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

OFFICE USE ONLY

APPLICATION #: OPM-0583

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Falkbuilt Ltd.

Manufacturer's Technical Representative: Donna Shirley

Mailing Address: 4100 106 Ave SE Unit 2, Calgary, AB T2C5B6

Telephone: (858) 531-9452 Email: donna.shirley@falkbuilt.com

Product Information

Product Name: Falkbuilt

Product Type: Digital Component Construction System for Interior Partitions

Product Model Number: We do not have model numbers for our finished assemblies... we manufacture the components needed to build interior partitions.

General Description: www.falkbuilt.com Falkbuilt has been designed to meet the unique needs of healthcare environments. Our Digital Component Construction method follows essentially the same process that's been used for conventionally built drywall partitions, but we use superior materials and off-site manufactured components. We manufacture all components for interior partitions in our factory and deliver precise components onsite for a fast, efficient and clean install. We use far fewer materials, can speed up

Applicant Information

Applicant Company Name: Falkbuilt

Contact Person: Donna Shirley

Mailing Address: 1290 Cushman Ave, San Diego, CA 92110

Telephone: (858) 531-9452 Email: donna.shirley@falkbuilt.com

Title: Branch Development

Registered Design Professonal Preparing Engineering Recommendations

Company Name: CRITICAL STRUCTURES

Name: Eric Stovner California License Number: S4204

Mailing Address: 1350 Coronado Ave., Long Beach, CA 90804

Telephone: (310) 530-3050 Email: estovner@critical-structures.com

OSHPD 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, 2019 (CBSC 2019) 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 2019 may be used when approved by OSHPD prior to testing.

☒ Analysis

☐ Experience Data

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

OSHPD Approval

Date: 12/9/2021

Name: Jeffrey Kikumoto Title: Senior Structural Engineer

Condition of Approval (if applicable):

GOVERNING CODES:

1. ALL DESIGN AND CONSTRUCTION SHALL COMPLY WITH THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE.
2. CONSTRUCTION IN ACCORDANCE WITH THE GOVERNING CODES AND THE WORKING DRAWINGS DOES NOT GUARANTEE PROTECTION FROM LOSS OF LIFE OR INJURY OR PROPERTY DAMAGE.

DRAWING NOTES:

1. ALL DETAILS, SECTIONS, AND NOTES ON DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS, U.N.O.
2. WHERE INFORMATION IS CONFLICTING, DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.
3. DIMENSIONS FOR CONSTRUCTION SHALL NOT BE SCALED FROM THE DRAWINGS
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK. WHERE ACTUAL CONDITIONS CONFLICT WITH THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS, DISCREPANCIES OR OMISSIONS SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO PROCEEDING WITH CONSTRUCTION.
5. ALL OMISSIONS OR CONFLICTS BETWEEN WORKING DRAWINGS, AND/OR EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. THE STAMPED SET OF DRAWINGS SHALL BE KEPT AT THE JOB SITES AND SHALL BE AVAILABLE TO THE AUTHORIZED REPRESENTATIVES OF OSHPD. THERE SHALL BE NO DEVIATION FROM THE APPROVED PLANS AND SPECIFICATIONS WITHOUT AN APPROVED CHANGE ORDER.
7. ANY SUPPORT SERVICES PERFORMED BY THE ENGINEER DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES WHICH ARE FURNISHED BY THE ENGINEER WHETHER OF MATERIAL OR WORK, AND WHETHER PERFORMED PRIOR TO, DURING OR AFTER COMPLETION OF CONSTRUCTION, ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS, BUT THEY DO NOT WARRANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

GENERAL SPECIFICATIONS FOR INSTALLATION OF TENSION WALL ANCHORS:

1. THE STAMPED SET OF PLANS AND SPECIFICATIONS SHALL BE KEPT ON THE JOB SITE AND SHALL BE AVAILABLE TO AUTHORIZED REPRESENTATIVES OF OSHPD. THERE SHALL BE NO DEVIATION FROM THE STAMPED PLANS AND SPECIFICATIONS WITHOUT PRIOR PROJECT SPECIFIC APPROVAL FROM THE SEOR AND OSHPD.

MATERIAL SPECIFICATION & DESIGN CRITERIA:

1. GLASS PANELS SHALL BE 3/8" AND1/2" THICK FULLY TEMPERED WITH MAXIMUM PANEL DIMENSIONS AS SPECIFIED IN THE DRAWINGS.
2. SOLID WALL TILES SHALL BE 1/2" THICK MEDIUM DENSITY FIBERBOARD (MDF) WITH A MINIMUM MODULUS OF RUPTURE (MOR) = 5,000 PSI AND SHALL CONFORM TO ASTM E84-17a.
3. DEFLECTION TO BE A LIMIT OF 1 INCH MAXIMUM FOR GLASS WALL WITH STRUCTURAL SILICON AT JOINTS BETWEEN GLASS PANELS. DEFLECTION TO BE A LIMIT OF L/120 FOR SOLID WALL FRAME MEMBERS AND FOR MEMBERS WITH FLEXIBLE FINISHES.
4. ALUMINUM MEMBERS SHALL BE ALLOY-TEMPER 6063-T6 (Fy = 25 KSI). MEMBERS DESIGNED PER THE ALUMINUM ASSOCIATION'S 2015 ALUMINUM DESIGN MANUAL.
5. STEEL PLATES, THREADED RODS, AND LEVELER PARTS SHALL BE MINIMUM ASTM A36 (Fy = 36 KSI). STEEL DESIGNED PER THE AISC 360-16 / 15TH EDITION STEEL CONSTRUCTION MANUAL. STEEL METAL BENT CLIPS SHALL BE MINIMUM A653SS-Gr.33, OR BETTER WITH MINIMUM Fy = 33 KSI.
6. STEEL WELDS TO BE E70XX OR BETTER. STEEL WELD ALLOY TO HAVE A MINIMUM ULTIMATE TENSILE STRENGTH, Fu, OF 70 KSI.
7. STEEL SUPER STUDS SHALL BE MINIMUM 16 GAUGE (0.06 INCHES THICK), AND MINIMUM YIELD STRENGTH FY = 46 KSI (314 MPA) AND FU = 54 KSI (371 MPA).
8. WIRE SHALL BE MINIMUM 10 GA. Ø GALVANIZED, SOFT-ANNGARED MILD CARBON STEEL, CONFORMING TO ASTM A641, (Fy = 43 KSI, Fy = 63 KSI MINIMUM).
9. SHEET METAL SCREWS DESIGNED IN ACCORDANCE WITH OPD-001-13, ADM-2015, AND AISI S100-16. SCREWS MATERIAL SHALL BE ELCO DRIL-FLEX HWH SCREWS PER ICC-ES ESR-3332.
10. WOOD SCREWS DESIGNED IN ACCORDANCE WITH NDS-2018 (ANSI/ASME STANDARD B18.6.1), WOOD MEMBERS ASSUMED MINIMUM SPECIFIC GRAVITY (SG) = 0.5 FOR WOOD SCREW DESIGN.
11. ALL CONCRETE ANCHORS WITH SPECIFIED DIAMETERS, EMBEDMENT DEPTHS, MINIMUM CONCRETE SLAB THICKNESSES, MINIMUM EDGE DISTANCES, AND SPACING'S SHALL BE USED AS SPECIFIED IN THE DRAWINGS.
12. ATTACHMENTS TO SLAB ON GRADE ARE BASE ON CONCRETE SUBSTRATE ASSUMED TO BE MINIMUM F_C = 2,500 PSI, NORMAL WEIGHT, CRACKED, AND NO SUPPLEMENTARY REINFORCEMENT PRESENT (CONDITION B) FOR ANCHOR DESIGN.
13. ATTACHMENT TO THE TOPPING OR SOFFIT OF CONCRETE OVER METAL DECK SHALL HAVE A MINIMUM CONCRETE COMPRESSIVE STRENGTH (f'c) = 3,000 PSI, NORMAL OR LIGHT-WEIGHT (UNO), CRACKED, AND NO SUPPLEMENTARY REINFORCEMENT PRESENT (CONDITION B) FOR ANCHOR DESIGN.

RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD (SEOR) OR PROJECT PRINCIPAL-IN-CHARGE:

1. VERIFY THAT THE CONCRETE SLAB AND/OR DECK WHICH THE WALL IS ANCHORED TO MEETS MINIMUM THICKNESS AND COMPRESSIVE STRENGTH.
2. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB OPENINGS OR EDGES.
3. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS.
4. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENT WHICH THE WALL IS ANCHORED TO.
5. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENT WHICH THE WALL IS ANCHORED TO FOR THE FORCES EXERTED ON THEM BY THE WALL IN ADDITION TO ALL OTHER LOADS AND FORCES.
6. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL.
7. MANUFACTURER, PROJECT PRINCIPAL-IN-CHARGE, AND/OR SEOR MUST VERIFY THAT THE WALL'S ACTUAL WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAUGE OF THE WALL WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS PRE-APPROVAL.
8. VERIFY THAT THE EXISTING WOOD JOIST WHICH THE WALL IS ANCHORED TO HAS A MINIMUM SPECIFIC GRAVITY, SG, EQUAL TO 0.5 AND HAS CAPACITY TO SUPPORT THE INDICATED LOAD.
9. VERIFY THAT THE SUSPENDED CEILING GRID DOES NOT TIE/CONNECT TO OR SUPPORT OFF THE PARTITION WALL.
10. VERIFY THAT THE TOP SEISMIC BRACES ARE CLEAR, MINIMUM OF 6", FROM BUILDING DUCT, PIPE AND CONDUIT TO AVOID IMPACT DURING AN EARTHQUAKE.

INSTRUCTIONS TO END USERS:

1. FOR MORE INFORMATION, PLEASE CONTACT:
   FALKBUILT LTD. UNIT #2
   4100 106 AVE. SE
   UNIT #2
   CALGARY, ALBERTA T2C 586
   CANADA

CBC §1910A.5:

ACCEPTANCE CRITERIA FOR POST-INSTALLED ANCHORS SHALL BE BASED ON AN APPROVED EVALUATION REPORT (ESR-2713, ESR-3027, ESR-3037, ESR-3332, ESR-4266, ER-192) USING CRITERIA ADOPTED IN THIS CODE. FIELD TESTS SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS.

1. TEST SHALL OCCUR AFTER AT LEAST 24 HOURS HAS ELAPSED SINCE THE ANCHORS HAVE BEEN INSTALLED.
2. HYDRAULIC RAM METHOD: ANCHORS TESTED WITH A HYDRAULIC JACK OR SPRING LOADED APPARATUS SHALL MAINTAIN THE TEST LOAD FOR A MINIMUM OF 15 SECONDS AND SHALL EXHIBIT NO DISCERNIBLE MOVEMENT DURING THE TENSION TEST, E.G., AS EVIDENCED BY LOOSENING OF THE WASHER UNDER THE NUT.

GENERAL NOTES:

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM MUST BE BASED ON THE CBC 2019.
2. ALL CONSTRUCTION, TESTINGS, AND INSPECTIONS MUST CONFORM TO THE CALIFORNIA BUILDING CODE (CBC), 2019 EDITION
3. PARTITION WALL DEAD LOADS:

LYDIA OR KAI GLASS WALL - 13mm (1/2") LAMINATED OR TOUGHENED GLASS	6.8 PSF
LYDIA OR KAI GLASS WALL - 10mm (3/8") LAMINATED OR TOUGHENED GLASS	5.2 PSF
SOLID WALL - DOUBLE SIDED 3/4" MDF PANELS	6.8 PSF
SOLID WALL - DOUBLE SIDED 1/2" MDF PANELS w/ 1/4" BACK PAINTED GLASS	11.5 PSF

4. SEISMIC DESIGN FORCES PER 2019 CBC & ASCE 7-16 §13.3:
   a. MAXIMUM S_{DS} AND z/h VARIES: SEE TABLES BELOW.
   b. WHERE z IS THE HEIGHT OF CENTER OF GRAVITY OF PARTITION WALLS WITH RESPECT TO GROUND LEVEL AND h IS THE BUILDING HEIGHT WITH RESPECT TO GROUND LEVEL.

