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

OFFICE USE ONLY

APPLICATION #: OPM-0717

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Sysmex America, Inc.

Manufacturer's Technical Representative: Jill Crist

Mailing Address: 577 Aptakisic Road, Lincolnshire, IL 60069

Telephone: (215) 962-8236 Email: CristJ@Sysmex.com

Product Information

Product Name: Sysmex XN-2000 on WG-20

Product Type: Automated Hematology Analyzer

Product Model Number: XN-2000

General Description: Blood Analyzer

Applicant Information

Applicant Company Name: Sysmex America, Inc.

Contact Person: Jill Crist

Mailing Address: 577 Aptakisic Road, Lincolnshire, IL 60069

Telephone: (215) 962-8236 Email: CristJ@Sysmex.com

Title: Senior Manager IVD Product Marketing

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: 11/25/2024

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

SYSMEX XN-2000 ON WG-20

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OPM-0717

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 DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION (HCAI) 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.

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

SHEET TITLE: TABLE OF CONTENTS

CYS STRUCTURAL ENGINEERS, INC.
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TEL (916) 920-2020
www.cyseng.com

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SYSMEX XN-2000 ON WG-20

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 CARBON 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 (½) 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 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 CONN IN TENSION DO NOT REQUIRE TESTING.

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SHEET TITLE: GENERAL NOTES

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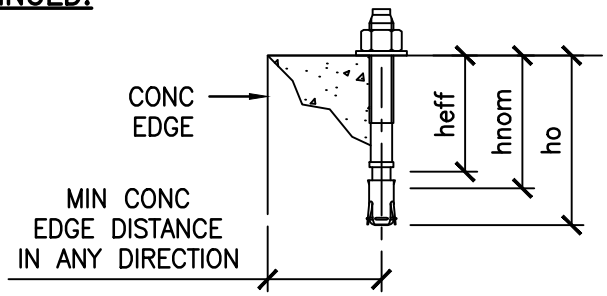
SYSMEX XN-2000 ON WG-20

GENERAL NOTES CONTINUED:



EXPANSION ANCHOR TABLE

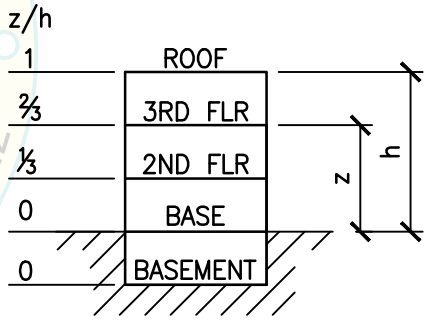
CONDITION OF ANCHORAGE	ANCHOR DIA & TYPE (INCH)	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONC THK (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN ANCHOR SPCG (INCH)	TEST TORQUE (FT-LBS)
CASE 1 STRUT P/S	3/8 KB-TZ2	1 13/16	1 1/2	2	3 1/4	6	SEE PG 10	25
CASE 2	1/2 KB-TZ2	2 1/2	2	2 3/4	3 1/4	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:

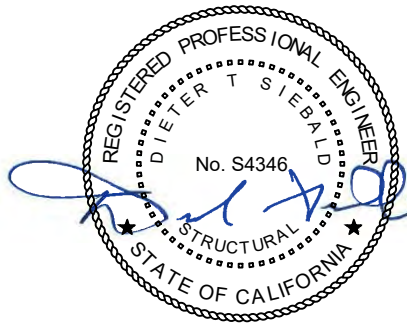
CASE 1: ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3¼" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STEEL THRD ROD THRU CONC FILL & MTL DECK.

CASE 2: ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. 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 304 SS & INTO CONC FILL.

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). ANCHORS SHALL BE 304 SS.



BLDG ELEV



SHEET TITLE: GENERAL NOTES (CONTINUED)

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SYSMEX XN-2000 ON WG-20

ABBREVIATIONS:

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

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SHEET TITLE: ABBREVIATIONS

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SYSMEX XN-2000 ON WG-20

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:

   $a_p = 1.0$ $R_p = 1.5$ $I_p = 1.5$ $\Omega_0 = 1.5$ (FOR CONC ANCHORS ONLY)

   W_p AS NOTED ON DRAWINGS

   UPPER FLRS ABV THE BASE OF BLDG
   CASE 1: $S_{DS} \leq 1.08$ $F_p = 1.08\ W_p$ $z/h \leq 0.75$
   CASE 2: $S_{DS} < 0.700$ $F_p = 0.560\ W_p$ $z/h \leq 0.50$

   FLRS AT OR BLW THE BASE OF BLDG
   CASE 3: $S_{DS} \leq 1.600$ $F_p = 0.720\ W_p$ $z/h = 0$

   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 VALUES RESULT IN AN Fp FORCE THAT IS LESS THAN OR EQ TO THE VALUE NOTED ABV. SEOR SHALL VERIFY THAT OTHER COMBINATIONS OF S_{DS} & z/h MUST RESULT IN AN Fp VALUE THAT IS EQ TO OR LESS THAN Fp FORCE FOR CASE UNDER CONSIDERATION.

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SHEET TITLE: DESIGN CRITERIA

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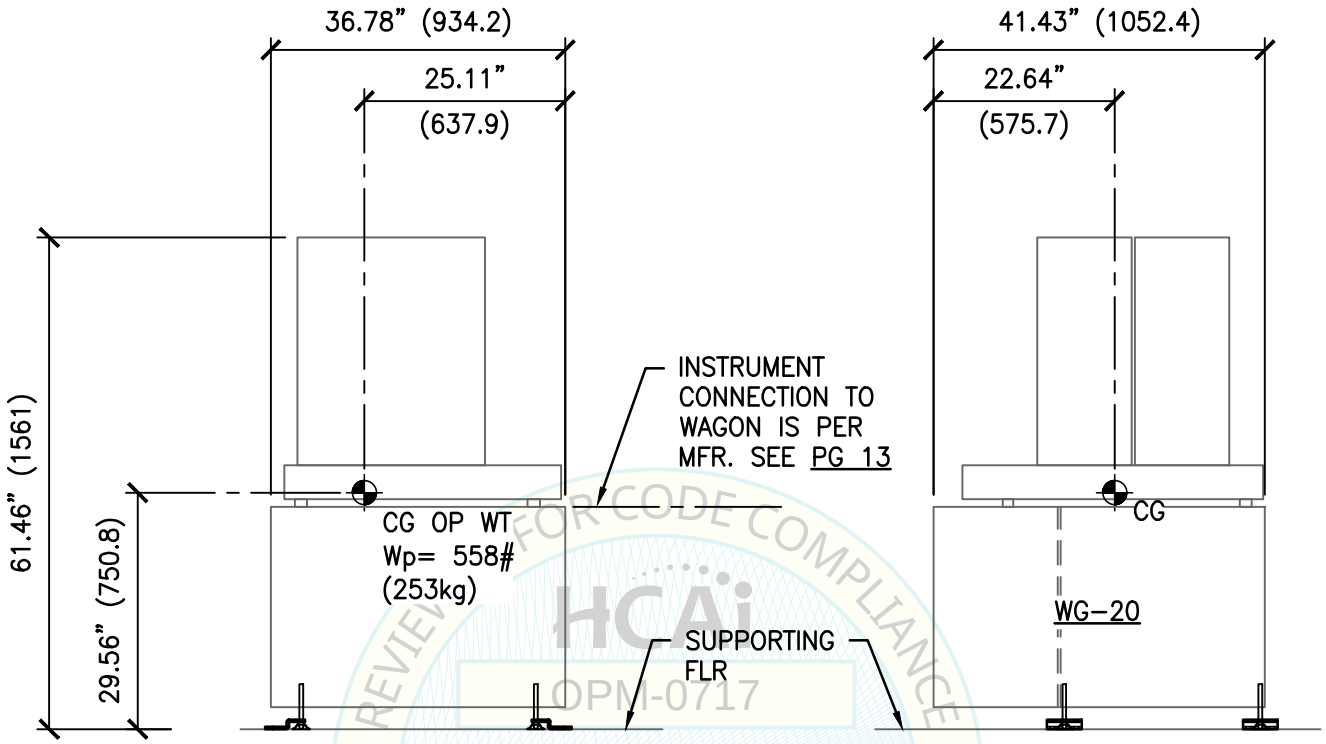

