

	CODE INFORMATION
APPLICABLE CODES:	GENERAL: • BUILDING/DWELLING CODE IBC 2015 & AHJ AMENDMENTS EXISTING:
	ENERGY CONSERVATION: • INTERNATIONAL ENERGY CONSERVATION CODE 2015 & AHJ AMENDMENTS PLUMBING:
	MECHANICAL: • MECHANICAL CODE IMC 2015 & AHJ AMENDMENTS ELECTRICAL:
	• ELECTRICAL CODE NEC 2017 & AHJ AMENDMENTS FIRE:
	FIRE/LIFE SAFETY CODE 2009 NFPA-1 & AHJ AMENDMENTS ACCESSIBILITY: ANSI STANDARD A117.1-2009- FOR ACCESSIBILITY
	FUEL: • INTERNATIONAL FUEL GAS CODE 2015 & AHJ AMENDMENTS
CHAPTER 3 USE AND OCCUPANCY CLASSIFICATION:	310.4 RESIDENTIAL GROUP R-2
SECTION 420 GROUPS I-1, R-1, R-2, R-3 AND R-4	SECTION 420 GROUPS R-2 • FIRE PARTITIONS IN ACCORDANCE WITH SECTION 708 • HORIZONTAL ASSEMBLIES IN ACCORDANCE WITH SECTION 711.
CHAPTER 5 CLASSIFICATION OF	NEW
WORK: 504.3 HEIGHT IN FEET	R-2 – TYPE VB (SPRINKLERED): • ACTUAL: 35FT
504.4 NUMBER OF STORIES	ALLOWED: 60FT R-2 - TYPE VB (SPRINKLERED):
506.2 ALLOWABLE AREA	ACTUAL: 3 ALLOWED: 4 TABULAR PER FLOOR AREA LIMIT PER CHAPTER 5 = 7000 SQ.FT.
DETERMINATION &	 ALLOW HEIGHT = 60 FT; ALLOW STORIES = 3 NFPA 13 SPRINKLERS
506.3 FRONTAGE INCREASE:	 COMPUTE AREA INCREASE DUE TO FRONTAGE: FRONTAGE COEFFICIENT, IF 0.589 PERIMETER, P 354 FT 'FRONTAGE' PERIMETER, F 306 FT
	 WEIGHTED AVERAGE DISTANCE FROM 'F' = 228.75 FT COMPUTE ALLOWABLE PER STORY AREA, AA = AT +(NS X IF) = 25120.94 SQ.FT. MAXIMUM ALLOWABLE AREA = AA X 3 = 75362.83 SQ.FT.
	 MAXIMUM ALLOWABLE AREA - AA X 3 - 73382.83 SQ.FT. MAXIMUM NUMBER OF STORIES FOR GROUP R WITH NFPA 13R SPRINKLERS, PER SEC. 903.3.1.2.THI CRITERIA IS MET, SO STORY LIMIT = 3 THE REVISED ALLOWABLE HEIGHT IS 60 FT.
	ACTUAL • (ALL FLOORS): 16,826SF • FLOORS: 3
508.3 NONSEPARATED OCCUPANCIES:	N/A
508.4 SEPARATED OCCUPANCIES	N/A FOR TYPE VB
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) TABLE 602	STRUCTURAL FRAME: 0 HR BEARING WALLS- EXTERIOR: 0 HR BEARING WALLS-INTERIOR: 0 HR NON-BEARING WALLS-EXTERIOR – (SEE TABLE 602) NON-BEARING WALLS-INTERIOR: 0 HR FLOOR CONSTRUCTION: 0 HR ROOF CONSTRUCTION: 0 HR
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS	TYPE-VB
BASED ON FIRE SEPARATION DISTANCE	• $X < 5C = 1 HR$ • $5 \le X \le 10 = 1 HR$ • $10 \le X \le 30 = 0 HR$
708.3 FIRE-RESISTANCE RATING	• X ≥ 30 = 0 HR CORRIDORS: 1/2HR RATED DWELLING UNIT AND SLEEPING UNIT SEPARATIONS: 1/2HR RATED
711.2.4.3 DWELLING UNITS AND SLEEPING UNITS	BETWEEN DWELLING UNITS: 1/2HR RATED
803.11 INTERIOR FINISH REQUIREMENTS BASED ON GROUP	FOR SPRINKLERED R-2: INTERIOR EXIT STAIRWAYS AND RAMPS AND EXIT PASSAGEWAYS: CLASS C CORRIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND RAMPS: CLASS C ROOMS AND ENCLOSED: CLASS C
SPRINKLERS (SECTION 903 AUTOMATIC SPRINKLER SYSTEMS):	NFPA13 SPRINKLER THROUGHOUT PROJECT (R-2)
SECTION 1020 CORRIDORS	CORRIDORS: 1/2HR RATED
SECTION 1004 OCCUPANT LOAD	SEE SECTION 1021 EGRESS BALCONIES FOR CORRIDOR RATING AT EXTERIOR WALL TABLE 1004.1.2 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT
	RESIDENTIAL: 200 GROSS
1006.2.1 EGRESS BASED ON OCCUPANT LOAD AND COMMON PATH OF EGRESS TRAVEL DISTANCE: SECTION 1017 EXIT ACCESS TRAVEL	FOR R-2 MAXIMUM COMMON PATH WITH SPRINKLER SYSTEM: 125FT MAXIMUM OCCUPANT LOAD OF SPACE WITH ONE EXIT: 49 FOR R-2: 250 (W/SPRINKLER)
DISTANCE: 1020.4 DEAD ENDS:	50FT (WITH NFPA13 SPRINKLERS)
SECTION 1021 EGRESS BALCONIES	EXTERIOR EGRESS BALCONIES SHALL BE SEPARATED FROM THE INTERIOR OF THE BUILDING BY WALLS AND OPENING PROTECTIVES AS REQUIRED FOR CORRIDORS.
	SECTION 1020 CORRIDORS 1020.1 CONSTRUCTION CORRIDORS SHALL BE FIRE-RESISTANCE-RATED IN ACCORDANCE WITH TABLE 1020.1. THE CORRIDOR
	WALLS REQUIRED TO BE FIRE-RESISTANCE-RATED SHALL COMPLY WITH SECTION 708 FOR FIRE PARTITIONS.
	CORRIDORS ADJACENT TO THE EXTERIOR WALLS OF BUILDINGS SHALL BE PERMITTED TO HAVE UNPROTECTED OPENINGS ON UNRATED EXTERIOR WALLS WHERE UNRATED WALLS ARE PERMITTED BY TABLE 602 AND UNPROTECTED OPENINGS ARE PERMITTED BY TABLE 705.8.
2902.1 MINIMUM NUMBER OF FIXTURES	CLASSIFICATION & OCCUPANCY:
	R-2 • WATER CLOSETS: 1 PER DWELLING • LAVATORIES: 1 PER DWELLING • BATHTUBS/ SHOWERS: 1 PER DWELLING



GENERAL NOTES • GENERAL CONTRACTOR RESPONSIBLE FOR ALL FEES ASSOCIATED WITH PERMITS, APPLICATIONS, TAXES, AND CERTIFICATES OF INSPECTIONS. ANY CONSTRUCTION THAT DEVIATES FROM THE DRAWING IS UNAUTHORIZED. IF NOT AUTHORIZED BY THE ARCHITECT. IN SUCH AN EVENT, CONTRACTOR IS **RESPONSIBLE FOR ANY REWORK THAT MIGHT BE REQUIRED.** • CONTRACTOR IS RESPONSIBLE FOR ALL THE RULES/REGULATIONS OF THE AUTHORITY HAVING JURISDICTION. INCLUDED, BUT NOT LIMITED TO ALL CITY, TOWNSHIP, COUNTY, STATE, AND FEDERAL CODES, STATUTES, AND ORDINANCES. CONTRACTORS SHALL VISIT THE SITE PRIOR TO CONSTRUCTION TO DETERMINE HOW NEW CONSTRUCTION IS COMPATIBLE WITH EXISTING CONDITIONS. • CONTRACTOR TO NOTIFY ARCHITECT IF THERE ARE ANY OMISSIONS, CONFLICTS, OR DISCREPANCIES IN THE DRAWINGS BEFORE ANY CONSTRUCTION TAKES PLACE. A FAILURE TO SO WILL RESULT IN THE CONTRACTOR RESPONSIBLE FOR ANY • CONTRACTOR RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND TAKEOFFS

BEFORE BIDDING AND/OR ORDERING MATERIALS. CONTRACTOR WILL NOTIFY ARCHITECT IF THERE ANY DRAWING CONFLICTS AND AWAIT DIRECTION BEFORE COMMENCING. • DO NOT SCALE THE DRAWINGS. ALL THROUGH AND MEMBRANE PENETRATIONS AT ALL FIRE/SMOKE RATED

REWORK.

PARTITIONS/CEILINGS/FLOORS TO BE SEALED WITH A CODE COMPLIANT, U.L. APPROVED FIRE STOP.

 GENERAL CONTRACTOR TO COORDINATE THE SIZE/LOCATION OF ANY ACCESS PANELS AND/OR CLEAN OUTS WITH THE M/E/P CONTRACTOR AND ARCHITECT. ALL CONTRACTORS AND VENDORS TO FAMILIARIZE THEMSELVES WITH THE ENTIRE DRAWING SET, AS REQUIRED INFORMATION MAY BE ON MULTIPLE SHEETS AND ALTERNATE DISCIPLINES. • ANY FURNITURE SHOWN IS FOR REFERENCE AND IS NOT IN THE CONTRACTOR. • CONTRACTORS SHALL BE RESPONSIBLE FOR REPAIRING ANY PROPERTY DAMAGE THAT MAY HAVE RESULTED FROM THEIR WORK.

• OWNER RESPONSIBLE FOR ANY WORK NOT SPECIFICALLY CALLED OUT IN THE DRAWINGS. • ANY CHANGE THAT RESULTS IN ADDITIONAL COST/TIME MUST TO APPROVED BY THE OWNER/ARCHITECT PRIOR TO CONSTRUCTION. DETAILS ARE TO BE INTERPRETED AS TYPICAL. THAT IS, UNLESS SPECIFICALLY CALLED OUT OTHERWISE, THE DETAIL IS TO BE APPLIED TO SIMILAR CONDITIONS THROUGHOUT THE PROJECT. • ALL EXTERIOR FLATWORK AROUND THE BUILDING TO SLOPE A MINIMUM OF 2% AWAY FROM THE BUILDING.

• ANY PENETRATIONS IN THE EXTERIOR ENVELOPE TO BE SEALED TO PREVENT ANY AIR/WATER LEAKAGE PER IBC CODE REQUIREMENTS. • ALL FINISH AND COLOR SELECTIONS TO BE VERIFIED WITH ARCHITECT • UNLESS OTHERWISE NOTED, SLOPE FLOOR 2% TOWARD ANY DRAINS INDICATED ON THE DRAWINGS.

 CONTRACTOR SHALL KEEP THE CONSTRUCTION CLEAN-REMOVING ANY ACCUMULATION OF DEBRIS AND/OR UNUSED EQUIPMENT. • CONTRACTOR TO BE RESPONSIBLE FOR THE COLLECTION, TRANSPORT AND DISPOSAL OF ALL CONSTRUCTION WASTE. • CONTRACTORS RESPONSIBLE FOR ANY TEMPORARY SHORING THAT MIGHT BE NECESSARY DURING CONSTRUCTION. ALL SHORING TO BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER RETAINED BY THE CONTRACTOR. • GENERAL CONTRACTOR TO VERIFY WITH THE M/E/P CONTRACTORS ALL PIPE/DUCT

LOCATION PRIOR TO FRAMING. • MANUFACTURED MATERIAL/EQUIPMENT TO BE INSTALLED PER MANUFACTURER'S **REQUIREMENTS**. CONTRACTOR TO PROTECT ANY EXPOSED CONCRETE THAT IS MEANT TO BE A FINISHED SURFACE. • GENERAL CONTRACTOR TO PROVIDE ARCHITECT AT LEAST (2) WEEKS WHEN **REVIEWING ANY SHOP DRAWINGS AND/OR SUBSTITUTION REQUESTS.**

• REVIEW OF SHOP DRAWINGS DOES NOT CONSTITUTE THE APPROVAL OF SAFETY **REQUIREMENTS AND/OR CONSTRUCTION MEAN AND METHODS.** • THE PRESENCE OF THE ARCHITECT ON SITE DOES NOT CONSTITUTE APPROVAL OF THE WORK. THE CONTRACTOR SHALL CALL THE ARCHITECT'S ATTENTION TO ANYTHING SPECIFICALLY NEEDS THE ARCHITECT'S APPROVAL. • ONLY ARCHITECTURAL AND STRUCTURAL DRAWINGS HAVE BEEN COORDINATED WITH THE ARCHITECT. CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY WORK OUTSIDE THESE SCOPES (M/E/P, FOR EXAMPLE) THAT INTERFERES WITH THIS

ARCH/STRUCT DRAWING SET. • GENERAL CONTRACTOR TO EDUCATE THE OWNER ON THE OPERATION AND MAINTENANCE OF ALL INSTALLED PRODUCT AND/OR EQUIPMENT. • PRIOR TO SUBSTANTIAL COMPLETION, THE CONTRACTOR SHALL CLEAN SITE AND DELIVER ALL REQUIRED GUARANTEES, LIEN WAITERS AND MAINTENANCE MANUALS • ARCHITECT NOT RESPONSIBLE FOR THE EXPLORATION, PRESENCE, HANDLING, AND/OR ADVERSE EXPOSURE OF ANY HAZARDOUS MATERIALS, IN ANY FROM. INCLUDING, BUT NOT LIMITED TO ASBESTOS PRODUCTS, POLYCHLORINATED **BIPHENYL (PCB) OR OTHER TOXIC SUBSTANCES.** • ALL EXTERIOR STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED. ALL NOTCHING, DRILLING, WELDING AND BENDING DONE PRIOR TO DIPPING. • ANY PRODUCT OR MATERIALS THAT ARE NOT CALLED OUT IN THE DRAWINGS, BUT REQUIRED FOR PROPER INSTALLATION AND PERFORMANCE OF THE WORK, SHALL

BE PROVIDED BY THE CONTRACTOR. • THE CONTRACTOR TO PROVIDE ALL THE NECESSARY BLOCKING AND/OR STRUCTURAL SUPPORT REQUIRE TO PROPERLY INSTALL MOUNTED ASSEMBLIES, INCLUDED BY NOT LIMITED TO GRAB BARS, PLUMBING FIXTURES, MILLWORK AND CASEWORK. • MAINTAIN INGRESS AND EGRESS TO THE PROJECT SITE.

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S0.1A	FOUNDATION NOTES AND 3D	06/02/22 – Review before Permit			
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\$4.0	TYPICAL WOOD FRAMING DETAILS	06/02/22 – Review before Permit			
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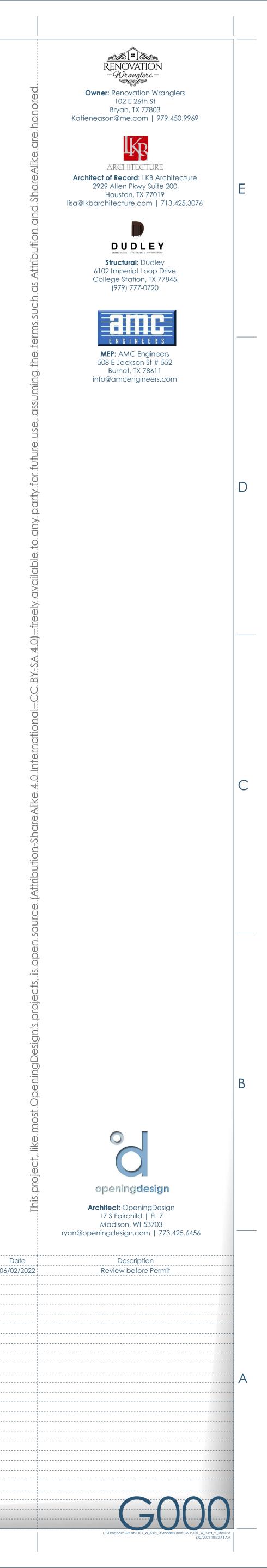


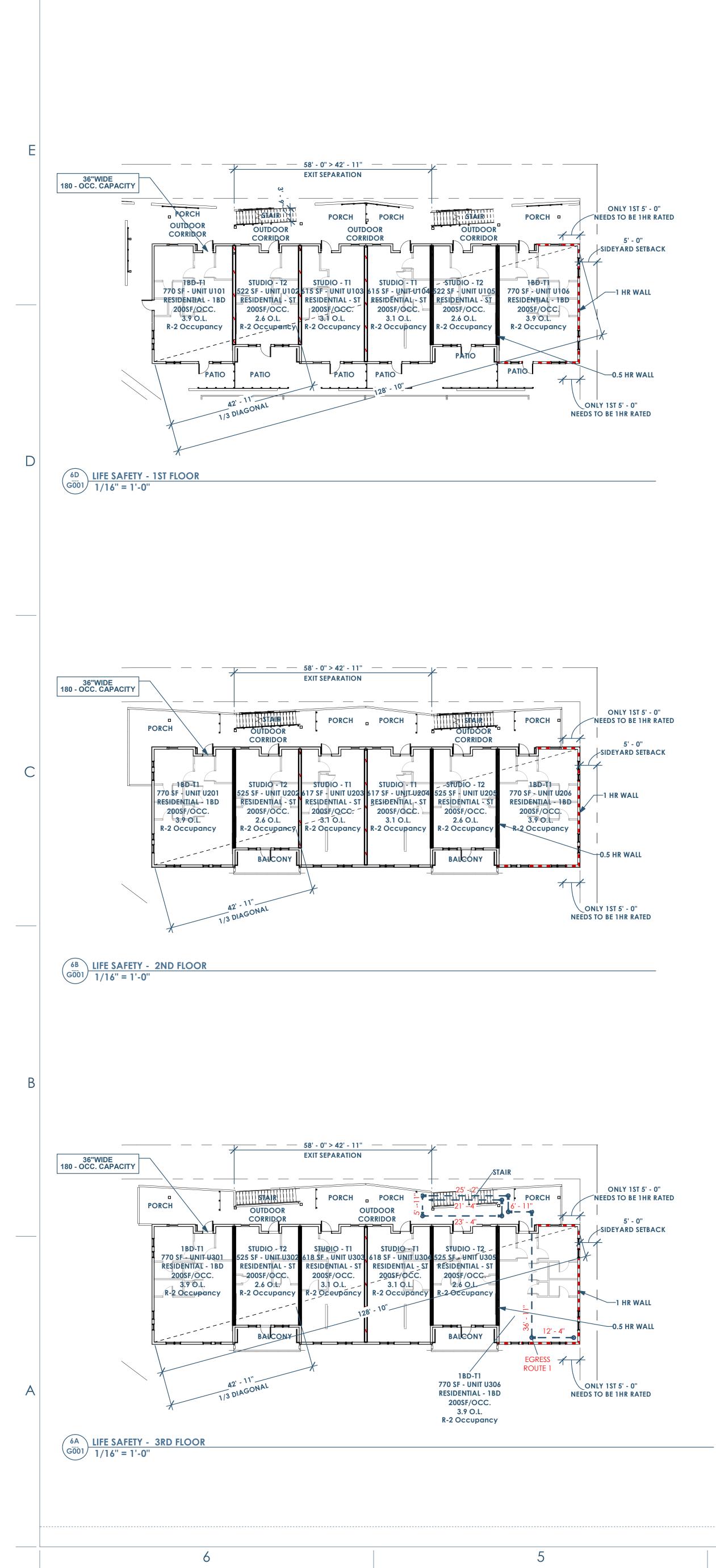


2A G000 VICINITY MAP 1" = 200'-0"

COVER MARCO POLO - 101 W 33RD STREET - CITY OF BRYAN TOWNSITE, BLOCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY - BRYAN, TX 77803

Date







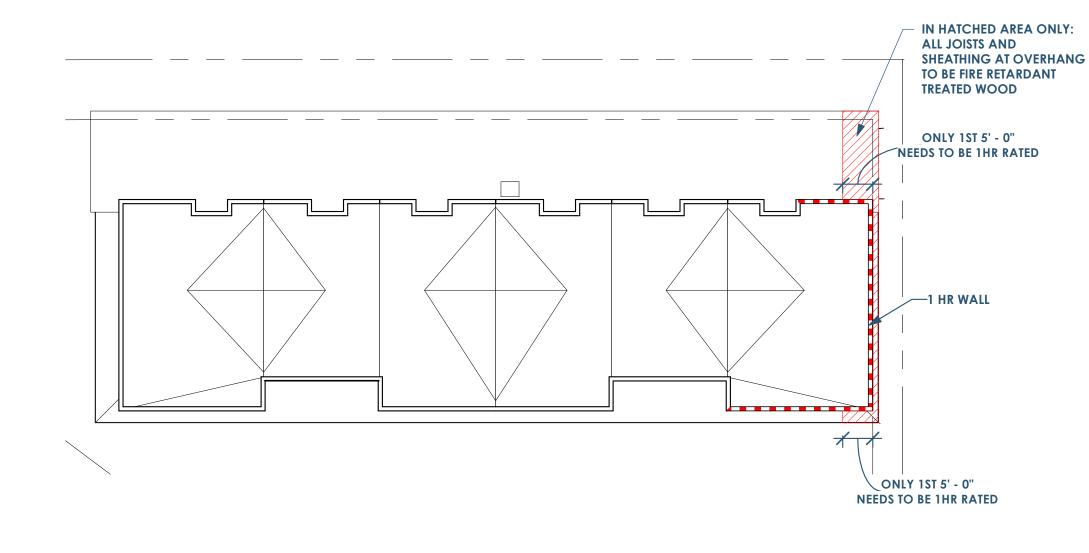


RATED WALLS/FLOORS LEGEND

4B G001 LIFE SAFETY SECTION - EAST/WEST 1/16" = 1'-0"

			1 HR WALL
	_		230' - <u>5</u> 1/4'' - ROOF
			21' - 5 5/8" - 3RD FLOOR
			10' - 9 5/8'' - 2ND FLOOR
			0' - 0" - 1ST FLOOR
			0.5 HR FLOOR 0.5 HR WALL

4D LIFE SAFETY - ROOF G001 1/16" = 1'-0"



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	C	DCCUPANT LOA	D (BASED O	N TABLE 1004.1.2)		
Level	Name	Occupancy	Area	Function of Space	Area Allowance Per Occupant	Occupant Load
1ST FLOOR	OUTDOOR CORRIDOR	R-2	759 SF	CIRCULATION	200	3.8
1ST FLOOR	STAIR	R-2	84 SF	CIRCULATION	200	0.4
1ST FLOOR	STAIR	R-2	84 SF	CIRCULATION	200	0.4
1ST FLOOR	PATIO	R-2	84 SF	RESIDENTIAL	200	0.4
1ST FLOOR	PATIO	R-2	149 SF	RESIDENTIAL	200	0.7
1ST FLOOR	PATIO	R-2	98 SF	RESIDENTIAL	200	0.5
1ST FLOOR	PATIO	R-2	96 SF	RESIDENTIAL	200	0.5
1ST FLOOR	PATIO	R-2	161 SF	RESIDENTIAL	200	0.8
1ST FLOOR	PATIO	R-2	90 SF	RESIDENTIAL	200	0.4
1ST FLOOR	PORCH	R-2	145 SF	RESIDENTIAL	200	0.7
1ST FLOOR	PORCH	R-2	97 SF	RESIDENTIAL	200	0.5
1ST FLOOR	PORCH	R-2	94 SF	RESIDENTIAL	200	0.5
1ST FLOOR	PORCH	R-2	86 SF	RESIDENTIAL	200	0.4
1ST FLOOR	1BD-T1	R-2	770 SF	RESIDENTIAL - 1BD	200	3.9
1ST FLOOR	1BD-T1	R-2	770 SF	RESIDENTIAL - 1BD	200	3.9
1ST FLOOR	STUDIO - T1	R-2	615 SF	RESIDENTIAL - ST	200	3.1
1ST FLOOR	STUDIO - T1	R-2	615 SF	RESIDENTIAL - ST	200	3.1
1ST FLOOR	STUDIO - T2	R-2	522 SF	RESIDENTIAL - ST	200	2.6
1ST FLOOR	STUDIO - T2	R-2	522 SF	RESIDENTIAL - ST	200	2.6
1ST FLOOR: 19			5842 SF		200	29.2
2ND FLOOR	OUTDOOR CORRIDOR	R-2	613 SF	CIRCULATION	200	3.1
2ND FLOOR	STAIR	R-2	84 SF	CIRCULATION	200	0.4
2ND FLOOR	STAIR	R-2	84 SF	CIRCULATION	200	0.4
2ND FLOOR	BALCONY	R-2	123 SF	RESIDENTIAL	200	0.6
2ND FLOOR	BALCONY	R-2	120 SF	RESIDENTIAL	200	0.6
2ND FLOOR	PORCH	R-2	334 SF	RESIDENTIAL	200	1.7
2ND FLOOR	PORCH	R-2	107 SF	RESIDENTIAL	200	0.5
2ND FLOOR	PORCH	R-2	107 SF	RESIDENTIAL	200	0.5
2ND FLOOR	PORCH	R-2	131 SF	RESIDENTIAL	200	0.7
2ND FLOOR	1BD-T1	R-2	770 SF	RESIDENTIAL - 1BD	200	3.9
2ND FLOOR	1BD-T1	R-2	770 SF	RESIDENTIAL - 1BD	200	3.9
2ND FLOOR	STUDIO - T1	R-2	617 SF	RESIDENTIAL - ST	200	3.1
2ND FLOOR	STUDIO - T1	R-2	617 SF	RESIDENTIAL - ST	200	3.1
2ND FLOOR	STUDIO - T2	R-2	525 SF	RESIDENTIAL - ST	200	2.6
2ND FLOOR	STUDIO - T2	R-2	525 SF	RESIDENTIAL - ST	200	2.6
2ND FLOOR: 15	510010 - 12	K-2	5526 SF	RESIDENTIAL - ST	200	27.6
3RD FLOOR	OUTDOOR CORRIDOR	R-2	635 SF	CIRCULATION	200	3.2
3RD FLOOR	STAIR	R-2	84 SF	CIRCULATION	200	0.4
3RD FLOOR	STAIR	R-2	81 SF	CIRCULATION	200	0.4
3RD FLOOR	BALCONY	R-2	123 SF	RESIDENTIAL	200	0.4
3RD FLOOR	BALCONY	R-2	123 SF	RESIDENTIAL	200	
						0.6
3RD FLOOR	PORCH	R-2	224 SF	RESIDENTIAL	200	1.1
3RD FLOOR	PORCH	R-2	107 SF		200	0.5
3RD FLOOR	PORCH	R-2	101 SF	RESIDENTIAL	200	0.5
3RD FLOOR	PORCH	R-2	131 SF	RESIDENTIAL 18D	200	0.7
3RD FLOOR	1BD-T1	R-2	770 SF	RESIDENTIAL - 18D	200	3.9
3RD FLOOR	1BD-T1	R-2	770 SF	RESIDENTIAL - 1BD	200	3.9
3RD FLOOR	STUDIO - T1	R-2	618 SF	RESIDENTIAL - ST	200	3.1
3RD FLOOR	STUDIO - T1	R-2	618 SF	RESIDENTIAL - ST	200	3.1
3RD FLOOR	STUDIO - T2	R-2	525 SF	RESIDENTIAL - ST	200	2.6
3RD FLOOR	STUDIO - T2	R-2	525 SF	RESIDENTIAL - ST	200	2.6

3RD FLOOR: 15 Grand total: 49

3RD FLOOR

16804 SF

5435 SF

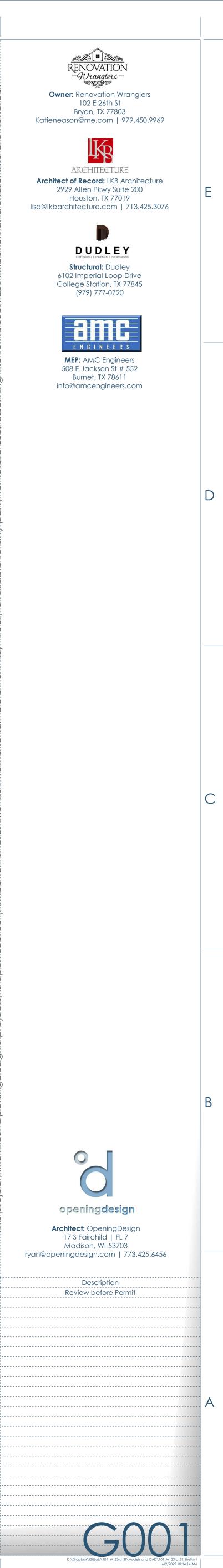
27.2

84.0

CODE & LIFE SAFETY

Date

06/02/2022



design Criteria

- 1. THE CONSTRUCTION DOCUMENTS ARE BASED ON THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS FROM THE AUTHORITY HAVING JURISDICTION. 2021 INTERNATIONAL BUILDING CODE W. LOCAL AHJ AMENDMENTS A. BUILDING CODE VERSION:.
- B. AUTHORITY HAVING JURISDICTION ... <u>CITY OF BRYAN, TX</u> C. RISK CATEGORY:..... 2. DEAD LOADS:
- A. DEAD LOADS ARE BASED UPON THE ACTUAL WEIGHTS OF MATERIALS OF CONSTRUCTION AND FIXED SERVICE EQUIPMENT. ASSUMPTIONS FOR WALL AND ROOF ASSEMBLIES ARE SHOWN BELOW: a. METAL PANELS - 3 PSF b. CURTAIN WALLS - 10 PS c. STONE / BRICK VENEER - 40 PSF
- d. ADHERED STONE/BRICK 10 PSE e. SINGLE PLY MEMBRANE ROOF WITH INSULATION ASSEMBLY - 10 PSF
- a. ASSUMED LOADS FOR KNOWN EQUIPMENT ARE INDICATED ON THE STRUCTURAL DRAWINGS. ANY CHANGES IN THE TYPE, SIZE, LOCATION OR WEIGHT OF EQUIPMENT SHALL BE REPORTED TO THE EOR FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO THE SUBMISSION OF SHOP DRAWINGS.
- b. ASSUMED EQUIPMENT WEIGHTS INCLUDE THE WEIGHT OF CONCRETE PADS OR CURBS (IF APPLICABLE) c. FOR EQUIPMENT NOT INDICATED ON THE STRUCTURAL DRAWINGS IN WHICH THE WEIGHT OF THE EQUIPMENTS DIVIDED BY ITS SURFACE AREA EXCEEDS THE INDICATED LIVE LOAD FOR THE LOCATION, THE CONTRACTOR SHALL NOTIFY THE EOR PRIOR TO SUBMISSION OF SHOP DRAWINGS. C. HANGING CEILING AND MECHANICAL LOADS: AN ALLOWANCE OF 5. PSF HAS BEEN MADE FOR HANGING CEILING AND MECHANICAL EQUIPMENTS SUCH AS DUCT WORK AND SPRINKLER PIPES.
- 3. LIVE LOADS: A. BALCONIES AND DECKS. ...1.5 x SAME AS OCCUPANCY SERVED B. PRIVATE ROOMS AND CORRIDORS SERVING THEM40 PSF C. PUBLIC ROOMS AND CORRIDORS SERVING THEM 100 PSF D. STAIRS AND EXITS100 PSF | 300 LB 4. ROOF LIVE LOAD 5. SNOW LOAD: A. GROUND SNOW LOAD, Pg: 6. WIND: A. ULTIMATE DESIGN WIND SPEED Vult <u>5 MPH (3-SEC PEAK GU</u> B. NOMINAL DESIGN WIND SPEED, Vasd:..... 89 MPH (3-SEC PEAK GUST) C. WIND EXPOSURE CATEGORY:.... D. INTERNAL PRESSURE COEFFICIENT: SEE SCHEDULE COMPONENTS AND CLADDING PRESSURE F. MAIN WIND FORCE RESISTING SYSTEM WOOD SHEAR WALLS. A. 100-YEAR RAINFALL INTENSITY (IN/HR):... B. MAXIMUM ROOF RAIN LOAD C. MAXIMUM RAINWATER LEVEL - PONDING (STATIC + HYDRAULIC HEAD):..... D. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE TOTAL RAIN WATER LEVEL EXCEEDS THE DESIGNED RAIN ROOF LOAD. 8. SEISMIC: MAPPED SPECTRAL RESPONSE VALUES, DESIGN SPECTRAL RESPONSE VALUES, AND AS SITE CLASS, HAVE BEEN PROVIDED BY A. GEOTECHNICAL COMPANY AND REPORT NO
- B. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS, Ss & St).066 & 0.40 C. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS, SDS & SD1:----0.057 & 0.040
- D. SITE CLASS:..... E. SEISMIC DESIGN CATEGORY, SDC: % SEISMIC WEIGHT F. DESIGN BASE SHEAR ...

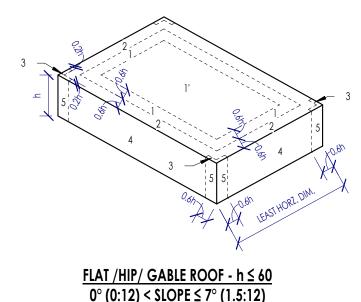
C&C - GROSS ULTIMATE WIND PRESSURES

Cladding	Location	Effective	Coeffi	cients	Wind pre	ssures
Туре		Area (sf)	+GCp	-GCp	+p (psf)	-p (psf)
Wall	Interior	10	0.90	-0.99	+30.6	-33.2
		40	0.80	-0.89	+27.9	-30.5
		50	0.79	-0.88	+27.5	-30.0
		100	0.74	-0.83	+26.1	-28.7
		500	0.63	-0.72	+23.0	-25.5
Wall	Edge	10	0.90	-1.26	+30.6	-40.8
		40	0.80	-1.07	+27.9	-35.4
		50	0.79	-1.04	+27.5	-34.5
		100	0.74	-0.94	+26.1	-31.8
		500	0.63	-0.72	+23.0	-25.5
Roof	Interior	10	0.30	-1.00	+13.6	-33.5
		40	0.24	-0.94	+11.9	-31.8
		50	0.23	-0.93	+11.6	-31.5
		100	0.20	-0.90	+10.8	-30.6
		341	0.20	-0.90	+10.8	-30.6
Roof	Edge	10	0.90	-1.80	+30.6	-56.2
		40	0.80	-1.38	+27.9	-44.2
		50	0.79	-1.31	+27.5	-42.3
		100	0.74	-1.10	+26.1	-36.3
		500	0.63	-1.10	+23.0	-36.3
Roof	Corner	10	0.90	-1.80	+30.6	-56.2
		40	0.80	-1.38	+27.9	-44.2
		50	0.79	-1.31	+27.5	-42.3
		100	0.74	-1.10	+26.1	-36.3
		500	0.63	-1.10	+23.0	-36.3
O∨erhang	Interior	10	0.00	-1.70	+10.0	-48.2
	& Edge	40	0.00	-1.64	+10.0	-46.5
		50	0.00	-1.63	+10.0	-46.2
		100	0.00	-1.60	+10.0	-45.4
		500	0.00	-1.10	+10.0	-31.2
Overhang	Corner	10	0.00	-1.70	+10.0	-48.2
		40	0.00	-1.64	+10.0	-46.5
		50	0.00	-1.63	+10.0	-46.2
		100	0.00	-1.60	+10.0	-45.4
		500	0.00	-1.10	+10.0	-31.2
Parapet	Interior	10	2.70	-1.89	+76.6	-53.6
		40	2.18	-1.70	+61.9	-48.2
		50	2.10	-1.67	+59.6	-47.3
		100	1.84	-1.57	+52.2	-44.6
_		500	1.73	-1.35	+49.1	-38.3
Parapet	Edge	10	2.70	-2.16	+76.6	-61.3
		40	2.18	-1.87	+61.9	-53.1
		50	2.10	-1.83	+59.6	-51.8
		100	1.84	-1.68	+52.2	-47.7
		500	1.73	-1.35	+49.1	-38.3

a = MINIMUM OF (10% OF LEAST HORIZONTAL DIMENSION OR 0.4h) BUT NOT LESS THAN 4% OF LEAST HORIZONTAL DIMENSION OR 3FT

h = MEAN ROOF HEIGHT OF A BUILDING, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES LESS THAN OR EQUAL TO 10° (~2:12 ROOF PITCH) MEAN ROOF HEIGHT = THE AVERAGE OF THE ROOF EAVE HEIGHT AND HEIGHT TO THE HIGHEST POINT ON THE ROOF SURFACE.

COMPONENTS AND CLADDING ZONES				
DESCRIPTION	ZONE			
ROOF INTERIOR	1			
ROOF EDGE	2			
ROOF CORNER	3			
WALL INTERIOR	4			
WALL EDGE	5			



FOUNDATION DESIGN CRITERIA

PROPOSED STRUCTURE, THE FOUNDATION DESIGN ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR THE ACCURACY OF THE GEOTECHNICAL ENGINEER'S REPORT OR ANY INFORMATION CONTAINED THEREIN. INFORMATION CONTAINED IN THE GEOTECHNICAL REPORT(S) REFLECTS CONDITIONS AS FOUND AT THE LOCATION OF THE BORINGS. ACTUAL CONDITIONS AT LOCATIONS BETWEEN AND SURROUNDING THE BORINGS MAY DIFFER FROM THE SOIL STRATIGRAPHY DEPICTED BY THE BORINGS. IE THERE ARE ANY CONDITIONS DIFFERING FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT, OR IF ANY CHANGES HAVE BEEN IMPOSED ON THE SOILS IN QUESTION SINCE THE REPORT WAS WRITTEN, THEN THE DESIGN ENGINEER OF RECORD SHOULD BE NOTIFIED IN WRITING PRIOR TO CONSTRUCTION OF THE FOUNDATION IN ORDER TO REVIEW THE EFFECTS ON THE PERFORMANCE OF THE DESIGNED FOUNDATION. A. GEOTECHNICAL ENGINEER: DUDLEY B. REPORT NUMBER: 22-0010

. GEOTECHNICAL REPORT: THIS FOUNDATION DESIGN IS BASED ON THE RECOMMENDATIONS PROVIDED IN SITE-SPECIFIC GEOTECHNICAL REPORT. IN DESIGNING THE FOUNDATION FOR THE

- C. REPORT DATE: APRIL 27, 202 D. THE FOUNDATION DESIGN PARAMETERS PROVIDED WILL NOT ELIMINATE POST-CONSTRUCTION FOUNDATION MOVEMENT. AS SUCH, MEASURES SHALL BE TAKEN TO INCREASE THE TOLERANCE OF THE STRUCTURE SUPPORTED BY THE FOUNDATION. MEASURES INCLUDE BUT ARE NOT LIMITED TO FREQUENT CONTROL JOINTS FOR MASONRY/BRICK/STONE/STUCCO EXTERIOR VENEER (15'-0 MAXIMUM), VERTICALLY SLOTTED CLIPS TO ATTACH ROOF TRUSSES TO NON-LOAD BEARING WALLS. ETC
- ABNORMAL CONDITIONS: IF THE FOUNDATION IS INSTALLED DURING A DRY OR WET PERIOD, WHICH IS CONSIDERED EXTREME OR ABNORMAL, THEN THE BUILDER SHALL NOTIFY THE SEOTECHNICAL ENGINEER AND FOUNDATION ENGINEER PRIOR TO CONSTRUCTION FOR POSSIBLE SOIL CONDITIONING OR FOUNDATION RE-DESIGN. FOUNDATION MOVEMENT: THE FOUNDATION HAS BEEN DESIGNED WITH THE ASSUMPTION THAT MOVEMENT CAN BE TOLERATED WITHIN A STANDARD PERFORMANCE LIMIT: A. STANDARD PERFORMANCE DEFLECTION LIMIT: L/360
- B. STANDARD PERFORMANCE TILT LIMIT: 17 . SOIL MOISTURE LEVEL: A REASONABLY UNIFORM SOIL MOISTURE LEVEL IS MAINTAINED AROUND THE FOUNDATION FOR THE LIFE OF THE STRUCTURE. . FOUNDATION MAINTENANCE: POSITIVE DRAINAGE AWAY FROM THE STRUCTURE SHALL BE MAINTAINED FOR THE LIFE OF THE STRUCTURE AND THE CONTRACTOR SHALL CONVEY THIS REQUIREMENT TO THE OWNER. THE INITIAL AND ALL SUBSEQUENT OWNERS MAINTAIN THE FOUNDATION IN ACCORDANCE WITH THE LATEST REVISION OF DOCUMENT NO. FPA-SC-07,
- "FOUNDATION MAINTENANCE AND INSPECTION GUIDE FOR RESIDENTIAL AND OTHER LOW-RISE BUILDINGS", AVAILABLE ON THE FOUNDATION PERFORMANCE ASSOCIATION'S WEBSITE: WWW.FOUNDATIONPERFORMANCE.ORG. CONTRACTOR SHALL PROVIDE THIS DOCUMENT TO OWNER. . EXPIRATION: PLANS ARE VALID FOR 6-MONTHS FROM THE DATE THE PLANS ARE ISSUED OR REVISED BY THE ENGINEER. CONTACT ENGINEER FOR REVIEW IF PLANS HAVE EXPIRED OR IF CONSTRUCTION OF THE FOUNDATION HAS NOT COMMENCED WITHIN THIS TIME FRAME.

LATERAL LOAD RESISTING SYSTEM

1. ALL LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDING IS PROVIDED EXCLUSIVELY BY VERTICAL LATERAL LOAD RESISTING SYSTEM. THE HORIZONTAL DIAPHRAGMS DISTRIBUTE THE LATERAL WIND AND SEISMIC FORCES HORIZONTALLY TO THE VERTICAL LATERAL LOAD RESISTING SYSTEM. A. VERTICAL LATERAL LOAD RESISTING SYSTEM: WOOD-FRAMED SHEAR WALLS B. HORIZONTAL LATERAL LOAD RESISTING SYSTEM: WOOD STRUCTURAL PANEL ROOF DECK

STAIR, HANDRAILS, RESTROOM ACCESSORIES AND GUARDRAIL SPECIFICATIONS:

- 1. ALL STAIRS, GUARDRAILS AND HANDRAILS SHALL BE DESIGNED BY A REGISTERED STRUCTURAL ENGINEER BASED ON THE FOLLOWING DESIGN CRITERIA: A. STAIRS:
- a. STAIR STRINGERS, TREADS AND RISERS SHALL BE DESIGNED TO SUPPORT 100 PSF LIVE LOAD. b. INDIVIDUAL STAIR TREADS SHALL BE DESIGNED TO SUPPORT A 300 LB CONCENTRATED LOAD PLACED IN A POSITION THAT WOULD CAUSE THE MAX STRESS
- B. HANDRAIL AND GUARDS a. GUARD TOP RAIL AND HANDRAILS: THE TOP RAIL OF GUARDRAILS AND HANDRAILS SHALL BE DESIGNED TO WITHSTAND A LOAD OF 50 PLF APPLIED HORIZONTALLY AT RIGHT ANGLES, OR A 200 LB CONCENTRATED LOAD IN ANY DIRECTION b. INTERMEDIATE RAILS, PANEL FILLER AND THEIR CONNECTIONS SHALL BE DESIGNED TO WITHSTAND A LOAD OF 50 PSF APPLIED HORIZONTALLY AT RIGHT ANGLES OVER THE ENTIRE TRIBUTARY AREA, INCLUDING OPENINGS AND SPACES BETWEEN RAILS.
- C. RESTROOM ACCESSORIES: a. GRAB BARS, TUB AND SHOWER SEATS, FASTENERS, AND MOUNTING DEVICES SHALL BE DESIGNED TO RESIST A CONCENTRATED LOAD OF 250 POUNDS AT ANY LOCATION AND IN ANY DIRECTION.

STRUCTURAL DEFERRED SUBMITTALS

WEB STEEL LOISTS) JURISDICTION (AHJ) AND PRIOR TO RELEASE FOR FABRICATION. 5. STRUCTURAL DEFERRED SUBMITTALS ON THIS PROJECT INCLUDE:

C. METAL PLATE CONNECTED WOOD TRUSSES

GENERAL CONDITION



CONTRACTOR QUALIFICATION

<u>FUTURE EXPANSION</u>

REQUEST FOR INFORMATION (RFI)

	RFI'S MUST INCLUDE A TRANSMITTA A. RFI NUMBER
	B. RFI CATEGORY:
	a. REQUEST FOR SUBSTITUTION
	b. CORRECTIVE REPAIR
	c. ADDITIONAL INFORMATION
	d. DISCREPANCY BETWEEN CO
	C. DATE SUBMITTED
	D. DATE RESPONSE NEED BY
	E. SUBMITTED BY (INCLUDE EMAIL
	F. RFI DESCRIPTION INCLUDING:
	a. SHEET NUMBER, DETAIL AND
	b. SKETCHES IF APPLICABLE

c. PHOTOS IF APPLICABLE. <u>SUBMITTALS</u>

 SUBMITTAL LIST AND SCHEDULE LIST SHALL BE UPDATED AND REVISED AS THE JOB PROGRESSES. 2. SUBMITTAL REQUIREMENTS B. ALL SUBMITTALS MUST INCLUDE A TRANSMITTAL SHEET WHICH INDICATES: CONCRETE SUBMITTAL) b. BRIEF DESCRIPTION OF SUBMITTAL CONTENTS C. DATE ISSUED d. REQUESTED RETURN DATE e. ISSUING PARTY INCLUDING NAME, PHONE NUMBER AND EMAIL THE STRUCTURAL ENGINEER

A. NO EXCEPTIONS

- B. EXCEPTIONS NOTED C. REVISE AND RESUBMIT
- D. NOT REVIEWED a. THE SUBMITTAL WAS NOT STRUCTURAL. E. FOR INFORMATION ONLY

F. IMPACT TO STRUCTURE

INSPECTIONS

A. FOUNDATION INSPECTION: B CONCRETE SLAB AND LINDER-FLOOR INSPECTION. THE SUBFLOOR. C. FRAME INSPECTION

DRAWING INTERPRETATION

1. DRAWING VIEWS LABELED AS TYPICAL

REINFORCING STEEL - 03 20 00

- DETAILING MANUAL) DURING THE PLACING OF CONCRETE.
- 7. COVERAGE: THE FOLLOWING SHALL BE THE MINIMUM REINFORCEMENT CONCRETE COVERAGE (INCLUDING TENDONS): B. CONCRETE EXPOSED TO EARTH OR WEATHER:
- a. NO. 6 AND LARGER b. NO. 5 BAR AND SMALLER

. STRUCTURAL DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH REQUIRE STRUCTURAL ENGINEERING THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION BUT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL AT A LATER DATE. DEFERRED SUBMITTALS SHALL BE SUBMITTED TO AND APPROVED BY THE BUILDING OFFICIAL PRIOR TO INSTALLATION OF ANY SAID WORK. 2. COMPLETE STRUCTURAL SHOP DRAWINGS FOR CONSTRUCTION OF EACH BUILDING COMPONENT NOT DESIGNED BY THE STRUCTURAL ENGINEER-OF-RECORD (SER) AND NOT SPECIFIED ON THE PROJECT CONSTRUCTION DOCUMENTS SHALL BE SEALED AND SIGNED BY A SPECIALTY STRUCTURAL ENGINEER (SSE) WHO IS A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BEING CONSTRUCTED WHO IS QUALIFIED TO PERFORM SAID WORK. A SEAL BY A LICENSED PROFESSIONAL ENGINEER IS NOT REQUIRED FOR EITHER PRODUCTS WHICH HAVE BEEN TESTED AND CERTIFIED BY AN APPROVED AGENCY SUCH AS THE ICC NOR FOR COMPONENTS WHICH ARE FABRICATED BY A FABRICATOR THAT IS CERTIFIED BY AN APPROVED AGENCY IN WHICH THE AGENCY SPECIFIED THAT SEALING OF THE SHOP DRAWINGS IS NOT REQUIRED (E.G. STEEL JOIST INSTITUTE IN REGARDS TO OPEN 3. THE SPECIALTY STRUCTURAL ENGINEER (SSE) SHALL SPECIFICALLY INDICATE IN A COVER PAGE AT THE FRONT OF THE SHOP DRAWING THAT THEY ARE THE STRUCTURAL ENGINEER IN RESPONSIBLE CHARGE FOR THE DEFERRED

SUBMITTAL AND THAT THEY HAVE REVIEWED THE SHOP DRAWING TO ENSURE COMPLIANCE WITH THEIR DESIGN AND CALCULATIONS. 4. ALL STRUCTURAL DEFERRED SUBMITTALS SHALL BE REVIEWED BY THE SER AND MARKED AS EITHER NO EXCEPTIONS OR EXCEPTION NOTED, PRIOR TO SUBMITTING TO THE "FOR CONSTRUCTION" VERSION TO THE AUTHORITY HAVING

A. STAIRS, GUARDRAIL, HANDRAILS, GRAB BARS, LADDERS, ETC. (NOT REQUIRED IF USING CERTIFIED AND TESTED PRODUCTS/ASSEMBLIES) B. CURTAINWALL, STOREFRONT, WINDOWS (NOT REQUIRED IF USING CERTIFIED AND TESTED PRODUCTS/ASSEMBLIES)

1. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES 2. THE CONTRACTOR IS RESPONSIBLE FOR QUALITY CONTROL, INCLUDING WORKMANSHIP AND MATERIALS FURNISHED BY SUBCONTRACTORS AND SUPPLIERS.

3. REFER TO DRAWINGS OTHER THAN STRUCTURAL FOR COMPLETE INFORMATION REGARDING: SLEEVES, CURBS, INSERTS, DEPRESSIONS, OPENINGS, ETC. 4. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN ALL CONTRACT DOCUMENTS AND LATEST REVISIONS/ADDENDA AND TO SUBMIT SUCH DOCUMENTS TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS OR MATERIAL PROCUREMENT. 5. THE USE OR REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, DUE TO ANY ERRORS THAT MAY OCCUR

7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL CODES AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. 8. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS. 9. FRAMING LAYOUTS ARE PROVIDED TO REPRESENT DESIGN CONCEPTS AND SYSTEMS CONSTRUCTION. THE CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE FOR MATERIAL QUANTITIES AND ANY AND ALL UNSPECIFIED COMPONENTS REQUIRED FOR CONSTRUCTION. 10. WHERE MEMBER LOCATIONS ARE NOT SPECIFICALLY DIMENSIONED, MEMBERS ARE EITHER LOCATED ON COLUMN LINES OR ARE EQUALLY SPACED BETWEEN THE LOCATED 11. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR SPECIFIED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS SHOWN 12. WHERE CONFLICT EXISTS AMONG THE VARIOUS PARTS OF THE STRUCTURAL CONTRACT DOCUMENTS, STRUCTURAL DRAWINGS, GENERAL NOTES AND SPECIFICATIONS, THE 13. THE FLOOR DESIGN LIVE LOAD FOR EACH ELEVATED FLOOR STRUCTURE OR PORTION THEREOF THAT EXCEEDS 50 POUNDS PER SQUARE FOOT (PSF) SHALL BE STATED ON DURABLE SIGNS AND CONSPICUOUSLY POSTED BY THE OWNER IN THE APPLICABLE AREA(S) OF THE BUILDING. 14. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFESPAN AND ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE BUILDING OWNER. THIS PROGRAM SHALL INCLUDE SUCH ITEMS AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL,

A. THE ENGINEER SHALL NOT HAVE CONTROL NOR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES. SEQUENCES. OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. B. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF THE STRUCTURAL ENGINEER IS SOLELY FOR THE PURPOSE OF BECOMING GENERALLY FAMILIAR WITH THE PROGRESS and quality of the work completed and determining, in general, if the work observed is being performed in a manner indicating that the work, when FULLY COMPLETED, WILL BE IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS OR DEFICIENCIES IN THE 16. WATERPROOFING OF THE BUILDING ENVELOPE IS OF CRITICAL IMPORTANCE TO LONG-TERM STRUCTURAL PERFORMANCE. WATERPROOFING DESIGN SHALL BE THE RESPONSIBILITY OF THE ARCHITECT/CONTRACTOR AND SHALL BE IN ACCORDANCE WITH BEST PRACTICES FOR THE LOCALITY AND THE PARTICULAR ASSEMBLY.

1. WORK SHALL BE PERFORMED BY A QUALIFIED CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR EXPERIENCED IN THIS TYPE OF WORK. SUCH KNOWLEDGE SHALL INCLUDE MAKING ALLOWANCES FOR PERFORMING WORK OF THIS NATURE FOLLOWING INDUSTRY STANDARDS OF CARE. 2. THE CONSTRUCTION CONTRACTOR AND SUBCONTRACTORS SHALL UNDERSTAND THE NATURE OF DRAWING PRODUCTION AND COORDINATION BETWEEN CONSULTANTS AND SHALL NOT ENTER INTO A CONTRACT BASED ON DRAWINGS THAT ARE BELIEVED TO CONTAIN DISCREPANCIES OR ARE OTHERWISE INCOMPLETE UNLESS PROPER ALLOWANCES HAVE BEEN MADE FOR COST IMPLICATIONS THAT MAY ARISE DUE TO FUTURE DRAWING CHANGES MADE IN PREPARATION OF FINAL CONSTRUCTION DOCUMENTS. 3. IN THE COURSE OF PRODUCING AND ISSUING DRAWINGS, VARIOUS STAGES OF COMPLETION ARE DEVELOPED. THE CONSTRUCTION CONTRACTOR AND SUBCONTRACTORS SHALL UNDERSTAND THE PURPOSE AND CONTENT CONTAINED IN PERMIT, PRICING, AND CONSTRUCTION DRAWINGS. COST IMPLICATIONS AND CONTRACTIBILITY ARE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR AND SUBCONTRACTORS UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE WITH THE OWNER.

