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

OFFICE USE ONLY

APPLICATION #: OPM-0721

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Savaria Patient Care

Manufacturer's Technical Representative: Stéphane Lebrun

Mailing Address: 1625 boul. Industriel, Magog, QC J1X5B3

Telephone: (819) 481-1070 Email: slebrun@savaria.com

Product Information

Product Name: Savaria Patient Lifts

Product Type: Patient Lift

Product Model Number: PL, FL, HC, and M Series lifts

General Description: Overhead patient lift system

Applicant Information

Applicant Company Name: Savaria Patient Care

Contact Person: Stéphane Lebrun

Mailing Address: 1625 boul. Industriel, Magog, QC J1X5B3

Telephone: (819) 481-1070 Email: slebrun@savaria.com

Title: Senior Mechanical Designer

Registered Design Professonal Preparing Engineering Recommendations

Company Name: DEGENKOLB ENGINEERS

Name: Robert Graff California License Number: S5113

Mailing Address: 375 Beale Street, Ste 500, San Francisco, CA 94105

Telephone: (510) 684-7039 Email: rgraff@degenkolb.com

HCAI Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP OSP Number:

Certification Method

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

☐ Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2022 (CBSC 2022) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2022 may be used when approved by HCAI prior to testing.

☒ Analysis

☐ Experience Data

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

HCAI Approval

Date: 8/1/2024

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

GENERAL NOTES

I. GENERAL

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURE'S CERTIFICATION (OPM) IS BASED ON THE CBC 2022. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2022.
2. THIS PRE-APPROVAL IS VALID FOR THE EQUIPMENT DESCRIBED IN THESE DRAWINGS THROUGHOUT THE STATE OF CALIFORNIA, AND IS VALID FOR EQUIPMENT INSTALLED AT ANY HEIGHT WITHIN THE BUILDING.
3. PROVIDE LABELING ON LIFTS WITH THE DESIGN LIFT CAPACITY IDENTIFIED.

II. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD

1. VERIFY MATERIALS AND WORKMANSHIP TO CONFORM WITH THE 2022 EDITION OF THE CALIFORNIA BUILDING CODE AND THE REQUIREMENTS OF THIS PRE-APPROVAL DOCUMENT.
2. VERIFY THE ADEQUACY OF THE EXISTING FRAMING TO SUPPORT THE LOADS INDICATED ON THIS SHEET, IN ADDITION TO ALL OTHER LOADS.
3. VERIFY ANCHORS ARE ADEQUATE DISTANCES FROM OPENINGS AND EDGES OF SLABS.
4. VERIFY ANCHORS ARE ADEQUATE DISTANCES FROM NEW OR EXISTING ANCHORS.
5. DESIGN ANY SUPPLEMENTARY MEMBER AND THEIR ATTACHMENTS OTHER THAN THOSE DETAILED WITHIN THIS PRE-APPROVAL.
6. VERIFY THE EQUIPMENTS WEIGHT, LOCATION. ANCHOR LOCATIONS AND ANCHOR DETAILS AGREE WITH THE INFORMATION SHOWN IN THIS PRE-APPROVAL.

III. STRUT FRAMING

1. CHANNEL FRAMING COMPONENTS AND CONNECTORS BY MANUFACTURER'S NOTED ONLY.
2. CHANNEL FRAMING TO CONFORM TO ASTM A1011 SS, GRADE 33 .
3. INSTALL BRACING WITH NO MORE THAN 5 DEGREE +/- PLAN DEVIATION.
4. STRUT TYPE: SOLID SECTIONS ONLY.
5. ALL STRUT NUTS AND BOLTS ARE 1/2" AND ARE TO BE TORQUED TO 50 FT-LBS UON.

IV. MECHANICAL ANCHORS

1. WEDGE ANCHORS INTO CONCRETE: USE ZINC PLATED CARBON STEEL HILTI KB-TZ2 (ICC ESR-4266 & 4561). INSTALL ANCHORS IN ACCORDANCE WITH ICC REPORT.
2. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE ANCHOR AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT APPROVED BY THE ENGINEER OF RECORD. NOTIFY THE ENGINEER OF RECORD IF ANY REINFORCING IS DAMAGED.
3. WHERE PRE OR POST TENSIONING IS KNOWN TO BE PRESENT, SCAN THE EXISTING SLAB AND USE CARE TO AVOID DAMAGING EXISTING REINFORCING AND PT TENDONS
4. ANCHORS WILL BE PROOF-TESTED BY OWNER'S TESTING AND INSPECTION AGENCY WITH A REPORT OF THE TEST RESULTS SUBMITTED TO OSHPD.
5. IF ANY ANCHOR FAILS TESTING, REPLACE ANCHOR AND TEST ADDITIONAL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE PASS, THEN RESUME INITIAL TESTING FREQUENCY.
6. TEST ANCHORS NO SOONER THAN 24 HOURS AFTER INSTALLATION.
7. TEST 50% WEDGE ANCHORS PER THE FOLLOWING METHOD:
   A. TORQUE WRENCH METHOD: TEST ANCHORS TO THE TORQUE LOAD INDICATED IN THE TABLE BELOW WITHIN THE FOLLOWING LIMITS:
      1. ONE-HALF TURN OF THE NUT.

WEDGE		
ANCHOR DIA. (IN)	TORQUE LOAD (FT-LBS)	
	CONCRETE	CMU
3/8	30	15
1/2	50	25
5/8	40	30

V. ROUGH CARPENTRY

1. FRAMING LUMBER: DOUGLAS FIR (COAST REGION) GRADED AND MARKED IN ACCORDANCE WITH THE STANDARD GRADING RULES NO. 17 OF THE PACIFIC LUMBER INSPECTION BUREAU (P.L.I.B.) OR WESTERN LUMBER GRADING RULES, OF THE WESTERN WOOD PRODUCTS ASSOCIATION (W.W.P.A.). USE LUMBER WITH A MINIMUM GRADE OF D.F. #2, U.O.N..
2. ROUGH HARDWARE:
   A. NAILS: COMMON WIRE NAILS, ASTM F1667, STANDARD LENGTHS U.O.N. USE HOT-DIPPED ZINC-COATED GALVANIZED NAILS WHEN PENETRATING PRESSURE TREATED OR FIRE-RETARDANT LUMBER.
   B. BOLTS AND THREADED RODS: ASTM A307 OR ASTM A193 GRADE B7, SQUARE OR HEXAGONAL HEAD MACHINE BOLTS WITH ASTM A563 NUTS. USE MALLEABLE IRON WASHERS UNDER HEAD AND NUT WHEN IN CONTACT WITH WOOD.
   C. SCREWS: ASTM A307, ANSI/ASME STANDARD B18.6.1. USE CADMIUM-PLATED PAN OR ROUND HEADED SCREWS AT STEEL TO WOOD AND WOOD TO WOOD CONNECTIONS. WHERE NOTED IN DRAWINGS, USE GRK RUGGED STRUCTURAL SCREWS (ICC ESR-2332).
   D. MISCELLANEOUS STEEL: ASTM A36.
3. BOLT INSTALLATION:
   A. DRILL BOLT HOLES A MAXIMUM OF 1/16 INCH LARGER IN DIAMETER THAN THE BOLT NOMINAL DIAMETER.

VI. STRUCTURAL STEEL

1. STRUCTURAL STEEL TO CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED:

SECTIONS	TYPE
COLD FORMED HOLLOW STRUCTURAL SECTION (HSS)	ASTM A500 GRADE B
BOLTS AND THREADED RODS	ASTM A307 ASTM A193 GRADE B7
NUTS FOR BOLTS AND MACHINE BOLTS	ASTM A563
PLAIN WASHERS	ANSI B18.22.1

2. HOT DIPPED GALVANIZED ELEMENTS THAT ARE PERMANENTLY EXPOSED TO WEATHER IN ACCORDANCE WITH ASTM A123 FOR STRUCTURAL STEEL AND ASTM A153 FOR FASTENERS.

VII. STRUCTURAL TESTS, INSPECTIONS, AND OBSERVATIONS

1. AN INDEPENDENT TESTING AGENCY AND SPECIAL INSPECTORS WILL BE RETAINED BY THE OWNER TO PERFORM THE FOLLOWING TESTS AND INSPECTION. PROVIDE ACCESS AND FURNISH SAMPLES TO THE AGENCY AS REQUIRED.
2. THE FOLLOWING ITEMS REQUIRE TESTS AND INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CHAPTER "STRUCTURAL TESTS AND INSPECTIONS" OF THE CODE.
3. MECHANICAL ANCHORS:
   A. VERIFY TYPE OF ANCHOR, ANCHOR DIMENSIONS, CONCRETE TYPE AND COMPRESSIVE STRENGTH, PREDRILLED HOLE DIMENSIONS, ANCHOR SPACING, EDGE DISTANCE, SLAB THICKNESS AND ANCHOR EMBEDMENT.
   B. PROOF-TEST AS INDICATED IN THE MECHANICAL ANCHORS SECTION OF THESE GENERAL NOTES.

VIII. DESIGN CRITERIA

1. APPLICABLE CODE: 2022 CALIFORNIA BUILDING CODE.
2. SEISMIC DESIGN:
   SEISMIC FORCE F = 3.00 Wp Ev = 0.50 Wp
   WHERE:
   Sds = 250% G WORST CASE ACCEL.
   Ip = 1.5 FOR ESSENTIAL EQUIP.
   Z/h= 1.0 FOR ANY FLOOR
   Rp = 4.5
   ap = 2.5
   Ω = 2.0
3. CRANE LOADING PER AISC
   TRANSVERSE LOADING = 0.2 (DL+LL)
   LONGITUDINAL LOADING = 0.1 (DL+LL)

IX. HOW TO USE THIS PRE-APPROVAL

1. REVIEW AND UNDERSTAND ALL GENERAL NOTES AND FIGURES BEFORE PROCEEDING.
2. FOR THE SELECTED LIFT AND TRACK DETERMINE THE MAX HANGER SPACING FROM THE TABLES ON S3. REFERENCE DETAILS ON S2 FOR REQUIRED SPACING OF LONGITUDINAL AND TRANSVERSE BRACING.
3. BASED ON THE LIFT AND STRUCTURE TYPES SELECT A HANGER CONNECTION FROM THE TABLE ON S4.
4. BASE ON THE LIFT AND STRUCTURE TYPES SELECT A BRACE CONNECTION FROM THE TABLE ON S4.
5. DETERMINE THE MAXIMUM DEMANDS ON THE EXISTING STRUCTURE FROM THE NEW UNIT FROM THE TABLE ON THIS SHEET, AND VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE WITH THE ENGINEER OF RECORD FOR THE BUILDING.

