



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-0537

HCAI Preapproval of Manufacturer's Certification (OPM)

Type:  New  Renewal/Update

Manufacturer Information

Manufacturer:   Sysmex America, Inc.  

Manufacturer's Technical Representative:   Jason Anderson  

Mailing Address:   577 Aptakistic Road, Lincolnshire, IL 60669  

Telephone:   (801) 703-1487  

Email:   andersonja@sysmex.com  

Product Information

Product Name:   UN Series System  

Product Type:   Automated Urinalysis System  

Product Model Number:   Components: Clinitek Novus, UF-5000, UD-10, ST-10, ST-11, ST-12, TH-11; Supports: WG-13, WG-44, WG-45, WG-46  

General Description:   Fully Automated Urine Analyzers  

Applicant Information

Applicant Company Name:   Sysmex America, Inc.  

Contact Person:   Jason Anderson  

Mailing Address:   577 Aptakistic Road, Lincolnshire, IL 60669  

Telephone:   (801) 703-1487  

Email:   andersonja@sysmex.com  

Title:   Sr. Product Manager  

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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: 7/12/2024  
Name: Timothy Piland Title: Senior Structural Engineer  
Condition of Approval (if applicable): \_\_\_\_\_

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# UN SERIES SYSTEM

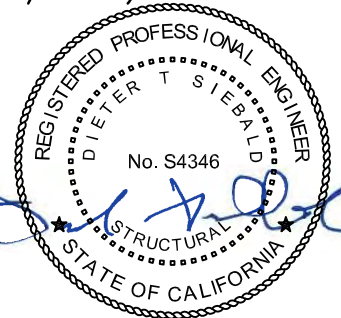


## TABLE OF CONTENTS OPM-0537

	PAGE
GENERAL NOTES .....	2
ABBREVIATIONS .....	4
DESIGN CRITERIA .....	5
CONFIGURATION EXAMPLES .....	6
CONFIGURATION TABLE .....	8
MODULE #1 – PLAN VIEW & ELEVATION .....	9
MODULE #2 – PLAN VIEW & ELEVATION .....	10
MODULE #3 – PLAN VIEW & ELEVATION .....	11
MODULE #4 – PLAN VIEW & ELEVATION .....	12
MODULE #5 – PLAN VIEW & ELEVATION .....	13
MODULE #6 – PLAN VIEW & ELEVATION .....	14
COMPONENT CONNECTIONS TO SUPPORT WAGON FRAMES .....	15
LEVELING LEG DETAILS .....	21
BRACKET LOCATIONS .....	24
BRACKET DETAILS .....	25
ATTACHMENT DETAILS THRU CONC FILL OVER MTL DECK (CASE 1) .....	26
ATTACHMENT DETAILS INTO CONC FILL OVER MTL DECK (CASE 2) .....	28
ATTACHMENT DETAILS TO 4" CONC SLAB ON GRADE (CASE 3) .....	30
MODULE #5 ALTERNATE OPTION – PLAN VIEW & ELEVATION .....	31
MODULE #5 ALTERNATE OPTION – PLAN VIEW & ELEVATION .....	32

**NOTES:**

1. THESE DRAWINGS ARE PREPARED FOR SYSMEX AMERICA, INC., LINCOLNSHIRE, ILLINOIS.
2. THE CONTRACTOR & INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE STATE OF CALIFORNIA HEALTH CARE ACCESS AND INFORMATION (HCAI/OSHPD) PRE-APPROVAL PROGRAMS WEBSITE.
3. THIS PRE-APPROVAL COVERS THE SUPPORTS & ATTACHMENTS OF THE EQUIPMENT TO THE SUPPORTING STRUCTURE. THE EQUIPMENT, SUPPORT & ATTACHMENT HARDWARE ARE SUPPLIED BY THE MANUFACTURER. THE EXPANSION ANCHORS, THRU-BOLTS & STRUT PLATES SHOWN IN THIS OPM SHALL BE SUPPLIED & INSTALLED BY THE CONTRACTOR.



SHEET TITLE: TABLE OF CONTENTS



**CYS STRUCTURAL ENGINEERS, INC.**

2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

Job No:	23050
Date:	06-10-2024
Page:	1 of 33

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# UN SERIES SYSTEM



## GENERAL NOTES:

1. THIS HCAI 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 SEOR FOR A SITE SPECIFIC PROJECT TO VERIFY:
  - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES & WT SPECIFIED FOR EA 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 OPGS.
  - C. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPCG SHOWN IN THE EXPANSION ANCHOR TABLE ON PG 3 IS THE REQ MIN SPCG OF THE GIVEN DIA ANCHORS. THE REQ SPCG FROM ANCHORS OF OTHER DIAMETERS & EMBEDMENTS MAY VARY & SHALL BE EVALUATED BY THE SEOR.
  - D. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE CBC 2022 & W/ THE DETAILS SHOWN IN THIS PRE-APPROVAL.
  - E. THAT THE ACTUAL EQUIP'S WT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, & THE MATERIAL & GAGE OF THE EQUIP WHERE ATTACHMENTS ARE MADE, AGREE W/ THE INFO 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. EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE STAINLESS STEEL HILTI KB-TZ2 EXPANSION ANCHORS AS NOTED COMPLYING W/ ESR-4266 REISSUED DECEMBER 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 EXPANSION ANCHOR TABLE ON PG 3.
  - B. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOBSITE TESTING IN ACCORDANCE W/ THE EXPANSION ANCHOR TABLE PROVIDED IN THIS DOCUMENT. TORQUE TEST 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 HCAI. 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 NUT SHALL BE RETORQUED TO INSTALLATION TORQUE AFTER EQUIPMENT INSTALL. ALSO REFER TO 2022 CBC 1910A.5 "TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE". REPORT OF TEST RESULTS SHALL BE SUBMITTED TO HCAI.
  - C. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
    - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS:  
WEDGE TYPE: ONE-HALF ( $\frac{1}{2}$ ) TURN OF THE NUT.
  - D. AVOID DAMAGING (E) STL REINF IN CONC SLAB WHEN INSTALLING CONC EXPANSION ANCHORS.
  - E. PROVIDE FOR FULL THRD ENGAGEMENT OF NUT & WASHER.
4. BOLTS THRU CONC ON MTL DECK:
  - A. BOLTS SHALL BE TORQUED BY  $\frac{3}{4}$  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.
  - B. THRU-BOLT HOLES SHALL BE  $\frac{1}{16}$ " LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE +  $\frac{1}{16}$ ").
  - C. THRU-BOLTS IN CONC SHALL RECEIVE SPECIAL INSPECTION & TESTING IN ACCORDANCE W/ REQUIREMENTS FOR POST-INSTALLED ANCHORS. THRU-BOLTS W/ STL TO STL CONN IN TENSION DO NOT REQUIRE TESTING.



SHEET TITLE: GENERAL NOTES



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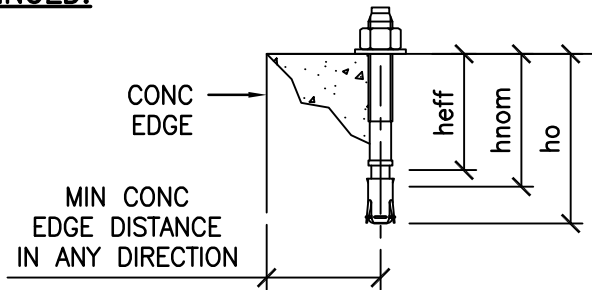
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Job No:	23050
Date:	06-10-2024
Page:	2 of 33

# UN SERIES SYSTEM



## GENERAL NOTES CONTINUED:



## EXPANSION ANCHOR TABLE

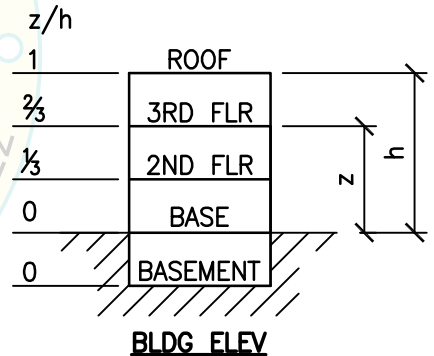
CONDITION OF ANCHORAGE	ANCHOR DIA & TYPE (INCH)	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONCRETE THK (INCH) h	MIN CONCRETE EDGE DISTANCE (INCH)	MIN ANCHOR SPCG (INCH)	TEST TORQUE (FT-LBS)
CASE 1 (STRUT P'S)	3/8 KB-TZ2	1 7/8	1 1/2	2	3/4	6	SEE PG 28	30
CASE 2	1/2 KB-TZ2	2 1/2	2	2 3/4	3/4	8	3	40
CASE 3	1/2 KB-TZ2	2 1/2	2	2 3/4	4	8	3	40

5. THREE (3) 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 3/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STEEL THRD ROD THRU CONCRETE & MTL DECK. STRUT P EXPANSION ANCHORS SHALL BE 304 OR 316 SS INTO DECK FLUTES.

**CASE 2:** ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). EXPANSION ANCHORS SHALL BE 304 OR 316 SS & INTO CONCRETE OVER MTL DECK.

**CASE 3:** 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). EXPANSION ANCHORS SHALL BE 304 OR 316 SS INTO CONCRETE SLAB.



**BLDG ELEV**



SHEET TITLE: GENERAL NOTES (CONTINUED)

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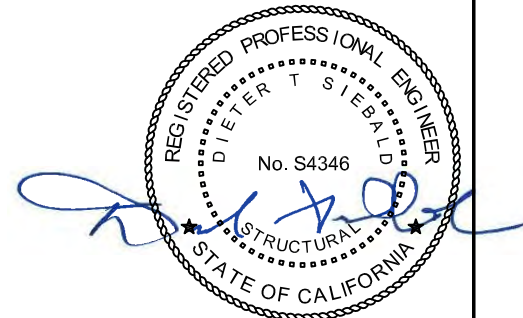
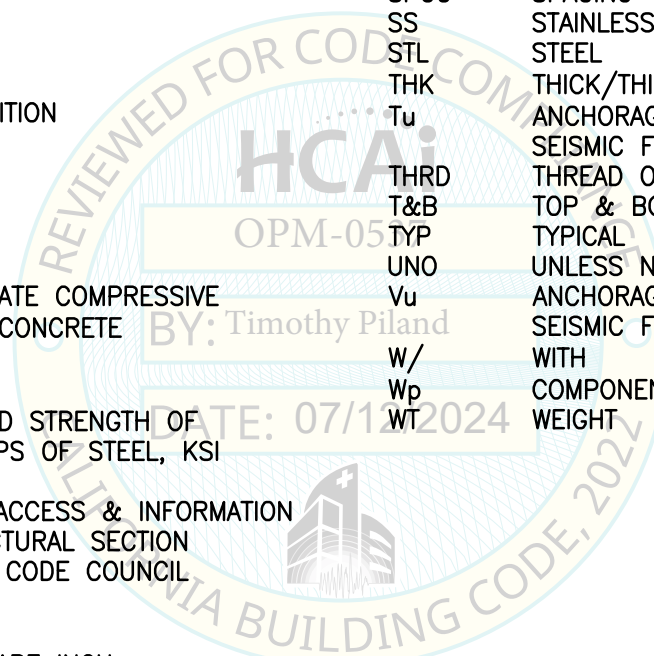
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# UN SERIES SYSTEM



## ABBREVIATIONS:

@	AT	NO. (#)	NUMBER OR POUNDS
AB	ANCHOR BOLT	NWC	NORMAL WEIGHT CONCRETE
ABV	ABOVE	OP	OPERATING
ADJ	ADJACENT	OPG	OPENING
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	OPM	HCAI PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION
BLDG	BUILDING	PERP	PERPENDICULAR
BLW	BELOW	PG	PAGE
BOTT	BOTTOM	PL	PLATE
BYD	BEYOND	PSI	POUNDS PER SQUARE INCH
CBC	CALIFORNIA BUILDING CODE	REQ	REQUIRED
CG	CENTER OF GRAVITY	SEOR	STRUCTURAL ENGINEER OF RECORD
CL	CENTERLINE	SIM	SIMILAR
CONC	CONCRETE	SLWC	SAND-LIGHTWEIGHT CONCRETE
CONN	CONNECTION	SPCG	SPACING
COORD	COORDINATE	SS	STAINLESS STEEL
DBL	DOUBLE	STL	STEEL
DTL(S)	DETAIL(S)	THK	THICK/THICKNESS
DIA (φ)	DIAMETER	Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE AT LRFD
(E)	EXISTING CONDITION	THRD	THREAD OR THREADED
EA	EACH	T&B	TOP & BOTTOM
EE	EACH END	TYP	TYPICAL
ELEV	ELEVATION	UNO	UNLESS NOTED OTHERWISE
EQ	EQUAL	Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE AT LRFD
EQUIP	EQUIPMENT	W/	WITH
f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE	Wp	COMPONENT OPERATING WEIGHT
FLR	FLOOR	WT	WEIGHT
FT (')	FOOT/FEET		
Fy	SPECIFIED YIELD STRENGTH OF REINFORCING, PS OF STEEL, KSI		
GA	GAUGE		
HCAI	HEALTH CARE ACCESS & INFORMATION		
HSS	HOLLOW STRUCTURAL SECTION		
ICC	INTERNATIONAL CODE COUNCIL		
IN (")	INCH		
INFO	INFORMATION		
KSI	KIPS PER SQUARE INCH		
LBS	POUNDS		
LRFD	LOAD & RESISTANCE FACTOR DESIGN		
MAX	MAXIMUM		
MIN	MINIMUM		
mm	MILLIMETER		
MOD	MODULE		
MTL	METAL		



SHEET TITLE: ABBREVIATIONS

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## DESIGN CRITERIA:

1. 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 INCL SUPPLEMENT #1 & ERRATA:

$$q_p = 1.0 \quad R_p = 1.5 \quad I_p = 1.5 \quad \Omega_0 = 1.5 \text{ (FOR CONC ANCHORS ONLY)}$$

$W_p$  AS NOTED ON DRAWINGS

UPPER FLRS ABV THE BASE OF BLDG

CASE 1:	$S_{DS} \leq 1.40$	$F_p = 1.12 W_p$	$z/h \leq 0.50$
CASE 2:	$S_{DS} < 0.80$	$F_p = 0.80 W_p$	$z/h \leq 0.75$

FLRS AT OR BLW THE BASE OF BLDG

CASE 3:	$S_{DS} \leq 2.50$	$F_p = 1.13 W_p$	$z/h = 0$
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LOAD COMBINATIONS

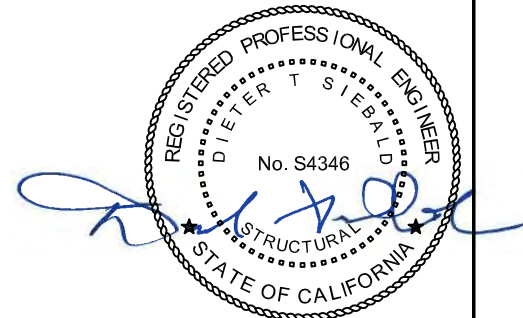
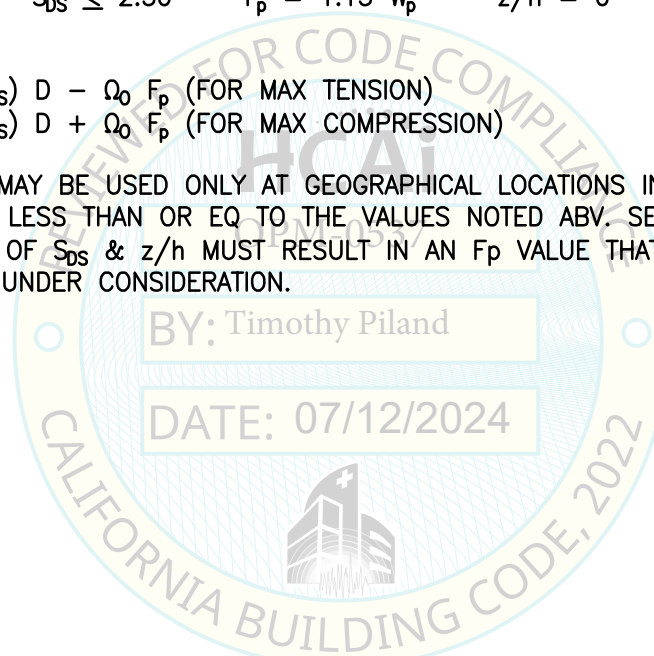
$(0.9 - 0.2 S_{DS}) D - \Omega_0 F_p$  (FOR MAX TENSION)

$(1.2 + 0.2 S_{DS}) D + \Omega_0 F_p$  (FOR MAX COMPRESSION)

2. THIS PRE-APPROVAL MAY BE USED ONLY AT GEOGRAPHICAL LOCATIONS IN THE STATE OF CALIFORNIA WHERE  $S_{DS}$  &  $z/h$  IS LESS THAN OR EQ TO THE VALUES NOTED ABV. SEOR SHALL VERIFY THAT OTHER COMBINATIONS OF  $S_{DS}$  &  $z/h$  MUST RESULT IN AN  $F_p$  VALUE THAT IS EQ TO OR LESS THAN  $F_p$  FORCE FOR CASE UNDER CONSIDERATION.