SOLID WALLS:

SOLID WALLS 1/2" MDF PANEL w/1/4" BACK PAINTED GLASS

MAXIMUM S_{DS}

WALL HEIGHT, FT.	z/h
	z/h ≤ 1.0
8 TO 14	2.000

SOLID WALLS 3/4" MDF PANEL

MAXIMUM S_{DS}

WALL HEIGHT, FT.	z/h ≤ 1.0
8 TO 14	2.000

GLASS WALLS:

GLASS WALLS 3/8" (10mm): BASED ON GLASS STRENGTH

WALL HEIGHT, FT.	AN. GLASS STRENGTH	Δ AT STRENGTH	STRENGTH BASED ON 1" DEFLECTION	Δ AT STRENGTH CODE MIN. 5 PSF
8	6.61 PSF	1.22 IN.	5.41 PSF	0.92 IN.

MAXIMUM S_{DS}

WALL HEIGHT, FT.	z/h
	1 TO 0
8	2.000

GLASS WALLS 3/8" (10mm): BASED ON 1" GLASS DEFLECTION

MAXIMUM S_{DS}

WALL HEIGHT, FT.	z/h
	1 TO 0
8	2.000

GLASS WALLS 1/2" (13mm): BASED ON GLASS STRENGTH

WALL HEIGHT, FT.	AN. GLASS STRENGTH	Δ AT STRENGTH	STRENGTH BASED ON 1" DEFLECTION	Δ AT STRENGTH CODE MIN. 5 PSF
10	7.30 PSF	1.45 IN.	5.04 PSF	0.99 IN.
9.5	8.10 PSF	1.31 IN.	6.21 PSF	0.81 IN.
9	9.04 PSF	1.17 IN.	7.74 PSF	0.65 IN.
8.5	10.15 PSF	1.04 IN.	9.77 PSF	0.51 IN.
8	11.48 PSF	0.92 IN.	11.48 PSF	0.40 IN.

MAXIMUM S_{DS}

WALL HEIGHT, FT.	z/h			
	0-1		0.875	0.75 TO 0
8 TO 10	2.000		2.000	2.000

GLASS WALLS 1/2" (13mm): BASED ON 1" GLASS DEFLECTION

MAXIMUM S_{DS}

WALL HEIGHT, FT.	z/h					
	1	0.875	0.75	0.6250	0.5	0.375 TO 0
10	1.479	1.614	1.775	1.972	2.000	2.000
9.5	1.823	1.988	2.000	2.000	2.000	2.000
8 TO 9	2.000	2.000	2.000	2.000	2.000	2.000

   b. RISK CATEGORY: IV. COMPONENT IMPORTANCE FACTOR: I_p = 1.5
   c. COMPONENT AMPLIFICATION/RESPONSE FACTORS: a_p = 1.0 / R_p = 2.5
   d. Ω_O = 2.0 (CONCRETE ANCHOR DESIGN)
5. TYPICAL DETAILS APPLY TO ALL CONSTRUCTION EXCEPT WHERE SHOWN DIFFERENTLY ELSEWHERE.
6. THE SUPPORTING WALL STRUCTURE MUST BE CAPABLE OF WITHSTANDING THE LOADS IMPOSED BY FALKBUILT PARTITION WALL SYSTEM(S) ACTING IN CONJUNCTION WITH THE LOADS SPECIFIED IN THE PARAGRAPH ABOVE. IN ADDITION, THE STRUCTURE MUST PROVIDE SUITABLE SUPPORT & ATTACHMENT FOR THE FALKBUILT PARTITION WALLS AND MUST BE ERECTED WITHIN SPECIFIED BUILDING TOLERANCES.
7. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NO REFERENCE AT SPECIFIC LOCATIONS OR IN SPECIFIC DRAWINGS.
8. NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS AND DO NOT PROCEED WITH THE WORK UNTIL CONFLICTS ARE RESOLVED.
9. CONTRACTOR SHALL INSPECT ALL EXISTING CONDITIONS WHICH AFFECT THE WORK SHOWN AND SHALL NOTIFY ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH OR DIFFER FROM THE NEW WORK SHOWN. CONTRACTOR SHALL NOT PROCEED WITH THE WORK UNTIL THESE CONFLICTS AND/OR DIFFERENCES ARE RESOLVED. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO WORK.
10. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR THE CONDUCT OF THE WORK, INCLUDING ALL CONSTRUCTION METHODS AND PROCEDURES; SITE SAFETY; AND METHODS, DESIGN, AND MATERIAL FOR TEMPORARY VERTICAL AND LATERAL SUPPORT OF EXISTING AND NEW STRUCTURES. ENGINEER'S SITE OBSERVATION VISITS SHALL NOT BE INTERPRETED AS A REVIEW OF CONTRACTOR'S SAFETY MEASURES.
11. ANCHOR FORCES SHOWN ON THE DRAWINGS ARE A COMBINATION OF ASD AND LRFD LOADS AND ARE NOTED AS SUCH. ANCHOR FORCES ARE BASED ON S_{DS} = 2.487 AND z/h ± 1.0 WHICH ARE THE MAXIMUM'S ASSOCIATED WITH THIS OPM, THOUGH THESE MAXIMUMS DO NOT OCCUR SIMULTANEOUSLY.
12. WHERE DISSIMILAR METALS ARE IN CONTACT, PROTECT SURFACES WITH A COAT OF BITUMINOUS PAINT SEPARATION OF DISSIMILAR MATERIALS IS NOT THE RESPONSIBILITY OF FALKBUILT OR CSI ENGINEERING.
13. ALL ITEMS, UNLESS NOTED OTHERWISE, ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

INSPECTION & OBSERVATION:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE ALL INSPECTIONS BY OSHPD, AS PER SECTION 110 OF THE CBC, 2019 EDITION. IN ADDITION THE CONTRACTOR WILL COORDINATE ALL SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATION WITH THE STRUCTURAL ENGINEER OF RECORD PER SECTION 1704A AND 1910A.5 OF THE CBC AND SECTION 7-149 OF CAC. ADDITIONAL COSTS INCURRED BY THE OWNER DUE TO THE FAILURE OF THE CONTRACTOR TO COORDINATE INSPECTION REQUIREMENTS SHALL BE THE REIMBURSED BY RESPONSIBILITY OF THE CONTRACTOR. ALL SPECIAL INSPECTIONS NOT DONE BY THE STRUCTURAL ENGINEER SHALL BE DONE BY AN APPROVED AGENY PER 2019 CBC §1703A.1 RETAINED BY THE OWNER.

INSPECTION / APPROVED AGENCY PER 2019 CBC§1703.A.1:

1. APPROVED CONCRETE ANCHORS
   a. 1/4" Ø OR 3/8" Ø SIMPSON TITEN HD SCREW ANCHORS.
   b. 1/4" Ø OR 3/8" Ø DEWALT SCREW BOLT+ SCREW ANCHORS.
   c. 1/4" Ø OR 3/8" Ø HILTI KWIK HUS-EZ SCREW ANCHORS.
2. CONCRETE SUBSTRATE FOR ANCHOR DESIGN/INSTALLATION SHALL HAVE A MINIMUM CONCRETE COMPRESSIVE STRENGTH (F'C) = 2,500 PSI, NORMAL WEIGHT. ANCHORS ARE ACCEPTABLE FOR USE IN CRACKED CONCRETE WITH NO SUPPLEMENTARY REINFORCEMENT NECESSARY (CONDITION B).
3. MINIMUM 3,000 PSI NORMAL WEIGHT CONCRETE OVER METAL DECK FOR ANCHORS INSTALLED TO UNDERSIDE.

ANCHOR INSTALLATION NOTES:

1. AVOID DAMAGING EXISTING STEEL REINFORCING WHEN INSTALLING POST-INSTALLED ANCHORS.
2. PROVIDE FOR FULL ENGAGEMENT OF NUT & WASHER.

SHEET INDEX

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4	SOLID WALLS BRACING DETAILS
5	GLASS WALLS BRACING SECTIONS & PLANS
6	GLASS WALLS ANCHORAGE & BRACING DETAILS
7	GLASS WALLS BRACING DETAILS
8	WALL SECTIONS AND PROPERTIES

CRITICAL STRUCTURES
BALANCING ENVIRONMENT AND DESIGN
1350 CORONADO AVENUE
LONG BEACH, CA 90804
T:(310) 530-3050 F:(310) 530-0184
WWW.CRITICAL-STRUCTURES.COM

#	DATE	ISSUED
1	6-19-20	ISSUED
2	11-25-20	OSHPD COMMENTS
3	-	-
4	10-25-21	OSHPD COMMENTS- 3
5	-	-
6	-	-

#	DATE	ISSUE OF REVISION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-

CLIENT:
FALKBUILT
MS. DONNA SHIRLEY

SHEET TITLE: GENERAL NOTES

FALKBUILT SOLID & GLASS WALL SYSTEMS OSHPD OPM

REGISTERED PROFESSIONAL ENGINEER
ERIC CHRISTIAN STOVNER
No. S 4204
STRUCTURAL
STATE OF CALIFORNIA

DATE: 10/25/2021 ENG: KK
JOB NO.:20-612 DRFT: MC
SHEET NO.:
1
1 OF 3 of 30

12/9/2021

OPM-0583: Reviewed for Code Compliance by Jeffrey Kikumoto

TABLE A - OUT-OF-PLANE CFS / WIRE BRACES (1, 2)

WALL TYPE	MAX. WALL HEIGHT H, FT.	MAXIMUM BRACE SPACING
SOLID WALLS WITH ¼" GLASS AND ½" MDF PANELS	13.0 ≤ H ≤ 14.0	36" O.C.
	10.0 < H < 13.0	42" O.C.
	H ≤ 10.0	48" O.C.
SOLID WALL WITH ¾" MDF PANELS	H ≤ 14.0	48" O.C.

TABLE A1 - MINIMUM WALL LENGTH FOR EXEMPTION OF IN-PLANE BRACE REQUIREMENT FOR WALL WITH CFS STUD OUT-OF-PLANE BRACE-ONLY

WALL TYPE	WALL HEIGHT H, FT.	MINIMUM WALL LENGTH, FT.
SOLID WALL WITH ¼" GLASS & ½" MDF PANEL	H ≤ 11.0	L = 14.0
	11.0< H ≤ 14.0	L = 18.0
SOLID WALL WITH ¾" MDF PANELS	H ≤ 11.0	L = 5.0
	11.0< H ≤ 14.0	L = 15.0

TABLE B - BOTTOM TRACK TO CONCRETE OVER METAL DECK (WALLS WITH CFS STUD / WIRE BRACE)(1, 2)

WALL TYPE	MAX. WALL HEIGHT H, Ft.	MAXIMUM ANCHOR SPACING
SOLID WALLS WITH ¼" GLASS AND ½" MDF PANELS	11.5 < H ≤ 14.0	24" O.C.
	9.5 < H ≤ 11.5	30" O.C.
	H ≤ 9.5	36" O.C.
SOLID WALL WITH ¾" MDF PANELS	12.0 < H ≤ 14.0	42" O.C.
	H ≤ 12.5	48" O.C.

TABLE C - BOTTOM TRACK TO CONCRETE SLAB (WALLS WITH CFS STUD / WIRE BRACE)(1, 2)

WALL TYPE	MAX. WALL HEIGHT H, Ft.	MAXIMUM ANCHOR SPACING
SOLID WALLS WITH ¼" GLASS AND ½" MDF PANELS	12.0 < H ≤ 14.0	36" O.C.
	10.5 < H ≤ 12.0	42" O.C.
	H ≤ 10.5	48" O.C.
SOLID WALL WITH ¾" MDF PANELS	H ≤ 14.0	48" O.C.