SHEET LIST

LOADS IMPOSED ON STRUCTURE

MAX LRFD LOADS W/OMEGA		
LIFT CAPACITY KG (LBS)	T Hanger	P Brace
130 (286)	1273	1400
200 (440)	1607	1400
272 (600)	1948	1400
363 (800)	2548	1864
454 (1000)	2964	1864
544 (1200)	3385	1864

Degenkolb

DEGENKOLB ENGINEERS
375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
415.981.3157 *Fax*
www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA
6/28/2024

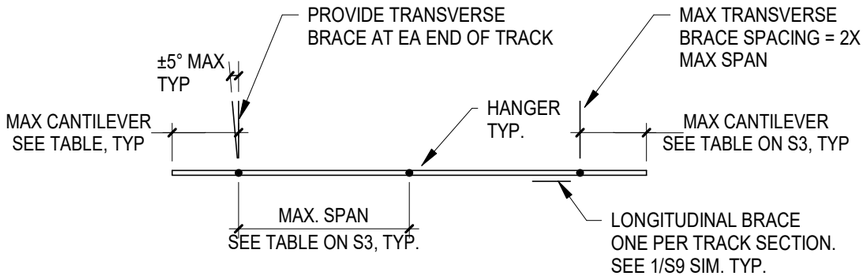
OPM-0721: Reviewed for Code Compliance by William E Staehlin

SAVARIA PATIENT LIFTS

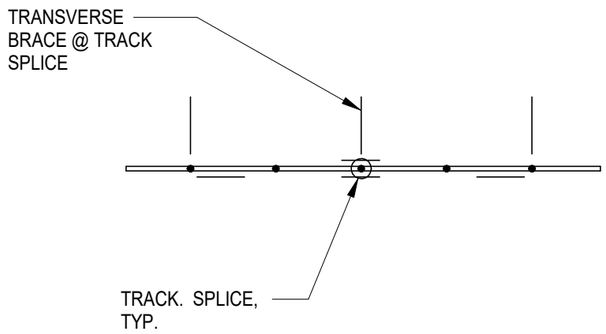
Title: GENERAL NOTES

Sheet Number: S1

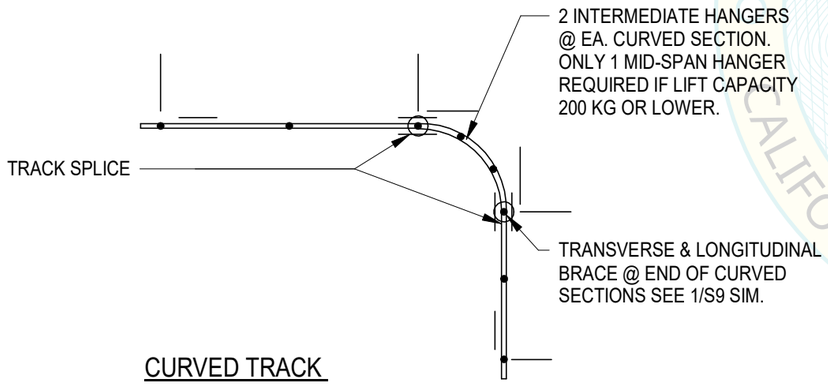
Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	N.T.S.
Date	4/1/2024		



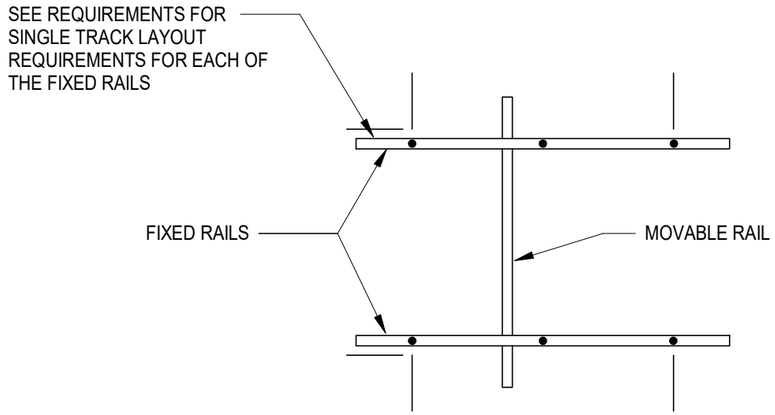
SINGLE



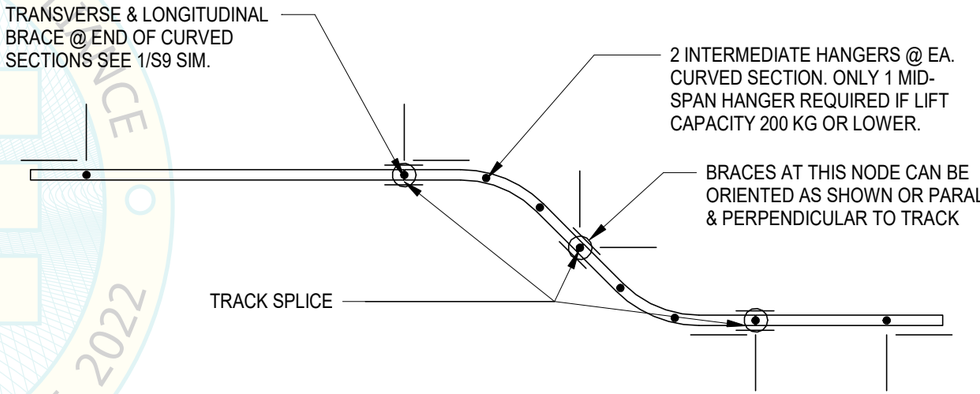
MULTIPLE SECTION



CURVED TRACK



X-Y TRACK LAYOUT



S TRACK LAYOUT

LEGEND	
	BRACE
•	STD BRACKET
⊙	JOINT BRACKET
▭	RAIL

1 TRACK LAYOUT PLANS

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DEGENKOLB ENGINEERS
375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
415.981.3157 *Fax*
www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA

OPM-0721: Reviewed for Code Compliance by William E Staehlin

SAVARIA PATIENT LIFTS

Title: LAYOUT

Sheet Number: S2

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	As indicated
Date	4/1/2024		

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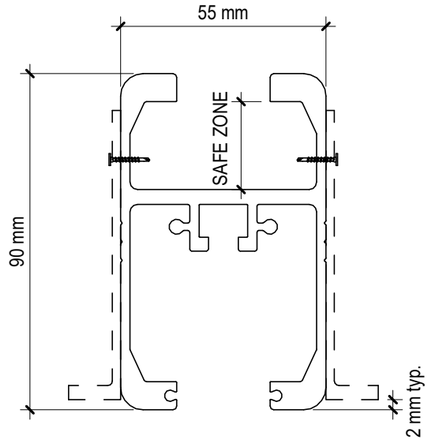
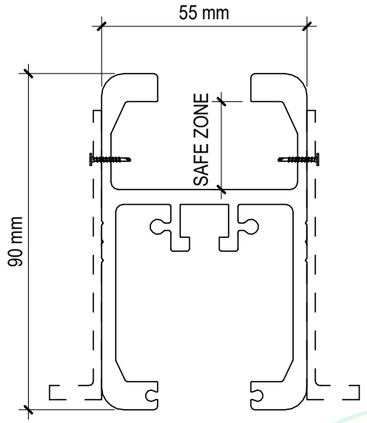
2 OF 13 Sheets



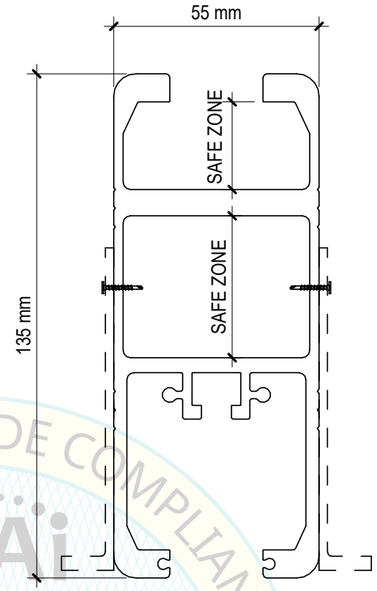
STANDARD TRACK (SD)

AL 66081-T5



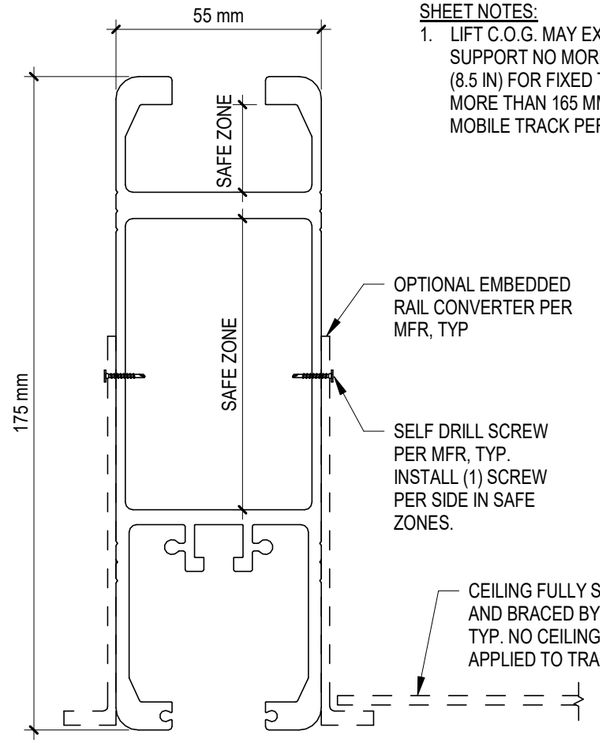
BARIATRIC TRACK (SD)

AL 66081-T5



MEDIUM TRACK (MD)

AL 66081-T5



SHEET NOTES:

1. LIFT C.O.G. MAY EXTEND BEYOND SUPPORT NO MORE THAN 215 MM (8.5 IN) FOR FIXED TRACK AND NO MORE THAN 165 MM (6.5 IN) FOR MOBILE TRACK PER MFR REQ'S.