BY: Timothy Piland

DATE: 07/12/2024



SHEET TITLE: DESIGN CRITERIA



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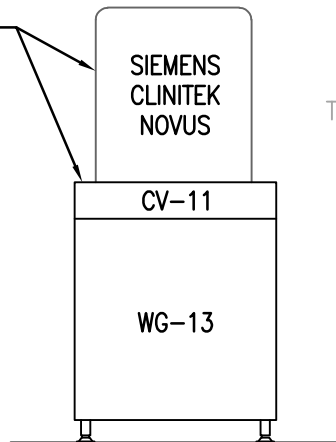
Job No:	23050
Date:	06-10-2024
Page:	5 of 33

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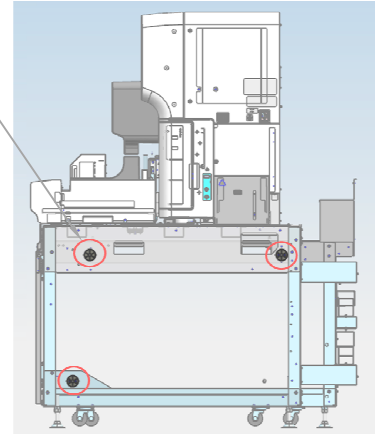
# UN SERIES SYSTEM



TOP COMPONENTS ATTACHED BY MFR



SEE MODULE INTERCONNECTION DTL, TYP OF 3 PER MODULE

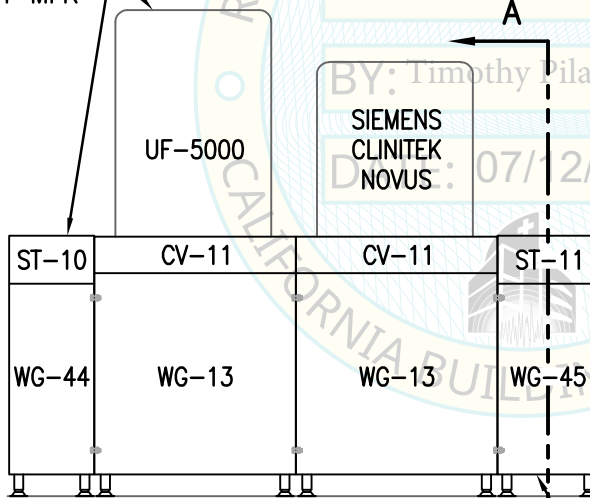


MODULE INTERCONNECTION POINTS  
SECTION A-A

**MOD #1**

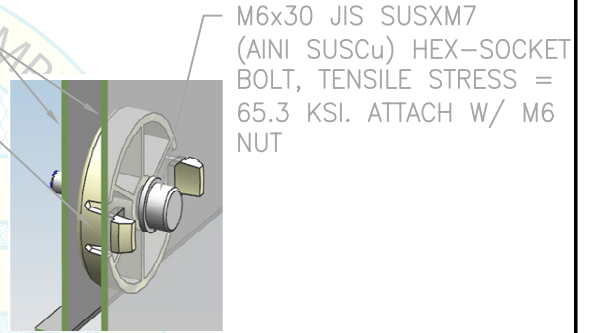
**CONFIGURATION #1 - ELEV**

TOP COMPONENTS ATTACHED BY MFR



MODULE FRAME

ABS PLASTIC SPACER



M6x30 JIS SUSXM7 (AINI SUSCu) HEX-SOCKET BOLT, TENSILE STRESS = 65.3 KSI. ATTACH W/ M6 NUT

MODULE INTERCONNECTION DETAIL

**NOTES:**

1. SEE PG 8 FOR TABLE LISTING CONFIGURATIONS.
2. MODULES W/ AN "\*" INDICATES THAT THESE ARE OPTIONAL.

**MOD #4\***

**MOD #2**

**MOD #1**

**MOD #5\***

MODULE 5 ALTERNATE: TH-11 OVER WG-46

**CONFIGURATION #5 - ELEV**



SHEET TITLE: CONFIGURATION EXAMPLES



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Job No:	23050
Date:	06-10-2024
Page:	6 of 33

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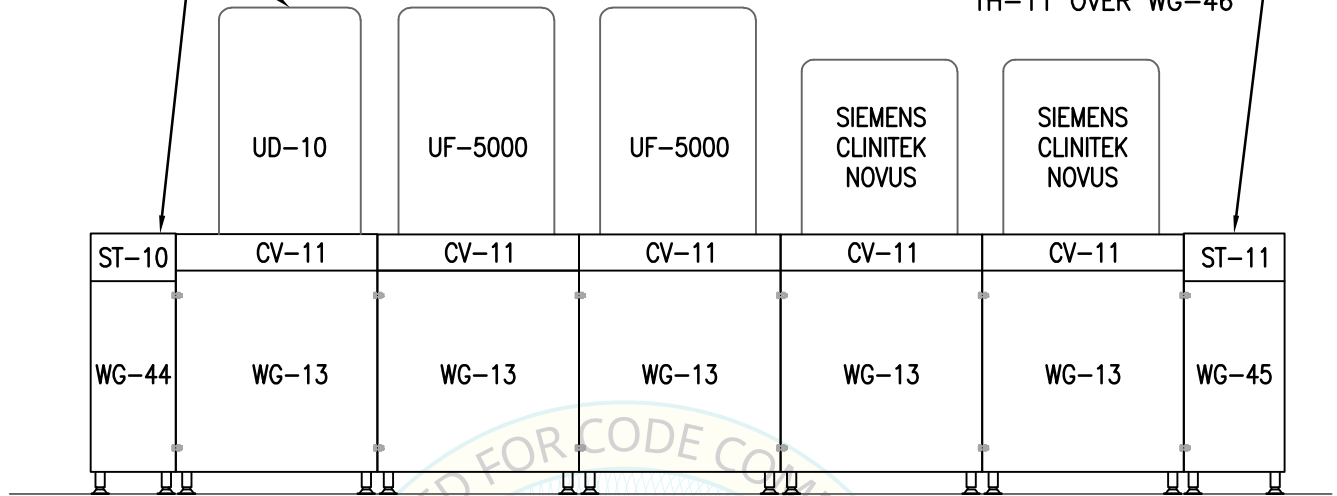


# UN SERIES SYSTEM



TOP COMPONENTS ATTACHED BY MFR, TYP

MODULE 5 ALTERNATE:  
TH-11 OVER WG-46



**MOD #4\***      **MOD #3**      **MOD #2**      **MOD #2**      **MOD #1**      **MOD #1**      **MOD #5\***

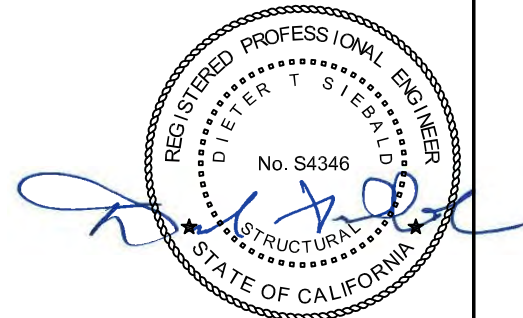
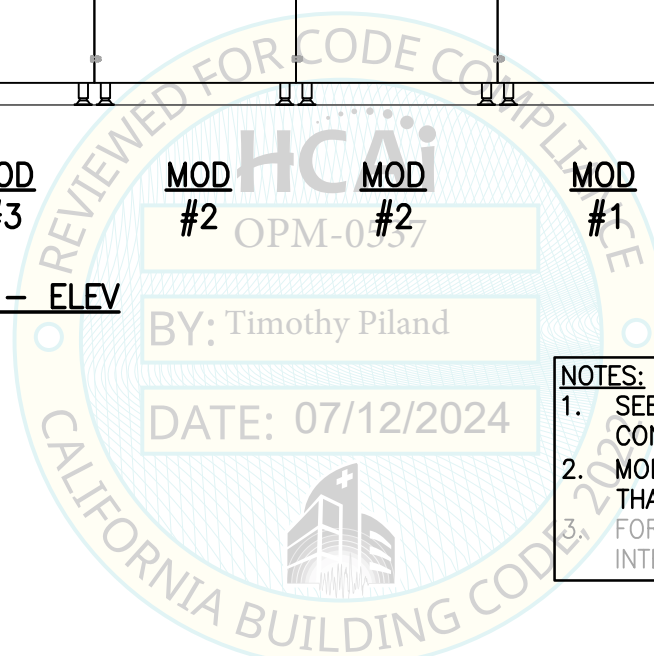
**CONFIGURATION #9 - ELEV**

BY: Timothy Piland

DATE: 07/12/2024

**NOTES:**

1. SEE PG 8 FOR TABLE LISTING CONFIGURATIONS.
2. MODULES W/ AN "\*" INDICATES THAT THESE ARE OPTIONAL.
3. FOR MODULE INTERCONNECTIONS, SEE PG 6.



SHEET TITLE: CONFIGURATION EXAMPLES



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Job No: 23050  
Date: 06-10-2024  
Page: 7 of 33

# UN SERIES SYSTEM

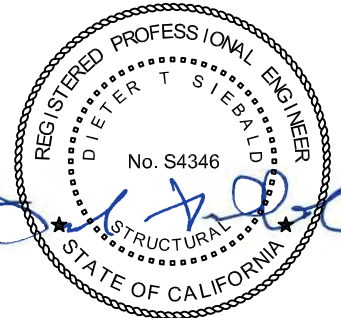


		CONFIGURATION MATRIX							
CONFIGURATION 1	MODULE #	1							
	COMPONENT(S)	SIEMENS CLINTEK NOVUS CV-11							
	WAGON	WG-13							
CONFIGURATION 2	MODULE #	2							
	COMPONENT(S)	UF-5000 CV-11							
	WAGON	WG-13							
CONFIGURATION 3	MODULE #	3							
	COMPONENT(S)	UD-10 CV-11							
	WAGON	WG-13							
CONFIGURATION 4	MODULE #	2	1						
	COMPONENT(S)	UF-5000 CV-11	SIEMENS CLINTEK NOVUS CV-11						
	WAGON	WG-13	WG-13						
CONFIGURATION 5	MODULE #	4*	2	1	5*				
	COMPONENT(S)	ST-10 WG-44	UF-5000 WG-13	SIEMENS CLINTEK NOVUS CV-11	ST-11 WG-45				
	WAGON	WG-44	WG-13	WG-13	WG-45				
CONFIGURATION 6	MODULE #	2	1	6*					
	COMPONENT(S)	UF-5000 CV-11	SIEMENS CLINTEK NOVUS CV-11	ST-12					
	WAGON	WG-13	WG-13	WG-45					
CONFIGURATION 7	MODULE #	4*	3	2	1	5*			
	COMPONENT(S)	ST-10 WG-44	UD-10 WG-13	UF-5000 WG-13	SIEMENS CLINTEK NOVUS CV-11	ST-11 WG-13			
	WAGON	WG-44	WG-13	WG-13	WG-13	WG-45			
CONFIGURATION 8	MODULE #	3	2	1	6*				
	COMPONENT(S)	UD-10 CV-11	UF-5000 CV-11	SIEMENS CLINTEK NOVUS CV-11	ST-12				
	WAGON	WG-13	WG-13	WG-13	WG-45				
CONFIGURATION 9	MODULE #	4*	3	2	2	1	1	5*	
	COMPONENT(S)	ST-10 CV-11	UD-10 CV-11	UF-5000 CV-11	UF-5000 CV-11	SIEMENS CLINTEK NOVUS CV-11	SIEMENS CLINTEK NOVUS CV-11	ST-11	
	WAGON	WG-44	WG-13	WG-13	WG-13	WG-13	WG-13	WG-45	
CONFIGURATION 10	MODULE #	3	2	2	1	1	6*		
	COMPONENT(S)	UD-10 CV-11	UF-5000 CV-11	UF-5000 CV-11	SIEMENS CLINTEK NOVUS CV-11	SIEMENS CLINTEK NOVUS CV-11	ST-12		
	WAGON	WG-13	WG-13	WG-13	WG-13	WG-13	WG-45		
CONFIGURATION 11	MODULE #	3	2						
	COMPONENT(S)	UD-10 CV-11	UF-5000 CV-11						
	WAGON	WG-13	WG-13						
CONFIGURATION 12	MODULE #	4*	3	2	5*				
	COMPONENT(S)	ST-10 CV-11	UD-10 CV-11	UF-5000 CV-11	ST-11				
	WAGON	WG-44	WG-13	WG-13	WG-45				
CONFIGURATION 13	MODULE #	3	2	6*					
	COMPONENT(S)	UD-10 CV-11	UF-5000 CV-11	ST-12					
	WAGON	WG-13	WG-13	WG-45					

**NOTES:**

1. MODULES W/ AN "\*" INDICATES THAT THESE ARE OPTIONAL IN THE CONFIGURATION,
2. THE ABV CONFIGURATION MATRIX REPRESENTS KEY EXAMPLES OF UN-SERIES CONFIGURATIONS. THERE MAY BE OTHER CONFIGURATIONS THAT SYSMEX DESIGNS USING THE ABV MODULES FOR SITE SPECIFIC PROJECTS.

MODULE 5 ALTERNATE:  
TH-11 OVER WG-46



SHEET TITLE: CONFIGURATION TABLE



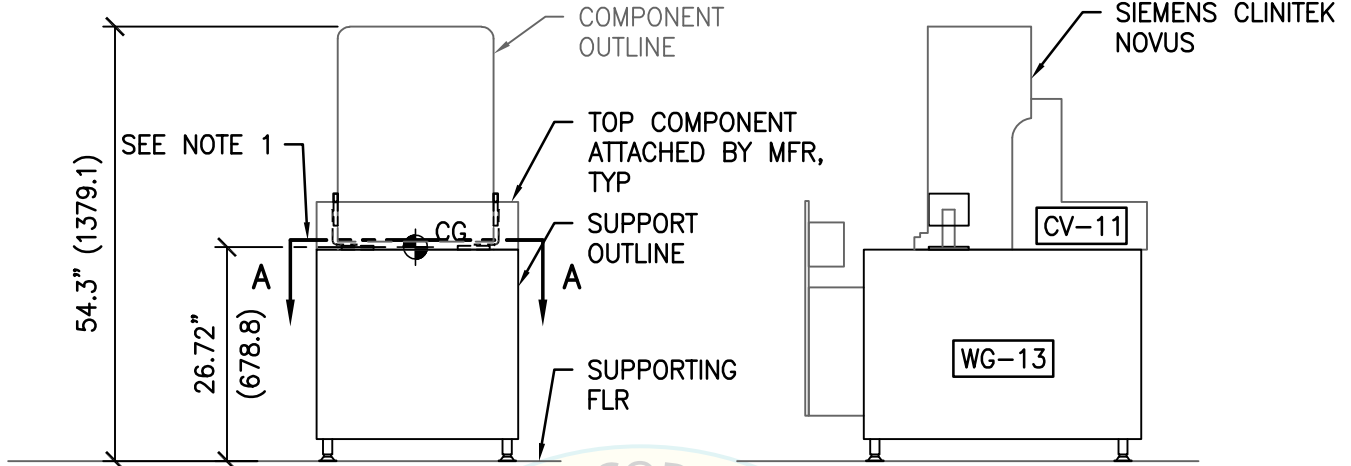
**CYS STRUCTURAL ENGINEERS, INC.**

2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

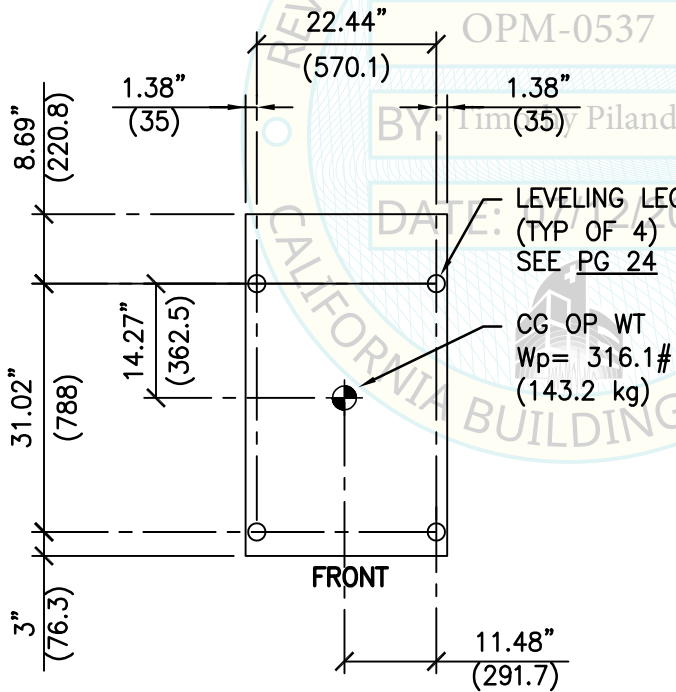
Job No:	23050
Date:	06-10-2024
Page:	8 of 33

# UN SERIES SYSTEM



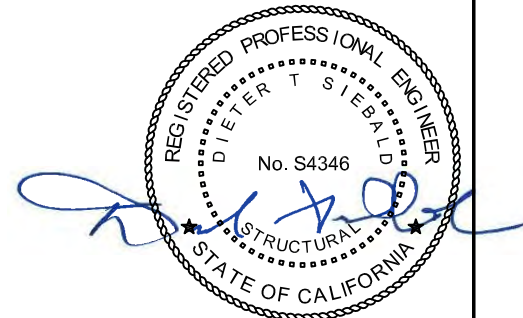
**FRONT ELEV**

**LEFT SIDE ELEV**



**PLAN AT BASE**

- NOTES:**
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 15.
  2. DIMS IN PARENTHESES ARE mm & kg, TYP THIS OPM.
  3. CASTERS ARE NOT SHOWN IN THIS OPM FOR CLARITY, TYP



SHEET TITLE: MODULE #1  
PLAN VIEW & ELEVATION



**CYS STRUCTURAL ENGINEERS, INC.**

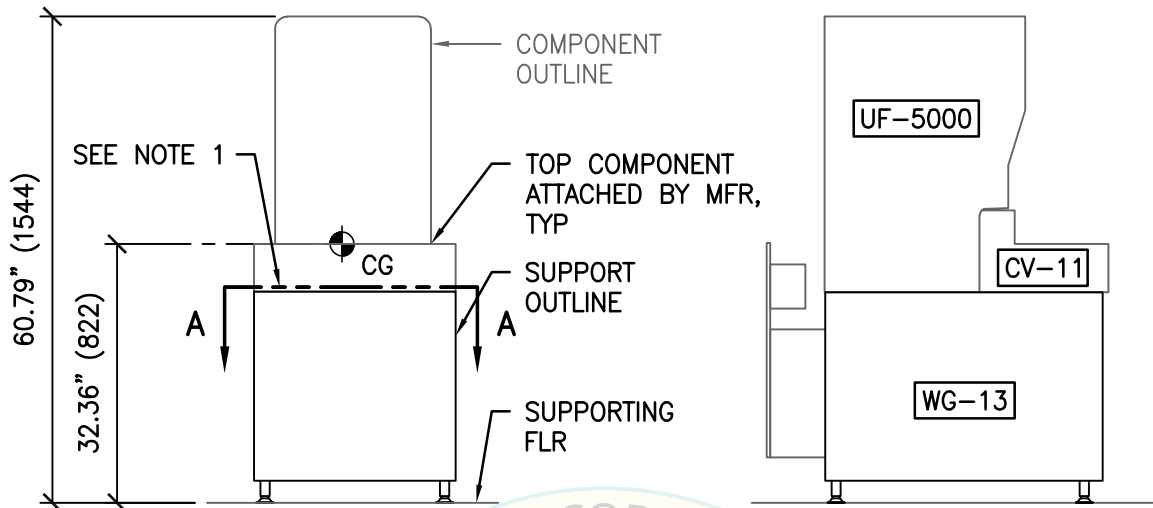
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

TEL (916) 920-2020  
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Job No:	23050
Date:	06-10-2024
Page:	9 of 33

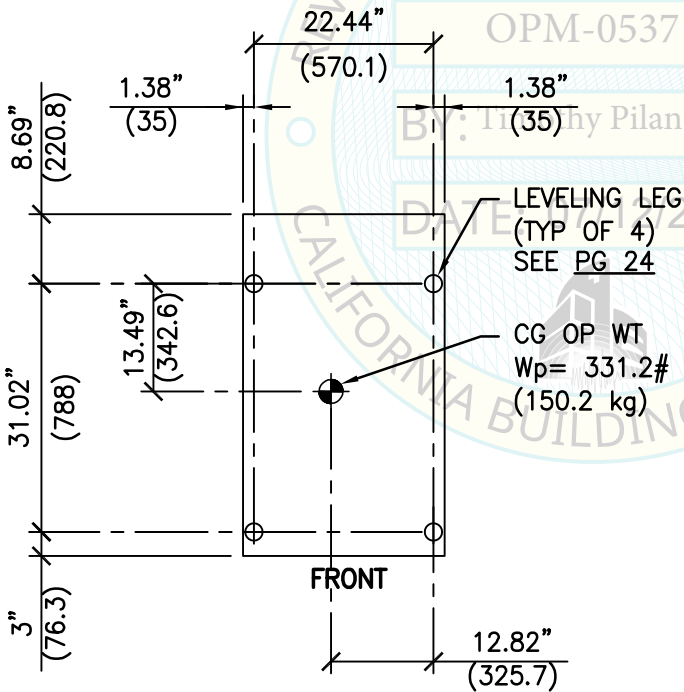
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# UN SERIES SYSTEM



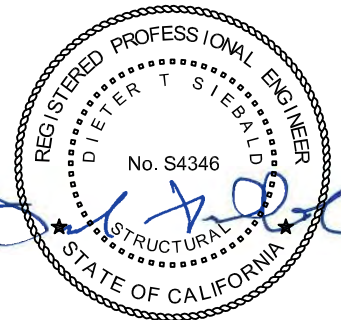
**FRONT ELEV**

**LEFT SIDE ELEV**



**PLAN AT BASE**

- NOTES:**
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 16.
  2. SEE PG 9 FOR TYPICAL NOTES.