TABLE BC - BOTTOM TRACK TO CONCRETE OVER METAL DECK OR SLAB (WALLS WITHOUT CFS STUD / WIRE BRACE)(1, 2)

WALL TYPE	MAX. WALL HEIGHT H, Ft.	MAXIMUM ANCHOR SPACING
SOLID WALLS WITH ¼" GLASS AND ½" MDF PANELS OR SOLID WALL WITH ¾" MDF PANELS	H ≤ 14.0	48" O.C.

NOTE: (FOR TABLE A, B, C & BC ONLY)
1. MAXIMUM SPACING OF BRACES AND ANCHORS MAY BE INCREASED BY A FACTOR OF $4/[S_{DS}(1+z/h)]$, WHERE "S_{DS}" IS THE SITE SPECIFIC DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER AT SHORT PERIOD, WHICH SHALL NOT EXCEED 2.0, "z" IS THE HEIGHT OF CENTER OF GRAVITY OF PARTITION WALLS WITH RESPECT TO GROUND LEVEL AND "h" IS THE BUILDING HEIGHT WITH RESPECT TO GROUND LEVEL.
2. MAXIMUM SPACING OF BRACES AND ANCHORS SHALL BE THE MINIMUM OF THE SPACING COMPUTED IN ACCORDANCE WITH NOTE 1 OR 48" O.C.

TABLE D:

SUPPORTS & ATTACHMENTS OF WALL TOP TRACK TO SOFFIT ABOVE:
USE (1) ELCO DRIL-FLEX SCREWS OF SPECIFIC DIAMETER AND SPACING AS LISTED IN THE TABLE BELOW. SPECIFICATIONS FOR INSTALLATION PER ICC-ES ESR-3332.

TABLE D - CFS BULKHEAD

WALL TYPE	SHEET METAL SCREWS SPACING, IN. O.C.		
	#10	#12	#14 OR ¼" Ø
SOLID ¾" MDF INFIL	24	24	24
SOLID ½" MDF s/ ¼" BACK PAINTED GLASS	15	16	17

1. MINIMUM 3 TIMES SCREW DIAMETER SPACING.
2. APPLICABLE TO MINIMUM 22 GA. COLD FORMED STEEL THICKNESS.
3. MINIMUM 2 ANCHORS PER PANEL.
4. MINIMUM 3 TIMES ANCHOR DIAMETER EDGE/END DISTANCE.
5. SCREWS SHALL PENETRATE CONNECTIONS WITH A MINIMUM OF THREE FULL THREADS.

TABLE E - WOOD BULKHEAD

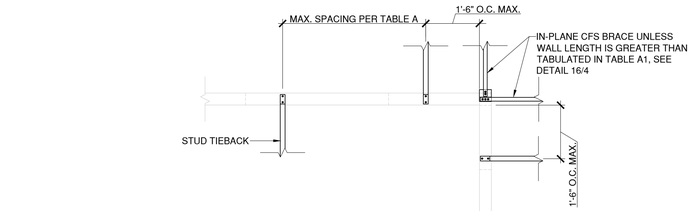
WALL TYPE	SIMPSON SDWS TIMBER SCREWS SPACING, IN. O.C. (IAPMO-UES ER-192)
	0.22" Ø SCREWS
SOLID ¾" MDF INFIL	24"
SOLID ½" MDF s/ ¼" BACK PAINTED GLASS	24"

1. MINIMUM 1½" EMBED INTO BASE WOOD.
2. MINIMUM 4" ANCHOR SPACING.
3. MINIMUM WOOD TYPE WITH G = 0.5 ONLY
4. MINIMUM 2 ANCHORS PER PANEL.
5. MINIMUM 1½" EDGE DISTANCE
6. MINIMUM 6" END DISTANCE
7. MINIMUM 2 SCREWS PER BRACE.

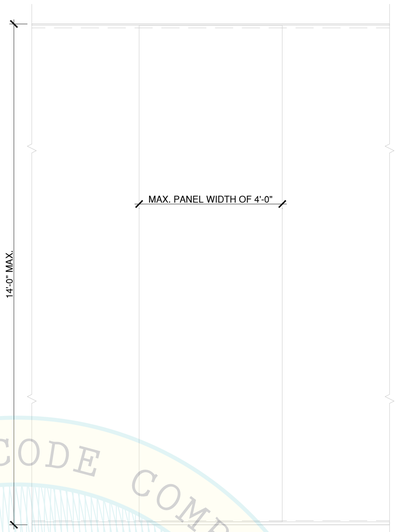
TABLE F - SUPER-STUD SHEAR CLIPS

WALL TYPE	MAX. WALL HEIGHT H, Ft.	MAX. CLIP SPACING	MAX. END SHEAR FORCE (ASD)
SOLID WALLS WITH ¾" MDF PANELS	H ≤ 14.0	11¼" O.C.(1, 2)	152
SOLID WALLS WITH ¼" GLASS AND ½" MDF PANELS	H ≤ 14.0	6½" O.C.(1, 3)	325

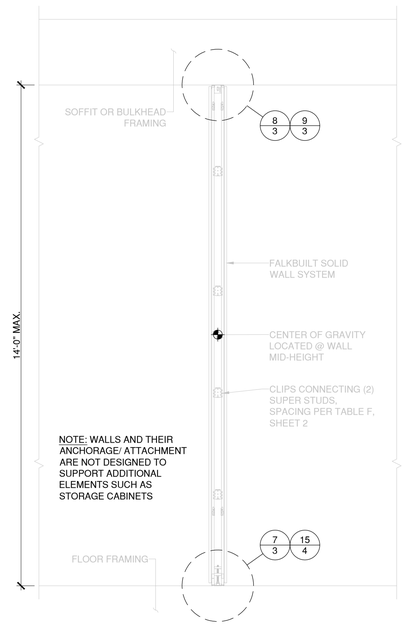
NOTE: (FOR TABLE F ONLY)
1. MAXIMUM CLIP SPACING MAY BE INCREASED BY A FACTOR OF $56/[H^*S_{DS}^*(1+z/h)]$, WHERE "S_{DS}" IS THE SITE SPECIFIC DESIGN RESPONSE ACCELERATION PARAMETER AT SHORT PERIOD, WHICH SHALL NOT EXCEED 2.0, "z" IS THE HEIGHT OF CENTER OF GRAVITY OF PARTITION WALLS WITH RESPECT TO GROUND LEVEL, "h" IS THE BUILDING HEIGHT WITH RESPECT TO GROUND LEVEL, AND "H" IS THE MAXIMUM WALL HEIGHT.
2. SPACING OF CLIPS FOR SOLID WALLS w/ ¾" MDF PANEL SHALL BE THE MINIMUM OF THE SPACING COMPUTED IN ACCORDANCE WITH NOTE 1 OR 24" O.C.
3. SPACING OF CLIP FOR SOLID WALL w/ ¼" GLASS AND ½" MDF PANEL SHALL BE THE MINIMUM OF THE SPACING COMPUTED IN ACCORDANCE WITH NOTE 1 OR 18" O.C.



NOTE:
AT SPLICE LOCATIONS, A CFS BRACE OR ATTACHMENT TO STRUCTURE MUST BE PROVIDED WITHIN 6" MAX. AT EACH SIDE OF SPLICE JOINT.

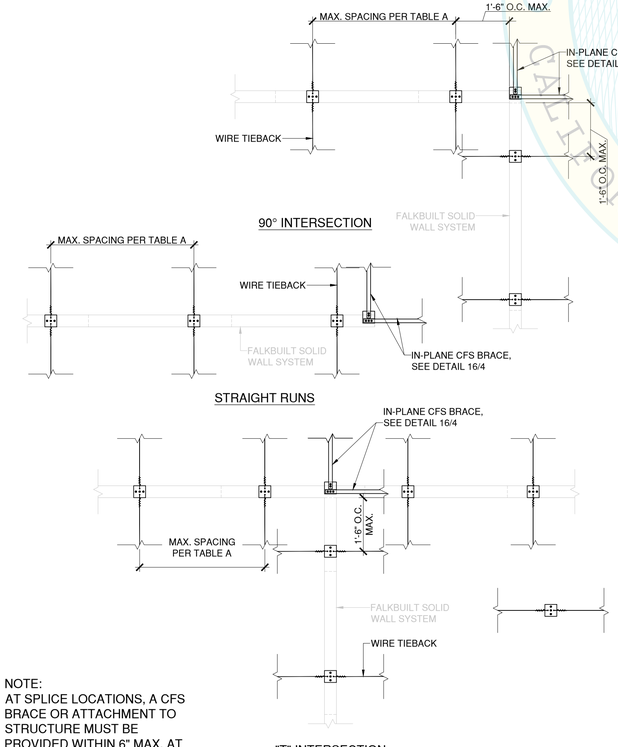


TYP. WALL ELEVATION 1/2" = 1'-0" (1A)



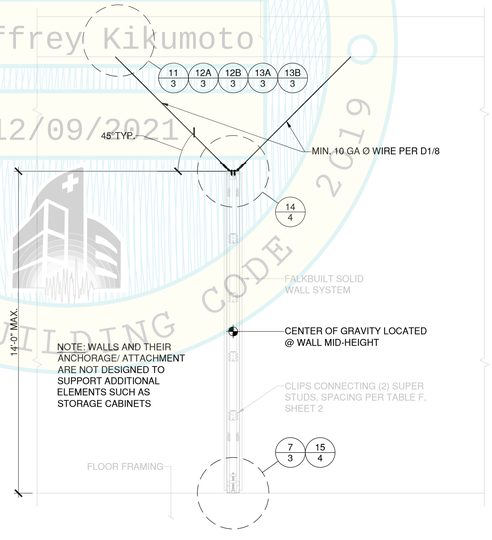
TYP. WALL SECTION BRACED BY SOFFIT/BULKHEAD FRAMING 1/2" = 1'-0" (1)

TYP. TOP OF WALL CFS BRACING PLAN NTS (4)

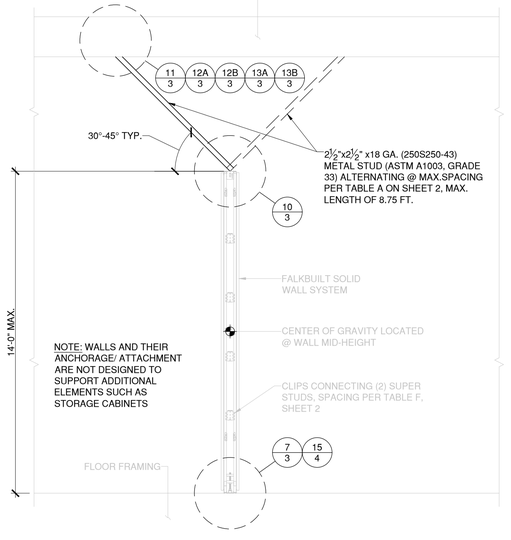


NOTE:
AT SPLICE LOCATIONS, A CFS BRACE OR ATTACHMENT TO STRUCTURE MUST BE PROVIDED WITHIN 6" MAX. AT EACH SIDE OF SPLICE JOINT.