HEAVY TRACK (HD)

AL 66081-T5

			MAX TRACK SPAN				MAX TRACK CANTILIEVER			
LIFT SERIES	LIFT CAPACITY	LIFT MOTOR WEIGHT	STD SD	BARI SD	MD	HD	STD SD	BARI SD	MD	HD
	KG (LBS)	KG (LBS)	MM (IN)	MM (IN)	MM (IN)	MM (IN)	MM (IN)	MM (IN)	MM (IN)	MM (IN)
PL - MONARCH & M SERIES	130 (286)	5 (11)	1727 (68)	1828 (72)	2667 (105)	3962 (156)	SEE SHEET NOTE 1			
	200 (440)	5 (11)	1422 (56)	1524 (60)	2184 (86)	3429 (135)				
FL - MONARCH & M SERIES	130 (286)	8.5 (19)	1727 (68)	1828 (72)	2667 (105)	3962 (156)				
	200 (440)	8.5 (19)	1422 (56)	1524 (60)	2184 (86)	3429 (135)				
	272 (600)	8.5 (19)	1219 (48)	1320 (52)	1930 (76)	2997 (118)				
HC - MONARCH & M SERIES	363 (800)	23.5 (51.8)	N/A	1016 (40)	1524 (60)	2413 (95)	N/A			
	454 (1000)	23.5 (51.8)		914 (36)	1270 (50)	2159 (85)				
	544 (1200)	23.5 (51.8)		812 (32)	1219 (48)	1981 (78)				

1 TRACK SECTIONS

N.T.S.

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DEGENKOLB ENGINEERS
375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
415.981.3157 *Fax*
www.degenkolb.com

8/1/2024

REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA

OPM-0721: Reviewed for Code Compliance by William E Staehlin

SAVARIA PATIENT LIFTS

Title: TRACK SECTIONS

Sheet Number: S3

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
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Date	4/1/2024		

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3 OF 13 Sheets

HANGER CONNECTION TABLE																					
LIFT CAPACITY KG (LBS)	SEE SHEET S5 FOR DETAILS										SEE SHEET S6 FOR DETAILS									
	CONCRETE FLAT SLAB						COMP METAL DECK				CONC JOIST			STEEL BEAM		STEEL JOIST	SOLID LUMBER		WOOD I-JOIST	
	H-CFS1	H-CFS2	H-CFD1	H-CFD1N	H-CFD2	H-CFD3	H-MDS1	H-MDS2	H-MDD1	H-MDD2	H-CPJ1	H-CPJ2	H-CPJ3	H-SB1	H-SB2	H-OWJ1	H-DL1	H-DL2	H-IJ1	H-IJ2
130 (286)	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
200 (440)	NO	OK	NO	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
272 (600)	NO	OK	NO	OK	OK	OK	NO	OK	OK	OK	OK	OK	OK	NO	OK	OK	OK	OK	OK	OK
363 (800)	NO	NO	NO	NO	NO	OK	NO	NO	NO	OK	NO	OK	OK	NO	OK	OK	NO	OK	NO	OK
454 (1000)	NO	NO	NO	NO	NO	OK	NO	NO	NO	OK	NO	OK	OK	NO	OK	OK	NO	OK	NO	OK
544 (1200)	NO	NO	NO	NO	NO	OK	NO	NO	NO	OK	NO	NO	OK	NO	OK	OK	NO	OK	NO	OK

1 HANGER CONNECTION TO STRUCTRUE

N.T.S.

BRACE CONNECTION TABLE											
LIFT CAPACITY KG (LBS)	SEE SHEET S7 FOR DETAILS					SEE SHEET S8 FOR DETAILS					
	CONCRETE FLAT SLAB		COMP METAL DECK		CONC JOIST	STEEL BEAM			STEEL JOIST	STEEL LUMBER	WOOD I-JOIST
	B-CFS1	B-CFD1	B-MDS1	B-MDD1	B-CPJ1	B-SB1	B-SB2	B-SB3	B-OWJ1	B-DL1	B-IJ1
130 (286)	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
200 (440)	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
272 (600)	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
363 (800)	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
454 (1000)	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
544 (1200)	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

2 BRACE CONNECTION TO STRUCTURE

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375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
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www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA
5/1/2024

SAVARIA PATIENT LIFTS

Title:
CONNECTION SCHEDULES

Sheet Number
S4
6 of 15
4 OF 13 Sheets

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
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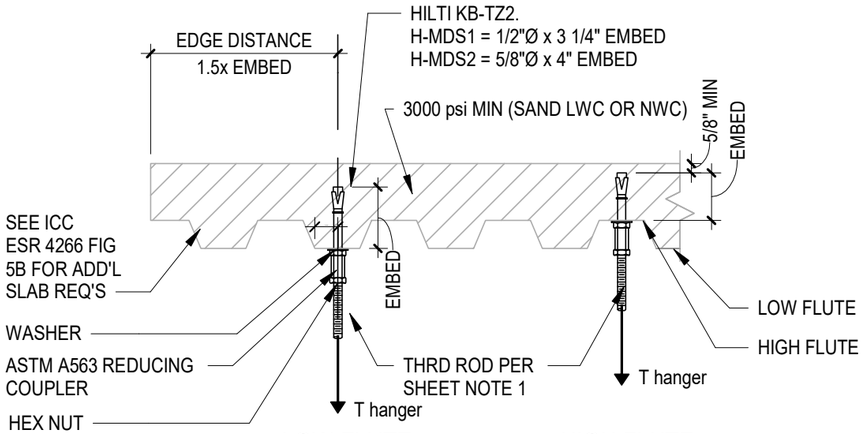
Date	4/1/2024		

SHEET NOTES:

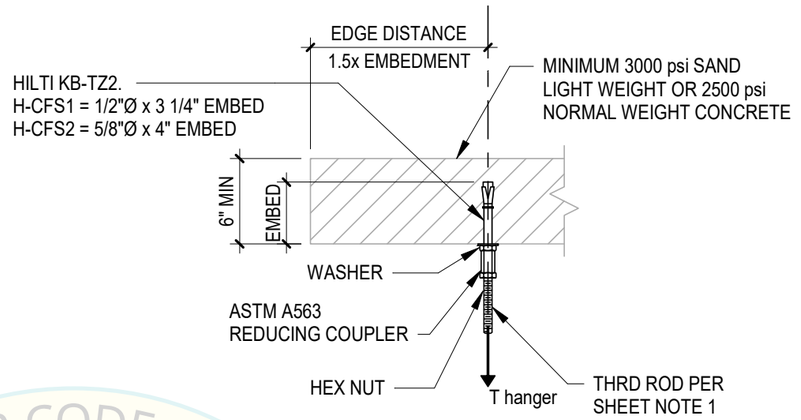
1. HANGER ROD SHALL BE 3/8"Ø ASTM A193 GRADE B7 OR 1/2"Ø ASTM A307 THREADED ROD.