SHEET TITLE: MODULE #2  
PLAN VIEW & ELEVATION



**CYS STRUCTURAL ENGINEERS, INC.**

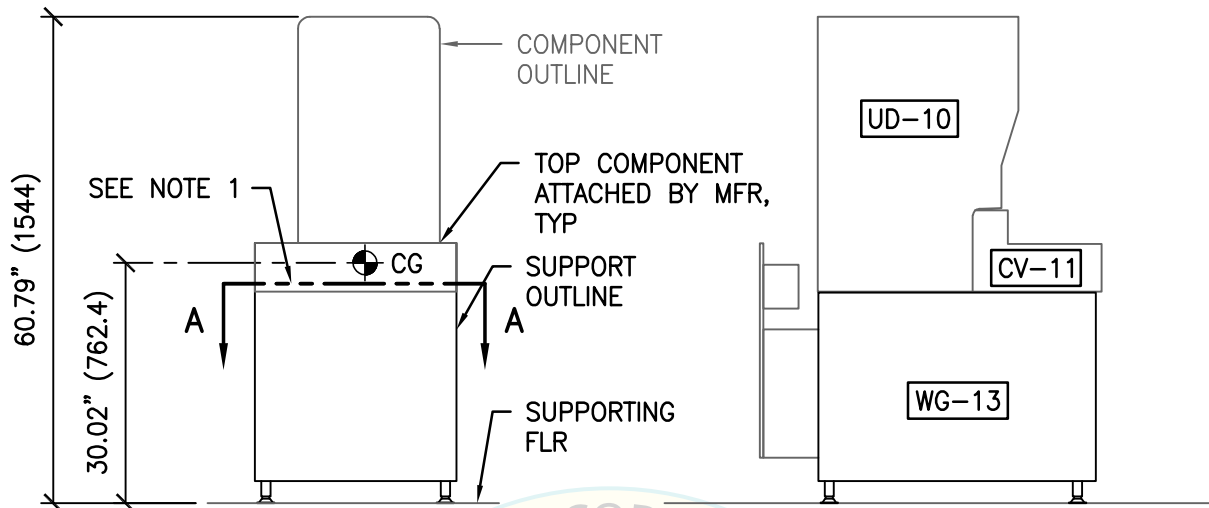
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

Job No:	23050
Date:	06-10-2024
Page:	10 of 33

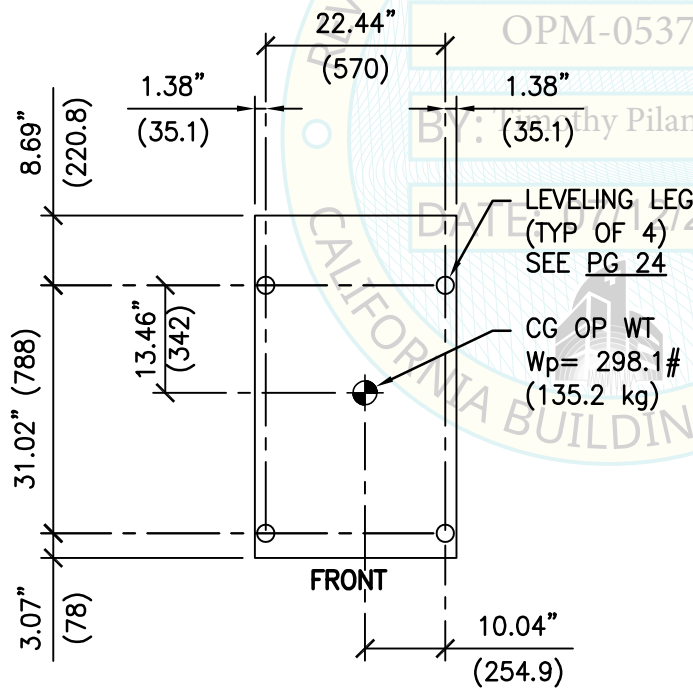
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# UN SERIES SYSTEM



**FRONT ELEV**

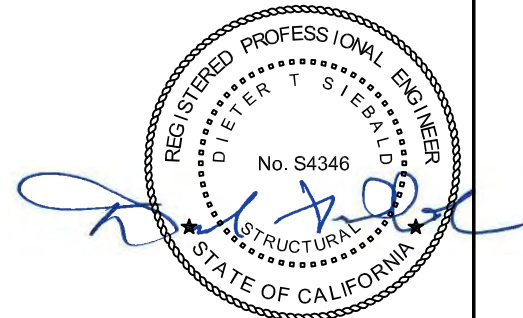
**LEFT SIDE ELEV**



**PLAN AT BASE**



- NOTES:**
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 17.
  2. SEE PG 9 FOR TYPICAL NOTES.

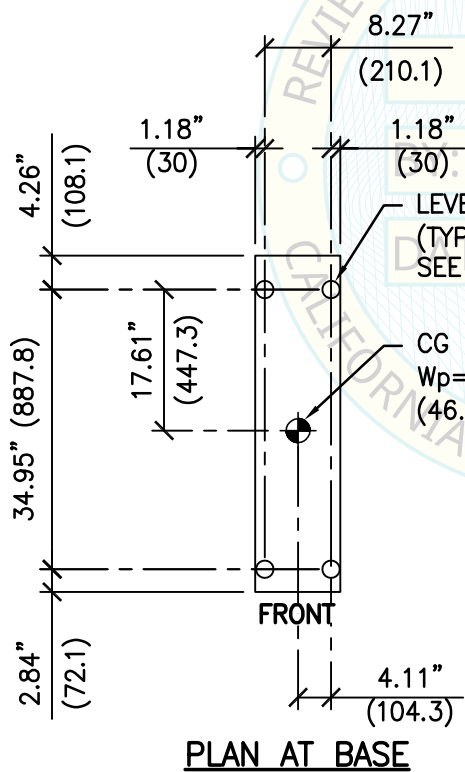
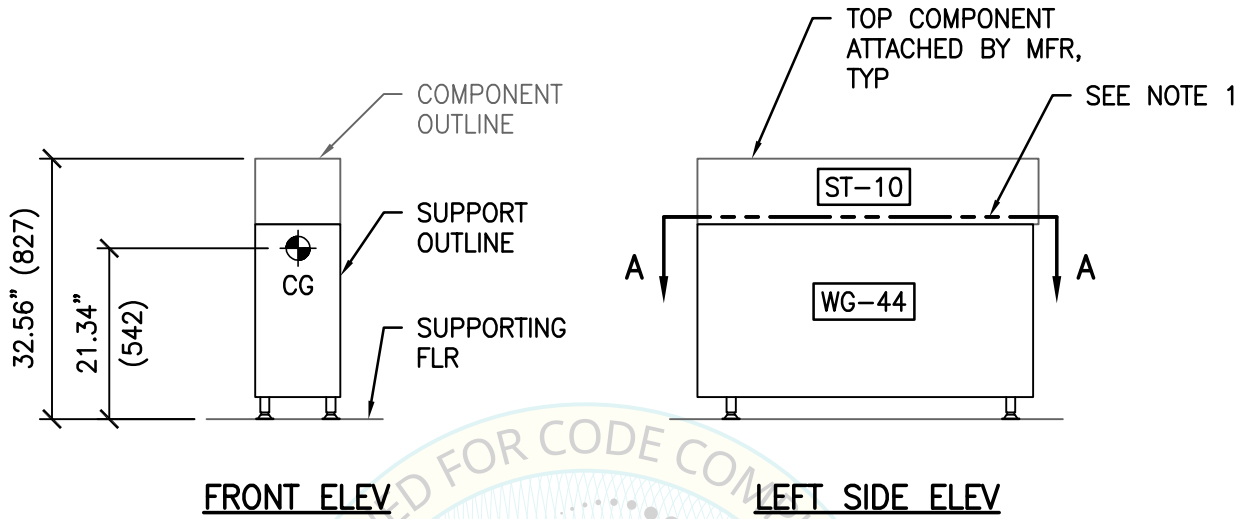


SHEET TITLE: MODULE #3  
PLAN VIEW & ELEVATION

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 23050 Date: 06-10-2024 Page: 11 of 33

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# UN SERIES SYSTEM



- NOTES:**
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 18.
  2. SEE PG 9 FOR TYPICAL NOTES.

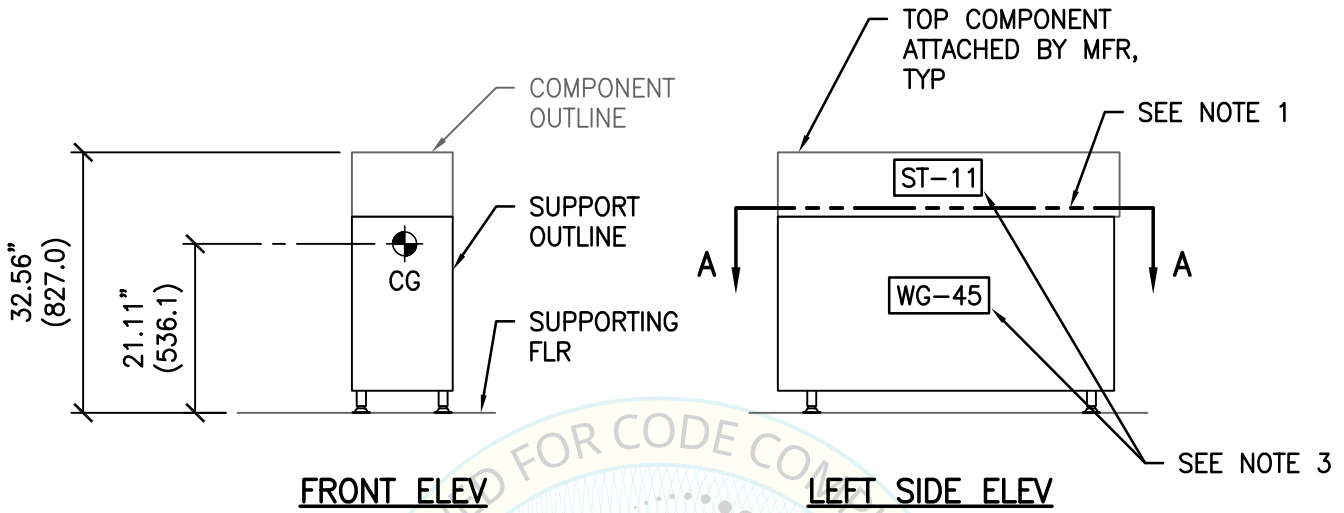


SHEET TITLE: MODULE #4  
PLAN VIEW & ELEVATION

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 23050 Date: 06-10-2024 Page: 12 of 33
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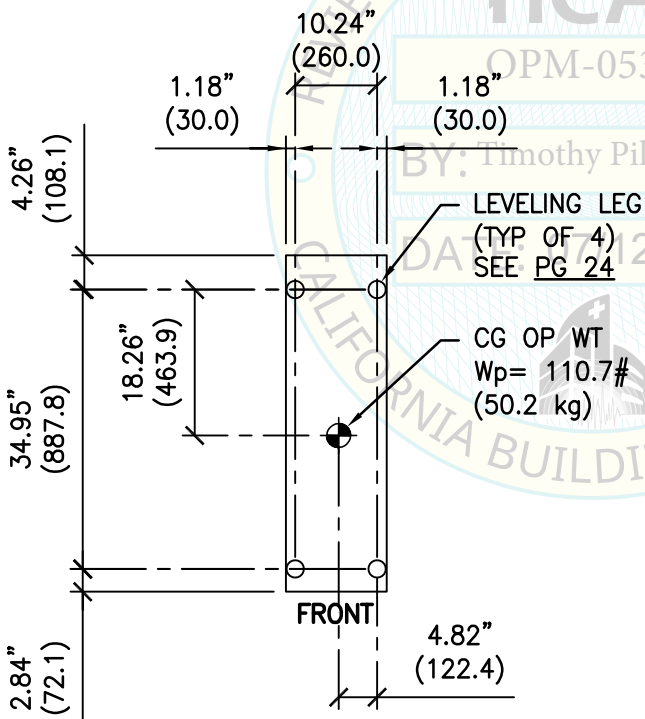
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# UN SERIES SYSTEM



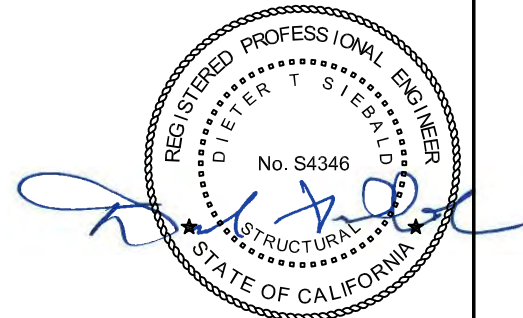
**FRONT ELEV**

**LEFT SIDE ELEV**



**PLAN AT BASE**

- NOTES:**
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 19.
  2. SEE PG 9 FOR TYPICAL NOTES.
  3. FOR MODULE #5 ALTERNATE OPTION, SEE PG 32.

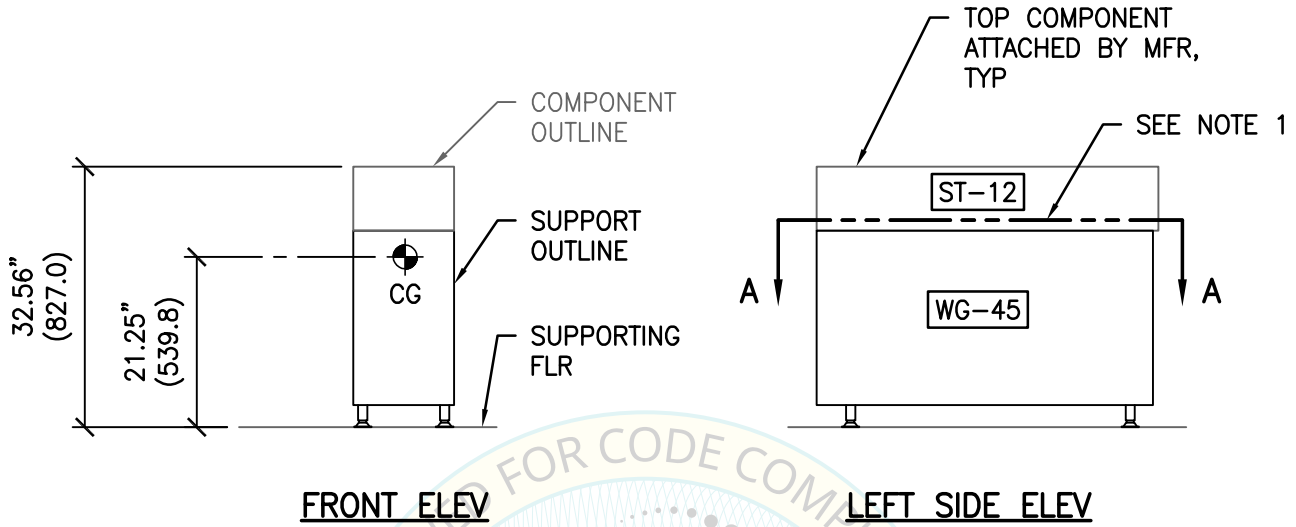


SHEET TITLE: MODULE #5  
PLAN VIEW & ELEVATION

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 23050 Date: 06-10-2024 Page: 13 of 33

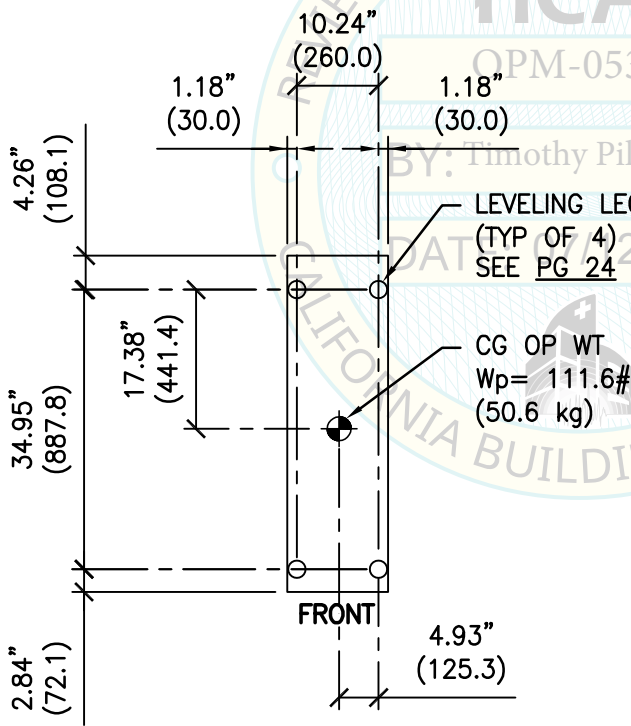
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# UN SERIES SYSTEM



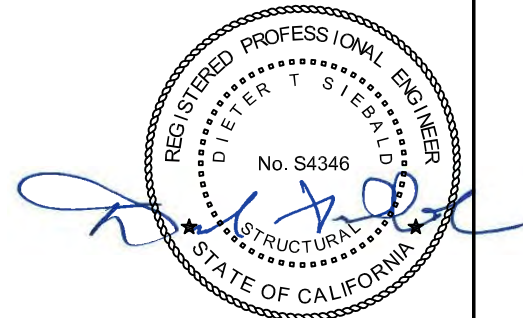
**FRONT ELEV**

**LEFT SIDE ELEV**



**PLAN AT BASE**

- NOTES:**
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE [PG 19](#).
  2. SEE [PG 9](#) FOR TYPICAL NOTES.