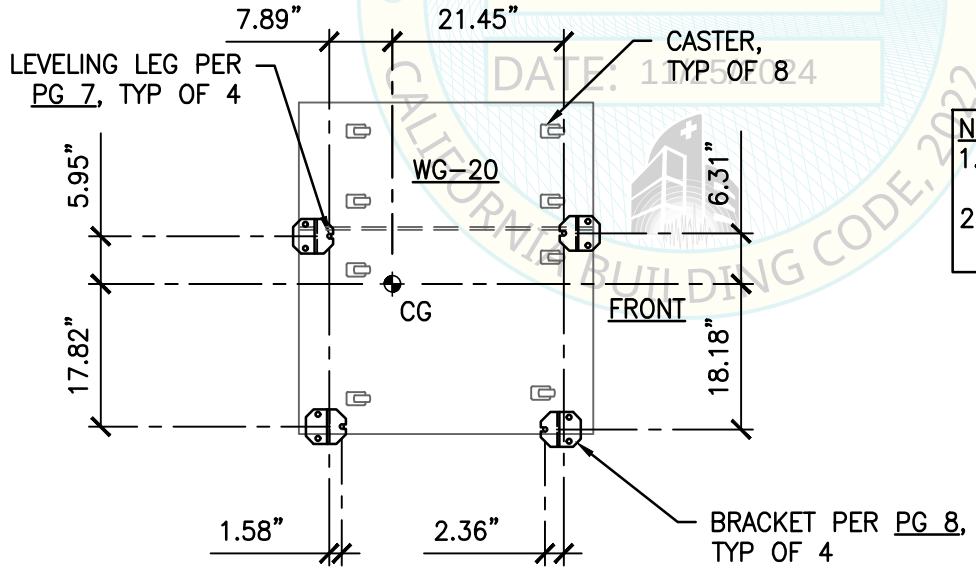

NOTES:
1. FOR COMPONENT CONNS TO SUPPORT, SEE PG 7.
2. DIMS IN PARENTHESES ARE mm & kg, TYP THIS OPM.

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SHEET TITLE: SYSMEX XN-2000 ON WG-20
PLAN VIEW & ELEVATIONS

CYS STRUCTURAL ENGINEERS, INC.
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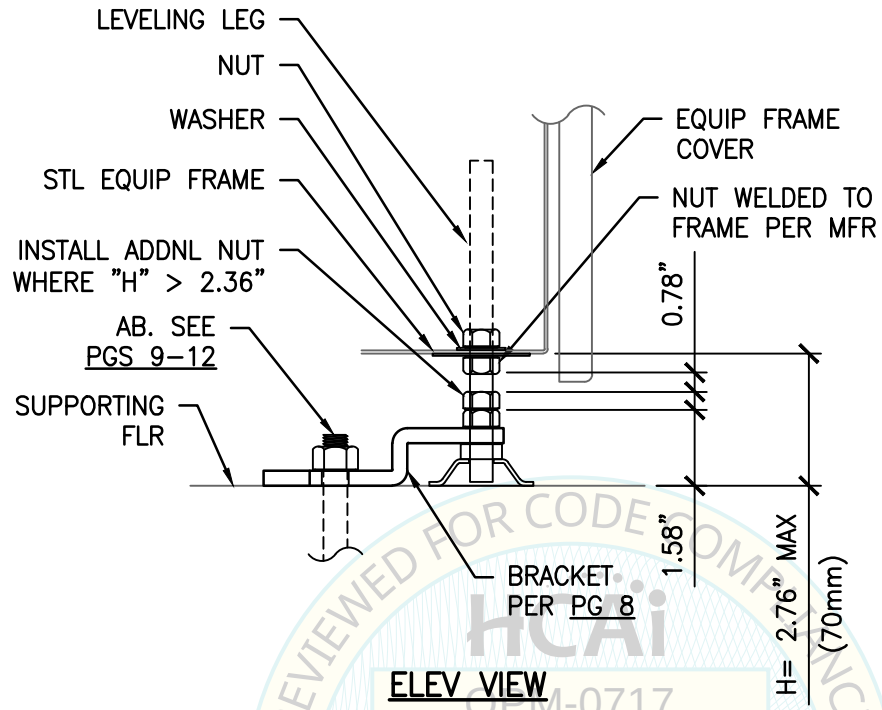
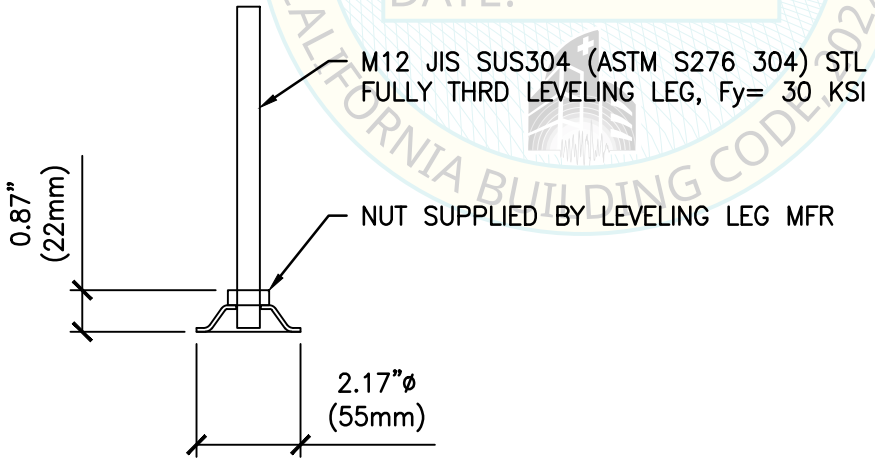


ELEV VIEW



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SHEET TITLE: LEVELING LEG DETAILS