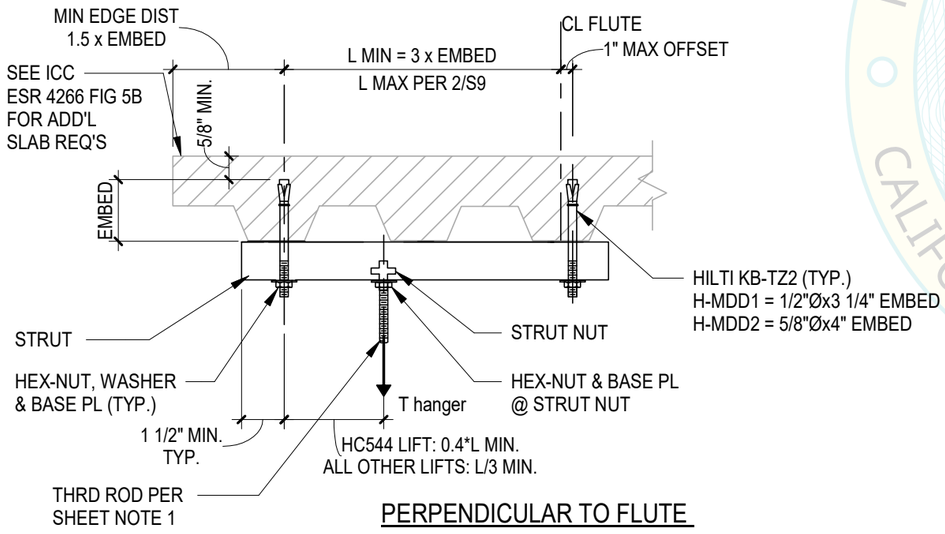
LOW FLUTE INSTALLATION

HIGH FLUTE INSTALLATION

H-MDS# CONC. ON DECK SINGLE ANCHOR

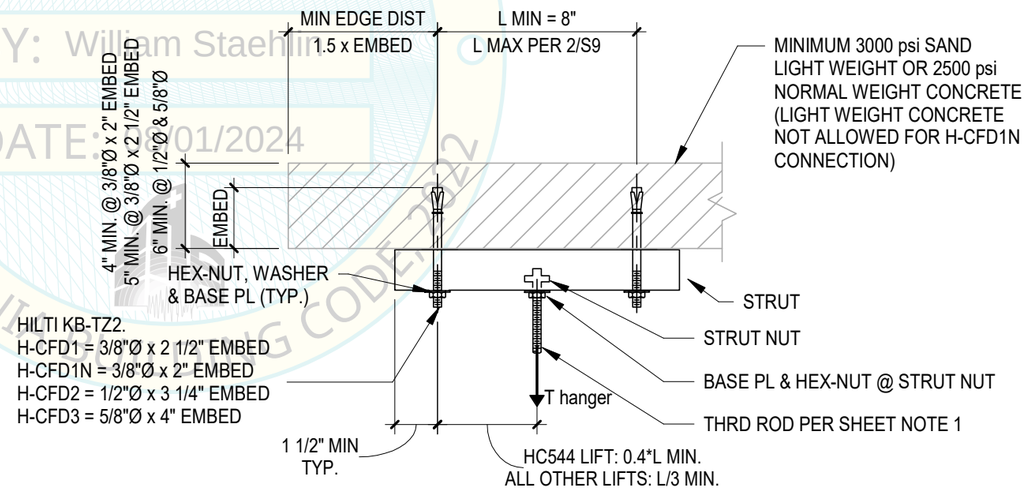


H-CFS# CONCRETE SLAB SINGLE ANCHOR



PERPENDICULAR TO FLUTE

H-MDD# CONC. ON DECK DOUBLE ANCHOR



H-CFD# CONCRETE SLAB DOUBLE ANCHOR

DEGENKOLB ENGINEERS
375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
415.981.3157 *Fax*
www.degenkolb.com

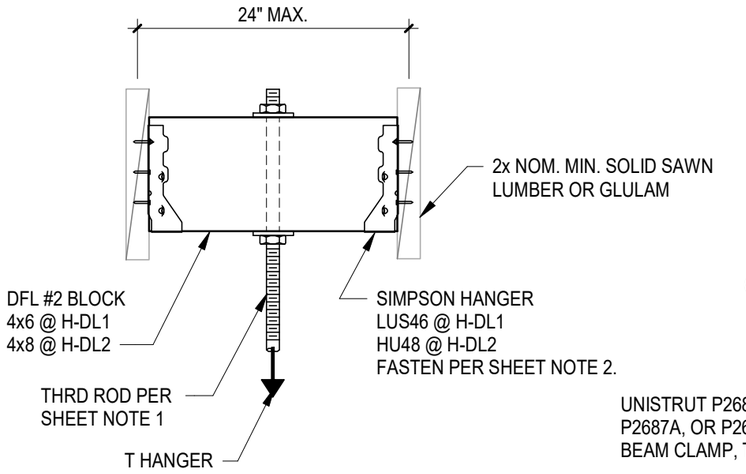
REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA
4/1/2024

SAVARIA PATIENT LIFTS

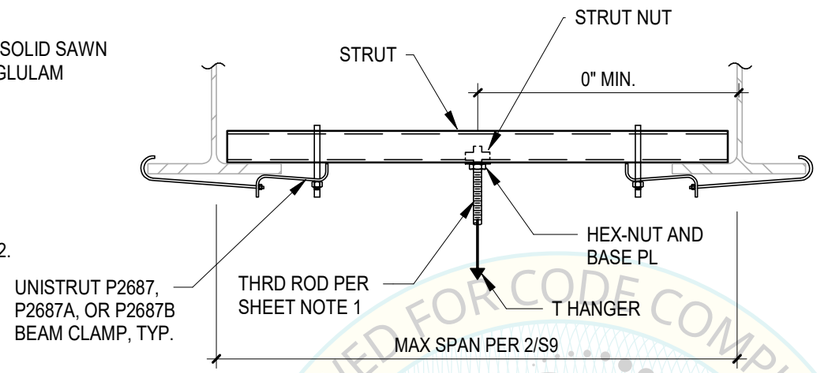
Title: HANGER CONNECTION DETAILS

Sheet Number: S5

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	N.T.S.
Date	4/1/2024		



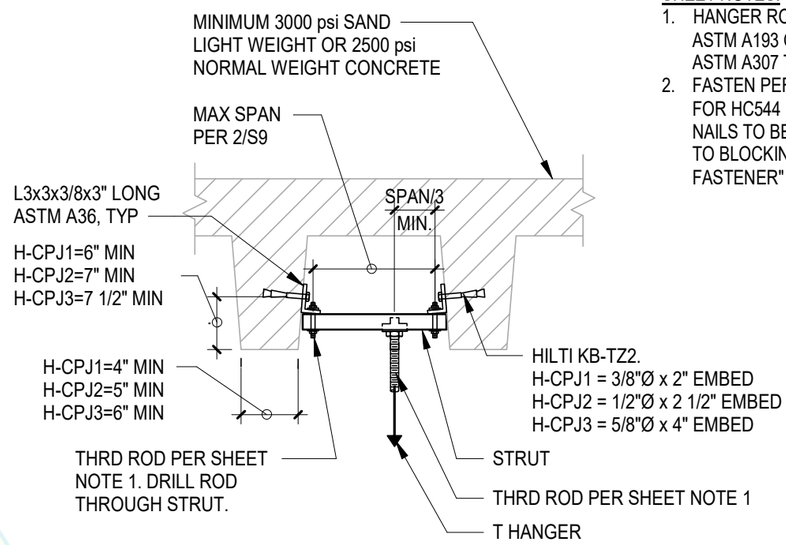
H-DL# WOOD



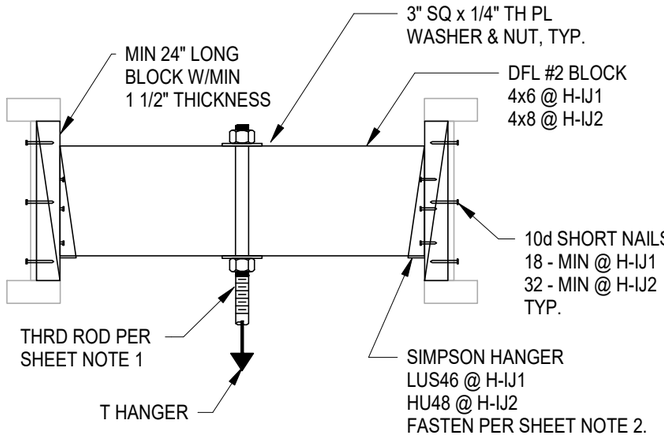
H-SB2 ABOVE STEEL BEAM FLANGE

SHEET NOTES:

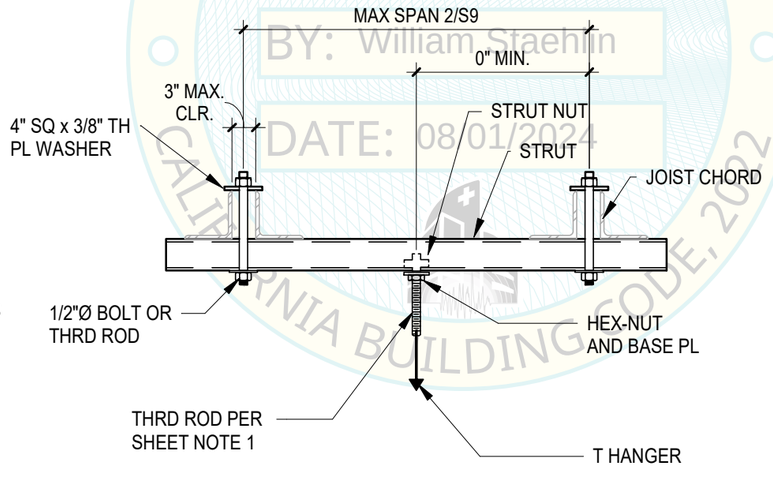
1. HANGER ROD SHALL BE 3/8"Ø ASTM A193 GRADE B7 OR 1/2"Ø ASTM A307 THREADED ROD.
2. FASTEN PER SIMPSON MANUAL. FOR HC544 LIFT, USE (14) 16d NAILS TO BEAM AND (6) 10d NAILS TO BLOCKING PER "MAX FASTENER" INSTRUCTIONS.