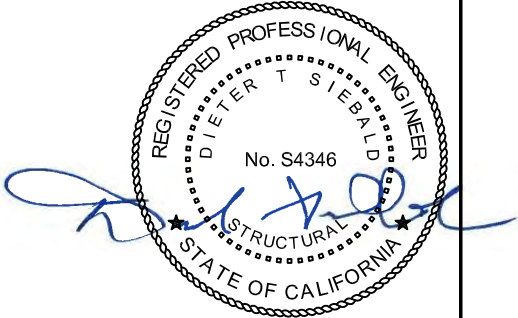
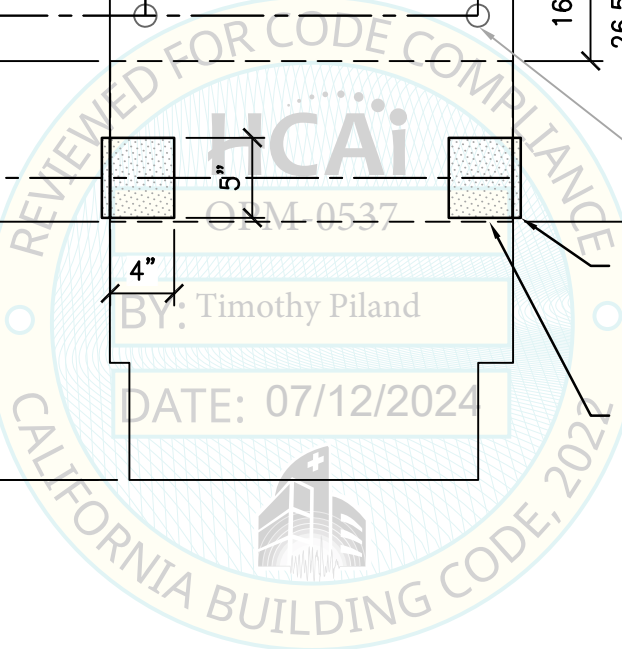
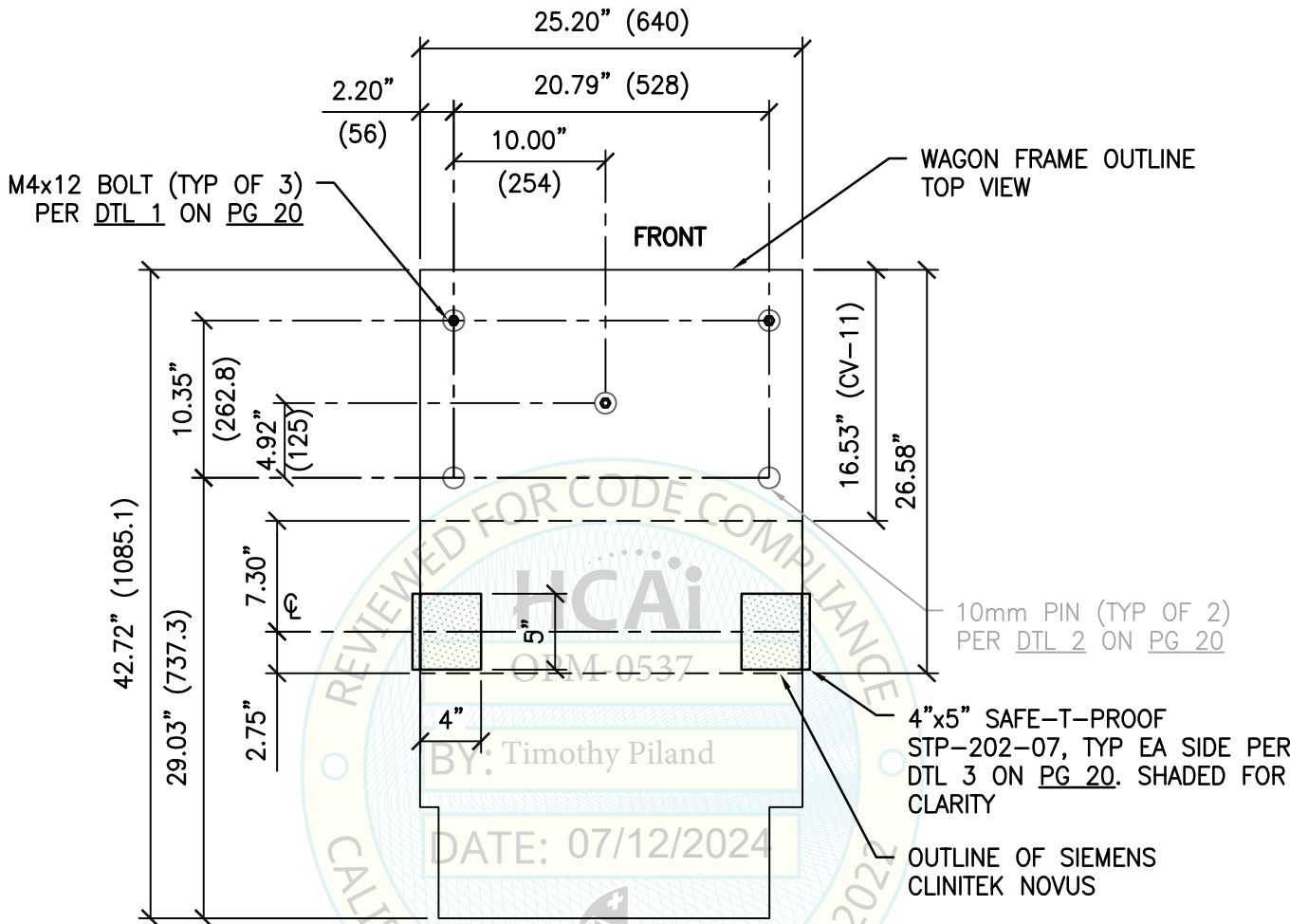
SHEET TITLE: MODULE #6  
PLAN VIEW & ELEVATION

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 23050 Date: 06-10-2024 Page: 14 of 33
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# UN SERIES SYSTEM



**MODULE #1 PLAN VIEW A-A**  
 SIEMENS CLINITEK NOVUS, CV-11, WG-13

SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT



**CYS STRUCTURAL ENGINEERS, INC.**

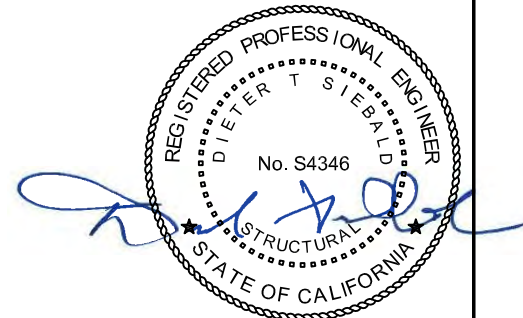
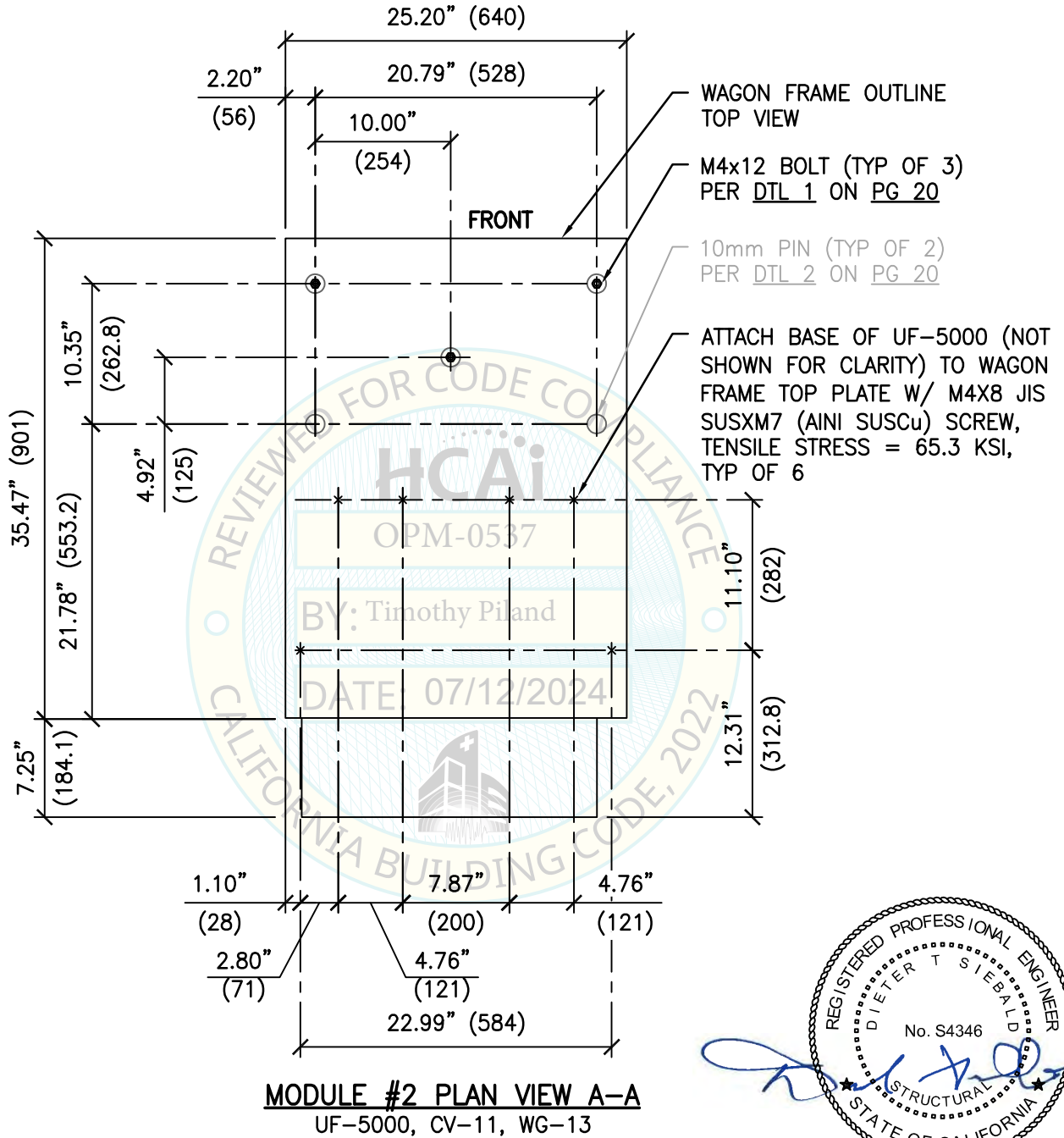
2710 GATEWAY OAKS DRIVE, SUITE 190N  
 SACRAMENTO, CA 95833

TEL (916) 920-2020  
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Date:	06-10-2024
Page:	15 of 33

C:\Users\comachom\appdata\local\temp\AcPublish\_95368\S1.dwg Time: Jul 11, 2024 - 03:40pm Login: comachom Dimstyle: 12 LTScale: 6

# UN SERIES SYSTEM



SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT



**CYS STRUCTURAL ENGINEERS, INC.**

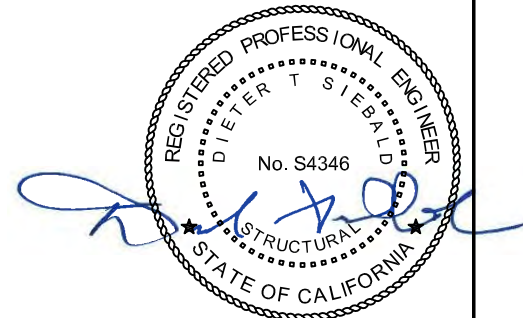
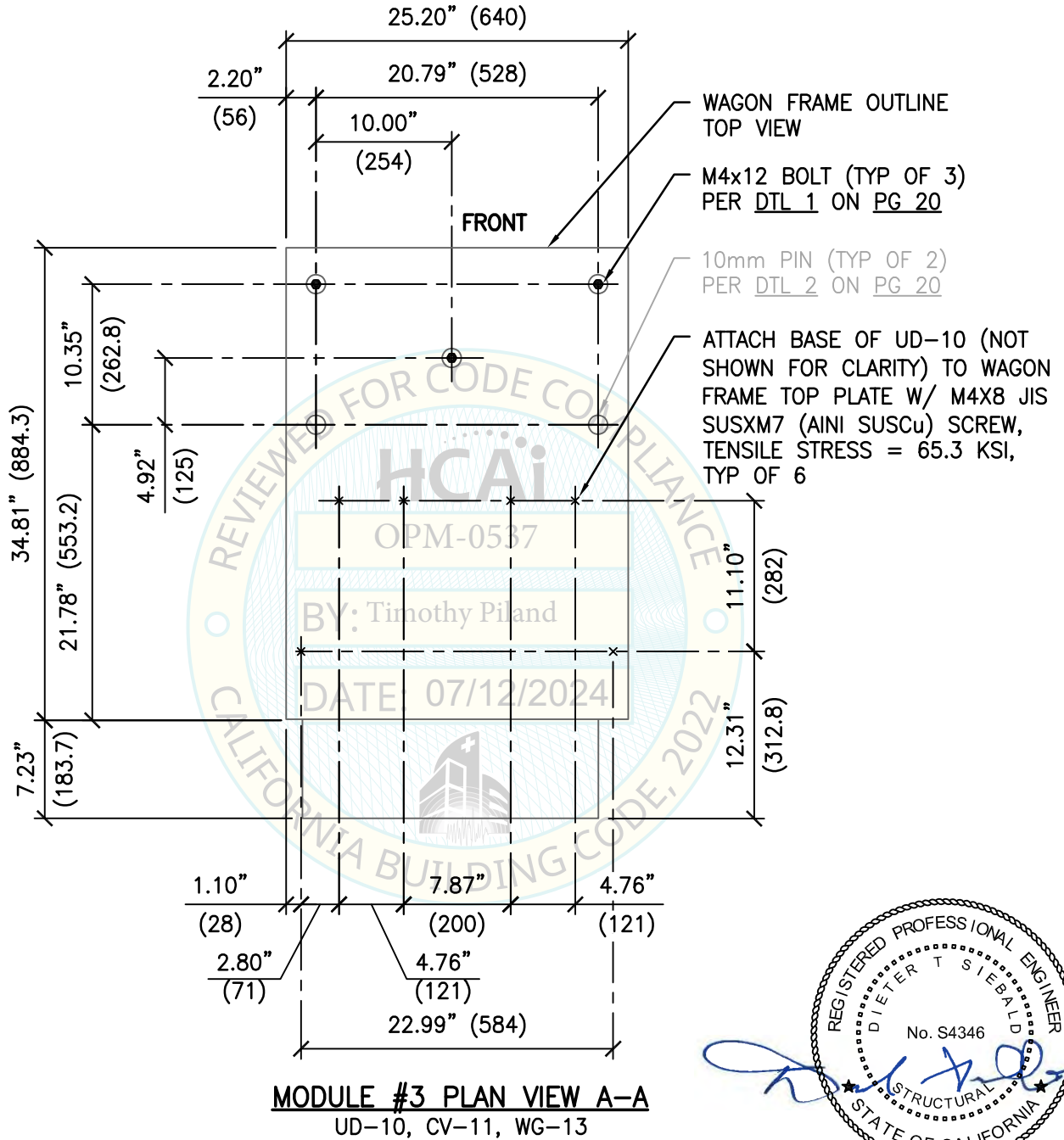
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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Job No:	23050
Date:	06-10-2024
Page:	16 of 33

C:\Users\comachom\appdata\local\temp\AcPublish\_95368\S1.dwg Time: Jul 11, 2024 - 03:40pm Login: comachom DimScale: 12 LTScale: 6

# UN SERIES SYSTEM



SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT



**CYS STRUCTURAL ENGINEERS, INC.**

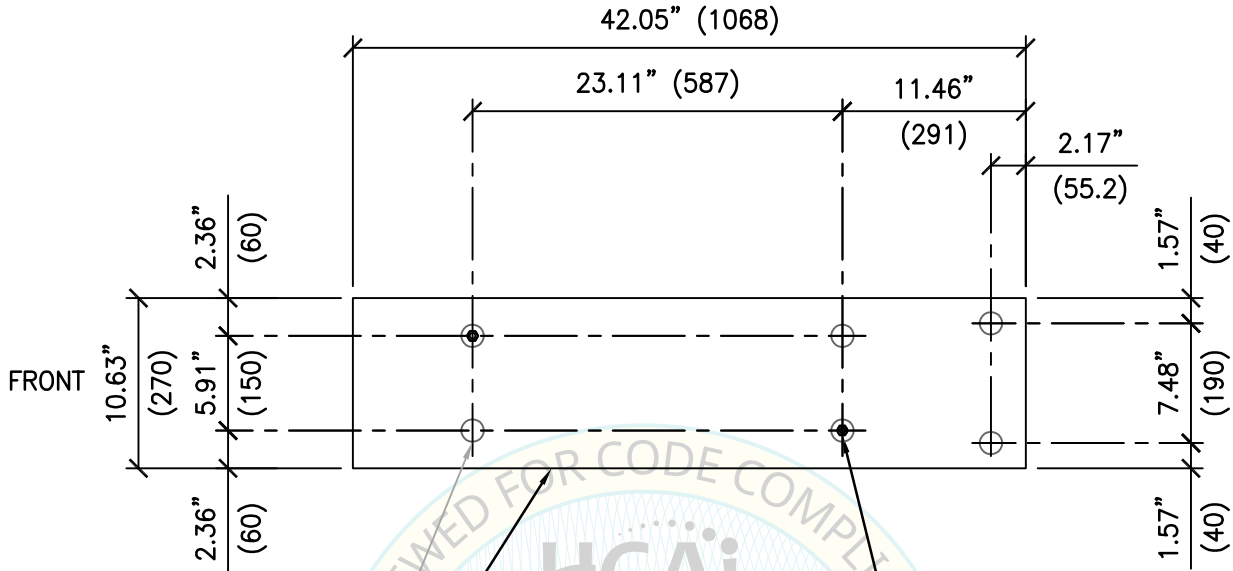
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

TEL (916) 920-2020  
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Job No:	23050
Date:	06-10-2024
Page:	17 of 33

C:\Users\comachom\appdata\local\temp\AcPublish\_95368\S1.dwg Time: Jul 11, 2024 - 03:40pm Login: comachom DimScale: 12 LTScale: 6