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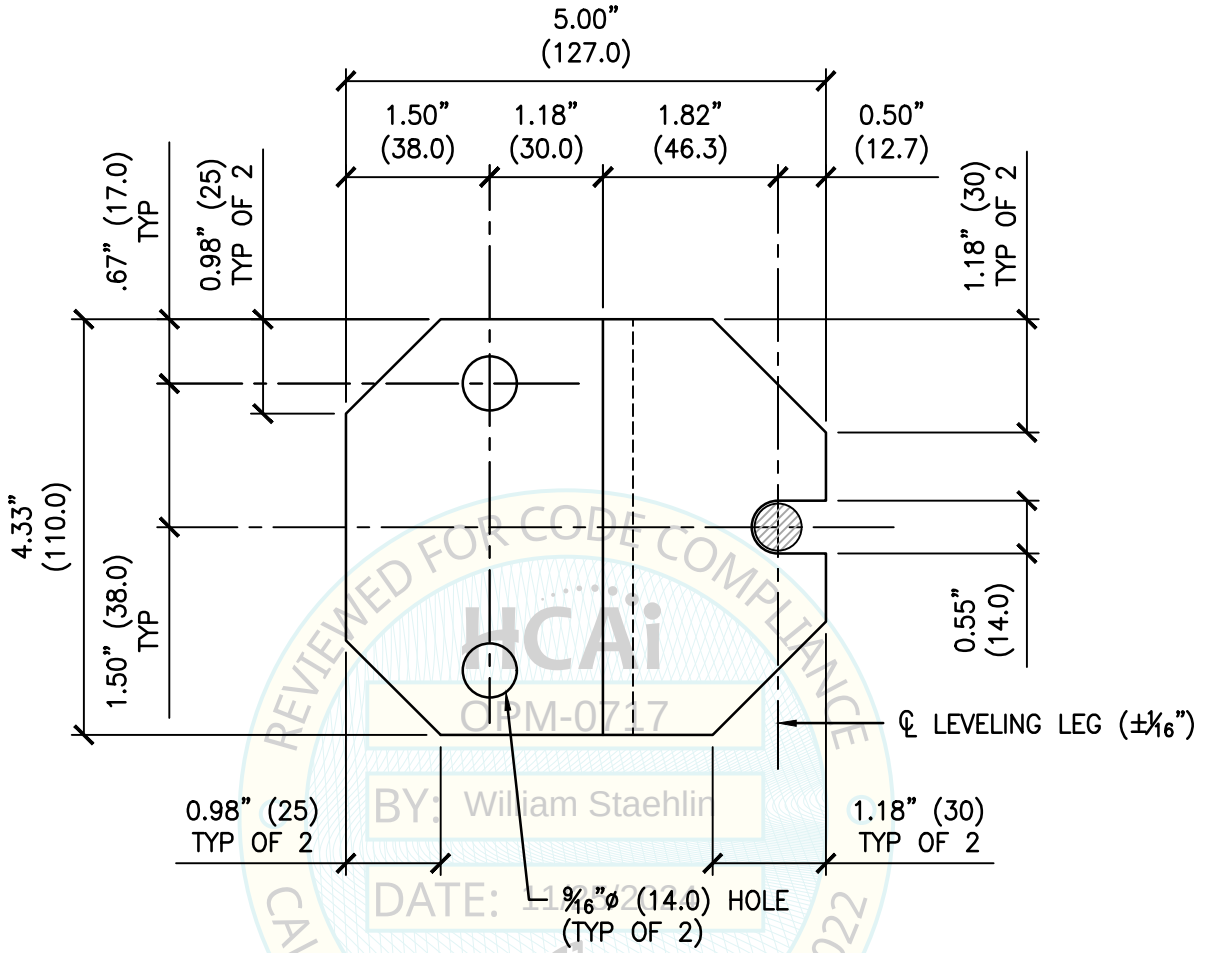
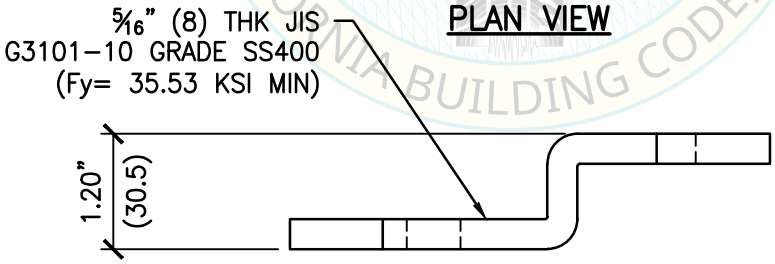
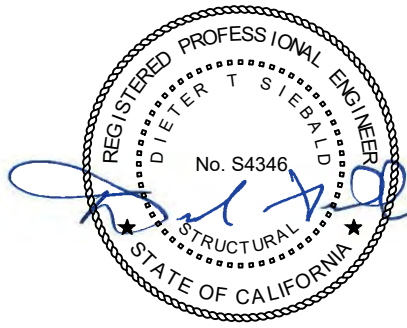


BRACKET
PLAN VIEW



BRACKET
SIDE VIEW



SHEET TITLE: BRACKET DETAIL

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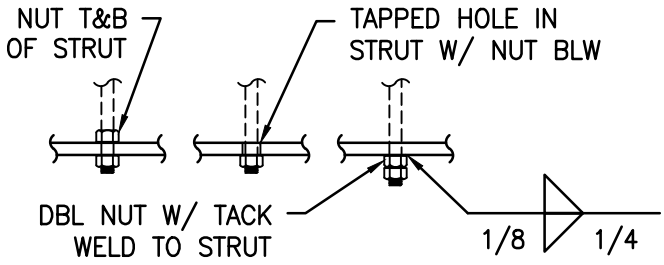
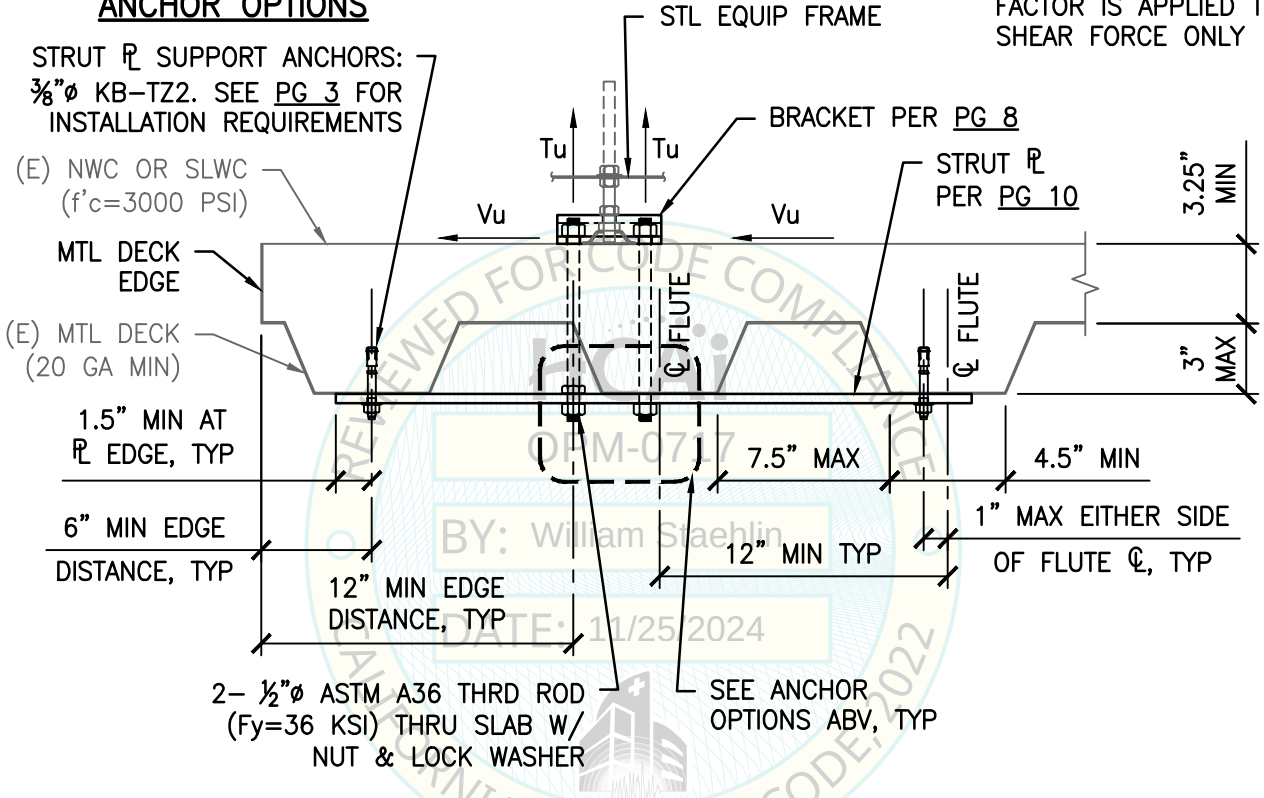


