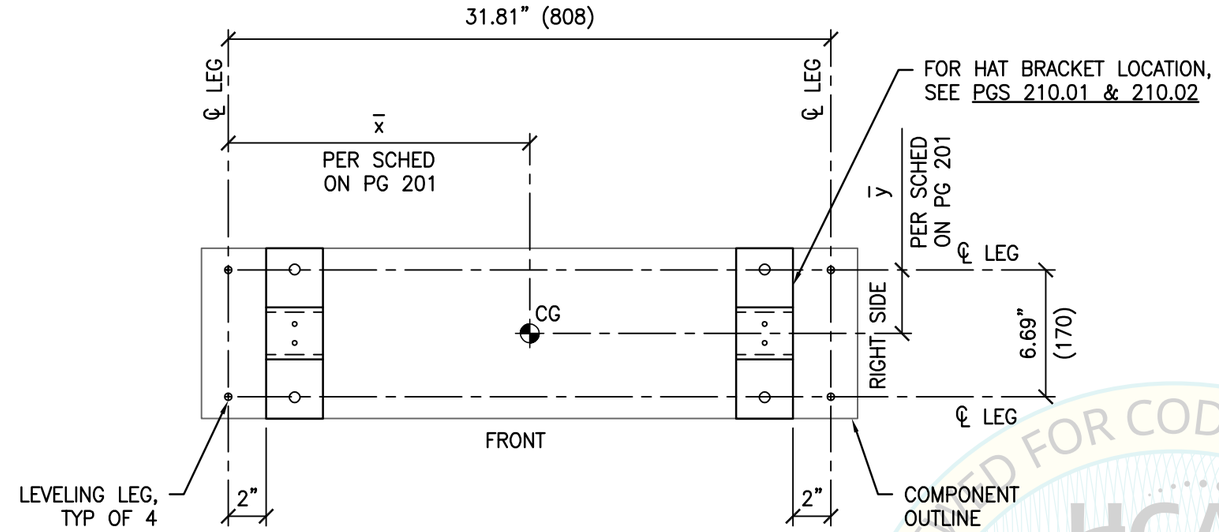
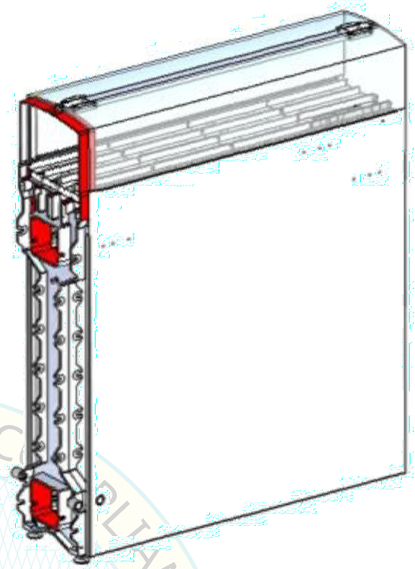
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.10

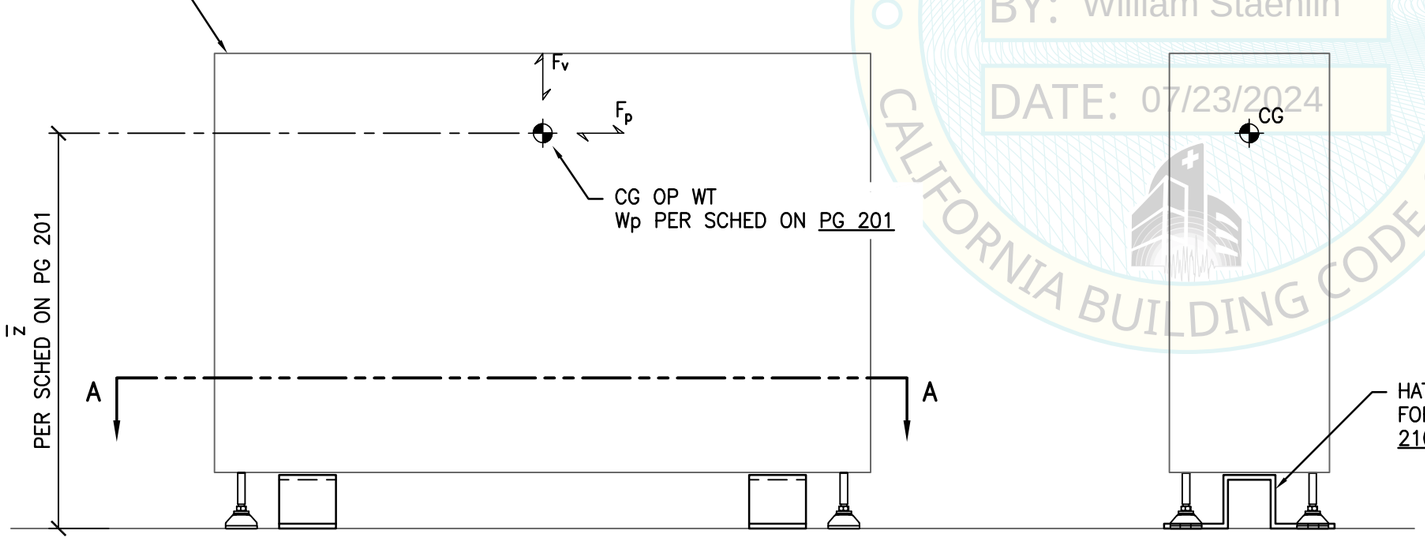


BASE PLAN VIEW A–A



	MAX ANCHOR FORCES AT LRFD AT LEVELING LEG		
	T_{max}	C_{max}	V_{max}
CASE 1 [2]	778#	882#	129#
CASE 2 [1]	433#	537#	73#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



FRONT ELEV

LEFT SIDE ELEV

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

NOT SEOR

SHEET TITLE: FLOOR SUPPORTED TRACK: STRAIGHT SECTION - 80cm
BASE PLAN & ELEVATIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
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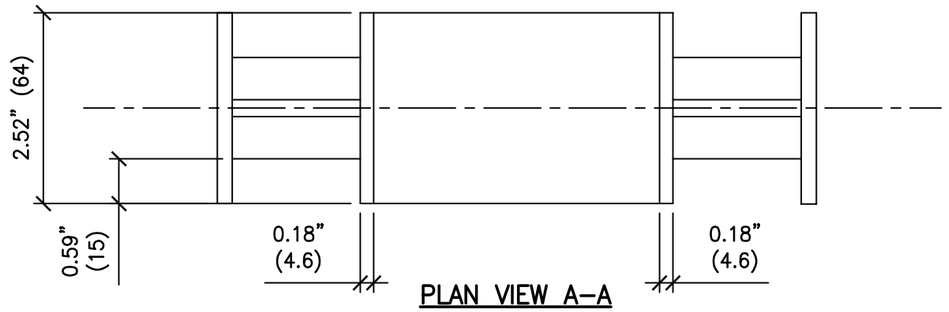
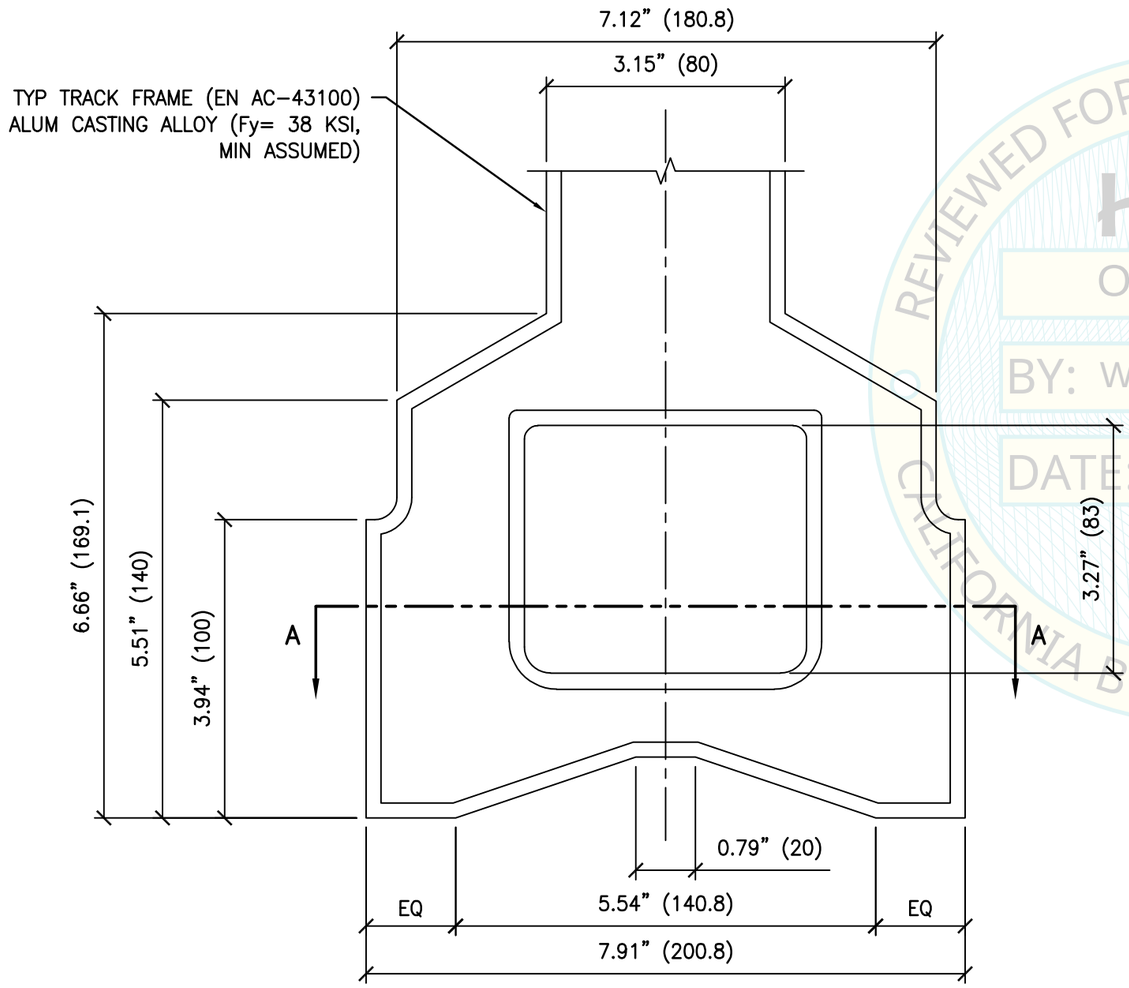
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	210.11

SUPPORT FRAME



PLAN VIEW A–A



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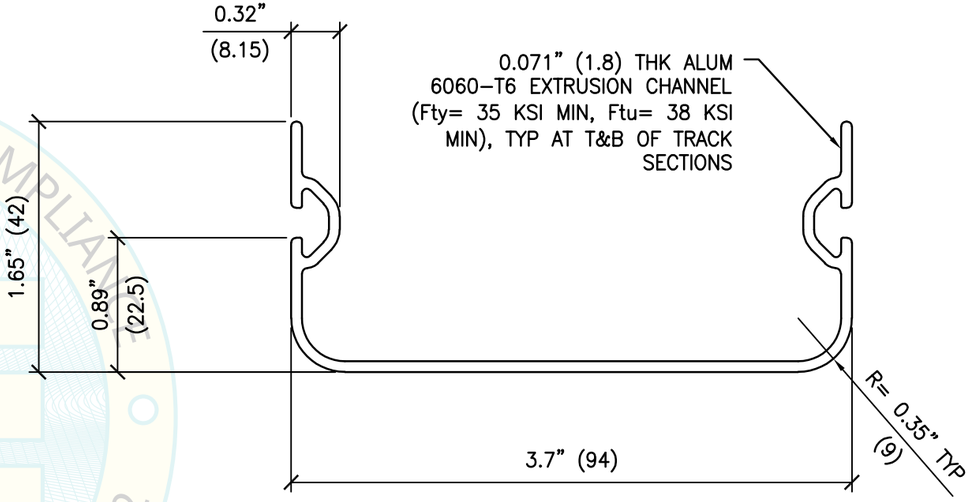

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No. S4346
STRUCTURAL
STATE OF CALIFORNIA