# UN SERIES SYSTEM

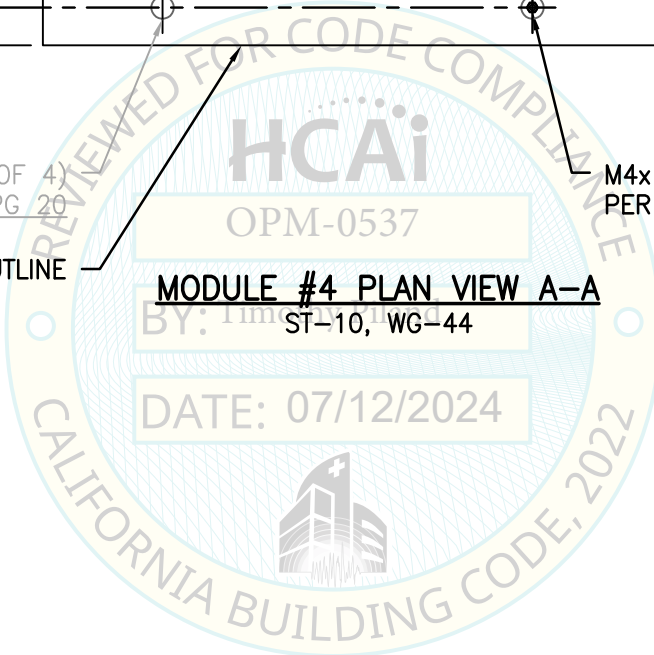


10mm PIN (TYP OF 4)  
PER DTL 2 ON PG 20


M4x12 BOLT (TYP OF 2)  
PER DTL 1 ON PG 20

WAGON FRAME OUTLINE

**MODULE #4 PLAN VIEW A-A**  
ST-10, WG-44

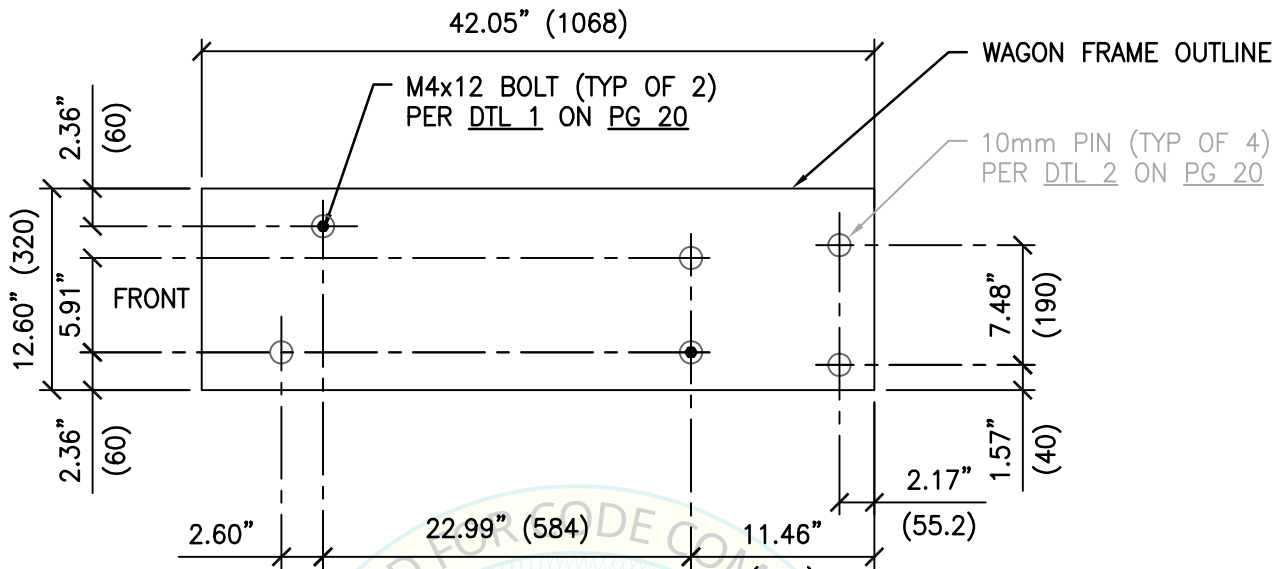


SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT

 <b>CYS STRUCTURAL ENGINEERS, INC.</b> 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 23050 Date: 06-10-2024 Page: 18 of 33
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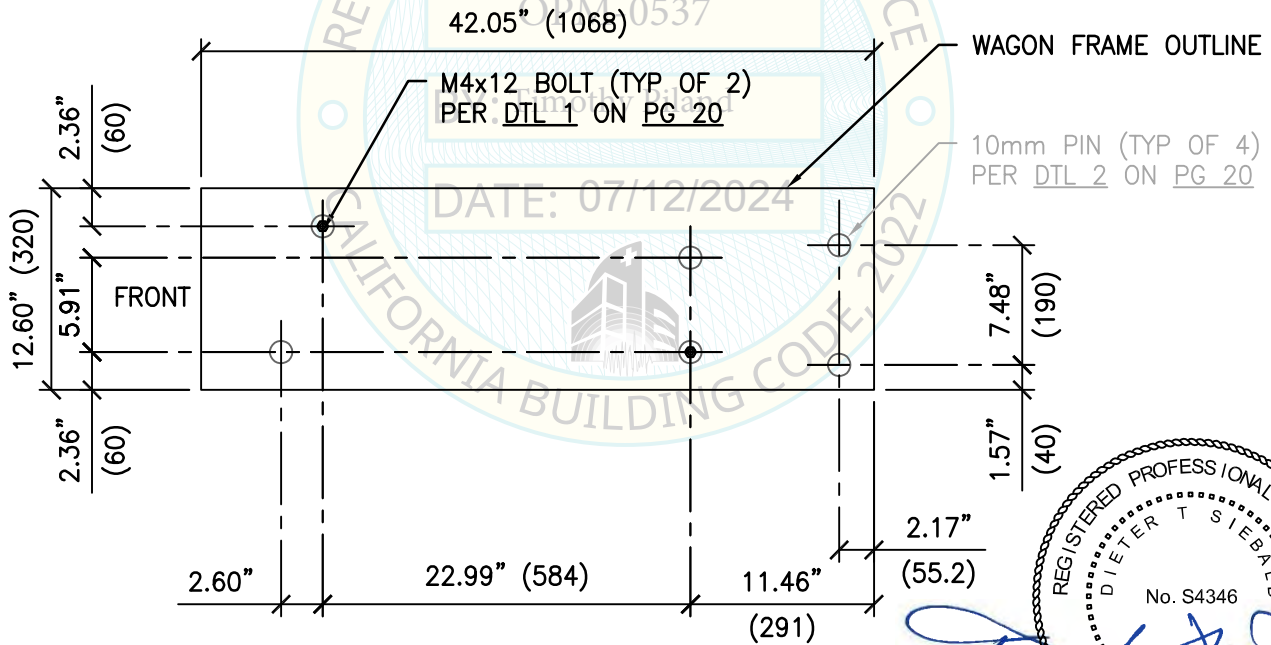
# UN SERIES SYSTEM



**MODULE #5 PLAN VIEW A-A** (291)

ST-11, WG-45

FOR MODULE #5 ALTERNATE, SEE PG 33



**MODULE #6 PLAN VIEW A-A** (291)

ST-12, WG-45



SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT



**CYS STRUCTURAL ENGINEERS, INC.**

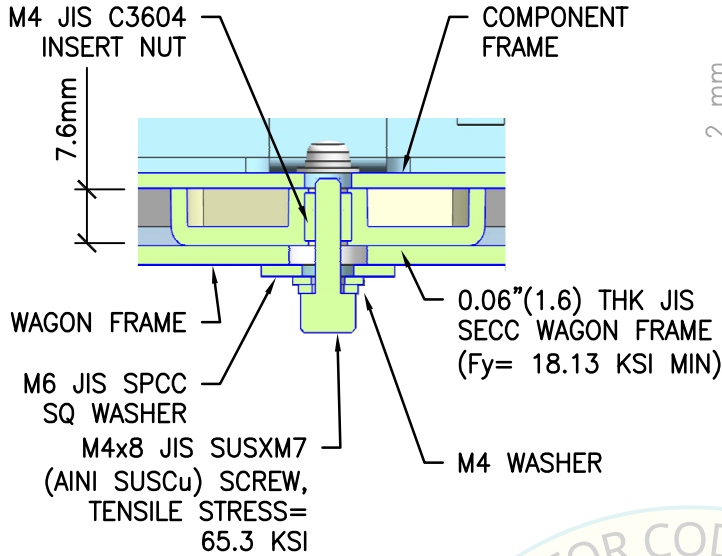
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

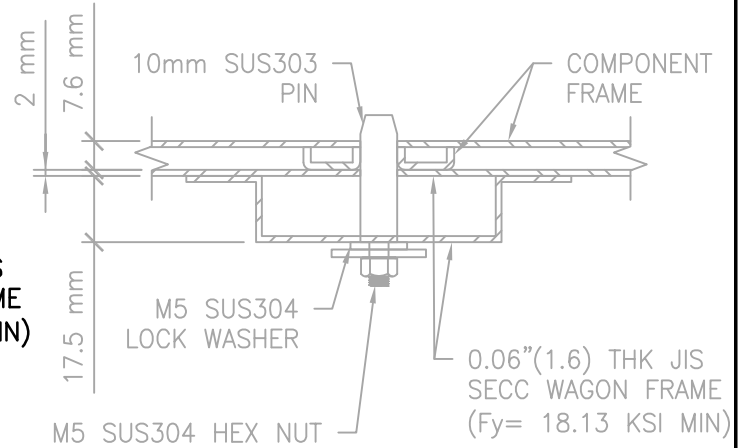
Job No:	23050
Date:	06-10-2024
Page:	19 of 33

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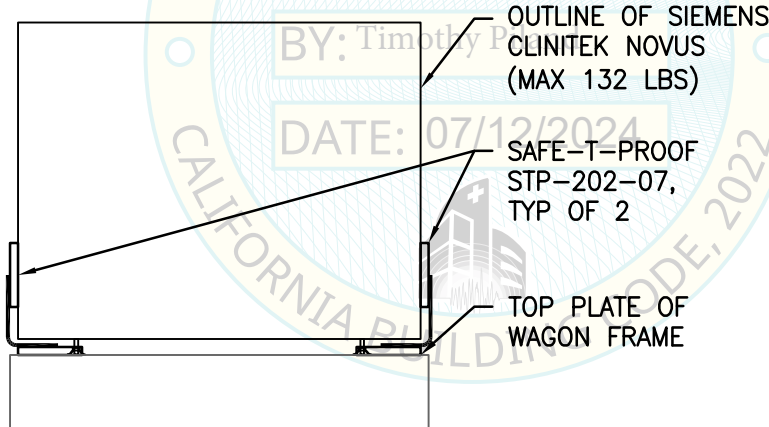
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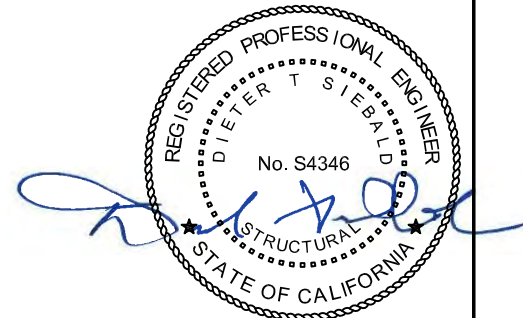
**DETAIL 1**  
**COMPONENT CONN**  
**TO FRAME**



**DETAIL 2**  
**COMPONENT ALIGNMENT**  
**PIN TO FRAME**



**DETAIL 3**  
**COMPONENT CONN**  
**TO FRAME**



SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORTS



**CYS STRUCTURAL ENGINEERS, INC.**

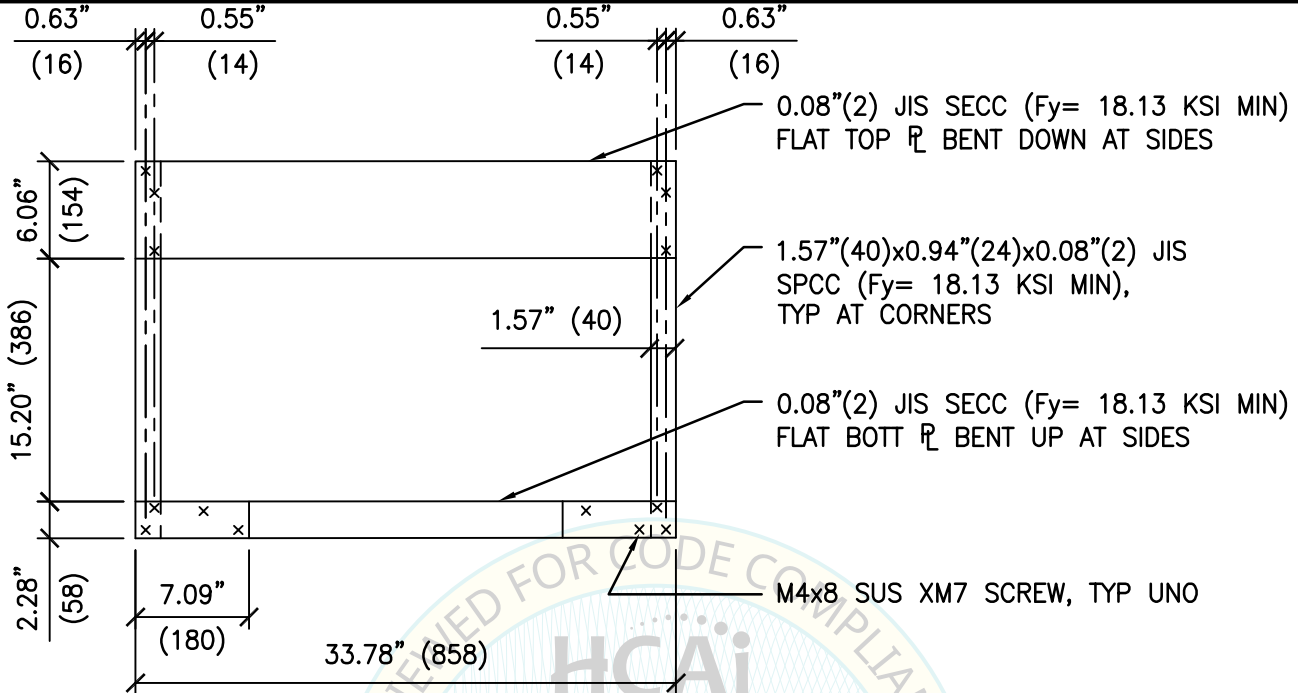
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

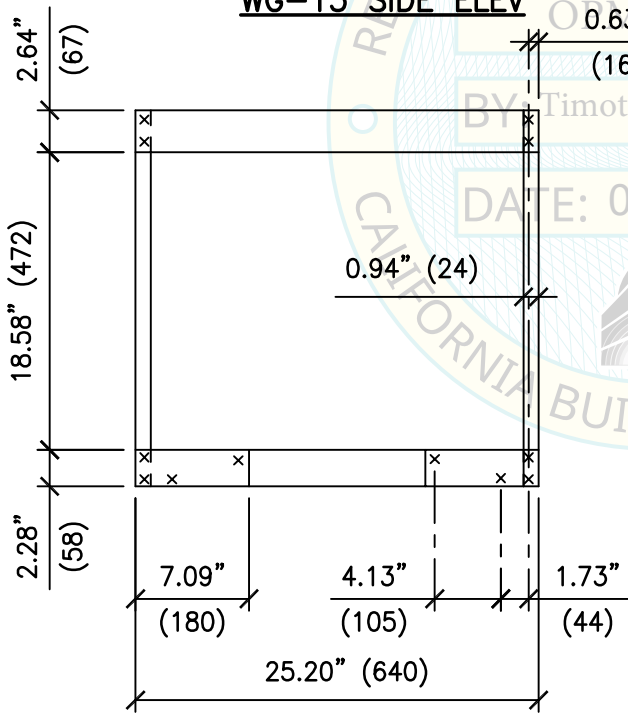
Job No:	23050
Date:	06-10-2024
Page:	20 of 33

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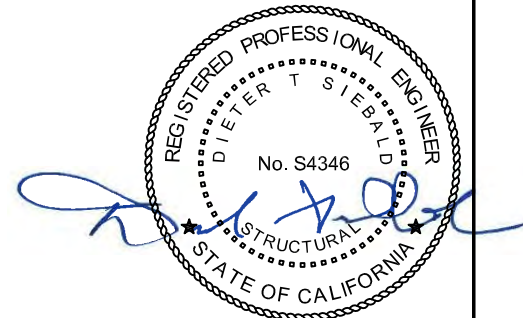
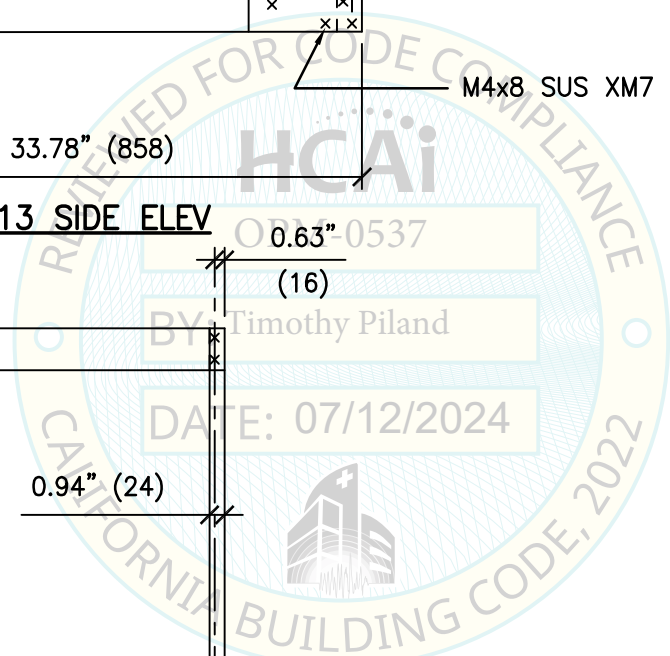
# UN SERIES SYSTEM



**WG-13 SIDE ELEV**



**WG-13 BACK/FRONT ELEV**



SHEET TITLE: WAGON FRAME



**CYS STRUCTURAL ENGINEERS, INC.**

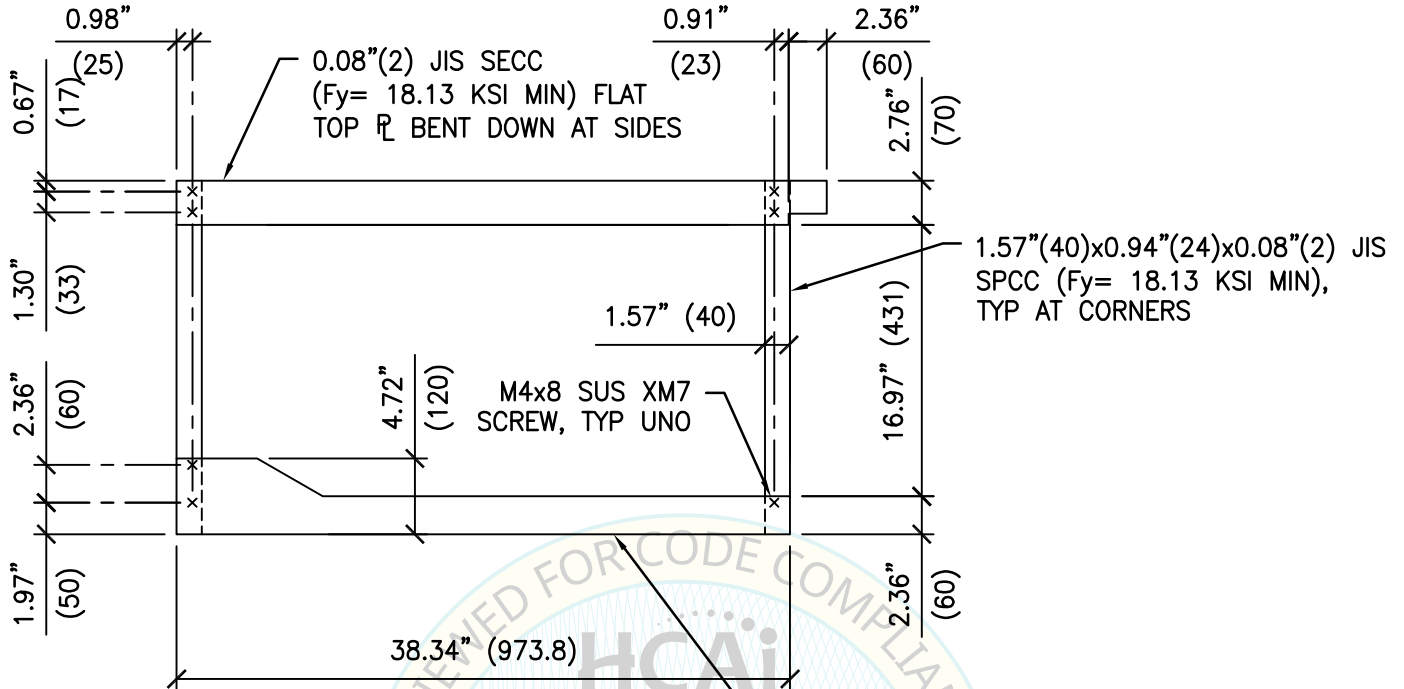
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