1. NO PROVISIONS FOR ANY FUTURE EXPANSION HAVE BEEN MADE IN THE STRUCTURAL DESIGN

1. ALL REQUESTS FOR SUBSTITUTIONS OF MATERIALS OR DETAILS SHOWN IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED FOR APPROVAL DURING THE BIDDING PERIOD. ONCE BIDS ARE ACCEPTED, PROPOSED SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN THEY ARE OFFICIALLY SUBMITTED WITH AN IDENTIFIED SAVINGS TO BE DEDUCTED FROM THE

AL SHEET THAT INDICATES THE FOLLOWING:

I REQUIRED ONSTRUCTION DOCUMENTS

AND PHONE NUMBER) ND/OR SPECIFICATION NUMBER IF APPLICABLE

A. THE GENERAL CONTRACTOR SHALL PREPARE A DETAILED LIST AND SCHEDULE OF ALL SUBMITTAL ITEMS TO BE SENT TO THE STRUCTURAL ENGINEER PRIOR TO THE START OF CONSTRUCTION. THIS

A. ALL SUBMITTALS MUST BE REVIEWED AND ELECTRONICALLY STAMPED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE DESIGN TEAM AS NO EXCEPTIONS.

a. SUBMITTAL NUMBER PER THE FOLLOWING FORMAT: E.G. 03 30 00-01.00 (DIVISION, SUBMITTAL # FOR DIVISION, ISSUE # - THE EXAMPLE INDICATES THE FIRST SUBMITTAL, FIRST ISSUE OF A

C. CONTRACTOR SHALL PROVIDE THE SUBMITTAL IN ELECTRONIC (PDF) FORMAT. SUBMITTALS SHALL NOT BE SCANNED COPIES OF PRINTED DOCUMENTS.

D. THE OMISSION FROM THE SHOP DRAWINGS OF ANY MATERIALS REQUIRED BY THE CONTRACT DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF FURNISHING AND INSTALLING SUCH MATERIALS, REGARDLESS OF WHETHER SHOWN OR COMMENTED IN THE SHOP DRAWING E. THE CONTRACTOR MUST ALLOW A MINIMUM OF 14 DAYS FOR STRUCTURAL REVIEW OF ALL SUBMITTALS. THE CONTRACTOR CAN REQUEST AN EXPEDITED REVIEW AT AN AGREED UPON FEE WITH F. STRUCTURAL STEEL SUBMITTALS MUST BE ACCOMPANIED BY THE SDS/2 OR TEKLA MODEL WHICH WILL BE USED BY THE DESIGN TEAM AS A VISUAL AID TO THE SHOP DRAWINGS.

3. REFER TO THE SPECIFICATIONS FOR A LIST OF ALL THE REQUIRED SUBMITTALS. 4. ENGINEER REVIEW STAMP DESIGNATIONS: ALL DESIGNATIONS ARE INDICATIVE OF A REVIEW FOR GENERAL CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS.

a. NO ITEMS WERE FOUND TO BE IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS, NO "FOR REVIEW" RESUBMITTAL REQUIRED.

a. ITEMS WERE FOUND IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS AND NEED TO BE REVISED PRIOR TO SUBMITTING "FOR CONSTRUCTION" SUBMITTAL

a. SIGNIFICANT ITEMS WERE FOUND IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS. THE SUBMITTAL NEEDS TO BE RESUBMITTED "FOR REVIEW"

a. THE SUBMITTAL DID NOT REQUIRE REVIEW BUT HAS BEEN FILED FOR THE RECORD.

a. THE SUBMITTAL HAS BEEN REVIEWED FOR THE STRUCTURALLY IMPACT TO THE STRUCTURE ONLY

1. CONSTRUCTION OR WORK FOR WHICH A PERMIT IS REQUIRED SHALL BE SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL AND SUCH CONSTRUCTION OR WORK SHALL REMAIN ACCESSIBLE AND EXPOSED FOR INSPECTION PURPOSES UNTIL APPROVED. REQUIRED TESTING INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING: a. FOOTING AND FOUNDATION INSPECTIONS SHALL BE MADE AFTER EXCAVATIONS FOR FOOTINGS ARE COMPLETE AND ANY REQUIRED REINFORCING STEEL IS IN PLACE. FOR CONCRETE FOUNDATIONS, ANY REQUIRED FORMS SHALL BE IN PLACE PRIOR TO INSPECTION. MATERIALS FOR THE FOUNDATION SHALL BE ON THE JOB, EXCEPT

WHERE CONCRETE IS READY MIXED IN ACCORDANCE WITH ASTM C94, THE CONCRETE NEED NOT BE ON THE JOB. a. CONCRETE SLAB AND UNDER-FLOOR INSPECTIONS SHALL BE MADE AFTER IN-SLAB OR UNDER-FLOOR REINFORCING STEEL AND BUILDING SERVICE EQUIPMENT, CONDUIT, PIPING ACCESSORIES AND OTHER ANCILLARY EQUIPMENT ITEMS ARE IN PLACE, BUT BEFORE ANY CONCRETE IS PLACED OR FLOOR SHEATHING INSTALLED, INCLUDING

a. FRAMING INSPECTIONS SHALL BE MADE AFTER THE ROOF DECK OR SHEATHING, ALL FRAMING, FIREBLOCKING AND BRACING ARE IN PLACE AND PIPES, CHIMNEYS AND VENTS TO BE CONCEALED ARE COMPLETE AND THE ROUGH ELECTRICAL, PLUMBING, HEATING WIRES, PIPES AND DUCTS ARE APPROVED. . SPECIAL INSPECTIONS - REFER TO THE STATEMENT OF SPECIAL INSPECTION FOR REQUIRED STRUCTURAL SPECIAL INSPECTIONS . ADDITIONAL INSPECTIONS REQUIRED BY STRUCTURAL ENGINEER: REFERENCE SPECIFICATIONS

A. PARTIAL PLANS, ELEVATIONS, SECTIONS, DETAIL OR SCHEDULES LABELED WITH "TYPICAL" AT THE BEGINNING OF THEIR TITLE SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THE THOSE SPECIFICALLY SHOWN. THE APPLICABILITY OF THE CONTENT OF THESE VIEWS TO LOCATIONS ON THE PLAN CAN BE DETERMINED FROM THE TITLE OF THE VIEW. SUCH VIEWS SHALL APPLY WHETHER OR NOT THEY ARE KEYED IN AT EACH LOCATION, DECISIONS REGARDING APPLICABILITY OF THESE "TYPICAL" VIEWS SHALL BE DETERMINED BY THE STRUCTURAL ENGINEER. 2. COLOR: THESE DRAWINGS ARE INTENDED TO BE VIEWED IN COLOR. IF THE FOLLOWING COLORS ARE NOT RED _ GREEN BLUE THEN THIS DRAWING SET IS NOT BEING VIEWED AS INTENDED. 3. SCALE: IF THE FOLLOWING LINE IS NOT EXACTLY 1" LONG, THEN THIS SET HAS BEEN SCALED.

1. DETAILING OF CONCRETE REINFORCEMENT BARS AND ACCESSORIES SHALL CONFORM TO THE RECOMMENDATIONS OF THE ACI DETAILING MANUAL ACI 315 AND SP-66 (ACI 2. CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60, WITH SUPPLEMENTARY REQUIREMENTS. 3. COMPLETE REINFORCING PLACEMENT DRAWINGS PREPARED IN ACCORDANCE WITH ACI315 SHALL BE REVIEWED BY THE ENGINEER AND AVAILABLE ON THE JOB SITE PRIOR TO & 4. ALL REINFORCING STEEL SHALL BE SUPPORTED AT DESIGNED DEPTH USING PLASTIC OR METALLIC CHAIRS SPACED AT 48" OC IN ALL DIRECTIONS TO SUPPORT FULL LENGTH OF REINFORCEMENT. IF ALTERNATE IS TO BE USED, PROPOSED CHAIR IS TO BE SUBMITTED IN WRITING AND APPROVED BY E.O.R. 5. END HOOKS, DEVELOPMENT LENGTHS, AND SPLICES SHALL CONFORM TO THE REQUIREMENTS OF ACI 318. 6. REINFORCEMENT MAY BE PLACED IN BUNDLES OF NOT MORE THAN TWO W/ THE CLEAR DISTANCE BETWEEN BUNDLES OF REINFORCEMENT OR TENDONS OF 3 INCHES MINIMUM. CONCRETE COVER NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH ACI 318.

8. UNO, ALL LAP SPLICES OF REINFORCEMENT IN GROUND SUPPORTED ELEMENTS (GRADE BEAMS, FOOTINGS, MAT FOUNDATIONS) SHALL BE A MINIMUM OF 48Ø, WHERE Ø = THE DIAMETER OF THE BAR, REINFORCEMENT IN ELEVATED STRUCTURES SHALL REFER TO THE TYPICAL LAP SPLICE DETAIL.

REINFORCED CONCRETE - 03 30 00

- A. CONCRETE WORK SHALL CONFORM TO THE LATEST ED. OF ACI 301 (SPECIFICATIONS FOR STRUCTURAL CONCRETE) UNO IN THESE CONSTRUCTION DOCUMENTS. 2. MIX DESIGN A. ALL CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED REGISTERED ENGINEER. MIX DESIGN DATA RESULTS EITHER COMPLYING WITH THE FIELD EXPERIENCE OR TRIAL MIXTURE METHOD PER ACI 301/318 SHALL BE SUBMITTED FOR EACH CONCRETE MIX. PROPORTIONS OF MATERIALS FOR CONCRETE SHALL BE ESTABLISHED TO a. PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO FORMS AND AROUND REINFORCEMENT UNDER CONDITIONS OF PLACEMENT TO BE EMPLOYED, WITHOUT SEGREGATION OR EXCESSIVE BLEEDING. b. MEET REQUIREMENTS FOR APPLICABLE EXPOSURE REQUIREMENTS. c. MEET OR EXCEED THE REQUIRED F'C. d. NOT EXCEED THE MAXIMUM W/C RATIO B THE CONTRACTOR MUST INDICATE THE PLANNED PLACEMENT METHOD FOR EACH CONCRETE MIX C. WATER MAY NOT BE ADDED TO THE CONCRETE MIX IN THE FIELD TO ADJUST THE SLUMP (RETEMPERING) WITHOUT THE SPECIAL INSPECTOR BEING PRESENT TO CONFIRM THAT IT DOES NOT EXCEED THE W/C RATIO OR DESIGN SLUMP. THE READY-MIX COMPANY MUST INDICATE THE MAXIMUM WATER WITHHELD AT THE PLANT. IF THE AMOUNT, THE W/C RATIO OR DESIGN SLUMP IS EXCEEDED
- THEN THE CONCRETE SHALL BE REJECTED. D. SLUMP TESTS SHALL BE PERFORMED AT THE POINT OF PLACEMENT WITH THE EXCEPTIONS NOTED BELOW: a. IF THE POINT OF DELIVERY IS THE SAME AS THE POINT OF PLACEMENT (CONCRETE IS PLACED DIRECTLY FROM TRUCK) b. IF THE CONTRACTOR HAS DEVELOPED AN ACCEPTABLE (APPROVED BY SPECIAL INSPECTOR AND EOR) CORRELATION BETWEEN FRESH CONCRETE PROPERTIES AT THE POINT OF DELIVERY AND
- E. AIR-ENTRAINED CONCRETE SHALL NOT BE USED IN ANY NORMALWEIGHT CONCRETE FLOOR SLAB THAT IS TO RECEIVE A HARD-TROWELED FINISH 3. CONCRETE MATERIALS: A. HYDRAULIC CEMENT
- a. USE ASTM C150 TYPE I OR TYPE III, EXCEPT WHERE SPECFICALLY INDICATED OTHERWISE IN TABLE BELOW. B. FLY ASH: a. FLY ASH MAY BE USED TO REPLACE A PORTION OF THE PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE ARCHITECT AND STRUCTURAL ENGINEER NOT TO EXCEED THE AMOUNTS LISTED IN THE CONCRETE TABLE.
- b. USE ASTM C618 CLASS C OR F. C. NORMAL WEIGHT AGGREGATE: a. USE ASTM C33.
- b. MATERIAL CERTIFICATES FROM THE AGGREGATE SUPPLIER MUST BE SUBMITTED WITH THE CONCRETE MIX DESIGN c. RIVER ROCK OR PEA STONE AGGREGATES ARE NOT ACCEPTABLE. D. WATER COMPLY WITH THE REQUIREMENTS OF ASTM C1602.
- 4. CHLORIDE ION A. FOR CORROSION PROTECTION OF REINFORCEMENT IN CONCRETE, MAXIMUM WATER SOLUBLE ION CONCENTRATIONS IN HARDENED CONCRETE AT AGES FROM 28 TO 42 DAYS CONTRIBUTED FROM THE THE INGREDIENTS INCLUDING WATER, AGGREGATES, CEMENTITIOUS MATERIALS, AND ADMIXTURES SHALL NOT EXCEED THE LIMITS INDICATED IN THE TABLE BELOW.
- 5. PLACEMENT A. CONCRETE SHALL BE PLACED CAREFULLY SO AS NOT TO DEVIATE REINFORCEMENT FROM THE DESIGN LOCATION. B. CONCRETE SHALL BE PROPERLY VIBRATED, ESPECIALLY AROUND POST-TENSIONED ANCHORAGES AND CONGESTED AREAS SUCH AS COLUMN JOINTS. C. PLACEMENT OF CONCRETE SHALL BE COMPLETED WITHIN 90 MINUTES AFTER THE INTRODUCTION OF THE MIXING WATER, IN ACCORDANCE WITH ASTM C94.
- D. TOLERANCES FOR CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST ED. OF ACI 117 (SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS).

f'c

INTERIOR SLABS-ON-GROUNDA 3,500

ELEMENT

CONCRETE FINISHING AND CURING

- . FINISHING: FINISHING OPERATIONS AND BULL FLOATING SHALL BE COMPLETED PRIOR TO THE ACCUMULATION OF BLEED WATER ON THE SURFACE. FINAL FINISHING SHOULD NOT BEGIN UNTIL THE BLEED WATER HAS EVAPORATED AND THE WATER SHEEN HAS DISAPPEARED FROM THE SURFACE. TROWELLING THE WET SURFACE WILL WEAKEN IT AND CAN RESULT IN SURFACE CRAZING AND DUSTING. REFER TO ARCHITECTURE FOR FINAL FINISHING REQUIREMENTS (STEEL TROWEL, BROOM FINISH, ETC.).
- BLEED WATER IS TO DRAG THE SURFACE WITH A GARDEN HOSE. 3. CONTROL JOINTS (SAW CUTS) IF REQUIRED, SHALL BE MADE AS SOON AS THE CONCRETE CAN SUPPORT THE WEIGHT OF WORKER AND THE EQUIPMENT. 4. CURING: IMMEDIATELY AFTER FINISHING THE SLAB, THE SLAB MUST BE CURED FOR A MINIMUM OF 7 DAYS BY EITHER
- A. APPLYING A WATER-BASED DISSIPATING RESIN TYPE CURING COMPOUND WHICH CHEMICALLY BREAKS DOWN AFTER APPROXIMATELY 4 WEEKS. MEMBRANE FORMING COMPOUND SHALL ADHERE TO ASTM C 309, TYPE O OR 1D, CLASS B. THE COMPOUND SHALL BE APPLIED IN TWO COATS, EACH AT RIGHT ANGLES TO THE OTHER TO ENSURE A TIGHTLY SEALED SURFACE.

EXPOSURE CATEGORY

F0,S0,P(W)0,C1

B. WET-CURED BY KEEPING THE SURFACE WET AFTER THE CONCRETE HAS SET AND FINISHING IS COMPLETE.

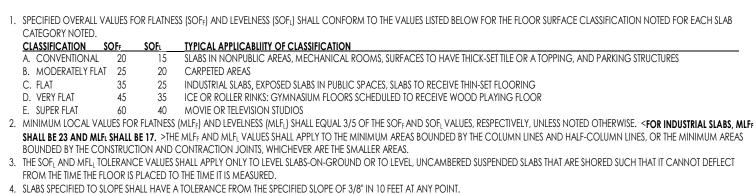
CONCRETE CRACKS

- 1. EVEN WITH PROPER DESIGN AND CONSTRUCTION ALL CONCRETE WILL CRACK. PLASTIC SHRINKAGE CRACKS CONTINUE TO OPEN AS THE SLAB AGES UP TO APPROXIMATELY ONE YEAR, AND REACH 50% OF THEIR FINAL SIZE IN APPROXIMATELY 30 DAYS, MANY PLASTIC SHRINKAGE CRACKS ARE VERY SMALL WHICH MAKE THEM BARELY NOTICEABLE AND INCONSEQUENTIAL TO THE STRUCTURAL PERFORMANCE OF THE CONCRETE. CRACKS WIDER THAN APPROXIMATELY 0.06" ARE LIKELY INDICATIVE OF CONCRETE THAT DID NOT ADHERE TO THE CONCRETE MIX REQUIREMENTS, PLACEMENT,
- FINISHING AND CURING REQUIREMENTS. IN ADDITION TO BEING VISIBLY OBJECTIONABLE, IF THESE CRACKS EXIST IN REGULAR CONSISTENCY, THEY MAY REDUCE THE STRUCTURAL PERFORMANCE OF THE CONCRETE AND REQUIRE STRUCTURAL REPAIR (FILL CRACKS WITH EPOXY PRODUCT) OR REPLACEMENT. 2. PLASTIC SHRINKAGE CRACKS: OCCUR SOON AFTER THE CONCRETE IS PLACED AND WHILE IT IS STILL PLASTIC. IT IS CAUSED BY OVERLY RAPID DRYING OF THE SURFACE, USUALLY DUE TO HOT WEATHER, HIGH WIND, LOW HUMIDITY, OR A DELAY IN APPLYING THE CURING MEMBRANE.

ETEMPERING (ADDING WATER TO CONCRETE ON-SITE)

1. WATER SHALL NOT BE ADDED TO THE MIX TRUCKS ON THE JOB SITE IN EXCESS OF THE VOLUME OF WATER THAT IS SPECIFICALLY INDICATED TO HAVE BEEN WITHHELD FROM THE READY MIX . PRIOR TO ADDING WATER, THE CONTRACTOR SHALL CONFIRM THAT THE MIX IS NOT ALREADY WITHIN TOLERANCE ON SLUMP. WATER SHALL ONLY BE ADDED IF THE SLUMP IS BELOW TOLERANCE AND THE READY MIX SUPPLIER HAD INDICATED THE VOLUME OF WITHHELD (TRIM) WATER.

FLOOR FLATNESS AND LEVELNESS



STRUCTURAL STEEL - 05 12 00

T= 1/4

T = 5/16

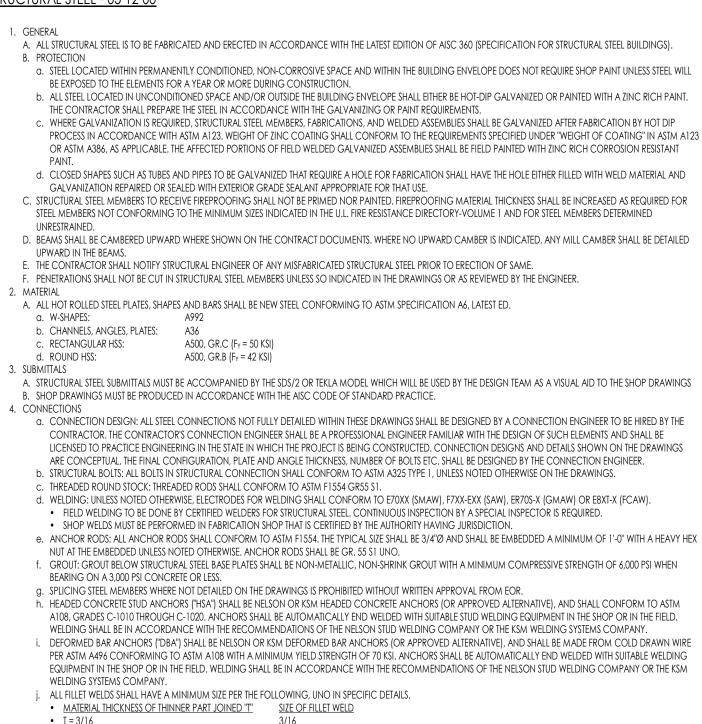
T = 3/8

T = 7/16

T = 1/2

T = 3/4

T > 3/4"



3/16

5/16

WOOD FRAMING SPECIFICATIONS (06 10 00)

MAX CL-	max fly ash	MAX W/CM RATIO	MAX COARSE AGG. SIZE	MIN. AIR CONTENT
0.30	20%	0.45]"	N/A

- 2. EXCESSIVE BLEED WATER REMOVAL: BLEEDING (FREE SURFACE WATER) OCCURS AS AGGREGATES SETTLE IN THE PLACED CONCRETE, DISPLACING WATER TO THE SURFACE. IF ALLOWED TO REMAIN ON THE SURFACE, IT DILUTES THE CEMENT CONTENT, SIGNIFICANTLY REDUCING THE STRENGTH NEAR THE SURFACE. THE CONTRACTOR SHALL REMOVE BLEED WATER. ONE METHOD OF REMOVING

- SLABS IN NONPUBLIC AREAS, MECHANICAL ROOMS, SURFACES TO HAVE THICK-SET TILE OR A TOPPING, AND PARKING STRUCTURES

- PRESCRIPTIVE DESIGN PER THE BUILDING CODE 2. STRUCTURAL LUMBER IN PERMANENTLY CONDITIONED SPACE SHALL MEET OR EXCEED THE FOLLOWING GRADES, PRODUCT LINE OR CRITERIA:
- a. STUD GRADE SOUTHERN YELLOW PINE b. STUD GRADE DOUGLAS FIR-LARCH
- c. VERTICAL STUD USE ONLY CERTIFIED FINGER-JOINTED OF HEM-FIR, SOUTHERN PINE OR DOUGLAS-FIR HRA DESIGNATION (HEAT RESISTANT ADHESIVE) REQUIRED FOR STUDS IN FIRE-RESISTANCE RATED ASSEMBLIES.
- B. JOISTS: a. NO.2 GRADE SOUTHERN YELLOW PINE
- b. NO.2 GRADE DOUGLAS FIR-LARCH C. LAMINATED VENEER LUMBER (LVL) BEAM / HEADER / GIRDER
- a. WEYERHAEUSER 2.0E MICROLAM LVL b. BOISE CASCADE VERSA-LAM 2.0E 3100Fb D. GLUED LAMINATED (GLULAM) BEAM / HEADER / GIRDER:
- a. 31/2" & 51/2" WIDE: ANTHONY POWER BEAM 3000Fb 2.1E 300Fv b. 7" WIDE: ANTHONY POWER BEAM 2800Fb - 2.1E - 300Fv
- E. RAFTERS: a. NO.2 GRADE SOUTHERN YELLOW PINE
- b. NO.2 GRADE DOUGLAS FIR-LARCH c. NO.2 STRUCTURAL FINGER-JOINTED OF HEM-FIR, SOUTHERN PINE OR DOUGLAS FIR
- HRA DESIGNATION (HEAT RESISTANT ADHESIVE) REQUIRED FOR STUDS IN FIRE-RESISTANCE RATED ASSEMBLIES F POSTS
- a. DIMENSIONAL LUMBER/TIMBERS: NO.2 GRADE SOUTHERN YELLOW PINE OR DOUGLAS FIR-LARCH b. PARALLEL STRAND LUMBER (PSL): TRUSJOIST 1.8E PARALLAM PSL POSTS G. PLATES:
- a. NO.3 GRADE SOUTHERN YELLOW PINE b. NO.3 GRADE DOUGLAS FIR-LARCH
- H. BLOCKING a. NO.3 GRADE SOUTHERN YELLOW PINE
- b. NO.3 GRADE DOUGLAS FIR-LARCH 3. STRUCTURAL LUMBER NOT IN PERMANENTLY CONDITIONED SPACE SHALL ADHERE TO THE FOLLOWING SPECIFICATIONS:
- A. DIMENSION LUMBER a. SAME SPECIES AND GRADES AS LISTED ABOVE, HOWEVER THEY MUST BE PRESSURE-TREATED.
- B. GLUED LAMINATED BEAM / HEADERS / GIRDER: a. POWER PRESERVED GLULAM BEAM (24F-V5M1/SP) TREATED WITH COPPER GUARD AT 0.04 PCF OR CLEAR-GUARD AT 0.055 PCF. 4. WOOD STRUCTURAL PANEL
- A WOOD STRUCTURAL PANELS, WHEN USED STRUCTURALLY (INCLUDING THOSE USED FOR SIDING, ROOF AND WALL SHEATHING, SURELONDRORD DIAPHRAGMS, AND RUILT-LIP MEMBERS). SHALL BE APA PERFORMANCE-RATED CONFORMING TO DOC PS 1. DOC PS 2 OR ANSI/APA PRP 210. EACH PANEL OR MEMBER SHALL BE IDENTIFIED FOR GRADE. BOND CLASSIFICATION, AND PERFORMANCE CATEGORY BY THE TRADEMARKS OF AN APPROVED TESTING AND GRADING AGENCY. THE PERFORMANCE CATEGORY VALUE SHALL BE USED AS THE "NOMINAL PANEL THICKNESS" OR "PANEL THICKNESS". a SUBELOOR 23/32 PERFORMANCE CATEGORY APA RATED STURD-I-FLOOR 24 o.C. EXPOSURE 1

1. WOOD FRAMING SIZES, FIRESTOPS, ANCHORAGE, FURRING AND CONNECTORS NOT SHOWN ON THE CONSTRUCTION DOCUMENTS SHALL AT A MINIMUM ADHERE TO THE

- b. SHEATHING/DECKING: 7/16 (UNLESS NOTED OTHERWISE, REF SHEAR WALL SCHEDULE) PERFORMANCE CATEGORY APA RATED SHEATHING, 32/16, EXPOSURE 1 B. WOOD STRUCTURAL PANELS WHEN PERMANENTLY EXPOSED IN OUTDOOR APPLICATIONS SHALL BE OF EXTERIOR TYPE, EXCEPT THAT WOOD STRUCTURAL PANEL ROOF SHEATHING EXPOSED TO THE OUTDOORS ON THE UNDERSIDE IS PERMITTED TO BE EXPOSURE 1 TYPE.
- 5. ALL LUMBER SHALL BE KILN DRIED WITH A MAXIMUM MOISTURE CONTENT OF 19%. 6. ALL GLUED-LAMINATED (GLULAM) MEMBERS SHALL ADHERE TO ANSI A 190.1 & ASTM D 3737 AND BE MANUFACTURED BY ANTHONY POWER BEAM (3000Fb - 2.1E).
- 7. ALL LUMBER SHALL BE IDENTIFIED BY THE GRADE MARK OF A LUMBER GRADING OR INSPECTION AGENCY THAT HAS BEEN APPROVED BY AN ACCREDITATION AGENCY THAT COMPLIED WITH DOC PS 20 8. ALL WOOD IN CONTACT WITH CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESERVATIVE TREATED WOOD. ALL FASTENERS INCLUDING ANCHOR BOLTS, POWER-ACTUATED FASTENERS, NAILS, CLIPS, AND HANGERS ATTACHED TO PRESERVATIVE TREATED SHALL BE APPROVED FOR THE ENVIRONMENT
- 9. NAILS AND STAPLES A. NAILS AND STAPLES SHALL CONFORM TO REQUIREMENTS OF ASTM F 1667. NAILS USED FOR FRAMING AND SHEATHING CONNECTIONS SHALL HAVE MINIMUM AVERAGE BENDING YIELD STRENGTHS AS FOLLOWS: 80 KIPS PER SQUARE INCH (KSI) (551 MPA) FOR SHANK DIAMETERS LARGER THAN 0.177 INCH (4.50 MM) BUT NOT LARGER THAN 0.254
- INCH (6.45 MM), 90 KSI (620 MPA) FOR SHANK DIAMETERS LARGER THAN 0.142 INCH (3.61 MM) BUT NOT LARGER THAN 0.177 INCH (4.50 MM) AND 100 KSI (689 MPA) FOR SHANK DIAMETERS OF AT LEAST 0.099 INCH (2.51 MM) BUT NOT LARGER THAN 0.142 INCH (3.61 MM). 10. FASTENERS FOR FIRE-RETARDANT TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED STEEL OR STAINLESS STEEL

WOOD TRUSS SPECIFICATIONS (06 17 60)

- TRUSSES SHALL BE DESIGNED BY THE TRUSS MANUFACTURER IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION" (ANSI/TPI 1-2014) AND SHALL CONFORM TO IBC §2303.4. THE DESIGN SHALL INCLUDE ALL TEMPORARY AND PERMANENT BRACING. TEMPORARY BRACING MAY REMAIN IN-PLACE IF IT DOES NOT INTERFERE WITH ARCHITECTURAL REQUIREMENTS. 2. SUBMITTALS: THE TRUSS MANUFACTURER SHALL PREPARE AND SUBMIT A TRUSS SUBMITTAL PACKAGE (PRODUCT DATA AND SHOP DRAWINGS) FOR THE WOOD TRUSSES TO THE CONTRACTOR. THE CONTRACTOR AFTER REVIEWING AND APPROVING THE TRUSS SUBMITTAL PACKAGE, SHALL FORWARD THE TRUSS SUBMITTAL PACKAGE TO DUDLEY FOR REVIEW.
- DUDLEY WILL REVIEW THE TRUSS SUBMITTAL PACKAGE FOR GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS. TRUSS SUBMITTAL PACKAGES SHALL BE PREPARED, SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE TRUSS SUBMITTAL PACKAGE SHALL INCLUDE AT A MINIMUM: A. PRODUCT DATA AND ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. B. SHOP DRAWINGS SHALL INCLUDE AT A MINIMUM:
- a. PROJECT NAME, LOCATION AND BUILDING CODE b. LAYOUTS INCLUDING TEMPORARY AND PERMANENT BRIDGING REQUIREMENTS. c. PROFILES INCLUDING ALL JOINTS, BEARING POINTS, DEFLECTION RATIOS, AND REACTIONS.
- d. BLOCKING REQUIREMENTS e. REQUIRED BEARING WIDTHS
- f. NUMBER OF PLIES IF GREATER THAN ONE g. LUMBER SPECIES AND GRADE
- h. SIZE, GAUGE AND LOCATION OF PLATES . TRUSS TO TRUSS HARDWARE REQUIREMENTS
- NAME AND TRADEMARK OF PLATE MFR AND TRUSS FABRICATOR
- C. CALCULATIONS INCLUDING BUT NOT LIMITED TO: BUILDING CODE
- DESIGN LOADS STRESS REDUCTION FACTORS USED FOR PLATES
- 3. DRAG TRUSS SHALL BE PROVIDED ABOVE AND BELOW ALL INTERIOR SHEAR WALLS. THE DRAG TRUSSES SHALL BE DESIGNED TO SUPPORT AN ALLOWABLE LINEAR LOAD EQUAL TO THAT OF THE SHEAR WALL (IF SHEAR WALLS ARE ABOVE AND BELOW THE LARGE ALLOWABLE SHEAR LOAD SHALL APPLY). 4. TRUSS RESTRAINT/BRACING METHODS SHALL BE IN ACCORDANCE WITH BCSI-B3 (PERMANENT RESTRAINT/BRACING OF CHORDS AND WEB MEMBERS) UNLESS NOTED OTHERWISE
- 5. TRUSS DEFLECTION LIMITS: TRUSSES SHALL BE LIMITED TO THE FOLLOWING DEFLECTION LIMITS:
- A. FLOOR TRUSSES LIVE LOAD (L/360) TOTAL LOAD (L/240 B. PITCHED ROOF TRUSS : LIVE LOAD (L/240) TOTAL LOAD (L/180)
- C. SHALLOW (< = 4 : 12) PITCHED ROOF TRUSSES : LIVE LOAD (L/360) TOTAL LOAD (L/240) 6. CAMBER SHALL BE BUILT INTO ROOF TRUSSES TO COMPENSATE FOR VERTICAL DEFLECTION. THE CAMBER SHALL BE LARGEST AT THE MID-SPAN OF THE TRUSS. A. PITCHED ROOF TRUSS: 1.00 X DEFLECTION FROM ACTUAL DEAD LOAD.

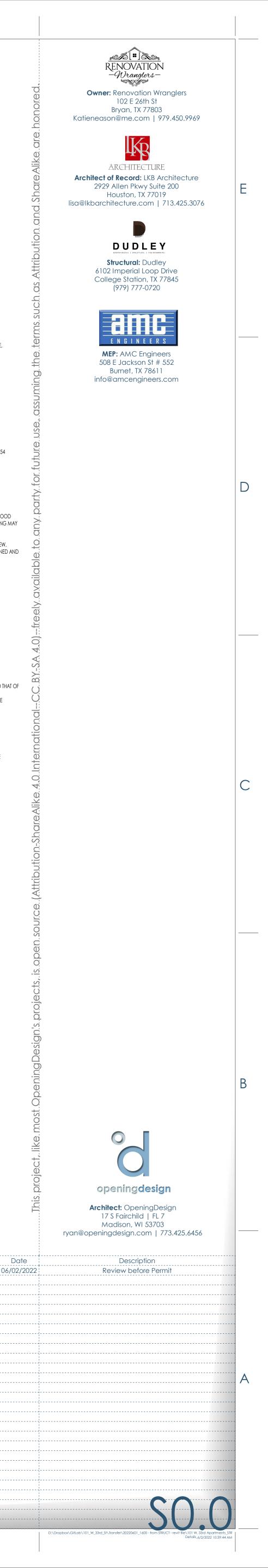
PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING FOR ALL TRUSSES WITH CLEAR SPANS 60 FEET OR GREATER.

- 7. TRUSSES SPANNING 60 FEET OR FURTHER A. THE TRUSS MFR. SHALL CONTRACT WITH A QUALIFIED REGISTERED DESIGN PROFESSIONAL FOR THE DESIGN OF THE TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE
- WOOD SHRINKAGE

A. WOOD SHRINKAGE:

- a. REGARDLESS OF THE BUILDING TYPE, BUILDING DESIGNS MUST COMPENSATE FOR THE FACT THAT WOOD SHRINKS AS IT DRIES. SHRINKAGE CONTINUES UNTIL WOOD REACHES IT EQUILIBRIUM MOISTURE CONTENT (EMC), WHICH AVERAGES 8-12% OF MOISTURE CONTENT FOR MOST STRUCTURES IN THE U.S... THE CONTRACTOR SHALL PREPARE AND ENFORCE A PLAN TO MINIMIZE MOISTURE IN THE WOOD FRAMING. DRYWALL SHALL NOT BE INSTALLED UNTIL THE MOISTURE CONTENT OF ALL WOOD
- FRAMING IS BELOW 15% b. THE CONSTRUCTION OF A WOOD FRAMED BUILDING REQUIRES AN UNDERSTANDING OF FRAMING TOLERANCES, SHRINKAGE, AND INTERACTION WITH DISSIMILAR
- c. ROUGH OPENINGS IN EXTERIOR WALLS SHALL BE UPSIZED APPROXIMATELY 1/2" TO ACCOMMODATE SHRINKAGE. d. PROVIDE 1/8" WIDE JOINTS IN SHEATHIN
- e. THE CONTRACTOR SHALL INCORPORATE DIFFERENTIAL VERTICAL MOVEMENT INTO THE DESIGN OF THE PLUMBING SYSTEM INCLUDING VERTICAL EXPANSION JOINTS, GAPS AROUND HORIZONTAL PLUMBING RUNS, AVOIDING HORIZONTAL PLUMBING RUNS IN LOAD BEARING STUDS. f. CARE SHALL BE TAKEN DURING CONSTRUCTION TO LIMIT THE MOISTURE EXPOSURE OF THE LUMBER. IF THE LUMBER DOES BECOME WET, MEASURES SHALL BE TAKEN TO
- BRING THE MOISTURE CONTENT BACK TO OR BELOW 15% PRIOR TO INSTALLING ARCHITECTURAL FINISHES. g. THE APPROXIMATE WOOD SHRINKAGE ASSUMING ALL LUMBER IS SOUTHERN PINE WITH AN INSTALLED MOISTURE CONTENT OF 19% AND A FINAL MOISTURE CONTENT OF 10% IS AS FOLLOWS:
- 3rd STORY BOTTOM PLATE:
- FLOOR TRUSS: DOUBLE TOP PLATE: 0.067"
- 2ND STORY BOTTOM PLATE:
- 0.168 FLOOR TRUSS: DOUBLE TOP PLATE: 0.067"
- 1ST STORY BOTTOM PLATE: 0.034"
- TOTAL ESTIMATED SHRINKAGE: [0.370"]

- TYPICAL GENERAL NOTES
- MARCO POLO 101 33RD STREET CITY OF BRYAN TOWNSITE, BLOCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY BRYAN, TX 77803



REQUIRED VERIFICATION AND INSPECTION OF GRADING AND DRAINAG	E FOR FOUNDATI
VERIFICATION AND INSPECTION	CONTINUOUS
AFTER BUILDING CONSTRUCTION AND LANDSCAPING HAVE BEEN COMPLETED, FINAL GRADES SHALL BE VERIFIED TO DOCUMENT REQUIRED DRAINAGE	-
AFTER BUILDING CONSTRUCTION AND LANDSCAPING HAVE BEEN COMPLETED, DOWNSPOUTS SHALL BE INSPECTED TO CONFIRM CONFORMANCE.	-
GRADES AROUND THE STRUCTURE SHALL BE PERIODICALLY INSPECTED AND ADJUSTED AS PART OF THE BUILDING'S MAINTENANCE PROGRAM	-
PLUMBING LEAK "HYRDROSTATIC" TEST PERFORMED BY A LICENSED PLUMBER. TEST TO OCCUR AFTER ROUGH PLUMBING INSTALL	-
WHERE PAVING/FLATWORK ABUT THE FOUNDATION, A MAINTENANCE PROGRAM SHALL BE ESTABLISHED TO EFFECTIVELY SEAL AND MAINTAIN JOINTS AND PREVENT SURFACE WATER INFILTRATION.	-

REQUIRED VERIFICATION AND INSPECTION OF SOILS (TABLE 1705.6)				
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED	
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	-	Х	YES	
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIALS	-	Х	YES	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED MATERIALS	-	Х	YES	
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	Х	-	YES	
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THE SITE HAS BEEN PREPARED PROPERLY	-	Х	YES	

REQUIRED VERIFICATION AND INSPECTION OF WOOD	CONSTRUCTION (§17	<i>'</i> 0
VERIFICATION AND INSPECTION	CONTINUOUS	
PREFABRICATED WOOD STRUCTURAL ELEMENTS (METAL PLATE CONNECTED WOOD TRUSSES) FABRICATION AND IMPLEMENTATION PROCEDURES (NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION	-	
HIGH-LOAD DIAPHRAGMS A. INSPECT GRADE AND THICKNESS OF WOOD STRUCTURAL PANEL SHEATHING. B. VERIFY NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES, THE NAILS OR STAPLE DIAMETER AND LENGTH, THE NUMBER OF FASTENER LINES AND THAT THE SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS AGREES WITH THE APPROVED BUILDING PLANS	-	
METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60 FT OR GREATER A. VERIFY THAT TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAIN/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE	-	
INSPECTION OF NAILING, BOLTING, ANCHORING AND OTHER FASTENING COMPONENTS WITHIN THE SEISMIC / MAIN WIND FORCE RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR WALLS AND HOLD-DOWNS.	-	
 MOISTURE CONTENT OF LOAD BEARING WOOD FRAMING: MOISTURE CONTENT JUST PRIOR TO INSTALLING SHEET ROCK SHOULD BE AT OR BELOW 15%. SPECIAL ATTENTION SHALL BE PAID TO MEMBERS ORIENTED WITH THEIR VERTICAL AXIS PERPENDICULAR TO THE VERTICAL PLANE (PLATES, JOISTS, TRUSS CHORDS, ETC.) 	-	

STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS & TESTING

- 1. SPECIAL INSPECTIONS AND STRUCTURAL TESTING SHALL BE PROVIDED BY AN INDEPENDENT AGENCY EMPLOYED BY THE OWNER FOR THE ITEMS IDENTIFIED IN THIS SECTION AND IN OTHER AREAS OF THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS. (SEE IBC CHAPTER 17). 2. THE NAMES AND CREDENTIALS OF THE SPECIAL INSPECTORS TO BE USED SHALL BE SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL. DUDLEY ENGINEERING CAN BE SOLICITED TO PROVIDE SPECIAL INSPECTIONS. WE RECOMMEND THAT THE PROJECT GEOTECHNICAL ENGINEER
- BE SOLICITED TO PROVIDE SPECIAL INSPECTIONS FOR THE SOILS AND TESTING FOR THE SOIL AND CONCRETE.
 DUTIES OF THE SPECIAL INSPECTOR:
- A. THE SPECIAL INSPECTOR SHALL REVIEW ALL WORK LISTED BELOW FOR CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS AND THE IBC. B. THE SPECIAL INSPECTOR SHALL FURNISH SPECIAL INSPECTION REPORTS TO THE EOR, CONTRACTOR, OWNER AND BUILDING OFFICIAL ON A WEEKLY BASIS, OR MORE FREQUENTLY AS REQUIRED BY THE BUILDING OFFICIAL. ALL ITEMS NOT IN COMPLIANCE SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND IF UNCORRECTED, TO THE EOR AND THE BUILDING OFFICIAL. C. ONCE CORRECTIONS HAVE BEEN MADE BY THE CONTRACTOR, THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO THE BUILDING OFFICIAL STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, IN
- CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS AS WELL AS THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC. 4. DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR:
- A. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE OWNER AND THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF WORK. IN ACCORDANCE WITH IBC 1704.4, THE STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED WITHIN THIS "STATEMENT OF SPECIAL INSPECTIONS".
- B. THE CONTRACTOR SHALL NOTIFY THE RESPONSIBLE SPECIAL INSPECTOR THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORKING DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED. C. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT HAS BEEN OBSERVED BY THE SPECIAL INSPECTOR.
- PLEASE SEE THE "SPECIAL INSPECTION SCHEDULE" FOR THE TYPES, EXTENTS AND FREQUENCY OF SPECIFIC ITEMS REQUIRING SPECIAL INSPECTIONS AND STRUCTURAL TESTS AS PART OF THIS PROJECT.
 REFER TO ARCHITECTURAL AND/OR MEP DRAWINGS FOR ADDITIONAL SPECIAL INSPECTION REQUIRED. DUDLEY ENGINEERING HAS LISTED THE STRUCTURAL SPECIAL INSPECTIONS AND TESTING.

WIND-RESISTING COMPONENTS (1705.11.3)

PERIODIC SPECIAL INSPECTION IS REQUIRED FOR FASTENING OF THE FOLLOWING SYSTEMS AND COMPONENTS: 1. ROOF COVERING, ROOF DECK AND ROOF FRAMING CONNECTIONS. 2. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING

ATIONS ON EXPANSIVE SOILS

NTINUOUS	PERIODIC	REQUIRED
-	Х	YES

UOUS	PERIODIC	REQUIRED
	Х	YES
	Х	YES
	Х	YES
	-	YES
	Х	YES

ON (§1705.5)

	CONTINUOUS	PERIODIC	REQUIRED
WOOD O WHERE PPROVED	-	Х	YES
eathing. El Edges, Tener Nd At	-	X	NO
THE NSTALLED	-	Х	NO
CES,	-	Х	YES
at or With Dists,	-	X	YES

STRUCTURAL STEEL - GENERAL			
THE SPECIAL INSPECTOR SHALL INSPECT THE FABRICATED OR ERECTED STEEL FRAME, AS APPRO SHOWN ON THE CONSTRUCTION DOCUMENTS, SUCH AS BRACES, STIFFENERS, MEMBER LOCAT DETAILS AT EACH CONNECTION.			
STRUCTURAL STEEL - ANCHOR RODS / EMBED PL	ATES		
THE SPECIAL INSPECTOR SHALL BE ON THE PREMISES FOR INSPECTION DURING THE PLACEMENT SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. A LENGTH OF THE ANCHOR RODS OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDME PRIOR TO PLACEMENT OF CONCRETE.	S A MINIMUM, T	HE DIAMETER, GR	ADE, TYPE AND
STRUCTURAL STEEL - WELDS			
VERIFICATION AND INSPECTION COL	NTINUOUS	PERIODIC	REQUIRED
INSPECTION TASKS PRIOR TO WELDING (AISC 360 TABLE N5.4-1)			
WELDING PROCEDURE SPECIFICATION (WPS'S) AVAILABLE	Х	-	YES
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	Х	-	YES
MATERIAL IDENTIFICATION (TYPE / GRADE)	-	Х	YES
WELDER IDENTIFICATION SYSTEM	-	Х	YES
FIT-UP GROOVE WELDS	-	Х	NO
CONFIGURATION AND FINISH OF ACCESS HOLES	-	Х	NO
FIT-UP FILLET WELDS	-	Х	YES
CHECK WELDING EQUIPMENT	-	Х	YES
INSPECTION TASKS DURING WELDING (AISC 360 TABLE N5.4-2)			
USE OF QUALIFIED WELDERS	-	Х	YES
CONTROL AND HANDLING OF WELDING CONSUMABLES	-	Х	YES
NO WELDING OVER CRACKED TACK WELDS		X	YES
ENVIRONMENTAL CONDITIONS (WIND SPEED WITHIN LIMITS, PRECIPITATION AND		х	YES
TEMPERATURE			1125
WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE / FLOW RATE • PREHEAT APPLIED	-	Х	YES
 INTERPASS TEMPERATURE MAINTAINED (MIN/ MAX) PROPER POSITION (F, V, H, OH) 			
WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEET QUALITY REQUIREMENTS	-	Х	YES
WELDS CLEANED	-	Х	YES
SIZE, LENGTH AND LOCATION OF WELDS	Х	-	YES
WELDS MEET VISUAL ACCEPTANCE CRITERIA CRACK PROHIBITION WELD / BASE-METAL FUSION CRATER CROSS SECTION WELD PROFILES WELD SIZE UNDERCUT POROSITY	X	-	YES
ARC STRIKES	Х	-	YES
k-AREA	Х	-	YES
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	Х	-	YES
REPAIR ACTIVITIES	Х	-	YES
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT MEMBER	X	-	YES
	Х	-	YES
NON-DESTRUCTIVE TESTING OF WELDED JO	INTS		
FILLET WELDS:			
MT TEST A MINIMUM OF 10% OF THE LENGTH OF EACH FILLET WELD EXCEEDING 5/16".	-	Х	YES
PERIODIC MT TESTING OF REPRESENTATIVE FILLET WELDS 5/16" AND LESS BUT NEED NOT EXCEED 10% OF ALL SUCH WELDS, EXCEPT AS REQUIRED FOR HIGH REJECTION RATES AS INDICATED IN THE FOLLOWING PARAGRAPH.	-	Х	YES
INCREASE MT TESTING RATE FOR WELDERS HAVING A HIGH REJECTION RATE AS REQUIRED TO ENSURE ACCEPTABLE WELDS.	Х	-	YES
PARTIAL JOINT PENETRATION (PJP) WELDS INCLUDING FLARE BEVEL WELDS			
MT TEST A MINIMUM OF 25% OF THE LENGTH OF EACH PJP WELD EXCEEDING 5/16" EFFECTIVE THROAT.	-	Х	YES
PERIODIC MT TESTING OF REPRESENTATIVE PJP WELDS 5/16" AND LESS BUT NEED NOT EXCEED 10% OF ALL SUCH WELDS, EXCEPT AS REQUIRED FOR HIGH REJECTION RATES AS INDICATED IN THE FOLLOWING PARAGRAPH.	-	Х	YES
INCREASE MT TESTING RATE FOR WELDERS HAVING A HIGH REJECTION RATE AS REQUIRED TO	Х	-	YES
ENSURE ACCEPTABLE WELDS			
COMPLETE JOINT PENETRATION (CJP) WELDS			
	X	-	YES
PERIODIC MT TESTING OF REPRESENTATIVE CJP WELDS 5/16" AND LESS NOT TO EXCEED 10%	-	Х	YES
	X		YES
	^	-	15
AND SUBMIT FOR APPROVAL A WRITTEN TESTING PROCEDURE IN ACCORDANCE WITH AWS D1.1 ANNEX S.	- X	X -	

TURN-OF-NUT PRETENSIONI SUBSEQUENTLY, IT SHALL BE THE UNTURNED ELEMENT B INITIAL FIT-UP OF THE JOINT OBSERVATION. NO FURTHE SHALL NOT BE CAUSE FOR NOT BE CAUSE FOR REJEC	ENSURED BY ROU Y THE AMOUNT SP BUT PRIOR TO PR R EVIDENCE OF C REJECTION. A RO
	TABLE 8.2: NU
BOLT LENGTH	
	BOTH FACE NO BOLT AX
LENGTH≤ 4db	1/3 TUR
$4d_b < LENGTH \le 8d_b$	1/2 TUR
8d _b < LENGTH ≤ 12d _b	2/3 TUR
a. NUT ROTATION IS RELAT TOLERANCE IS PLUS 60° b. APPLICABLE TO JOINTS	AND MINUS 30°

STRUCTURAL STEEL HI VERIFICATION AND DOCUMENTATION AND ACCEPTANCE OR REJE

STRUCTURAL STEEL H

VERIFICATION AND I DOCUMENTATION OF ACCEPTANCE OR REJECT

STRUCTURAL STEEL HIGH-STRENGTH BOLTS (TURN-OF-NUT) ECTOR SHALL OBSERVE THE PRE-INSTALLATION VERIFICATION TESTING REQUIRED IN SECTION 8.2.

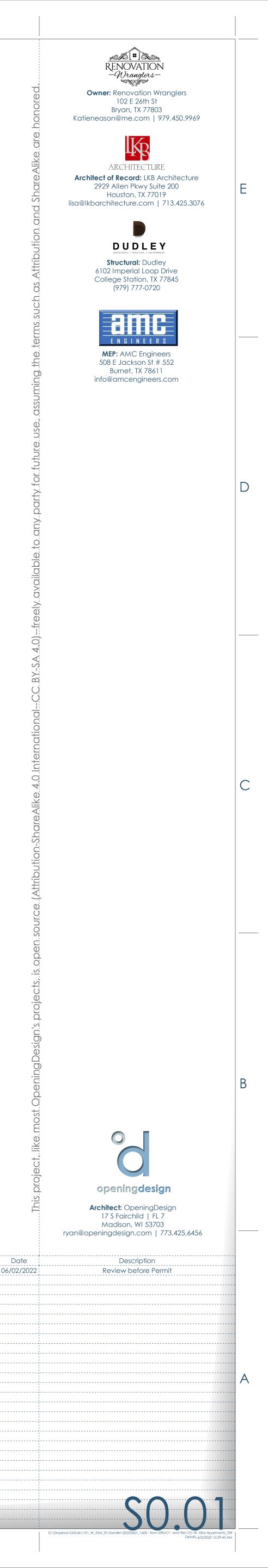
ROUTINE OBSERVATION THAT THE BOLTING CREW PROPERLY ROTATES THE TURNED ELEMENT RELATIVE TO IT SPECIFIED IN TABLE 8.2. ALTERNATIVELY, WHEN FASTENER ASSEMBLIES ARE MATCH-MARKED AFTER THE) PRETENSIONING, VISUAL INSPECTION AFTER PRETENSIONING IS PERMITTED IN LIEU OF ROUTINE F CONFORMITY IS REQUIRED. A PRETENSION THAT IS GREATER THAN THE VALUE SPECIFIED IN TABLE 8.1 ROTATION THAT EXCEEDS THE REQUIRED VALUES, INCLUDING TOLERANCE, SPECIFIED IN TABLE 8.2 SHALL

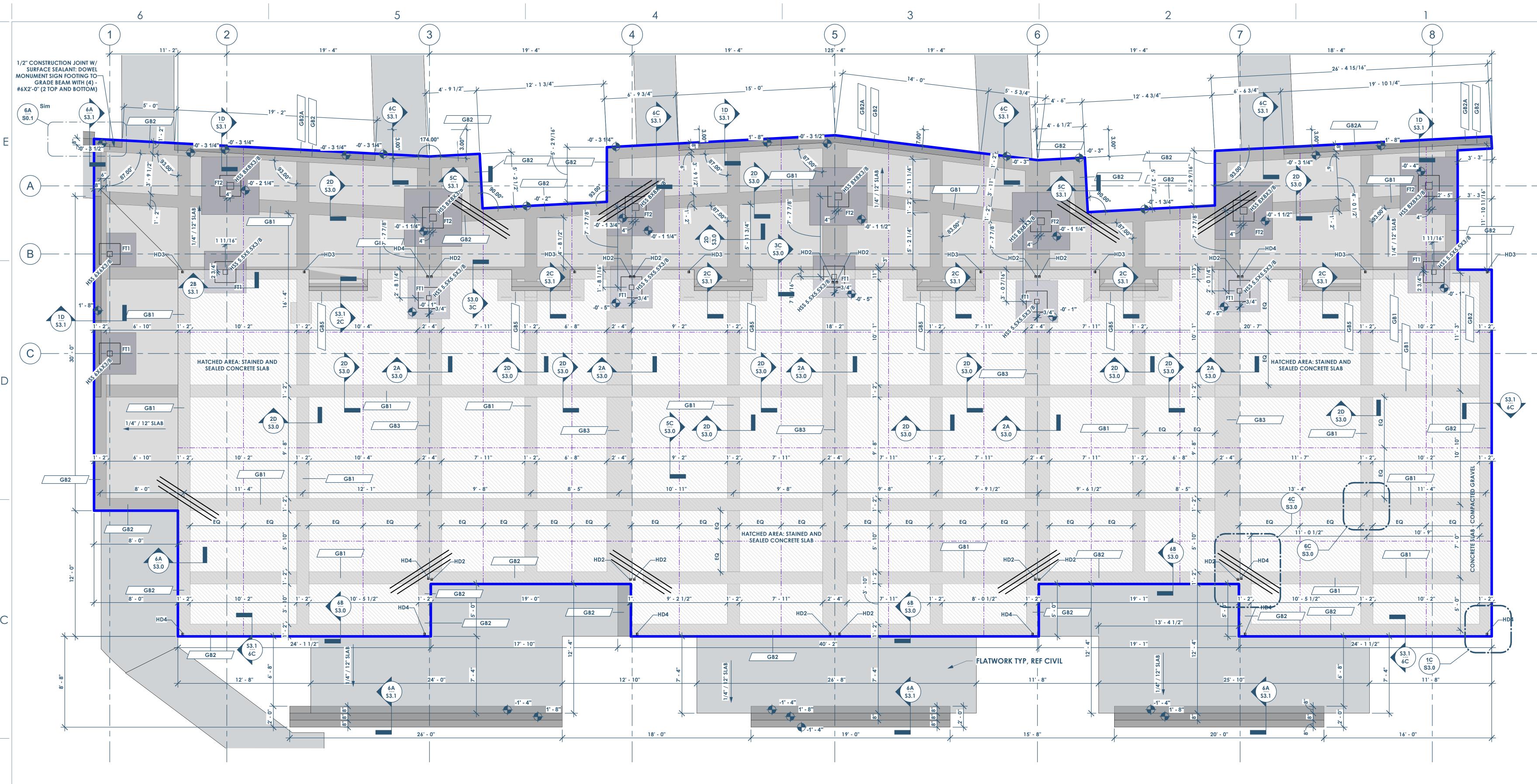
JT ROTATIO	N FROM SNUG-TIGHT CONDITION FOR	TURN-OF-NUT PRETENSIONING	
D	ISPOSITION OF OUTER FACES OF BOLTE	ED PARTS	
ormal to Kis	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS	
'N	1/2 TURN	2/3 TURN	
'N	2/3 TURN	5/6 TURN	
!N	5/6 TURN	1 TURN	

EGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR ALL REQUIRED ROTATIONS, THE LMATERIAL WITHIN THE GRIP IS STEEL.

ERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED
EPTANCE OR REJECTION OF BOLTED CONNECTIONS	-	Х	YES

ND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED
JECTION OF BOLTED CONNECTIONS.	-	Х	YES





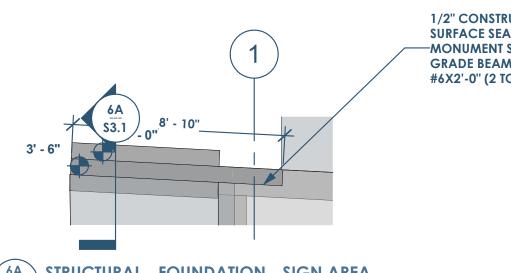
6B STRUCTURAL - FOUNDATION (s0.1) 1/4" = 1'-0"

				SHEARWALL HOL	DDOWN AT FOUNDATION		
TYPE MARK	ТҮРЕ	HARDWARE	END POST	ATTACHMENT TO END POST	ANCHORAGE TO FOUNDATION	DETAIL	CAPACITY
HD2	POST-INSTALLED HOLDDOWN	SIMPSON HTT5	(2)-2X	(26) 0.148 X 3 NAILS	5/8" DIA. GR.36 ALL-THREAD WITH 8" EMBEDMENT WITH NUT AND WASHER	SEE SHEET S4.3 FOR DETAILS	4670
HD3	POST-INSTALLED HOLDDOWN	SIMPSON HDU8-SDS2.5	(3)-2X	(20) 1/4" X 2 1/2" SDS SCREWS	7/8" DIA. GR.36 ALL-THREAD WITH 17 1/2" EMBEDMENT WITH NUT AND WASHER	SEE SHEET S4.3 FOR DETAILS	6200
HD4	CAST IN PLACE	SIMPSON HDU14-SDS2.5	6X6	(36) 1/4" X 2 1/2" SDS SCREWS	1" DIA. GR.36 ANCHOR ROD WITH 18" EMBEDMENT	SEE SHEET S4.3 FOR DETAILS	10000

STRUCTURAL CONNECTION NOTES:

• MINIMUM EDGE DISTANCE TO CENTERLINE OF BOLT IS 3". AT CORNERS, THE OPPOSING EDGE DISTANCE MUST BE ≥ 6". • MINIMUM #4X36" LONG REINFORCING BAR LOCATED 3"-5" BELOW THE TOP OF THE SLAB IS REQUIRED TO BE CENTERED ON THE HOLDOWN, AT CORNER, BEND THE BAR 90° AT THE CENTER • REFERENCE MECHANICALLY LAMINATED BUILT-UP COLUMN FOR NAILING REQUIREMENTS FOR END POST. • SIMPSON ATR(REQUIRED Ø) WITH SIMPSON SET-3G IS AN ACCEPTABLE OPTION.

				FOOTING S	CHEDULE			
TYPE			[5	BOTTOM RE	INFORCING	
MARK	NAME	COUNT	WIDTH	LENGTH	DEPTH	LONG	SHORT	TYPE COM
FT1	CONCRETE STEEL COLUMN FOOTING - 4' X 4' x 2'-6"	9	4' - 0"	4' - 0''	2' - 6"	SEE DETAIL 2B/S3.1	SEE DETAIL 2B/S3.1	
FT2	CONCRETE STEEL COLUMN FOOTING 5.5' X 5.5' x 2.5'	7	5' - 6"	5' - 6"	2' - 6"	SEE DETAIL 2B/S3.1	SEE DETAIL 2B/S3.1	



1/2" CONSTRUCTION JOINT W/ SURFACE SEALANT: DOWEL GRADE BEAM WITH (4) -#6X2'-0" (2 TOP AND BOTTOM)

6A S0.1 STRUCTURAL - FOUNDATION - SIGN AREA 1/4" = 1'-0"

6

	PTI PARAMETERS	
COMMENTS	E_m - CENTER	4.8'
	E _. m - EDGE	2.0'
	Y m - CENTER	1.0"
	Y _u m - EDGE	1.25"
	EFFECTIVE PLASTICITY INDEX	35
	ALLOW. BEARING (PSF)	1,800 PSF
	MIN. BEAM EMBEDMENT BLEOW FINAL GRADE	18"
	MIN PERIMETER BEAM EMBEDMENT BELOW FINAL GRADE	52"
	SLAB GEOMETRY	
	AREA (SF)	5711 SF
		396 FT
	PERIMETER (FT)	
	SHAPE FACTOR	27.5

		FOUNDATIC					
BEAM ID	DESCRIPTION	WIDTH	DEPTH	TOP BARS	BOTTOM BARS	STIRRUPS	Type Comments
GB1	GRADE BEAM - INTERIOR - 14"	14"	30"	(3) - #6	(3) - #6	#3 @24" OC	
GB2	VERTICAL MOISTURE BARRIER	14"	30"	(3) - #6	(3) - #6	#3 @24" OC	
GB2A	GRADE BEAM - PERIMETER - 14" - W/ 8" CONCRETE WALL	8"		(3) - #6	(3) - #6	#3 @24" OC	SEE 1D/S3.1 FOR MORE DETAIL
GB3	GRADE BEAM - INTERIOR - 28"	28"	30"	DOUBLE GB1	DOUBLE GB1	DOUBLE GB1	(2) GB1 STIRRUP CAGES SIDE/SIDE - SEE DETAIL 2A/S3.0
GB4	8" CONCRETE FOUNDATION	8"	36"				SEE 6A/S3.1
GB5	TURNDOWN THICKENED SLAB	12"	12"	N/R	(2) - #4	N/R	SEE DETAIL 2C/S3.1

FOUNDATION NOTES			
FOUNDATION TYPE:	BRAB TYPE III - STIFFENED NON-STRUCTURAL SLAB-ON-GROUND		
SLAB THICKNESS:	5"		
SLAB REINFORCEMENT:	#4 @ 16" OC EACH WAY - REF DETAIL		
DESIGN METHOD:	ACI 318		
VAPOR RETARDER:	MINIMUM 15 MIL (UNLESS THICKER REQ'D BY ARCHITECT)		

NOTES: 1. BEAMS ARE TYPE B1 UNO.

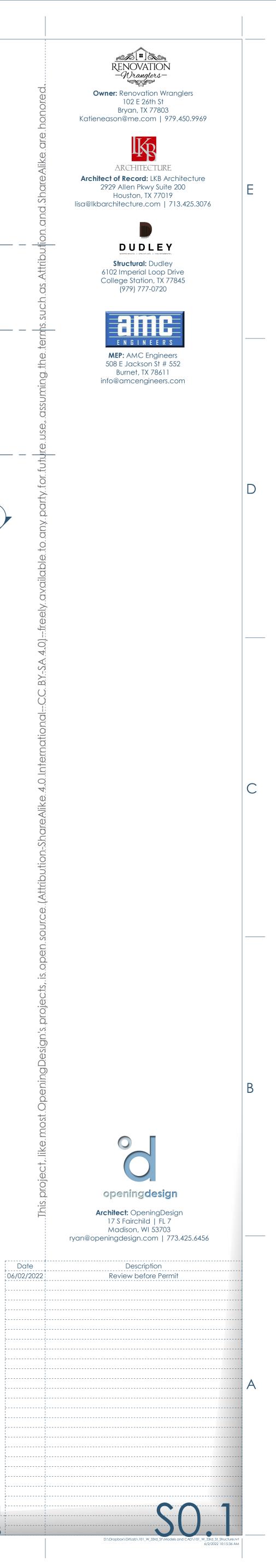
- 2. LOCATE THE FIRST STIRRUP A MAXIMUM OF 3" FROM FACE OF SUPPORT. 3. BEAM DEPTH INDICATED IN THE SCHEDULE IS A STRUCTURAL MINIMUM THAT THE BEAM
- REINFORCEMENT CAGE MAY BE BASED UPON. REFERENCE GEOTECHNICAL REPORT FOR MINIMUM GRADE BEAM EMBEDMENT BELOW ADJACENT FINAL GRADE OR

FLATWORK/PAVEMENT. 4. N/R = NOT REQUIRED

PLAN LEGEND ------ CONTROL JOINT **FOUNDATION PERIMETER**

PLAN NOTES **1. VERIFY ALL EDGE OF FOUNDATION DIMENSIONS WITH FINAL ARCHITECTURE FLOOR PLANS.** 2. FORM DIMENSIONS: SLAB DROPS, SLOPES, ETC. SHOWN AS AN AID TO CONTRACTOR ONLY.

- VERIFY EXACT DIMENSIONS AND LOCATIONS WITH ARCHITECT. 3. DIMENSIONS ARE TO OF GRADE BEAMS OR EDGE OF SLAB UNLESS NOTED OTHERWISE. 4. CONTROL JOINTS (SAW-CUTS) ARE RECOMMENDED TO REDUCE CRACKS IN THE SLAB, BUT ARE
- NOT REQUIRED FOR STRUCTURAL REQUIREMENTS. FOR THE RECOMMENDED MAXIMUM JOINT SPACING REFERENCE DETAIL 5. FOR FLATWORK OR PAVEMENT ABUTTING THE BUILDING FOUNDATION REFERENCE DETAIL
- 6. CONCRETE IS ASSUMED TO RECEIVE A STEEL TROWEL FINISH UNLESS NOTED OTHERWISE. NOTIFY ENGINEER IF ARCHITECTURALLY EXPOSED CONCRETE (STAINED, POLISHED, ETC.) IS PLANNED FOR ADDITIONAL SHRINKAGE CRACKING MITIGATION METHODS.



SUBGRADE AND BUILDING PAD NOTES (PER GEOTECHNICAL REPORT): 1. SUBGRADE IMPROVEMENT:

- A. PROVIDE MINIMUM 2 FEET SELECT FILL TO TOP OF BUILDING PAD ELEVATION. THE SELECT FILL PAD MUST BE OF UNIFORM THICKNESS UNO BY GEOTECHNICAL ENGINEER.
 2. SITE PREPARATION:
- A. SOFT SOILS SHOULD BE REMOVED UNTIL FIRM SOIL IS REACHED. THE SOFT SOILS CAN BE AERATED AND PLACED BACK IN SIX-INCH LOOSE LIFTS AND COMPACTED TO 95% AS SPECIFIED BY ASTM D-698. TREE STUMPS, TREE ROOTS, OLD SLABS, OLD FOUNDATIONS AND EXISTING PAVEMENTS SHOULD BE REMOVED FROM THE STRUCTURE AREA. IF THE TREE STUMPS AND ROOTS ARE LEFT IN PLACE, SETTLEMENT AND TERMITE INFESTATION MAY OCCUR. ONCE A ROOT SYSTEM IS REMOVED, A VOID IS CREATED IN THE SUBSOIL. IT IS RECOMMENDED TO FILL THESE VOIDS WITH STRUCTURAL FILL OR CEMENT-STABILIZED SAND AND COMPACT TO 95% AS SPECIFIED BY ASTM D-698.
- B. ANY LOW-LYING AREAS INCLUDING RAVINES, DITCHES, SWAMPS, ETC. SHOULD BE FILLED WITH STRUCTURAL FILL AND PLACED IN EIGHT-INCH LIFTS. EACH LIFT SHOULD BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS SPECIFIED BY ASTM D-698.
 C. THE EXPOSED SUBGRADE SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF SIX (6) INCHES FOUNDATION AREAS
- OR PER SUBGRADE IMPROVEMENT REQUIREMENTS. THE SUBGRADE SHOULD THEN BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE STANDARD MOISTURE DENSITY RELATIONSHIP (ASTM D-698). IN THE EVENT THAT THE UPPER SIX (6) INCHES CANNOT BE COMPACTED DUE TO EXCESSIVE MOISTURE, WE RECOMMEND THAT THESE SOILS BE EXCAVATED AND REMOVED OR CHEMICALLY STABILIZED TO PROVIDE A FIRM BASE FOR FILL PLACEMENT. PROOF ROLLING SHOULD BE PERFORMED USING A HEAVY TIRED LOADED TRUCK OR PNEUMATIC RUBBER-TIRED WEIGHING 20 TONS. D. THE SELECT FILL SOILS SHALL BE LIMITED TO THE FOOTPRINT OF THE FOUNDATION. IF OVERBUILD IS REQUIRED,
- INSTALL HORIZONTAL CLAY CAP TO COVER THE FILL OVERBUILD. BEYOND THE PERIMETER OF THE STRUCTURE.
- E. THE FLOOR SLAB SHOULD BE PLACED AS SOON AS POSSIBLE AFTER THE BUILDING PAD IS PREPARED. IF THE BUILDING PAD IS LEFT EXPOSED TO RAINFALL, PERCHED GROUNDWATER CONDITIONS MAY DEVELOP WHICH WILL UNDERMINE THE INTEGRITY OF THE FLOOR SLAB. ALL TRENCHES (WATER, CABLE, ELECTRICAL) SHOULD BE PROPERLY BACKFILLED AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITIES. SAND OR PERMEABLE MATERIALS SHOULD NOT BE USED AS BACKFILL. IMPROPERLY BACKFILLED AND IMPROPERLY COMPACTED TRENCH, IF LEFT EXPOSED WILL ALSO BE ANOTHER SOURCE FOR PERCHED GROUNDWATER CONDITIONS. IN GENERAL PERCHED WATER TENDS TO BE TRAPPED WITHIN THE FILL. THE TRAPPED GROUNDWATER TENDS TO
- SOFTEN THE SUBGRADE. POSITIVE DRAINAGE SHOULD BE MAINTAINED ACROSS THE ENTIRE BUILDING PAD.
 F. A QUALIFIED SOIL TECHNICIAN SHOULD MONITOR ALL EARTHWORK OPERATIONS. FIELD DENSITY TESTS SHOULD BE CONDUCTED ON EACH LIFT USING A NUCLEAR DENSITY GAUGE. THE GAUGE SHOULD BE CALIBRATED EVERY DAY. PRIOR TO FIELD DENSITY TESTS, A 50-POUND SAMPLE FROM THE SUBGRADE SOILS SHOULD BE OBTAINED. A SIMILAR SAMPLE SHOULD BE OBTAINED FROM THE FILL SOILS. A STANDARD MOISTURE DENSITY RELATIONSHIP (ASTM D-698) SHOULD BE PERFORMED ON EACH SAMPLE IN ORDER TO OBTAIN AN OPTIMUM MOISTURE CONTENT AND A MAXIMUM DRY DENSITY. THE FIELD DENSITY TESTS SHOULD BE COMPARED TO THESE RESULTS EVERY TIME THE SOILS ARE TESTED IN THE FIELD.
 3. LOW SWELL POTENTIAL STRUCTURAL FILL (SELECT FILL)
- A. LOW SWELL POTENTIAL SELECT FILL SHOULD CONSIST OF COHESIVE SOILS FREE OF ORGANICS OR OTHER DELETERIOUS MATERIALS AND SHOULD HAVE A PLASTICITY INDEX NOT LESS THAN 7 OR MORE THAN 20. SANDY CLAYS ARE RECOMMENDED FOR USE. THE LOW SWELL POTENTIAL SELECT FILL SHOULD BE CLEANED AND FREE OF ORGANIC MATTER OR OTHER DELETERIOUS MATERIAL. THE FILL SHOULD BE PLACED IN MAXIMUM 8-INCH LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 (STANDARD PROCTOR). THE MOISTURE CONTENT AT THE TIME OF COMPACTION SHOULD BE -2%, +3% OF THE OPTIMUM VALUE AS DEFINED BY ASTM D 698. THE REFERENCED MOISTURE CONTENT AND DENSITY SHOULD BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
- 4. HORIZONTAL MOISTURE BARRIER
 A. WHERE THE PERIMETER OF THE FOUNDATION DOES NOT HAVE LOW PERMEABILITY FLATWORK (SIDEWALK, PAVEMENT, PATIO, ETC.) ABUTTING THE FOUNDATION, A HORIZONTAL MOISTURE BARRIER VIA CLAY CAP AND VAPOR RETARDER MUST BE PROVIDED.
 a. CLAY CAP: A MINIMUM 5' WIDE LOW PERMEABILITY CLAY "CAP" SHALL BE PLACED ALONG THE EXTERIOR
- OF THE FOUNDATION TO HELP MINIMIZE MOISTURE INFILTRATION INTO THE SELECT FILL SOIL PADS. THE LOW PERMEABILITY, 1-FOOT THICK CLAY "CAP" SHALL HAVE A MINIMUM PLASTICITY INDEX (PI) OF 30. b. VAPOR RETARDER: BELOW THE CLAY CAP, A MIN 15 MIL VAPOR RETARDER MUST BE PROVIDED ON A MINIMUM 5% SLOPE. RETARDER MUST BE SECURED TO THE FOUNDATION. 5. DRAINAGE
- A. ROOF DRAINAGE SHOULD BE COLLECTED BY A SYSTEM OF GUTTERS AND DOWN SPOUTS AND TRANSMITTED A MINIMUM DISTANCE OF 5' AWAY FROM THE FOUNDATION TO AN AREA WITH POSITIVE DRAINAGE AWAY FROM THE FOUNDATION, PREFERABLY TO A PAVED SURFACE WHERE WATER CAN DRAIN RAPIDLY AWAY FROM THE STRUCTURE. SIDEWALKS, PARKING AREAS, BUILDING ACCESS DRIVES, AND THE GENERAL GROUND SURFACE SHOULD BE SLOPED SO THAT WATER WILL DRAIN AWAY FROM THE STRUCTURE. WATER SHOULD NOT BE
- ALLOWED TO POND NEAR THE BUILDING FOUNDATIONS.
 B. FINAL GRADES SHALL SLOPE A MINIMUM OF 5% FOR THE FIRST 10 FEET AWAY FROM THE FOUNDATION IN ALL DIRECTIONS. THIS SLOPE SHALL OCCUR IN THE SELECT FILL OR IN-SITU SOIL. MERELY SLOPING TOPSOIL IS NOT SUFFICIENT.
 6. LANDSCAPING
- A. AVOID THE USE OF METAL EDGING OR OTHER DAMMING DEVICES WITHIN FIVE FEET OF THE FOUNDATION. THE ROOTS OF TREES AND LARGE PLANTS REMOVE LARGE QUANTITIES OF WATER FROM THE SOIL. IF THESE TREES AND SHRUBS ARE NEAR THE FOUNDATION AND IF SUFFICIENT WATER IS NOT SUPPLIED, THE SOILS MAY SHRINK IF EXPANSIVE, CAUSING SUBSIDENCE IN THE FOUNDATION. DURING DRY PERIODS, ENOUGH WATER SHOULD BE SUPPLIED TO TREES TO MINIMIZE SHRINKING OF EXPANSIVE SOILS AROUND THEM. MOST OF THE IRRIGATION WATER SHOULD BE APPLIED WELL AWAY FROM THE FOUNDATION TO ATTRACT THE TREE ROOTS IN THAT DIRECTION. WHEN TREES MATURE TO THE POINT OF SHADING THE ENTIRE LOT, REGULAR PRUNING WILL BE NEEDED TO REDUCE THEIR WATER UPTAKE. LANDSCAPING (PLANTS, SHRUBS, FLOWERS, ETC.) SHOULD NOT TRAP WATER AGAINST THE FOUNDATION. PROVIDE A SLOPE IN SOILS BELOW LANDSCAPE BEDDING AND IN THE BEDDING AWAY FROM THE FOUNDATION. ALTERNATIVELY, PROVIDE SWALES AROUND AND THROUGH THE LANDSCAPING TO DRAIN WATER AWAY. PROVIDE UNIFORM GROUND COVER AROUND THE FOUNDATION. THIS WILL HELP KEEP THE MOISTURE EVAPORATION RATE UNIFORM. IN AREAS THAT ARE NOT PLANTED, USE
- MULCH. EXTEND THE GROUND COVER AT LEAST FIVE FEET FROM THE FOUNDATION.
 B. ANY/ALL TREES SHALL BE PLANTED AT A MINIMUM DISTANCE EQUIVALENT TO THE HEIGHT OF THE TREE OR THE DRIP LINE PLUS 10 FEET WHICHEVER IS GREATER.
 7. SOIL MOISTURE
- A. EXPANSIVE SOILS HEAVE AND SUBSIDE DUE TO CHANGES IN MOISTURE CONTENT. CHANGES IN MOISTURE CONTENT CAN CAUSE VERY LARGE CHANGES IN SOIL VOLUME WHEN GOING FROM A DRY TO A SATURATED CONDITION, AND VICE VERSA. THIS MOVEMENT DOES NOT MEAN THE FOUNDATION IS IMPROPERLY DESIGNED OR THAT IT HAS FAILED. THE FOUNDATION DESIGN ENGINEER CANNOT CONTROL THE MOISTURE CONTENT OF THE SOIL, BUT OFTEN THE OWNER/TENANT CAN. UNIFORMITY IS THE KEY: UNIFORM MOISTURE CONTENT IN THE SOIL, UNIFORMLY MAINTAINED IN ALL AREAS AROUND THE FOUNDATION. IF CHANGES IN MOISTURE CONTENT ARE UNIFORM, THEN MOVEMENT OF THE FOUNDATION WILL BE UNIFORM AND LESS DISTRESS WILL BE CREATED IN THE STRUCTURE. IF CHANGES IN MOISTURE CONTENT ARE NON-UNIFORM, THEN THERE MAY BE DIFFERENTIAL MOVEMENT IN THE FOUNDATION. DIFFERENTIAL MOVEMENT CAN CAUSE GREATER (AND MORE OBVIOUS) DISTRESS IN THE STRUCTURE. LEAKING POOLS, LEAKING PLUMBING LINES, LEAKING DRAINS, DRIPPING FAUCETS, DRIPPING AIR CONDITIONING CONDENSATE LINES, AND MISDIRECTED WATER FROM CLOGGED AND BROKEN GUTTERS AND DOWNSPOUTS CAN CAUSE LOCAL HIGH MOISTURE CONTENTS THAT CAN RESULT IN DIFFERENTIAL MOVEMENT IN AREAS OF EXPANSIVE SOILS. THESE CONDITIONS SHOULD BE REMEDIED AS SOON AS POSSIBLE. TREES IN OR NEAR THE FOOTPRINT OF THE FOUNDATION, EITHER REMOVED OR PLANTED DURING CONSTRUCTION, CAUSE THE MAJORITY OF FOUNDATION PROBLEMS REQUIRING REPAIR IN THIS AREA. TREES REMOVED DURING CONSTRUCTION TEND TO CAUSE HEAVE OF EXPANSIVE SOILS DURING THE FIRST FEW YEARS, WITH INITIAL DISTRESS OFTEN EVIDENT AT THE TIME OF MOVE-IN. TREES PLANTED DURING OR AFTER CONSTRUCTION TEND TO CAUSE SUBSIDENCE OF EXPANSIVE SOILS. HOWEVER, SIGNIFICANT SUBSIDENCE
- DISTRESS WILL USUALLY NOT OCCUR FOR TEN TO TWENTY YEARS AS THE TREES MATURE.
 8. CLIMATE

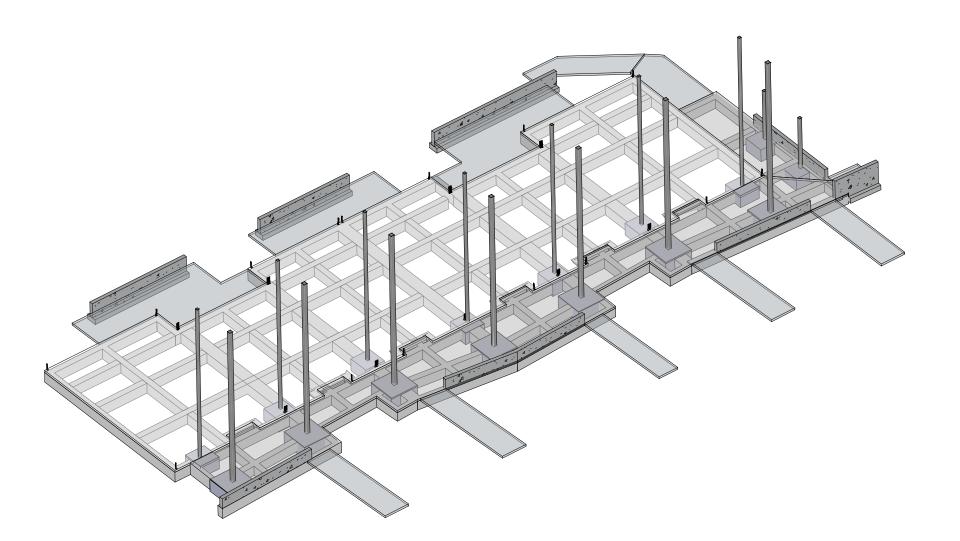
 A. DURING PERIODS OF DRY WEATHER, THE SOIL AROUND THE FOUNDATION SHOULD BE IRRIGATED IF THE
 BUILDING IS LOCATED IN AN AREA WHERE EXPANSIVE SOILS ARE KNOWN TO OCCUR. THE MOST COMMONLY
 USED IRRIGATION SYSTEM IS ABOVEGROUND TIMED SPRINKLERS WITH A MANUAL OVERRIDE SO THEY CAN BE
 TURNED OFF IN RAINY WEATHER. AN AUTOMATIC BELOWGROUND IRRIGATION SYSTEM THAT SENSES THE
 MOISTURE CONTENT OF THE SOIL MAY ALSO BE USED. TEND TO KEEP THE IRRIGATION SYSTEM SET ON
 "MANUAL", AND ONLY USE IT IN DRIER PERIODS WHEN WILTING OF THE LAWN GRASSES AND OTHER
 VEGETATION OCCURS. THE IRRIGATION SHOULD BE DONE AT LEAST ONE TO TWO FEET AWAY FROM THE
 FOUNDATION, AND THEN LIGHTLY SO THAT TREE ROOTS ARE NOT ATTRACTED THERE. DO NOT ALLOW
 SPRINKLERS TO SPRAY WATER AGAINST THE STRUCTURE. IN EXTENDED DRY PERIODS, SHOULD THE SOIL CRACK
- UTILITIES

 A. CONNECTIONS FOR UTILITIES (PLUMBING, ELECTRICAL, GAS, ETC.) THAT ARE UNDERNEATH, GO THROUGH OR ARE ATTACHED TO THE FOUNDATION SHALL HAVE BE FLEXIBLE TO ACCOMMODATE FOUNDATION MOVEMENT OF AT LEAST 2". ALL DRAINAGE PIPING, AND GENERAL PLUMBING SYSTEMS ASSOCIATED WITH THE FOUNDATION OR IN PROXIMITY TO THE FOUNDATION SHALL BE LEAK TESTED FOLLOWING INSTALLATION AND ON AN ANNUAL BASIS.

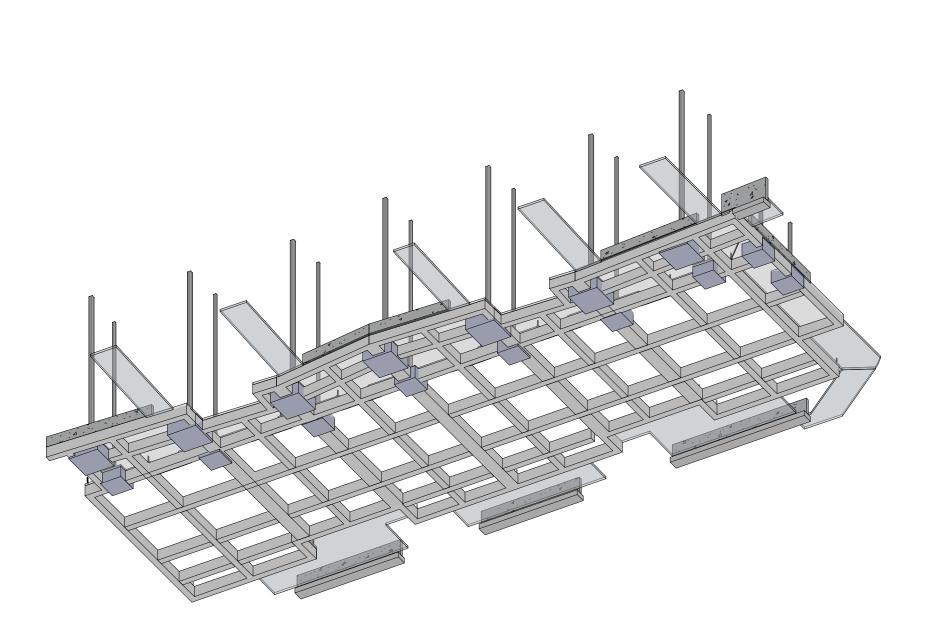
 ARCHITECTURAL FINISHES
- A. TILE FLOORS SHALL BE JOINTED FREQUENTLY TO MINIMIZE CRACKING. B. WALL COVERINGS SHALL BE JOINTED ON EACH SIDE OF DOOR AND WINDOW OPENINGS.

AND PULL AWAY FROM THE FOUNDATION, DO NOT WATER DIRECTLY INTO THE GAP.

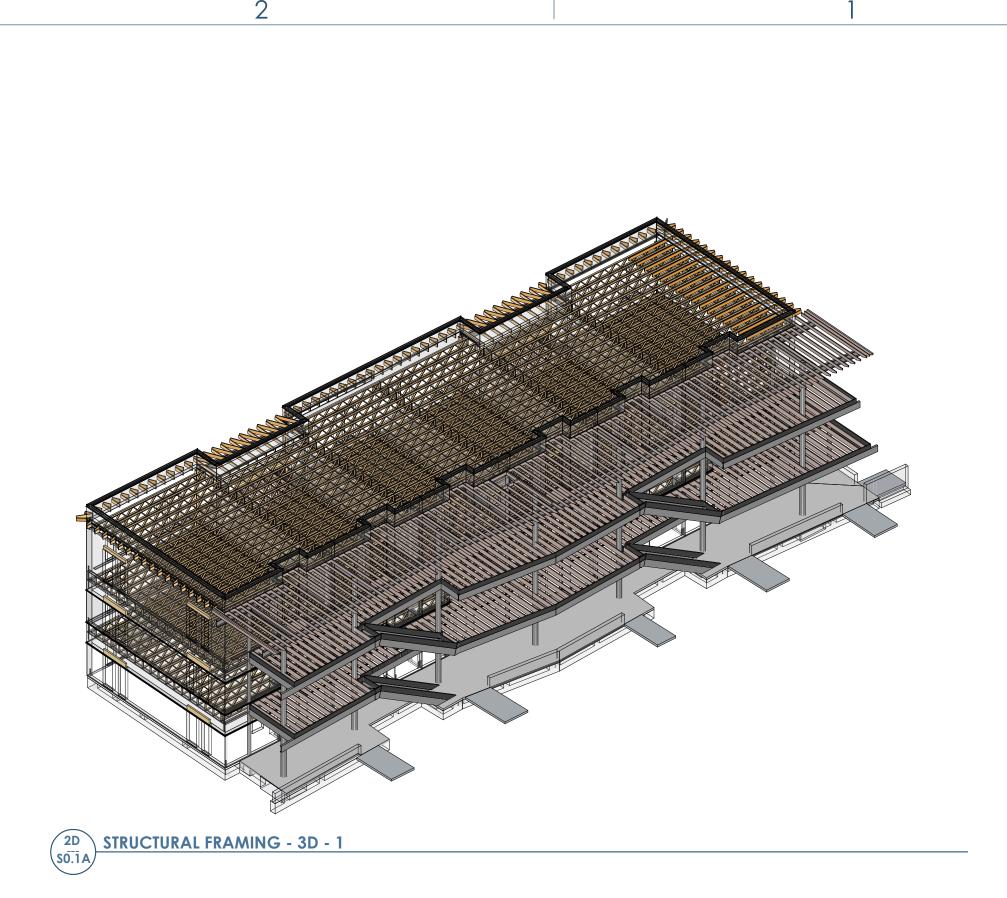
C. ALL ARCHITECTURAL FINISHES SHALL MIRROR CONTROL, EXPANSION OR CONSTRUCTION JOINTS IN THE FOUNDATION.

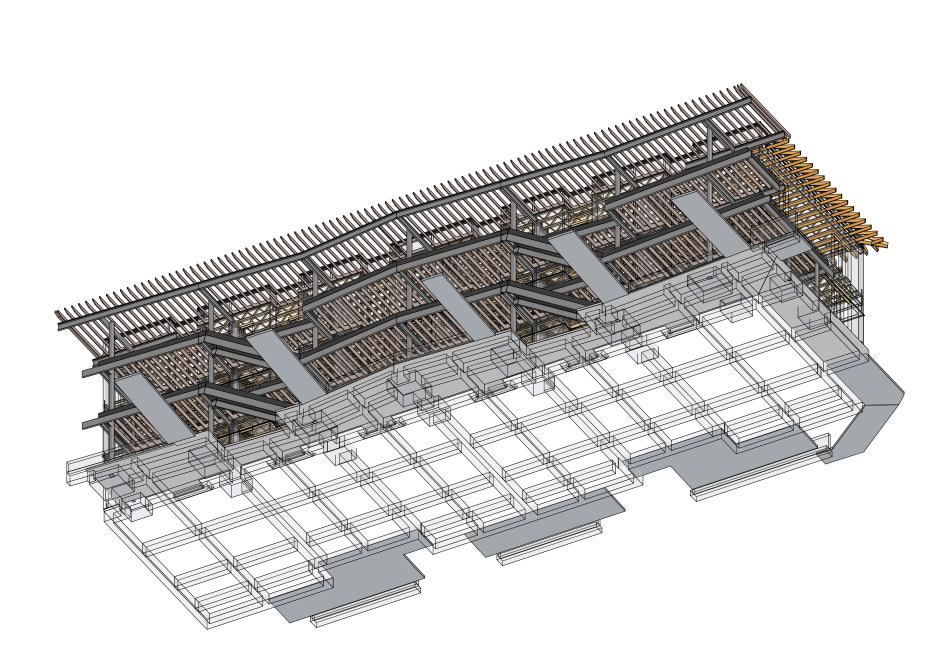


4D STRUCTURAL FOUNDATION - 3D - 1

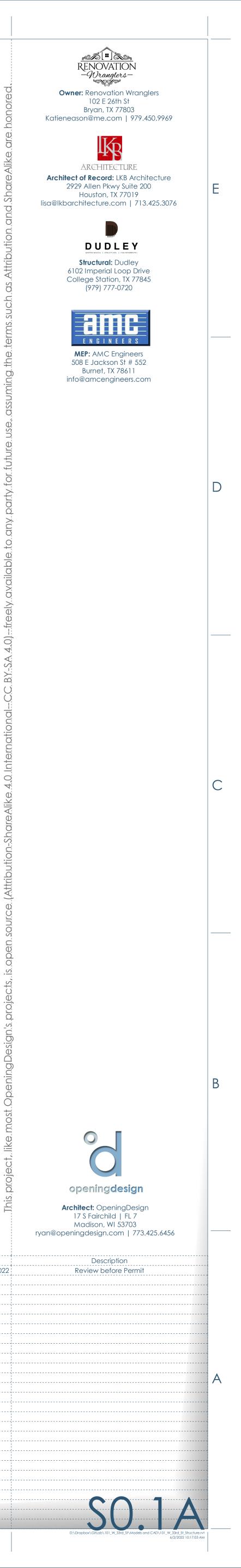


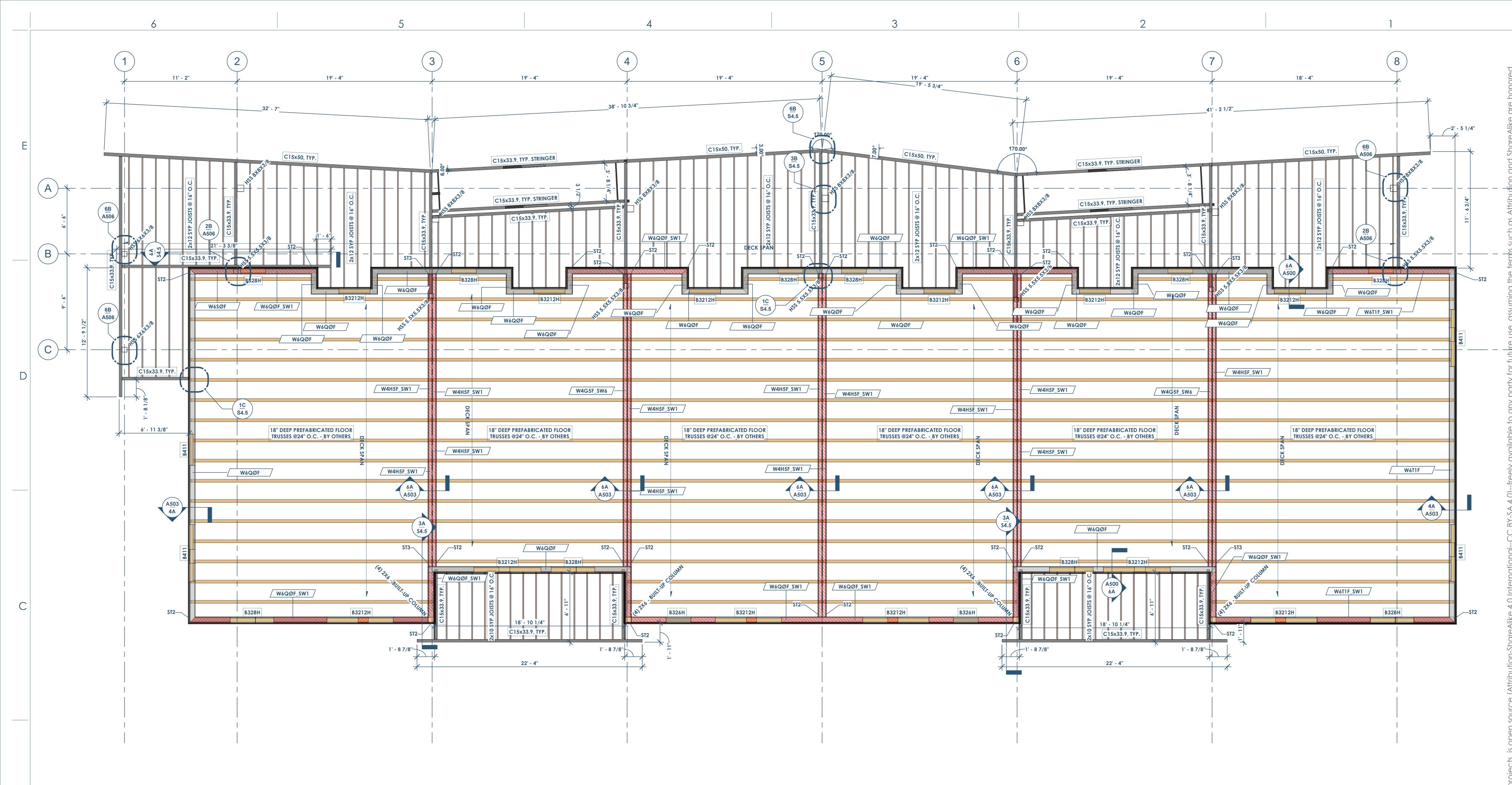
4B STRUCTURAL FOUNDATION - 3D - 2





2B STRUCTURAL FRAMING - 3D - 2





6B FRAMING PLAN - 2ND FLOOR 50.2 1/4" = 1'-0"

	SHEAR WALL SCHEDULE								
SHEAR WALL TYPE	SHEATHING TYPE	PANEL EDGE NAILING	FIELD NAILING	ANCHORAGE	ALLOW SHEAR				
SW1	7/16" WSP	6"	12"	(5/8" Ø @ 40" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 3" OC - AT WOOD)	33				
SW2	7/16" WSP	4"	12"	(5/8" Ø @ 32" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 3" OC - AT WOOD)	4				
SW3	7/16" WSP	3"	12"	(5/8" Ø @24" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 2" OC - AT WOOD)	63				
SW4	15/32" WSP	3"	12"	(5/8" Ø @24" O.C AT CONCRETE) - (0.148" X 3" LONG NAILS @ 2" OC - AT WOOD)	84				
SW5	15/32" WSP	2"	12"	(5/8" Ø @24" O.C AT CONCRETE) - (0.148" X 3" LONG NAILS @ 2" OC - AT WOOD)	99				
SW6	5/8" GYP WALLBOARD	7"	12"	(5/8" Ø @ 48" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 12" OC - AT WOOD)	1				
SW7	5/8" GYP WALLBOARD	4"	12"	(5/8" Ø @ 48" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 12" OC - AT WOOD)	14				

SHEAR WALL NOTES: 1. ALL FASTENERS FOR WOOD STRUCTURAL PANEL SHALL BE FLAT HEAD NAILS CONSISTING OF THE FOLLOWING UNO:

A. 0.131"Ø X 2½" LONG B. 0.148"Ø X 3" LONG

2. FASTENERS FOR GYPSUM WALLBOARD SHALL BE ONE OF THE FOLLOWING: A. 6d COOLER NAILS (0.092" X 1 7/8" LONG, 1/4" HEAD)

B. WALLBOARD NAIL (0.0915" x 1 7/8" LONG, 19/64" HEAD)

C. 0.120" NAIL x 1-3/4" LONG, MIN 3/8" HEAD D. NO.6 TYPE S OR W DRYWALL SCREWS 1-1/4" LONG

3. ANCHORS INTO CONCRETE SHALL EITHER BE CAST-IN-PLACE J-BOLTS OR ADHESIVE ANCHORS WITH A MINIMUM EMBEDMENT OF 8". THE CONTRACTOR SHALL SUBMIT PROPOSED ADHESIVE ANCHOR ASSEMBLY FOR APPROVAL.

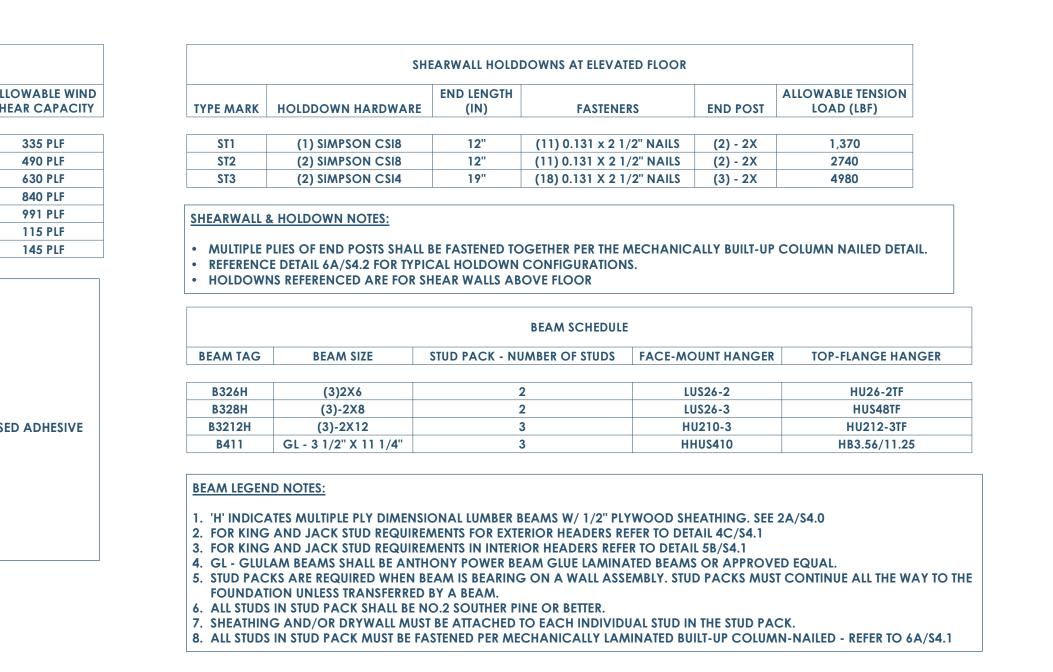
4. ALL PANEL EDGES SHALL BE BLOCKED.

5. WSP = WOOD STRUCTURAL PANEL. REF GENERAL NOTES FOR SPECIFICATIONS. 6. IF WALL IS SHEATHED ON BOTH SIDES, THEN SILL PLATE ANCHORAGE AND CONNECTION OF BOTTOM PLATE TO TOP PLATE SHALL BE DOUBLED.

7. PANELS MUST BE INSTALLED DIRECTLY TO FRAMING. 8. VALUES CALCULATED ARE FOR SOUTHERN PINE OR DOUGLAS-FIR LARCH FRAMING. CONTACT EOR IF OTHER SPECIES ARE USED.

9. PROVIDE 1/8" WIDE JOINTS IN SHEATHING TO ALLOW FOR SHRINKAGE AND EXPANSION OF THE PANELS. **10. SHEAR WALLS REFERENCED ARE FOR SHEAR WALLS BELOW FLOOR**

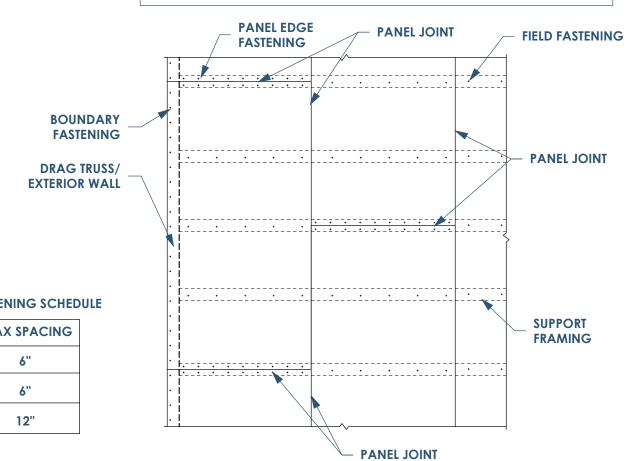
WALL STUD SCHEDULE									
TOP OF WALL	MAX PLATE HT	EXTERIOR WALL	INTERIOR NON-LOAD BEARING	PARTY WALL					
ROOF	8' - 11 5/8"	2X6 NO.2 @ 16" O.C.	2X4 STUD @ 16" O.C.	2X4 STUD @ 16" O.C					
3RD	10' - 8"	2X6 NO.2 @ 16" O.C.	2X4 STUD @ 16" O.C.	2X4 STUD @ 12" O.0					
2ND	10' - 9 5/8"	2X6 NO.2 @ 16" O.C.	2X4 STUD @ 16" O.C.	2X4 STUD @ 8" O.C					



FLOOR DIAPHRAGM FASTENING SCHEDULE LOCATION MAX SPACING BOUNDARY PANEL EDGE / BOUNDARY FIELD

SUBFLOOR NOTES:

- 1. THE SUBFLOOR SHALL BE MIN 3/4" APA RATED TONGUE AND GROOVE OSB STRUCTURAL SHEATHING WITH A FLOOR SPAN RATING OF 24. 2. FASTEN TO FRAMING SHALL CONSIST OF #8x2" LONG WOOD SCREWS.
- ALTERNATIVELY, 0.131x2" NAILS MAY BE USED IF SCREWS ARE ADDED @ 12" O.C. MAX ADDITIONALLY
- 3. THE SUBFLOOR SHALL BE GLUED TO THE SUPPORTING FRAMING WITH POLYURETHANE OR SOLVENT-BASED SUBFLOOR ADHESIVES
- CONFORMING TO APA-AFG-01 OR ASTM D 3498. A. APPLY A 1/4" BEAD OF ADHESIVE TO THE TOP OF SUPPORTING
- MEMBERS. APPLY TWO BEADS WHERE PANELS JOINTS MEET. B. APPLY ONLY ENOUGH ADHESIVE TO LAY ONE OR TWO PANELS AT A
- TIME TO KEEP THE ADHESIVE FROM CURING OR SKINNING. C. FLOOR PLANELS SHALL BE FULLY FASTENED WITHIN 10 MINUTES OF APPLYING ADHESIVE.
- D. EXCESS ADHESIVE SHALL BE REMOVED IMMEDIATELY. 4. PANELS SHALL SPAN ACROSS 3 OR MORE SUPPORTING MEMBERS WITH THE LONG DIMENSION PERPENDICULAR TO THE FLOOR FRAMING. STAGGER END JOINT OF PANEL A MINIMUM OF 2"



TYPICAL WOOD SUBFLOOR / ROOF DECK TO CFS JOISTS

FLOOR PLAN NOTES:

METAL PLATE CONNECTED FLOOR TRUSS FRAMING:

- 1. METAL PLATE CONNECTED FLOOR TRUSS SHALL BE 18" DEEP AND SPACED AT 24" OC MAX UNLESS NOTED OTHERWISE. LOADING CRITERIA SHALL BE AS FOLLOWS:
- TOP CHORD LIVE LOAD (TCLL): 40 PSF • TOP CHORD DEAD LOAD (TCDL): 10 PSF
- BOTTOM CHORD LIVE LOAD (BCLL): 10 PSF (NON-CONCURRENT WITH TCLL) • BOTTOM CHORD DEAD LOAD (BCDL): 5 PSF
- NON-LOAD BEARING WALL ABOVE: 100 PLF DL LOAD-BEARING WALL ABOVE: SEE PLAN
- 2. TRUSS DEFLECTION LIMITS: TRUSSES SHALL BE LIMITED TO THE FOLLOWING DEFLECTION LIMITS:
- RATIO : LIVE LOAD (L/360) TOTAL LOAD (L/240) • MAXIMUM: 1/2"
- 3. CAMBER SHALL BE BUILT INTO FLOOR TRUSSES TO COMPENSATE FOR
- VERTICAL DEAD LOAD DEFLECTION • FLOOR TRUSS: 0.85 X DEFLECTION FROM ACTUAL DEAD LOAD.

4. THE TRUSS LAYOUT SHOWN ON THIS DRAWING REPRESENTS DIRECTION OF TRUSS SPAN ONLY. THE DRAWINGS SHALL NOT BE USED FOR PLACEMENT OF TRUSSES. REFER TO APPROVED TRUSS MFRS. DRAWINGS FOR PLACEMENT, DIMENSIONS, BRACING, AND CONNECTIONS.