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SHEET TITLE: FLOOR MOUNTED TRACK DETAIL
SUPPORT FRAME

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	220

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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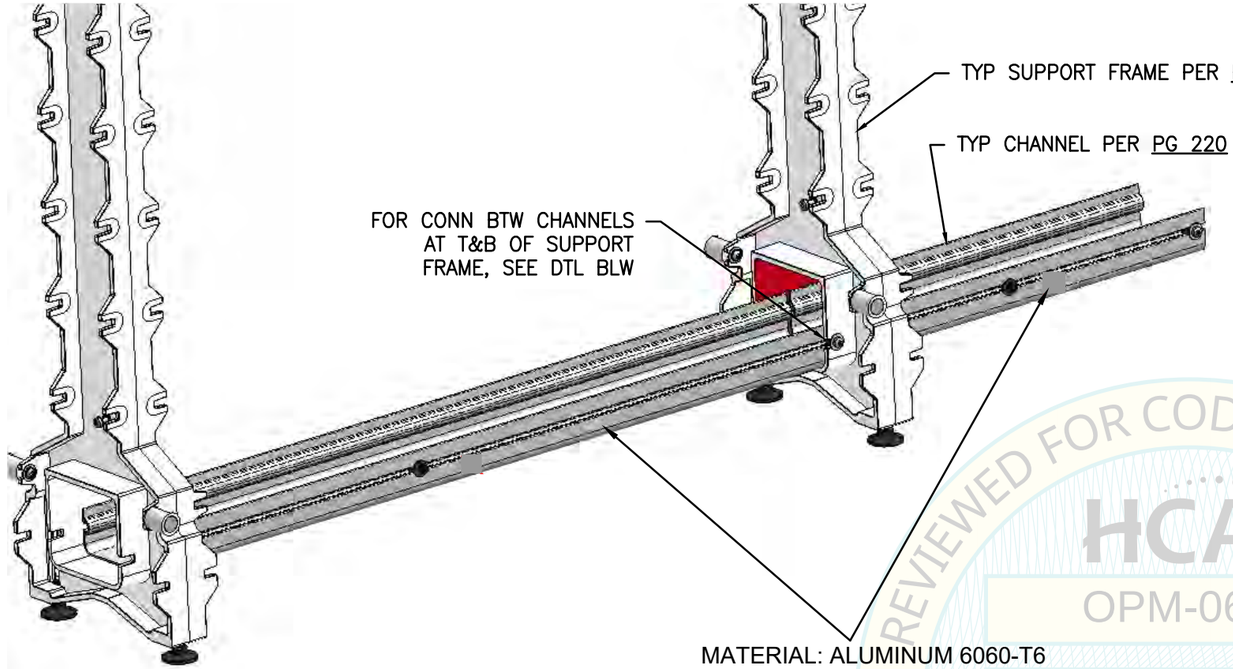
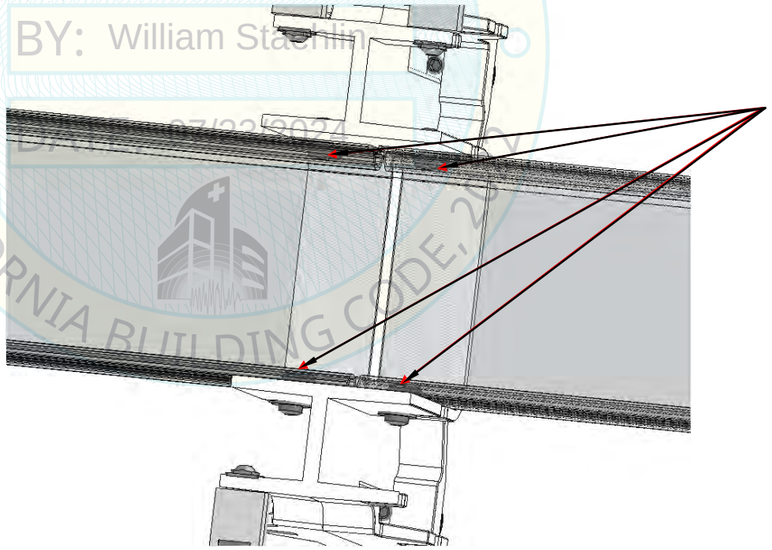
SUPPORT FRAME TO CHANNEL CONNECTION



MATERIAL: ALUMINUM 6060-T6

SUPPORT FRAME ISOMETRIC



SCREW DIN 7985 M5x12–TX A2 TORQUE TIGHTENED TO 2.5 FT–LBS (30 IN–LBS) MIN (Fy= 65 KSI MIN, Fu= 102 KSI MIN)
WASHER DIN 9021–5,3 A2 T–SLOT NUT – M5 STL ZINC

SUPPORT FRAME TO CHANNEL CONN

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

NOT SEOR

SHEET TITLE: FLOOR MOUNTED TRACK DETAIL
SUPPORT FRAME CONNECTIONS

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	221

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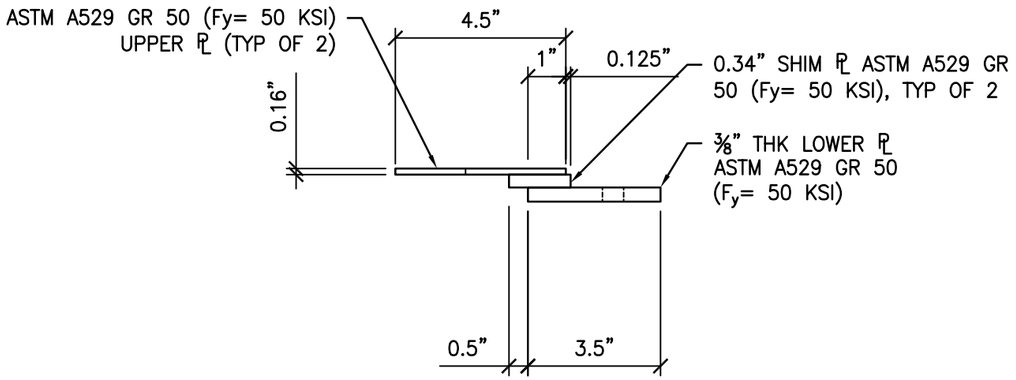
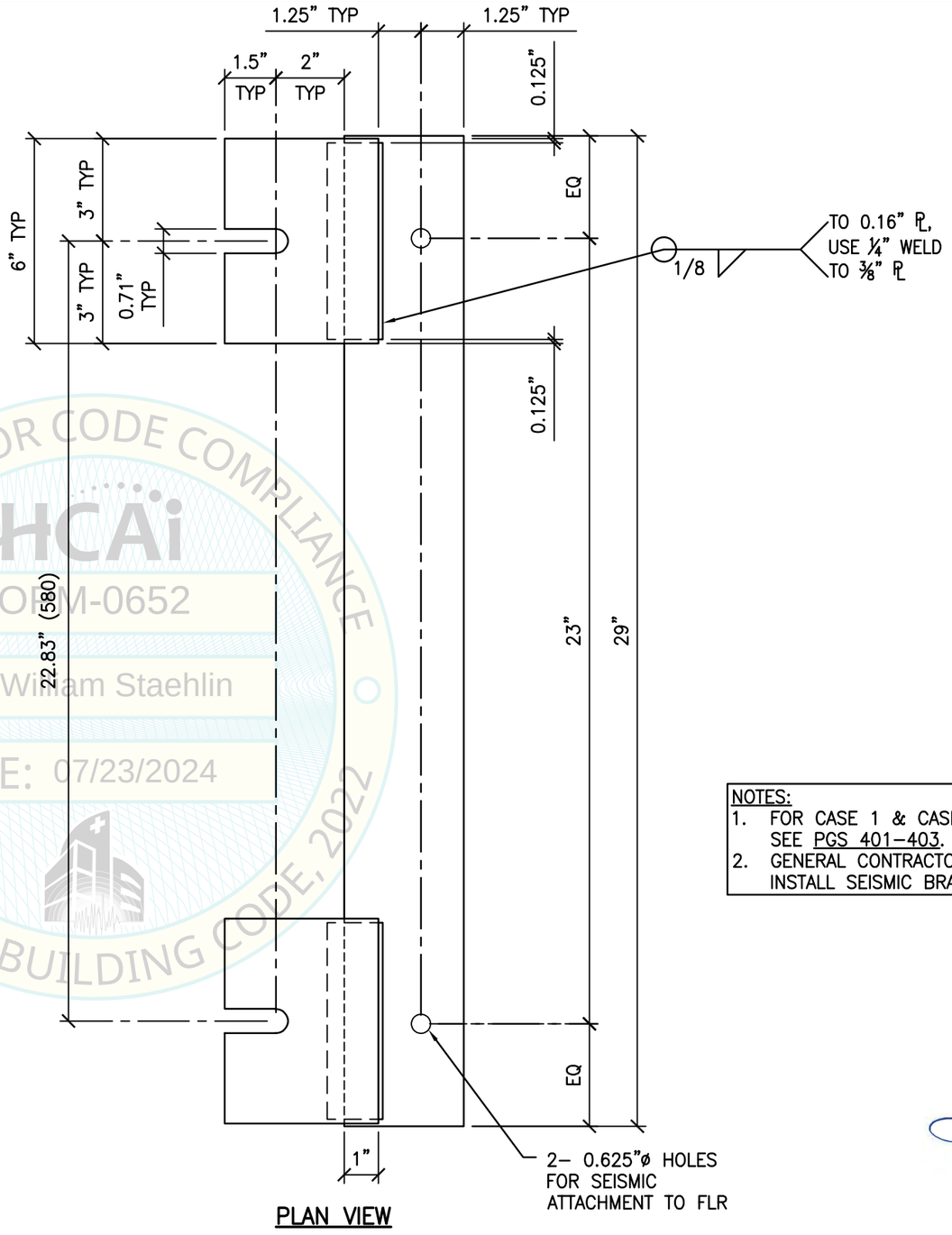


ELEV



PLAN VIEW

NOTES:
1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 401–403.
2. GENERAL CONTRACTOR SHALL PROVIDE & INSTALL SEISMIC BRACKET.

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

NOT SEOR

SHEET TITLE: SEISMIC BRACKET 1 DETAIL
LOADER MODULE

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
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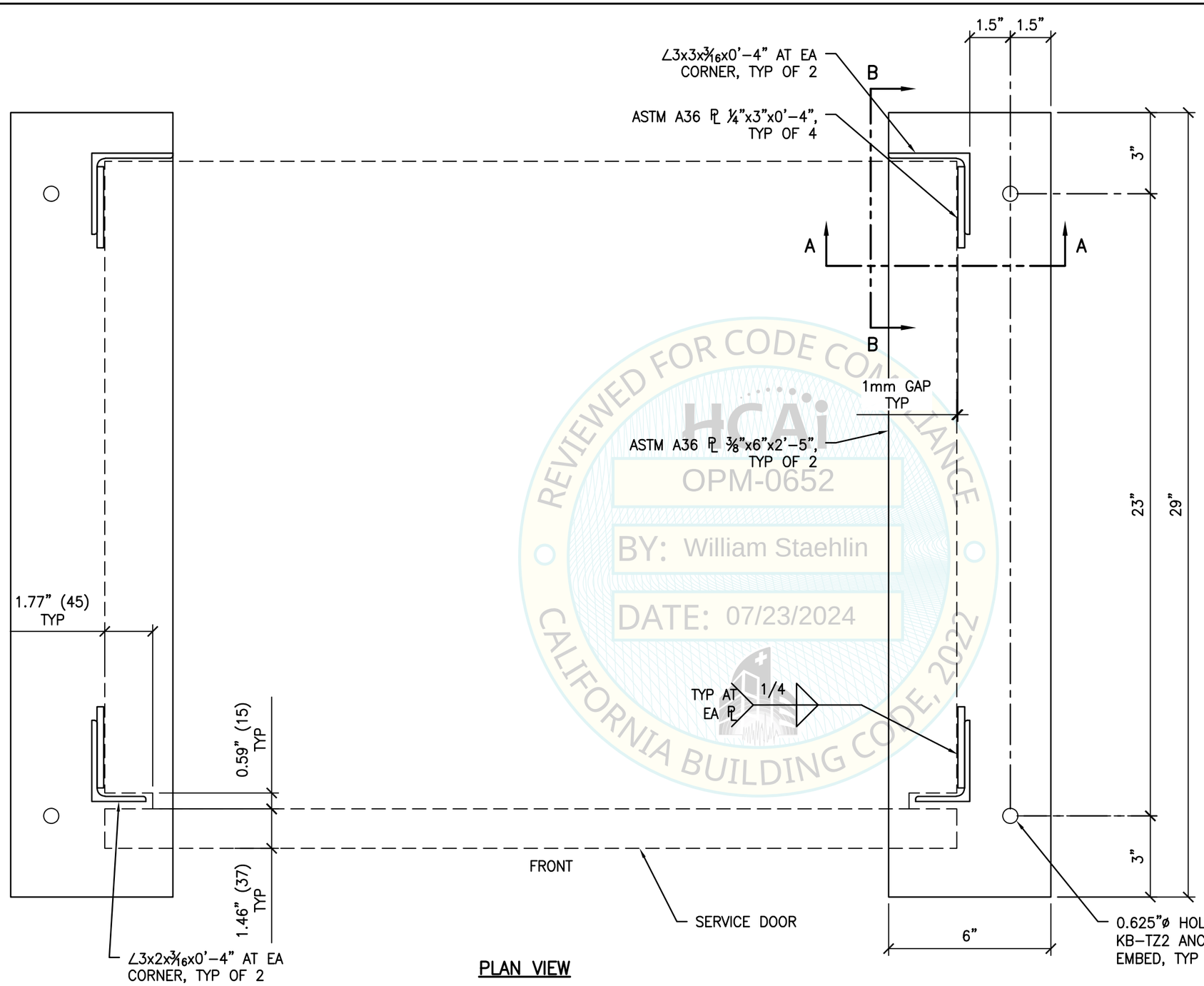
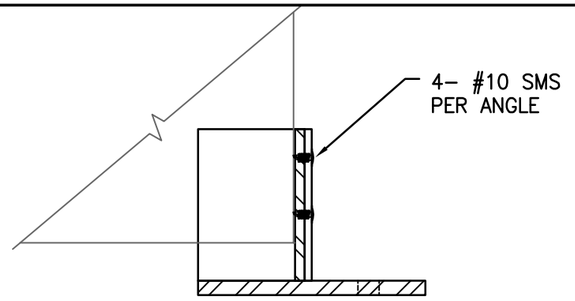
Rev	Description	Date

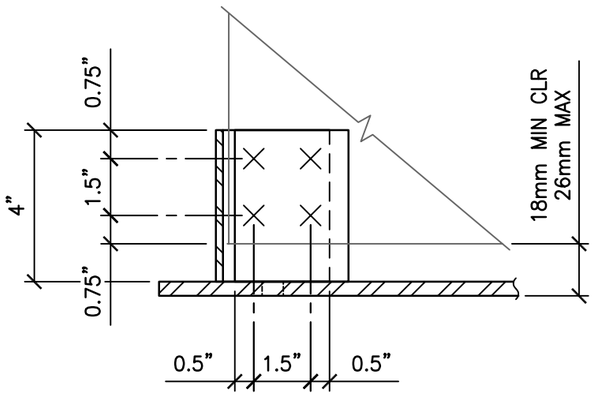
Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	301



PLAN VIEW



SECTION A-A



SECTION B-B

NOTES:
1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 401-403.
2. GENERAL CONTRACTOR SHALL PROVIDE & INSTALL SEISMIC BRACKET.