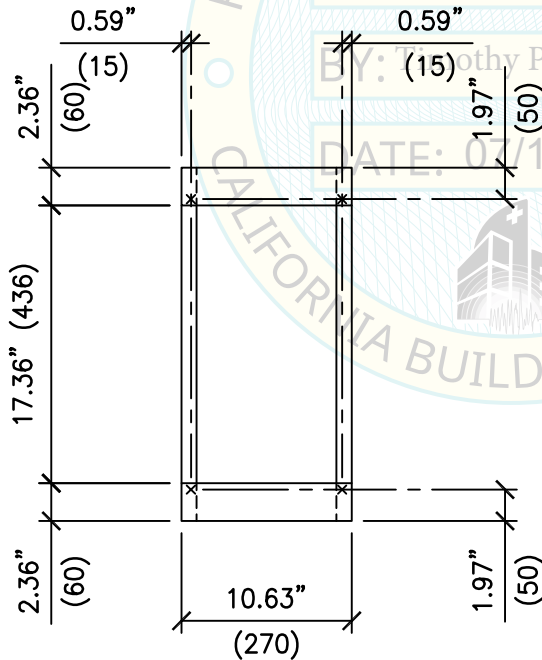
Job No:	23050
Date:	06-10-2024
Page:	21 of 33

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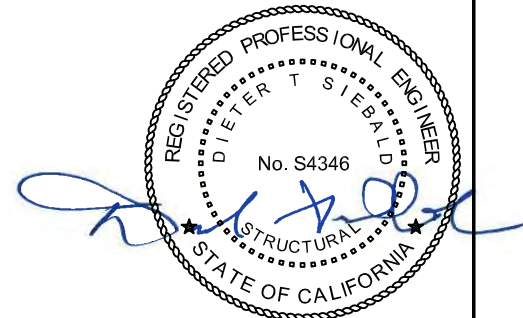
# UN SERIES SYSTEM



**WG-44 SIDE ELEV**



**WG-44 BACK/FRONT ELEV**



SHEET TITLE: WAGON FRAME



**CYS STRUCTURAL ENGINEERS, INC.**

2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

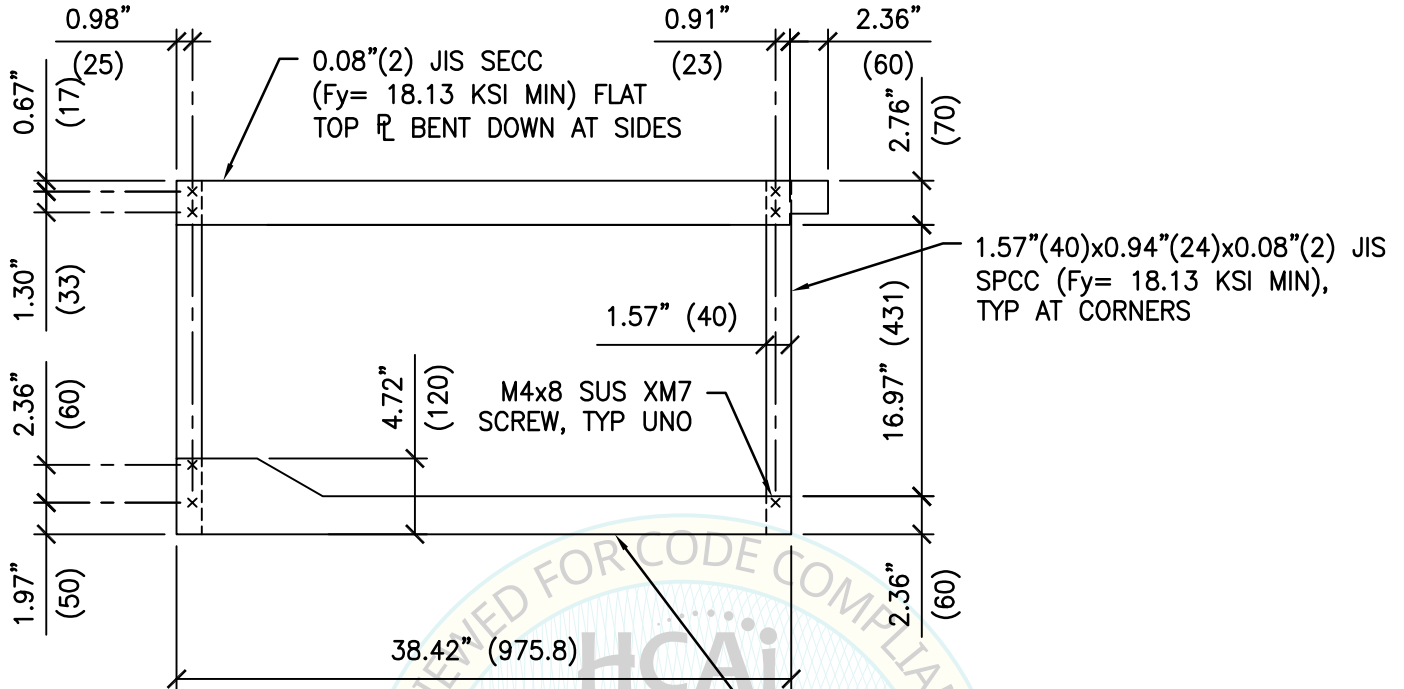
TEL (916) 920-2020  
www.cyseng.com

Job No:	23050
Date:	06-10-2024
Page:	22 of 33

C:\Users\comachom\appdata\local\temp\AcPublish\_95368\S1.dwg Time: Jul 11, 2024 - 03:41 pm Login: comachom Dimstyle: 12 LTScale: 6

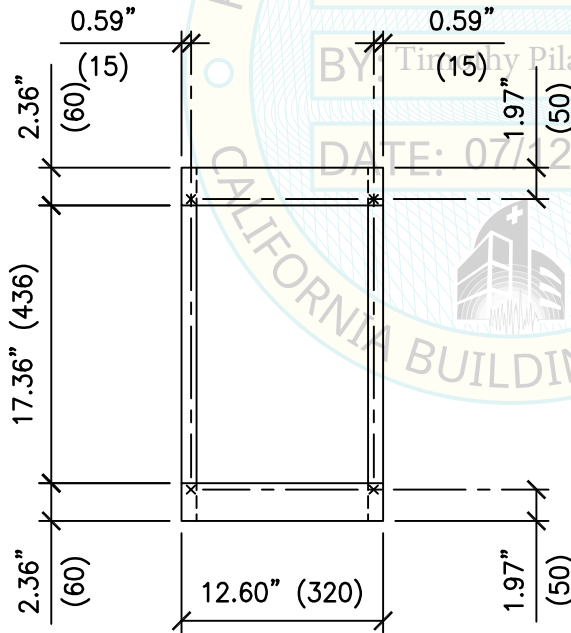


# UN SERIES SYSTEM

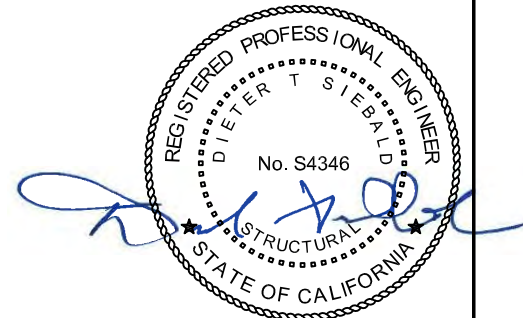


**WG-45 SIDE ELEV**

0.08" (2) JIS SECC (F<sub>y</sub>= 18.13 KSI MIN)  
FLAT BOTT  $\bar{r}$  BENT UP AT SIDES



**WG-45 BACK/FRONT ELEV**



SHEET TITLE: WAGON FRAME



**CYS STRUCTURAL ENGINEERS, INC.**

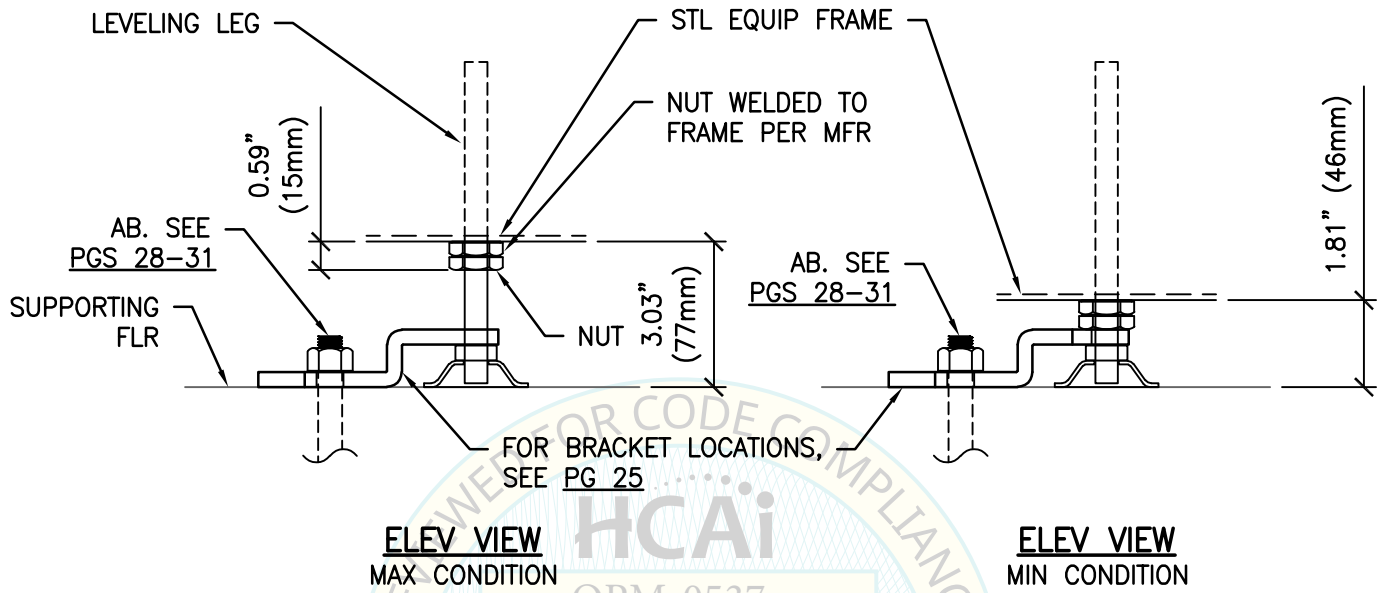
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

Job No:	23050
Date:	06-10-2024
Page:	23 of 33

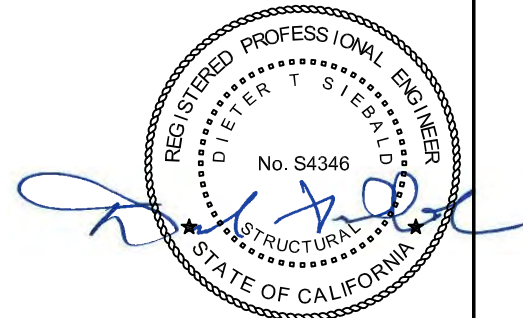
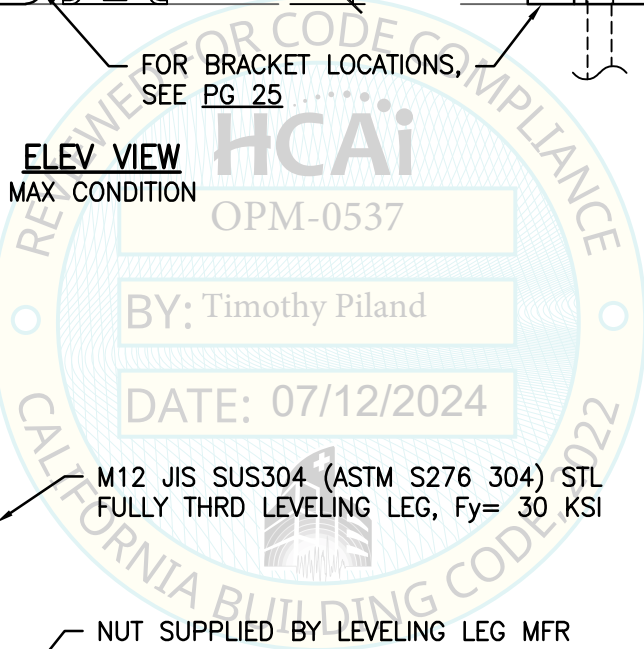
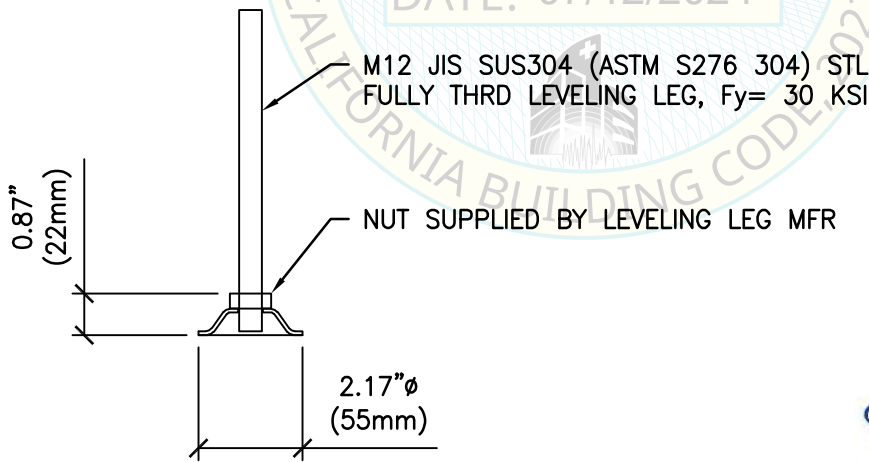
c:\Users\comachom\appdata\local\temp\AcPublish\_95368\S1.dwg Time: Jul 11, 2024 - 03:41 pm Login: comachom Dimstyle: 12 LTScale: 6

# UN SERIES SYSTEM



**ELEV VIEW**  
MAX CONDITION

**ELEV VIEW**  
MIN CONDITION



SHEET TITLE: LEVELING LEG DETAILS



**CYS STRUCTURAL ENGINEERS, INC.**

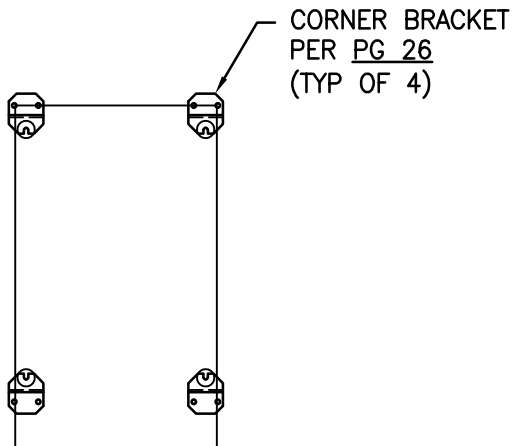
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

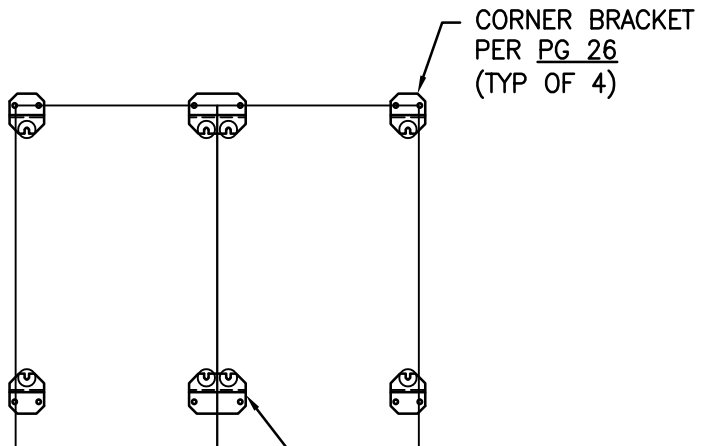
Job No:	23050
Date:	06-10-2024
Page:	24 of 33

C:\Users\comachom\appdata\local\temp\AcPublish\_95368\S1.dwg Time: Jul 11, 2024 - 03:41 pm Login: comachom Dimstyle: 12 LTScale: 6

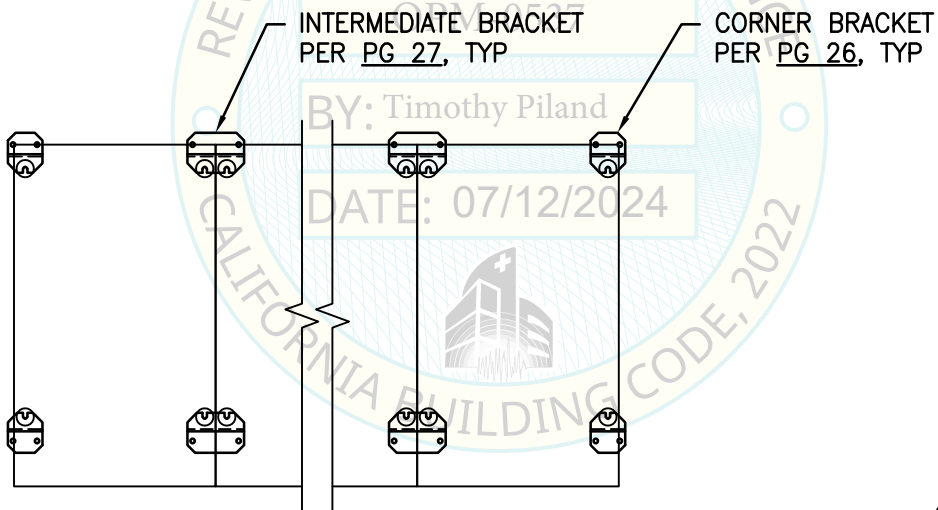
# UN SERIES SYSTEM



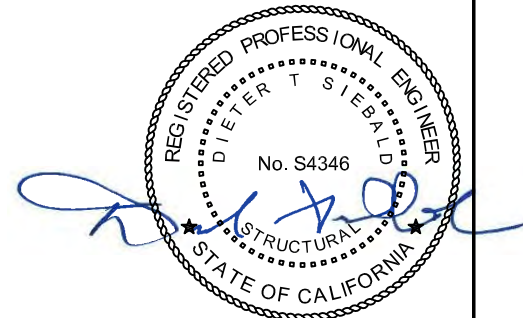
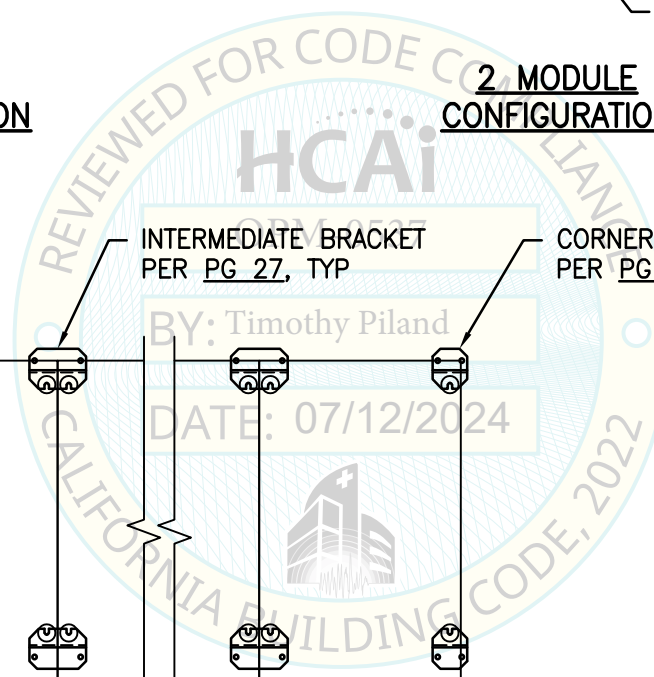
**1 MODULE  
CONFIGURATION**