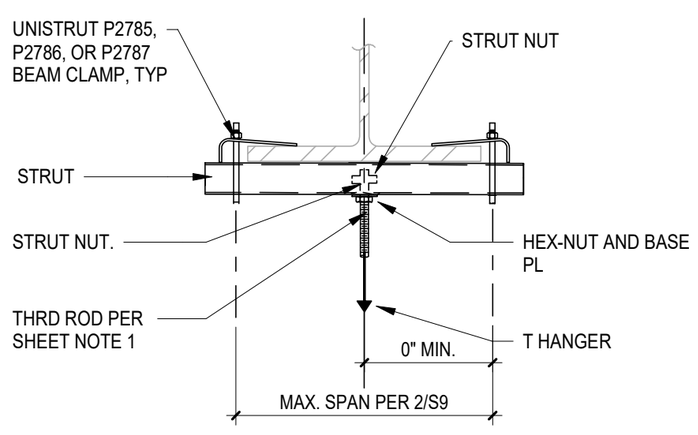
H-CPJ# CONCRETE JOIST



H-IJ# WOOD I - JOIST



H-OWJ1 OPEN WEB STEEL JOIST



H-SB1 BELOW STEEL BEAM

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375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
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8/1/2024

REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA

OPM-0721: Reviewed for Code Compliance by William E Staehlin

SAVARIA PATIENT LIFTS

Title: HANGER CONNECTION DETAILS

Sheet Number: S6

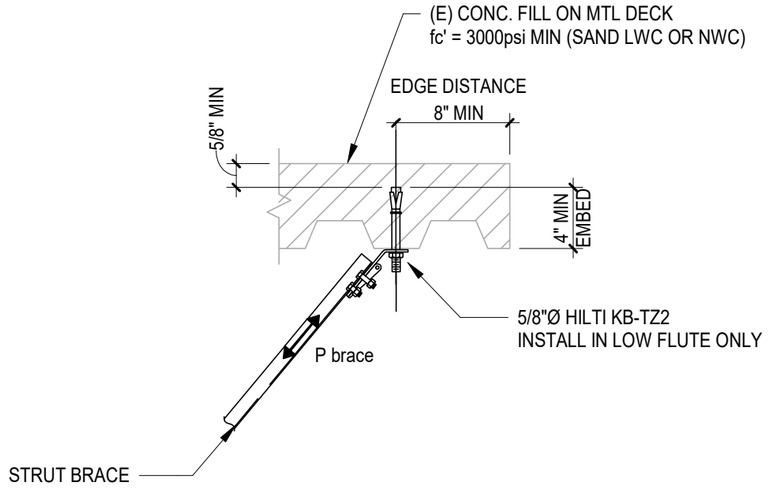
Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	As indicated
Date	4/1/2024		

8 of 15

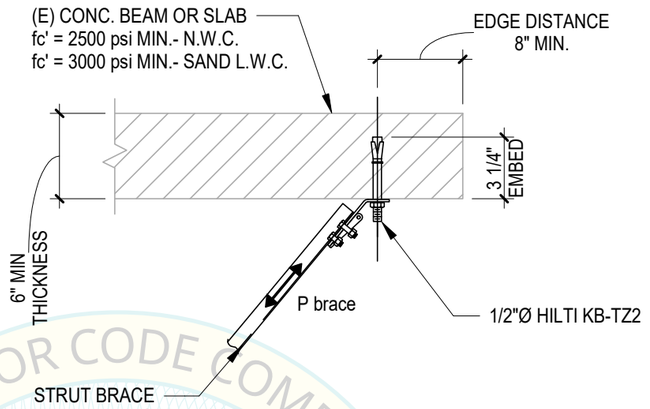
6 OF 13 Sheets

SHEET NOTES:

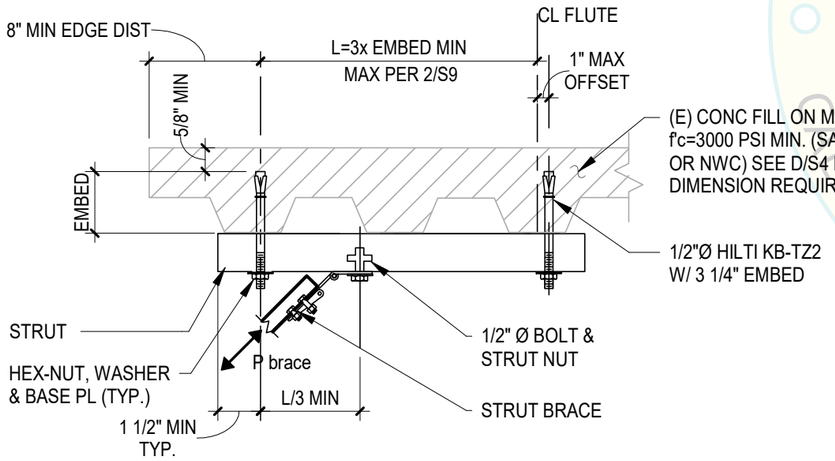
1. HANGER ROD SHALL BE 3/8"Ø ASTM A193 GRADE B7 OR 1/2"Ø ASTM A307 THREADED ROD.



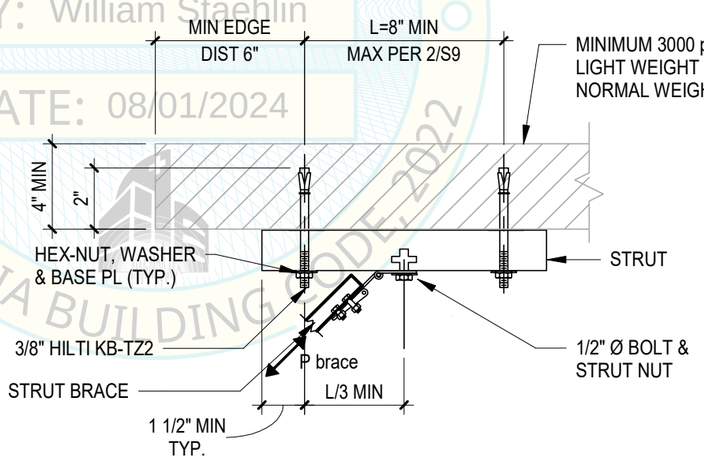
B-MDS-1 CONCRETE ON DECK SINGLE ANCHOR



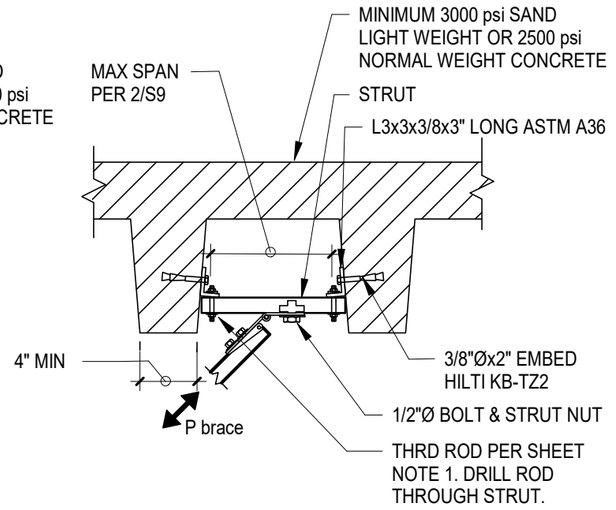
B-CFS-1 CONCRETE SLAB SINGLE ANCHOR



B-MDD-1 CONCRETE ON DECK DOUBLE ANCHOR



B-CFD-1 CONCRETE SLAB DOUBLE ANCHOR



B-CPJ 1 CONCRETE JOIST

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375 Beale Street, Suite 500
San Francisco, CA 94105
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REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA

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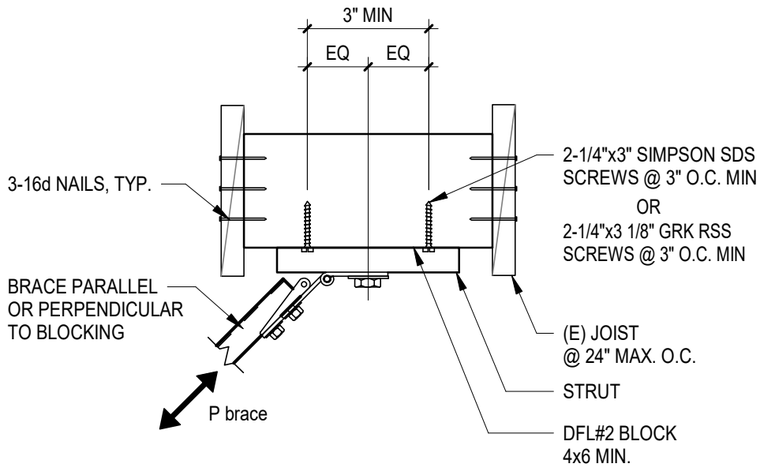
SAVARIA PATIENT LIFTS

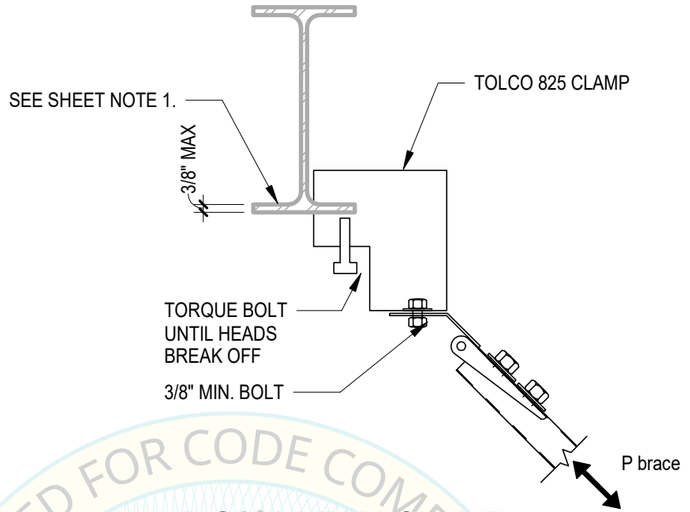
Title:
BRACE CONNECTION DETAILS

Sheet Number
S7
9 of 15
7 OF 13 Sheets

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	N.T.S.
Date	4/1/2024		



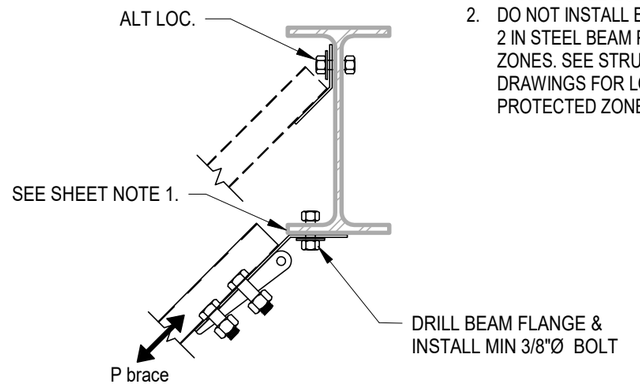
B-DL1 WOOD



B-SB 3 BEAM CLAMP

SHEET NOTES:

1. DO NOT BRACE TO BEAM/JOIST BOTTOM FLANGE/CHORD W/O SPECIFIC EVALUATION OF BEAM FOR IMPOSED LOADS.
2. DO NOT INSTALL B-SB 1 OR B-SB 2 IN STEEL BEAM PROTECTED ZONES. SEE STRUCTURAL DRAWINGS FOR LOCATION OF PROTECTED ZONES.