Date

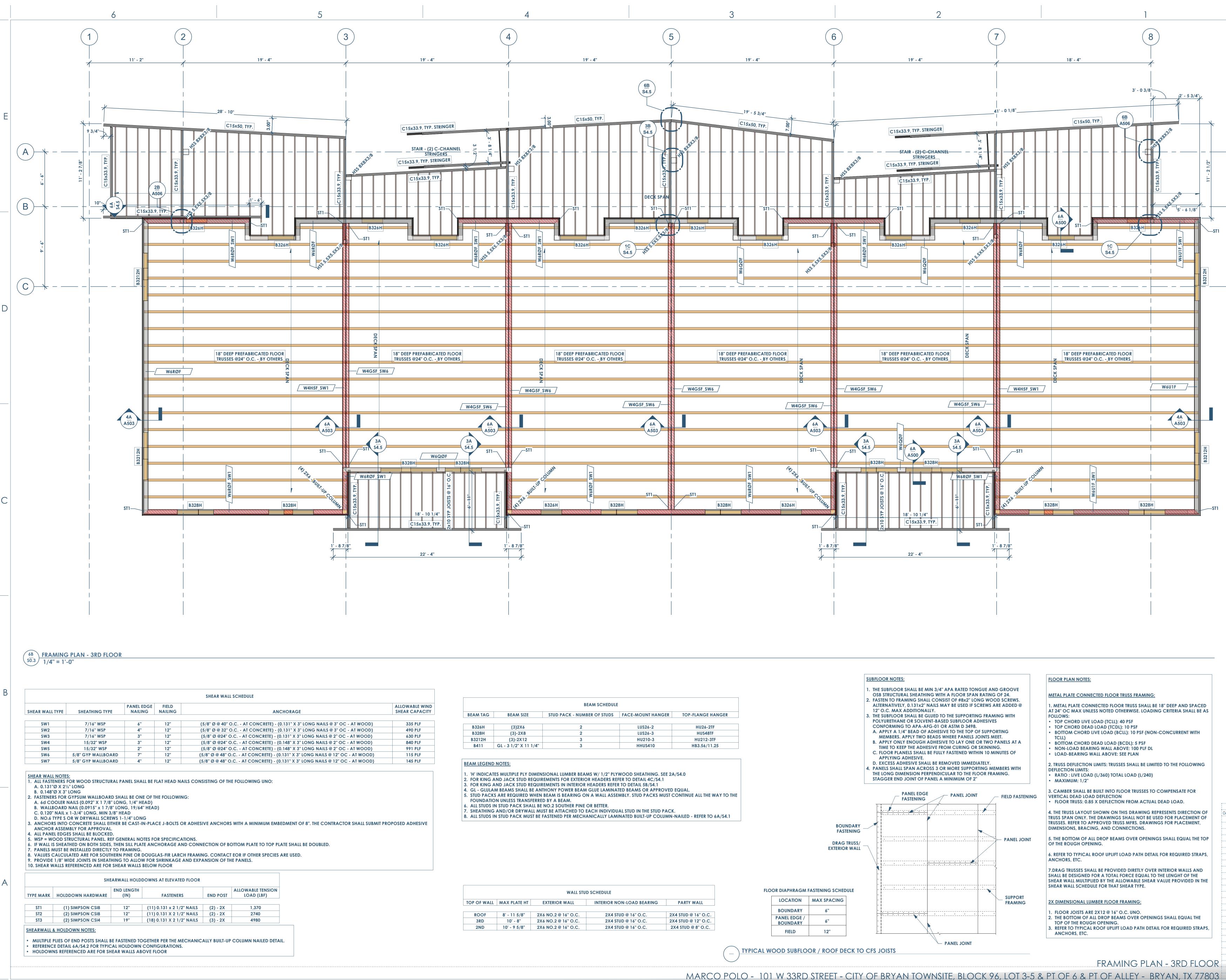
5. THE BOTTOM OF ALL DROP BEAMS OVER OPENINGS SHALL EQUAL THE TOP OF THE ROUGH OPENING.

6. REFER TO TYPICAL ROOF UPLIFT LOAD PATH DETAIL FOR REQUIRED STRAPS, ANCHORS, ETC.

7.DRAG TRUSSES SHALL BE PROVIDED DIRETLY OVER INTERIOR WALLS AND SHALL BE DESIGNED FOR A TOTAL FORCE EQUAL TO THE LENGHT OF THE SHEAR WALL MULTIPLIED BY THE ALLOWABLE SHEAR VALUE PROVIDED IN THE SHEAR WALL SCHEDULE FOR THAT SHEAR TYPE.

- **2X DIMENSIONAL LUMBER FLOOR FRAMING:**
- 1. FLOOR JOISTS ARE 2X12 @ 16" O.C. UNO. 2. THE BOTTOM OF ALL DROP BEAMS OVER OPENINGS SHALL EQUAL THE
- TOP OF THE ROUGH OPENING. 3. REFER TO TYPICAL ROOF UPLIFT LOAD PATH DETAIL FOR REQUIRED STRAPS, ANCHORS, ETC.

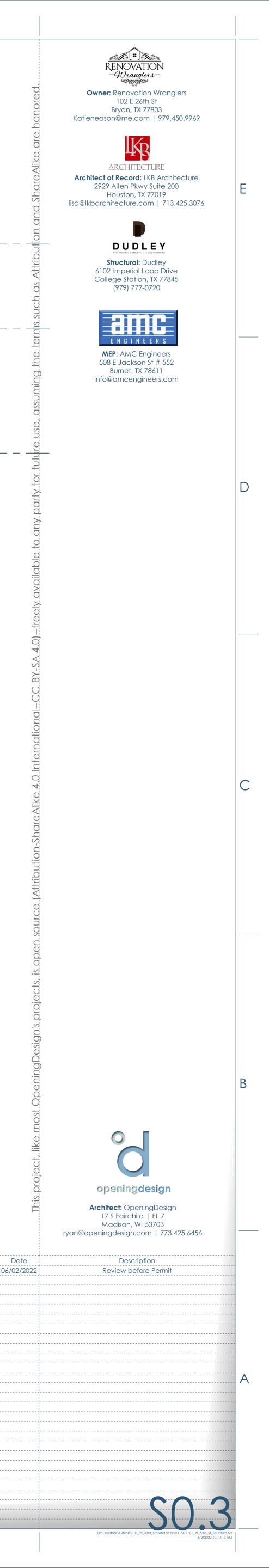


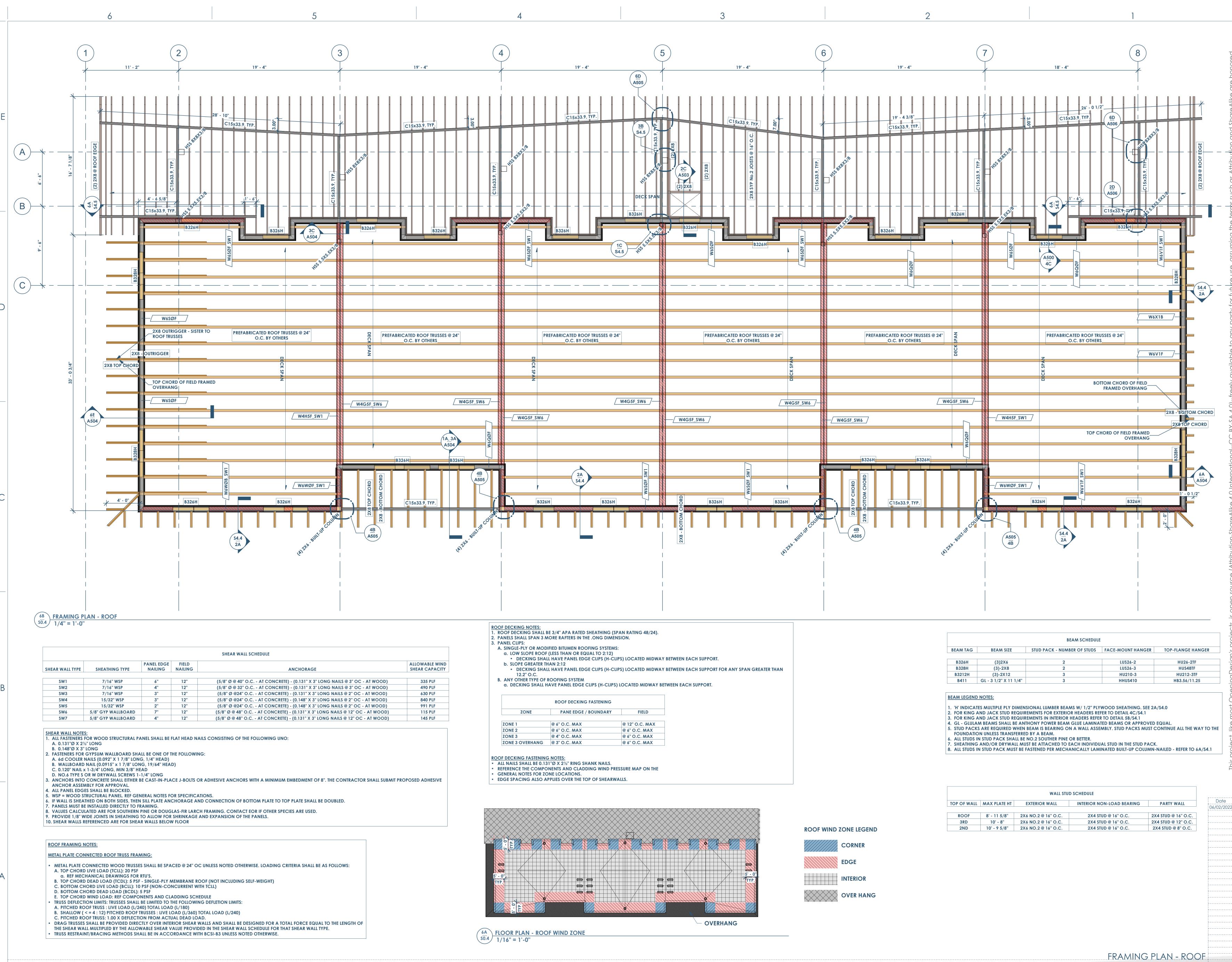


	BEAM SCHEDULE									
BEAM TAG	BEAM SIZE	STUD PACK - NUMBER OF STUDS	FACE-MOUNT HANGER	TOP-FLANGE						
B326H	(3)2X6	2	LUS26-2	HU26-2						
B328H	(3)-2X8	2	LUS26-3	HUS48						
B3212H	(3)-2X12	3	HU210-3	HU212-3						
B411	GL - 3 1/2" X 11 1/4"	3	HHUS410	HB3.56/1						

WALL STUD SCHEDULE								
TOP OF WALL	MAX PLATE HT	EXTERIOR WALL	INTERIOR NON-LOAD BEARING	PARTY WALL				
ROOF	8' - 11 5/8"	2X6 NO.2 @ 16" O.C.	2X4 STUD @ 16" O.C.	2X4 STUD @ 16" O.C.				
3RD	10' - 8"	2X6 NO.2 @ 16" O.C.	2X4 STUD @ 16" O.C.	2X4 STUD @ 12" O.C.				
2ND	10' - 9 5/8"	2X6 NO.2 @ 16" O.C.	2X4 STUD @ 16" O.C.	2X4 STUD @ 8" O.C.				

LOCATION	MAX SP
BOUNDARY	6"
PANEL EDGE / BOUNDARY	6"
FIELD	12

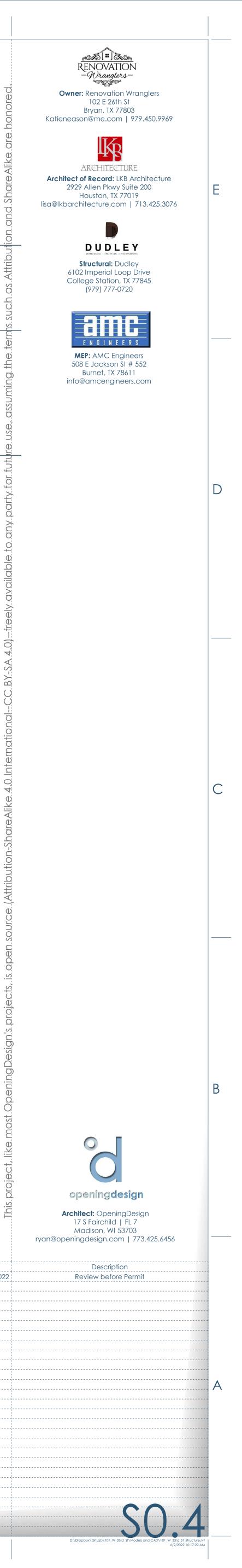


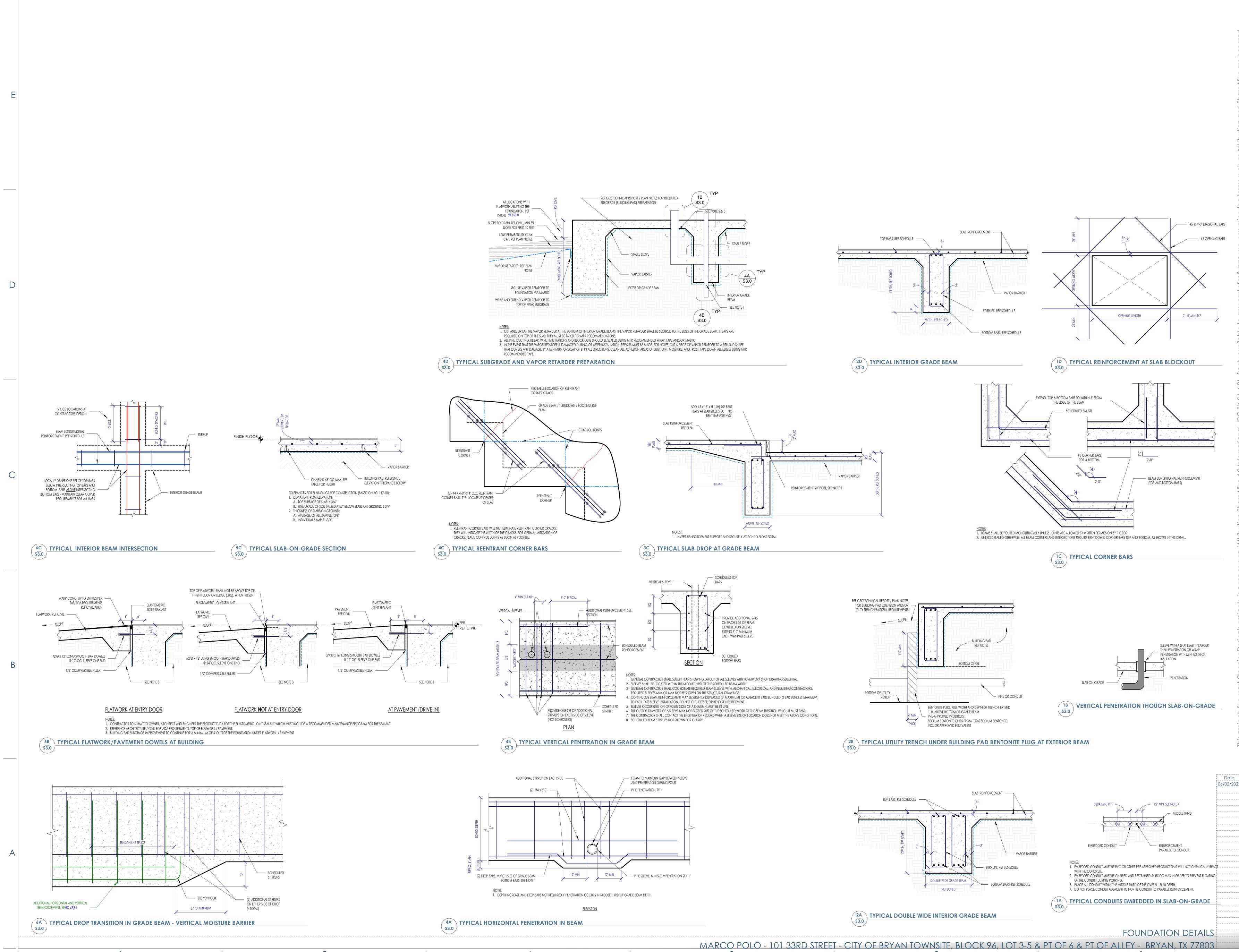


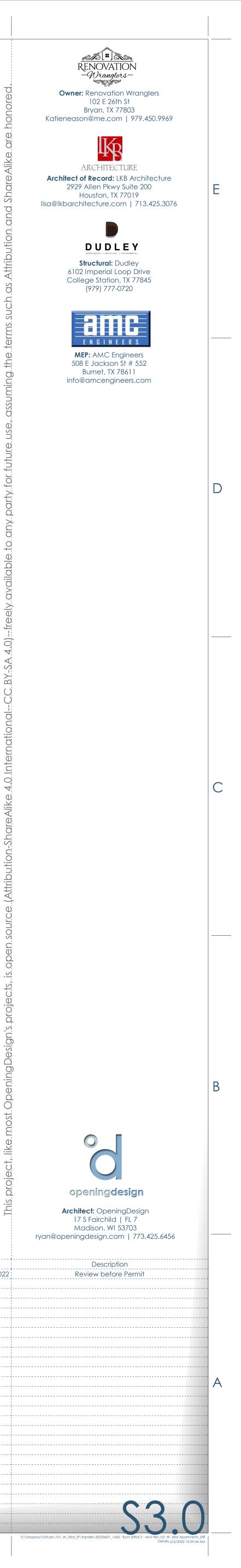
	SHEAR WALL SCHEDULE									
SHEAR WALL TYPE	SHEATHING TYPE	PANEL EDGE NAILING	FIELD NAILING	ANCHORAGE						
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SW2	7/16" WSP	4"	12"	(5/8" Ø @ 32" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 3" OC - AT WOOD)						
SW3	7/16" WSP	3"	12"	(5/8" Ø @24" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 2" OC - AT WOOD)						
SW4	15/32" WSP	3"	12"	(5/8" Ø @24" O.C AT CONCRETE) - (0.148" X 3" LONG NAILS @ 2" OC - AT WOOD)						
SW5	15/32" WSP	2"	12"	(5/8" Ø @24" O.C AT CONCRETE) - (0.148" X 3" LONG NAILS @ 2" OC - AT WOOD)						
SW6	5/8" GYP WALLBOARD	7"	12"	(5/8" Ø @ 48" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 12" OC - AT WOOD)						
SW7	5/8" GYP WALLBOARD	4"	12"	(5/8" Ø @ 48" O.C AT CONCRETE) - (0.131" X 3" LONG NAILS @ 12" OC - AT WOOD)						

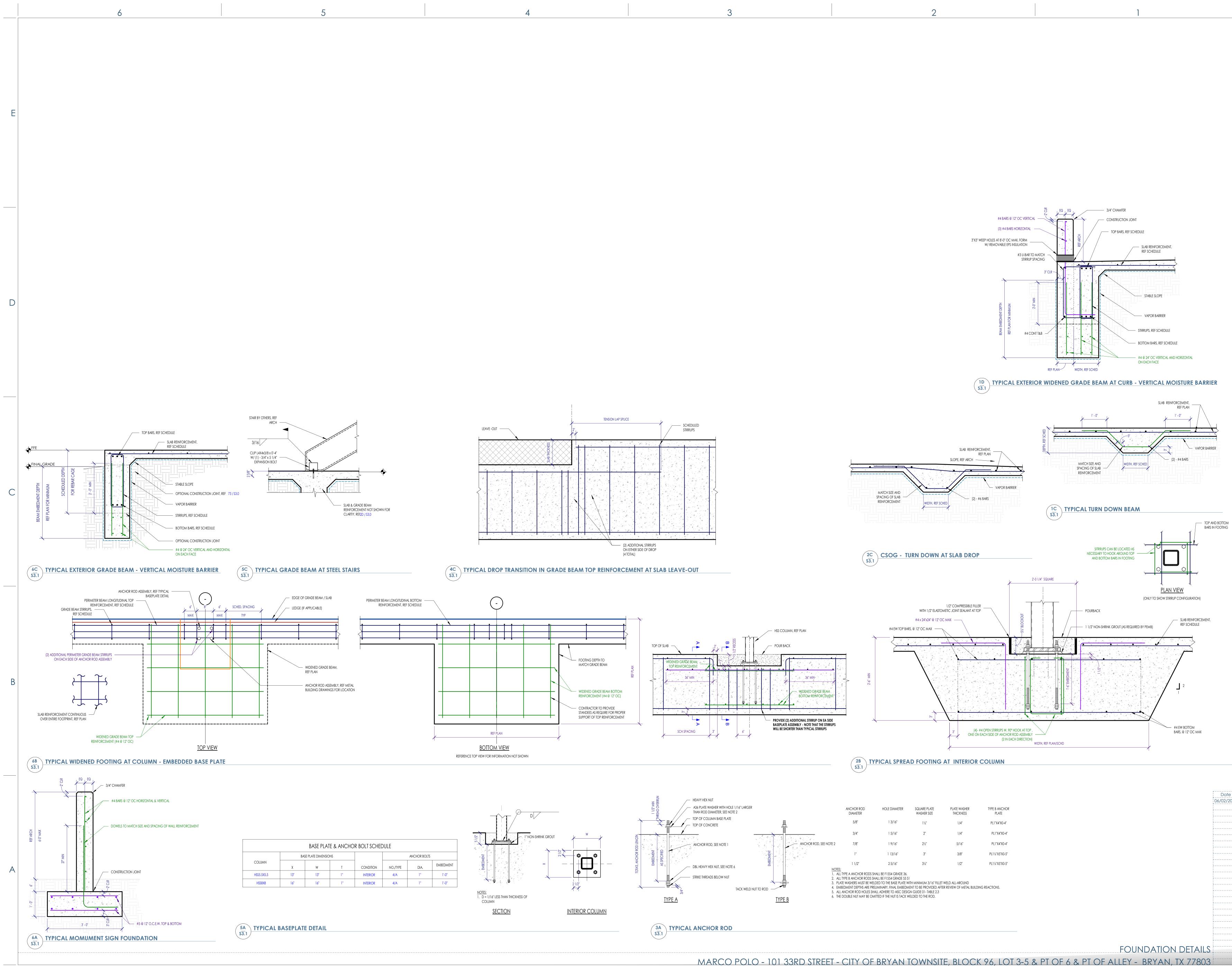
	BEAM SCHEDULE									
BEAM TAG	BEAM SIZE	STUD PACK - NUMBER OF STUDS	FACE-MOUNT HANGER	TOP-FLANGE HANGER						
B326H	(3)2X6	2	LUS26-2	HU26-2TF						
B328H	(3)-2X8	2	LUS26-3	HUS48TF						
B3212H	(3)-2X12	3	HU210-3	HU212-3TF						
B411	GL - 3 1/2" X 11 1/4"	3	HHUS410	HB3.56/11.25						

WALL STUD SCHEDULE								
TOP OF WALL	MAX PLATE HT	EXTERIOR WALL	INTERIOR NON-LOAD BEARING	PARTY WALL				
ROOF	8' - 11 5/8"	2X6 NO.2 @ 16" O.C.	2X4 STUD @ 16" O.C.	2X4 STUD @ 16" O.C.				
3RD	10' - 8"	2X6 NO.2 @ 16" O.C.	2X4 STUD @ 16" O.C.	2X4 STUD @ 12" O.C.				

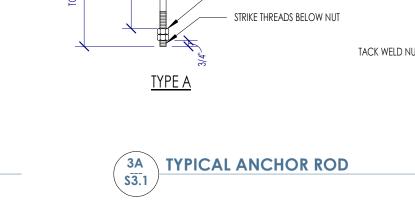




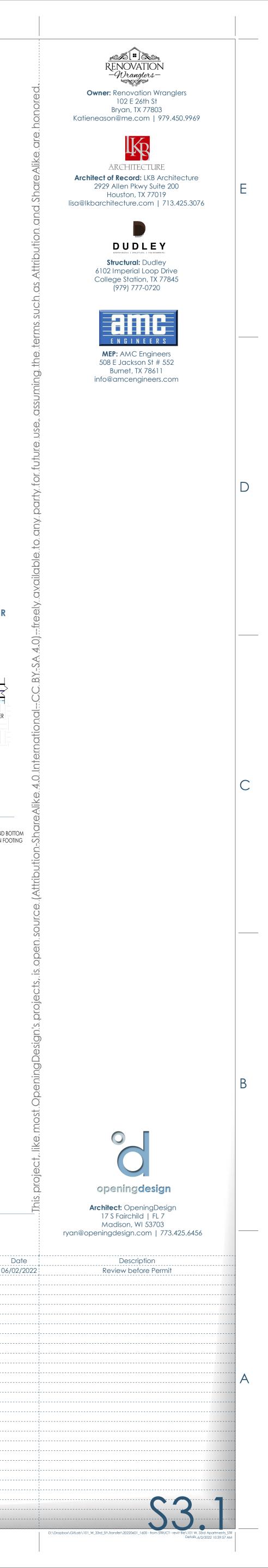




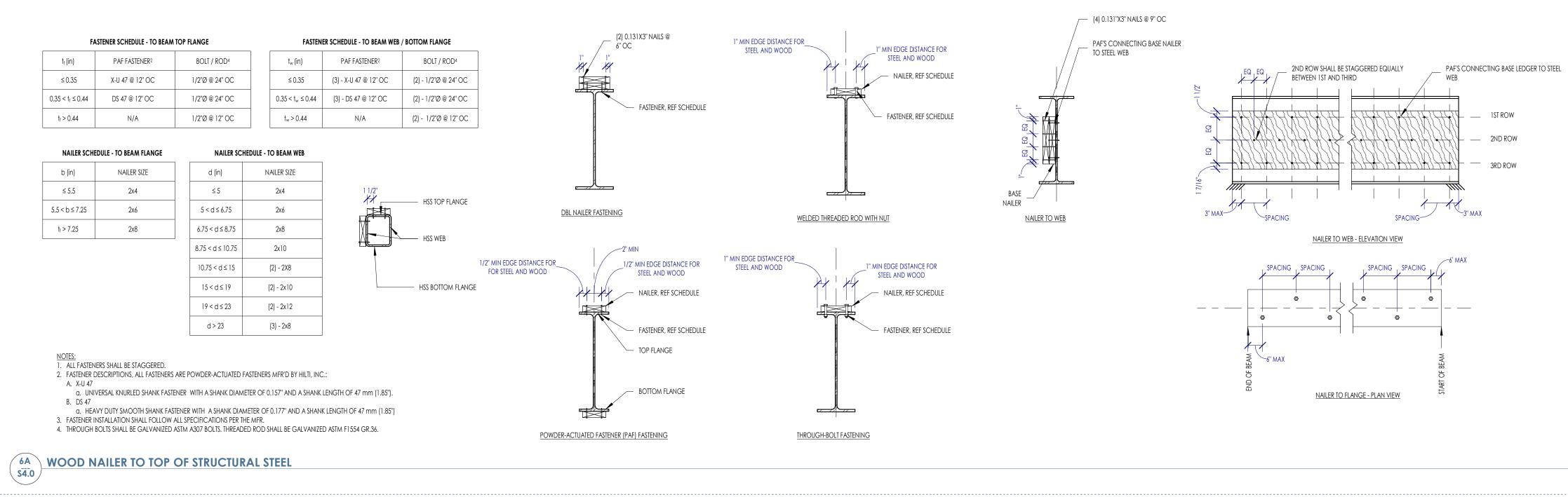


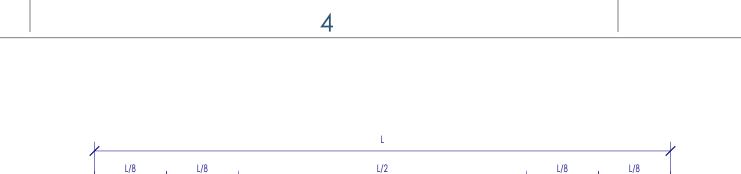


	DIAMETER	HOLE DIAMETER	WASHER SIZE	THICKNESS	PLATE
	5/8"	1 3/16"	11/2"	1/4"	PL1"X4"X0-4"
	3/4"	1 5/16"	2"	1/4"	PL1"X4"X0-4"
NOTE 2	7/8"	1 9/16"	21/2"	5/16"	PL1"X4"X0-4"
]"	1 13/16"	3"	3/8"	PL11/2"X5"X0-5"
NOTES	1 1/2"	2 5/16"	31/2"	1/2"	PL1½"X5"X0-5"

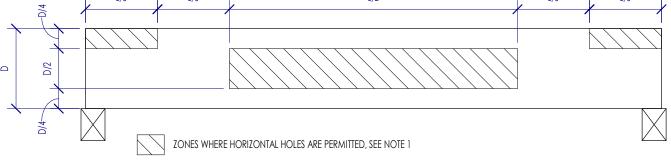


A CONTRACTOR OF A CONTRACT OF		ASTENING SCHEDULE	F 1 AVP
	JOIST TO SILL OR GIRDER	FASTENING (3) - 0.131"Ø X 3"	FASTENING ORIENTATION
2	SOLE PLATE TO JOIST OR BLOCKING	0.148"Ø X 31/4" NAILS @ 12" OC NAILS	FACE NAIL
3	TOP PLATE TO STUD	(3) - 0.131"Ø X 3" NAILS	END NAL
4	STUD TO SOLE PLATE - OPTION 1	(2) - 16d COMMON (3) - 0.131"Ø X 3" NAILS	END NAIL
5	STUD TO SOLE PLATE - OPTION 2	(4) 0.131"Ø X 3" NAILS	TOENAIL
6	DOUBLE/MULTIPLE STUDS	REFERENCE DETAIL 6A / S4.1	FACE NAIL
7	DOUBLE TOP PLATES	0.131"Ø X 3" NAILS @ 12" OC	FACE NAIL
8	DOUBLE TOP PLATE SPLICE	REFERENCE DETAIL 3A / \$4.1	FACE NAIL
9	BLOCKING BETWEEN JOISTS/RAFTERS TO TOP PLATE	(3) - 0.131"Ø X 3" NAILS	TOENAIL
10	RIM JOIST TO TOP PLATE	0.131"Ø X 3" NAILS @ 6" OC	TOENAIL
11	CEILING JOIST TO TOP PLATE	(5) - 0.131"Ø X 3" NAILS	TOENAIL FACE NAIL
12	CEILING JOIST LAP OVER PARTITIONS CEILING JOIST TO PARALLEL RAFTERS	(4) - 0.131"Ø X 3" NAILS (4) - 0.131"Ø X 3" NAILS	FACE NAIL
14	RAFTER TO TOP PLATE	(3) - 0.131"Ø X 3" NAILS	TOENAIL
15	BUILT-UP CORNER STUDS	0.131"Ø X 3" NAILS @ 16" OC	FACE NAIL
16	BUILT-UP BEAMS	REFERENCE DETAIL 2A / \$4.0	FACE NAIL
17	COLLAR TIE TO RAFTER	(4) - 0.131"Ø X 3" NAILS	FACE NAIL
18	JACK RAFTER TO HIP	(4) - 0.131"Ø X 3" NAILS	TOENAIL
19	RAFTER TO RIDGE BOARD/BEAM	(3) - 0.131"Ø X 3" NAILS	TOENAL
20	BLOCKING B/T STUDS	(3) - 0.131"Ø X 3" NAILS EACH SIDE	TOENAIL
1/4 JOIST E	DEPTH, MAX		
1/4 JOIST E	DEPTH, MAX	NOTCHING AND BORING ONL' OUTER THIRDS OF SPAN FLOOR JOIST	
	Vé JOST DEPTH, MAX	OUTER THIRDS OF SPAN FLOOR JOIST	
	Vé JOST DEPTH, MAX	OUTER THIRDS OF SPAN FLOOR JOIST	I DEPTH, MAX
	Vé JOST DEPTH, MAX	OUTER THIRDS OF SPAN FLOOR JOIST	I DEPTH, MAX
	Vé JOST DEPTH, MAX	OUTER THIRDS OF SPAN FLOOR JOIST	I DEPTH, MAX
	Vé JOST DEPTH, MAX	OUTER THIRDS OF SPAN FLOOR JOIST 1/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	Vé JOST DEPTH, MAX	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	DEPTH, MAX
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	DEPTH, MAX
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	DEPTH, MAX
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD
OUT	TRE THIRD	OUTER THIRDS OF SPAN FLOOR JOIST I/3 JOIST	I DEPTH, MAX OUTER THIRD



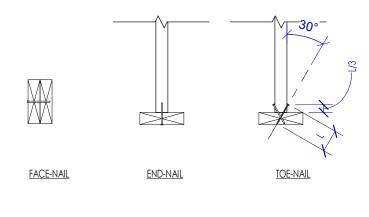


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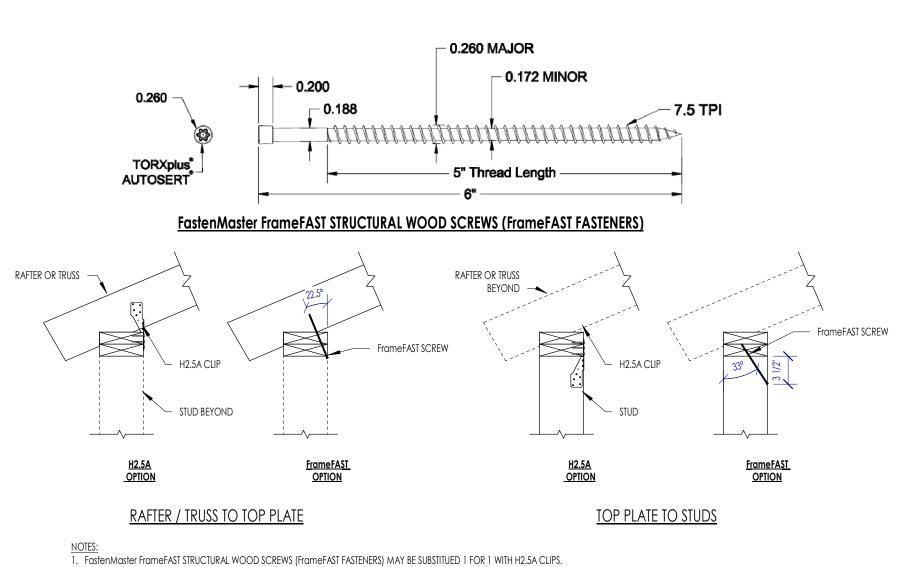


NOTES: 1. HOLE SIZE: THE HOLE DIAMETER SHALL NOT EXCEED 1½" OR D/10, WHICHEVER IS SMALLEST. <u>VARIANCE:</u> FOR LARGER HOLE DIAMETERS' OR FOR HOLES OUTSIDE OF THE PERMITTED ZONES, WRITTEN PERMISSION MUST BE OBTAINED FROM THE EOR.
 <u>LIMITATIONS:</u> THE ABOVE CRITERIA ONLY APPLY TO SIMPLY-SUPPORTED, UNIFORMLY LOADED GLUE LAMINATED BEAMS. FOR BEAMS THAT ARE EITHER CONTINUOUS ACROSS MULTIPLE SPANS OR THAT ARE SUPPORTING NON-UNIFORM LOADS, WRITTEN PERMISSION MUST BE OBTAINED FROM THE EOR.



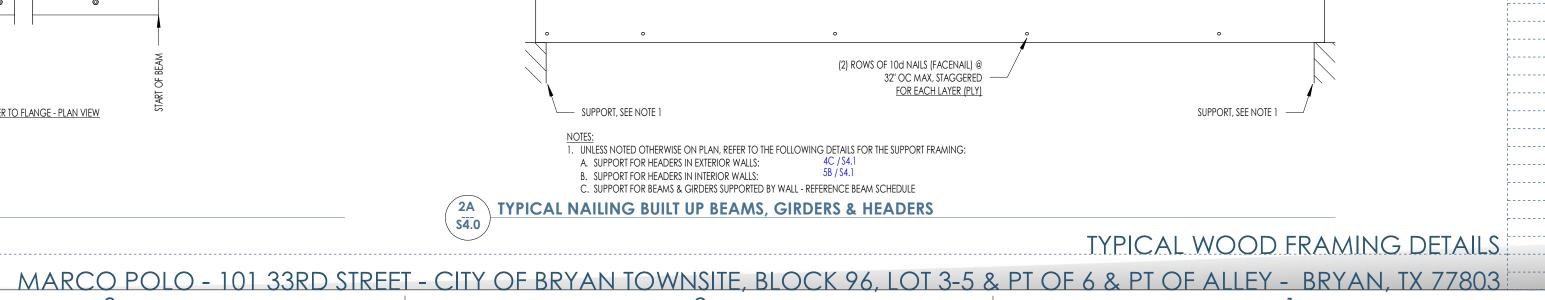


4D TYPICAL NAILING CONFIGURATIONS





S4.0

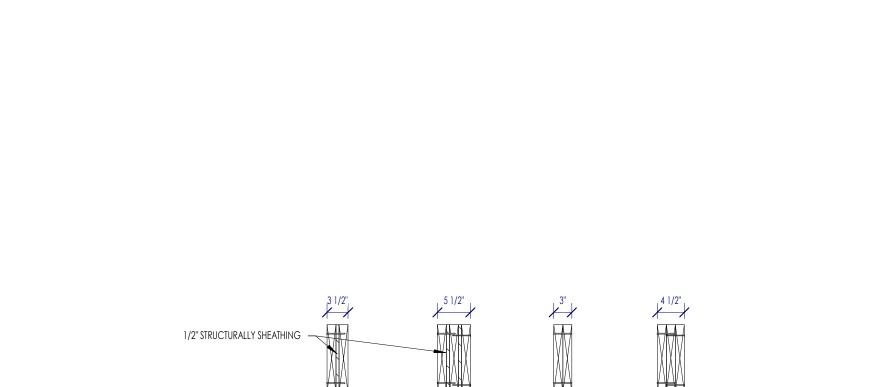


3-PLY BEAM

(2) 10d NAILS (FACENAIL) AT ENDS AND LAYER (PLY) SPLICES

0

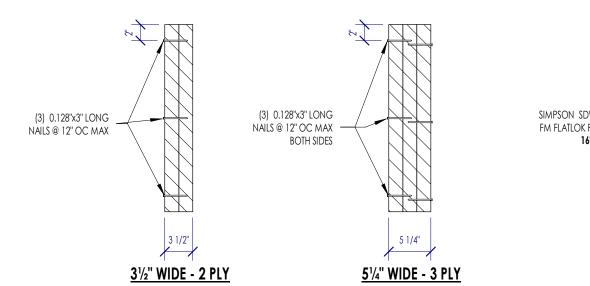
2-PLY BEAM



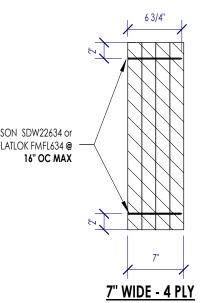
2-PLY HEADER (H) 3-PLY HEADER (H)

32" MAX

2C TYPICAL LVL MULTIPLE PLY FASTENING REQUIREMENTS S4.0



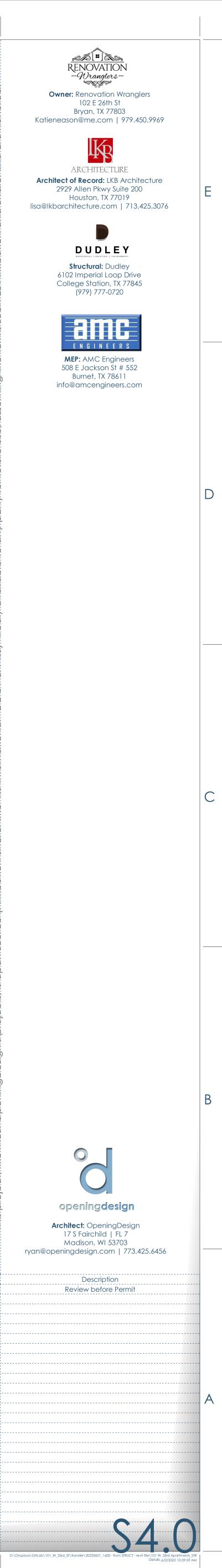
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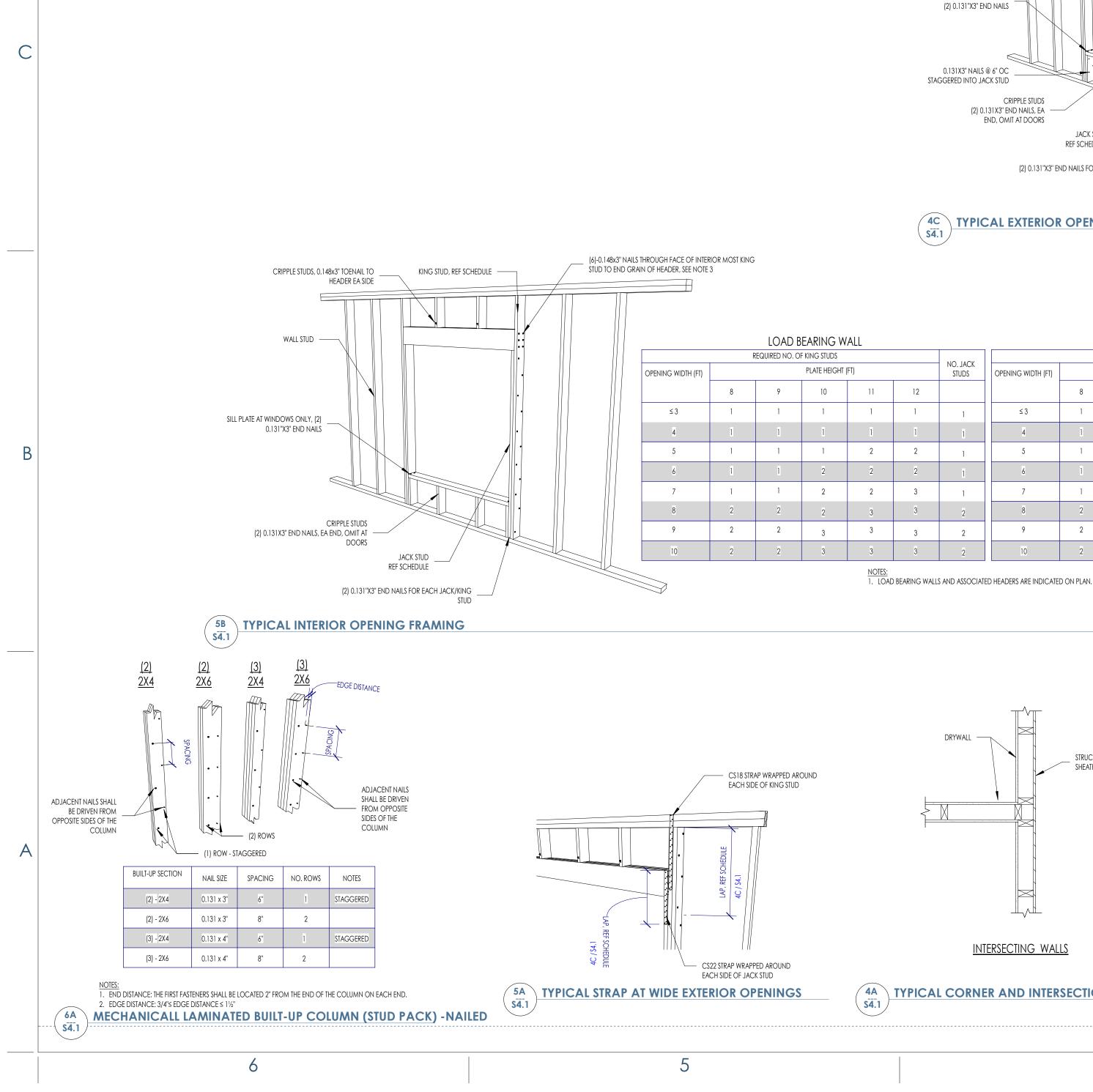


SIMPSON SDW22634 or FM FLATLOK FMFL634 @ ----

- <u>----</u>------

Date 06/02/2022





4A S4.1 TYPICAL CORNER AND INTERSECTION WALL STUDS (NOT AT SHEAR WALL)





NO. JACK

12

3

3

STUDS OPENING WIDTH (FT)

≤ 3

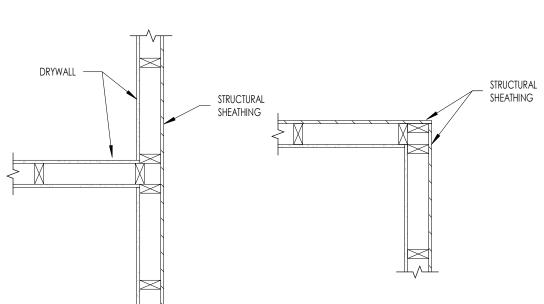
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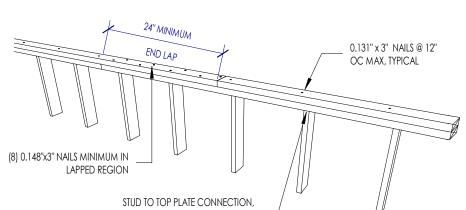
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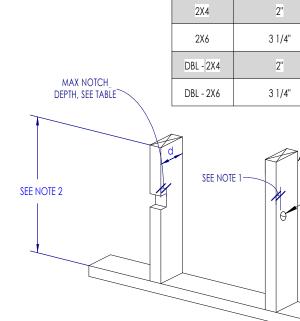
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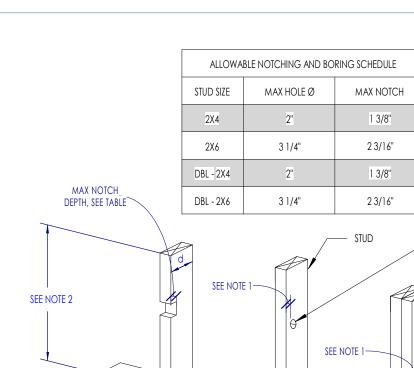
7

9









NOTE

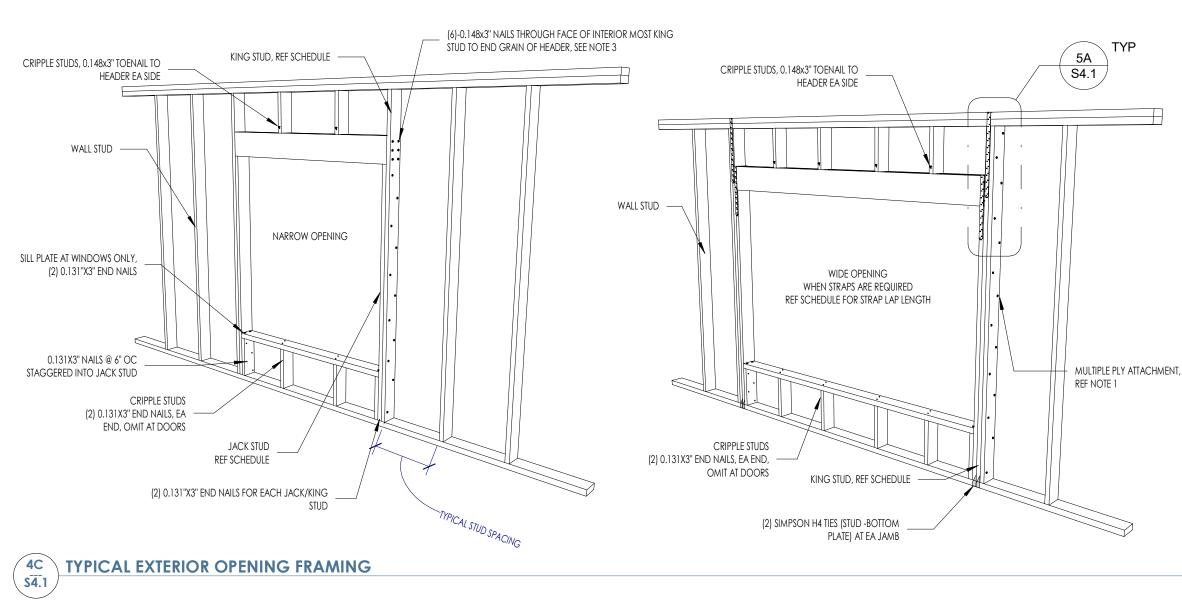
1 3/8"

2 3/16"

1 3/8"

2 3/16"

_____ STUE



NO. JACK

STUDS

1

HEADER SIZE

2X4 STUD 2X6 STUD WALL WALL

326H

226H

NON-LOAD BEARING WALL

2

2 3

3

3

PLATE HEIGHT (FT)

10

1

2

3

REQUIRED NO. OF KING STUDS

9

2

226H 226H 226H 226H 2210H 2210H 2210H	326H 326H 326H 326H 326H 326H 3210H 3210H 3210H 3210H 3210H 3210H 3210H 3210H NOTES: 1. MIN 5/8" CLEAR EDGE DISTANCE 2. NOTCHES IN EITHER SIDE OF A STUD SHALL NOT BE LOCATED WITHIN THE MIDE 3. NOTCHES AND BORINGS SHALL NOT OCCUR IN THE SAME CROSS SECTION.	DBL STUD, REF MECHANICALLY LAMINATED BUILT-UP COLUMN DETAIL FOR FASTENING OF PLIES	NOTES: 1. MIN 5/8" CLEAR EDGE DISTANCE 2. NOTCHES IN ETHER SIDE OF A STUD SHALL NOT BE LOCATED WITHIN THE MIDDLE THIRD OF THE STUD LENGTH. 3. NOTCHES AND BORINGS SHALL NOT OCCUR IN THE SAME CROSS SECTION.
	2B ALLOWABLE STUD NOTCHING AND BORI \$4.1 \$4.1	NG IN INTERIOR NON-LOAD BEARING WALLS	1B ALLOWABLE STUD NOTCHING AND BORING IN EXTERIOR & LOAD BEARING WALLS 54.1
	B) 0.148'x3'' NAILS @ 12'' CC MAX, TYPICAL (B) 0.148'x3'' NAILS MINIMUM IN LAPPED REGION STUD TO TOP PLATE CONNECTION, REFER TO CONNECTION ID 3 OF TYPICAL FASTENING SCHEDULE	AB" OC ICASE 11, 60" UC	S BOARD
- (3A S4.1	TYPICAL LOAD BEARING / SHEAR WALL DOUBLE TOP PLATE SPLIC	E (2A) S4.1 TYPICAL BOTTOM PLATE ANCHORAGE	TYPICAL WOOD FRAMING WALL DETAILS
	MARCO POLO - 101 33RD STREE 3	T - CITY OF BRYAN TOWNSITE, BLC 2	OCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY - BRYAN, TX 77803

	2X4 STUD WALL										2X6 STUD V	WALL			
	R	EQUIRED NO. OI	F KING STUDS			NO. JACK	STRAP			REQUIRED NO. O	F KING STUDS			NO. JACK	STRAP
OPENING WIDTH (FT)			PLATE HEIGH	HT (FT)		STUDS	LAP LENGTH4	OPENING WIDTH (FT)			PLATE HEIG	HT (FT)		STUDS	LAP4
	8	9	10	11	12		(IN)		8	9	10	11	12		(IN)
≤ 3	1	1	1	2	2	1	N/R	≤ 3	1	1	1	1	1	1	N/R
4	1	1	2	2	2	1	N/R	4	1	1	1	1	1	1	N/R
5	2	2	2	3	3	1	N/R	5	1	1	1	1	2	1	N/R
6	2	2	3	3	3	1	N/R	6	1	1	1	2	2	1	N/R
7	2	2	3	3	4X6	1	N/R	7	1	1	2	2	2	1	N/R
8	3	3	3	4X6	4X6	2	8	8	1	1	2	2	2	2	8
9	3	3	4X6	4X6	4X6	2	8	9	1	2	2	2	2	2	8

MAX NOTCH DEPTH, SEE TABLE

SEE NOTE 2

			2X4 STUD V	VALL			
REQUIRED NO. OF KING STUDS							
OPENING WIDTH (FT)				NO. JACK STUDS	STRAP LAP LENGTH4		
	8	9	10	11	12		(IN)
≤ 3	1	1	1	2	2	1	N/R
4	1	1	2	2	2	1	N/R
5	2	2	2	3	3	1	N/R
6	2	2	3	3	3	1	N/R
7	2	2	3	3	4X6	1	N/R
8	3	3	3	4X6	4X6	2	8

MULTIPLE PLIES MUST BE ATTACHED PER THE MECHANICALLY LAMINATED BUILT-UP COLUMN_NAILED DETAIL.
 TABLE IS BASED OFF A HORIZONTAL WIND PRESSURE OF 20 PSF AND GRAVITY LOADING OF 200 PLF.

3. NAILS MUST BE CENTERED ON THE INDIVIDUAL PLIES OF THE HEADER.

MAX HOLE DIAMETER,

SEE SCHEDULE

3 4X6 4X6 4X6 2 8

4. N/R = NOT REQUIRED. IF N/R, THEN REFERENCE NARROW OPENING DIAGRAM FOR CONNECTION REQUIREMENTS, OTHERWISE REFERENCE THE WIDE OPENING DIAGRAM.