TYP. TOP OF WALL WIRE BRACING PLAN NTS (5)



TYP. WALL SECTION W/T.O.W. HEADER BRACED BY OUT-OF-PLANE WIRES 1/2" = 1'-0" (3)



TYP. WALL SECTION W/T.O.W. HEADER BRACED BY OUT-OF-PLANE TIEBACKS 1/2" = 1'-0" (2)

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CLIENT:
FALKBUILT
MS. DONNA SHIRLEY

SHEET TITLE:
SOLID WALLS SEISMIC SUPPORTS & ATTACHMENTS

FALKBUILT SOLID & GLASS WALL SYSTEMS OSHPD OPM

REGISTERED PROFESSIONAL ENGINEER ERIC CHRISTIAN STOYNER No. S 4204 STRUCTURAL STATE OF CALIFORNIA

DATE: 10/25/2021 ENG: KK
JOB NO.:20-612 DRFT: MC
SHEET NO.:
2

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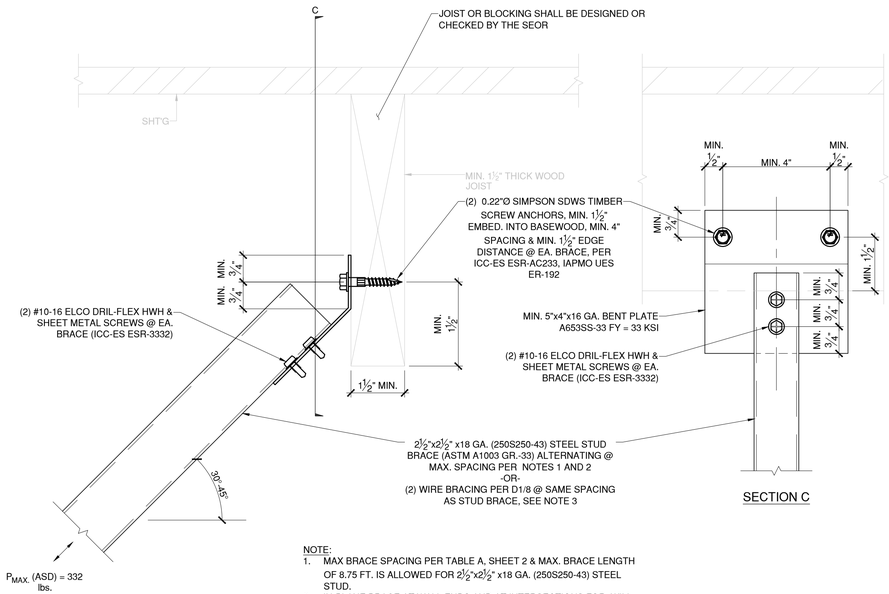
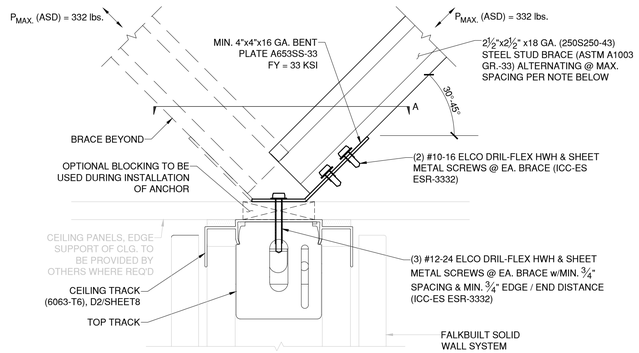
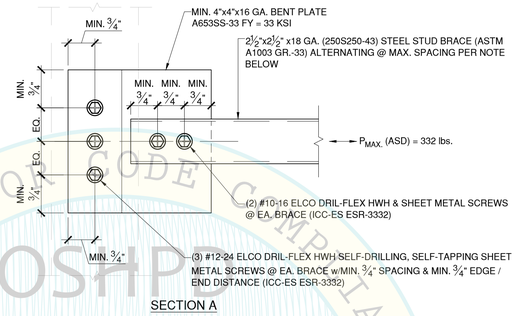
12/9/2021



NOTE:
1. MAX BRACE SPACING PER TABLE A, SHEET 2 & MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. IN-PLANE BRACE AT WALL ENDS AND AT INTERSECTIONS FOR, WILL NOT BE REQUIRED IF WALL MEETS THE REQUIREMENTS LISTED ON TABLE A1 ON SHEET 2. OTHERWISE FOLLOW DETAIL 4 ON SHEET 2.
3. IN-PLANE BRACES SHALL BE PROVIDED AT WALL ENDS AND INTERSECTIONS PER DETAIL 5 ON SHEET 2.

STUD BRACE ANCHOR @ WOOD FRAMING PERPENDICULAR TO JOISTS
NTS (12A)

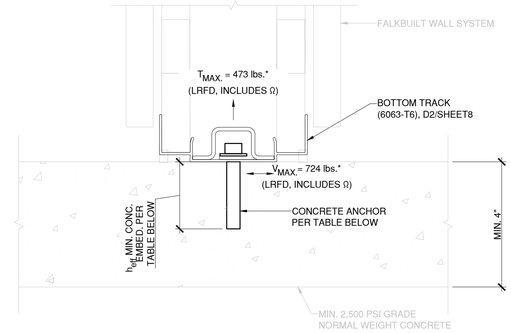




SECTION A

NOTE:
1. MAX BRACE SPACING PER TABLE A, SHEET 2 & MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. IN-PLANE BRACE AT WALL ENDS AND AT INTERSECTIONS FOR, WILL NOT BE REQUIRED IF WALL MEETS THE REQUIREMENTS LISTED ON TABLE A1 ON SHEET 2. OTHERWISE FOLLOW DETAIL 4 ON SHEET 2.

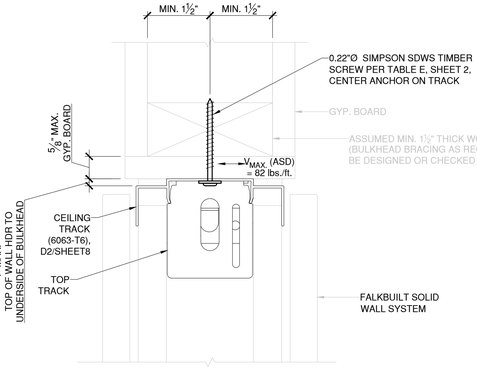
TOP TRACK TO STUD BRACE
NTS (10)



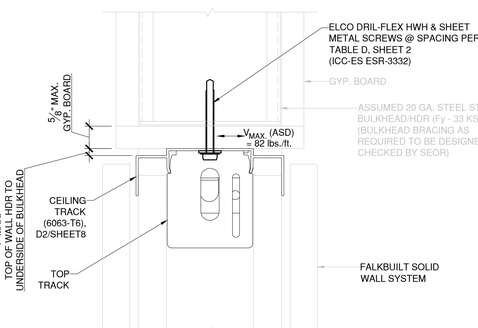
ANCHOR BRAND AND TYPE	CONCRETE GRADE (PSI)	ANCHOR Ø (IN.)	MIN. EFFECTIVE EMBED. h_{eff} (IN.)	MIN. ANCHOR SPACING, (IN.)	MIN. EDGE DISTANCE (IN.)	MIN. END DISTANCE (IN.)	MAX. INSTALLATION TORQUE (FT-LBS.)	TENSION LOAD TEST (CBC §1910A.5.4) (LBS.)	ICC-ES ESR
SIMPSON - TITEN HD	2,500	3/8	1.770	3	8	8	-	753	2713
HILTI - KH-EZ	2,500	3/8	1.860	3	6	6	-	1314	3027

NOTE: MAX. SPACING OF ANCHORS PER TABLE C OR TABLE BC ON SHEET 2.
* TENSION AND SHEAR LOADS DEPICTED REFLECT MAXIMUM LOADS IMPOSED ON THE ANCHOR WHEN INSTALLED AT THE SPACING SPECIFIED IN TABLE C OR TABLE BC ON SHEET 2.

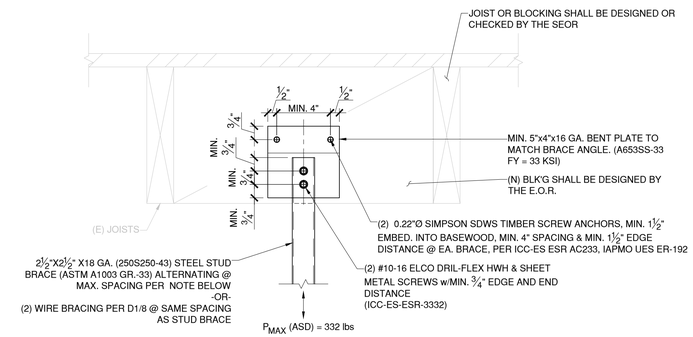
TYP. BASE TRACK ANCHORAGE TO TOPSIDE OF CONCRETE OVER METAL DECK
NTS (7)



TOP TRACK TO WOOD SOFFIT/BULKHEAD FRAMING
NTS (8)

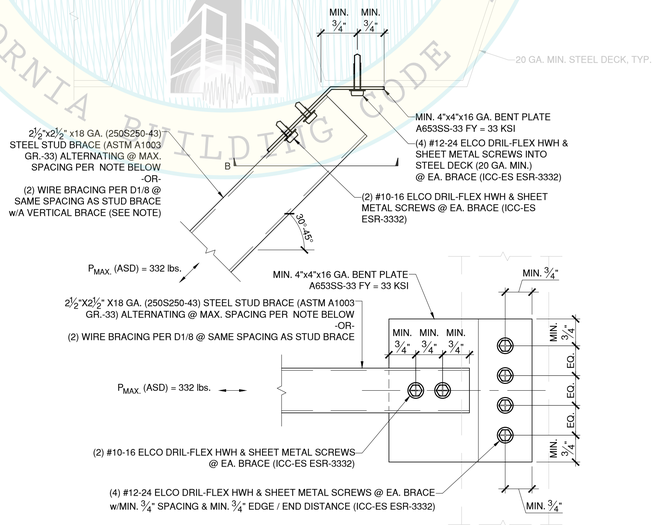


TOP TRACK TO STEEL SOFFIT/BULKHEAD FRAMING
NTS (9)



NOTE:
1. MAX BRACE SPACING PER TABLE A, SHEET 2 & MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. IN-PLANE BRACE AT WALL ENDS AND AT INTERSECTIONS FOR, WILL NOT BE REQUIRED IF WALL MEETS THE REQUIREMENTS LISTED ON TABLE A1 ON SHEET 2. OTHERWISE FOLLOW DETAIL 4 ON SHEET 2.
3. IN-PLANE BRACES SHALL BE PROVIDED AT WALL ENDS AND INTERSECTIONS PER DETAIL 5 ON SHEET 2.

STUD BRACE ANCHOR @ WOOD FRAMING PARALLEL TO JOISTS
NTS (12B)



SECTION B

NOTE:
1. MAX BRACE SPACING PER TABLE A, SHEET 2 & MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. IN-PLANE BRACE AT WALL ENDS AND AT INTERSECTIONS FOR, WILL NOT BE REQUIRED IF WALL MEETS THE REQUIREMENTS LISTED ON TABLE A1 ON SHEET 2. OTHERWISE FOLLOW DETAIL 4 ON SHEET 2.
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STUD BRACE ANCHOR @ METAL DECK
NTS (11)

12/9/2021

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CLIENT:
FALKBUILT
MS. DONNA SHIRLEY

SHEET TITLE:
SOLID WALLS ANCHORAGE & BRACING DETAILS

FALKBUILT SOLID & GLASS WALL SYSTEMS OSHPD OPM

REGISTERED PROFESSIONAL ENGINEER
ERIC CHRISTIAN STOVNER
No. S 4204
STRUCTURAL
STATE OF CALIFORNIA

DATE: 10/25/2021 ENG: KK
JOB NO.:20-612 DRFT: MC
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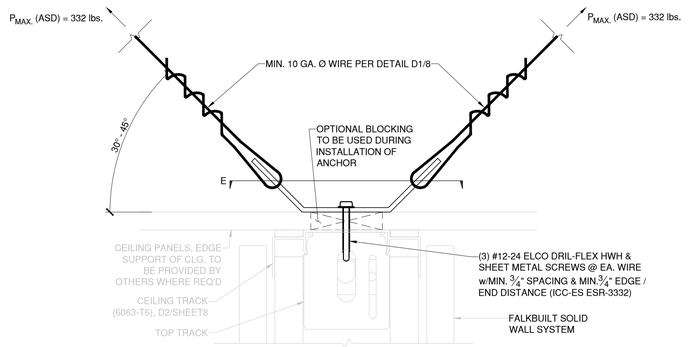
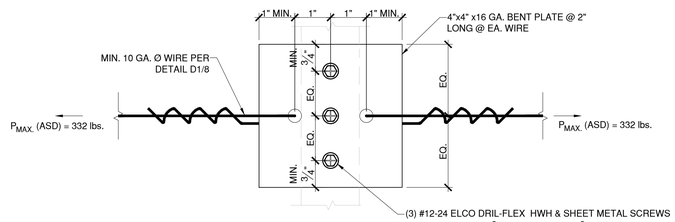
3 OF 5 of 30





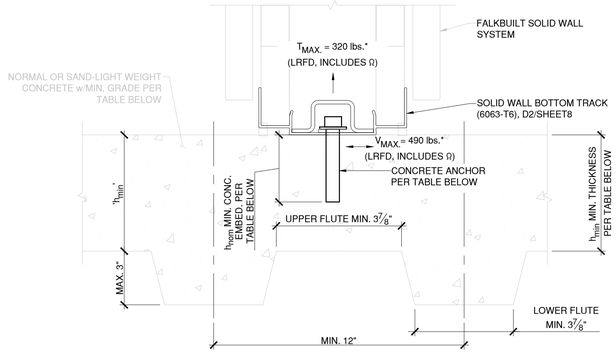
SECTION E

NOTE:
1. CENTER TENSION WIRE ON CLIP, TYP. @ ALL WIRE TO CLIP ATTACHMENTS.
2. MAX. WIRE BRACE SPACING PER TABLE A, SHEET 2.
3. IN-PLANE BRACE AT WALL ENDS AND INSTALLATION PER DETAIL 5 ON SHEET 2.