	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 1 $z/h \leq 0.75$	703#	411#

(Ω_o= 1.5) OVERSTRENGTH FACTOR IS APPLIED TO SHEAR FORCE ONLY

ANCHOR OPTIONS



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

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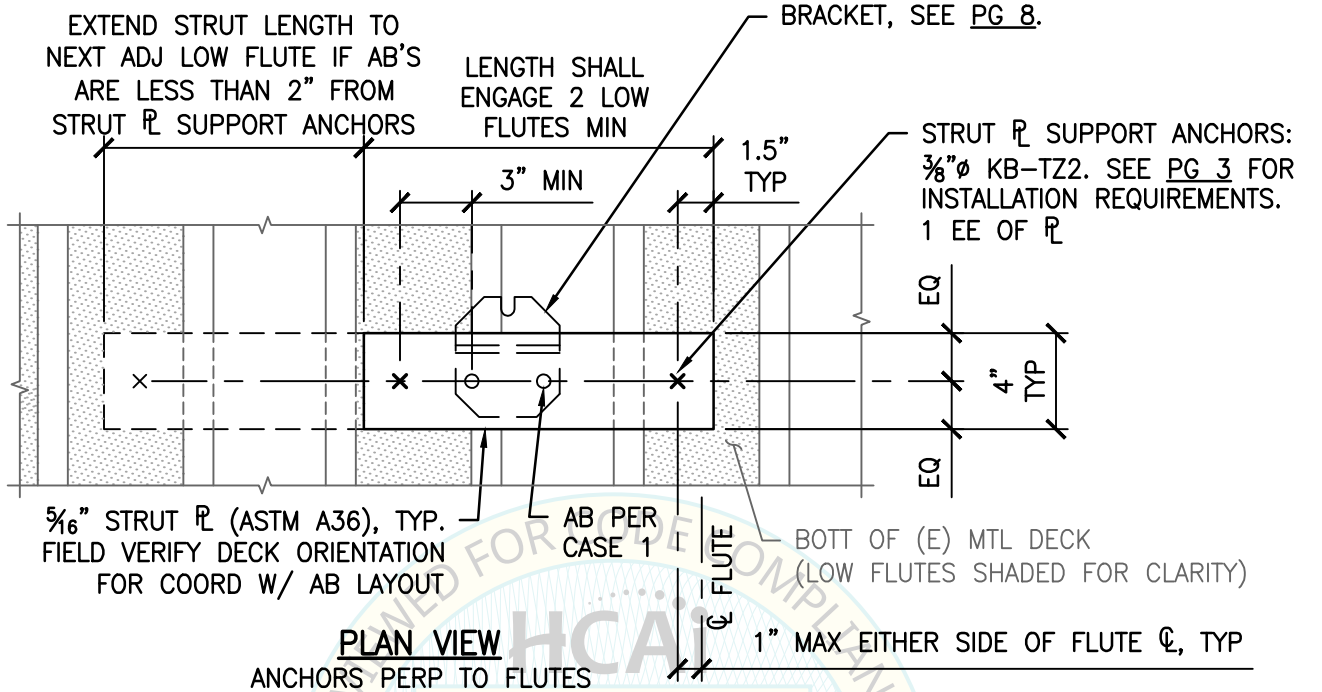
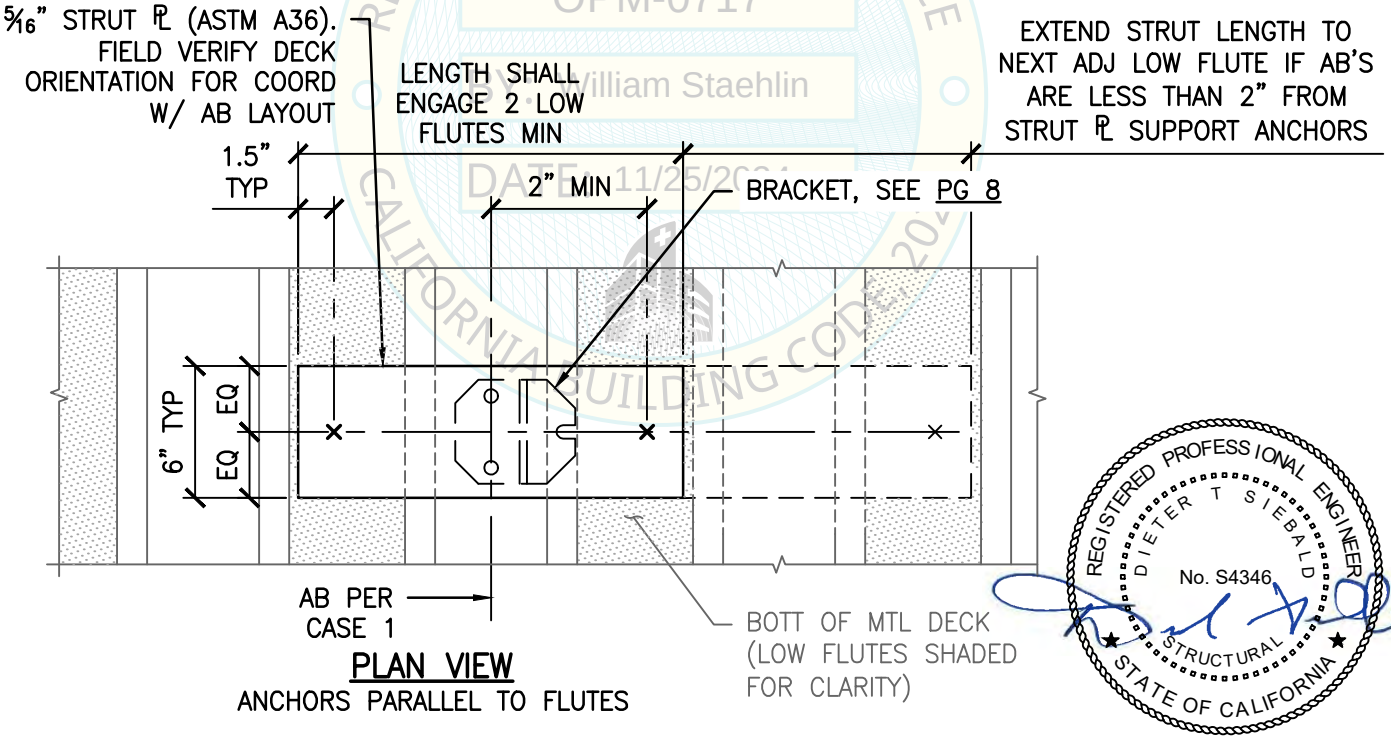