			2X6 STUD V	VALL			
	REQUIRED NO. OF KING STUDS						
OPENING WIDTH (FT)			NO. JACK STUDS	STRAP LAP4			
	8	9	10	11	12		(IN)
≤ 3	1	1	1	1	1	1	N/R
4	1	1	1	1	1	1	N/R
5	1	1	1	1	2	1	N/R
6	1	ī	1	2	2	1	N/R
7	1	1	2	2	2	1	N/R
8	1	1	2	2	2	2	8
9	1	2	2	2	2	2	8
10	1	2	2	2	3	2	8

ALLOWABLE NOTCHING AND BORING SCHEDULE

STUD SIZE MAX HOLE Ø MAX NOTCH

7/8"

7/8"

1 3/8"

1 3/8"

MAX HOLE DIAMETER, SEE

SCHEDULE

2X4 1 3/8"

2X6 2 3/16"

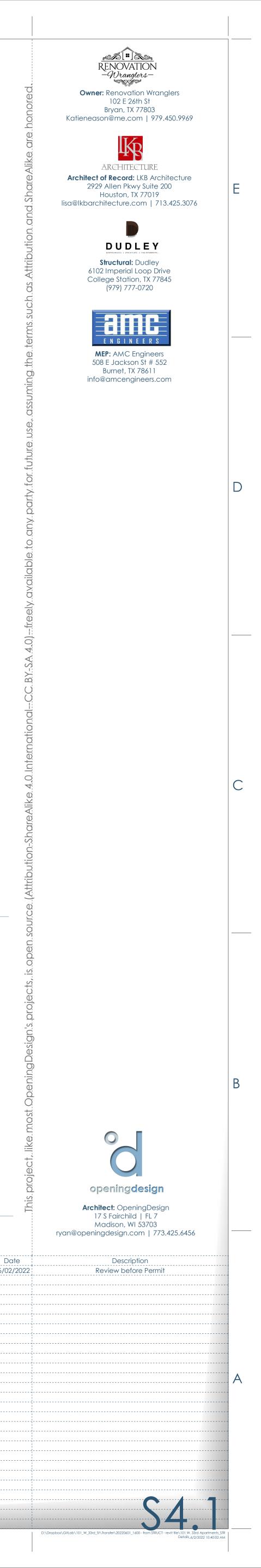
DBL - 2X4 2"

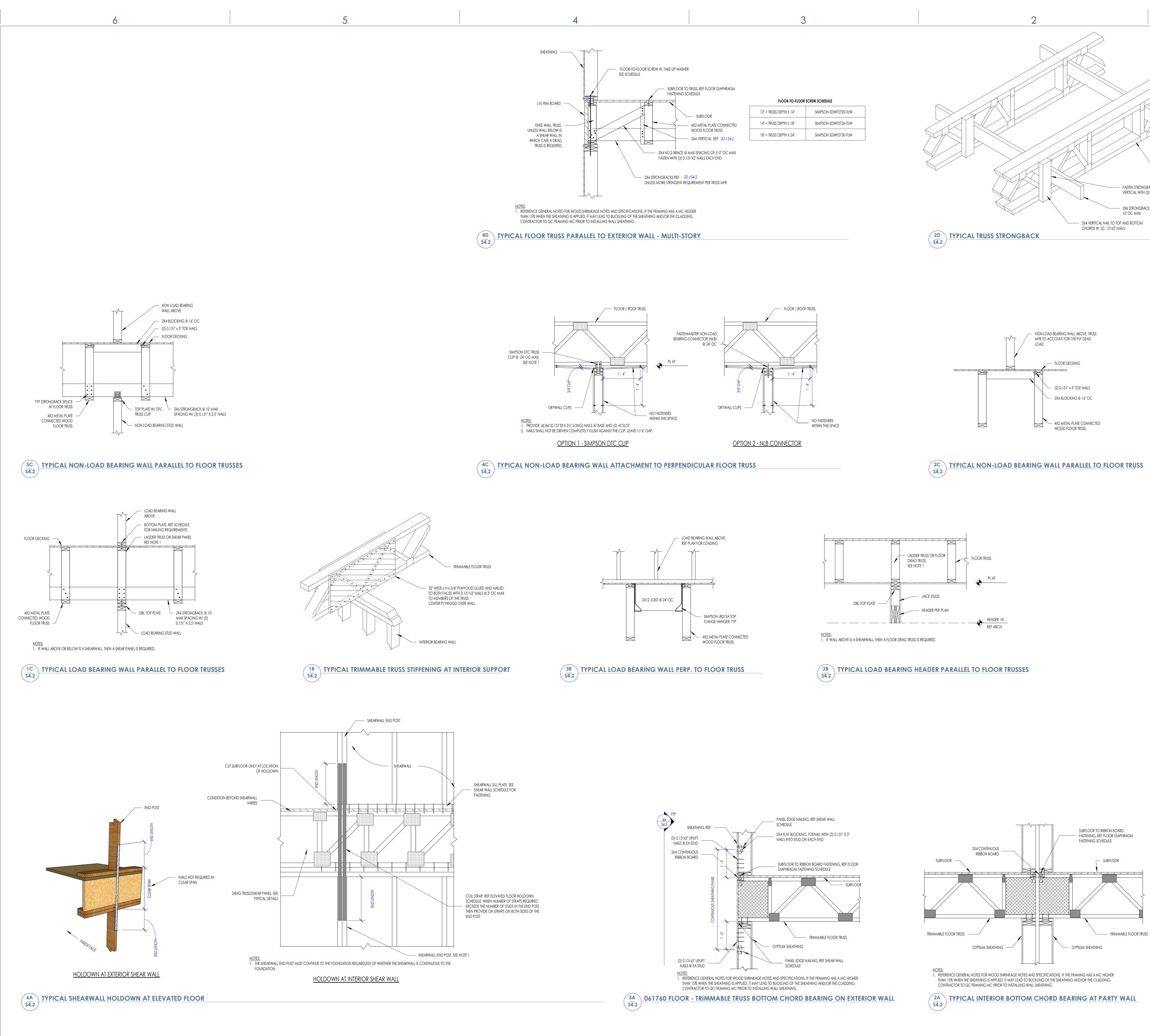
DBL - 2X6 3 1/4"

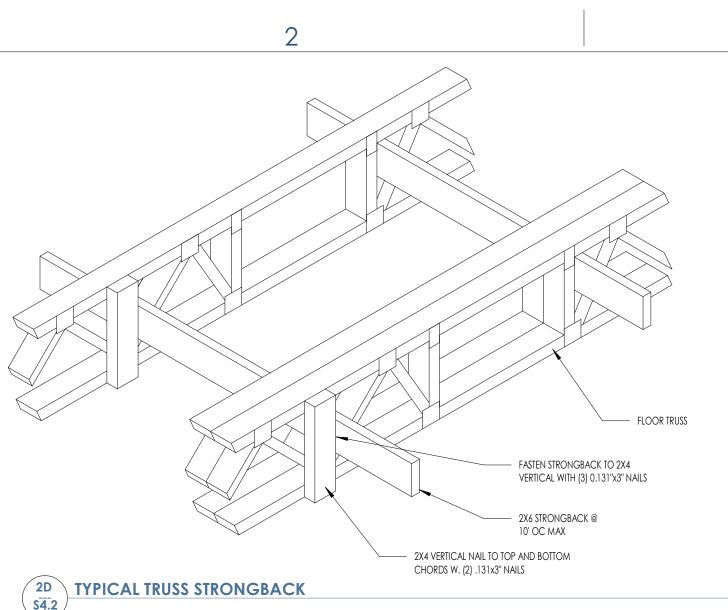
SEE NOTE 1-

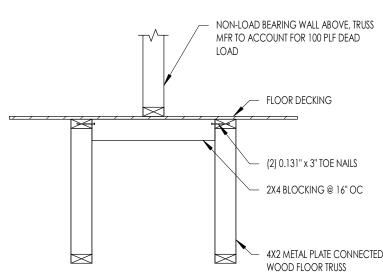
	2X4 STUD V	VALL				
) NO. OI	f king studs				STDAD	
PLATE HEIGHT (FT)				NO. JACK STUDS	STRAP LAP LENGTH4	OPENING WIE
`	10	.,	10		(IN)	

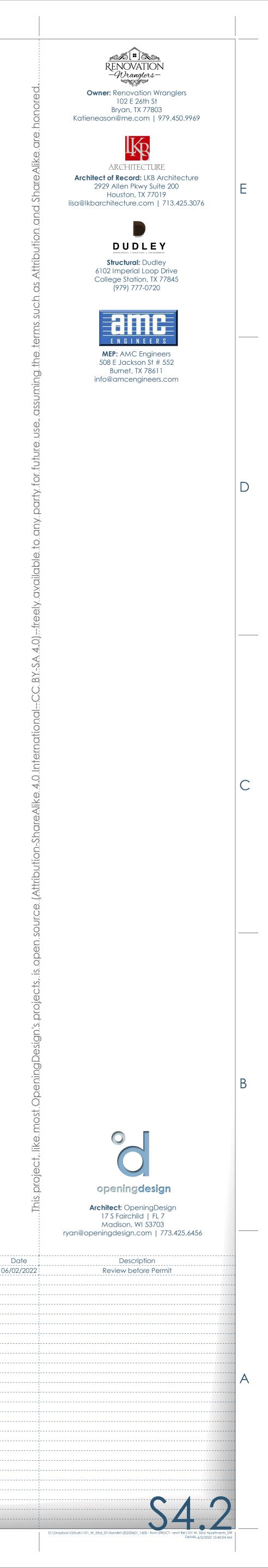
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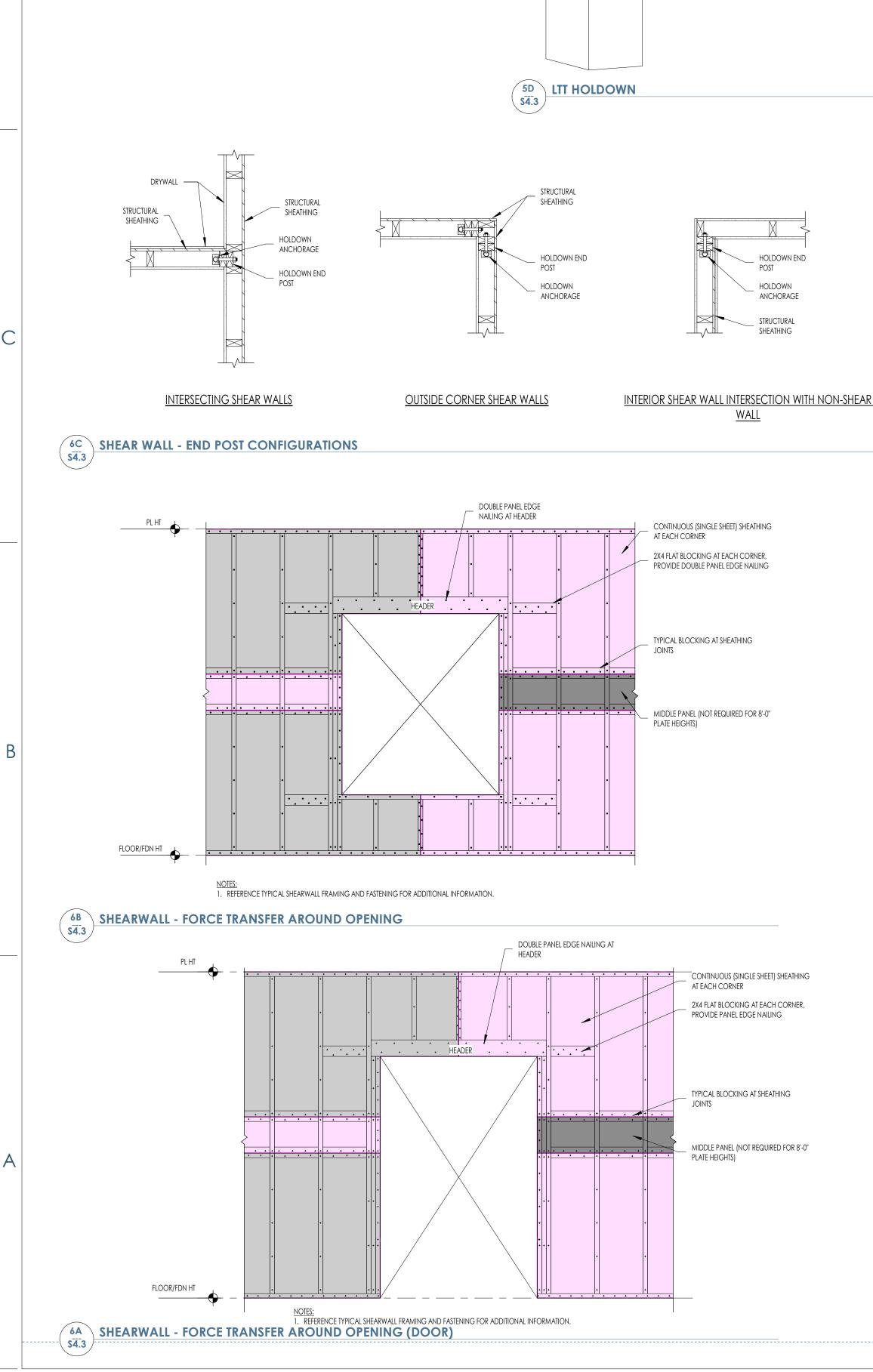










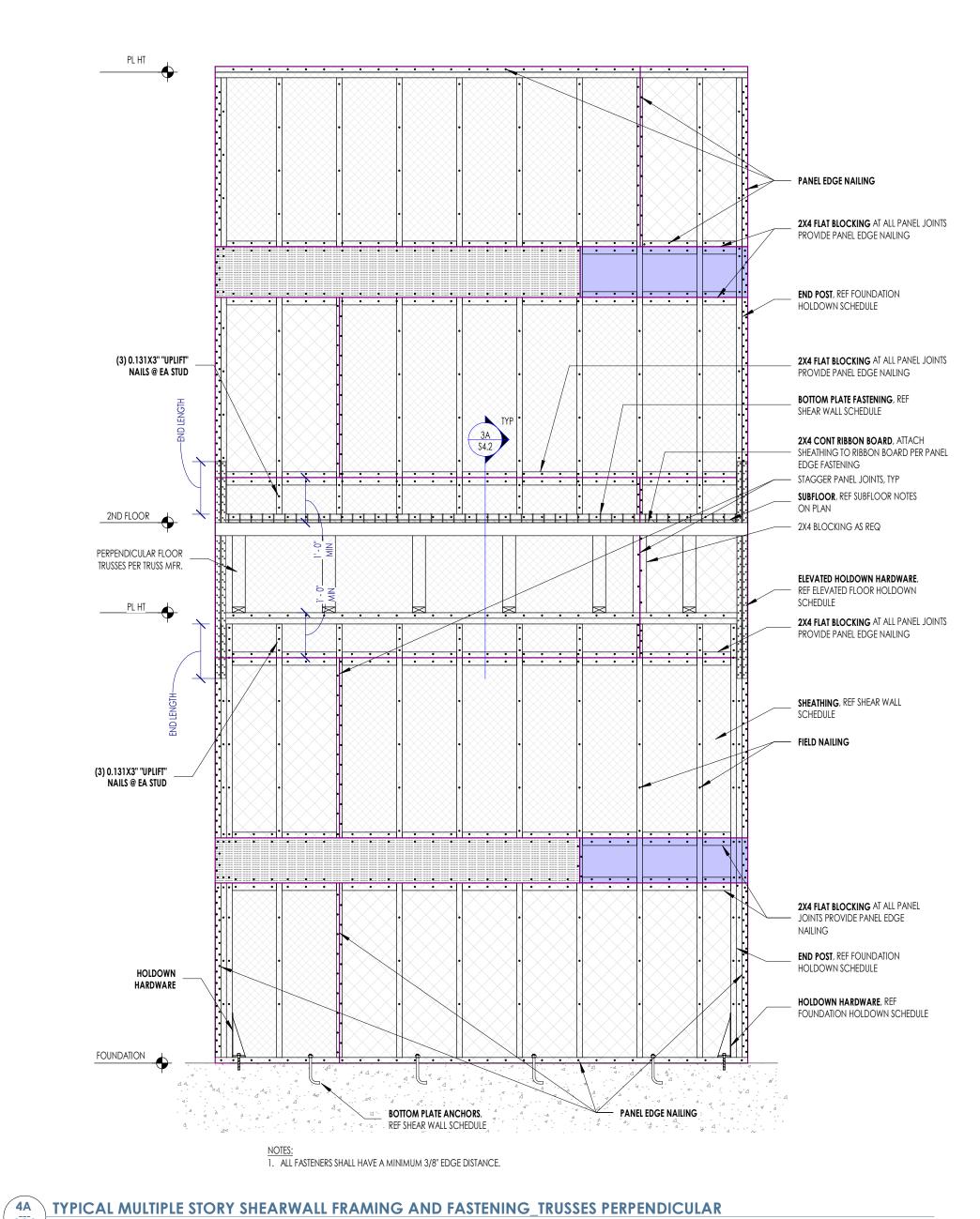


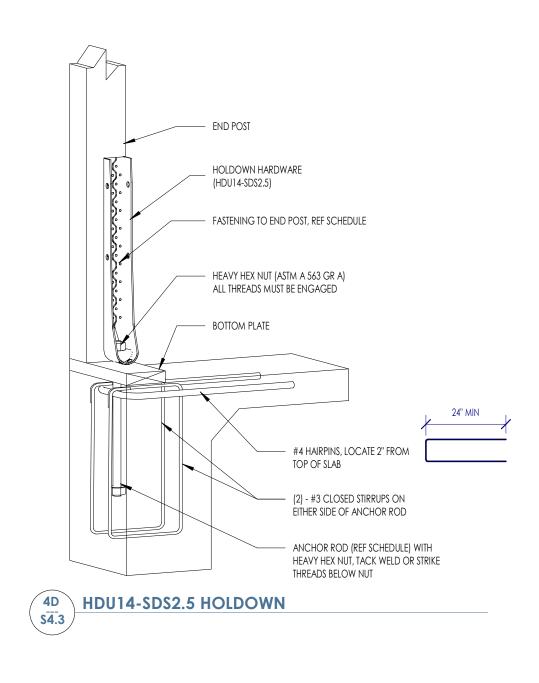
END POST 0 0 HOLDOWN HARDWARE (LTT) 0 0 0 0 FASTENING TO END POST, REF SCHEDULE ANCHORAGE TO CONCRETE, REF SCHEDULE ----- BOTTOM PLATE

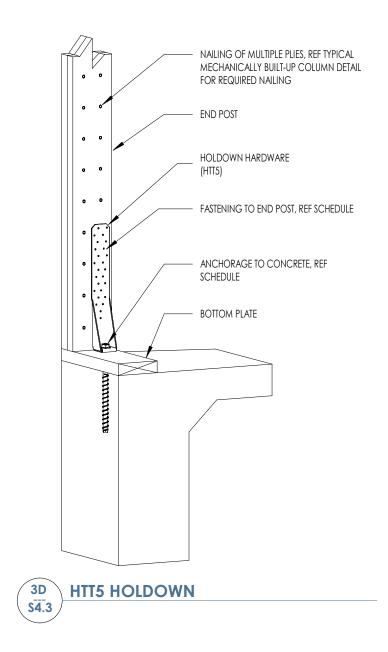
- NAILING OF MULTIPLE PLIES, REF TYPICAL MECHANICALLY BUILT-UP COLUMN DETAIL FOR REQUIRED NAILING

6

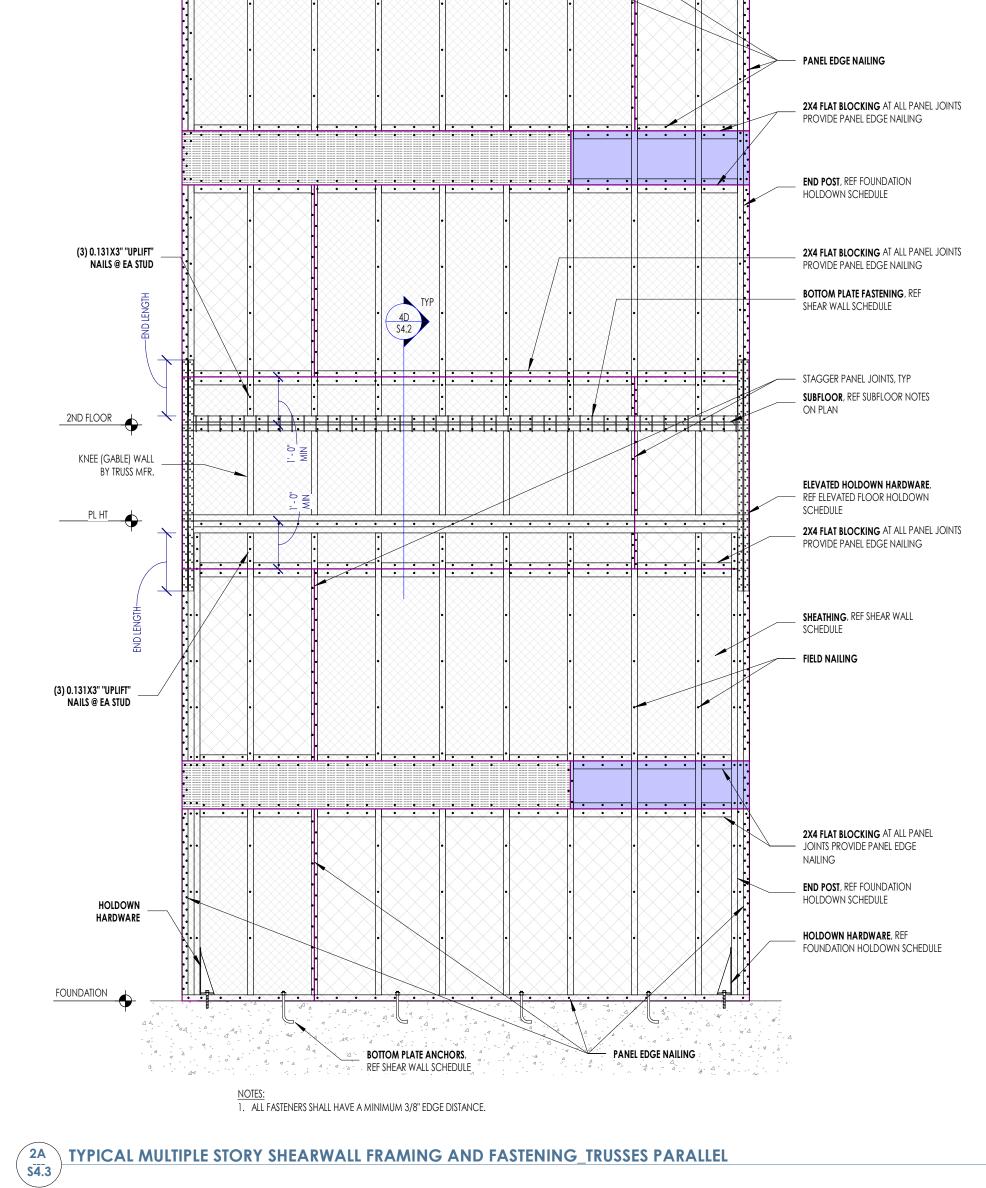
S4.3

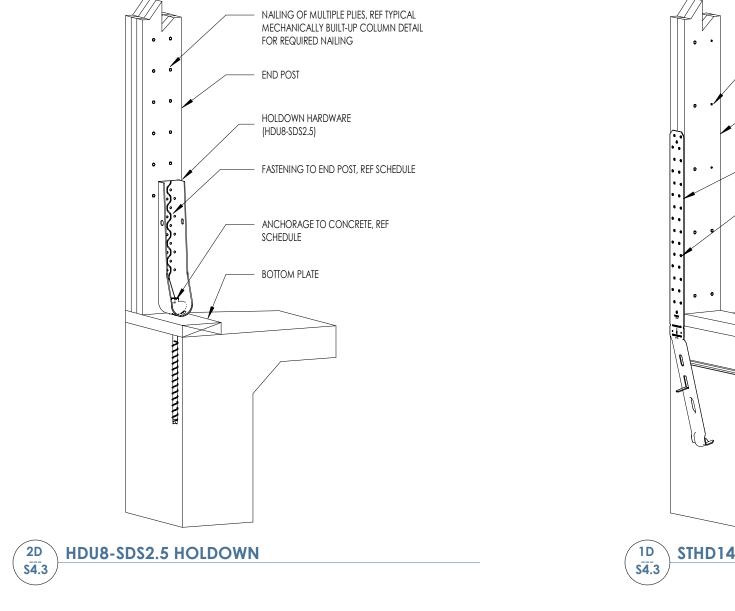






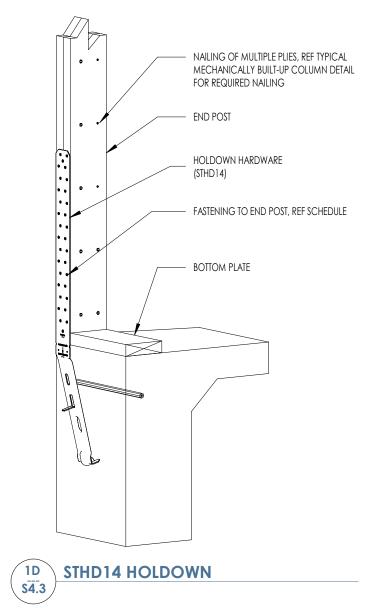


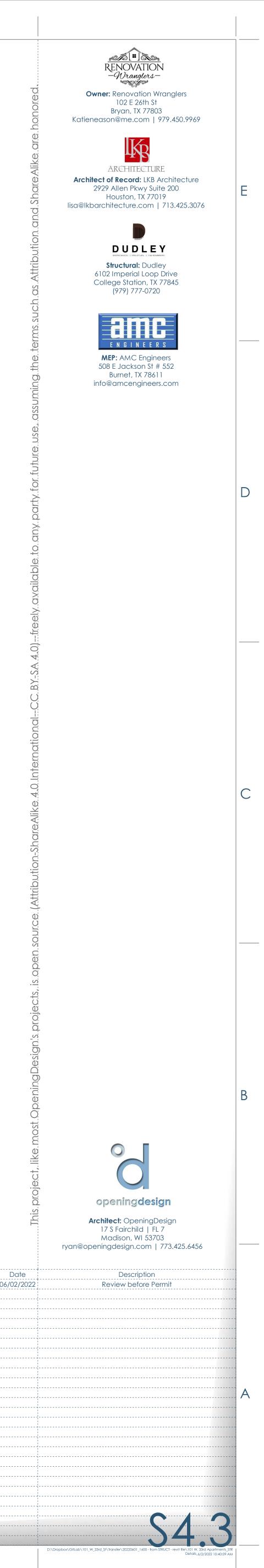




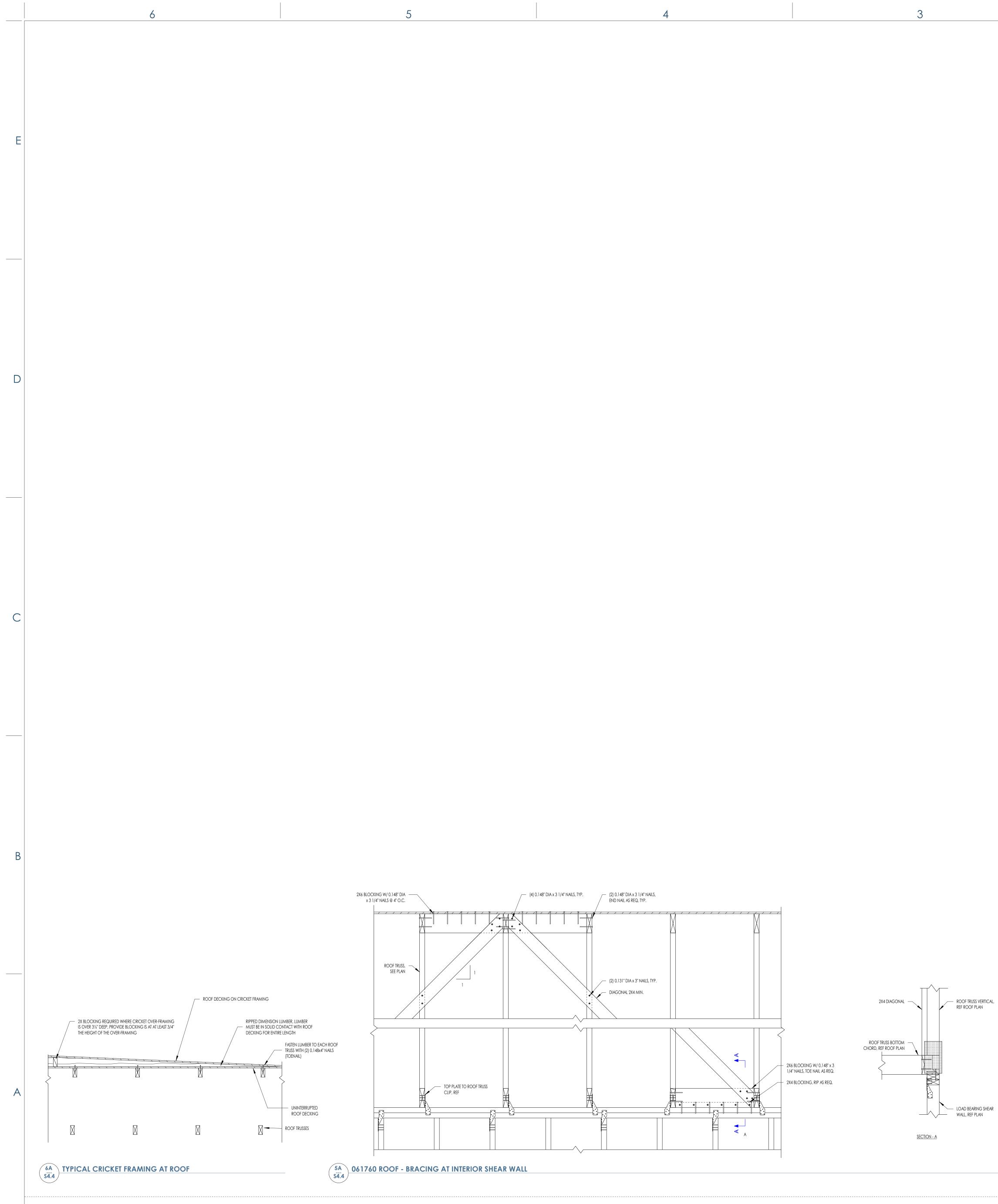
PL HT

_____•



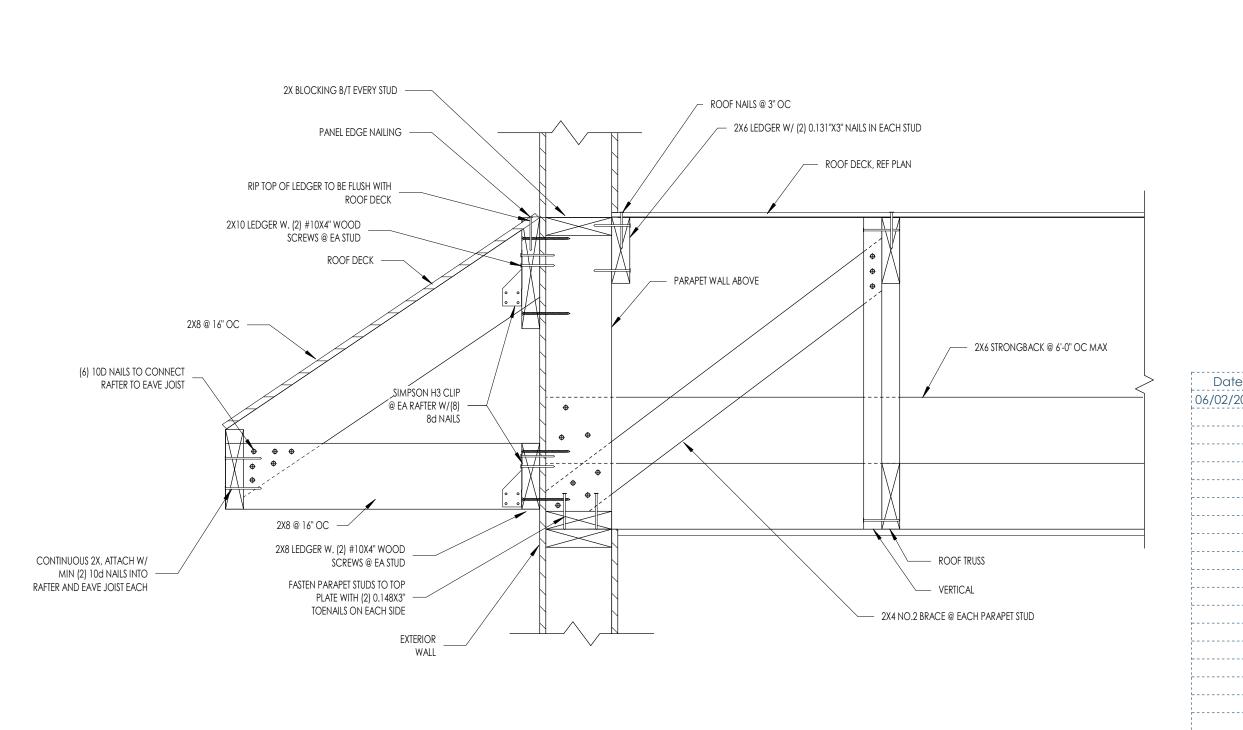


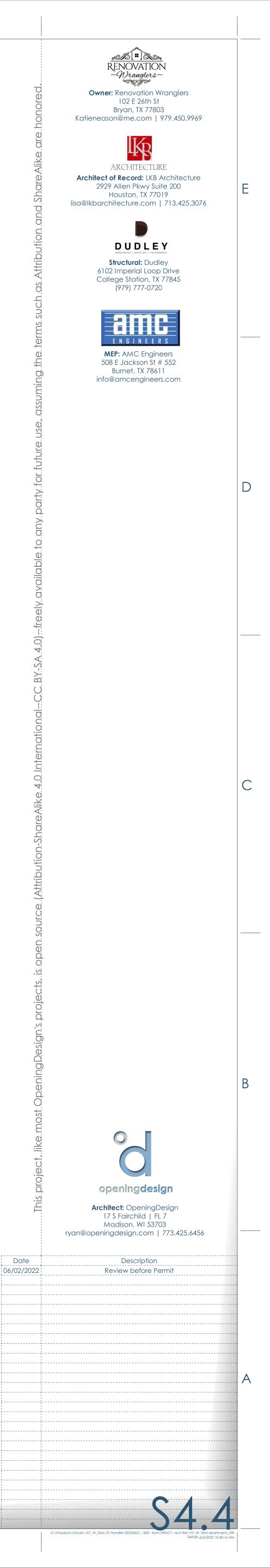
Date

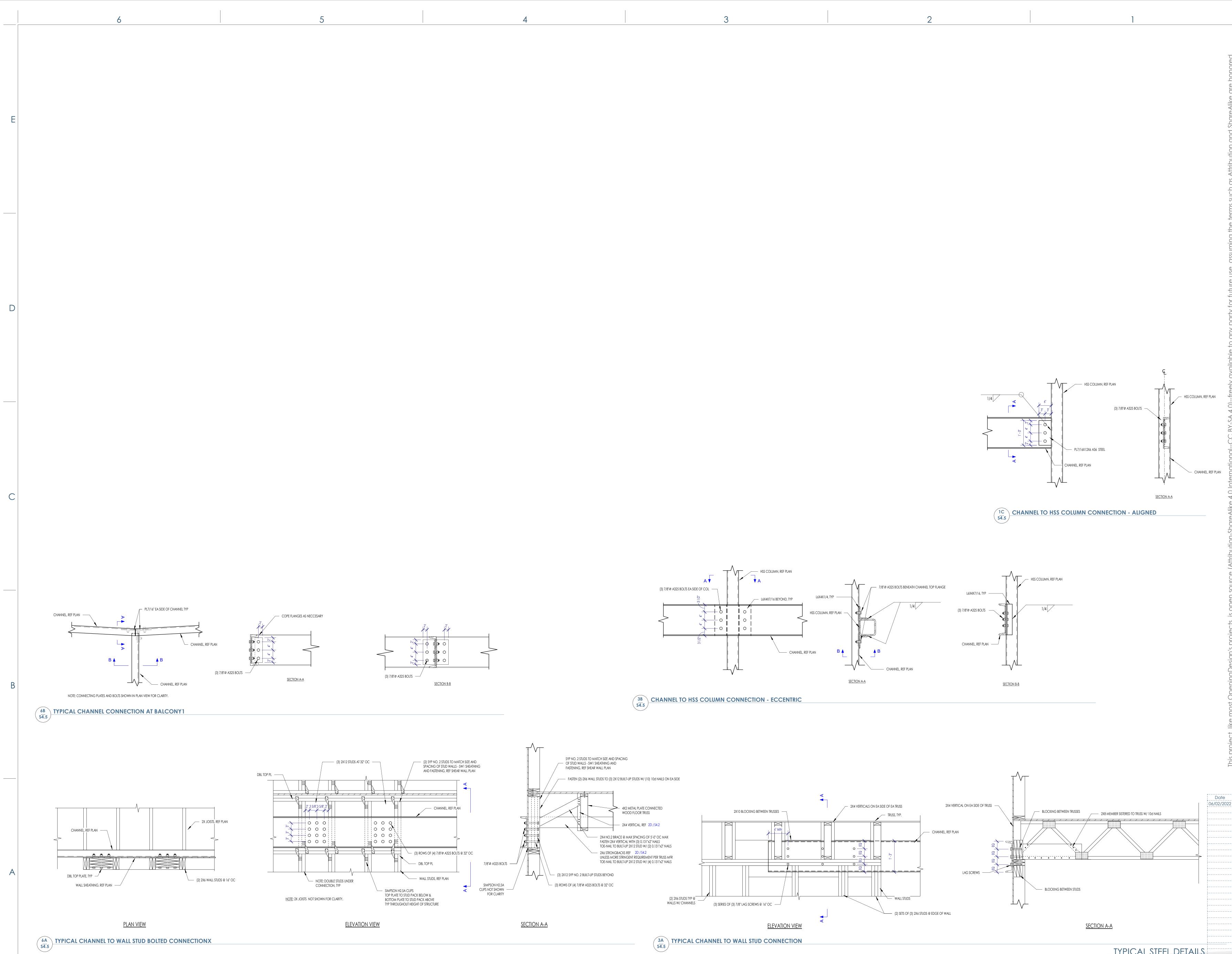




2A S4.4 ROOF -RAFTER ATTACHMENT INTO WALL

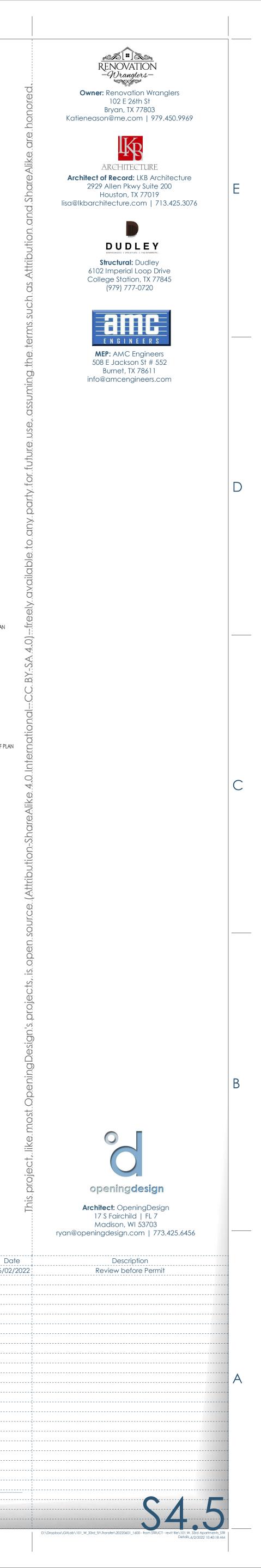


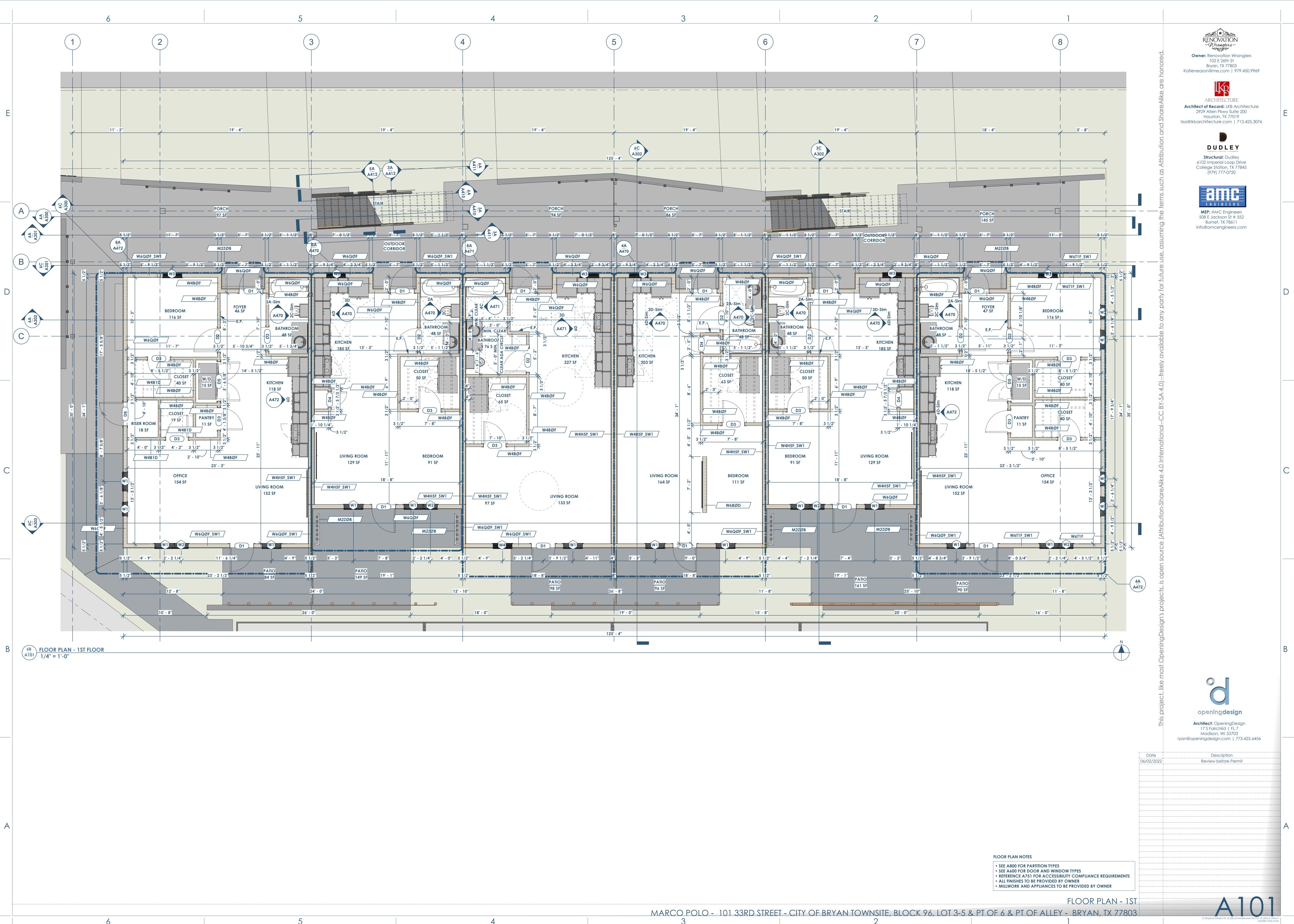


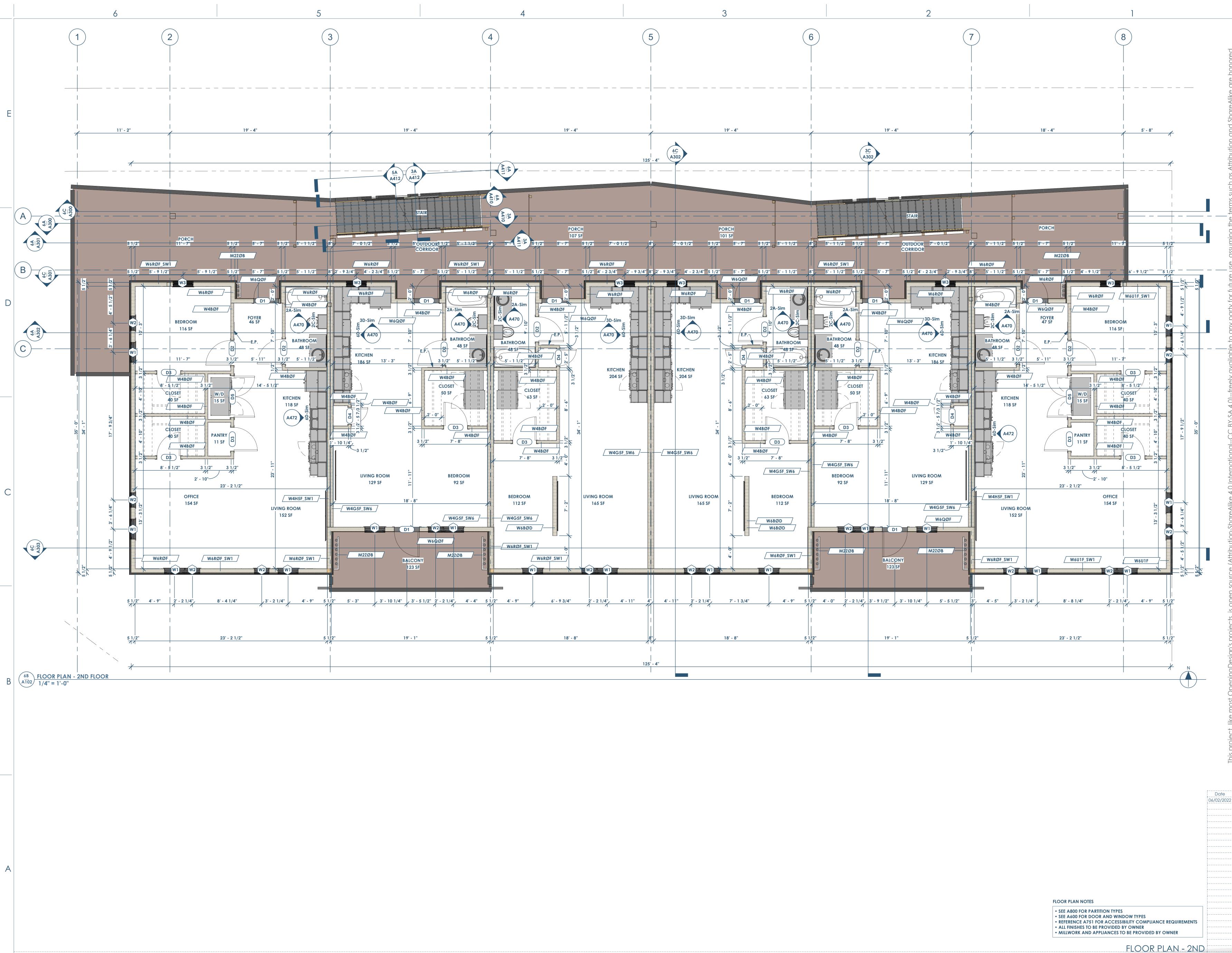


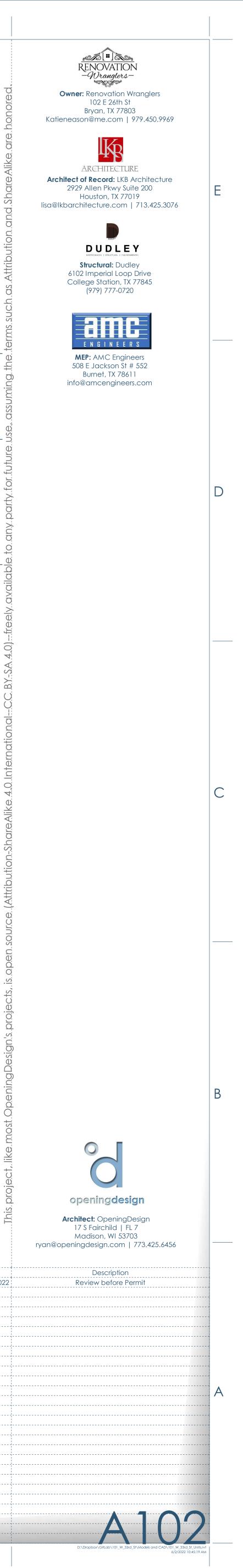


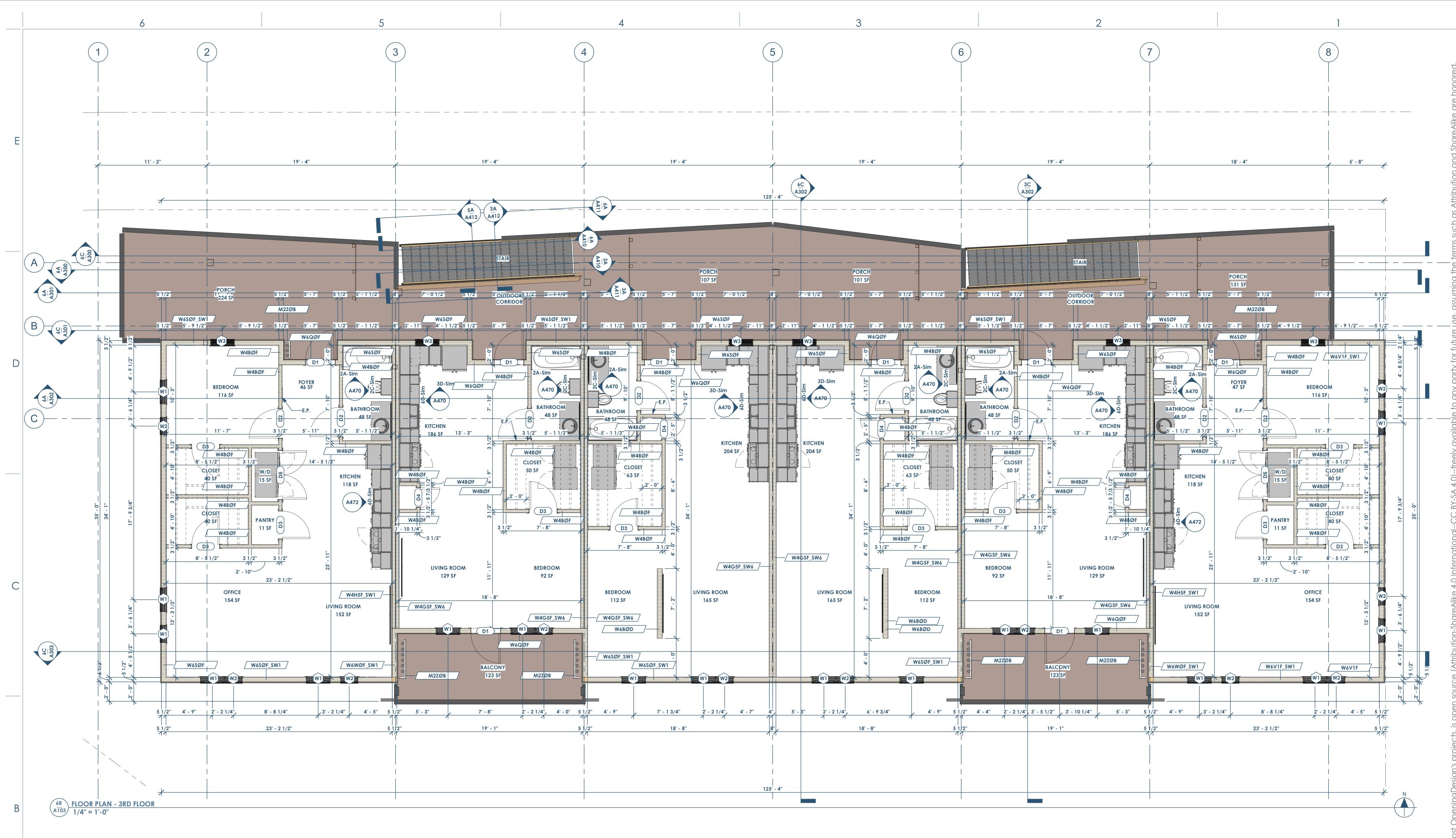












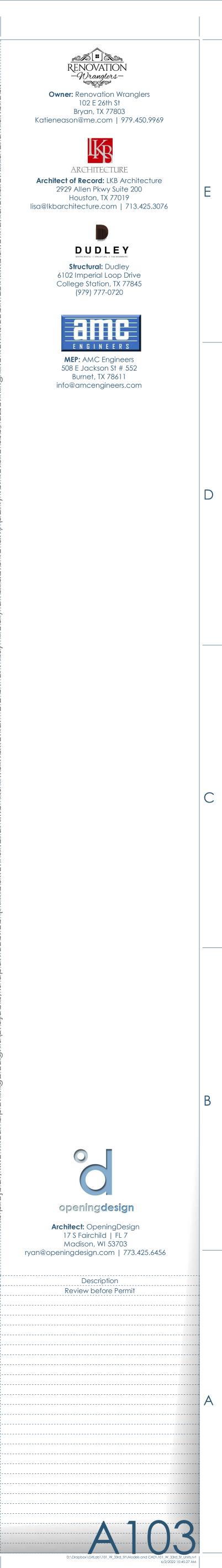
FLOOR PLAN NOTES

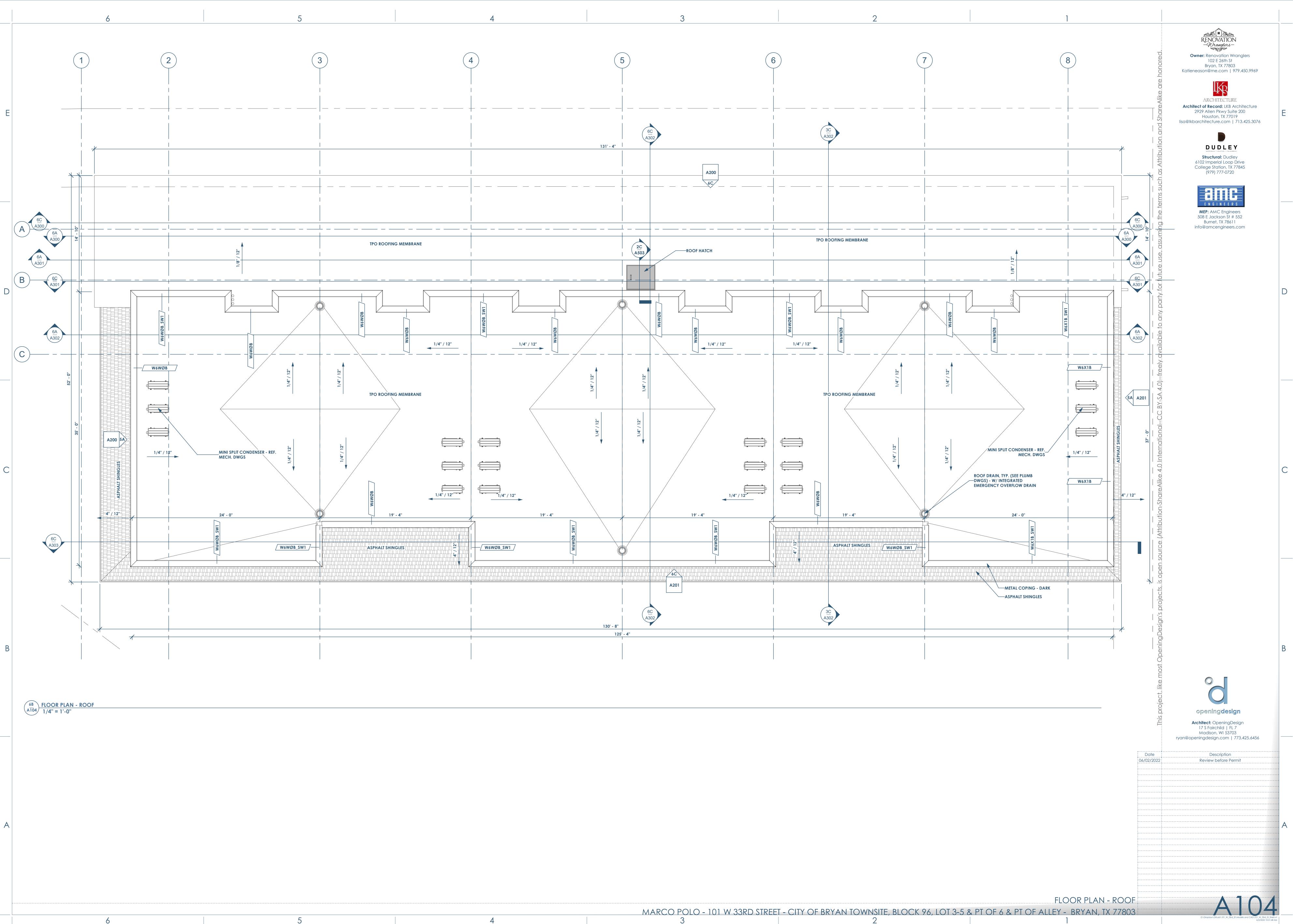
- SEE A800 FOR PARTITION TYPES
- SEE A600 FOR DOOR AND WINDOW TYPES • REFERENCE A751 FOR ACCESSIBILITY COMPLIANCE REQUIREMENTS
- ALL FINISHES TO BE PROVIDED BY OWNER • MILLWORK AND APPLIANCES TO BE PROVIDED BY OWNER