TOP TRACK SPLAY WIRE BRACING

NTS

14



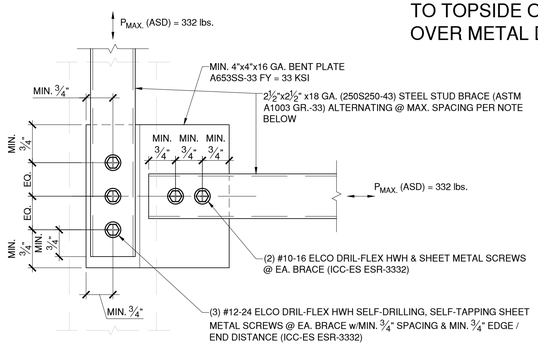
ANCHOR BRAND AND TYPE	MIN. CONCRETE GRADE (PSI)	ANCHOR Ø (IN.)	MIN. EFFECTIVE EMBED. h_{eff} (IN.)	MIN. TOPPING h_{min} (IN.)	MIN. ANCHOR SPACING, S (IN.)	MIN. END/EDGE DISTANCE (IN.)	MAX. INSTALLATION TORQUE (FT-LBS.)	TENSION LOAD TEST (CBC §1910A.5.4) (LBS.)	ICC-ES ESR
SIMPSON - TITEN HD	2,500	3/8	1.770	3¼	5⅞	7¼	-	512	2713
HILTI - KWIK BOLT-TZ2	3,000	3/8	2.000	2½	8	16	30	-	4266

NOTE: MAX SPACING OF ANCHOR PER TABLE B OR TABLE BC ON SHEET 2.
* TENSION AND SHEAR LOADS DEPICTED REFLECT MAXIMUM LOADS IMPOSED ON THE ANCHOR WHEN INSTALLED AT THE SPACING SPECIFIED IN TABLE C OR TABLE BC ON SHEET 2.

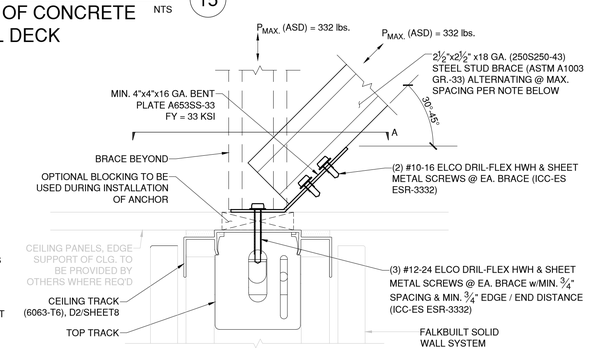
TYP. BASE TRACK ANCHORAGE TO TOPSIDE OF CONCRETE OVER METAL DECK

NTS

15



SECTION A

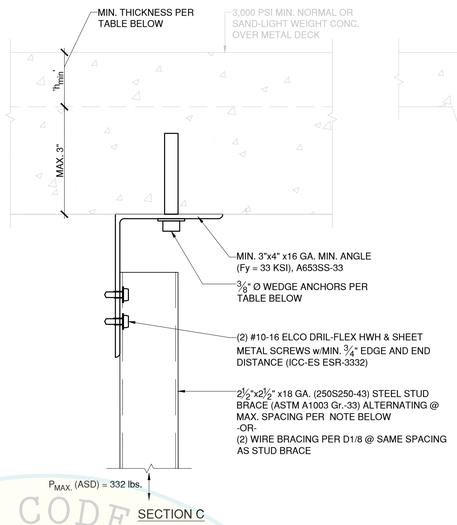


IN-PLANE BRACING @ WALL ENDS

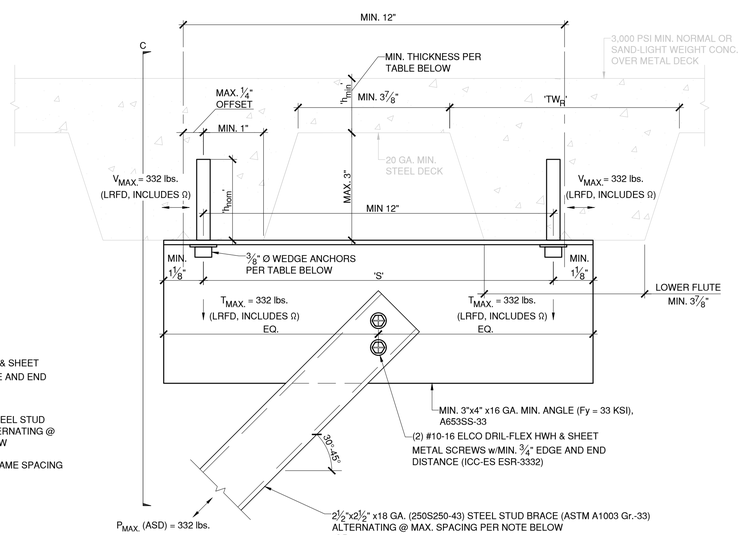
NTS

16

NOTE:
1. MAX BRACE SPACING PER TABLE A, SHEET 2 & MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. IN-PLANE BRACE AT WALL ENDS AND AT INTERSECTIONS FOR, WILL NOT BE REQUIRED IF WALL MEETS THE REQUIREMENTS LISTED ON TABLE A1 ON SHEET 2. OTHERWISE FOLLOW DETAIL 4 ON SHEET 2.



SECTION C



NOTE:
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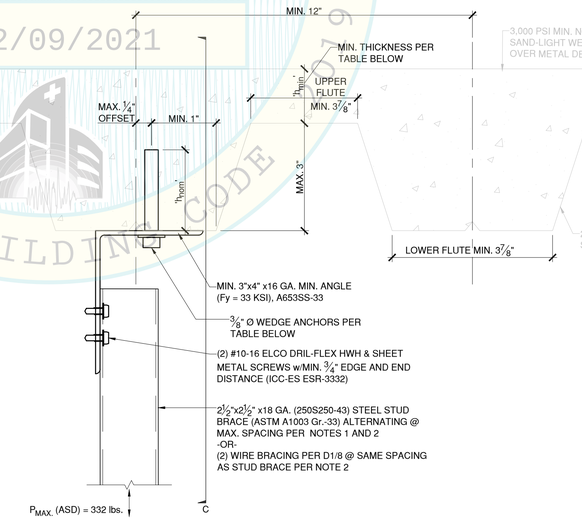
3. IN-PLANE BRACES SHALL BE PROVIDED AT WALL ENDS AND INTERSECTIONS PER DETAIL 5 ON SHEET 2.

ANCHOR BRAND AND TYPE	ANCHOR Ø (IN.)	MIN. EFFECTIVE EMBED. h_{eff} (IN.)	MIN. TOPPING h_{min} (IN.)	MIN. ANCHOR SPACING, S (IN.)	MIN. END DISTANCE (IN.)	MAX. INSTALLATION TORQUE (FT-LBS.)	TENSION LOAD TEST (CBC §1910A.5.4) (LBS.)	ICC-ES ESR
SIMPSON - STRONG BOLT-2	3/8	1.875	2	5⅝	4	30	-	3037
HILTI - KWIK-BOLT TZ2	3/8	2.000	2½	8	4	30	-	4266

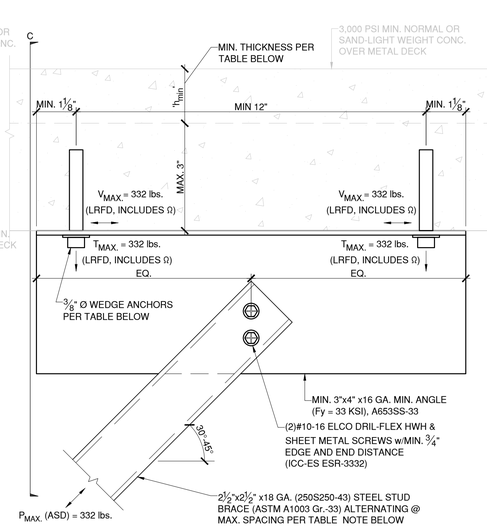
STUD BRACE ANCHOR @ CONC. OVER METAL DECK SOFFIT PERPENDICULAR TO FLUTES

NTS

13A



SECTION C



NOTE:
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2. IN-PLANE BRACE AT WALL ENDS AND AT INTERSECTIONS FOR, WILL NOT BE REQUIRED IF WALL MEETS THE REQUIREMENTS LISTED ON TABLE A1 ON SHEET 2. OTHERWISE FOLLOW DETAIL 4 ON SHEET 2.
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ANCHOR BRAND AND TYPE	ANCHOR Ø (IN.)	MIN. EFFECTIVE EMBED. h_{eff} (IN.)	MIN. TOPPING h_{min} (IN.)	MIN. ANCHOR SPACING, S (IN.)	MIN. END DISTANCE (IN.)	MAX. INSTALLATION TORQUE (FT-LBS.)	TEST LOAD (CBC §1910A.5.4) (LBS.)	ICC-ES ESR
SIMPSON - STRONG BOLT-2	3/8	1.875	2	5⅝	4	30	-	3037
HILTI - KWIK-BOLT TZ2	3/8	2.000	2½	8	4	30	-	4266

STUD BRACE ANCHOR @ CONC. OVER METAL DECK SOFFIT PARALLEL TO FLUTES

NTS

13B

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CLIENT:
FALKBUILT
MS. DONNA SHIRLEY