PLAN VIEW
ANCHORS PERP TO FLUTES



PLAN VIEW
ANCHORS PARALLEL TO FLUTES

REGISTERED PROFESSIONAL ENGINEER
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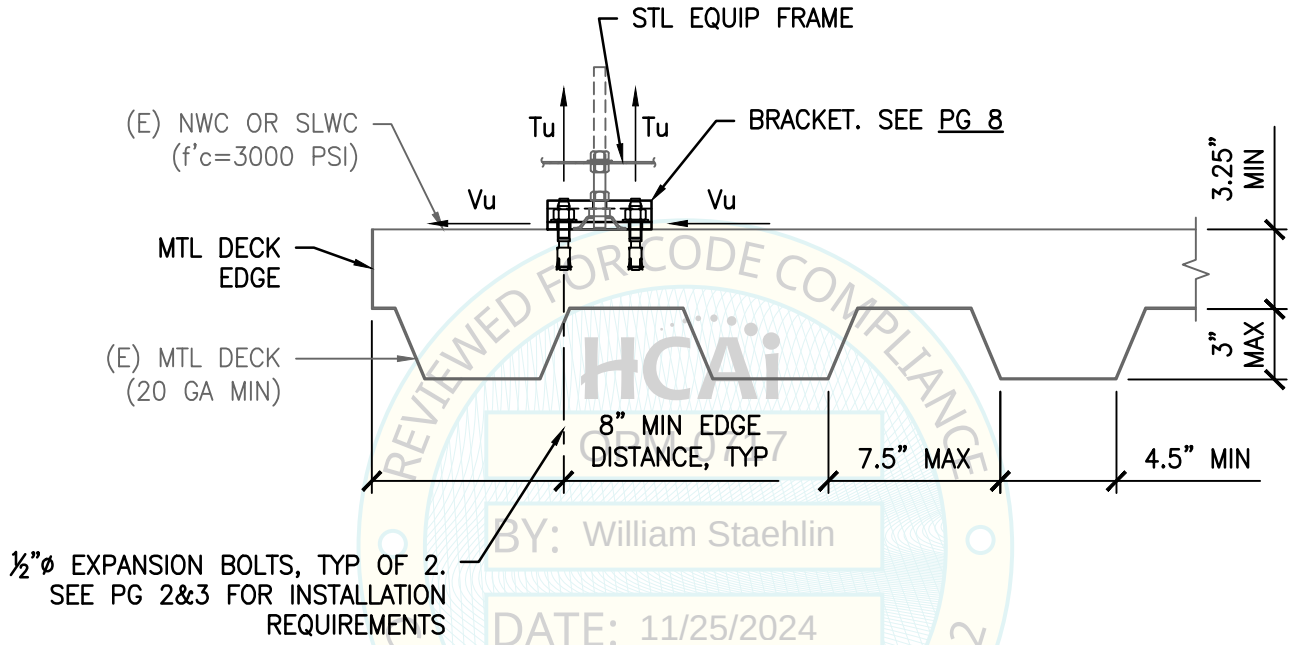
SYSMEX XN-2000 ON WG-20

	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 2 $z/h \leq 0.50$	501#	234#

INCLUDES OVERSTRENGTH FACTOR (Ω_0=1.5)



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

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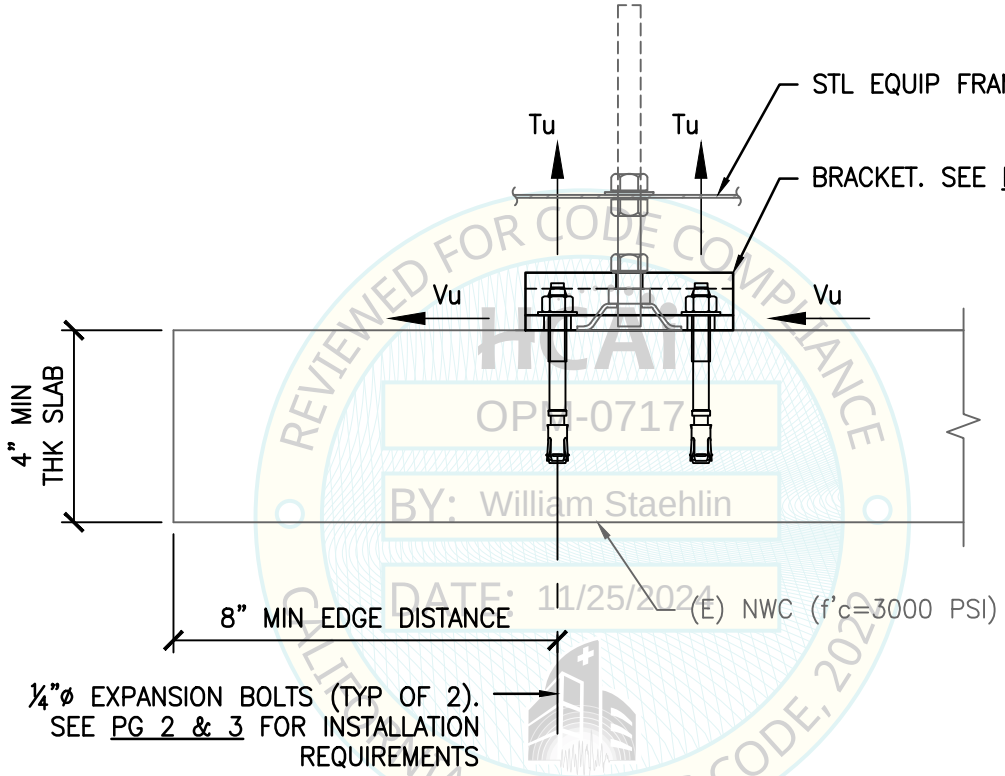
SYSMEX XN-2000 ON WG-20

	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 3 z/h≤0	713#	296#

INCLUDES OVERSTRENGTH FACTOR (Ω_0=1.5)



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SHEET TITLE: ATTACHMENT DETAILS TO CONCRETE SLAB AT OR BELOW GRADE (CASE 3)