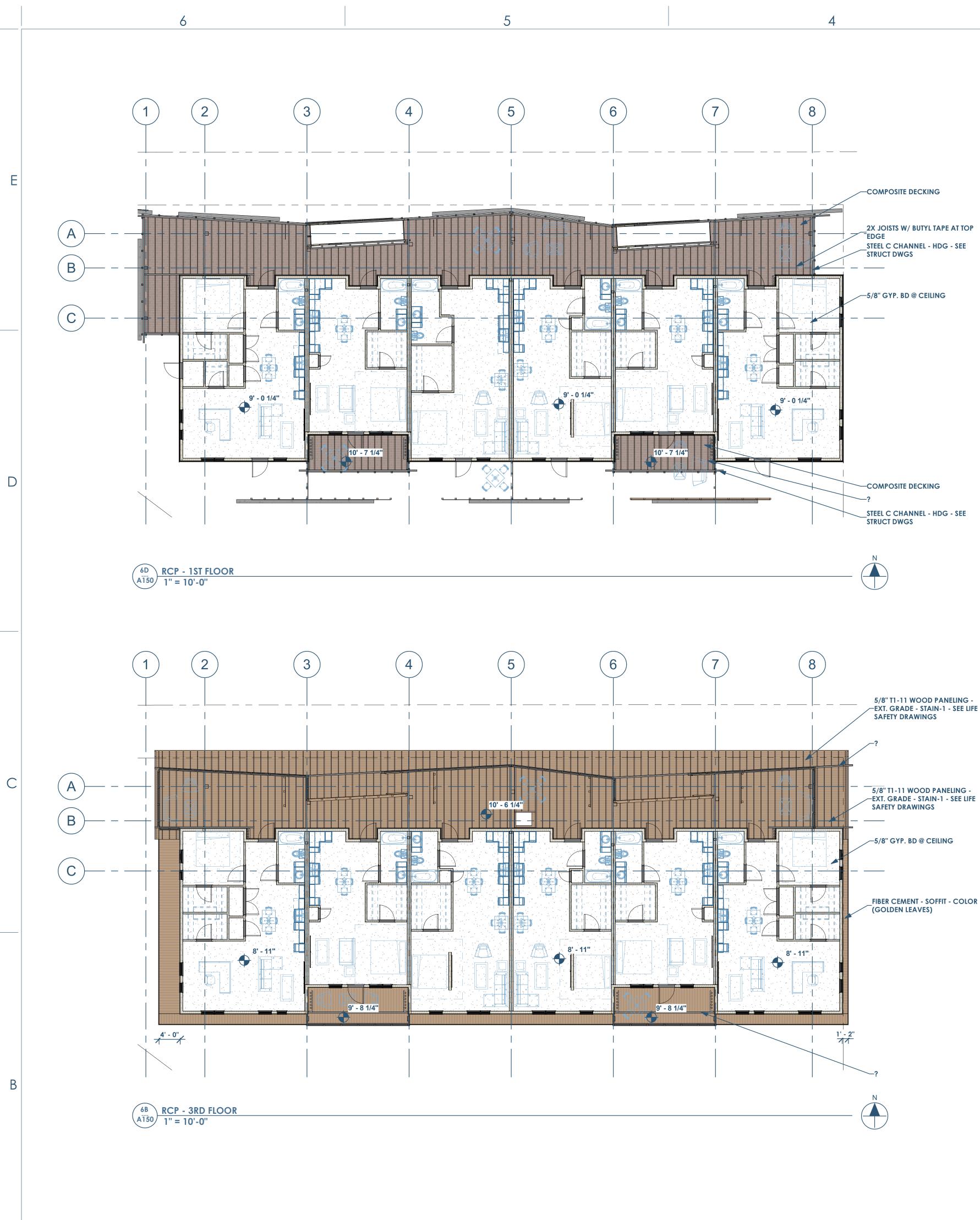
FLOOR PLAN - 3RD

Date

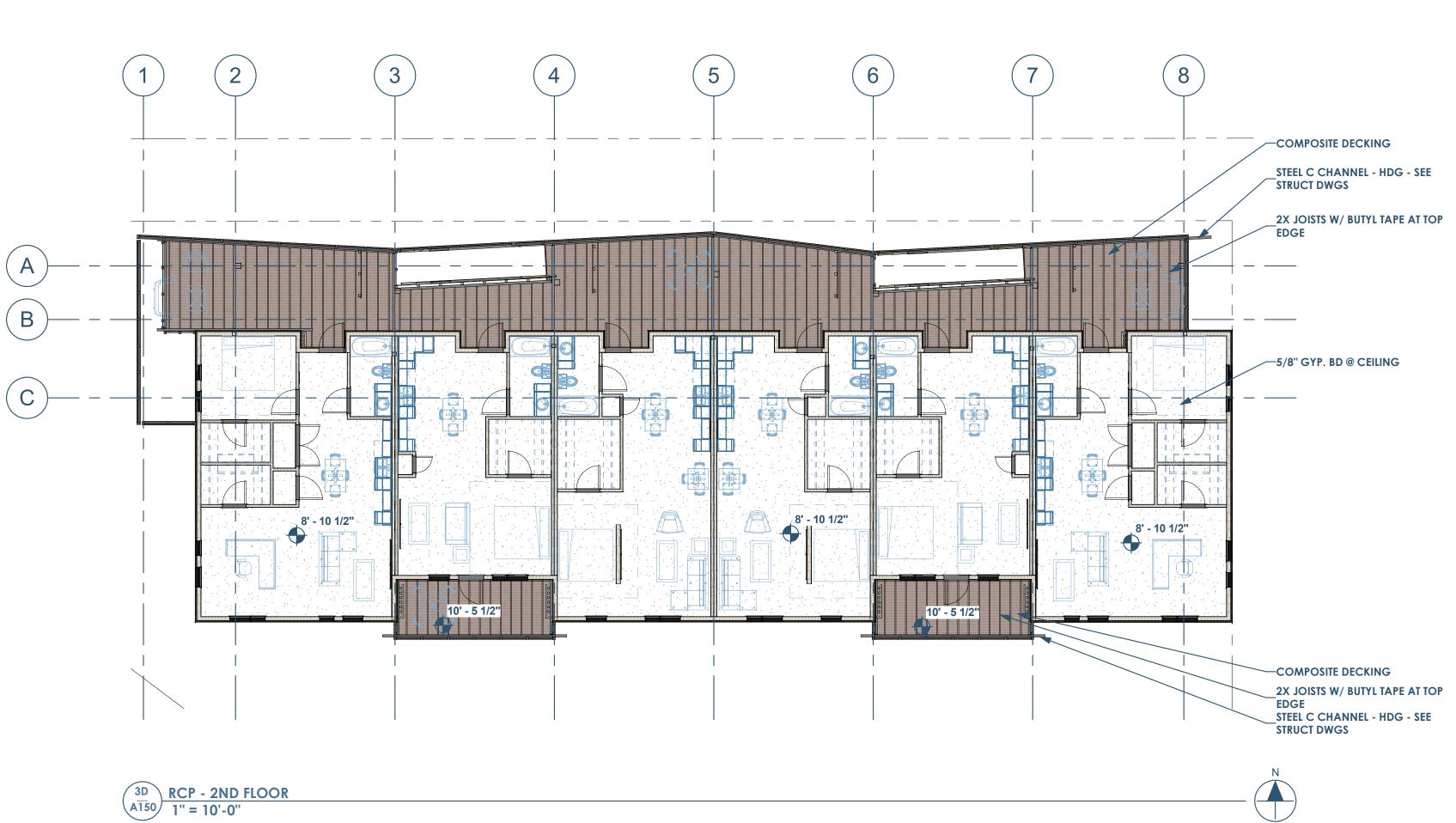
06/02/2022







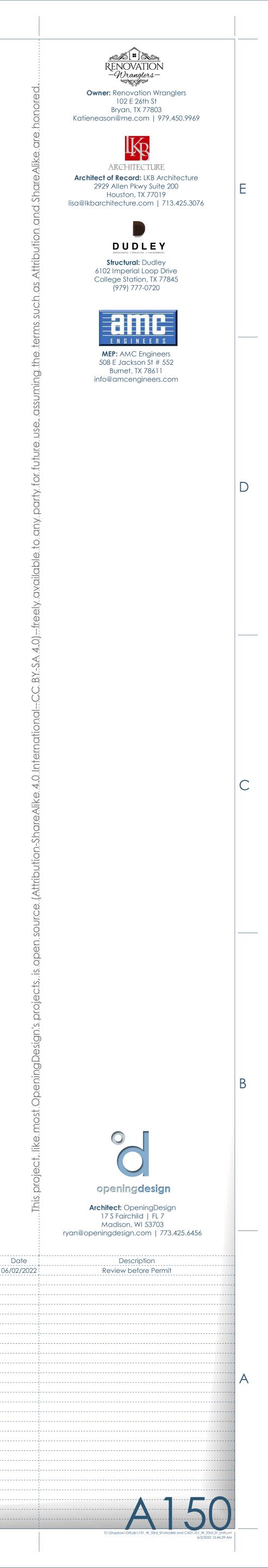




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5/8" T1-11 WOOD PANELING -EXT. GRADE - STAIN-1 - SEE LIFE FIBER CEMENT - SOFFIT - COLOR (GOLDEN LEAVES)

REFLECTED CEILING PLANS

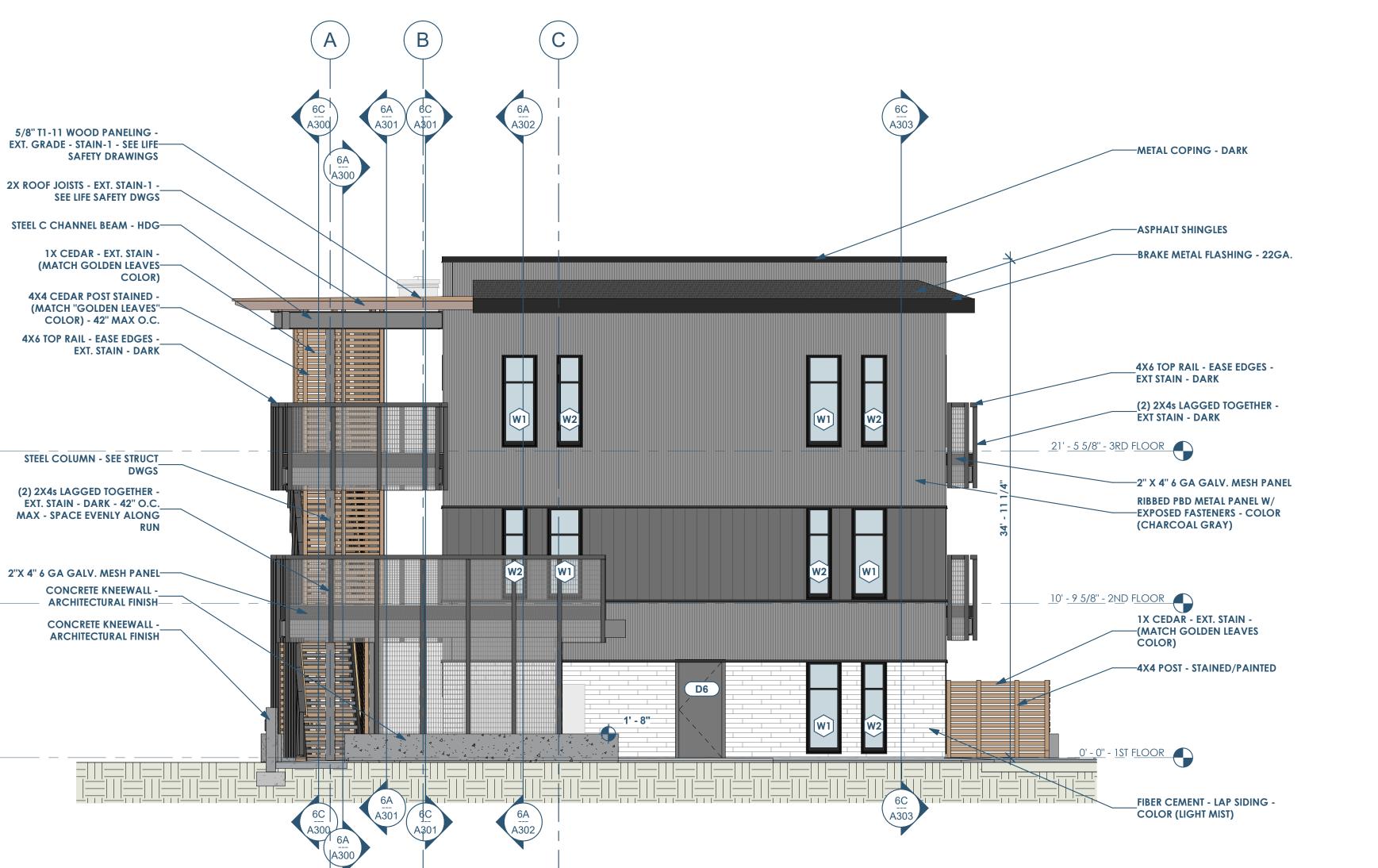




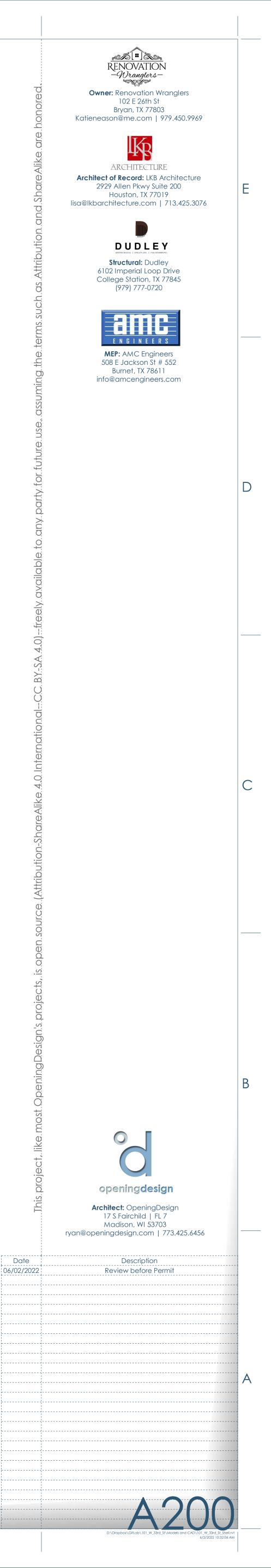
5/8" T1-11 WOOD PANELING -

5A A200 3/16" = 1'-0"

6

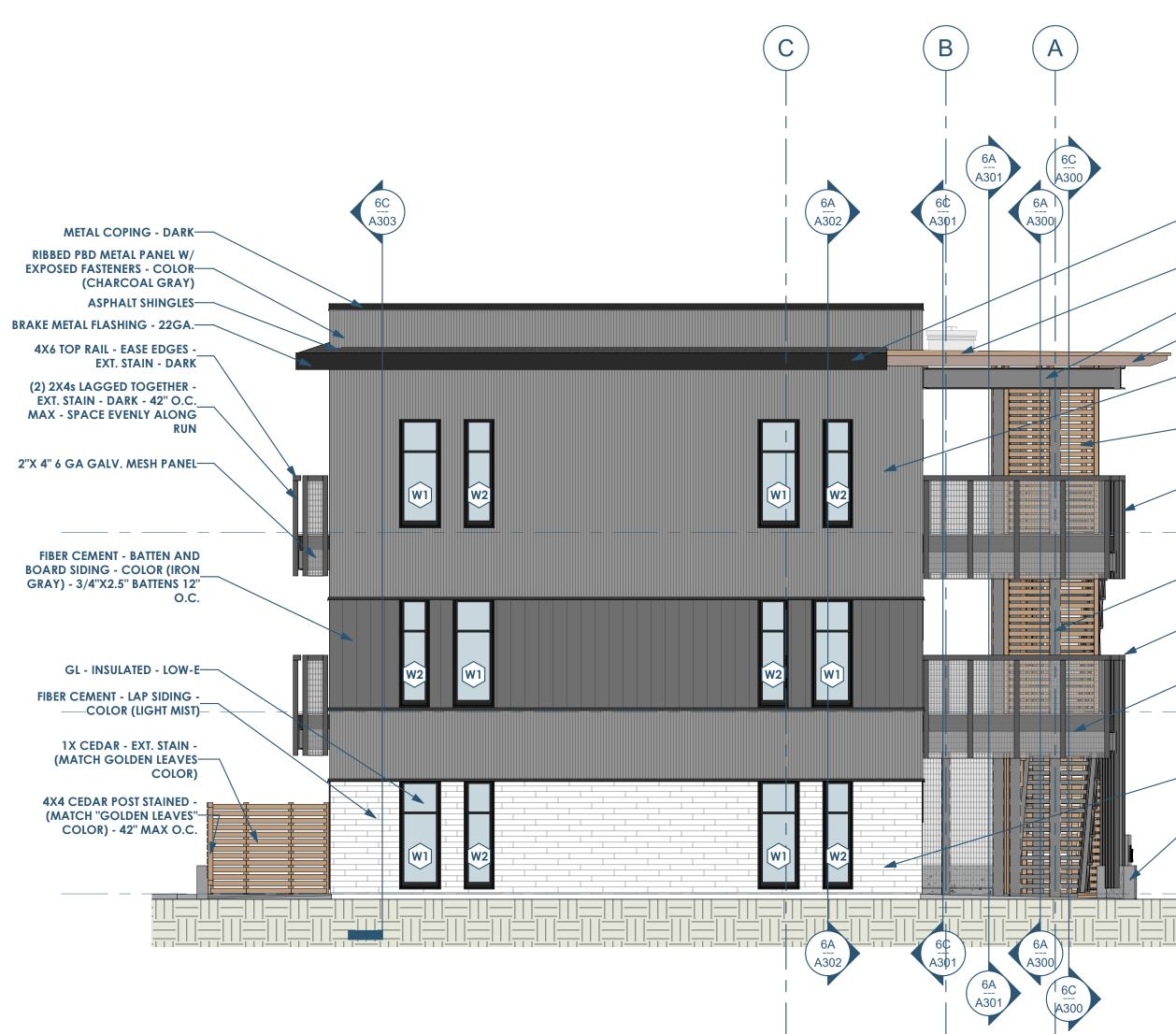


BUILDING ELEVATION - NORTH/WEST









5A
A201BUILDING ELEVATION - EAST
3/16" = 1'-0"

-BRAKE METAL FLASHING - 22GA. 5/8" T1-11 WOOD PANELING -SAFETY DRAWINGS

_2X ROOF JOISTS - EXT. STAIN-1 -SEE LIFE SAFETY DWGS RIBBED PBD METAL PANEL W/ (CHARCOAL GRAY)

1X CEDAR - EXT. STAIN --(MATCH GOLDEN LEAVES COLOR) (2) 2X4s LAGGED TOGETHER -EXT. STAIN - DARK - 42" O.C. MAX - SPACE EVENLY ALONG RUN

_____ 21' <u>- 5 5/8" -</u> 3RD FLOOR STEEL COLUMN - SEE STRUCT

4X6 TOP RAIL - EASE EDGES -EXT. STAIN - DARK

DWGS

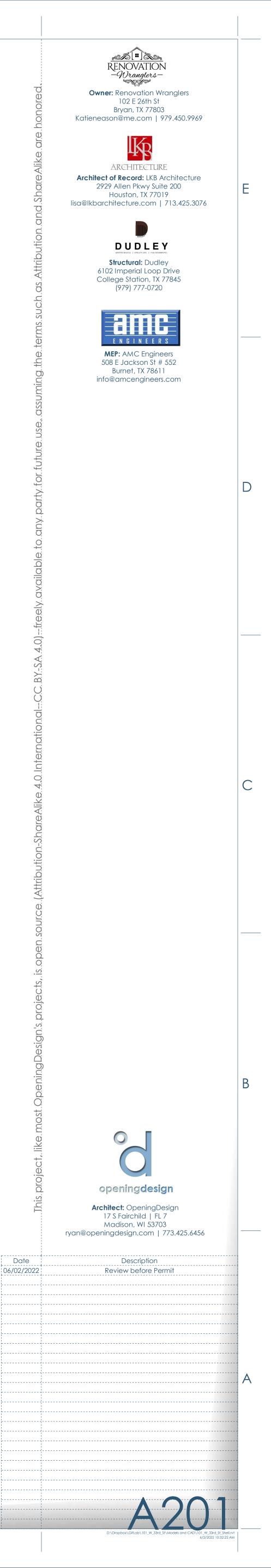
_____<u>10' - 9 5/8'' -</u> 2ND FLOOR

FIBER CEMENT - LAP SIDING -COLOR (LIGHT MIST) CONCRETE KNEEWALL -**ARCHITECTURAL FINISH**



2

BUILDING ELEVATION - SOUTH/EAST





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В

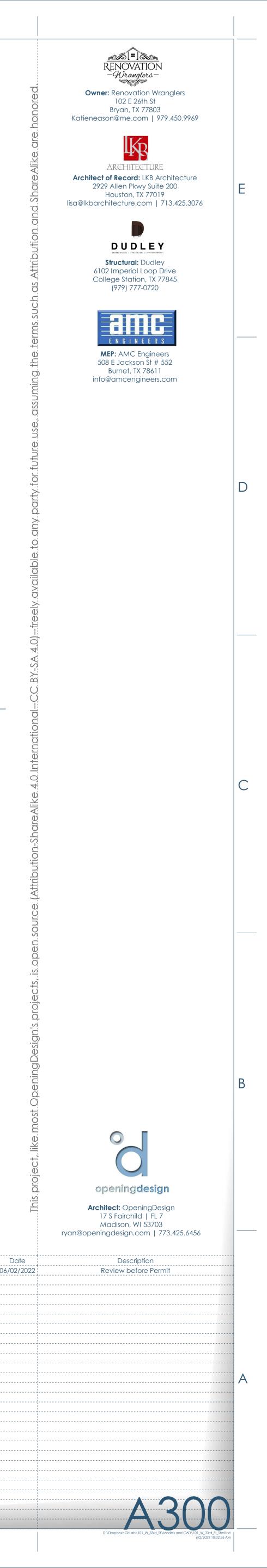
6A A300 BUILDING SECTION - THROUGH STAIRS - LOOKING SOUTH 3/16" = 1'-0"

6

MARCO POLO - 101 W 33RD STREET - CITY OF BRYAN TOWNSITE, BLOCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY - BRYAN, TX 77803

4

BUILDING SECTIONS

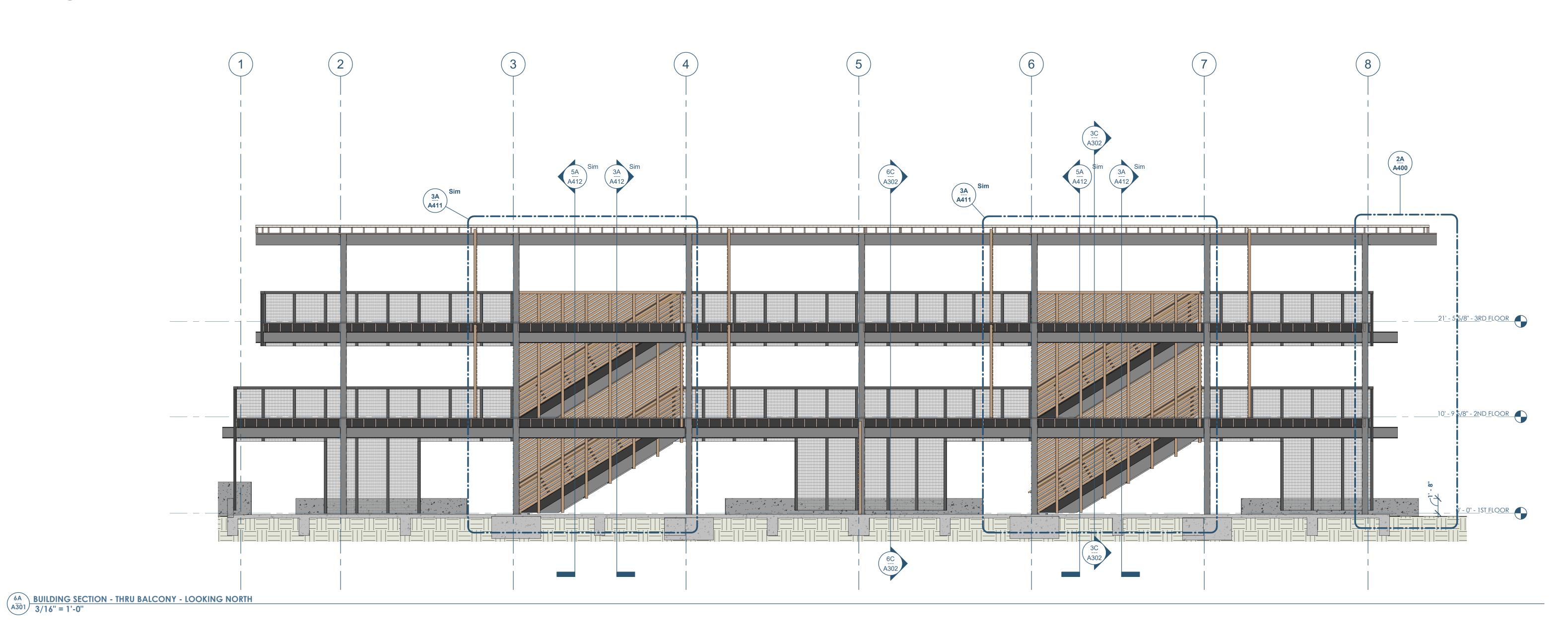




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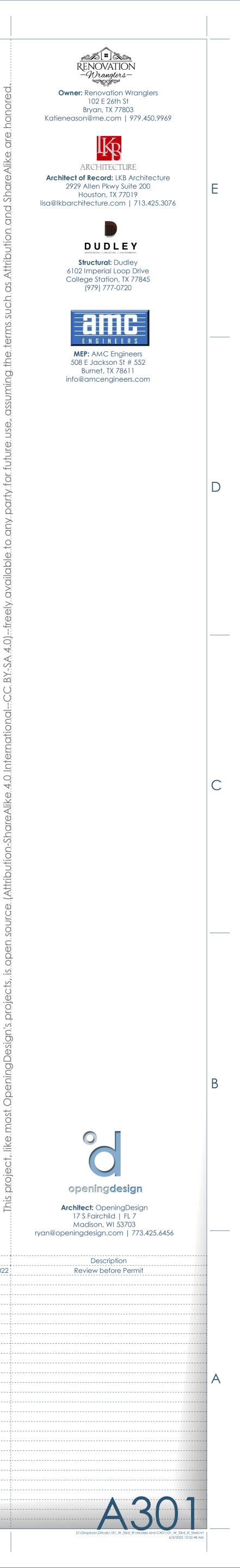
6C A301 BUILDING SECTION - THRU BALCONY - LOOKING SOUTH 3/16" = 1'-0"

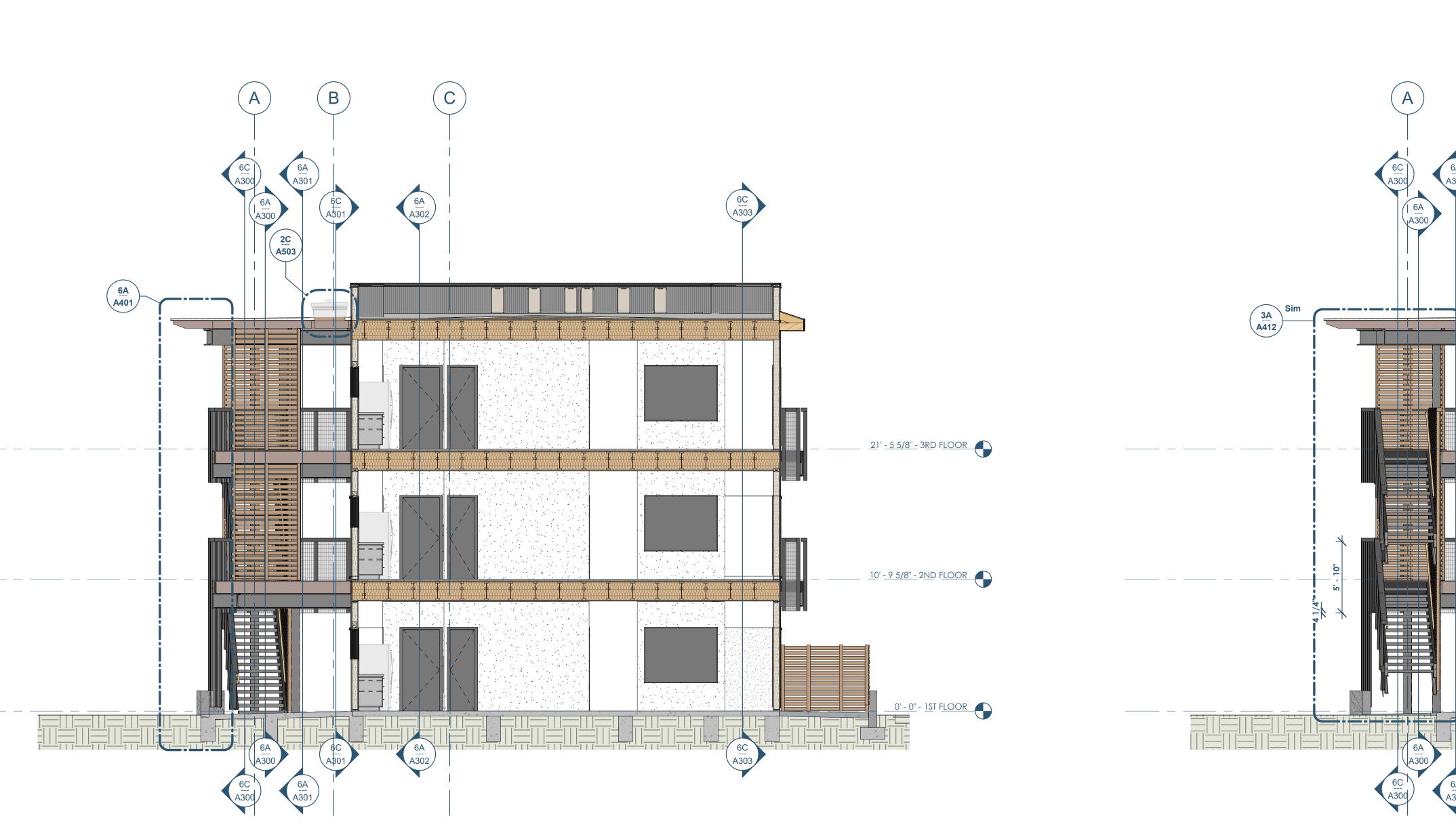
6



6

BUILDING SECTIONS





⁶C A302 BUILDING SECTION - THRU LARGE STUDIO - LOOKING EAST 3/16" = 1'-0"



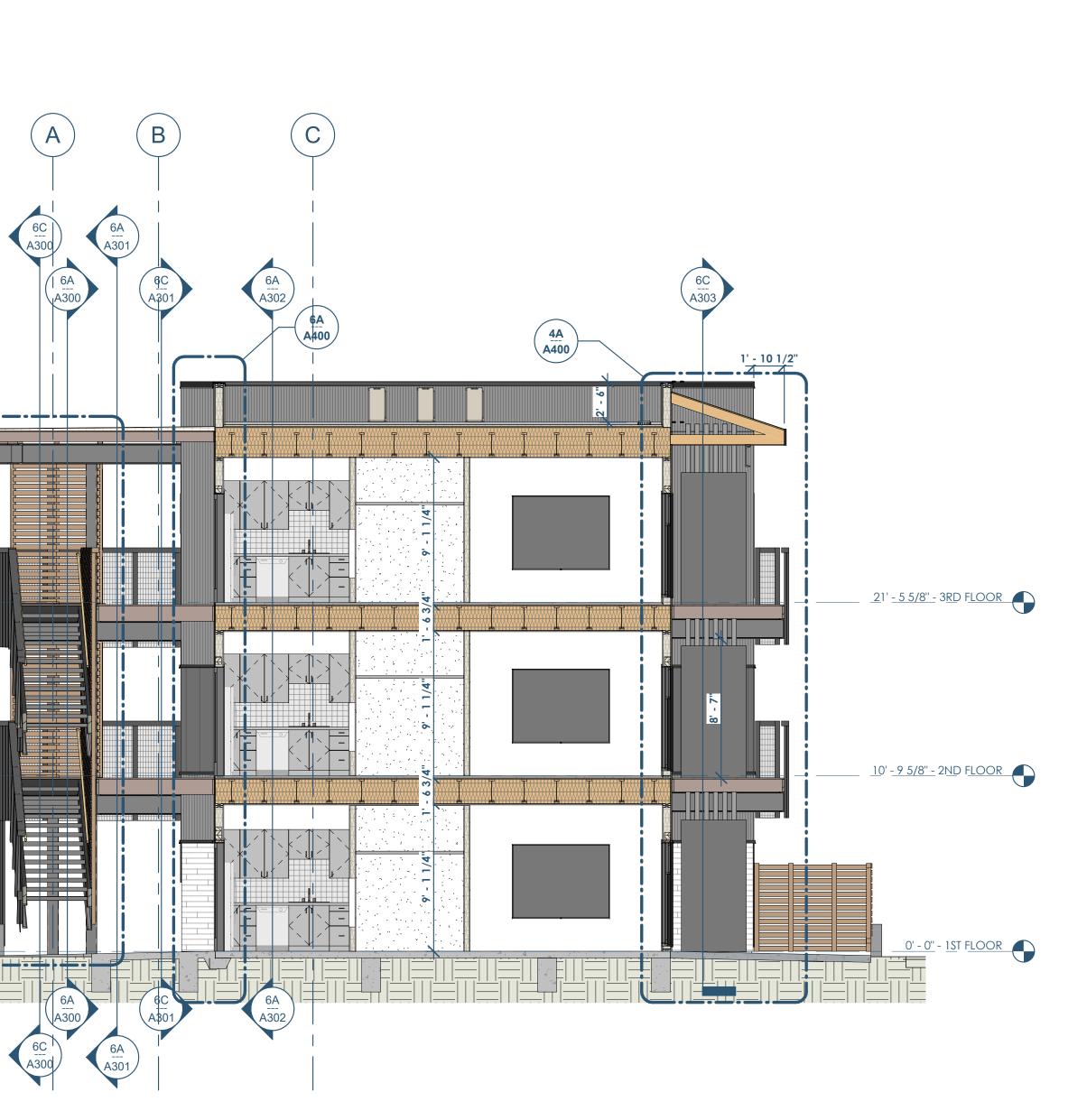


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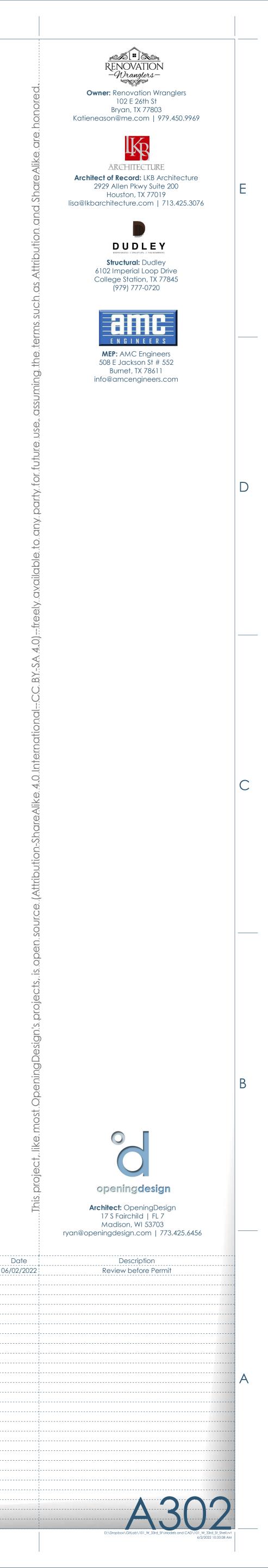
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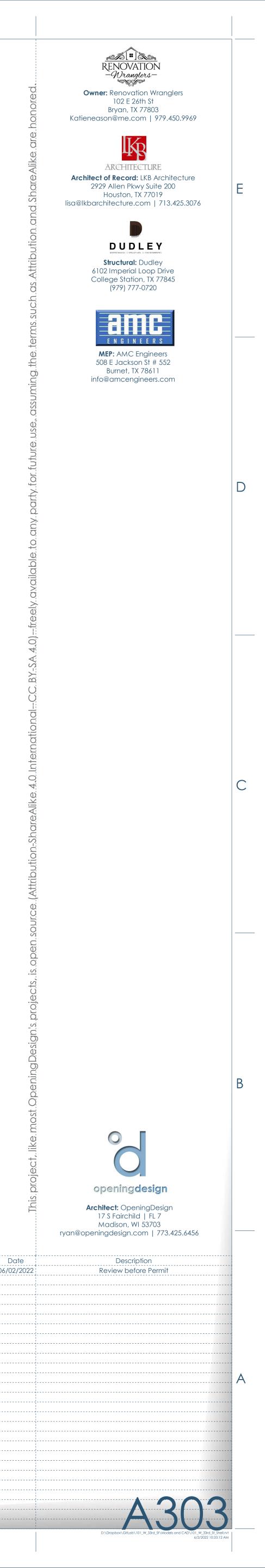
BUILDING SECTIONS

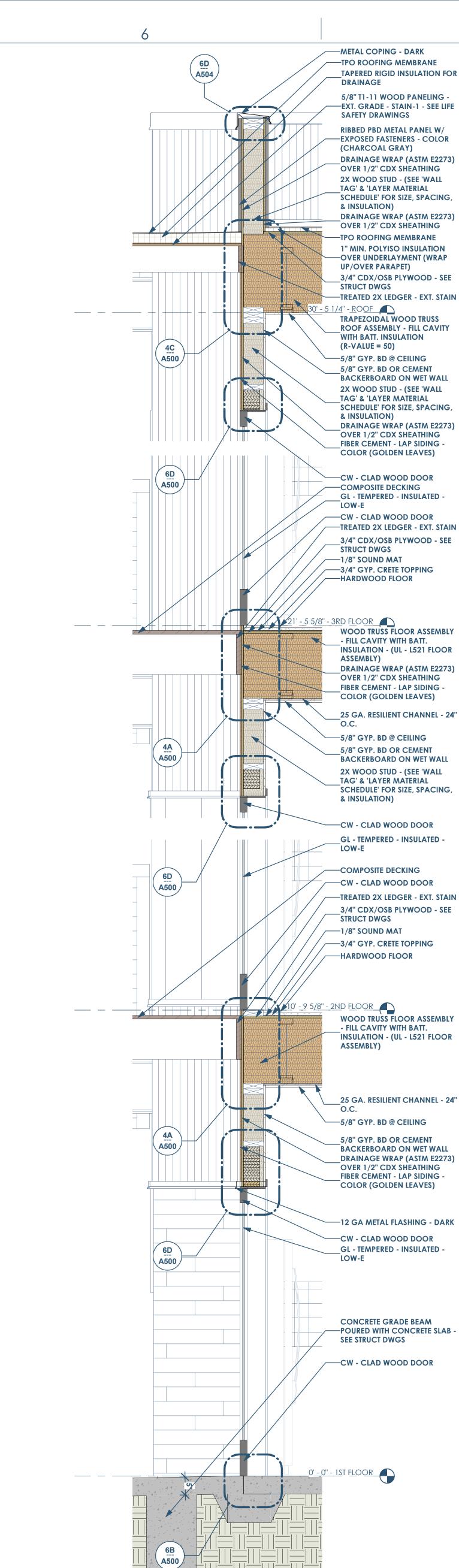




6C A303 BUILDING SECTION - EAST/WEST - AT SOUTH BALCONIES - LOOKING SOUTH 3/16" = 1'-0"

6





SCHEDULE' FOR SIZE, SPACING, & INSULATION) DRAINAGE WRAP (ASTM E2273) OVER 1/2" CDX SHEATHING FIBER CEMENT - LAP SIDING -COLOR (GOLDEN LEAVES) -COMPOSITE DECKING GL - TEMPERED - INSULATED -LOW-E -TREATED 2X LEDGER - EXT. STAIN 3/4" CDX/OSB PLYWOOD - SEE STRUCT DWGS -HARDWOOD FLOOR 5 5<u>/8" - 3RD</u> FLOOR WOOD TRUSS FLOOR ASSEMBLY - FILL CAVITY WITH BATT. INSULATION - (UL - L521 FLOOR ASSEMBLY) DRAINAGE WRAP (ASTM E2273) OVER 1/2" CDX SHEATHING FIBER CEMENT - LAP SIDING -COLOR (GOLDEN LEAVES) 25 GA. RESILIENT CHANNEL - 24" **O.C**. -5/8" GYP. BD @ CEILING 5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL 2X WOOD STUD - (SEE 'WALL TAG' & 'LAYER MATERIAL SCHEDULE' FOR SIZE, SPACING, & INSULATION) -CW - CLAD WOOD DOOR GL - TEMPERED - INSULATED -LOW-E -COMPOSITE DECKING -CW - CLAD WOOD DOOR 3/4" CDX/OSB PLYWOOD - SEE STRUCT DWGS 9 5<u>/8" - 2ND</u> FLOOR WOOD TRUSS FLOOR ASSEMBLY - FILL CAVITY WITH BATT. INSULATION - (UL - L521 FLOOR ASSEMBLY)

> 25 GA. RESILIENT CHANNEL - 24" 0.C.

5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL DRAINAGE WRAP (ASTM E2273) OVER 1/2" CDX SHEATHING _FIBER CEMENT - LAP SIDING -COLOR (GOLDEN LEAVES)

—12 GA METAL FLASHING - DARK GL - TEMPERED - INSULATED -

CONCRETE GRADE BEAM -POURED WITH CONCRETE SLAB -SEE STRUCT DWGS

POURED WITH CONCRETE SLAB -----

RIBBED PBD METAL PANEL W/ EXPOSED FASTENERS - COLOR DRAINAGE WRAP (ASTM E2273)

OVER 1/2" CDX SHEATHING 2X WOOD STUD - (SEE 'WALL TAG' & 'LAYER MATERIAL SCHEDULE' FOR SIZE, SPACING,

RIBBED PBD METAL PANEL W/ EXPOSED FASTENERS - COLOR (CHARCOAL GRAY) **TPO ROOFING MEMBRANE 1" MIN. POLYISO INSULATION**

UP/OVER PARAPET) 3/4" CDX/OSB PLYWOOD - SEE

TRAPEZOIDAL WOOD TRUSS ROOF ASSEMBLY - FILL CAVITY WITH BATT. INSULATION 5/8" GYP. BD @ CEILING-----

5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL 2X WOOD STUD - (SEE 'WALL TAG' & 'LAYER MATERIAL SCHEDULE' FOR SIZE, SPACING, DRAINAGE WRAP (ASTM E2273) OVER 1/2" CDX SHEATHING

FIBER CEMENT - LAP SIDING -COLOR (GOLDEN LEAVES) DOUBLE HUNG WINDOWS -BLACK EXT/INT SASH - LIMIT BOTTOM SASH TO 4" MAX OPEN

GL - INSULATED - LOW-E 2X WOOD STUD - (SEE 'WALL TAG' & 'LAYER MATERIAL SCHEDULE' FOR SIZE, SPACING,

3/4" GYP. CRETE TOPPING

3/4" CDX/OSB PLYWOOD - SEE___ DRAINAGE WRAP (ASTM E2273) OVER 1/2" CDX SHEATHING FIBER CEMENT - LAP SIDING -COLOR (GOLDEN LEAVES) TREATED 2X JOISTS - EXT. STAIN WOOD TRUSS FLOOR ASSEMBLY - FILL CAVITY WITH BATT. INSULATION - (UL - L521 FLOOR

25 GA. RESILIENT CHANNEL - 24" 5/8" GYP. BD @ CEILING----

5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL 2X WOOD STUD - (SEE 'WALL TAG' & 'LAYER MATERIAL SCHEDULE' FOR SIZE, SPACING,

GALV. PIPE WHERE EXPOSED -(EXPOSED LINE SETS, BEHIND-

3/4" CDX/OSB PLYWOOD - SEE WOOD TRUSS FLOOR ASSEMBLY

- FILL CAVITY WITH BATT. INSULATION - (UL - L521 FLOOR

25 GA. RESILIENT CHANNEL - 24"

5/8" GYP. BD @ CEILING-----

5/8" GYP. BD OR CEMENT_ BACKERBOARD ON WET WALL 2X WOOD STUD - (SEE 'WALL TAG' & 'LAYER MATERIAL SCHEDULE' FOR SIZE, SPACING,

DRAINAGE WRAP (ASTM E2273) OVER 1/2" CDX SHEATHING FIBER CEMENT - LAP SIDING -COLOR (GOLDEN LEAVES)

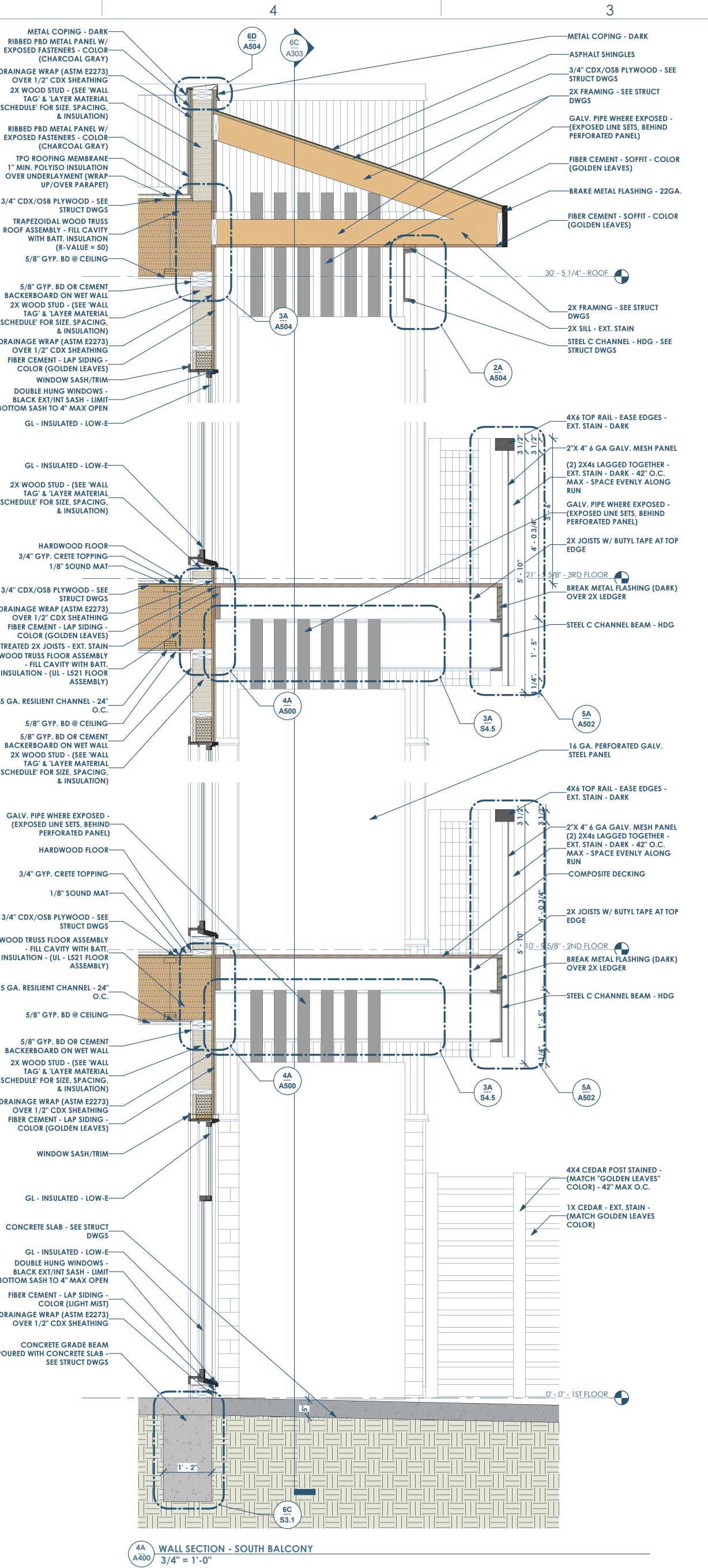
GL - INSULATED - LOW-E-

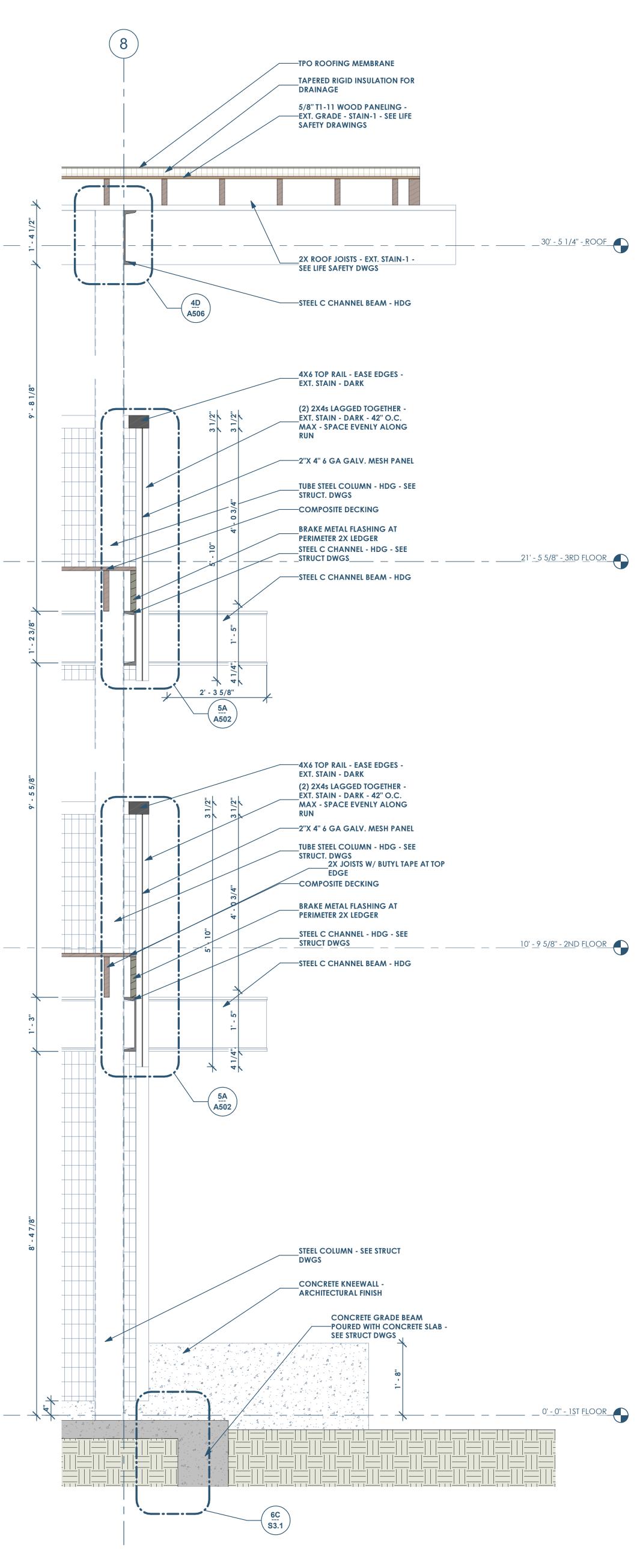
CONCRETE SLAB - SEE STRUCT GL - INSULATED - LOW-E