SHEET TITLE:
SOLID WALLS ANCHORAGE & BRACING DETAILS

FALKBUILT SOLID & GLASS WALL SYSTEMS OSHPD OPM

REGISTERED PROFESSIONAL ENGINEER ERIC CHRISTIAN STOVNER No. S 4204 STRUCTURAL STATE OF CALIFORNIA

DATE: 10/25/2021 ENG: KK
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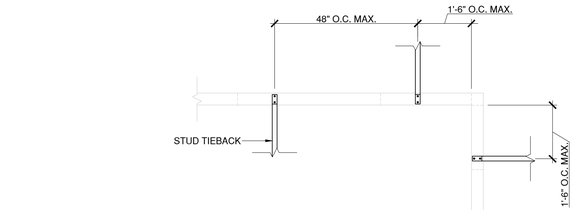
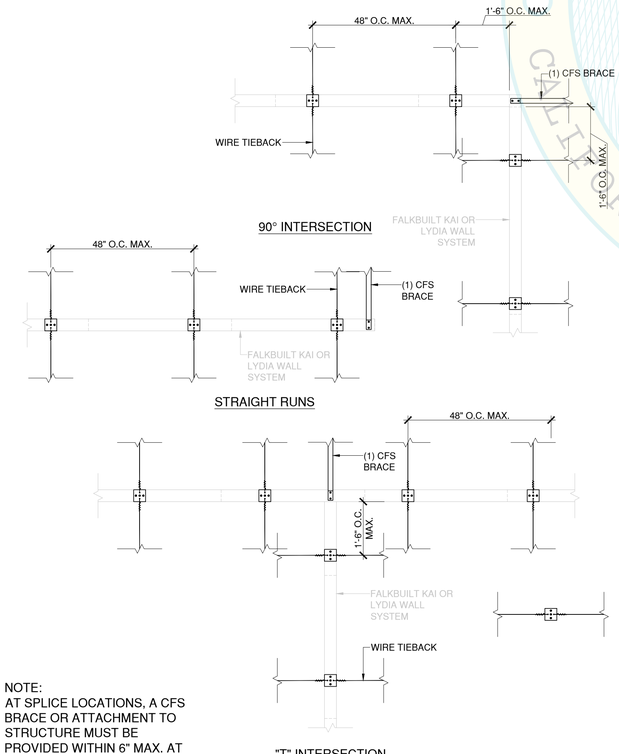
TABLE A - OUT-OF-PLANE CFS / WIRE BRACES		
WALL TYPE	MAX. WALL HEIGHT H, Ft.	MAXIMUM BRACE SPACING
KAI OR LYDIA	H ≤ 10.0	48" O.C.
TABLE B - BOTTOM TRACK TO CONCRETE OVER METAL DECK (WALLS WITH CFS STUD / WIRE BRACE)		
WALL TYPE	MAX. WALL HEIGHT H, Ft.	MAXIMUM ANCHOR SPACING
KAI OR LYDIA	H ≤ 10.0	48" O.C.
TABLE C - BOTTOM TRACK TO CONCRETE SLAB (WALLS WITH CFS STUD / WIRE BRACE)		
WALL TYPE	MAX. WALL HEIGHT H, Ft.	MAXIMUM ANCHOR SPACING
KAI OR LYDIA	H ≤ 10.0	48" O.C.
TABLE BC - BOTTOM TRACK TO CONCRETE OVER METAL DECK OR SLAB (WALLS WITHOUT CFS STUD / WIRE BRACE)		
WALL TYPE	MAX. WALL HEIGHT H, Ft.	MAXIMUM ANCHOR SPACING
KAI OR LYDIA	H ≤ 10.0	48" O.C.



NOTE:
AT SPLICE LOCATIONS, A CFS BRACE OR ATTACHMENT TO STRUCTURE MUST BE PROVIDED WITHIN 6" MAX. AT EACH SIDE OF SPLICE JOINT.

TYP. TOP OF WALL CFS BRACING PLAN

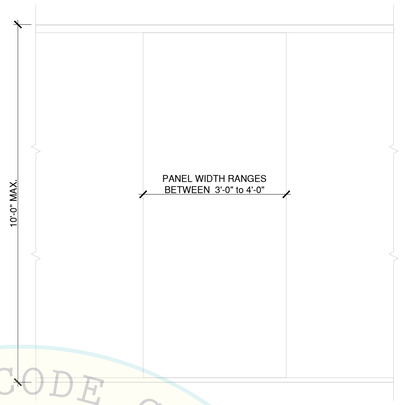
NTS 4



NOTE:
AT SPLICE LOCATIONS, A CFS BRACE OR ATTACHMENT TO STRUCTURE MUST BE PROVIDED WITHIN 6" MAX. AT EACH SIDE OF SPLICE JOINT.

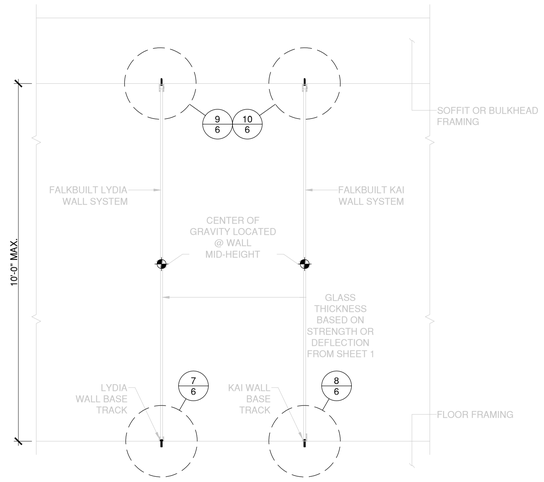
TYP. TOP OF WALL WIRE BRACING PLAN

NTS 5



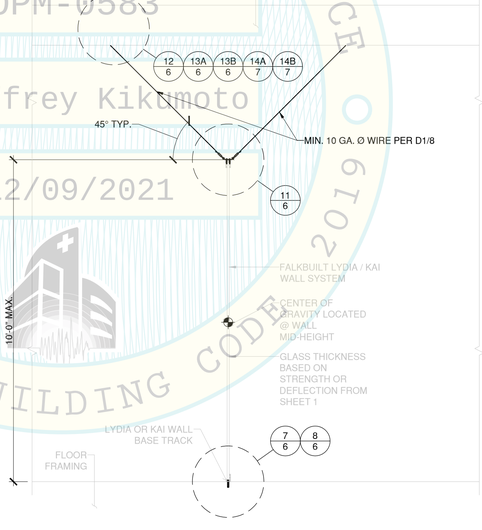
TYP. WALL ELEVATION

1/2" = 1'-0" 1A



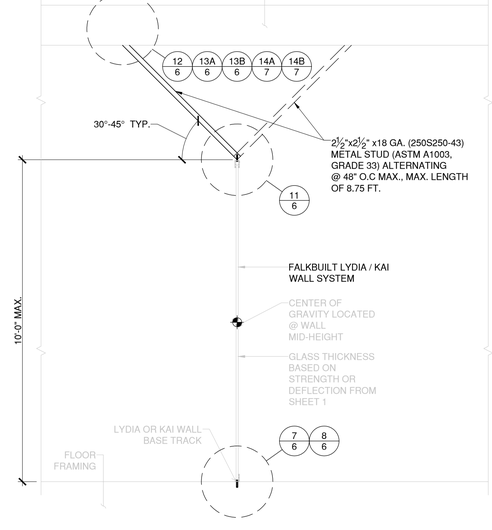
TYP. WALL SECTION BRACED BY SOFFIT/BULKHEAD FRAMING

1/2" = 1'-0" 1



TYP. WALL SECTION W/T.O.W. HEADER BRACED BY OUT-OF-PLANE WIRES

1/2" = 1'-0" 3



TYP. WALL SECTION W/T.O.W. HEADER BRACED BY OUT-OF-PLANE TIEBACKS

1/2" = 1'-0" 2

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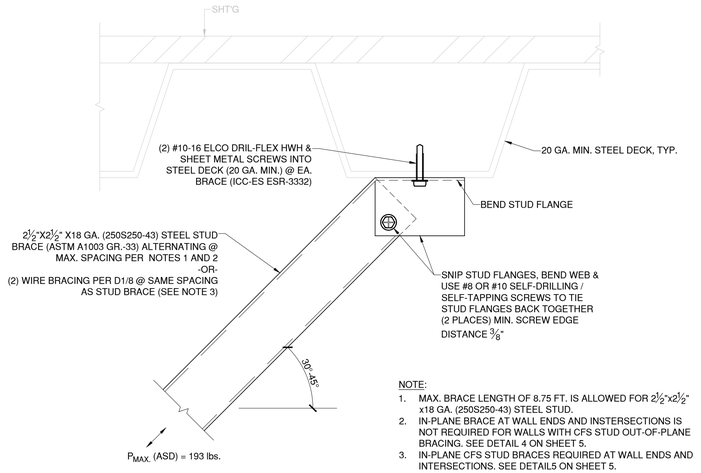
STRUCTURAL
STATE OF CALIFORNIA

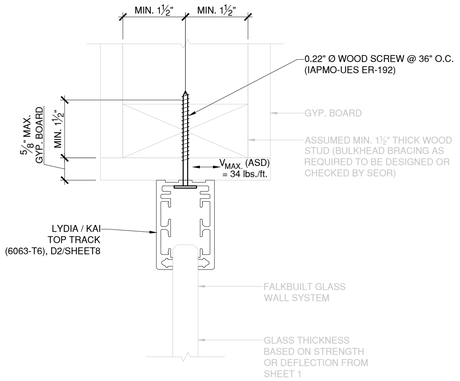
DATE: 10/25/2021 ENG: KK
JOB NO.:20-612 DRFT: MC
SHEET NO.:
5
5 OF 7 of 9

12/9/2021



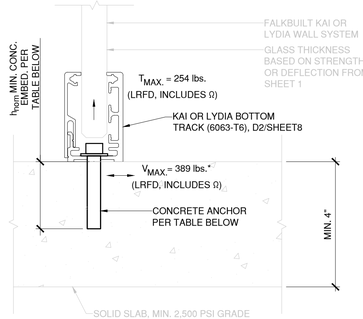
NOTE:
1. MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. IN-PLANE BRACE AT WALL ENDS AND INSTERSECTIONS IS NOT REQUIRED FOR WALLS WITH CFS STUD OUT-OF-PLANE BRACING. SEE DETAIL 4 ON SHEET 5.
3. IN-PLANE CFS STUD BRACES REQUIRED AT WALL ENDS AND INTERSECTIONS. SEE DETAIL5 ON SHEET 5.

STUD BRACE ANCHOR @ METAL DECK
NTS (12)



NOTES:
1. MIN. 2 ANCHORS PER PANEL.
2. MIN 1½" EMBED. INTO BASE WOOD.
3. MIN. 4" ANCHOR SPACING.
4. VALID ONLY FOR G=0.5.
5. MIN. 1½" EDGE DISTANCE.
6. MIN. 6" END DISTANCE.

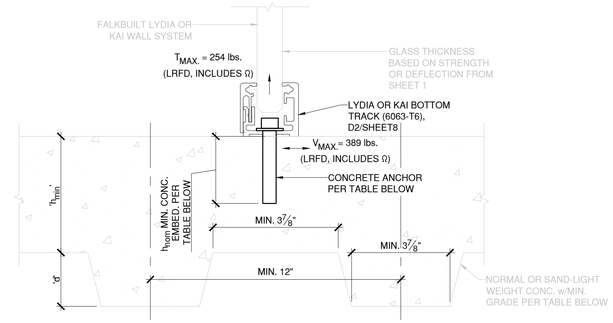
TOP TRACK TO WOOD SOFFIT/BULKHEAD FRAMING
NTS (10)



ANCHOR BRAND AND TYPE	CONCRETE GRADE (PSI)	ANCHOR Ø (IN.)	MIN. EFFECTIVE EMBED. h_{eff} (IN.)	MIN. ANCHOR SPACING, (IN.)	MIN. EDGE DISTANCE (IN.)	MIN. END DISTANCE (IN.)	MAX. INSTALLATION TORQUE (FT-LBS.)	TENSION LOAD TEST (CBC §1910A.5.4) (LBS.)	ICC-ES ESR
SIMPSON - TITEN HD	2,500	3/8	1.77	3	8	8	-	753	2713
HILTI - KH-EZ	2,500	3/8	1.86	3	6	6	-	1314	3027

NOTE: MAX SPACING OF ANCHOR PER TABLE C OR TABLE BC ON SHEET 5.
* TENSION AND SHEAR LOADS DEPICTED REFLECT MAXIMUM LOADS IMPOSED ON THE ANCHOR WHEN INSTALLED AT THE SPACING SPECIFIED IN TABLE C OR TABLE BC ON SHEET 2.