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

NOT SEOR

SHEET TITLE: SEISMIC BRACKET 1 - OPTION 2 DETAIL
LOADER MODULE

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	301A

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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SACRAMENTO, CA 95833
TEL (916) 920-2020
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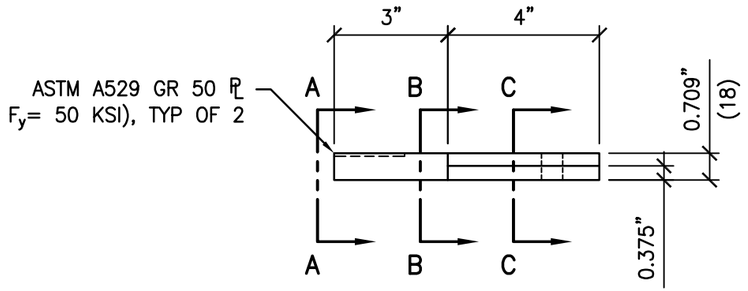
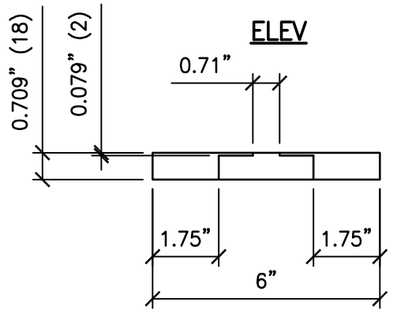
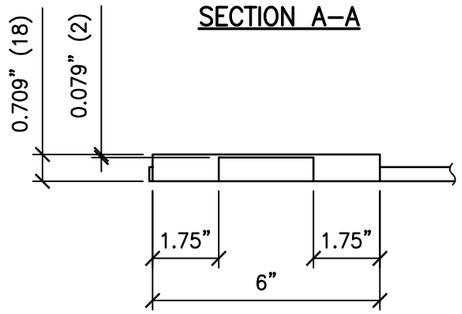
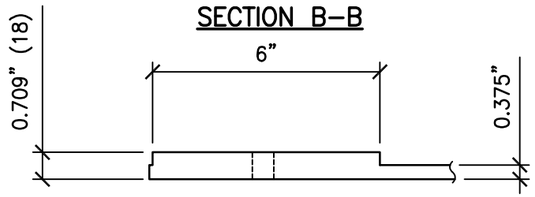




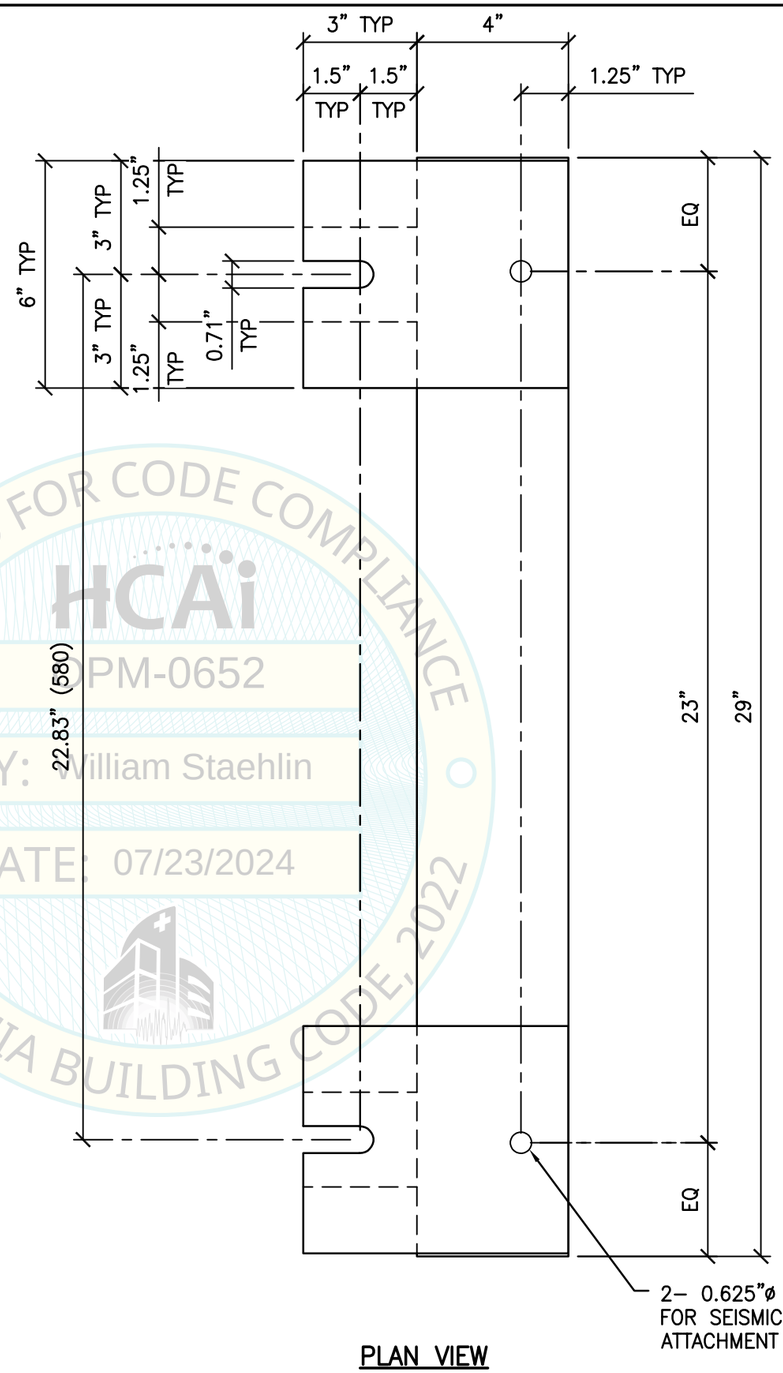
SECTION A–A



SECTION B–B



SECTION C–C



PLAN VIEW

NOTES:
1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 401–403.
2. GENERAL CONTRACTOR SHALL PROVIDE & INSTALL SEISMIC BRACKET.

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

NOT SEOR

SHEET TITLE: SEISMIC BRACKET 1 - OPTION 3 DETAIL
LOADER MODULE

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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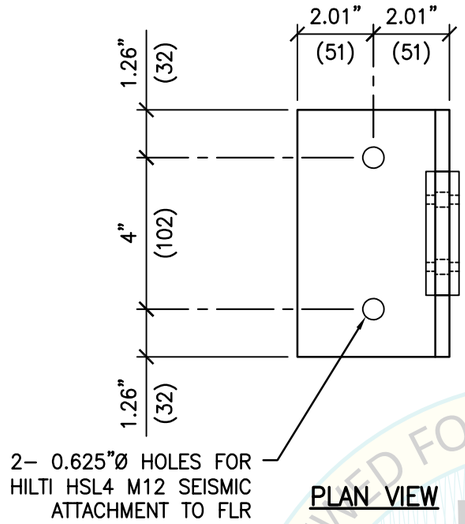
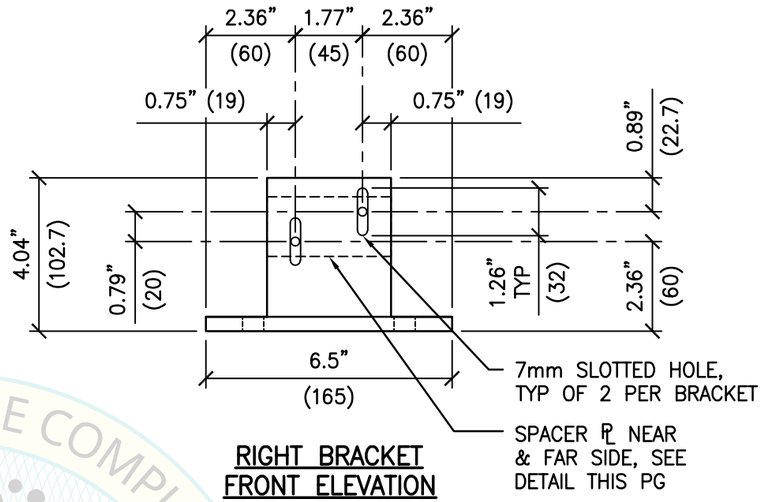
Rev	Description	Date

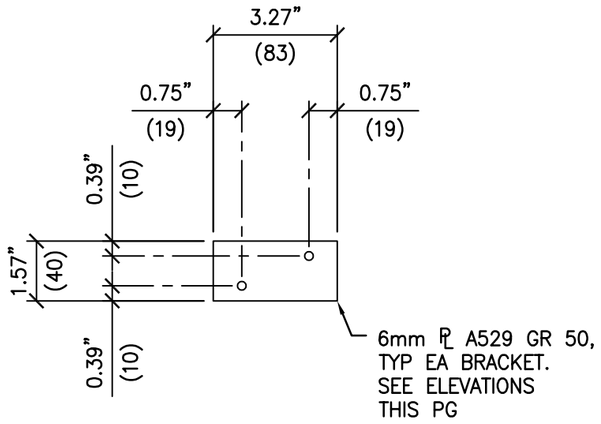
Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	301B