DOUBLE HUNG WINDOWS -BLACK EXT/INT SASH - LIMIT-BOTTOM SASH TO 4" MAX OPEN FIBER CEMENT - LAP SIDING COLOR (LIGHT MIST)

DRAINAGE WRAP (ASTM E2273) OVER 1/2" CDX SHEATHING CONCRETE GRADE BEAM

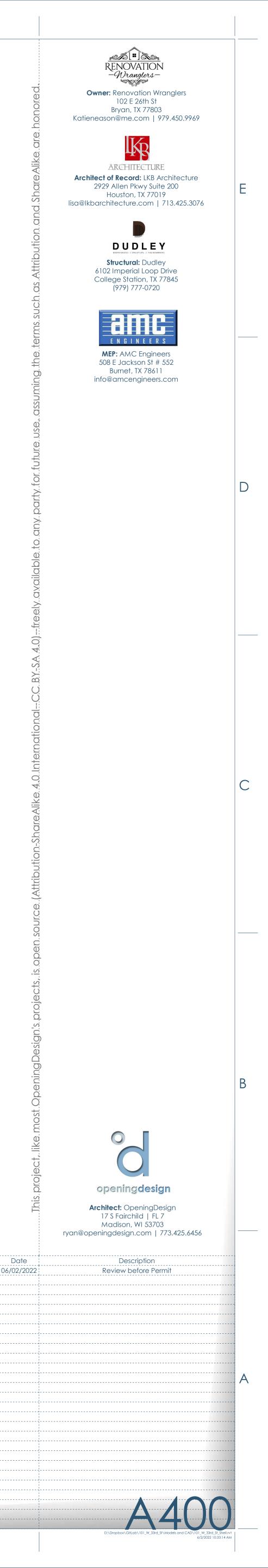
6A A400 BUILDING SECTION - THRU SMALL STUDIO - LOOKING EAST - @ PARAPET WALL 3/4" = 1'-0"

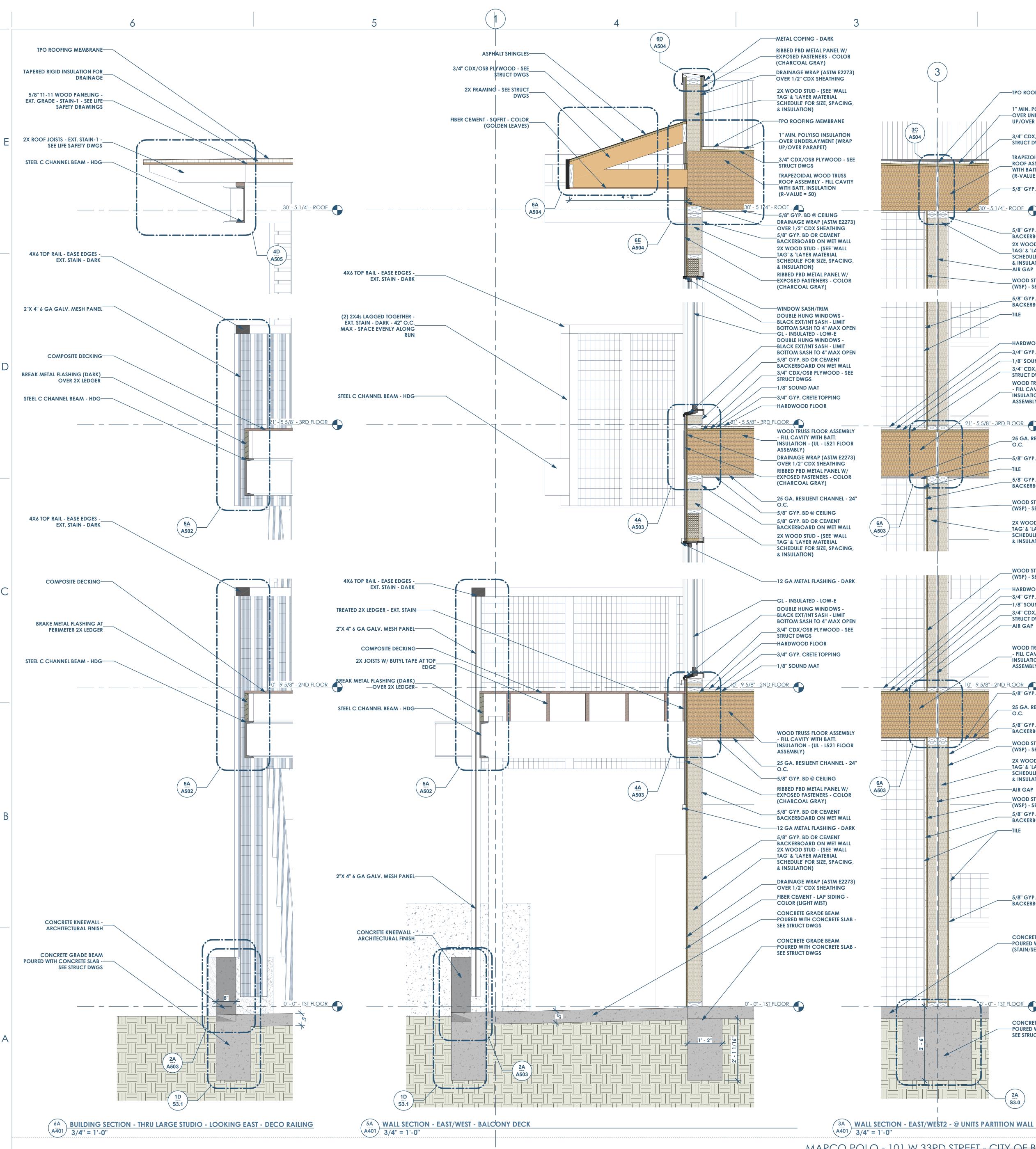


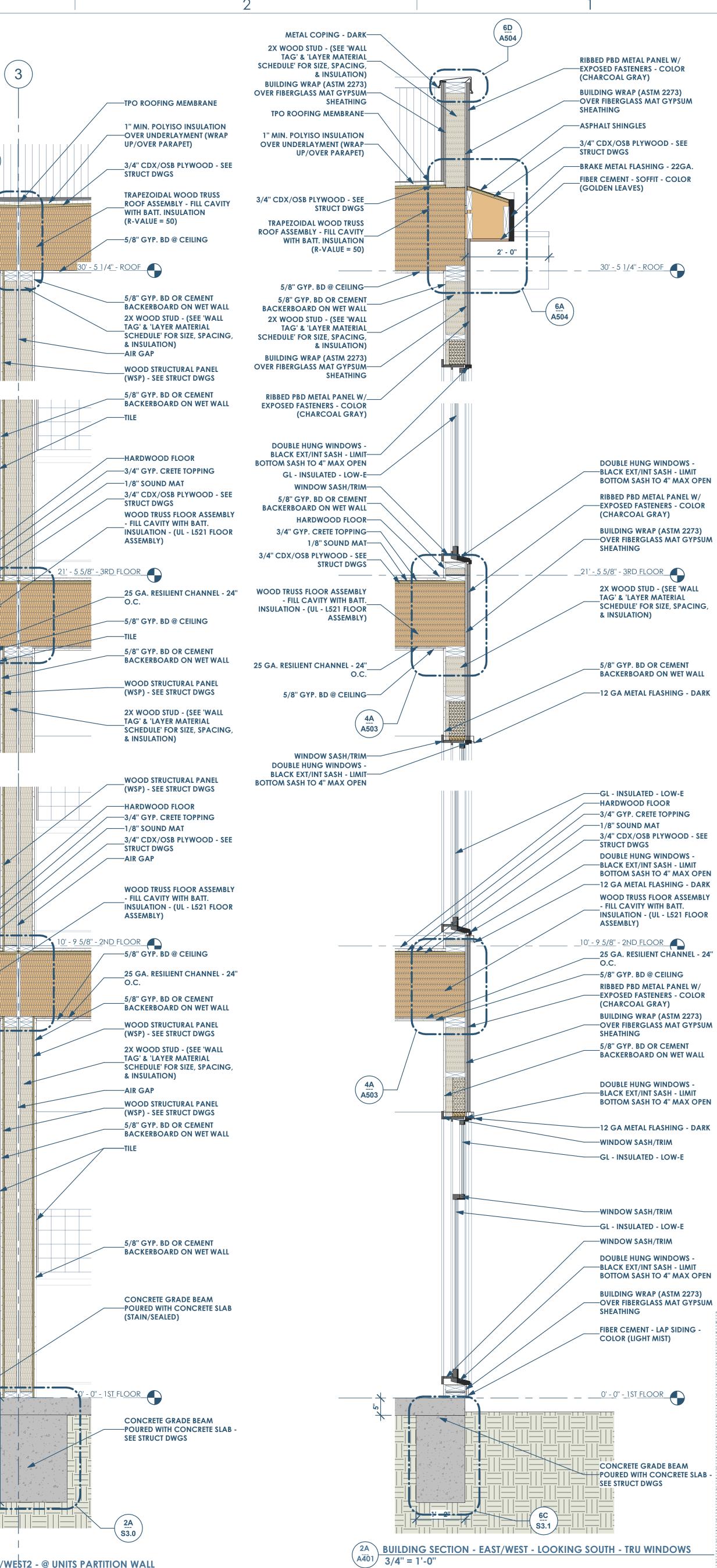


2A
A400WALL SECTION - THRU BALCONY - RAILING3/4" = 1'-0"

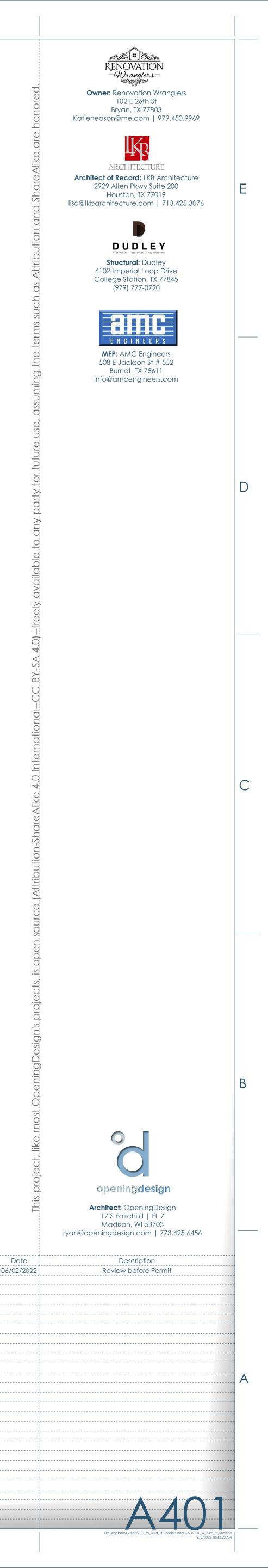
WALL SECTIONS

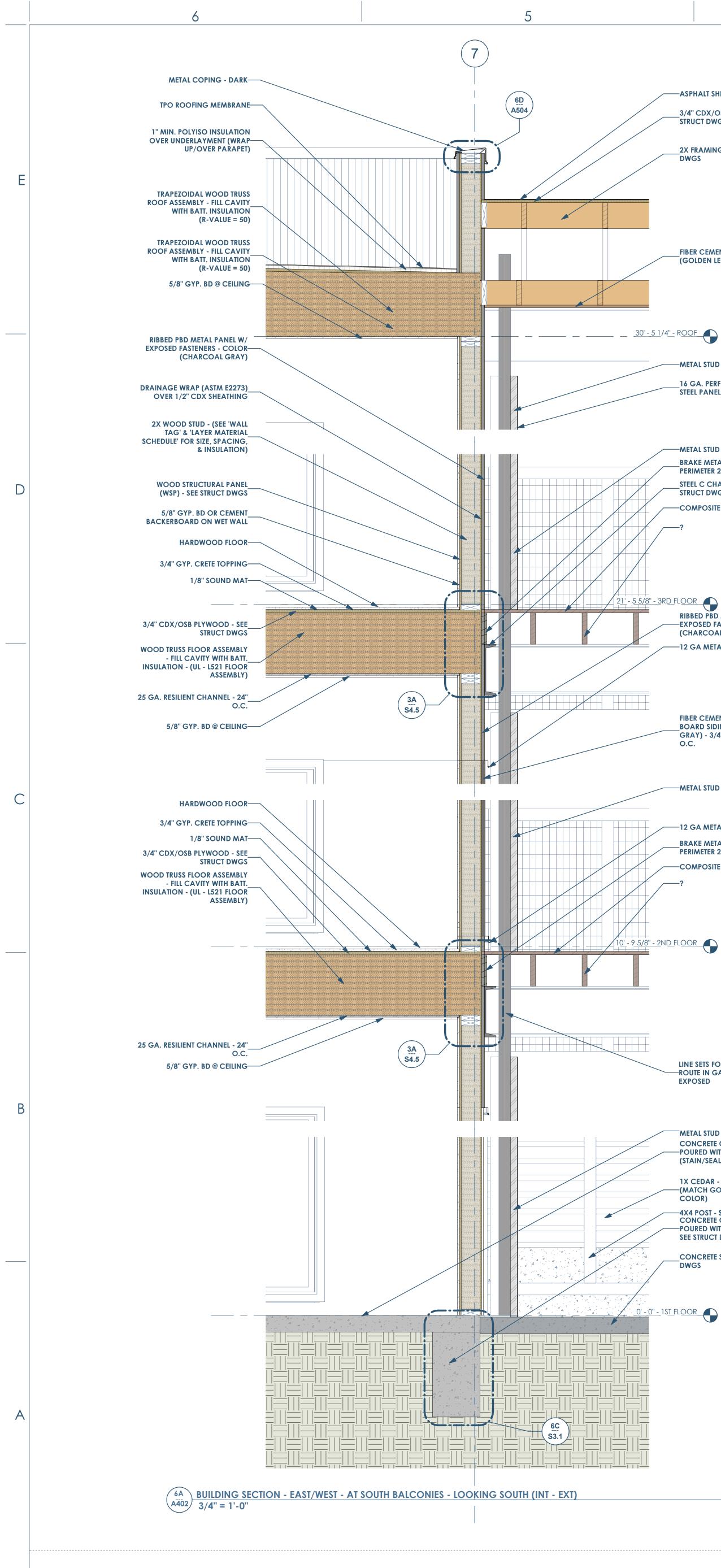






WALL SECTIONS





-ASPHALT SHINGLES

3/4" CDX/OSB PLYWOOD - SEE

STRUCT DWGS

_2X FRAMING - SEE STRUCT DWGS

FIBER CEMENT - SOFFIT - COLOR (GOLDEN LEAVES)

-METAL STUD - GALV. - 16" O.C. 16 GA. PERFORATED GALV. STEEL PANEL

-METAL STUD - GALV. - 16" O.C. BRAKE METAL FLASHING AT PERIMETER 2X LEDGER STEEL C CHANNEL - HDG - SEE STRUCT DWGS

RIBBED PBD METAL PANEL W/ -EXPOSED FASTENERS - COLOR

(CHARCOAL GRAY) —12 GA METAL FLASHING - DARK

FIBER CEMENT - BATTEN AND BOARD SIDING - COLOR (IRON GRAY) - 3/4"X2.5" BATTENS 12" O.C.

-METAL STUD - GALV. - 16" O.C.

—12 GA METAL FLASHING - DARK

BRAKE METAL FLASHING AT PERIMETER 2X LEDGER -COMPOSITE DECKING

LINE SETS FOR MINI-SPLITS -

EXPOSED

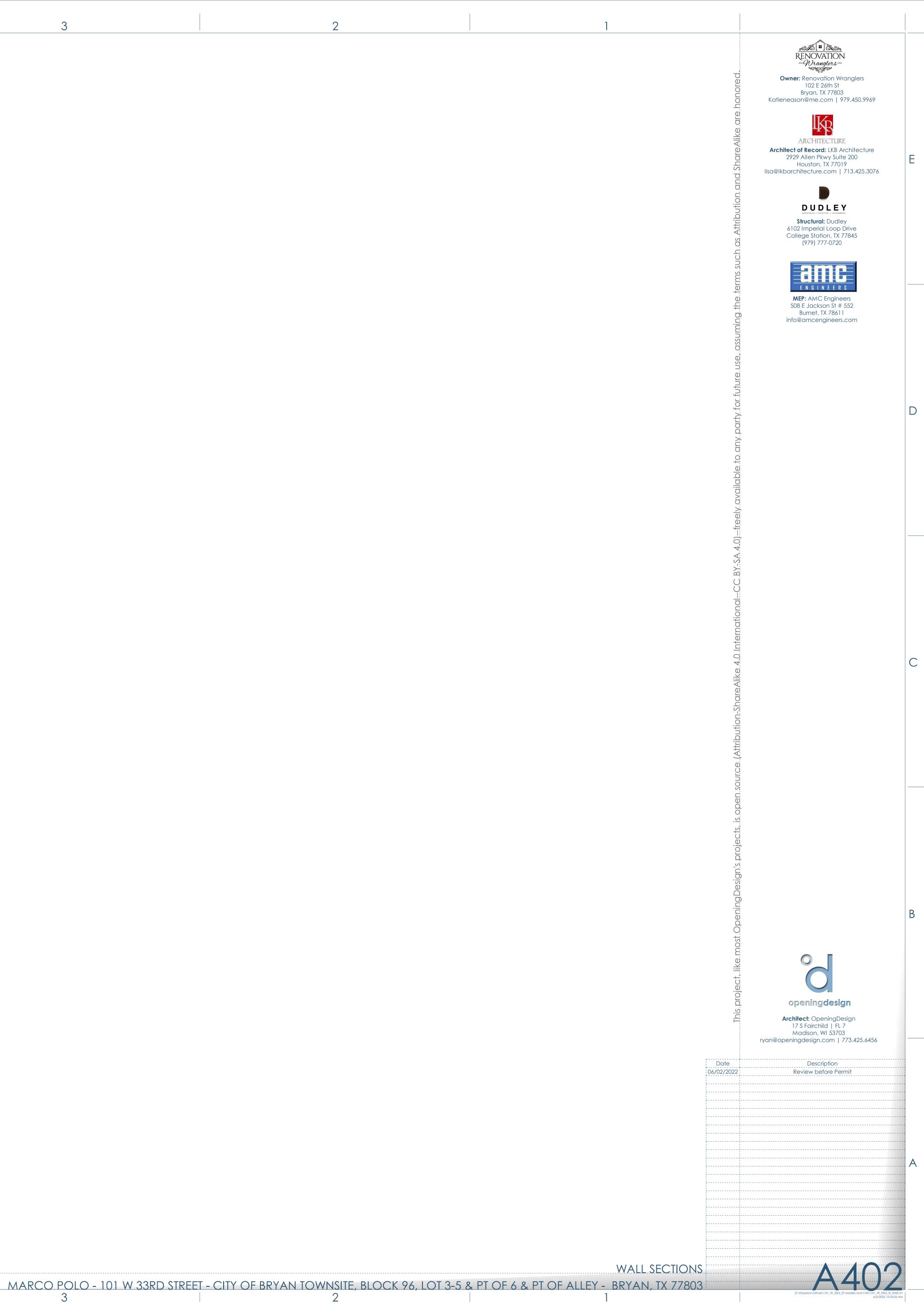
METAL STUD - GALV. - 16" O.C. CONCRETE GRADE BEAM -POURED WITH CONCRETE SLAB (STAIN/SEALED)

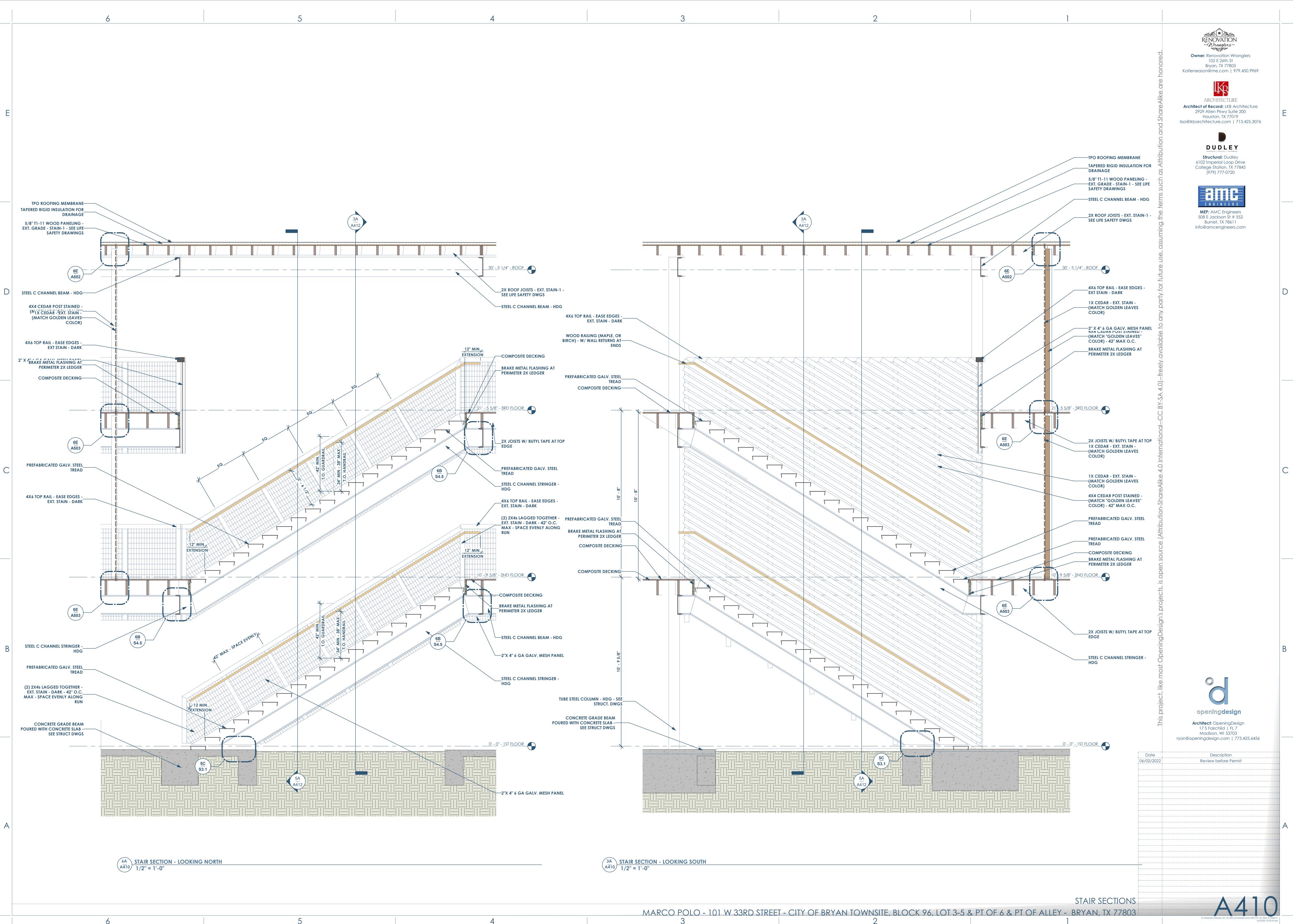
1X CEDAR - EXT. STAIN --(MATCH GOLDEN LEAVES COLOR)

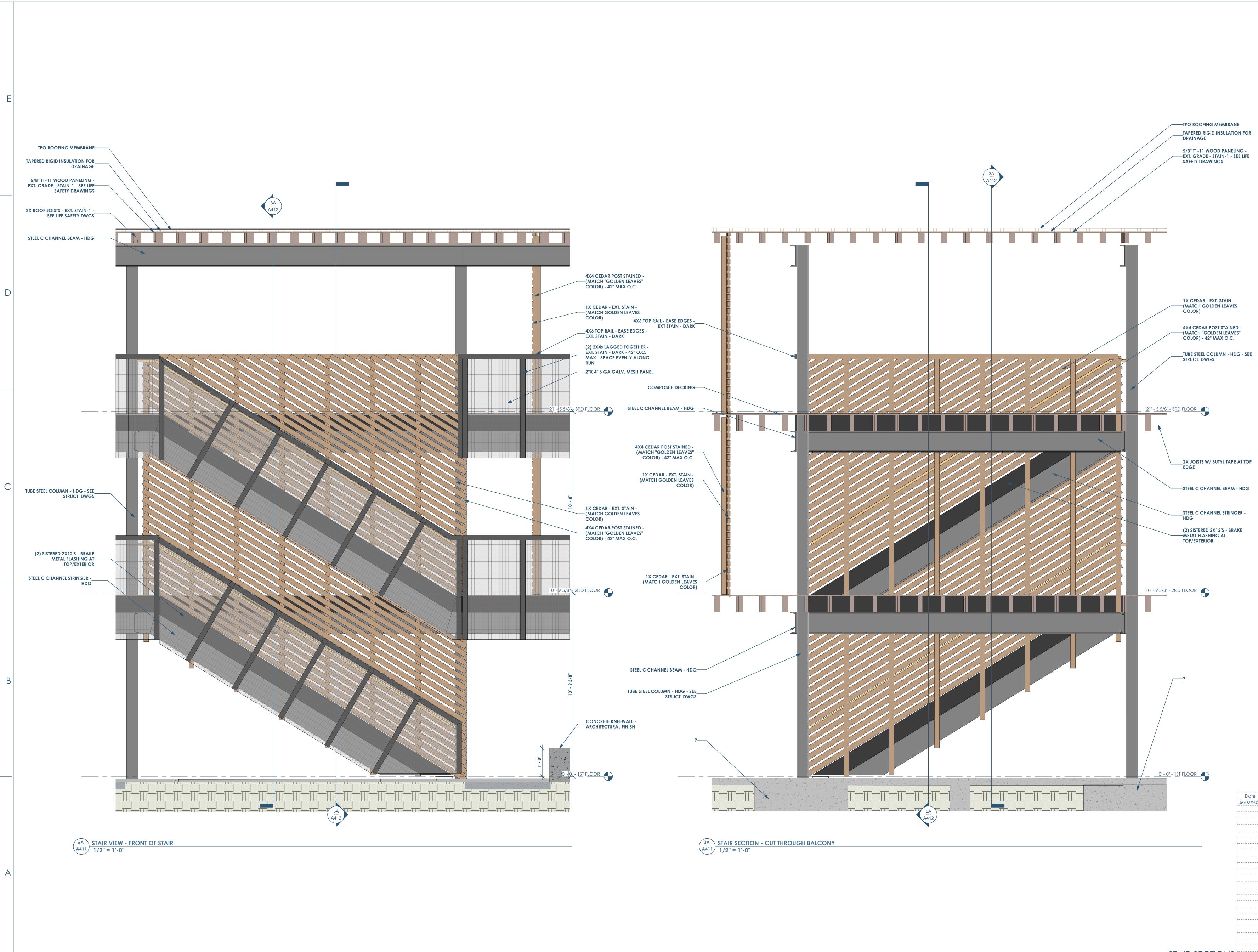
SEE STRUCT DWGS

_CONCRETE SLAB - SEE STRUCT DWGS

<u>`0' - `0'' - 1ST FLOOR</u>

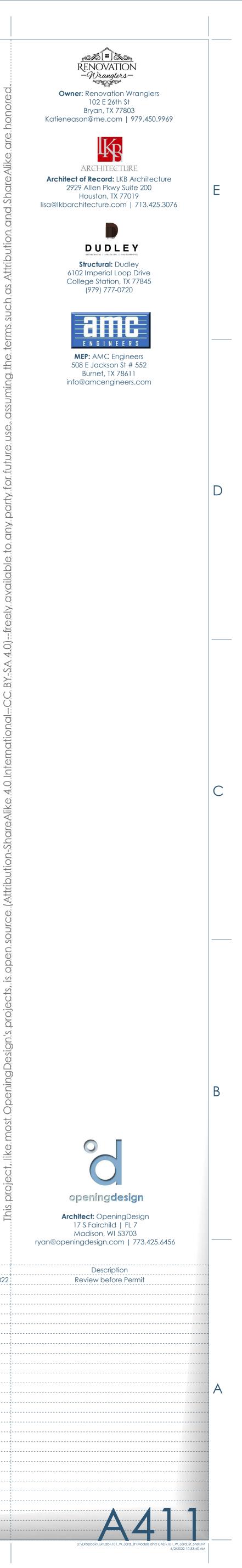


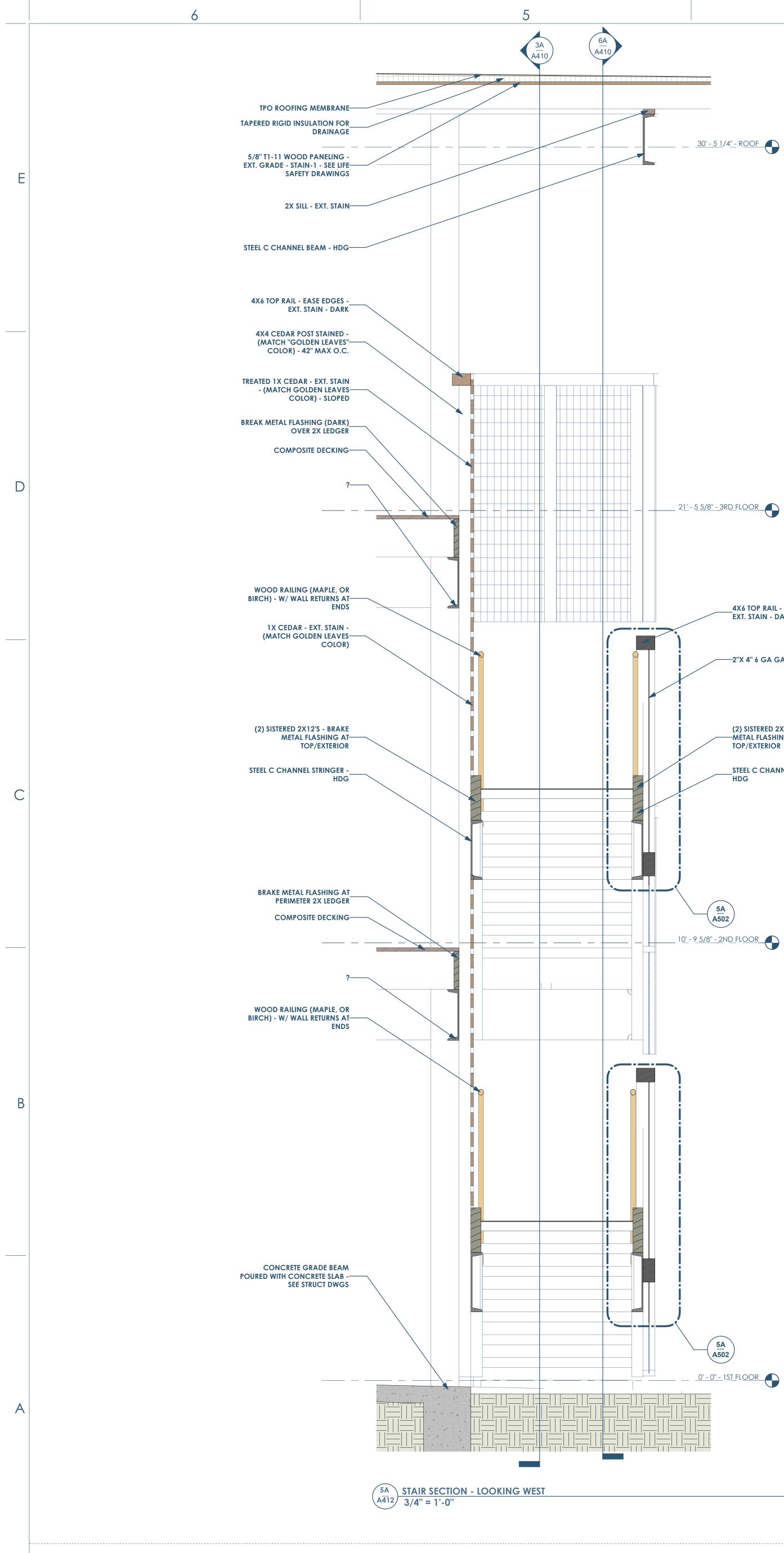




MARCO POLO - 101 W 33RD STREET - CITY OF BRYAN TOWNSITE, BLOCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY - BRYAN, TX 77803

STAIR SECTIONS





4	3

TAPERED RIGID INSULATION FOR _____ <u>30' - 5 1</u>/4<u>'' -</u> R<u>OOF</u> 2X SILL - EXT. STAIN-----5/8" T1-11 WOOD PANELING -EXT. GRADE - STAIN-1 - SEE LIFE

SAFETY DRAWINGS STEEL C CHANNEL BEAM - HDG

4X6 TOP RAIL - EASE EDGES -EXT. STAIN - DARK -2"X 4" 6 GA GALV. MESH PANEL (2) SISTERED 2X12'S - BRAKE —METAL FLASHING AT **TOP/EXTERIOR** _STEEL C CHANNEL STRINGER -HDG **5**A

A502

5<u>A</u> A502

_____1<u>ST</u>FLOOR_____

4X4 CEDAR POST STAINED -(MATCH "GOLDEN LEAVES"-COLOR) - 42" MAX O.C.

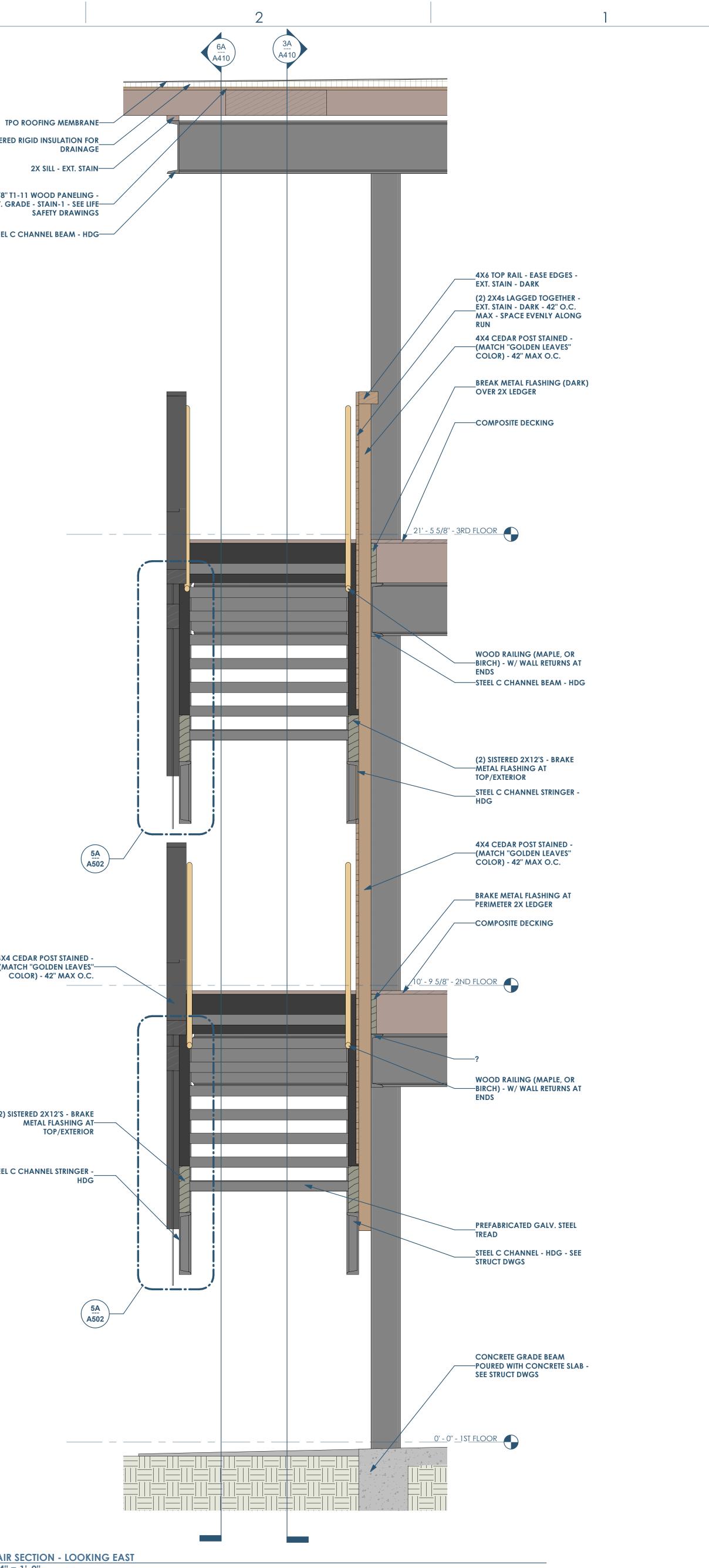
(2) SISTERED 2X12'S - BRAKE

METAL FLASHING AT **TOP/EXTERIOR**

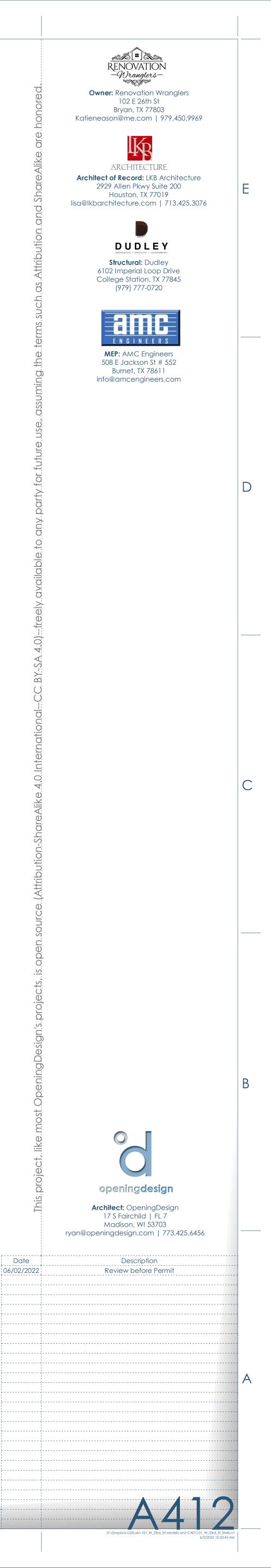
STEEL C CHANNEL STRINGER -

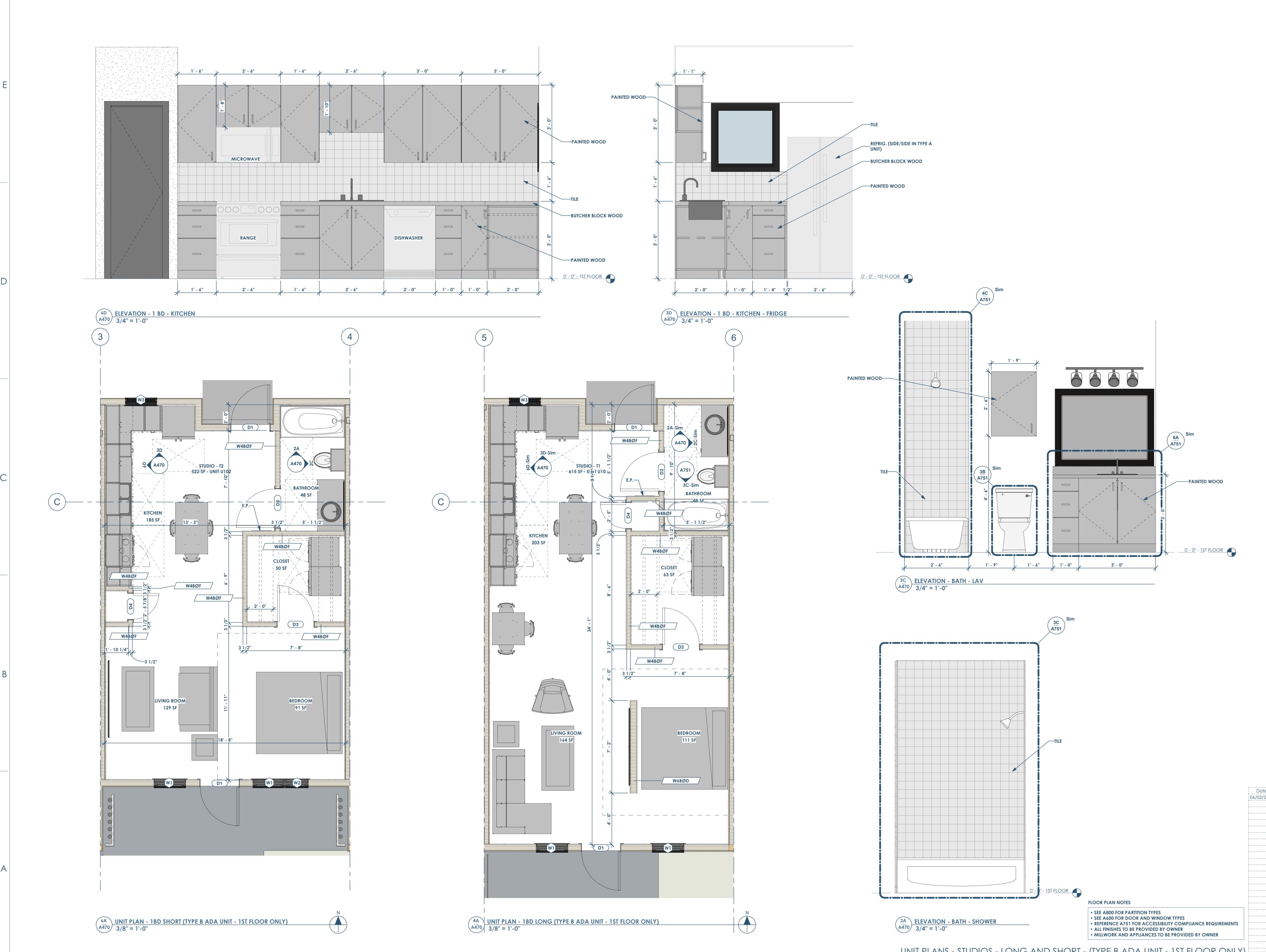
3A
A412STAIR SECTION - LOOKING EAST3/4" = 1'-0"

MARCO POLO - 101 W 33RD STREET - CITY OF BRYAN TOWNSITE, BLOCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY - BRYAN, TX 77803



STAIR SECTIONS





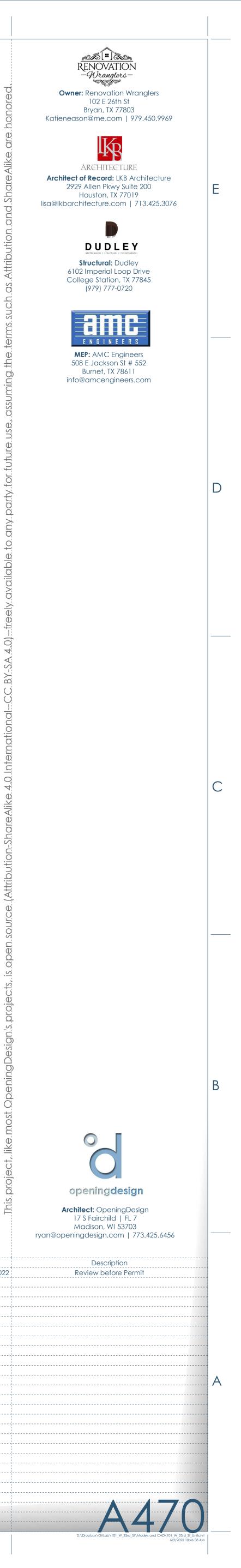
6

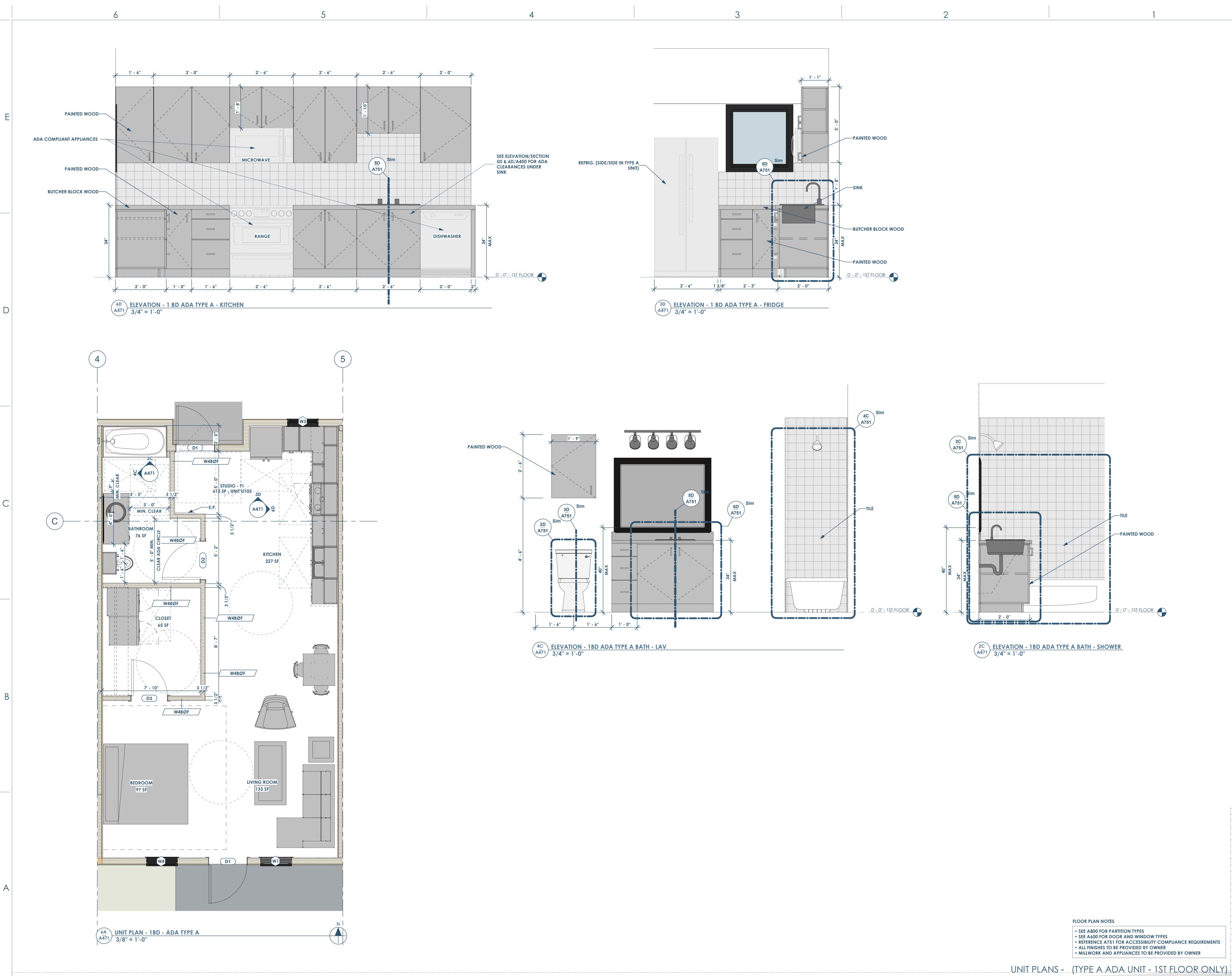


2

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UNIT PLANS - STUDIOS - LONG AND SHORT - (TYPE B ADA UNIT - 1ST FLOOR ONLY) MARCO POLO - 101 33RD STREET - CITY OF BRYAN TOWNSITE, BLOCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY - BRYAN, TX 77803

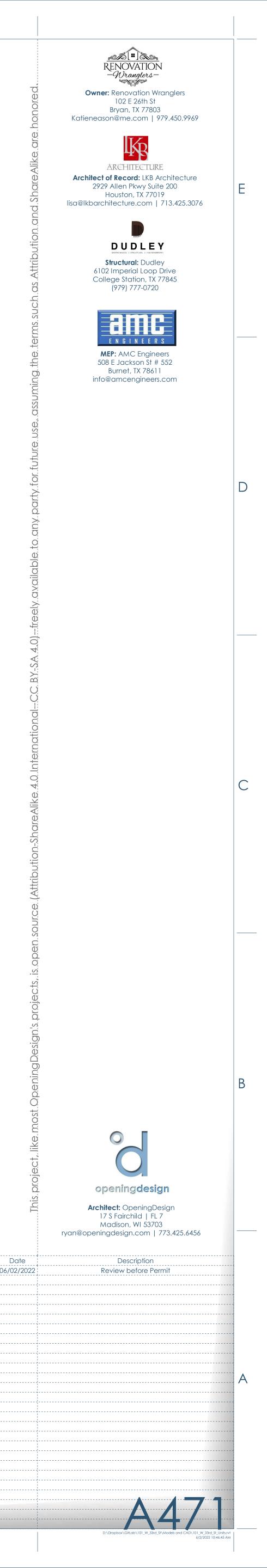


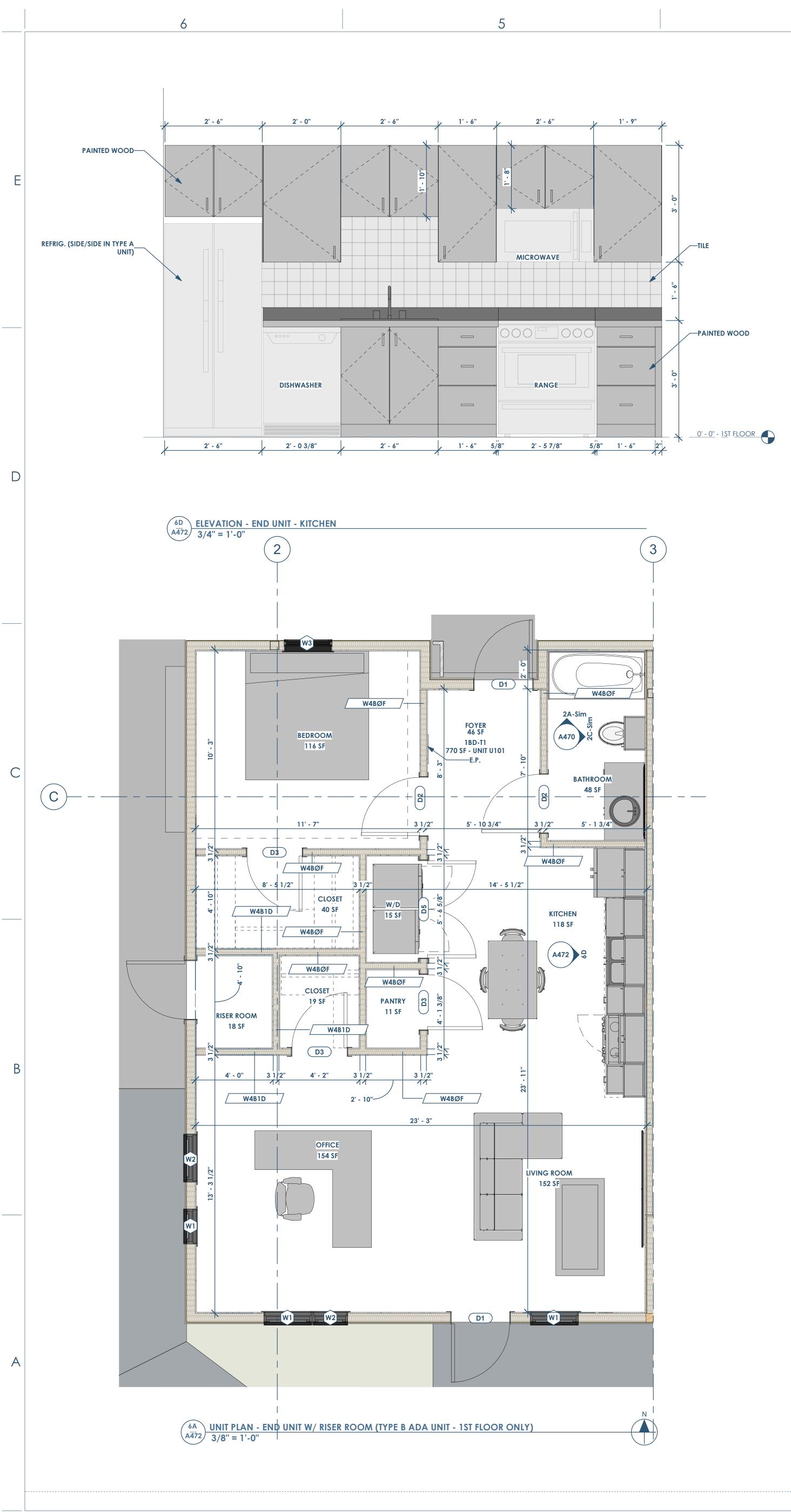






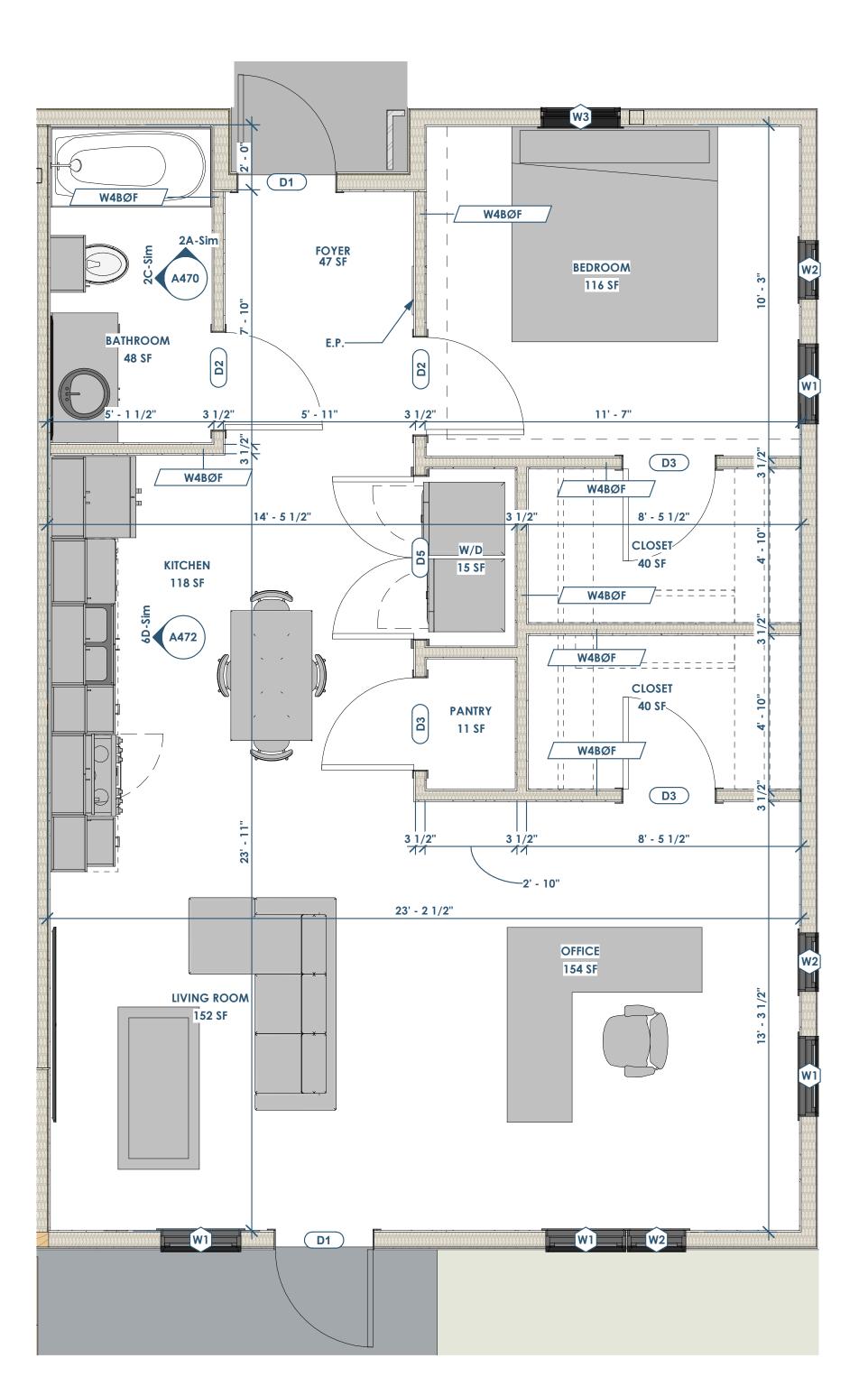
• REFERENCE A751 FOR ACCESSIBILITY COMPLIANCE REQUIREMENTS ALL FINISHES TO BE PROVIDED BY OWNER • MILLWORK AND APPLIANCES TO BE PROVIDED BY OWNER