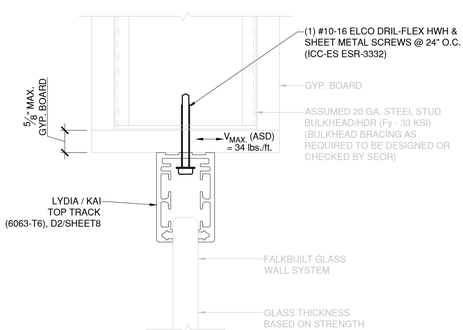
TYP. BASE TRACK ANCHORAGE TO CONCRETE SLAB
NTS (7)



ANCHOR BRAND AND TYPE	MIN. CONCRETE GRADE (PSI)	ANCHOR Ø (IN.)	MIN. EFFECTIVE EMBED. h_{eff} (IN.)	MIN. TOPPING h_{min} (IN.)	MIN. ANCHOR SPACING, S (IN.)	MIN. END/EDGE DISTANCE (IN.)	MAX. INSTALLATION TORQUE (FT-LBS.)	TENSION LOAD TEST (CBC §1910A.5.4) (LBS.)	ICC-ES ESR
SIMPSON - TITEN HD	2,500	3/8	1.770	3¼	5⅞	8	-	512	2713
HILTI - KWIK BOLT-TZ2	3,000	3/8	2.000	2½	8	16	30	-	4266

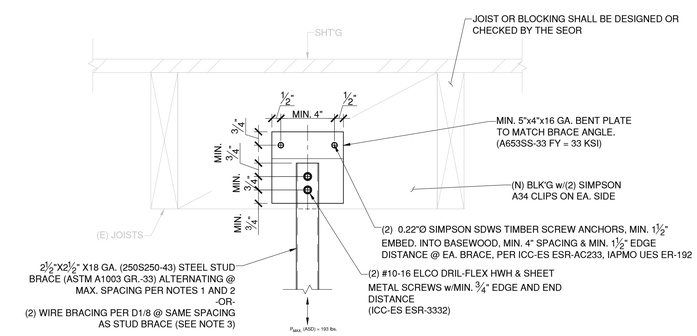
NOTE: MAX SPACING OF ANCHOR PER TABLE C OR TABLE BC ON SHEET 5.
* TENSION AND SHEAR LOADS DEPICTED REFLECT MAXIMUM LOADS IMPOSED ON THE ANCHOR WHEN INSTALLED AT THE SPACING SPECIFIED IN TABLE C OR TABLE BC ON SHEET 2.

TYP. BASE TRACK ANCHORAGE TO TOPSIDE OF CONCRETE OVER METAL DECK
NTS (8)



NOTES:
1. MIN. 3.0 TIMES SCREW Ø, SCREW SPACING.
2. MIN. 3.0 TIMES SCREW Ø, SCREW END AND EDGE DISTANCE.
3. MIN. 22 GA. COLD-FORMED STEEL THICKNESS.
4. MIN. 2 ANCHORS PER PANEL.

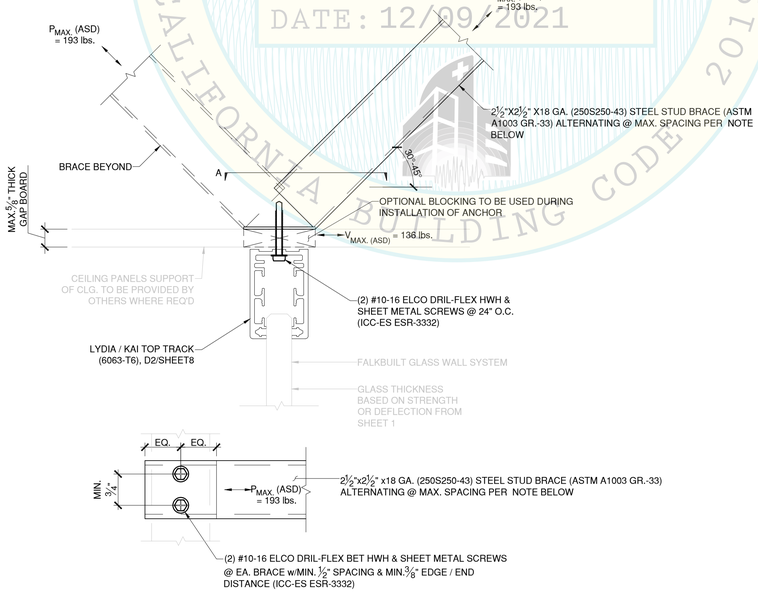
TOP TRACK TO STEEL SOFFIT/BULKHEAD FRAMING
NTS (9)



SECTION C

NOTE:
1. MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. IN-PLANE BRACE AT WALL ENDS AND INSTERSECTIONS IS NOT REQUIRED FOR WALLS WITH CFS STUD OUT-OF-PLANE BRACING. SEE DETAIL 4 ON SHEET 5.
3. IN-PLANE CFS STUD BRACES REQUIRED AT WALL ENDS AND INTERSECTIONS. SEE DETAIL5 ON SHEET 5.

STUD BRACE ANCHOR @ WOOD FRAMING PERPENDICULAR TO JOISTS
NTS (13A)



SECTION A

NOTE:
1. MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. MAX. BRACE SPACING PER TABLE A, SHEET 5.

TOP TRACK TO STUD BRACE
NTS (11)

STUD BRACE ANCHOR @ WOOD FRAMING PARALLEL TO JOISTS
NTS (13B)

OPM-0583: Reviewed for Code Compliance by Jeffrey Kikumoto

CRITICAL STRUCTURES
BALANCING ENVIRONMENT AND DESIGN
1350 CORONADO AVENUE
LONG BEACH, CA 90804
T:(310) 530-3050 F:(310) 530-0184
WWW.CRITICAL-STRUCTURES.COM

#	DATE	ISSUED
1	6-19-20	ISSUED
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3	-	-
4	10-25-21	OSHPD COMMENTS- 3
5	-	-
6	-	-

#	DATE	ISSUE OF REVISION
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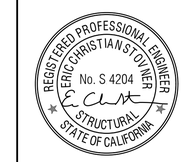
3	-	-
4	-	-
5	-	-
6	-	-

CLIENT:
FALKBUILT
MS. DONNA SHIRLEY

SHEET TITLE:
GLASS WALLS & BRACING ANCHORAGE & BRACING DETAILS

FALKBUILT SOLID & GLASS WALL SYSTEMS OSHPD OPM



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JOB NO.:20-612 DRFT: MC
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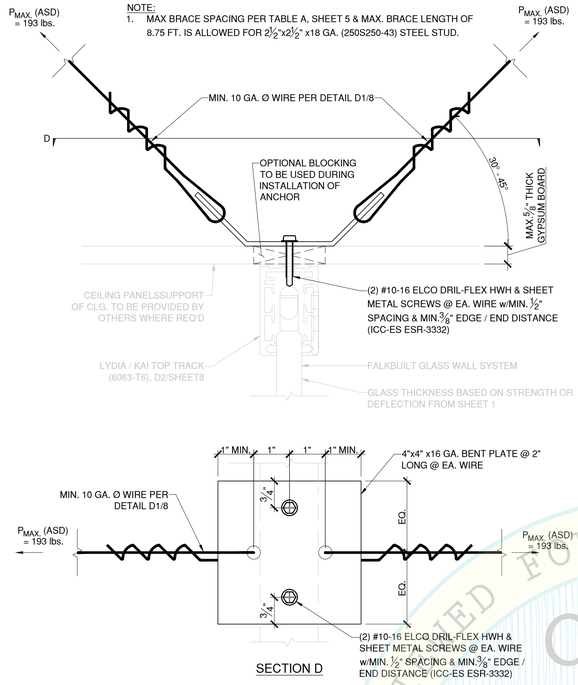
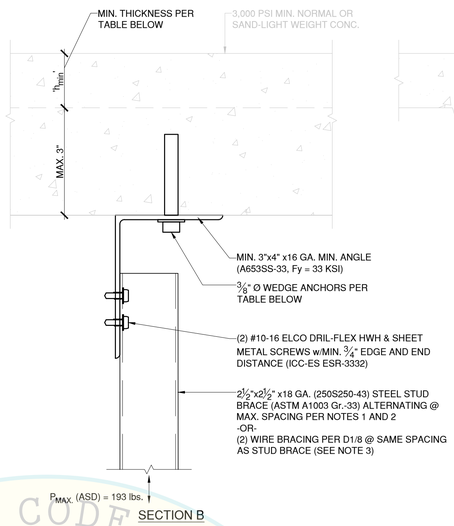
6
6 OF 8 of 9

12/9/2021

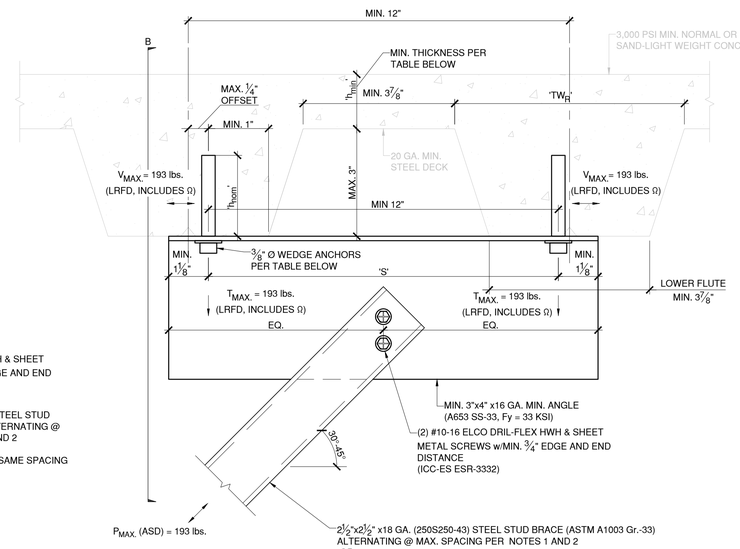


TOP TRACK TO SPLAY WIRE BRACING NTS (15)

SECTION D



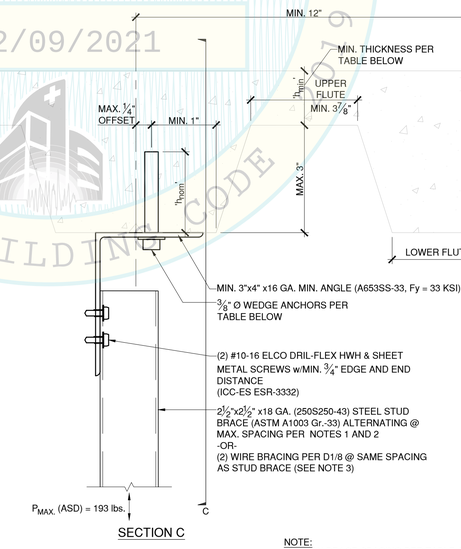
SECTION B



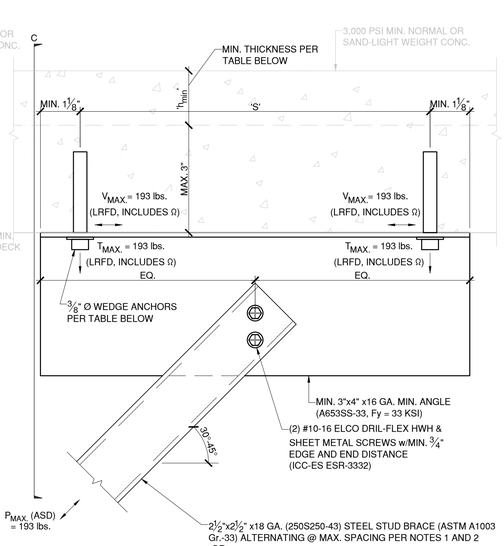
NOTE:
1. MAX BRACE SPACING PER TABLE A, SHEET 5 & MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
2. IN-PLANE BRACE AT WALL ENDS AND INSTERSECTIONS IS NOT REQUIRED FOR WALLS WITH CFS STUD OUT-OF-PLANE BRACING. SEE DETAIL 4 ON SHEET 5.
3. IN-PLANE CFS STUD BRACES REQUIRED AT WALL ENDS AND INTERSECTIONS. SEE DETAIL5 ON SHEET 5.