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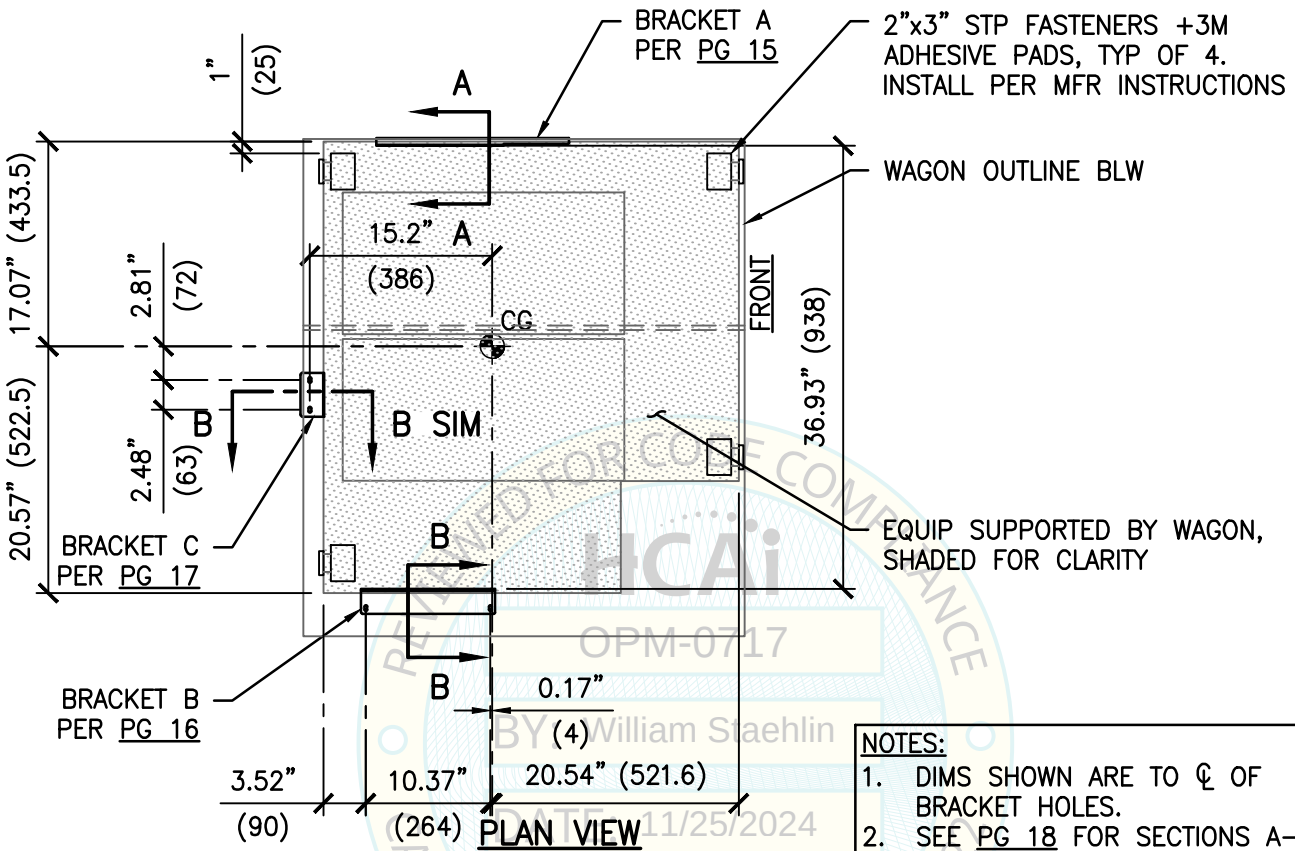
SYSMEX XN-2000 ON WG-20



NOTES:
1. DIMS SHOWN ARE TO ℄ OF BRACKET HOLES.
2. SEE PG 18 FOR SECTIONS A–A & B–B.
3. SEE PG 19 FOR ADHESIVE PAD FASTENING DETAIL.

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DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: SYSMEX XN-2000 CONNECTION TO WAGON
PLAN VIEW

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TEL (916) 920-2020
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Job No:	23029.04
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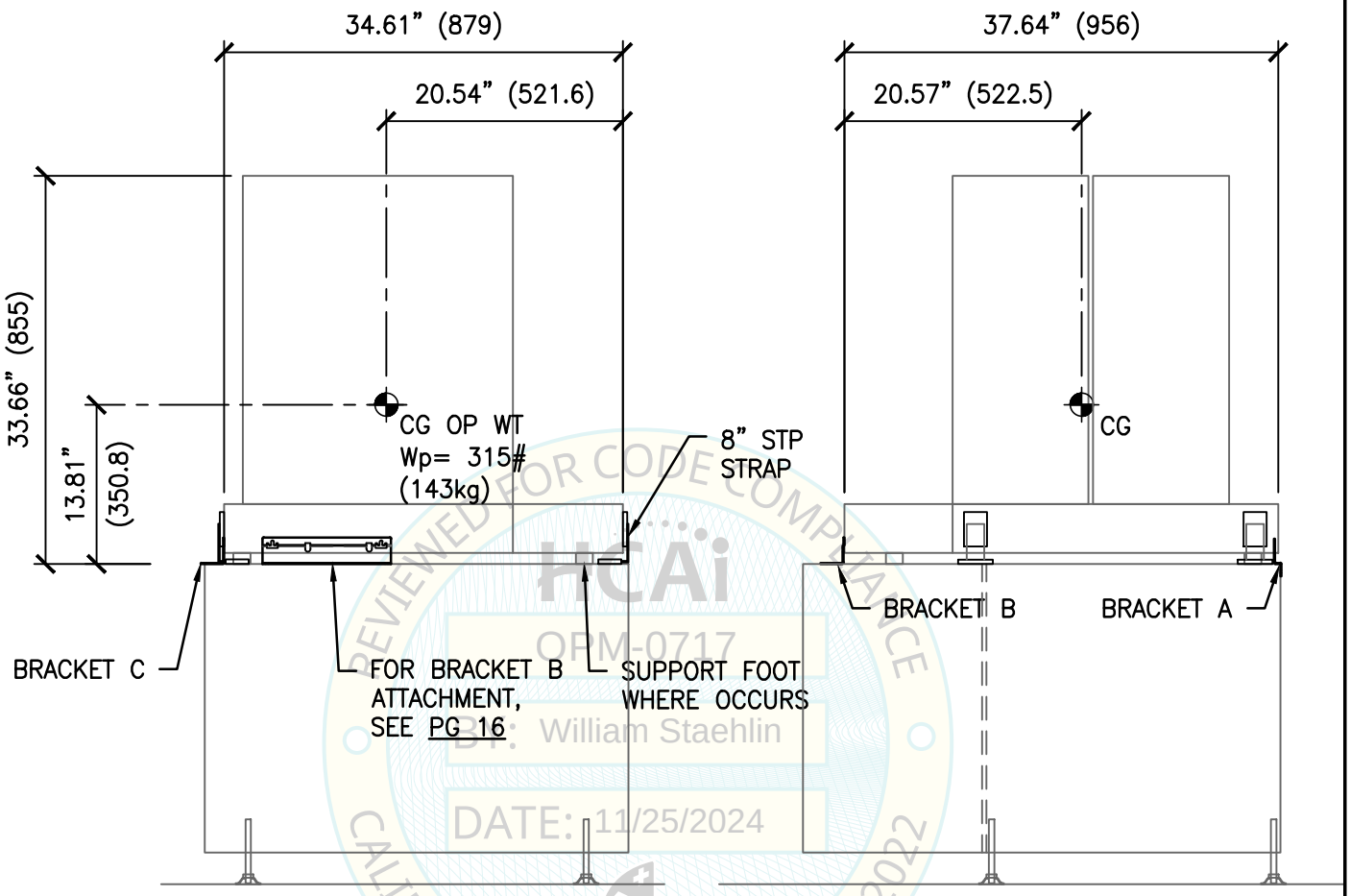
SYSMEX XN-2000 ON WG-20



REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

SHEET TITLE: SYSMEX XN-2000 CONNECTION TO WAGON ELEVATIONS

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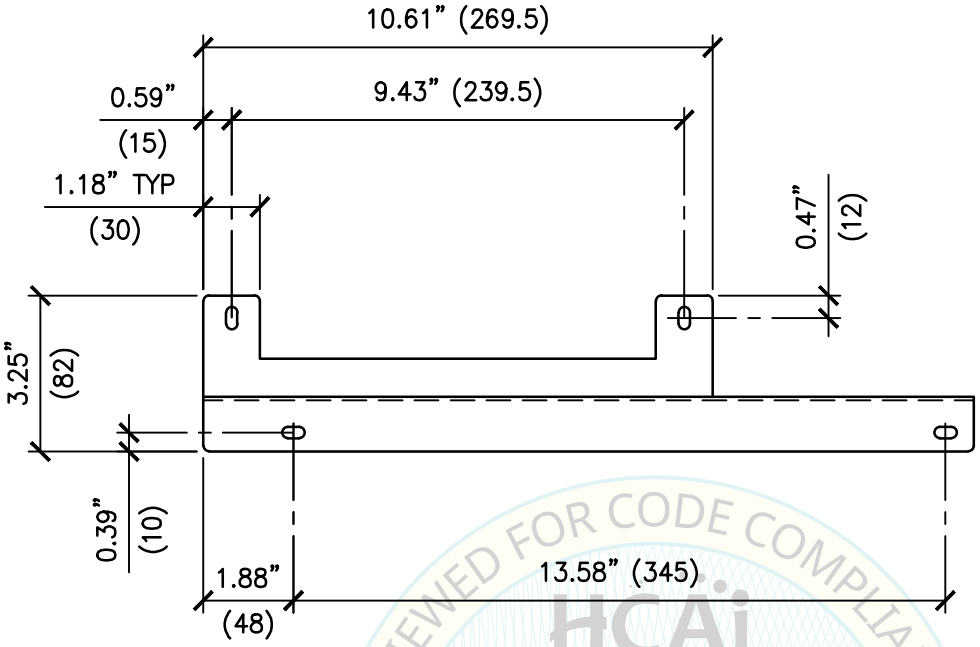
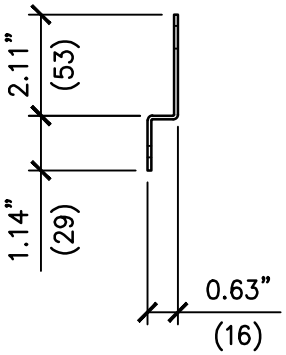
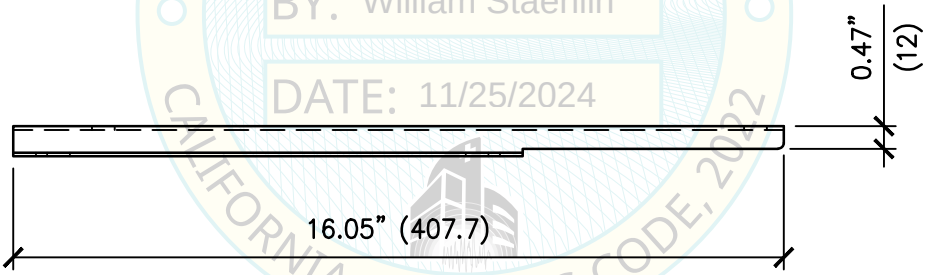
SYSMEX XN-2000 ON WG-20



BRACKET A
FRONT ELEV



BRACKET A
SIDE ELEV



BRACKET A
PLAN VIEW

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No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: BRACKET DETAIL

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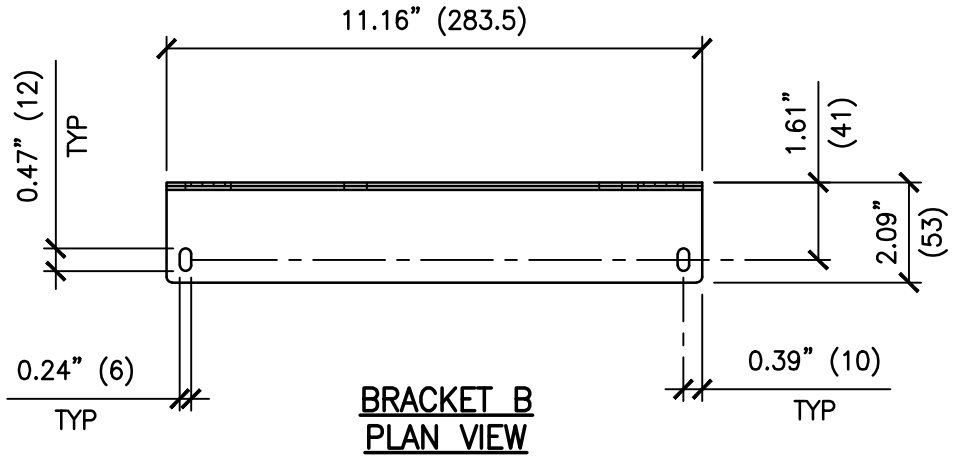
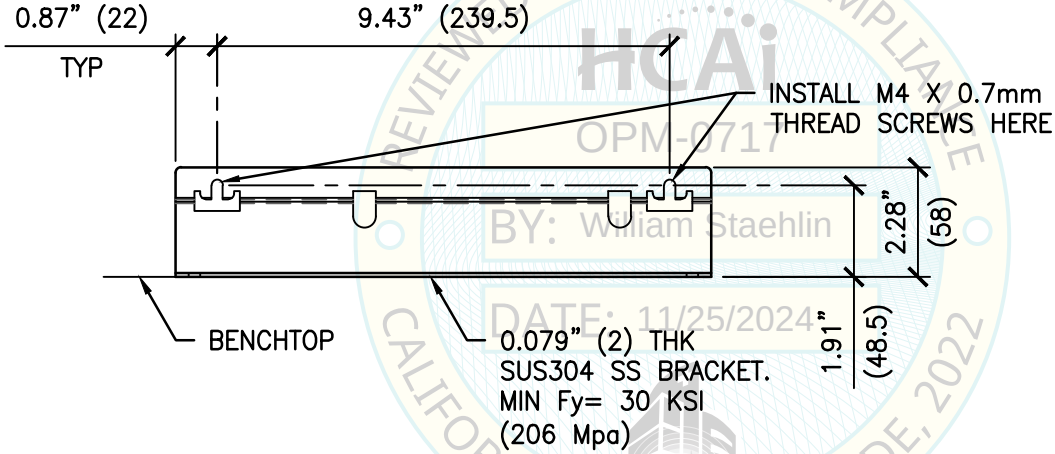
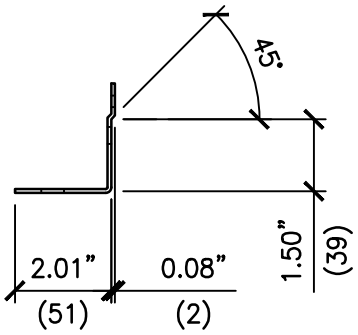
SYSMEX XN-2000 ON WG-20