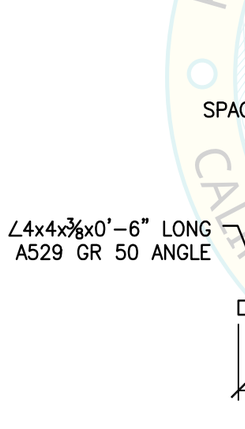
PLAN VIEW



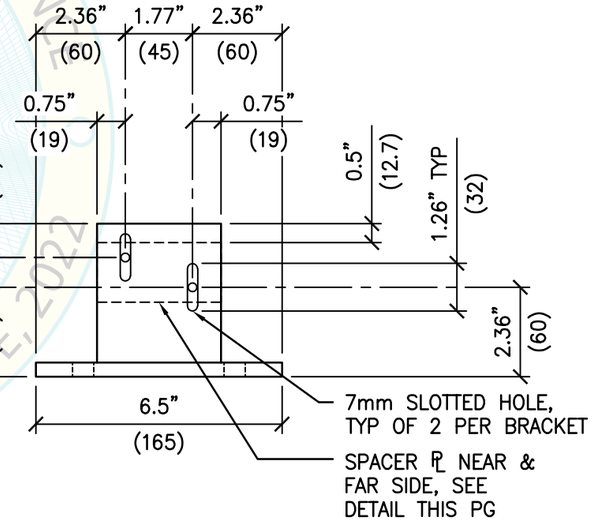
RIGHT BRACKET
FRONT ELEVATION



TYP SPACER PLATE
AT LEFT & RIGHT BRACKETS



SIDE ELEVATION



LEFT BRACKET
FRONT ELEVATION

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

NOT SEOR

SHEET TITLE: SEISMIC BRACKET 2 DETAIL
STORAGE

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833
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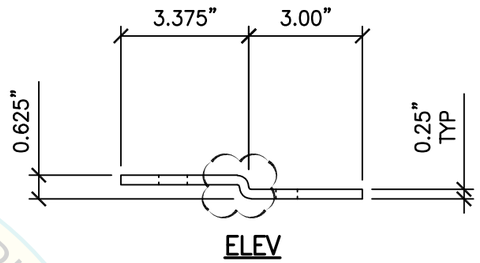
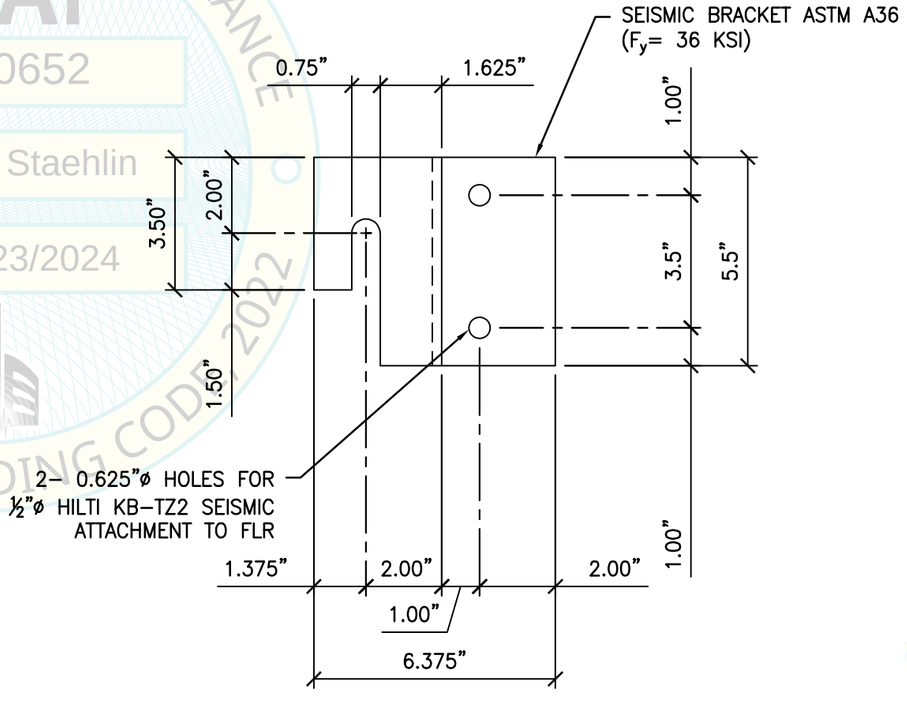
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	302



ELEV



PLAN VIEW

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

NOT SEOR

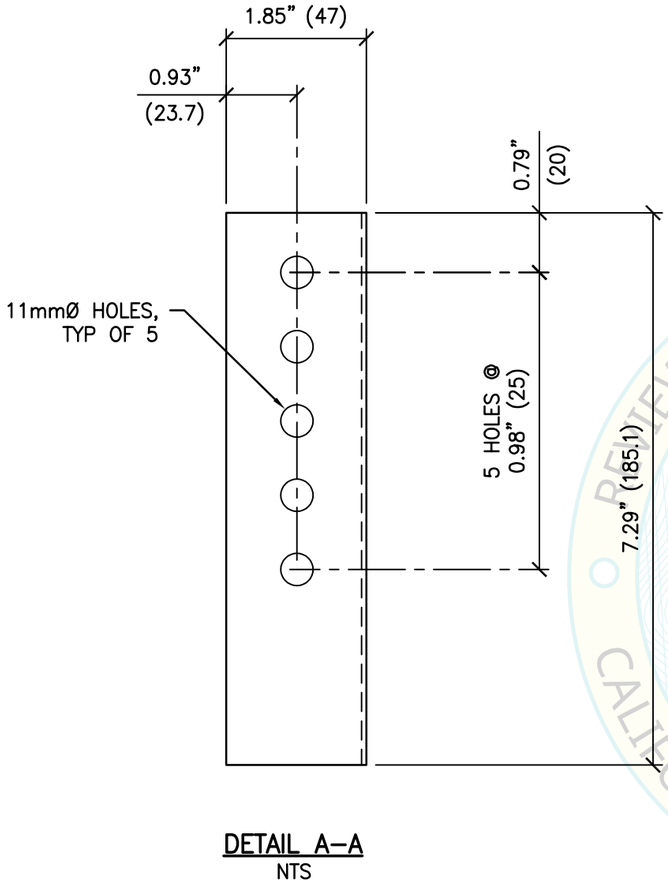
SHEET TITLE: SEISMIC BRACKET 3 DETAIL
SPIRAL ELEMENT

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

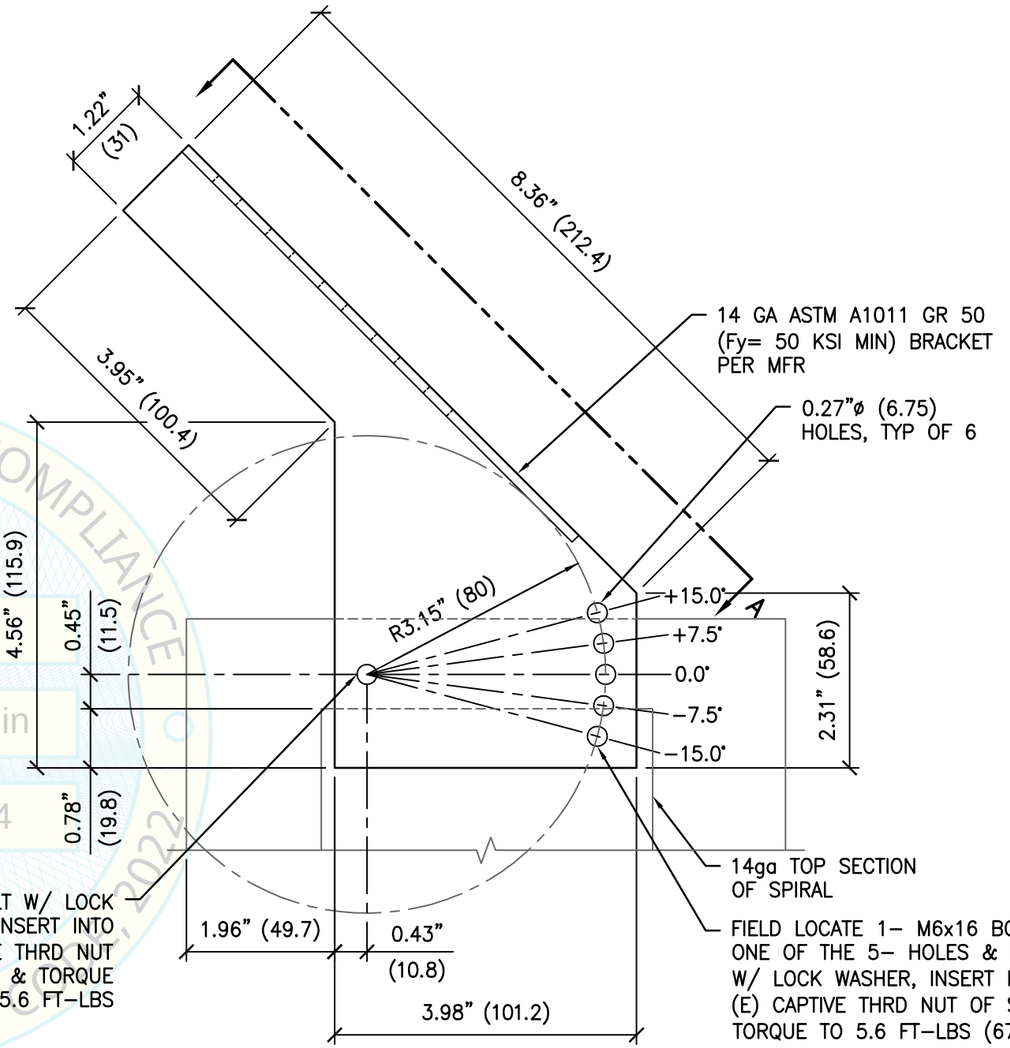
CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	303



DETAIL A–A
NTS



SEISMIC BRACKET 4
NTS

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

NOT SEOR

SHEET TITLE: SEISMIC BRACKET 4 DETAIL
SPIRAL ELEMENT

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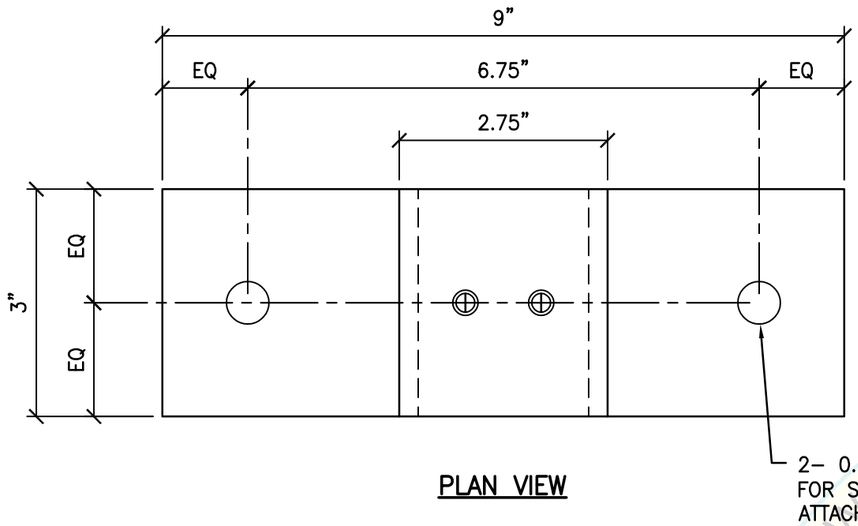
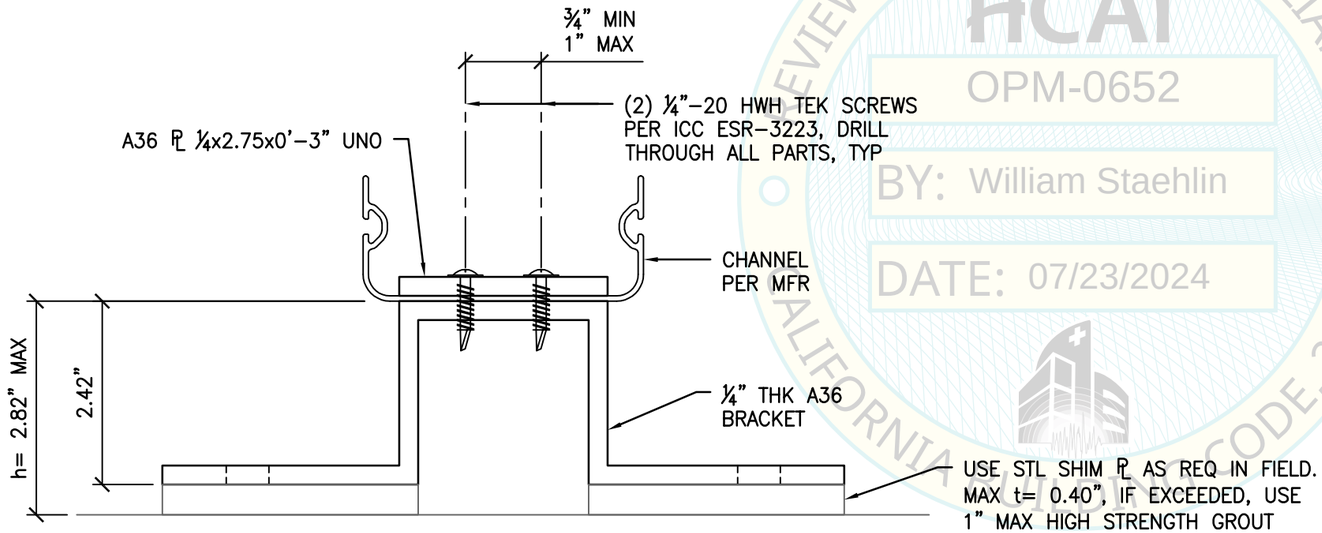
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	304

HAT BRACKET



PLAN VIEW



ELEV

NOTES:
1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 401, 402 & 404.
2. GENERAL CONTRACTOR SHALL PROVIDE & INSTALL SEISMIC BRACKET.