**2 MODULE  
CONFIGURATION**



**3 OR MORE MODULE  
CONFIGURATION**



SHEET TITLE: BRACKET LOCATIONS



**CYS STRUCTURAL ENGINEERS, INC.**

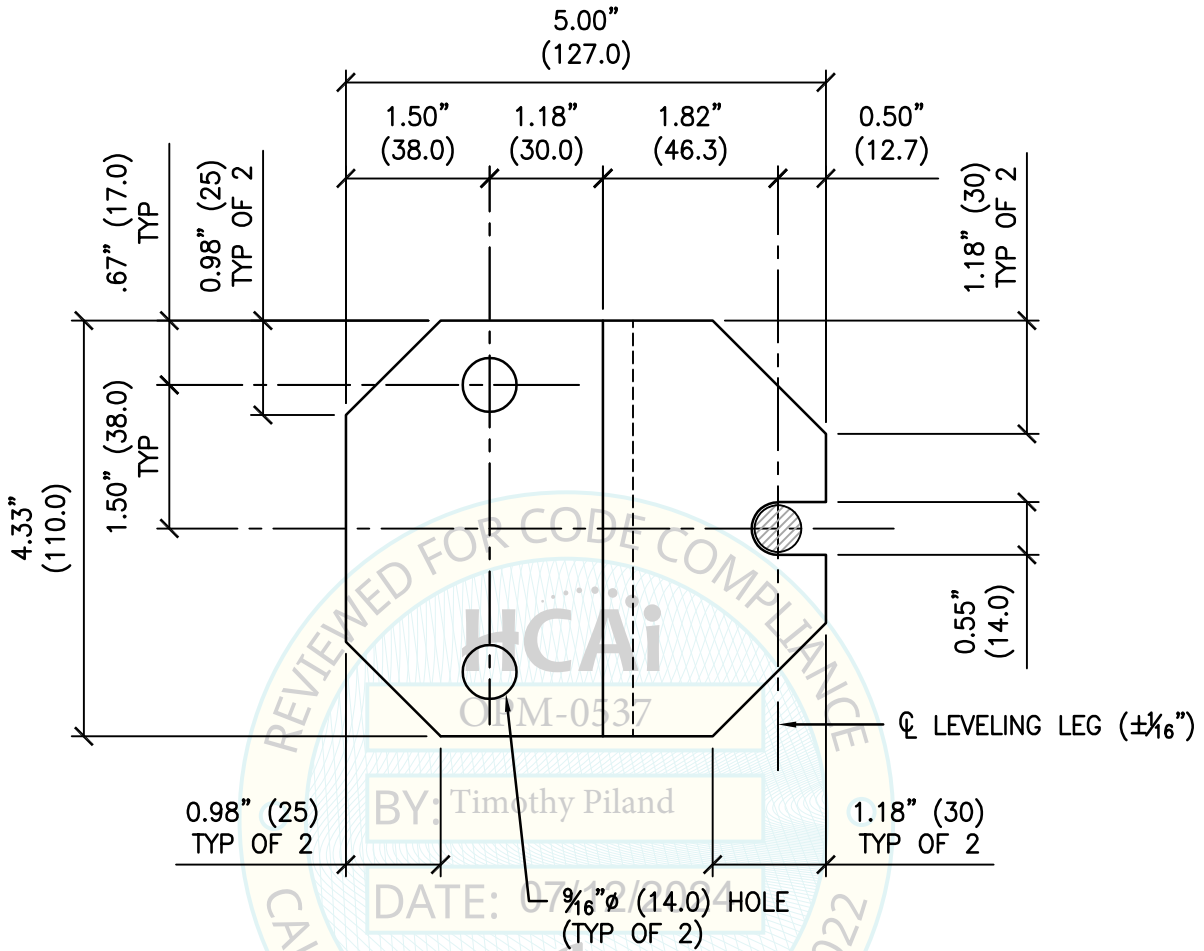
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

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

Job No:	23050
Date:	06-10-2024
Page:	25 of 33

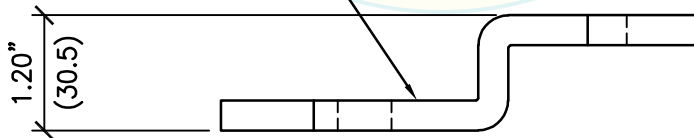
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# UN SERIES SYSTEM

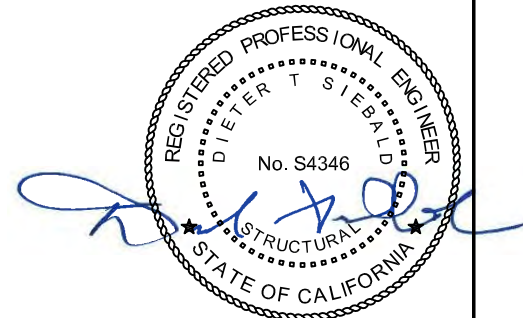


**CORNER BRACKET  
PLAN VIEW**

5/8" (8) THK JIS  
G3101-10 GRADE SS400  
(Fy= 35.53 KSI MIN)



**SIDE VIEW**



SHEET TITLE: BRACKET DETAILS



**CYS STRUCTURAL ENGINEERS, INC.**

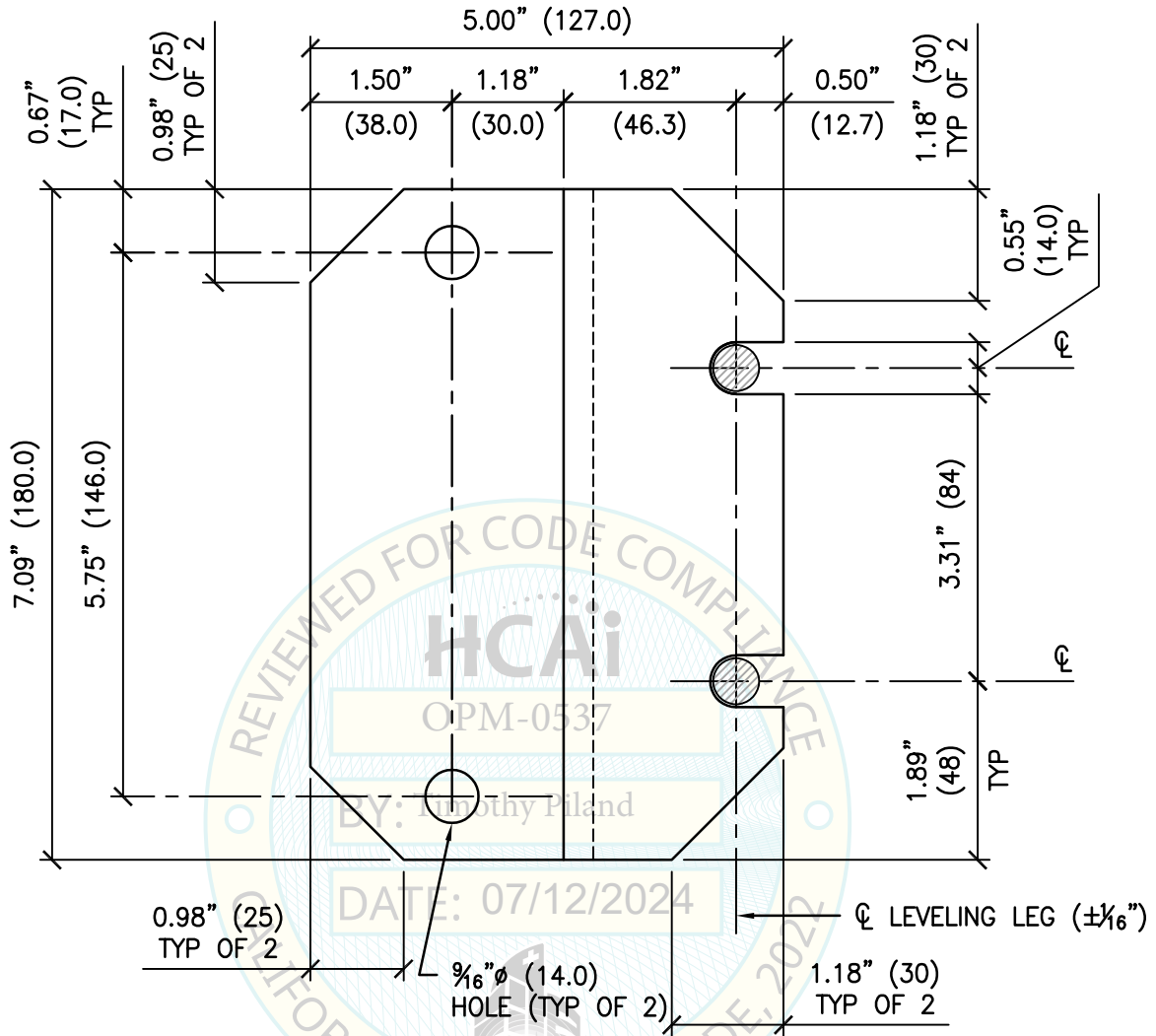
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

TEL (916) 920-2020  
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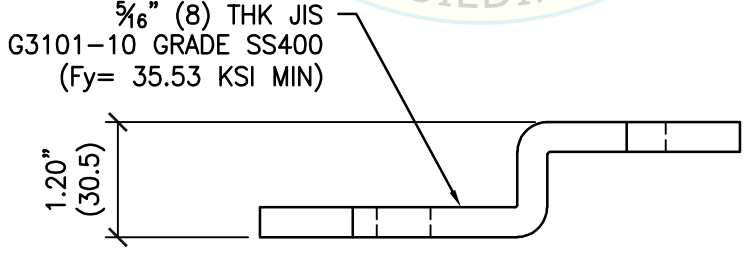
Job No:	23050
Date:	06-10-2024
Page:	26 of 33

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# UN SERIES SYSTEM



**INTERMEDIATE BRACKET  
PLAN VIEW**



**SIDE VIEW**

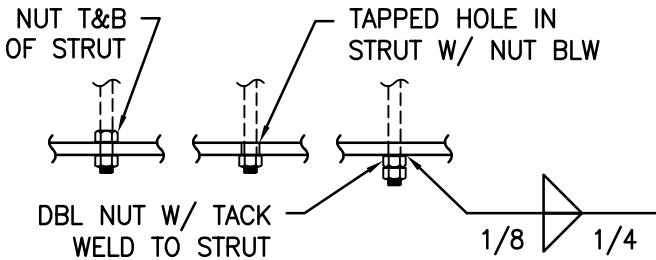


SHEET TITLE: BRACKET DETAILS

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 23050 Date: 06-10-2024 Page: 27 of 33
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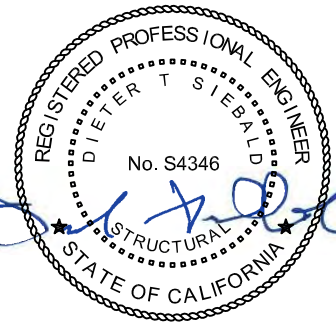
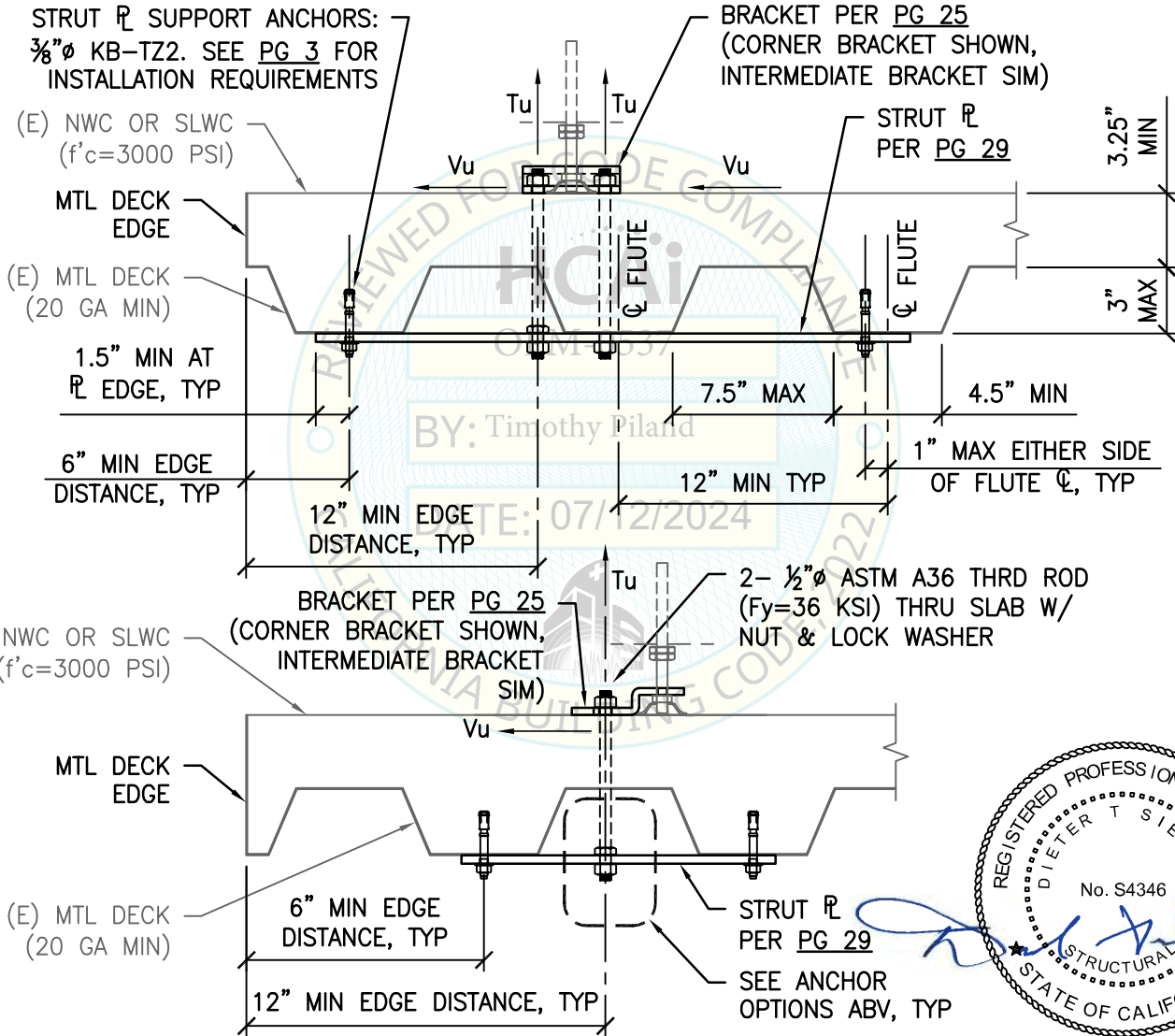
# UN SERIES SYSTEM



## ANCHOR OPTIONS

MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)		
	Tu	Vu
CASE 1 z/h ≤ 0.75	704#	227#

( $\Omega_0 = 1.5$ ) OVERSTRENGTH FACTOR IS APPLIED TO SHEAR FORCE ONLY

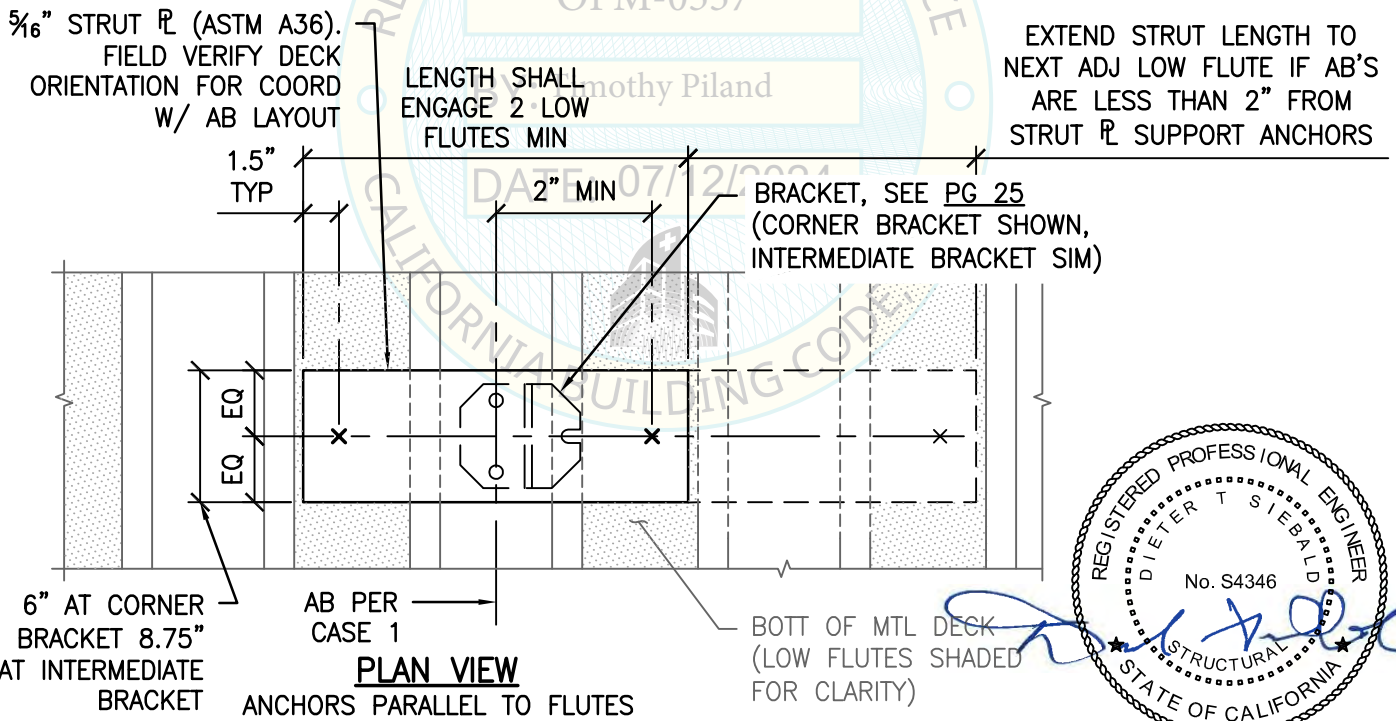
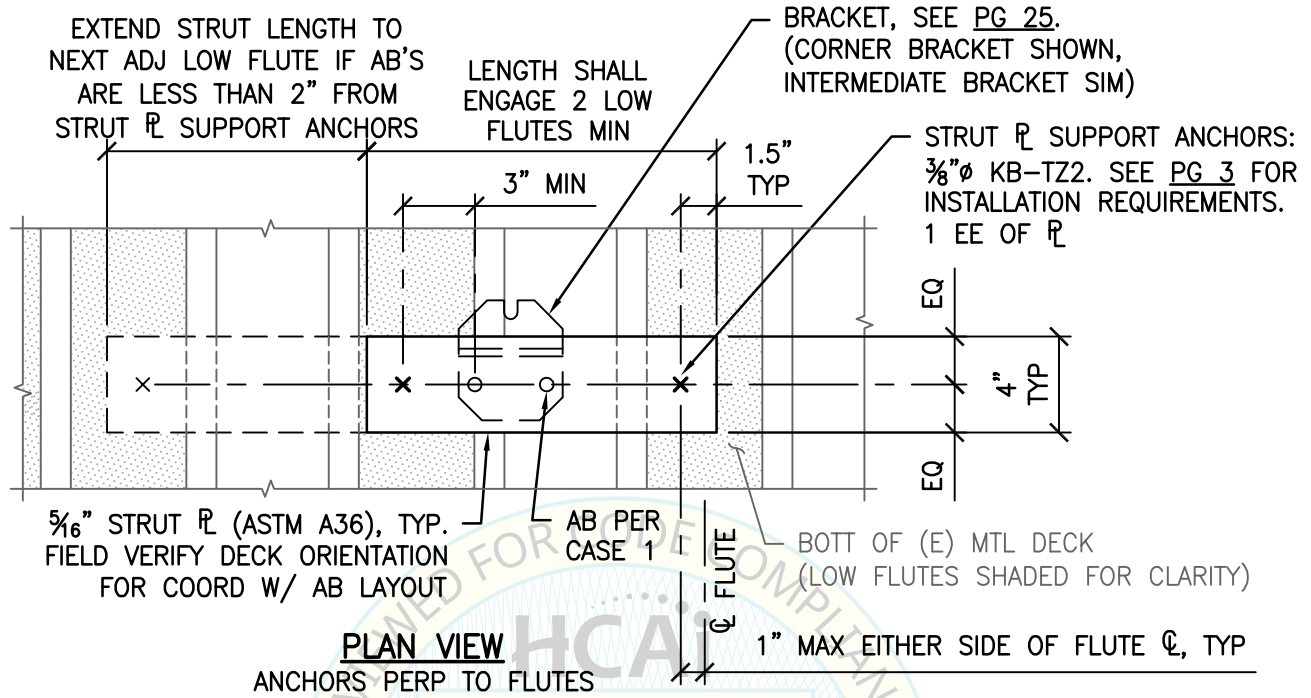