BRACKET B
PLAN VIEW



BRACKET B
FRONT ELEV



BRACKET B
SIDE ELEV

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SHEET TITLE: BRACKET DETAIL

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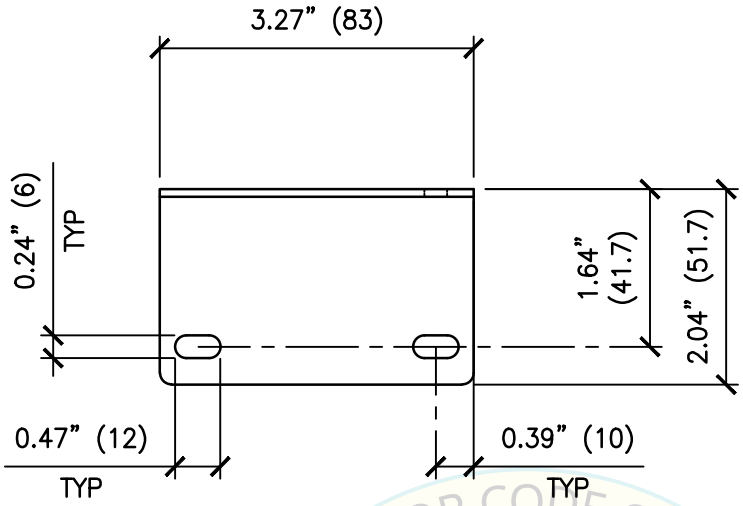
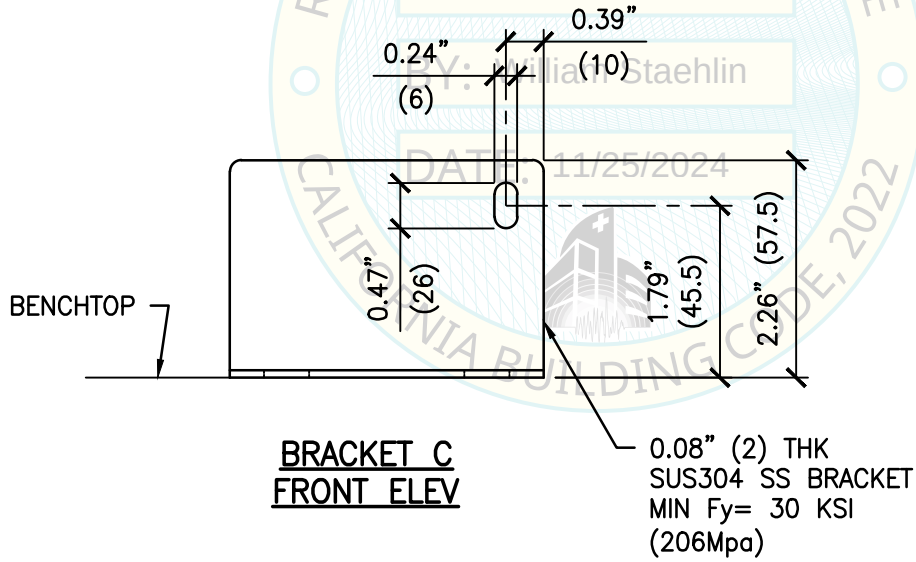
SYSMEX XN-2000 ON WG-20



BRACKET C
PLAN VIEW



BRACKET C
FRONT ELEV

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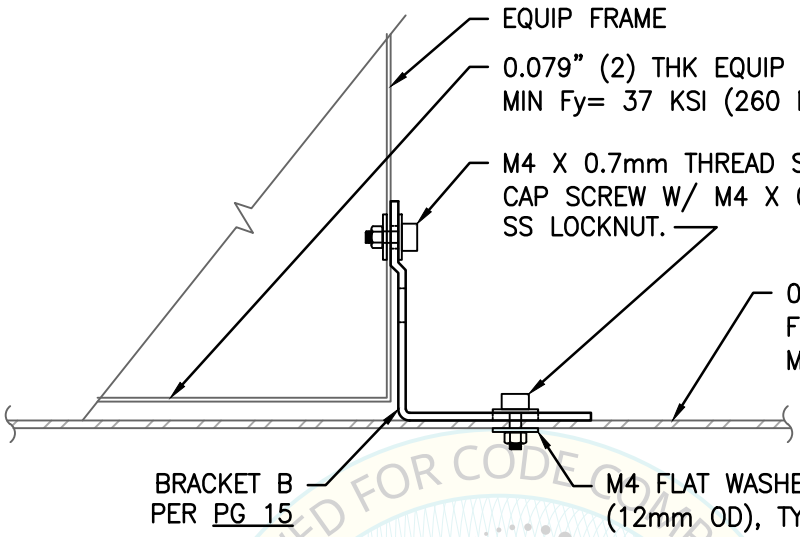
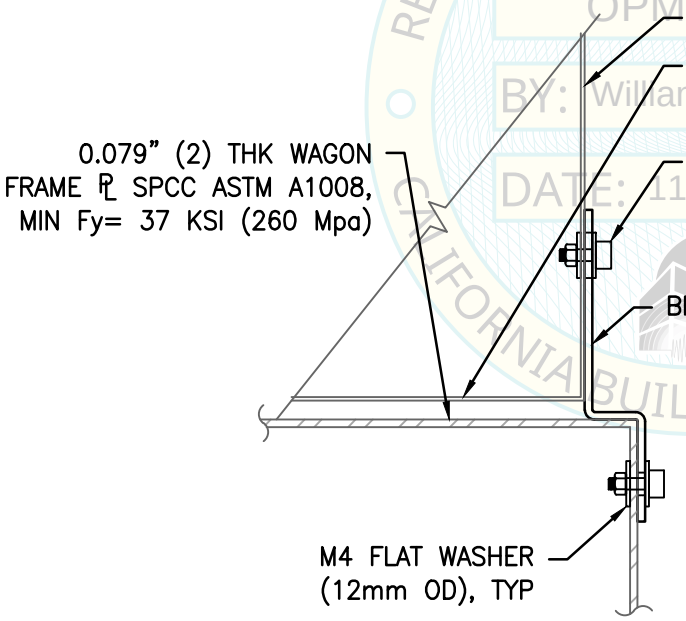
SYSMEX XN-2000 ON WG-20



WAGON CONNECTION SECTION B–B



WAGON CONNECTION SECTION A–A

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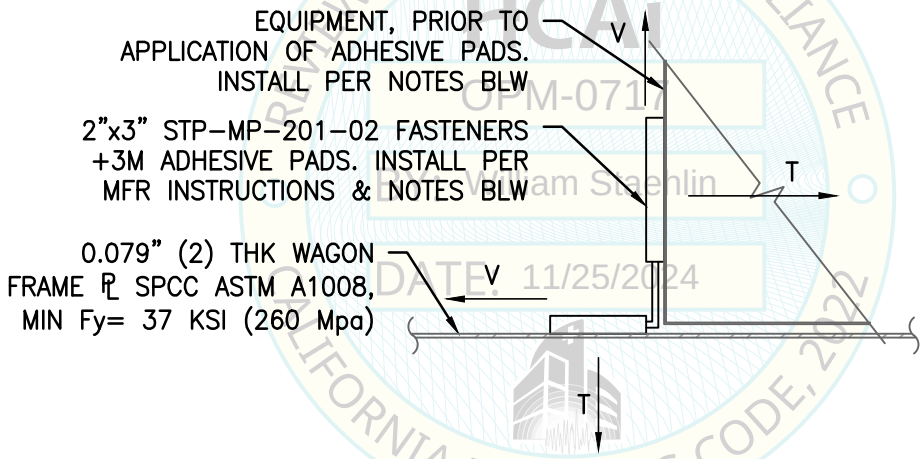
SYSMEX XN-2000 ON WG-20



NOTE:
FOLLOW MFR'S INSTRUCTIONS FOR ADHESION OF FOAM ADHESIVE TO BOND SURFACE AS FOLLOWS: LIGHTLY ABRADE THE BOND AREA OF SURFACES (POWDER-COATED STL, SS, PHENOLIC, THERMOPLASTIC LAMINATE) W/ A SCOTCHBRITE 7447 PAD & THEN CLEAN W/ A 70:30 ISOPROPYL ALCOHOL (IPA)/WATER SOLUTION, ALLOWED TO DRY PRIOR TO APPLICATION OF THE ADHESIVE PADS

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