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

NOT SEOR

SHEET TITLE: SEISMIC HAT BRACKET DETAIL
FLOOR MOUNTED TRACK

ABBOTT AUTOMATION SOLUTIONS
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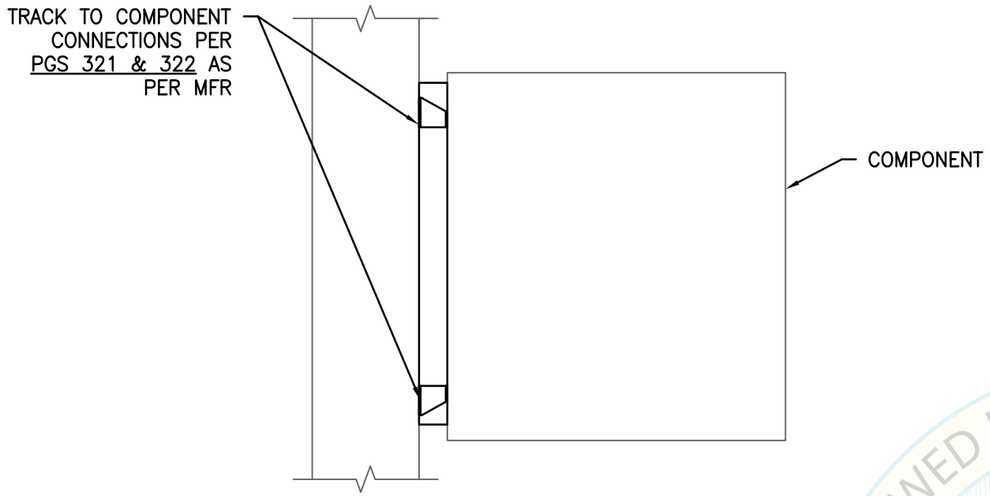
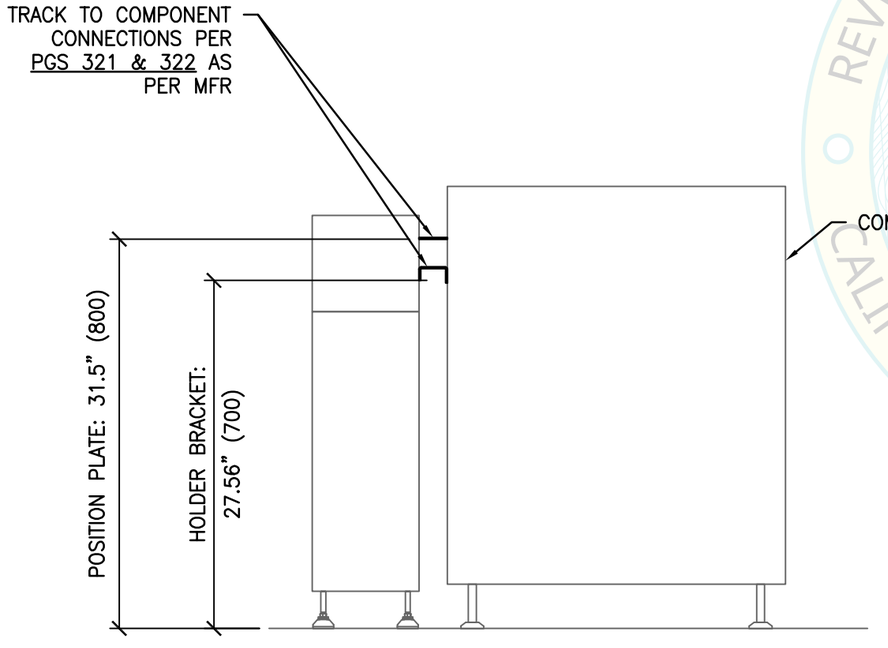
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	310



PLAN VIEW



IN LINE ELEV

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

NOT SEOR

SHEET TITLE: TRACK TO COMPONENT CONNECTION

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	320

ABBOTT AUTOMATION SOLUTIONS
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SUPPORTS & ATTACHMENTS

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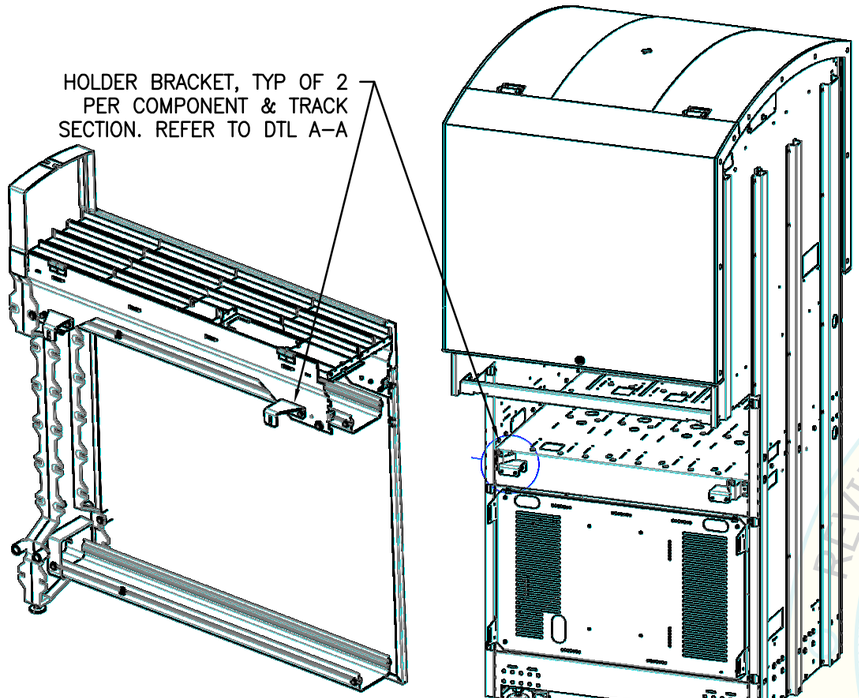
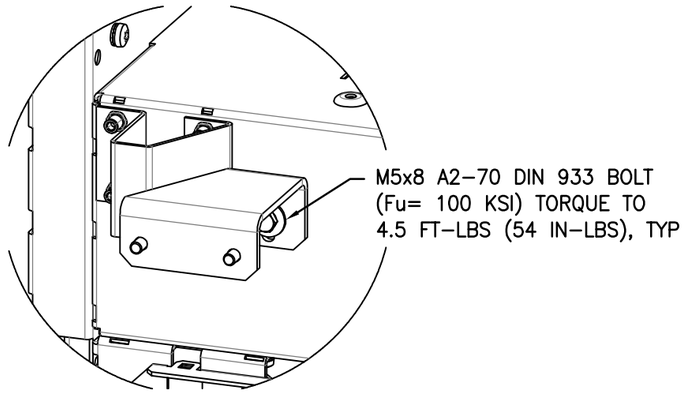
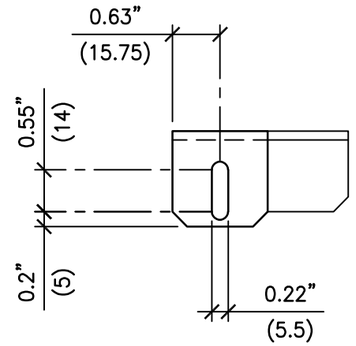
HOLDER BRACKET CONNECTION

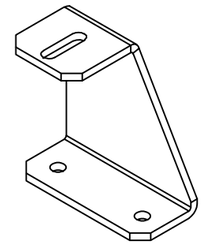


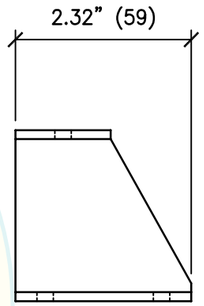


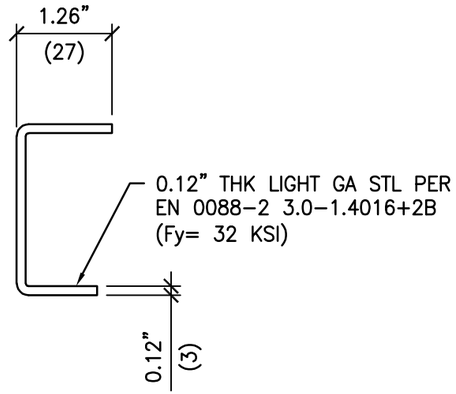
DETAIL A–A

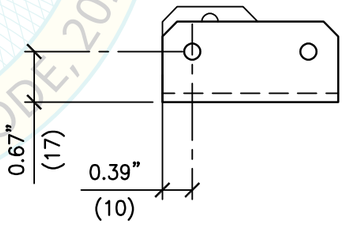
HOLDER BRACKET DETAIL











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

NOT SEOR

SHEET TITLE: TRACK TO COMPONENT CONNECTION
HOLDER BRACKET

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	321

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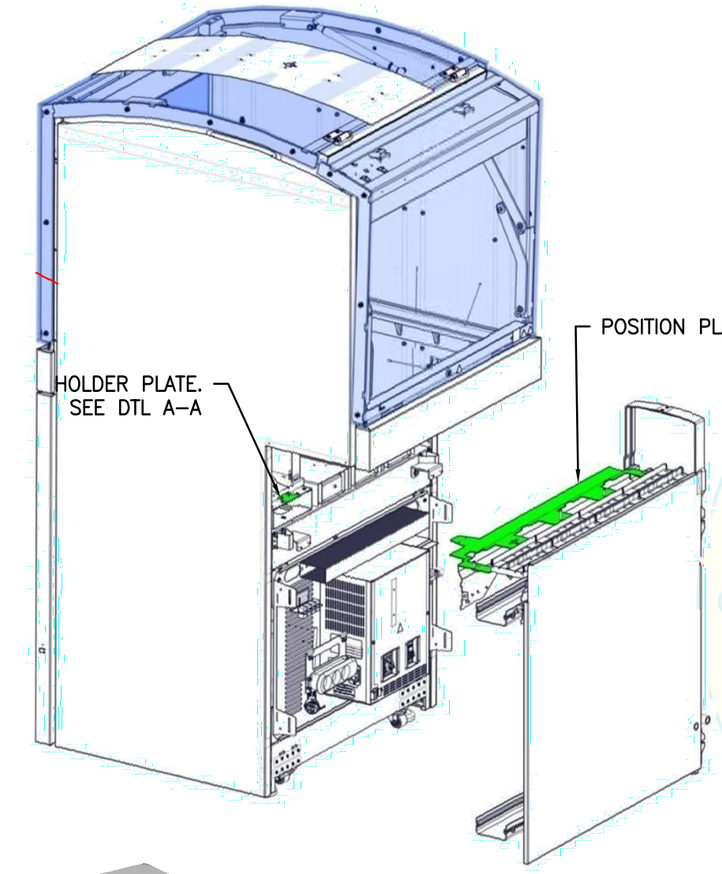
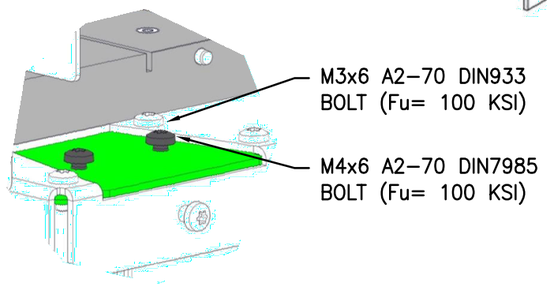
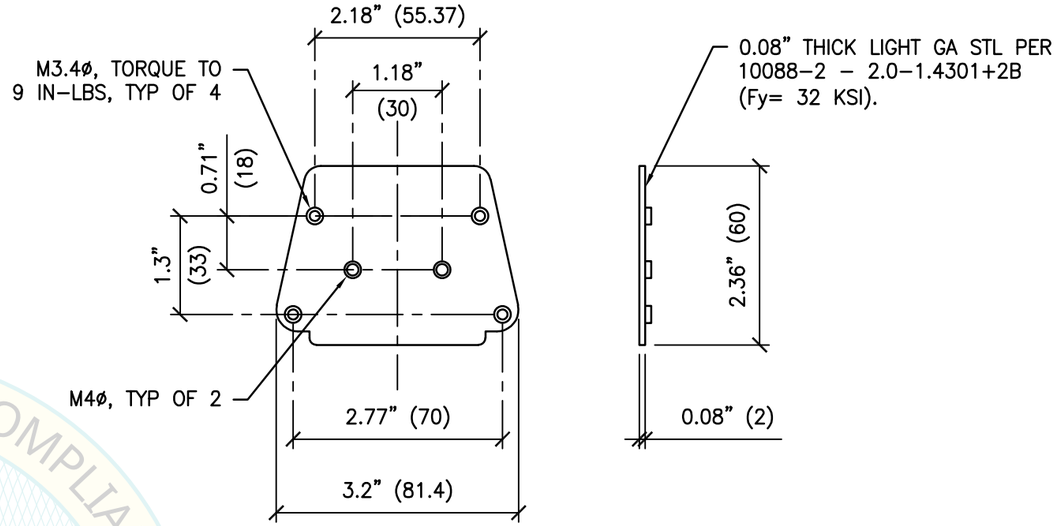
POSITION PLATE CONNECTION