B-SB 1 BOLT BEAM

B-IJ1 WOOD I - JOIST

B-OWJ 1 OPEN WEB JOIST

B-SB 2 WELD BEAM

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375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
415.981.3157 *Fax*
www.degenkolb.com

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REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA

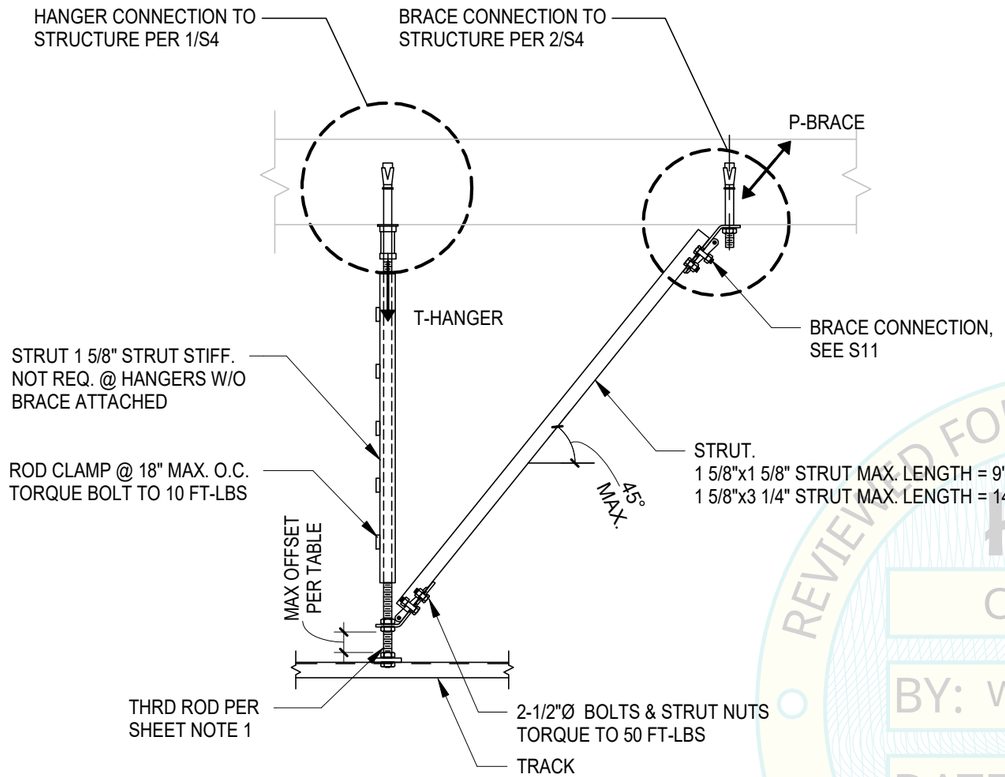
OPM-0721: Reviewed for Code Compliance by William E Staehlin

SAVARIA PATIENT LIFTS

Title: BRACE CONNECTION DETAILS

Sheet Number: S8

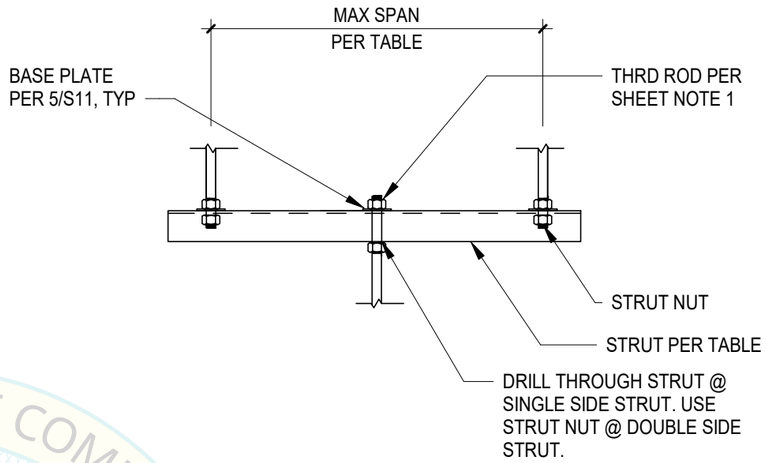
Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	As indicated
Date	4/1/2024		



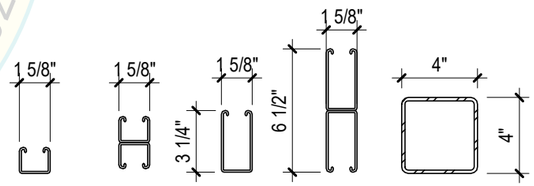
MAXIMUM OFFSET	
LIFT CAPACITY KG (LBS)	OFFSET MM (IN)
130 (286)	48 (1.9)
200 (440)	40 (1.8)
272 (600)	35 (1.4)
363 (800)	25 (1.0)
454 (1000)	22 (0.9)
544 (1200)	20 (0.8)

1 SECTION @ BRACE

N.T.S.



STRUT SPANS					
LIFT CAPACITY	STD	DOUBLE	DEEP	DOUBLE DEEP	HSS 4X4X3/16
KG (LBS)	MM (IN)	MM (IN)	MM (IN)	MM (IN)	MM (IN)
130 (286)	711 (28)	1930 (76)	1397 (55)	3403 (134)	6096 (240)
200 (440)	533 (21)	1524 (60)	1193 (47)	2971 (117)	5588 (220)
272 (600)	431 (17)	1270 (50)	1041 (41)	2667 (105)	5080 (200)
363 (800)	330 (13)	965 (38)	889 (35)	2286 (90)	4318 (170)
454 (1000)	254 (10)	812 (32)	787 (31)	2082 (82)	3937 (155)
544 (1200)	228 (9)	685 (27)	685 (27)	1905 (75)	3556 (140)



NOTES:
1. ALL 1 5/8" STRUT MANUF. BY MASON WEST, UNISTRUT, POWER-STRUT, OR B-LINE/TOLCO
2. ALL 1 5/8" STRUT TO BE 12 ga.
3. ALL STRUT TO BE SOLID W/O PUNCHED HOLES OR SLOTS.

2 TRAPEZE

N.T.S.

SHEET NOTES:
1. HANGER ROD SHALL BE 3/8"Ø ASTM A193 GRADE B7 OR 1/2"Ø ASTM A307 THREADED ROD.

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DEGENKOLB ENGINEERS
375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
415.981.3157 *Fax*
www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA
8/1/2024

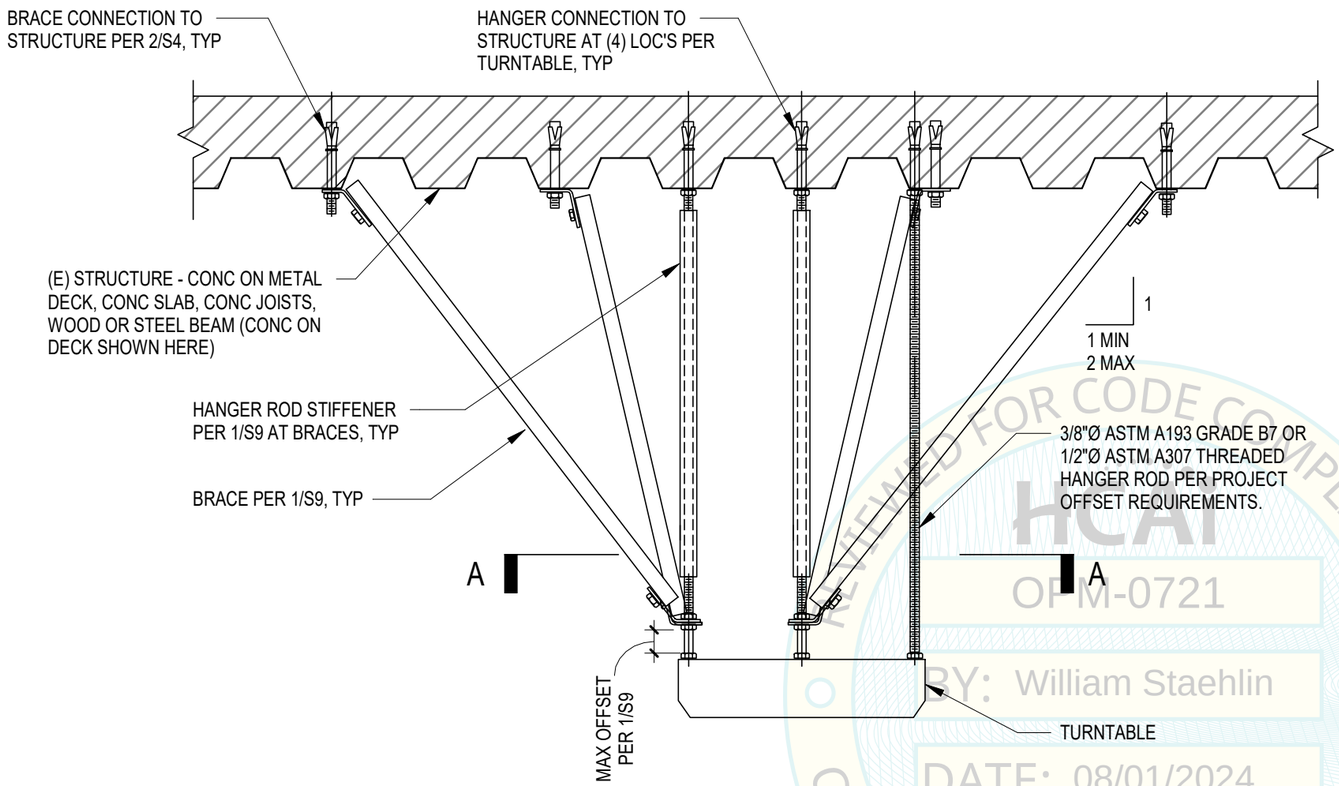
OPM-0721: Reviewed for Code Compliance by William E Staehlin