SHEET TITLE: ATTACHMENT DETAILS THRU CONCRETE FILL OVER METAL DECK (CASE 1)

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 23050 Date: 06-10-2024 Page: 28 of 33
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# UN SERIES SYSTEM



SHEET TITLE: ATTACHMENT DETAILS THRU CONCRETE FILL OVER METAL DECK (CASE 1)



**CYS STRUCTURAL ENGINEERS, INC.**

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Job No:	23050
Date:	06-10-2024
Page:	29 of 33

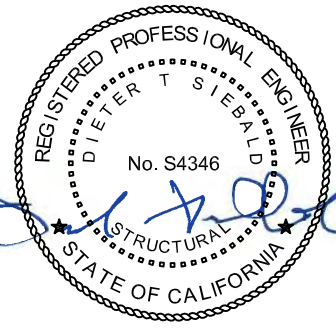
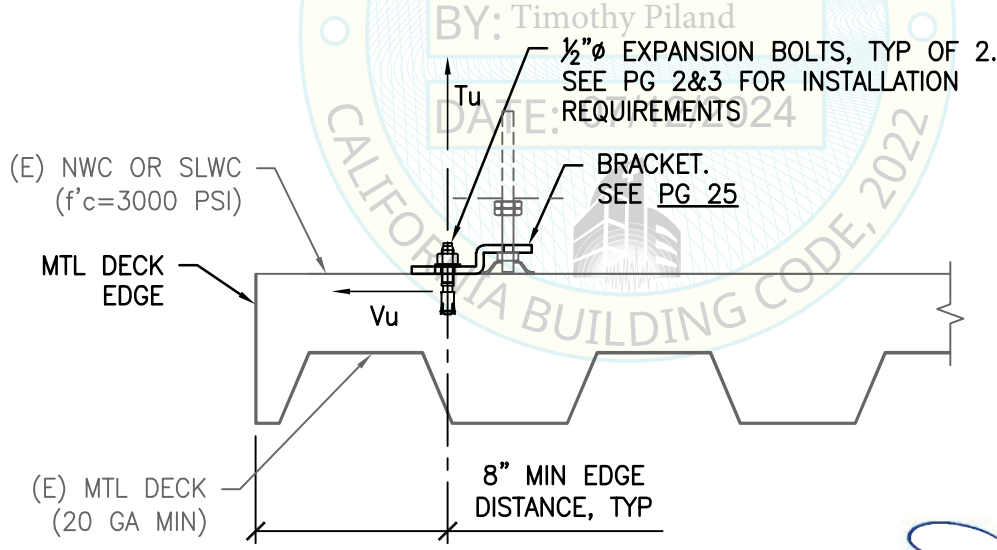
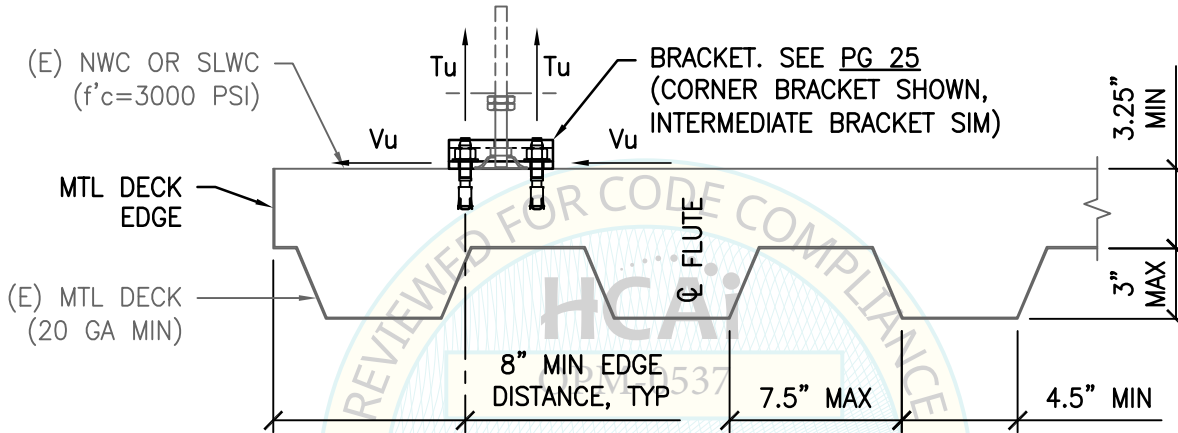
C:\Users\comachom\appdata\local\temp\AcPublish\_95368\S1.dwg Time: Jul 11, 2024 - 03:41 pm Login: comachom DimScale: 12 LTScale: 6

# UN SERIES SYSTEM



MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)		
	Tu	Vu
CASE 2 $z/h \leq 0.75$	688#	162#

INCLUDES OVERSTRENGTH FACTOR ( $\Omega_0=1.5$ )



SHEET TITLE: ATTACHMENT DETAILS INTO CONCRETE FILL OVER METAL DECK (CASE 2)



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Date:	06-10-2024
Page:	30 of 33

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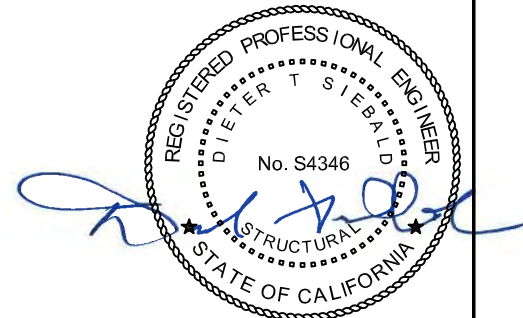
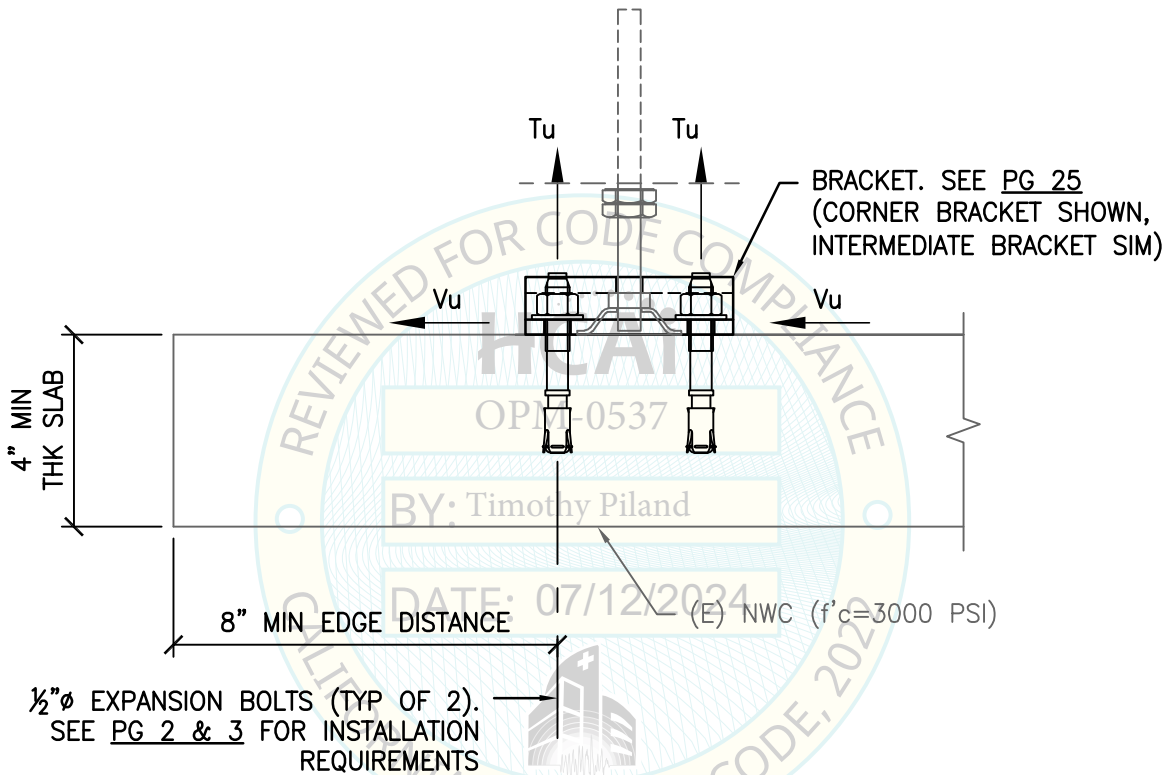


# UN SERIES SYSTEM



MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)		
	Tu	Vu
CASE 3 $z/h \leq 0$	1173#	228#

INCLUDES OVERSTRENGTH FACTOR ( $\Omega_0=1.5$ )



SHEET TITLE: ATTACHMENT DETAILS TO  
4" CONCRETE SLAB ON GRADE (CASE 3)



**CYS STRUCTURAL ENGINEERS, INC.**

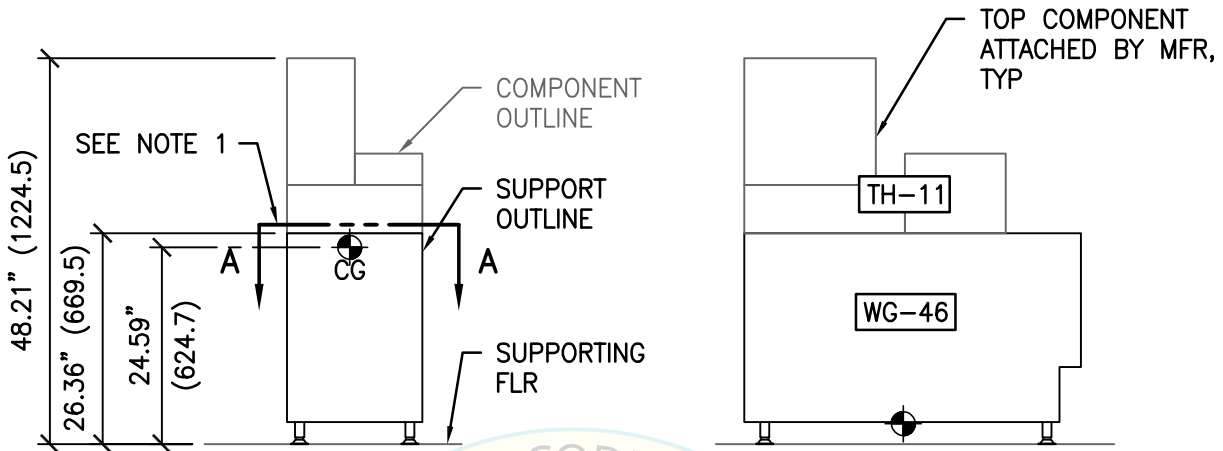
2710 GATEWAY OAKS DRIVE, SUITE 190N  
SACRAMENTO, CA 95833

TEL (916) 920-2020  
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Job No:	23050
Date:	06-10-2024
Page:	31 of 33

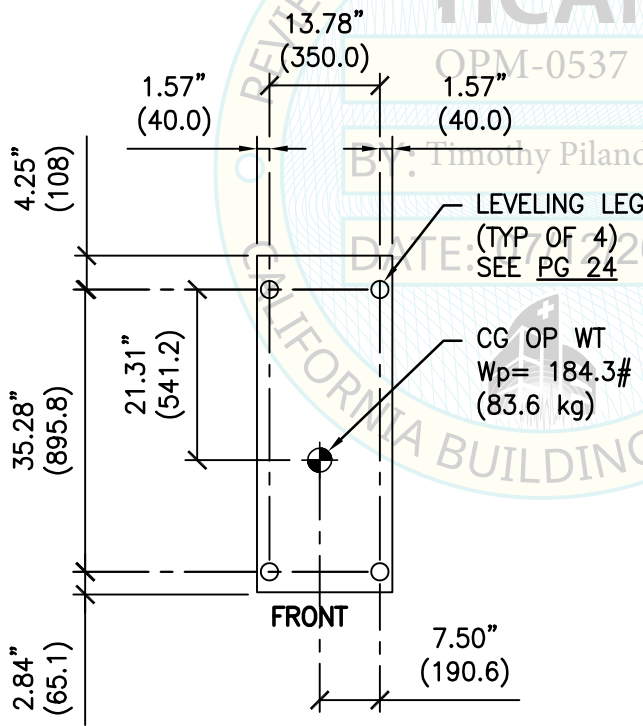
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# UN SERIES SYSTEM



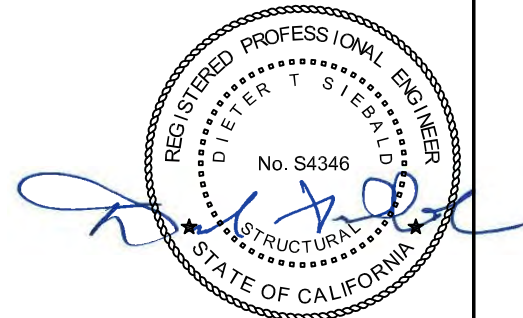
**FRONT ELEV**

**LEFT SIDE ELEV**



**PLAN AT BASE**

- NOTES:**
- FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 33.
  - SEE PG 9 FOR TYPICAL NOTES.

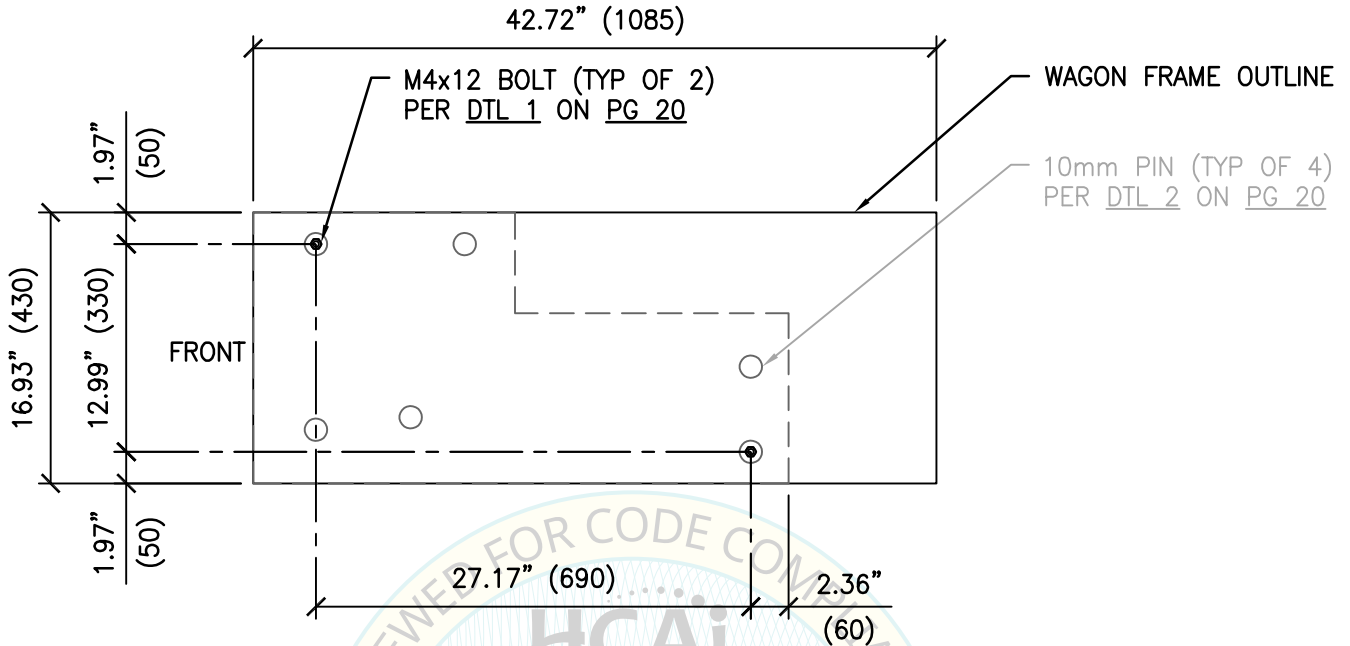


SHEET TITLE: MODULE #5 ALTERNATE OPTION  
PLAN VIEW & ELEVATION

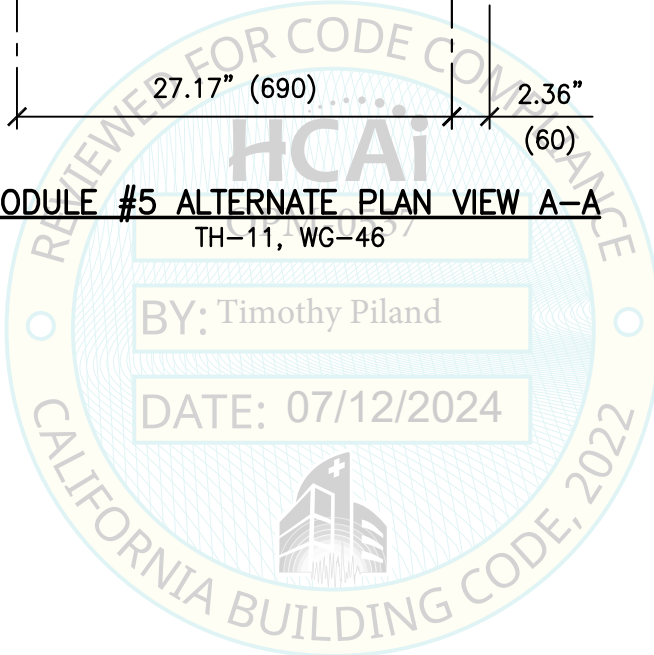
<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 23050 Date: 06-10-2024 Page: 32 of 35

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# UN SERIES SYSTEM



**MODULE #5 ALTERNATE PLAN VIEW A-A**  
TH-11, WG-46



SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT



**CYS STRUCTURAL ENGINEERS, INC.**

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Date:	06-10-2024
Page:	33 of 33

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