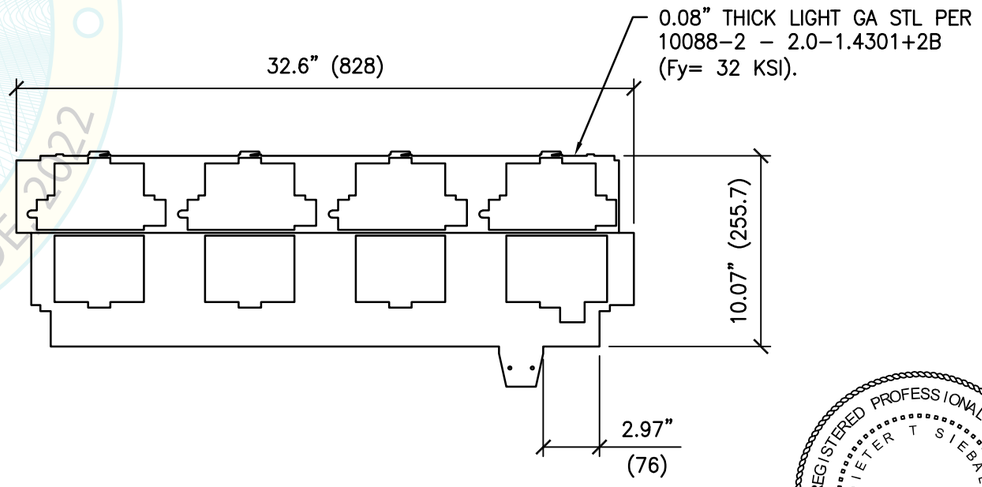


DETAIL A–A

HOLDER PLATE DETAIL



POSITION PLATE DETAIL



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

NOT SEOR

SHEET TITLE: TRACK TO COMPONENT CONNECTION
POSITION PLATE

ABBOTT AUTOMATION SOLUTIONS
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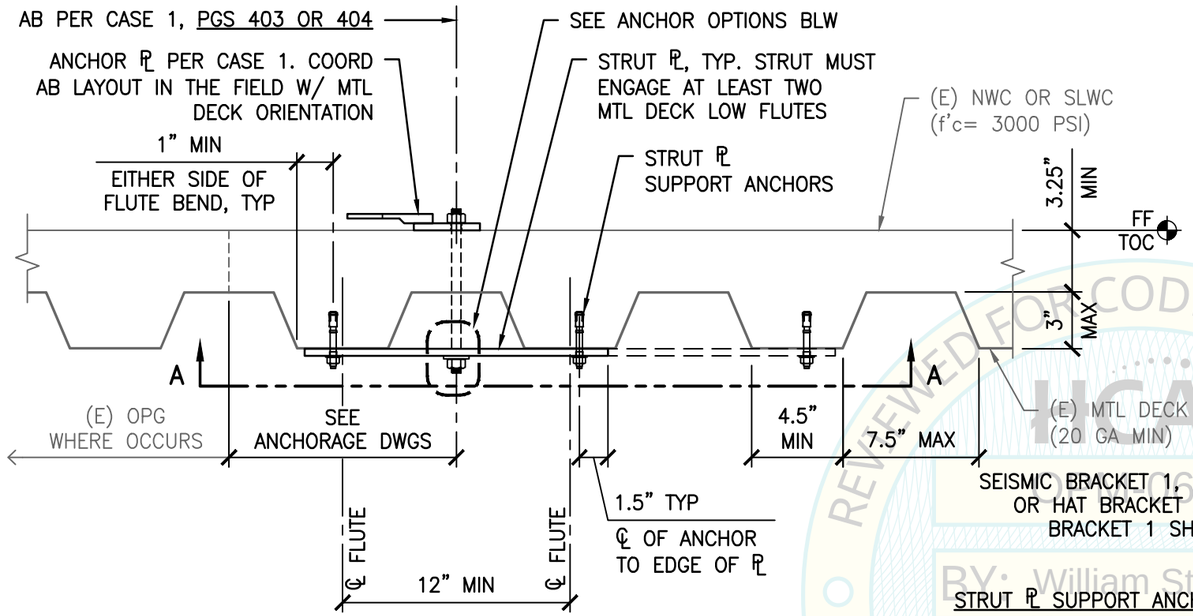
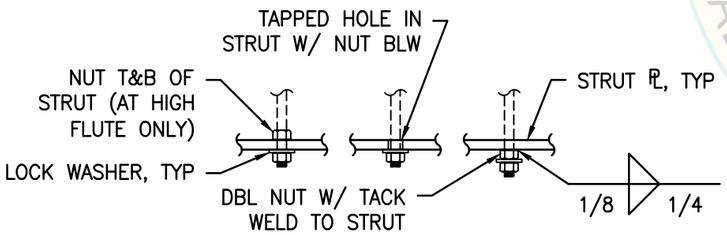
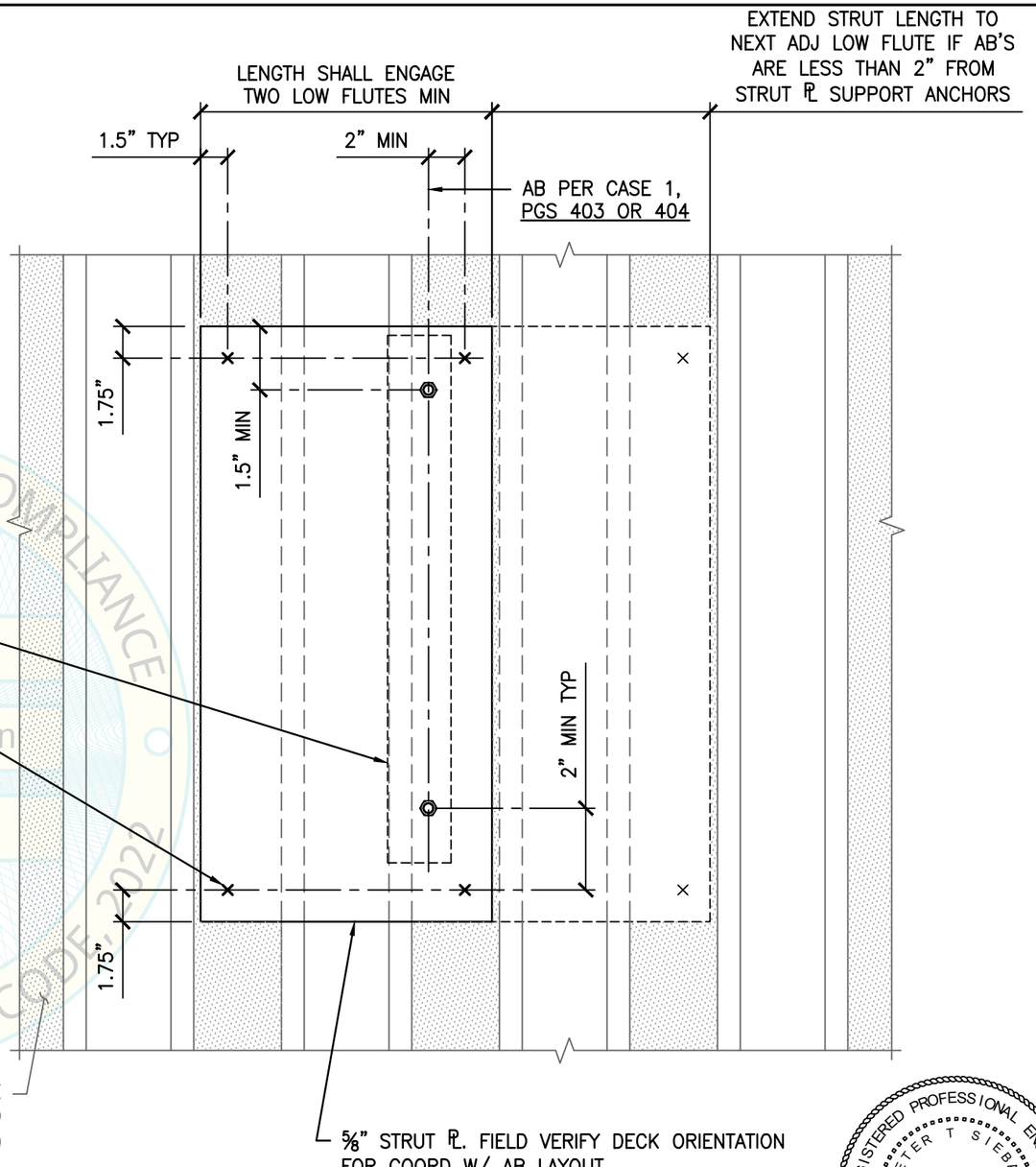
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	322





ANCHOR OPTIONS



SECTION A–A

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

NOT SEOR

SHEET TITLE: CASE 1 - TYPICAL STRUT DETAILS

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	401

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2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833
TEL (916) 920-2020
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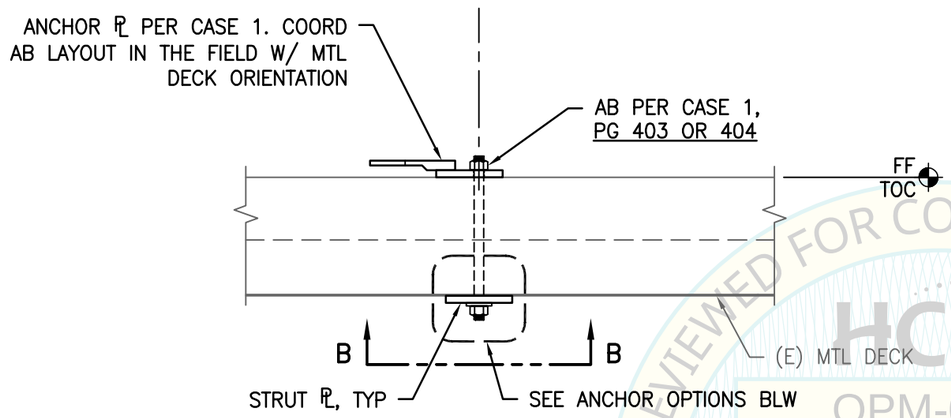
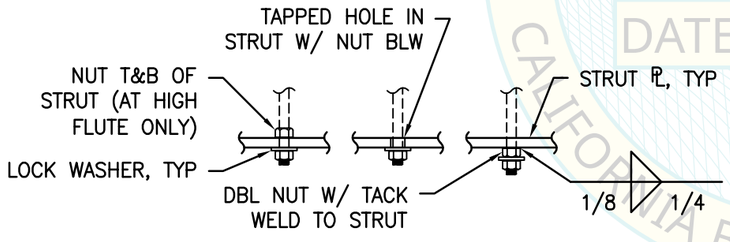
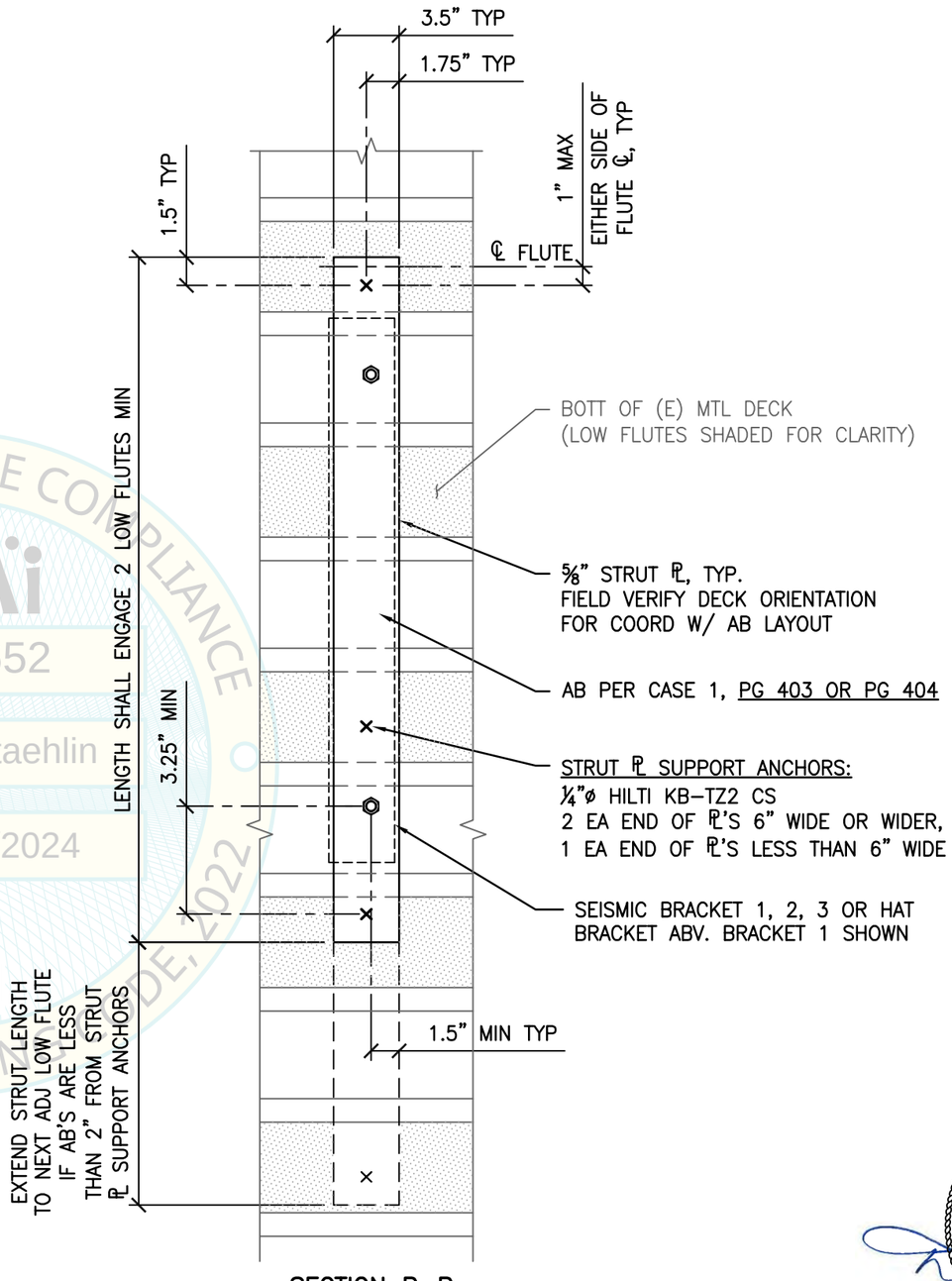
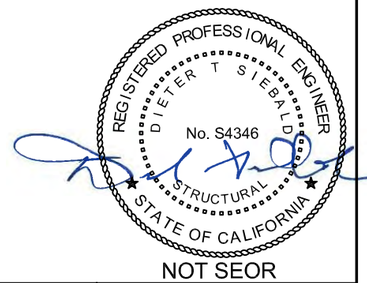