SAVARIA PATIENT LIFTS

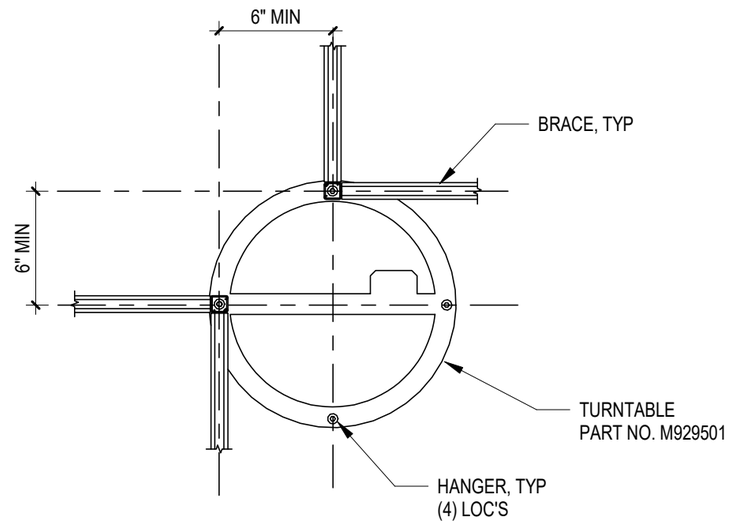
Title: SECTION & TRAPEZE

Sheet Number: S9

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	As indicated
Date	4/1/2024		



ELEVATION



PROVIDE (2) PARALLEL, NON CO-LINEAR, BRACES PER ORTHOGONAL DIRECTION

SECTION A-A

1 TURNTABLE

N.T.S.

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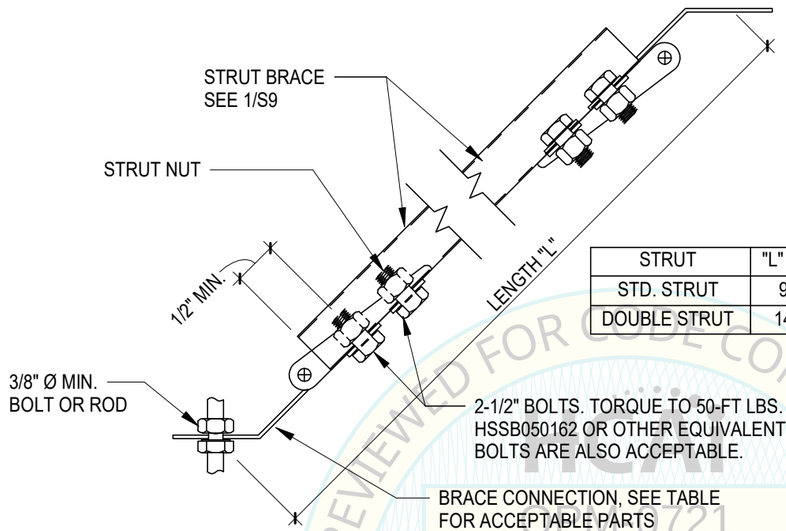
SAVARIA PATIENT LIFTS

Title: TURNTABLE

Sheet Number: S10

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	N.T.S.
Date	4/1/2024		

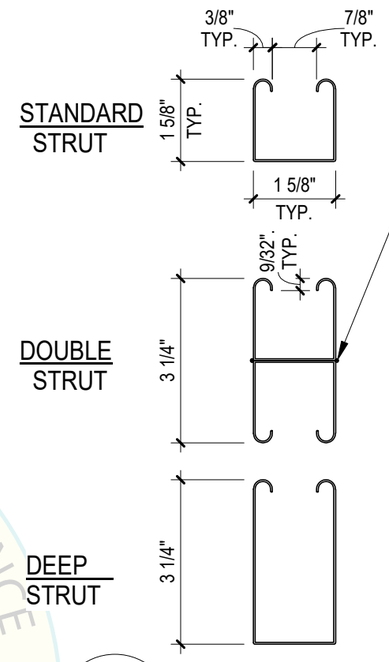
BRACE CONNECTORS	
MANUF	PART
MASON WEST	SSBS-XX
UNISTRUT	P3810-050
UNISTRUT	P1354AW
UNISTRUT	P3820-50
UNISTRUT	SPF 100-XXX
UNISTRUT	P3840-50 + 60
UNISTRUT	SPF 200-XXX
TOLCO	980
TOLCO	981
TOLCO	985
TOLCO	986

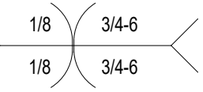


STRUT	"L" MAX.
STD. STRUT	9'-6"
DOUBLE STRUT	14'-6"

3 BRACE CONNECTION
N.T.S.

SHEET NOTES:
1. ALL PARTS ON THIS SHEET ARE TO BE PROVIDED BY MASON WEST INC., UNISTRUT, POWER-STRUT, OR B-LINE/TOLCO.





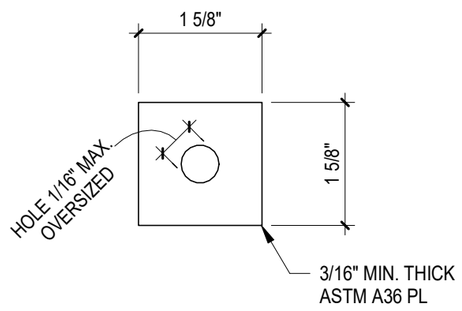
PROVIDE 1ST WELDS AT MAXIMUM 3" FROM EACH END OF DOUBLE STRUT

STRUT PROPERTIES

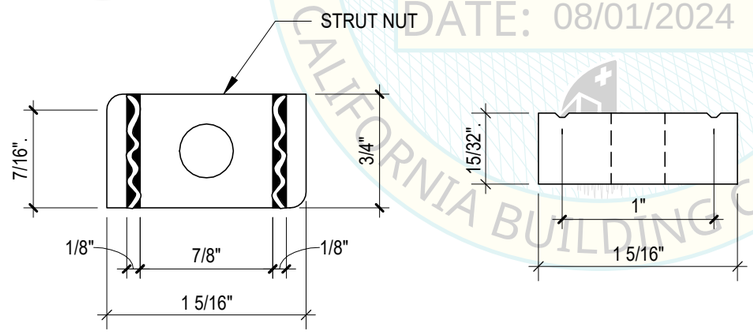
DESIGNATION	STD. STRUT	DOUBLE STRUT	DEEP STRUT
AREA IN^2	0.544	1.088	0.844
WEIGHT lbs/ft	1.89	3.78	3.05
Ix IN^4	0.180	0.896	1.073
Iy IN^4	0.233	0.466	0.429
Sx IN^3	0.195	0.570	0.609
Sy IN^3	0.287	0.547	0.529

NOTES:
1. ALL STRUT MANUF. BY MASON WEST, UNISTRUT, POWER-STRUT, OR B-LINE/TOLCO
2. ALL STRUT TO BE 12 ga.
3. ALL STRUT TO BE SOLID W/O PUNCHED HOLES OR SLOTS.

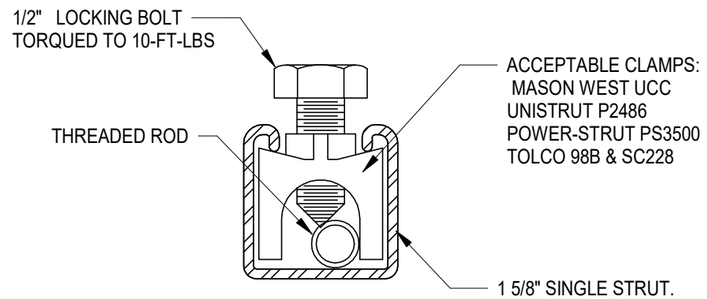
1 STRUT SECTIONS
N.T.S.



5 BASE PLATE
N.T.S.



4 STRUT NUT DIMENSION
N.T.S.



2 SEISMIC ROD CLAMP
N.T.S.

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www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA
6/4/2024