ANCHOR BRAND AND TYPE	ANCHOR Ø (IN.)	MIN. EFFECTIVE EMBED. h_{eff} (IN.)	MIN. TOPPING h_{min} (IN.)	MIN. ANCHOR SPACING, S (IN.)	MIN. END DISTANCE (IN.)	MAX. INSTALLATION TORQUE (FT-LBS.)	TENSION LOAD TEST (CBC §1910A.5.4) (LBS.)	ICC-ES ESR
SIMPSON - STRONG BOLT-2	3/8	1.875	2	5⅝	4	30	-	3037
HILTI - KWIK-BOLT TZ2	3/8	2.000	2½	6	4	30	-	4266

STUD BRACE ANCHOR @ CONC. OVER METAL DECK SOFFIT PERPENDICULAR TO FLUTES NTS (14A)



SECTION C



NOTE:
1. MAX BRACE SPACING PER TABLE A, SHEET 5 & MAX. BRACE LENGTH OF 8.75 FT. IS ALLOWED FOR 2½"x2½" x18 GA. (250S250-43) STEEL STUD.
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3. IN-PLANE CFS STUD BRACES REQUIRED AT WALL ENDS AND INTERSECTIONS. SEE DETAIL5 ON SHEET 5.

ANCHOR BRAND AND TYPE	ANCHOR Ø (IN.)	MIN. EFFECTIVE EMBED. h_{eff} (IN.)	MIN. TOPPING h_{min} (IN.)	MIN. ANCHOR SPACING, S (IN.)	MIN. END DISTANCE (IN.)	MAX. INSTALLATION TORQUE (FT-LBS.)	TENSION LOAD TEST (CBC §1910A.5.4) (LBS.)	ICC-ES ESR
SIMPSON - STRONG BOLT-2	3/8	1.875	2	5⅝	4	30	-	3037
HILTI - KWIK-BOLT TZ2	3/8	2.000	2½	6	4	30	-	4266

STUD BRACE ANCHOR @ CONC. OVER METAL DECK SOFFIT PARALLEL TO FLUTES NTS (14B)

CRITICAL STRUCTURES
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1350 CORONADO AVENUE
LONG BEACH, CA 90804
T:(310) 530-3050 F:(310) 530-0184
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5	-	-
6	-	-

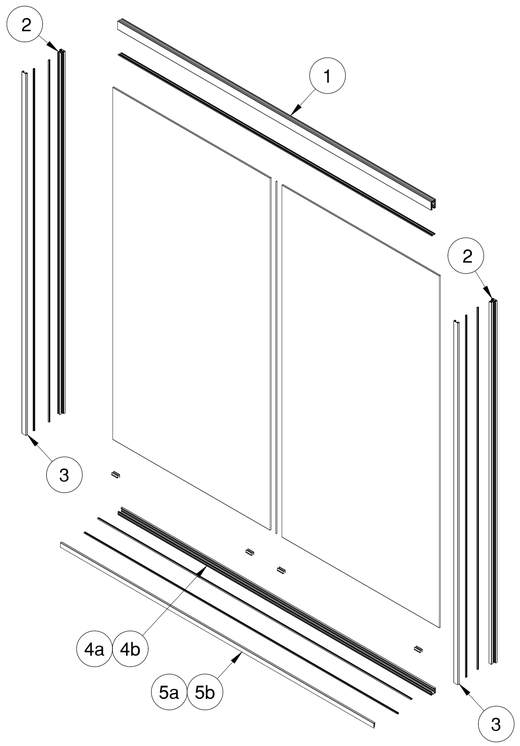
CLIENT:
FALKBUILT
MS. DONNA SHIRLEY

SHEET TITLE:
GLASS WALLS BRACING DETAILS

FALKBUILT
SOLID & GLASS WALL SYSTEMS
OSHPD OPM

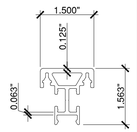
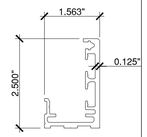
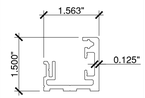
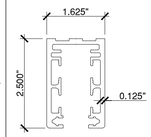
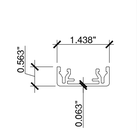
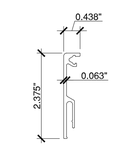
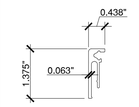
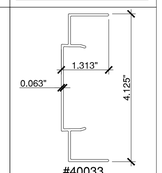
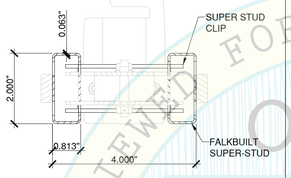
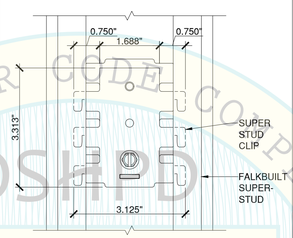
REGISTERED PROFESSIONAL ENGINEER
ERIC CHRISTIAN STOVNER
No. S 4204
STRUCTURAL
STATE OF CALIFORNIA

DATE: 10/25/2021 ENG: KK
JOB NO.:20-612 DRFT: MC
SHEET NO.:
7
7 OF 9 of 9



GLASS WALL ISOMETRIC (D4)

NTS

ITEM #			
GLASS WALL VERTICALS	KAI GLASS WALL	LYDIA GLASS WALL	GLASS WALL HEADERS
			
#40017 GLASS WALL VERTICAL	#40016 KAI GLASS WALL SHOE	#40020 LYDIA GLASS WALL SHOE	#40013 GLASS WALL HEADER
			
#40018 GLASS WALL VERTICAL CLADDING	#40015 KAI GLASS WALL SHOE CLADDING	#40019 LYDIA GLASS WALL SHOE CLADDING	#40033 ALUMINUM TOP & BOTTOM TRACK
			
SOLID WALL SECTION		#40015 KAI GLASS WALL SHOE CLADDING	

WALL SECTIONS (D2)

NTS

KAI GLASS WALL ASSEMBLY

ITEM #	ITEM NAME	PART #	THICKNESS, t (in)	AREA (in^2)	I_{XX} (in^{24})	I_{YY} (in^4)	S_{XX} (in^3)	S_{YY} (in^3)
1	GLASS WALL HEADER	40013	0.1250	1.2055	0.8119	0.4962	0.6054	0.6107
2	GLASS WALL VERTICAL	40017	0.1250	0.6504	0.1353	0.1082	0.1283	0.1443
3	GLASS WALLVERTICAL CLADDING	40018	0.0630	0.2859	0.0064	0.0797	0.0184	0.1091
4a	GLASS WALL SHOE	40016	0.1250	0.7697	0.5170	0.1872	0.3346	0.1691
5a	GLASS WALL SHOE CLADDING	40015	0.0630	0.3234	0.1735	0.0040	0.1301	0.0118

LYDIA GLASS WALL ASSEMBLY

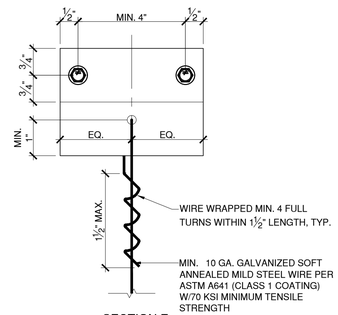
ITEM #	ITEM NAME	PART #	THICKNESS, t (in)	AREA (in^2)	I_{XX} (in^{24})	I_{YY} (in^4)	S_{XX} (in^3)	S_{YY} (in^3)
1	GLASS WALL HEADER	40013	0.1250	1.2055	0.8119	0.4962	0.6054	0.6107
2	GLASS WALL VERTICAL	40017	0.1250	0.6504	0.1358	0.1082	0.1283	0.1443
3	GLASS WALL VERTICAL CLADDING	40018	0.0630	0.2859	0.0064	0.0797	0.0184	0.1091
4b	GLASS WALL SHOE	40020	0.1250	0.6118	0.1312	0.1799	0.1387	0.1860
5b	GLASS WALL SHOE CLADDING	40019	0.0630	0.2274	0.0355	0.0032	0.0414	0.0101

SOLID WALL ASSEMBLY

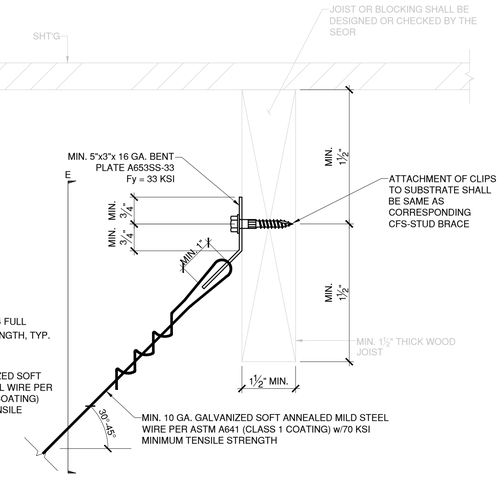
ITEM NAME	THICKNESS, t (in)	AREA (in^2)	I_{XX} (in^{24})	I_{YY} (in^4)	S_{XX} (in^3)	S_{XY} (in^3)
SUPER STUD	0.1938	0.4100	0.2122	1.1366	0.2156	0.5578
ALUMINUM TOP & BOTTOM TRACK	0.0630	0.4737	1.0330	0.0580	0.4998	0.0592

SECTION PROPERTIES (D3)

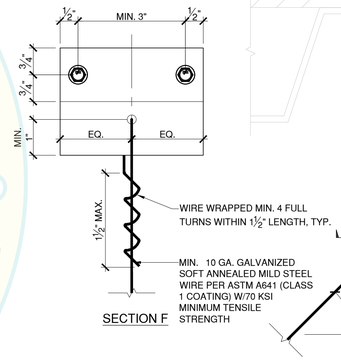
NTS



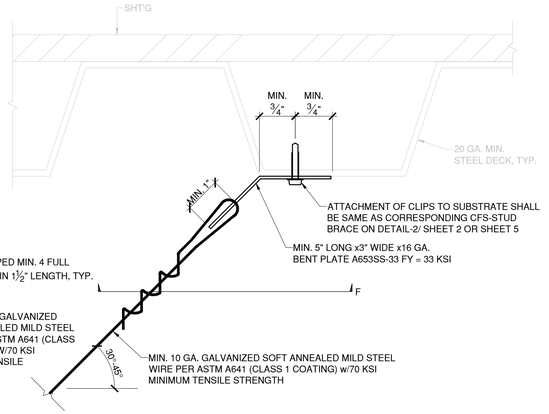
SECTION E



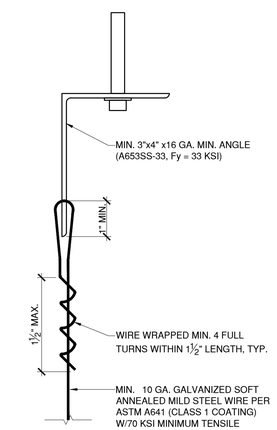
A - WOOD



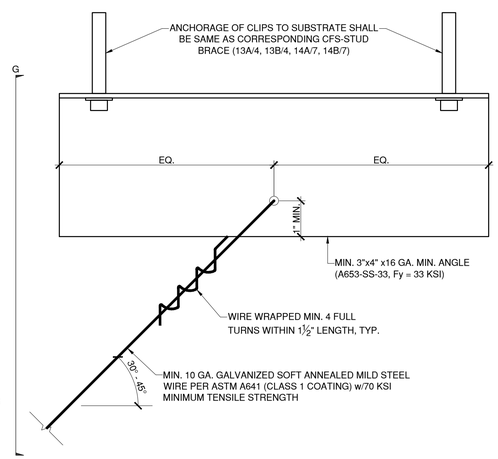
SECTION F



B - CFS DECK SOFFIT



SECTION G



C - CONCRETE

TYPICAL WIRE TO BENT PLATE CONNECTION (D1)

NTS

BY: Jeffrey Kikumoto

DATE: 12/09/2021

CRITICAL STRUCTURES
BALANCING ENVIRONMENT AND DESIGN
1350 CORONADO AVENUE
LONG BEACH, CA 90804
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6	-	-

CLIENT:
FALKBUILT
MS. DONNA SHIRLEY

SHEET TITLE:
WALL SECTIONS AND PROPERTIES

FALKBUILT SOLID & GLASS WALL SYSTEMS OSHPD OPM

DATE: 10/25/2021 ENG: KK
JOB NO.:20-612 DRFT: MC
SHEET NO.:
8
8 OF 10 of 10