ANCHOR OPTIONS



SECTION B-B



NOT SEOR

SHEET TITLE: CASE 1 - TYPICAL STRUT DETAILS

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	402

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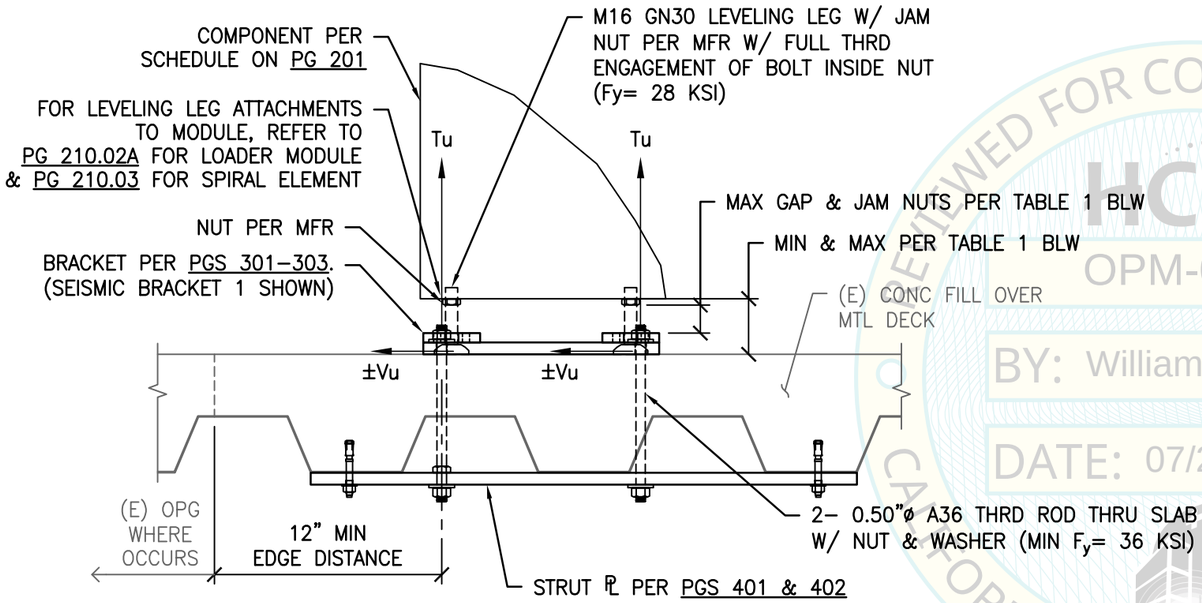
MAX ANCHOR FORCES AT LRFD AT EA AB[1]		
BRACKET	Tu	Vu
1	1215#	413#
2	1119#	587#
3	0#	426#

OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO Vu FOR ANCHORAGE TO CONC. FOR A BREAKDOWN, REFER TO INDIVIDUAL COMPONENTS.

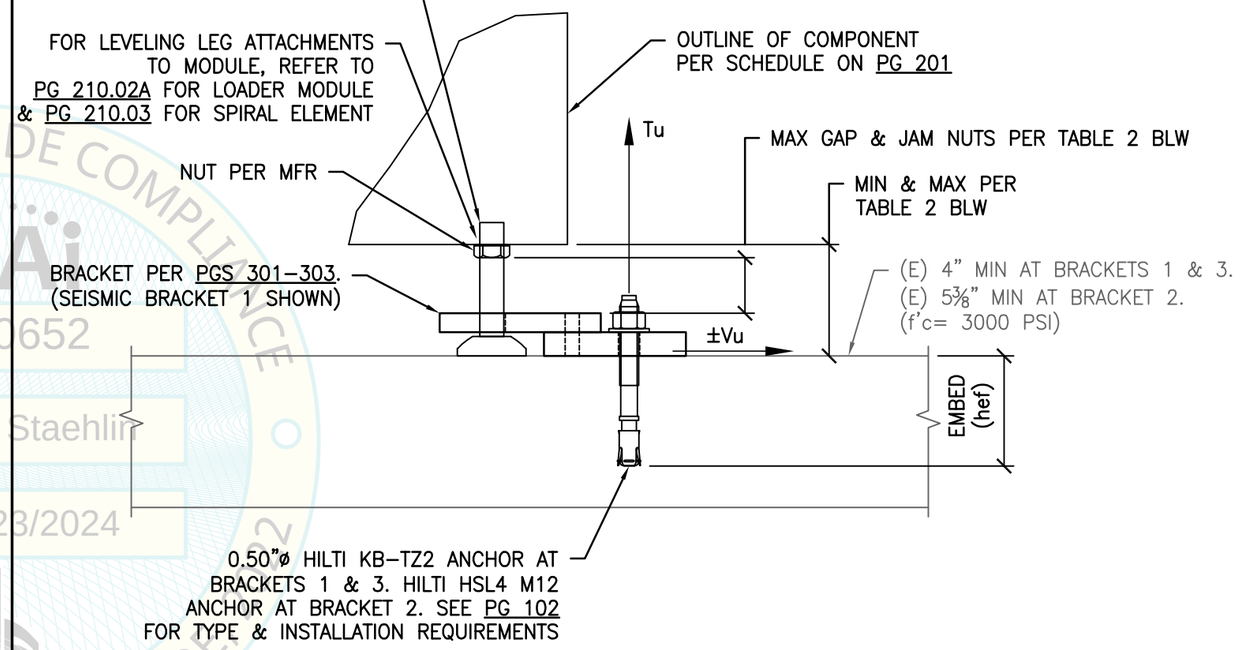


CASE 1 – SUSPENDED FLR W/ THRU–BOLTS

BRACKET #	TABLE 1	MIN	MAX	MAX GAP & JAM NUT SIZE (mm)
1	LOADER MODULE	2.52" (64)	2.83" (72)	8mm
2	STORAGE	4.13" (105)		N/A
3	SPIRAL ELEMENT	0.68" (17.25)	1.68" (4.25)	6mm

MAX ANCHOR FORCES AT LRFD AT EA AB[1]		
BRACKET	Tu	Vu
1	718#	249#
2	1119#	587#
3	0#	240#

OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO Vu FOR ANCHORAGE TO CONC. FOR A BREAKDOWN, REFER TO INDIVIDUAL COMPONENTS.



CASE 2 – SOG

(SLAB AT OR BLW GRADE)

BRACKET #	TABLE 1	EMBED, h_{ef}		MAX GAP & JAM NUT SIZE (mm)
		MIN	MAX	
1	LOADER MODULE	2.52" (64)	2.83" (72)	8mm
2	STORAGE	4.13" (105)		N/A
3	SPIRAL ELEMENT	0.68" (17.25)	1.68" (4.25)	6mm

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

NOT SEOR

SHEET TITLE: CASE 1 & 2 SEISMIC BRACKETS 1,2 & 3

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	403

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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SACRAMENTO, CA 95833
TEL (916) 920-2020
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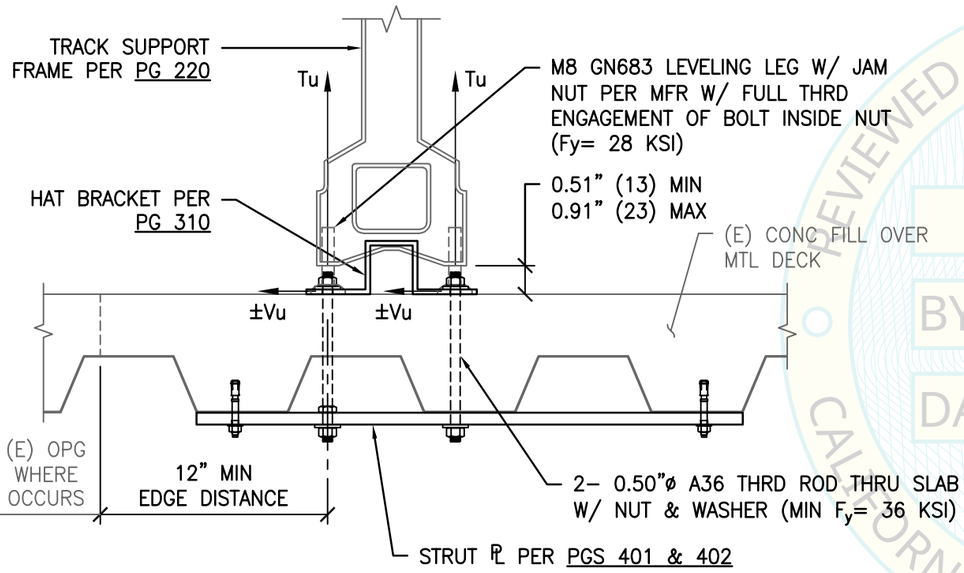
MAX ANCHOR FORCES AT LRFD AT EA AB[1]	
Tu	Vu
778#	129#

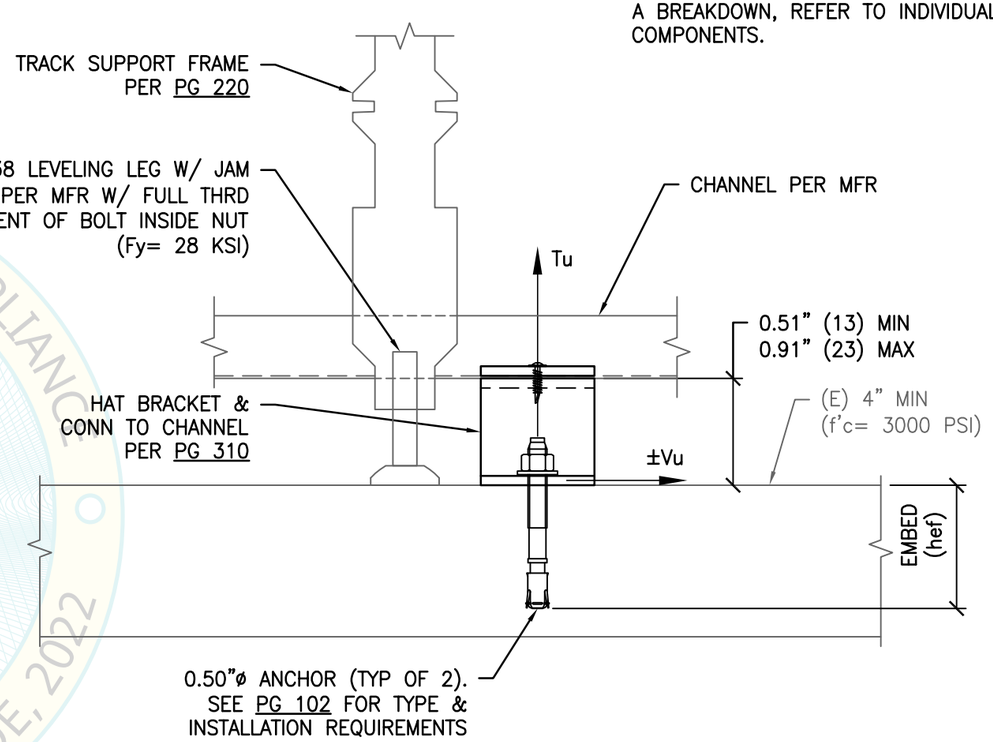
OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO Vu FOR ANCHORAGE TO CONC.
[1]VALUES ARE NON-CONCURRENT. FOR A BREAKDOWN, REFER TO INDIVIDUAL COMPONENTS.



CASE 1 – SUSPENDED FLR W/ THRU-BOLTS

MAX ANCHOR FORCES AT LRFD AT EA AB[1]	
Tu	Vu
433#	73#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)
[1]VALUES ARE NON-CONCURRENT. FOR A BREAKDOWN, REFER TO INDIVIDUAL COMPONENTS.