OPM-0721: Reviewed for Code Compliance by William E Staehlin

SAVARIA PATIENT LIFTS

Title: STRUT PARTS SHEET

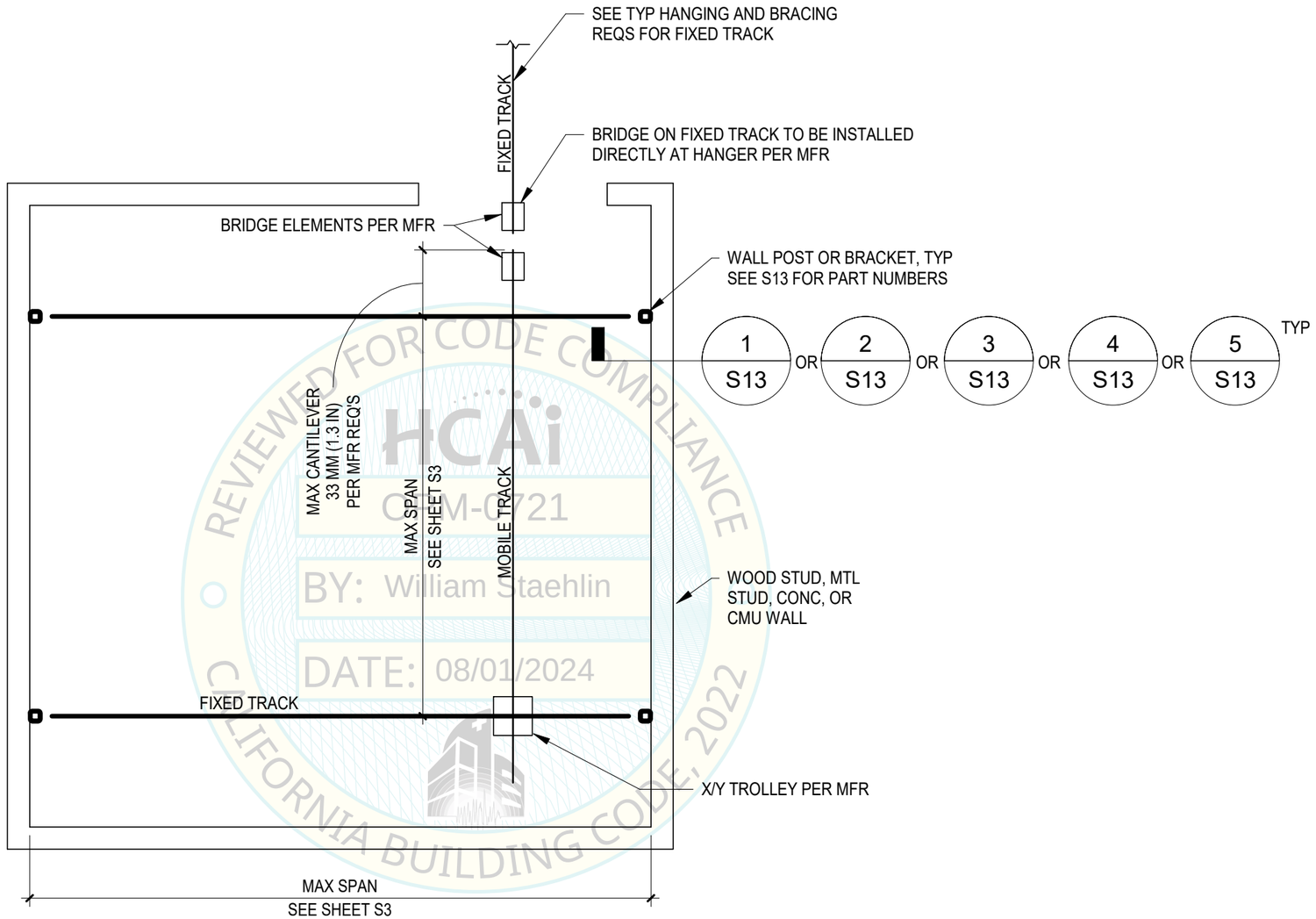
Sheet Number: S11

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	As indicated
Date	4/1/2024		

13 of 15
11 OF 13 Sheets

SHEET NOTES:

1. FIXED TRACK AND MOBILE TRACK MUST BE HD SECTIONS PER SHEET S3. ONLY LIFTS WITH MOTOR CAPACITIES OF 600KG OR LESS MAY BE USED WITH WALL POST AND BRACKET LAYOUTS.



1 LAYOUT PLAN

N.T.S.

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8/1/2024

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ROBERT M. GRAFF
No. 5113
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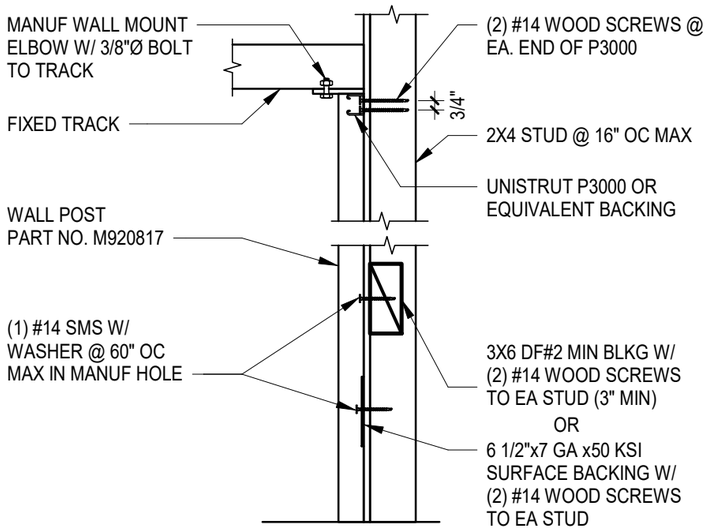
SAVARIA PATIENT LIFTS

Title: WALL POST LAYOUT

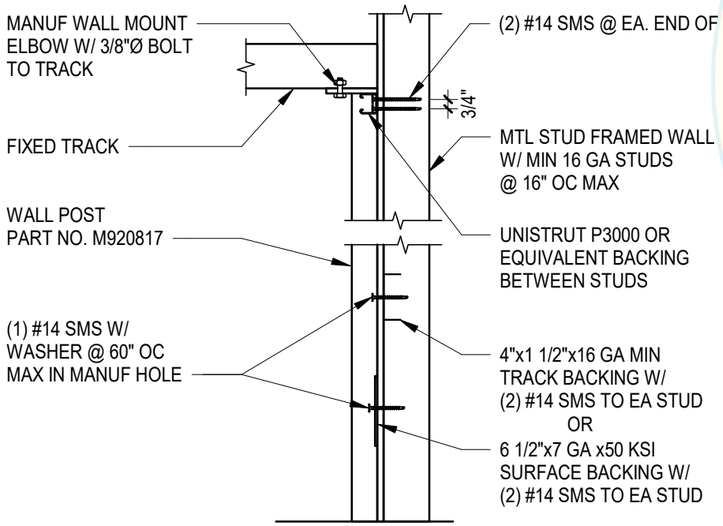
Sheet Number: S12

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	N.T.S.
Date	4/1/2024		



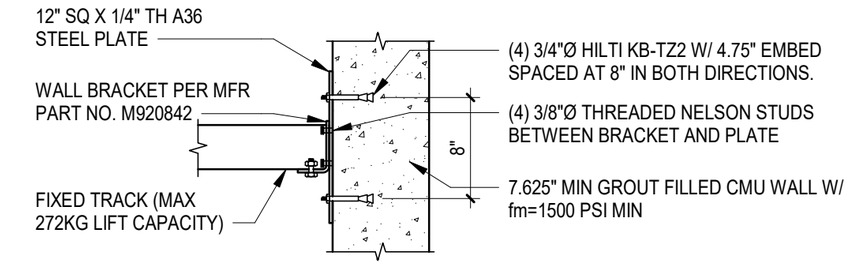
2 WALL POST AT WOOD STUD WALL

N.T.S.



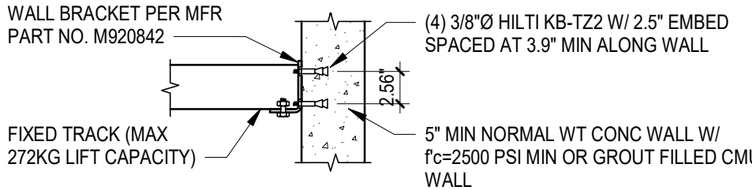
1 WALL POST AT METAL STUD WALL

N.T.S.



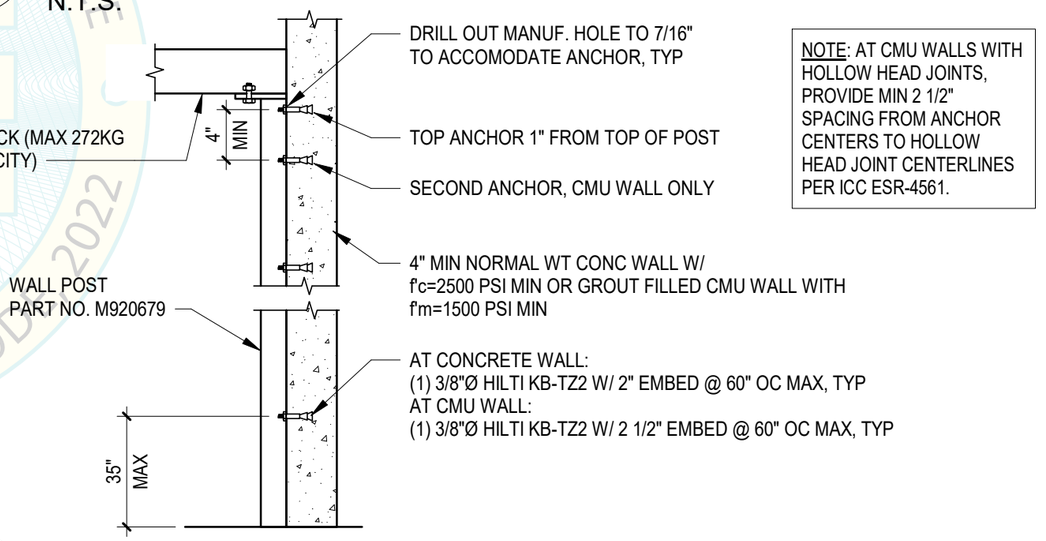
5 WALL BRACKET AT CMU WALL

N.T.S.



4 WALL BRACKET AT CONC WALL

N.T.S.



NOTE: AT CMU WALLS WITH HOLLOW HEAD JOINTS, PROVIDE MIN 2 1/2" SPACING FROM ANCHOR CENTERS TO HOLLOW HEAD JOINT CENTERLINES PER ICC ESR-4561.

3 WALL POST AT CONC OR CMU WALL

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375 Beale Street, Suite 500
San Francisco, CA 94105
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www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
ROBERT M. GRAFF
No. 5113
STRUCTURAL
STATE OF CALIFORNIA
3/12/2024

OPM-0721: Reviewed for Code Compliance by William E Staehlin

SAVARIA PATIENT LIFTS

Title: WALL POST INSTALLATION

Sheet Number: S13

Drawn	MAM	Job number:	C3535019.00
Design:	RMG	Rev:	
Check:	RMG	Scale:	N.T.S.
Date	4/1/2024		

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13 OF 13 Sheets