CASE 2 – SOG

(SLAB AT OR BLW GRADE)

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

NOT SEOR

SHEET TITLE: CASE 1 & 2 - SEISMIC HAT BRACKET

Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	404

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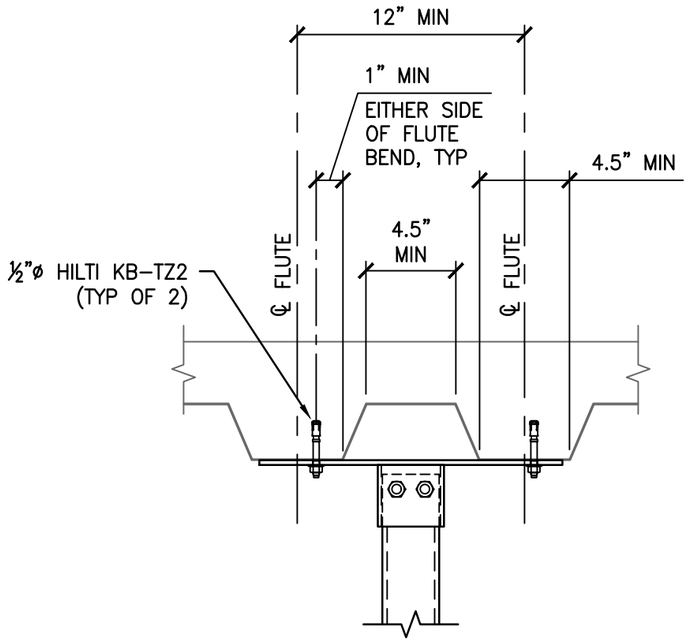
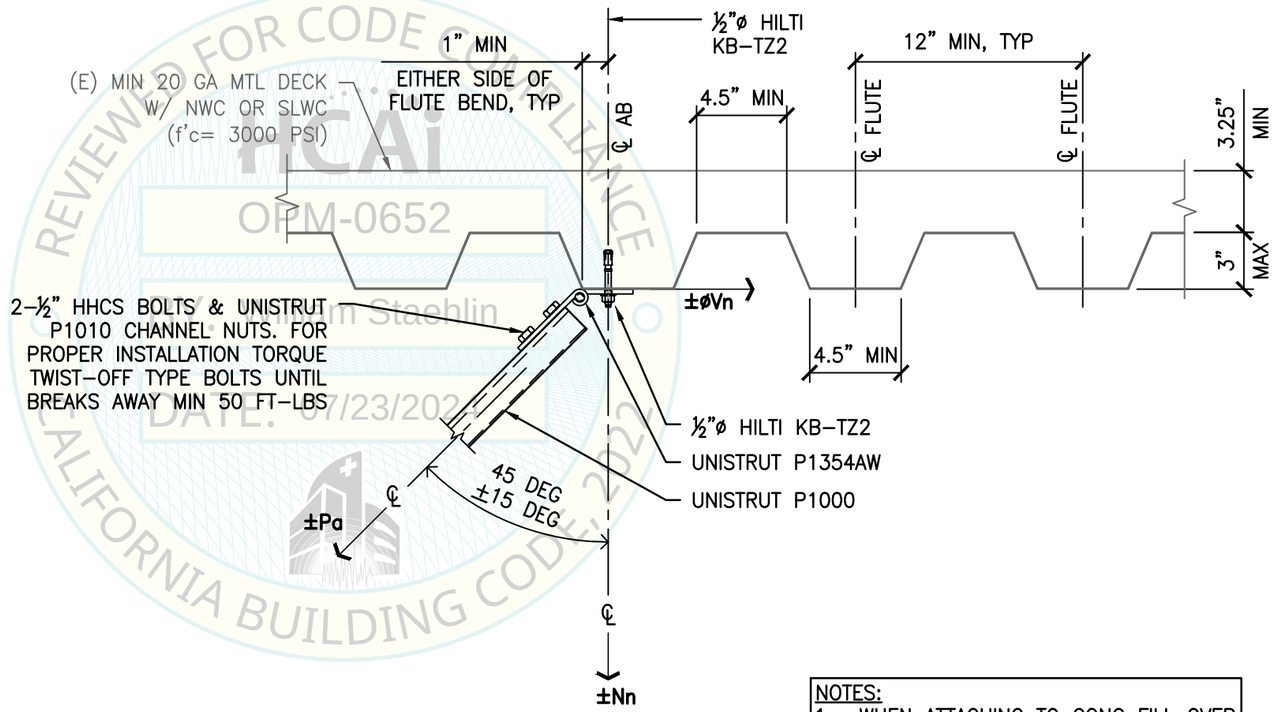
MAX ANCHOR FORCES AT LRFD	
T_{max}	V_{max}
954#	551#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.





NOTES:
1. WHEN ATTACHING TO CONC FILL OVER MTL DECK, ANCHORS MUST BE INSTALLED IN LOWER FLUTE OF DECK.
2. DTL IS TYP FOR LONGITUDINAL & TRANSVERSE BRACES.
3. DTL MAY BE USED FOR BOTH CASE 1 & 2 LOCATIONS.

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

NOT SEOR

SHEET TITLE: ELEVATED TRACKS
SUPPORT & ATTACHMENT DETAILS TO UNDERSIDE OF MTL DECK W/ CONC FILL. BRACE STRUTS PERP TO DECK

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
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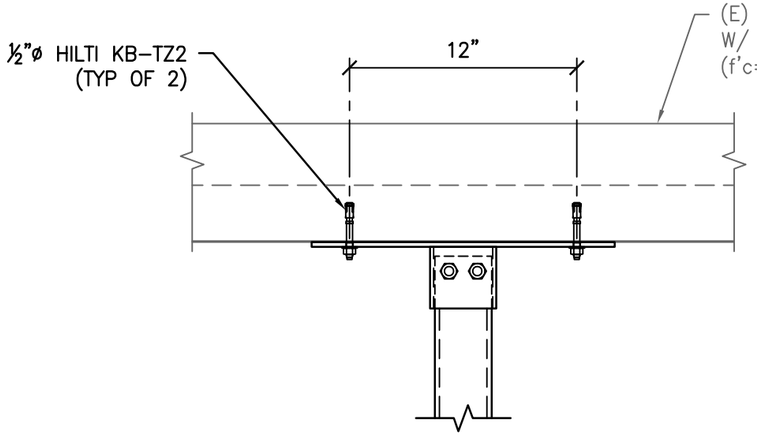
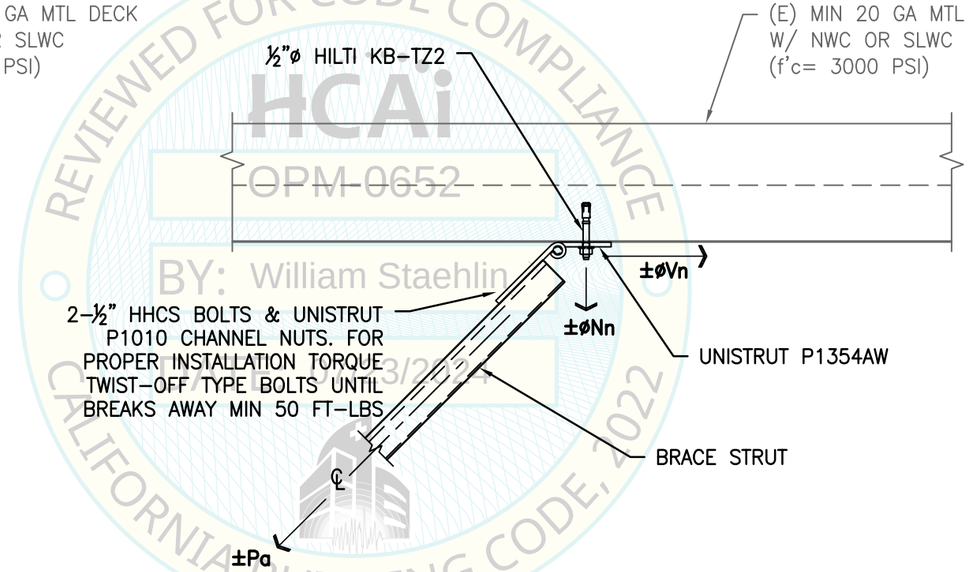
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	501

MAX ANCHOR FORCES AT LRFD	
T_{max}	V_{max}
954#	551#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.





NOTES:
1. WHEN ATTACHING TO CONC FILL OVER MTL DECK, ANCHORS MUST BE INSTALLED IN LOWER FLUTE OF DECK.
2. DTL IS TYP FOR LONGITUDINAL & TRANSVERSE BRACES.
3. DTL MAY BE USED FOR BOTH CASE 1 & 2 LOCATIONS.
4. SEE PG 501 FOR INFO NOT SHOWN.

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

NOT SEOR

SHEET TITLE: ELEVATED TRACKS
SUPPORT & ATTACHMENT DETAILS TO UNDERSIDE OF MTL DECK W/ CONC FILL. BRACE STRUTS PARALLEL TO DECK

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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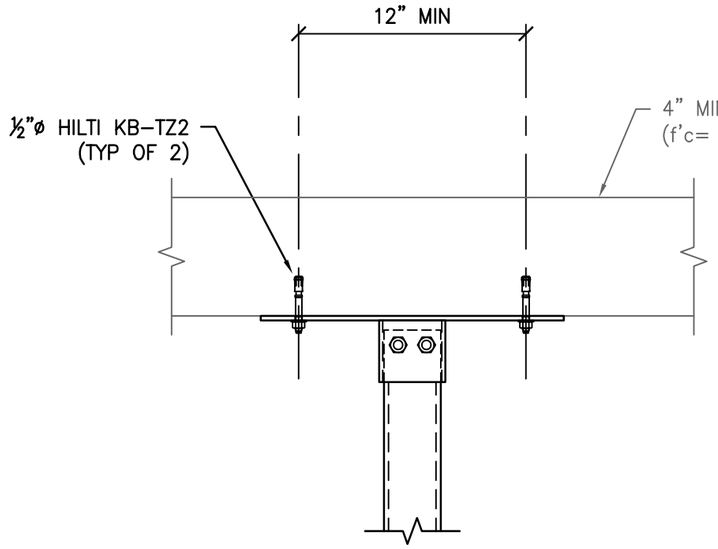
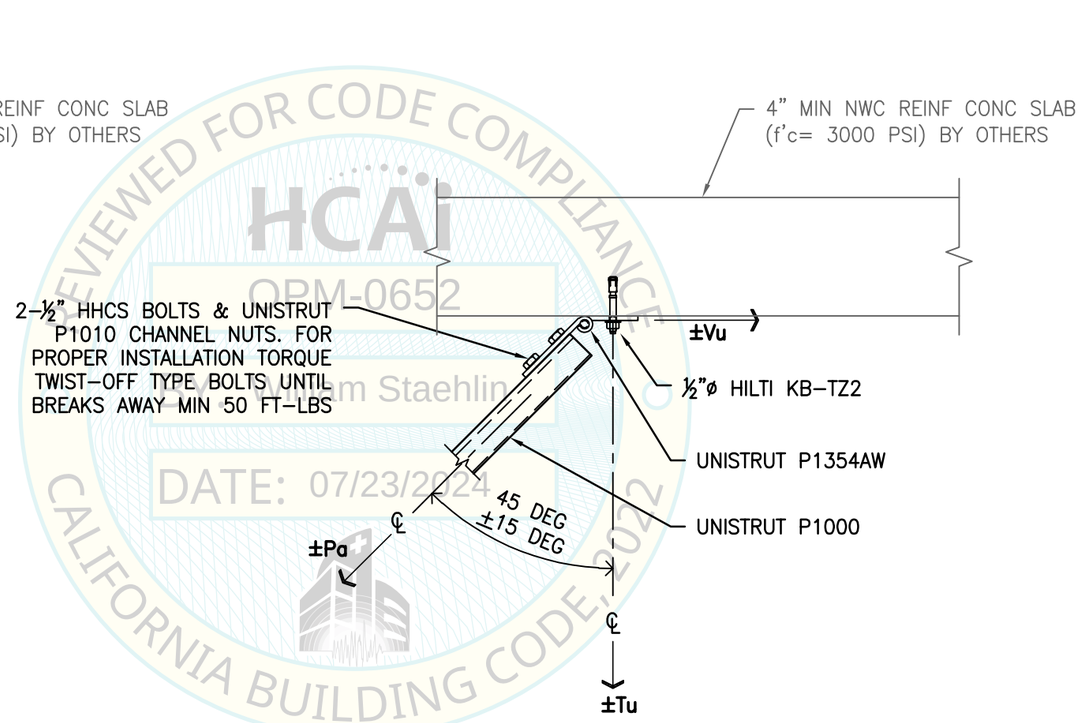
Rev	Description	Date

Job No:	20097.005
Date:	07/11/2024
By:	CYS
Page:	502

MAX ANCHOR FORCES AT LRFD	
T_{max}	V_{max}
954#	551#

1. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
2. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.





NOTES:
1. DTL IS TYP FOR LONGITUDINAL & TRANSVERSE BRACES.
2. DTL MAY BE USED FOR BOTH CASE 1 & 2 LOCATIONS.

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

NOT SEOR

SHEET TITLE: ELEVATED TRACKS
SUPPORT & ATTACHMENT DETAILS TO UNDERSIDE OF CONCRETE FLOOR OR ROOF

ABBOTT AUTOMATION SOLUTIONS
ARCHIVE II, SPIRAL ELEMENT & ELEVATED TRACKS
SUPPORTS & ATTACHMENTS

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Page:	503