4A A⁴⁷2 UNIT PLAN - END UNIT (TYPE B ADA UNIT - 1ST FLOOR ONLY) 3/8" = 1'-0"



3

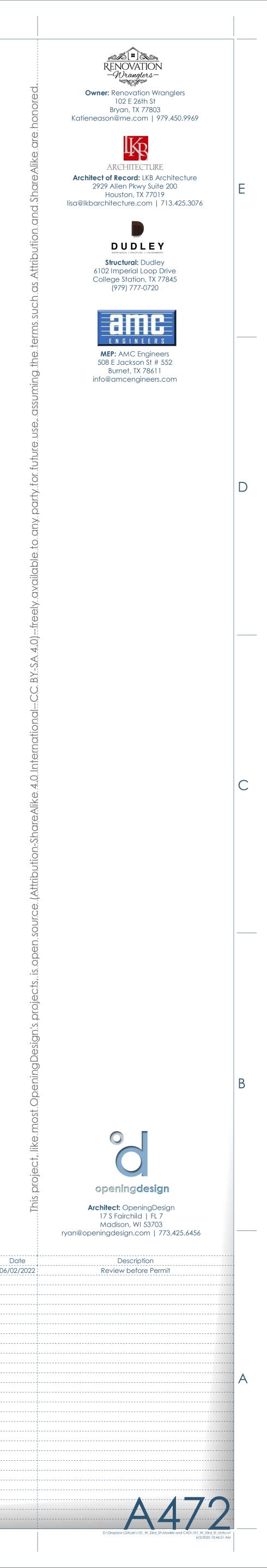
2

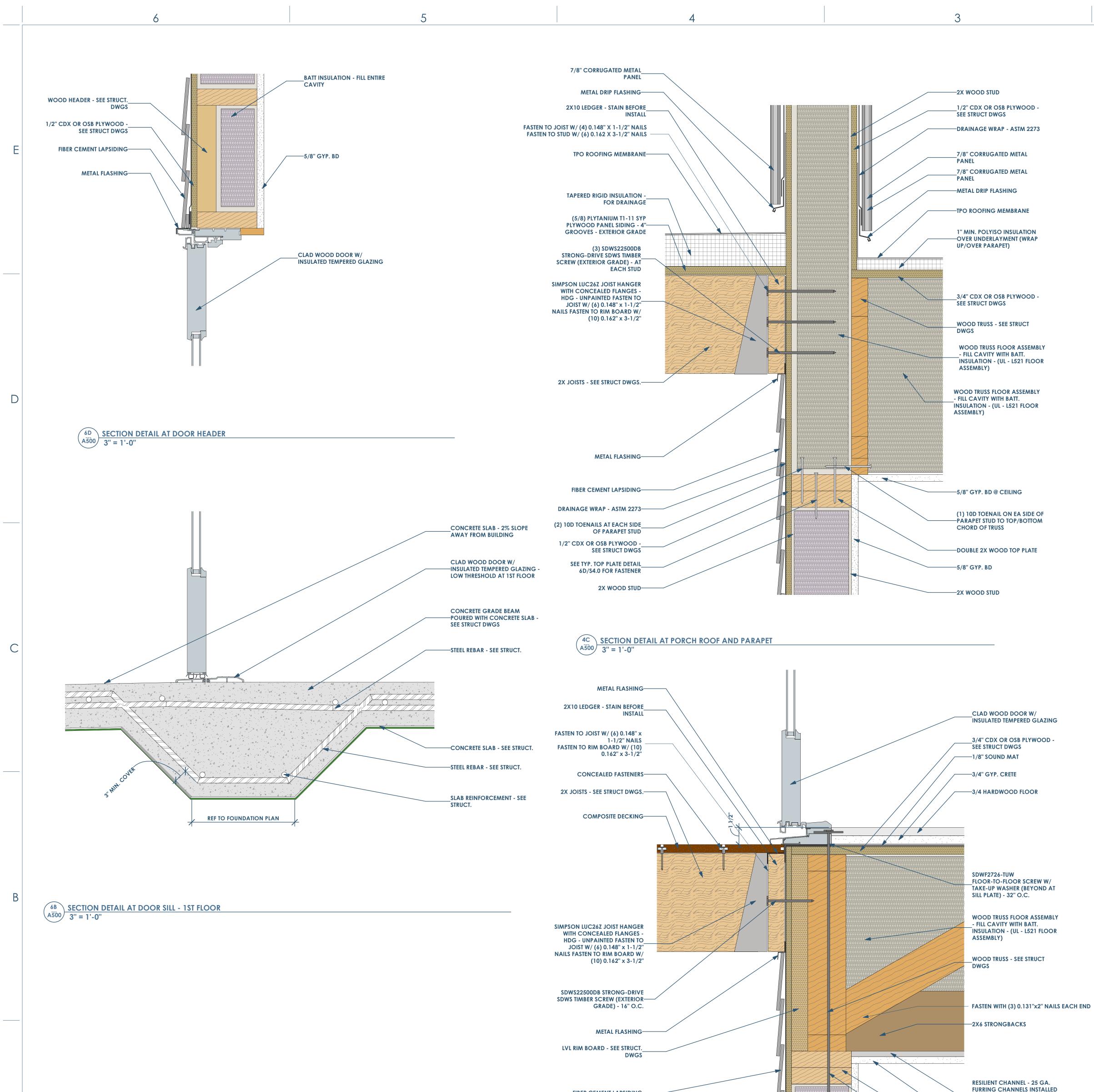
2

FLOOR PLAN NOTES

- SEE A800 FOR PARTITION TYPES
- SEE A600 FOR DOOR AND WINDOW TYPES • REFERENCE A751 FOR ACCESSIBILITY COMPLIANCE REQUIREMENTS ALL FINISHES TO BE PROVIDED BY OWNER
- MILLWORK AND APPLIANCES TO BE PROVIDED BY OWNER

UNIT PLANS - 1BD - END UNITS







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1/2" CDX OR OSB PLYWOOD -SEE STRUCT DWGS

ASO0 SECTION DETAIL AT UNIT DOOR SILL (2ND OR 3RD FLOOR) 3" = 1'-0"

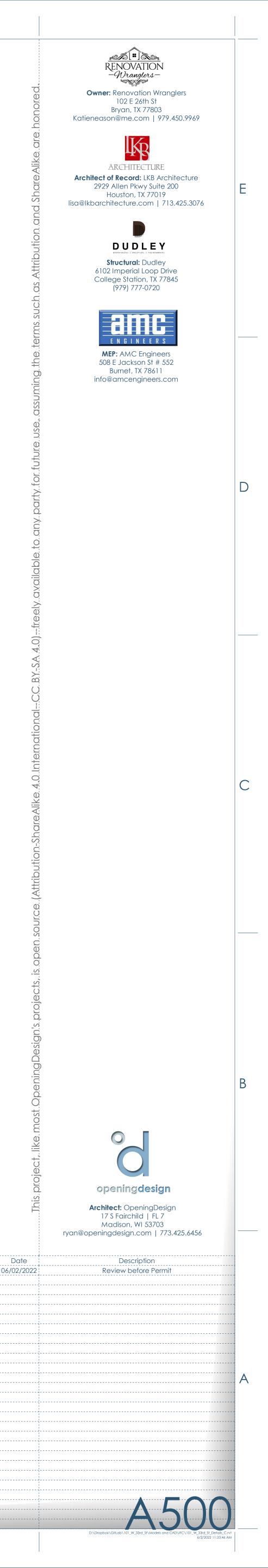
HORIZONTALLY SPACED 24 IN.

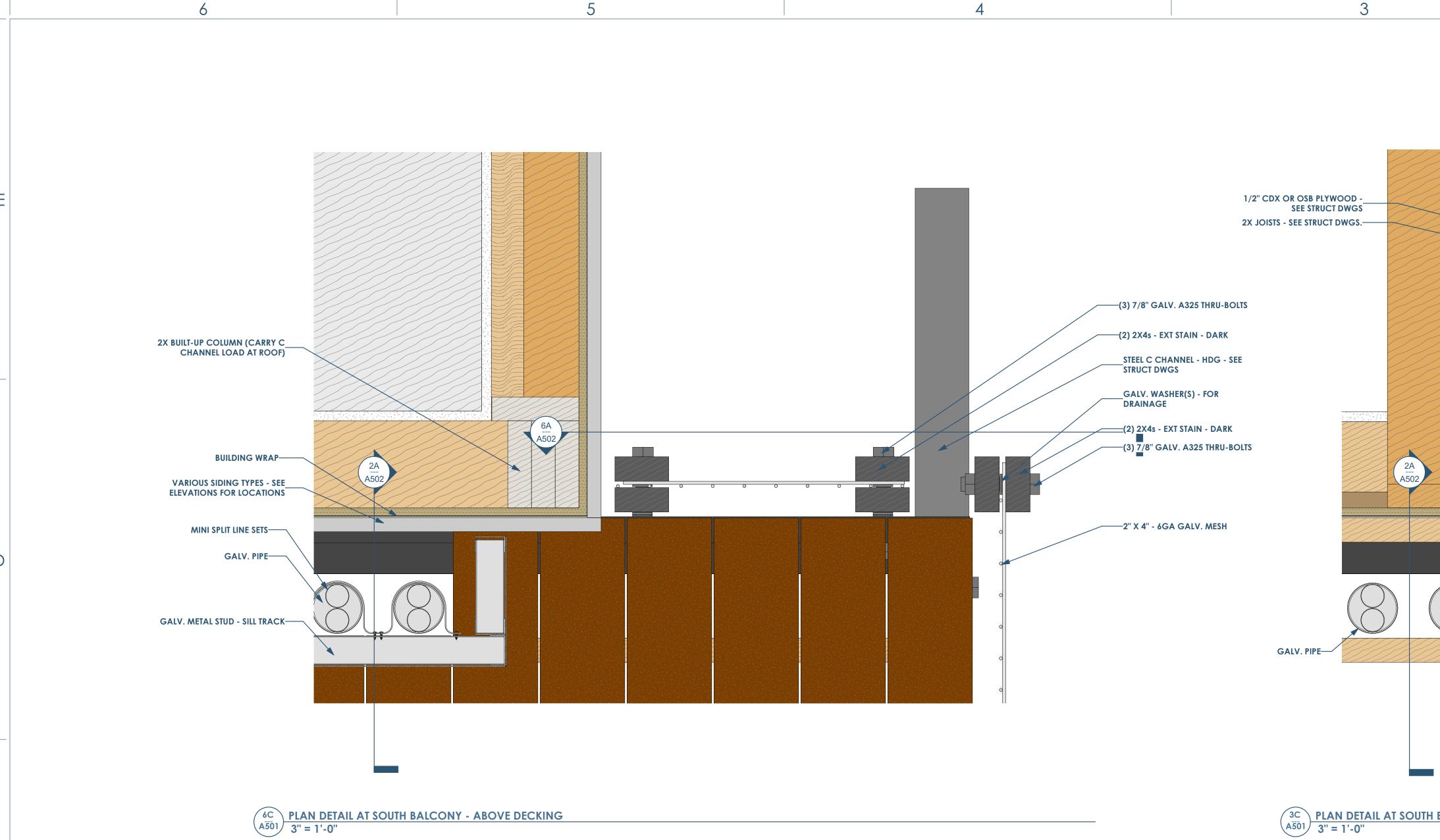
—DOUBLE 2X WOOD TOP PLATE

FLOOR-TO-FLOOR SCREW W/ TAKE-UP WASHER (BEYOND AT SILL PLATE) - 32" O.C.

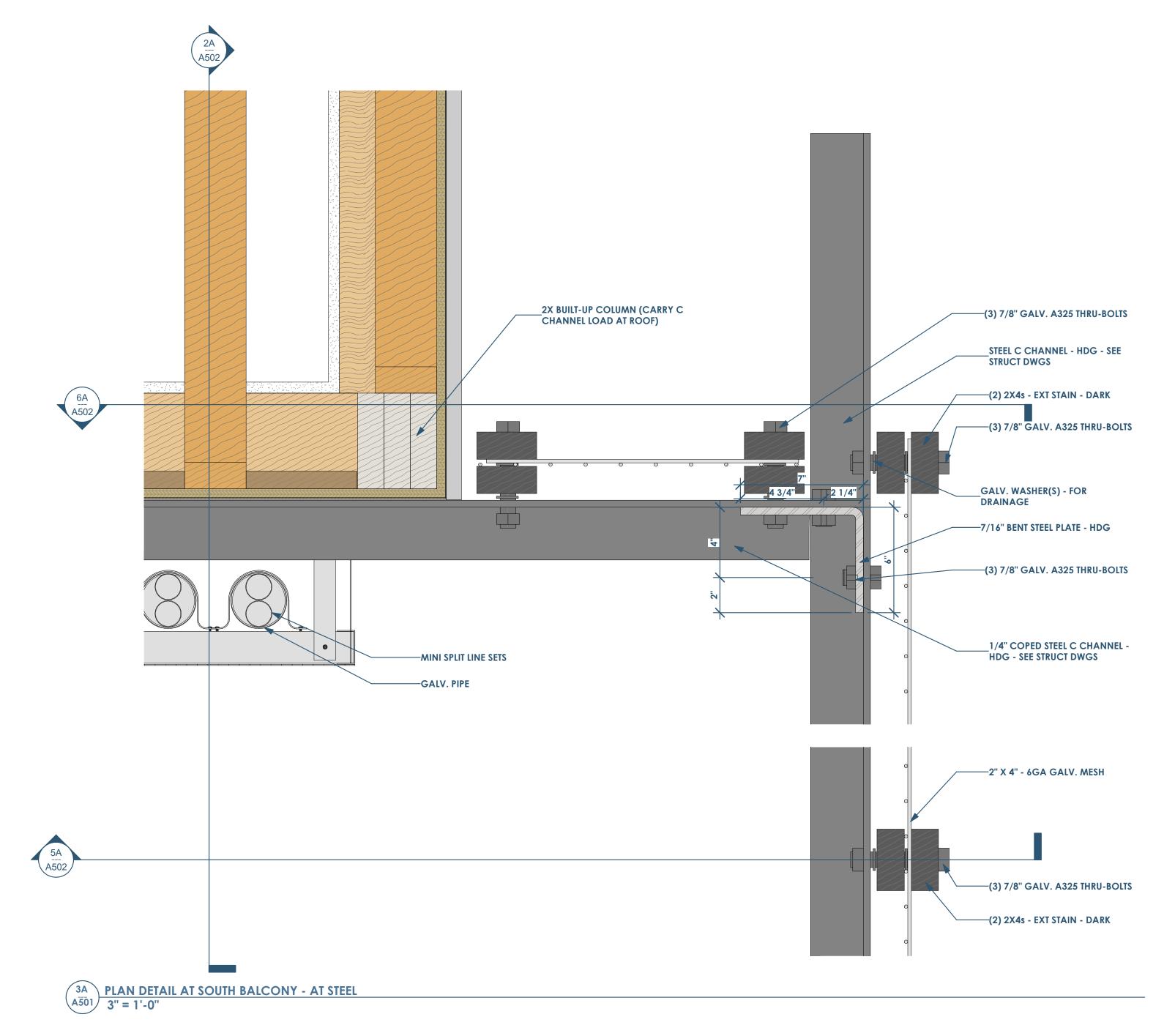
SDWF2726-TUW

OC

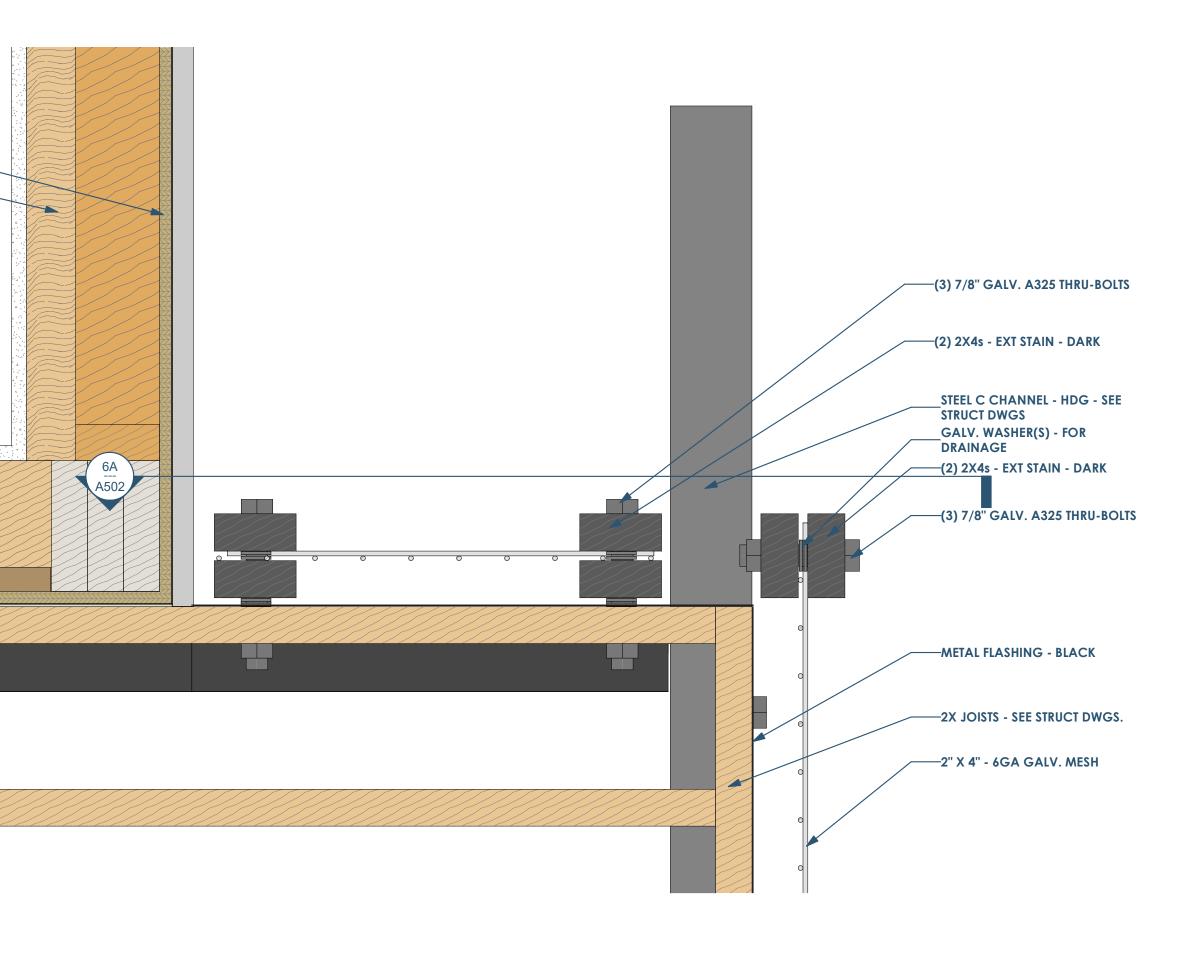




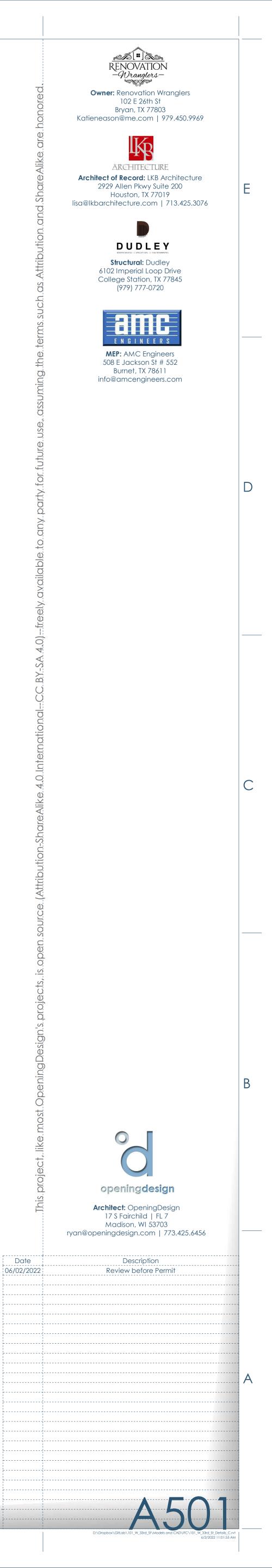
3C
A501PLAN DETAIL AT SOUTH BALCONY - AT LEDGER3" = 1'-0"

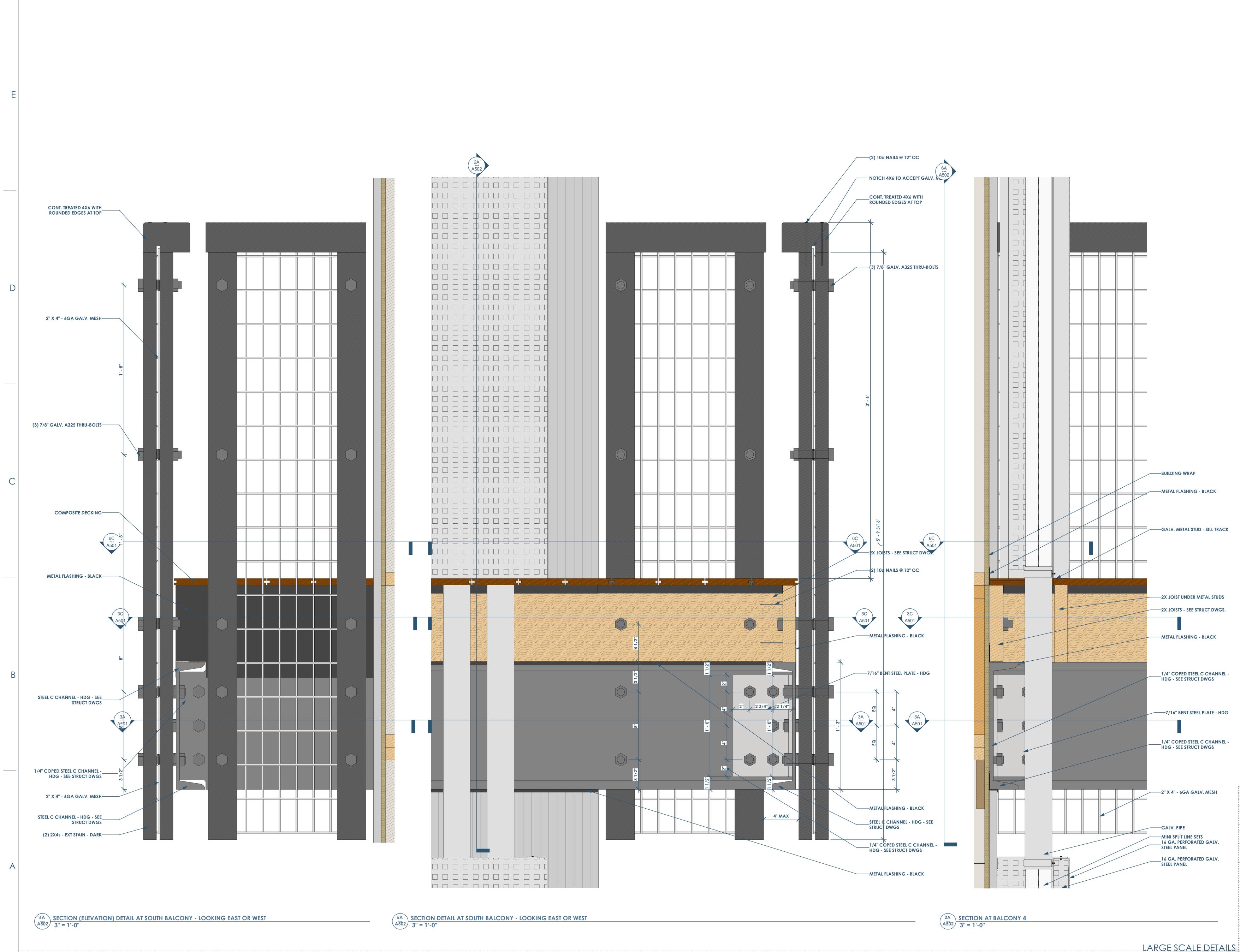


2

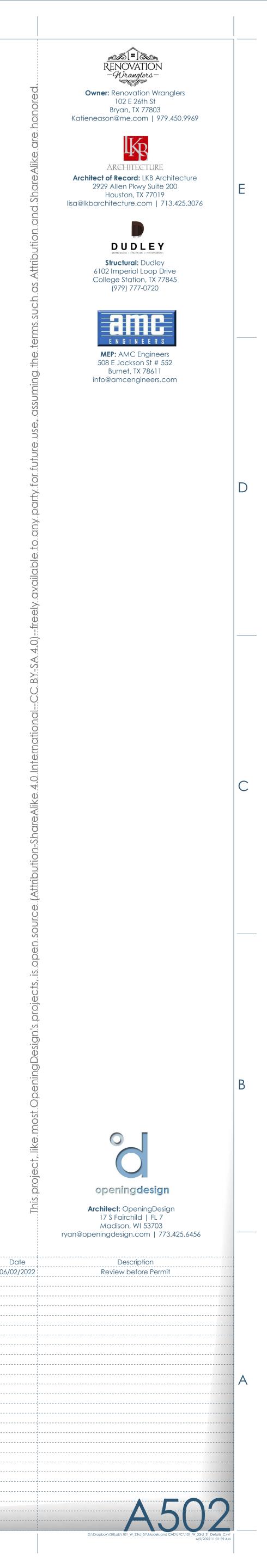


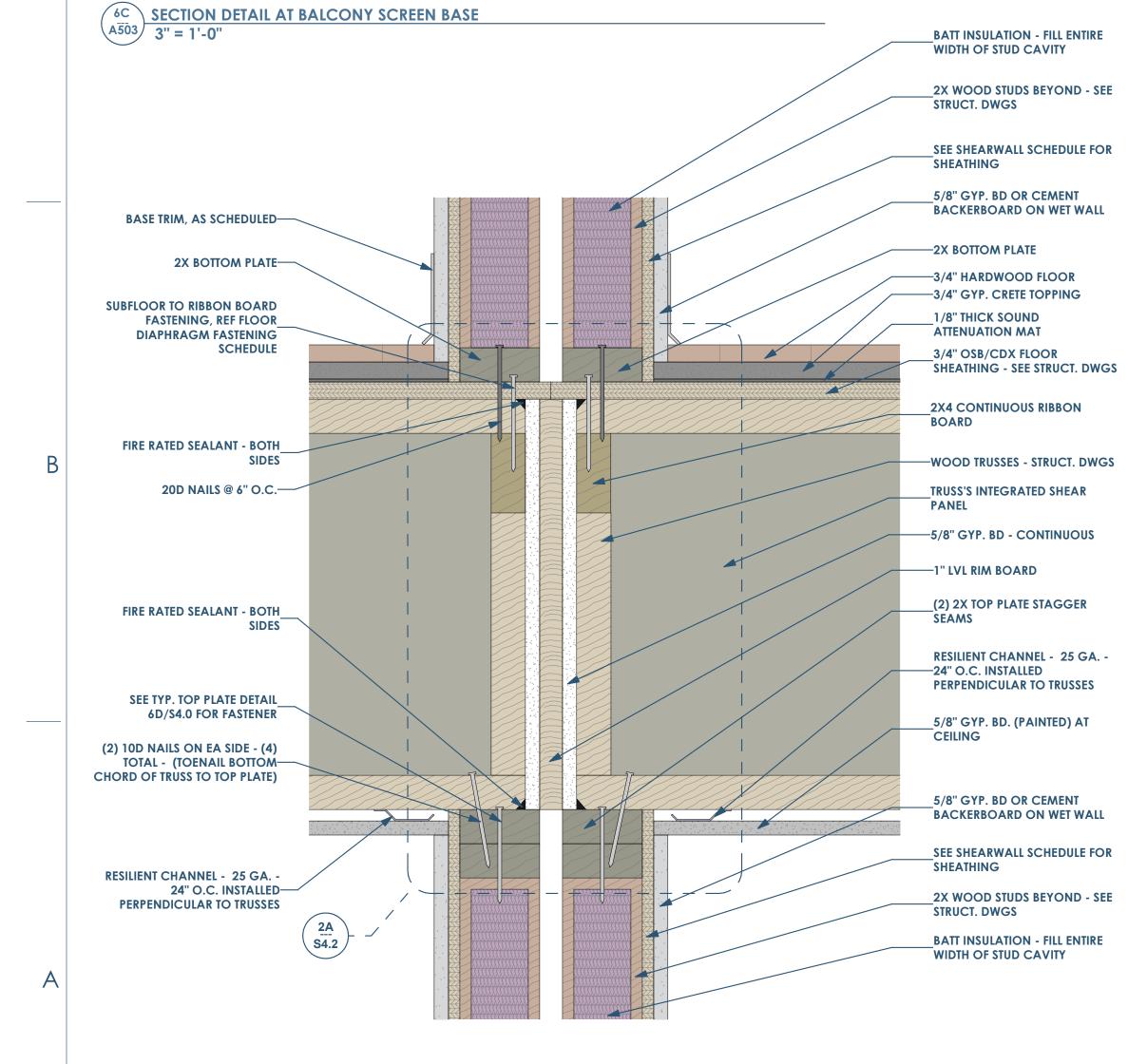
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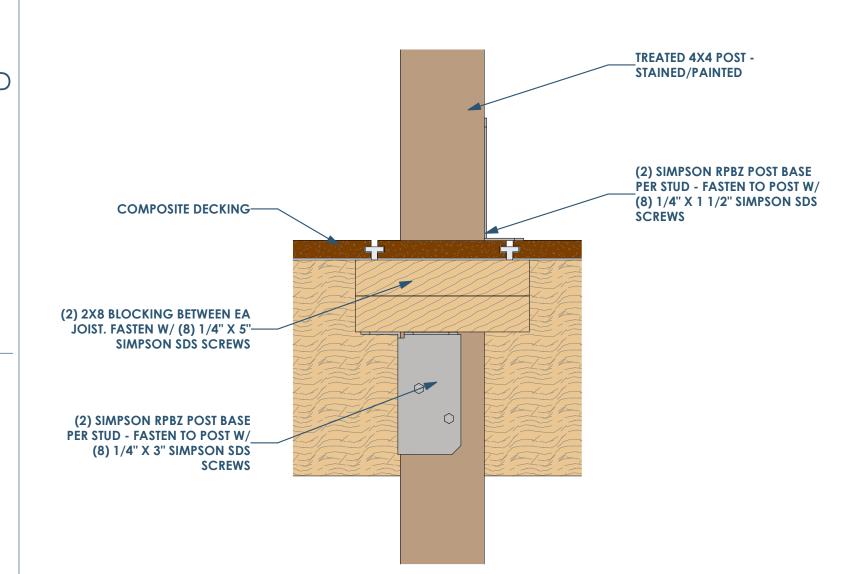




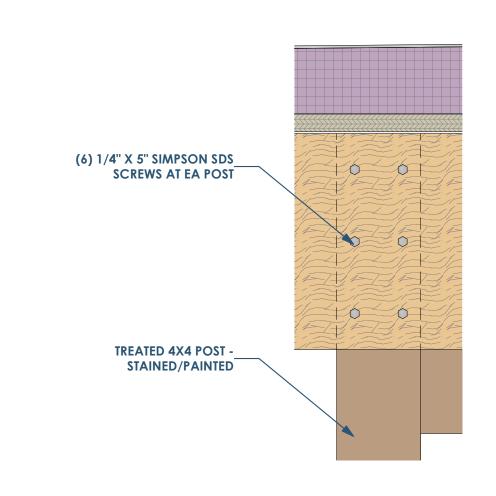
MARCO POLO - 101 33RD STREET - CITY OF BRYAN TOWNSITE, BLOCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY - BRYAN, TX 77803





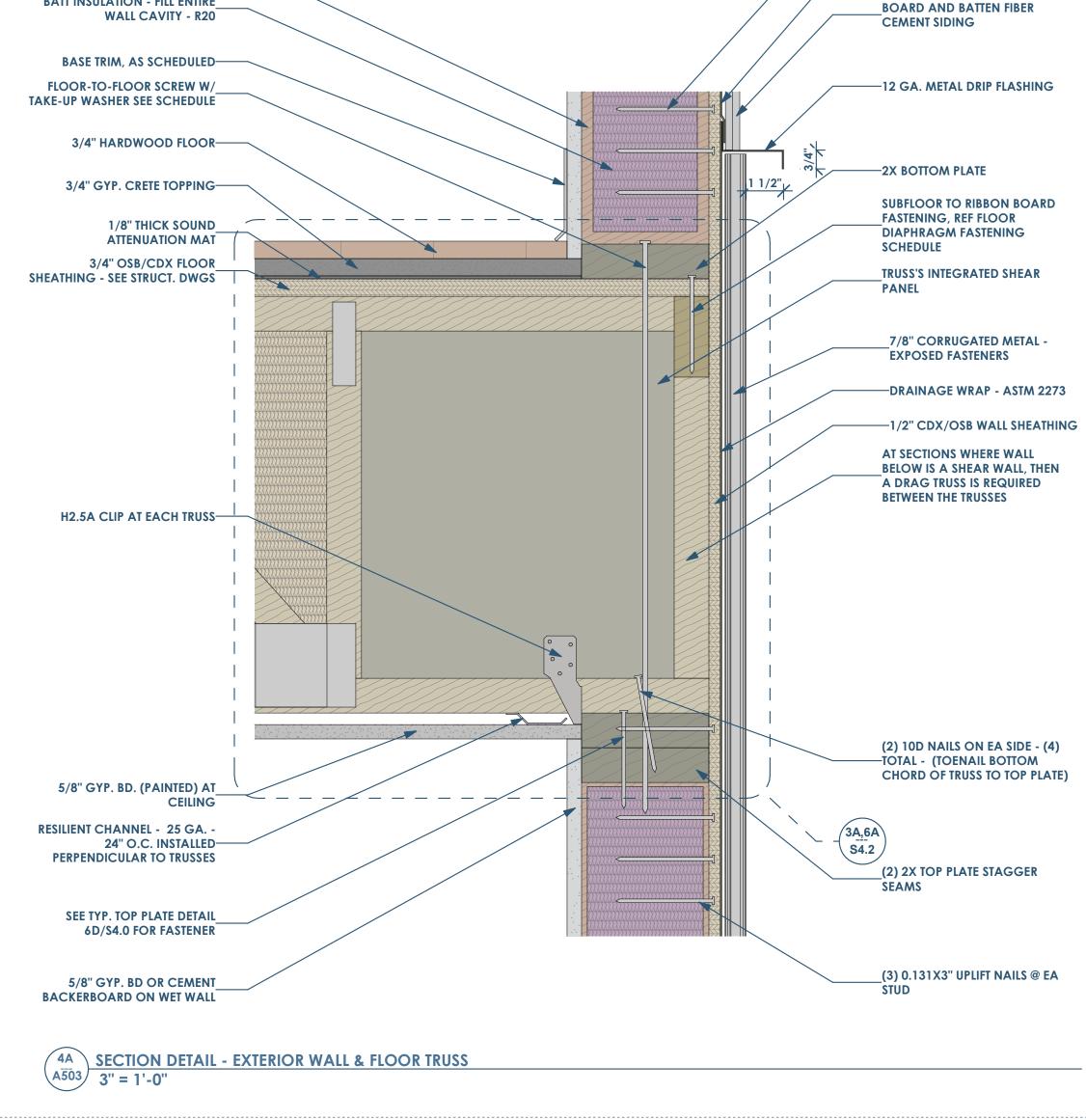






__(3) 0.131X3" UPLIFT NAILS @ EA

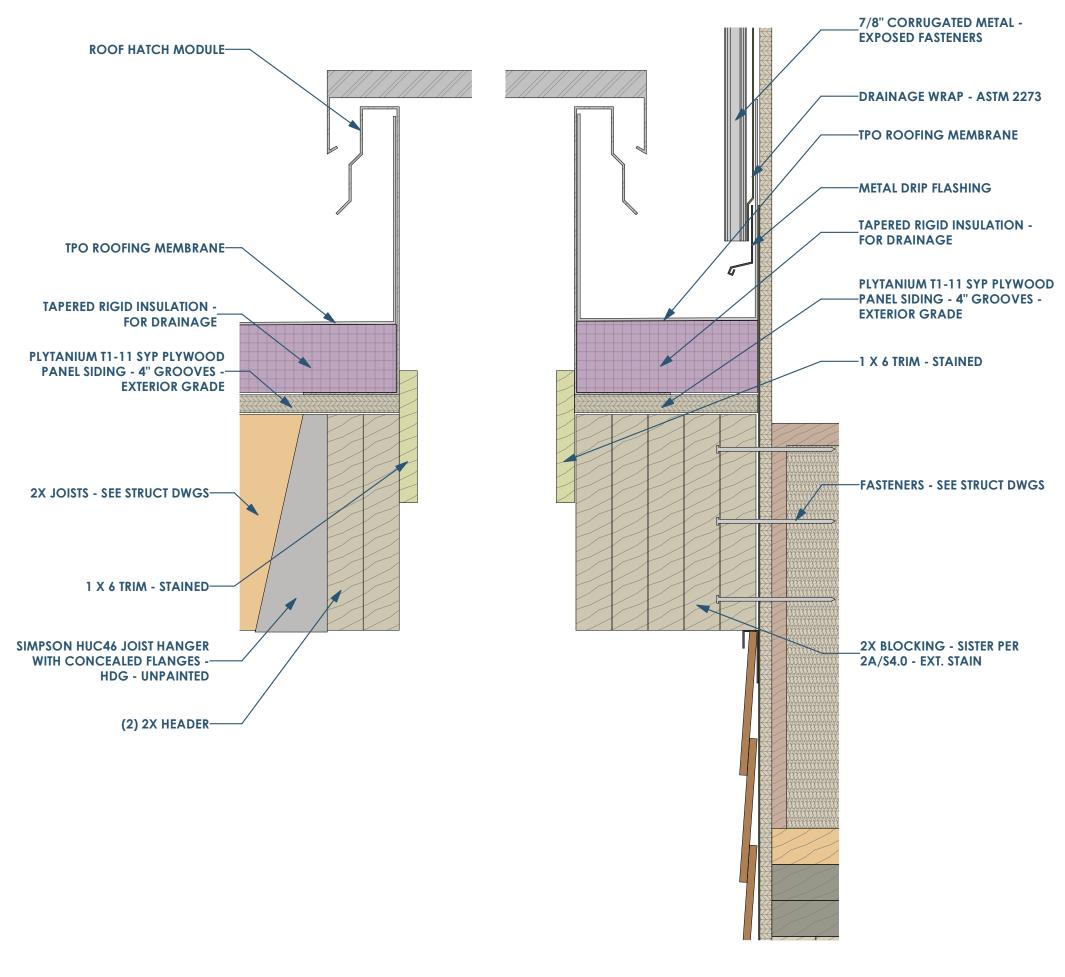
STUD



2X WOOD STUDS BEYOND - SEE

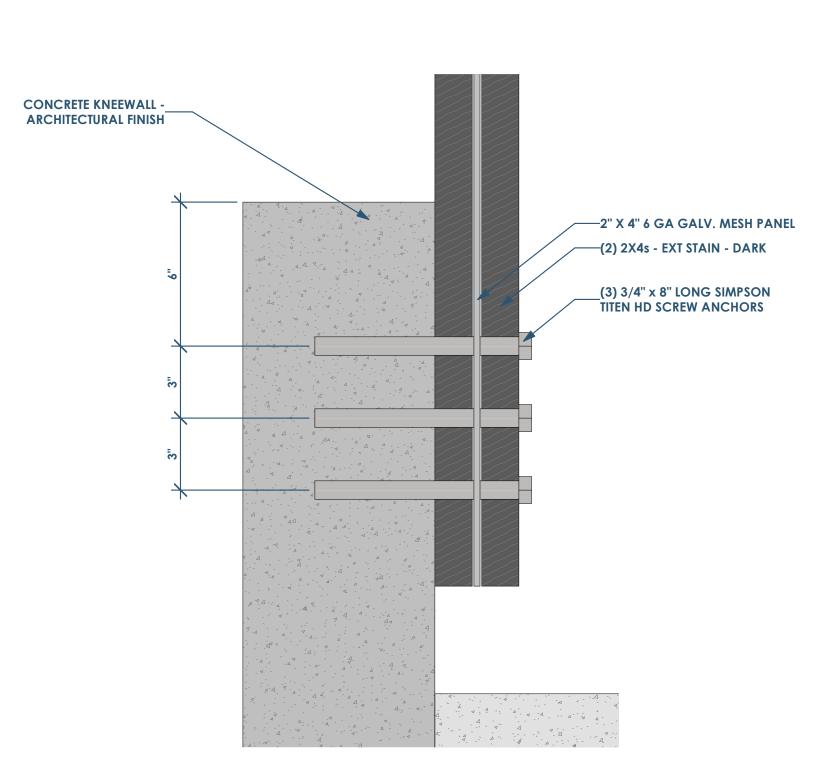
BATT INSULATION - FILL ENTIRE

STRUCT. DWGS



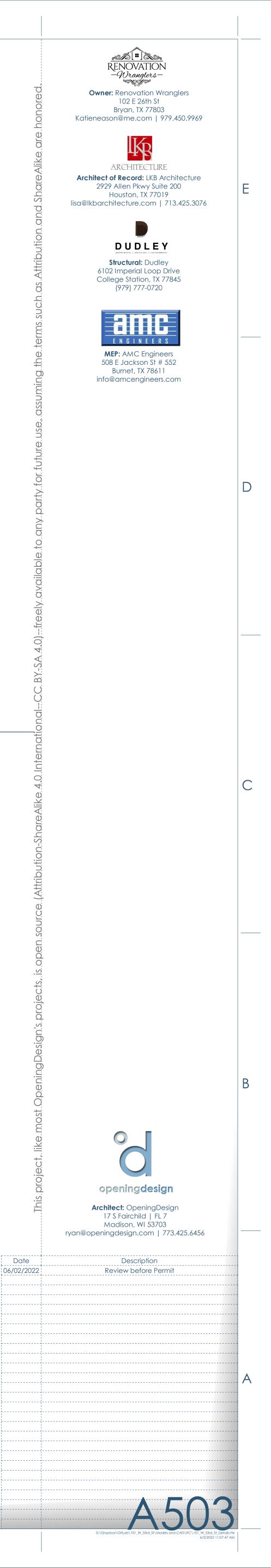
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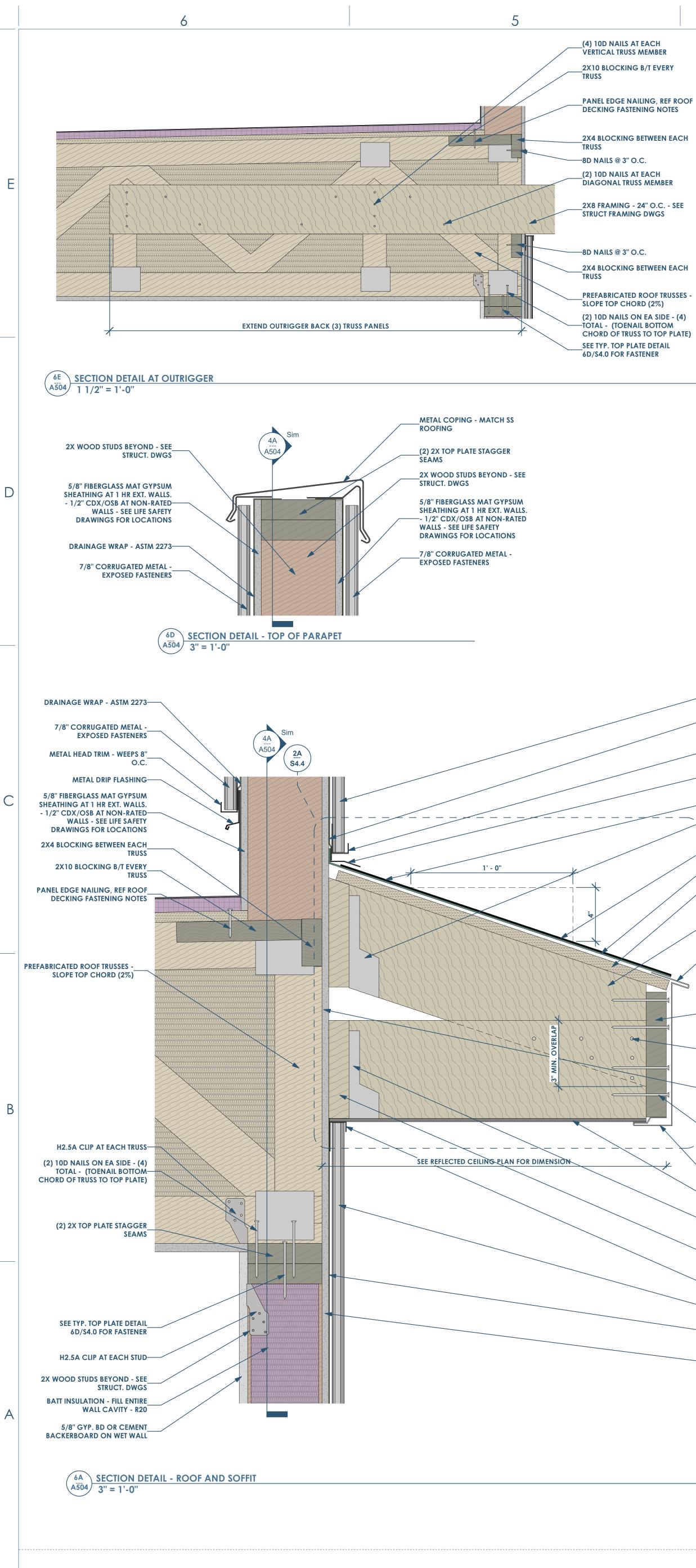




A503 SECTION DETAIL - AT CONCRETE KNEEWALL 3" = 1'-0"

LARGE SCALE DETAILS





3A
A504SECTION DETAIL - AT SOFFIT AND ALCOVE3" = 1'-0"

2X LEDGER BOARD - SEE STRUCT DWGS (FIRE TREATED IF ALONG EAST FACADE - SEE LIFE SAFETY DRAWINGS) -METAL HEAD TRIM 7/8" CORRUGATED METAL -**EXPOSED FASTENERS** 5/8" FIBERGLASS MAT GYPSUM SHEATHING AT 1 HR EXT. WALLS. -- 1/2" CDX/OSB AT NON-RATED WALLS - SEE LIFE SAFETY DRAWINGS FOR LOCATIONS

4A A504 SECTION DETAIL - AT PARAPET WALL 3" = 1'-0"

JOIST HANGER OR CLIP - SEE STRUCT.

DRAWINGS FOR LOCATIONS MIN (2) 10D NAILS INTO EACH RAFTER AND EACH EAVE JOIST

(6) 10D NAILS TO CONNECT **RAFTER TO EAVE JOIST** 5/8" FIBERGLASS MAT GYPSUM SHEATHING AT 1 HR EXT. WALLS. -- 1/2" CDX/OSB AT NON-RATED WALLS - SEE LIFE SAFETY

2X FASCIA BOARD (FIRE TREATED IF ALONG EAST FACADE - SEE LIFE SAFETY DRAWINGS)

TREATED IF ALONG EAST FACADE - SEE LIFE SAFETY DRAWINGS)

2X8 FRAMING - 24" O.C. (FIRE

3/4" OSB/CDX (FIRE TREATED IF SAFETY DRAWINGS)

STRUCT.

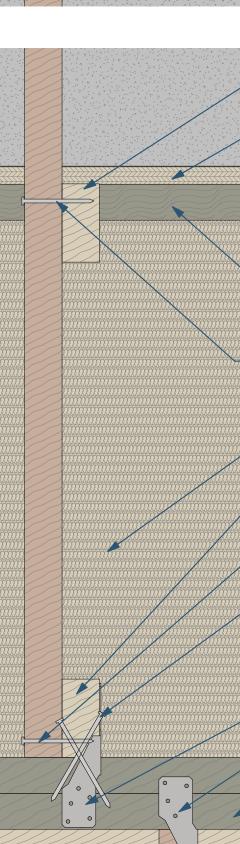
JOIST HANGER OR CLIP - SEE

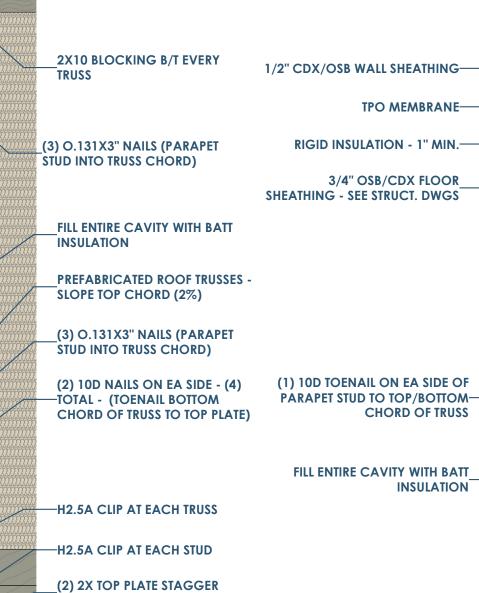
-CLASS A ASPHALT SHINGLES

-METAL DRIP FLASHING

METAL HEAD TRIM - WEEPS 8" O.C.

7/8" CORRUGATED METAL -EXPOSED FASTENERS -DRAINAGE WRAP - ASTM 2273





2X WOOD STUDS BEYOND - SEE

SEAMS

STRUCT. DWGS

3/4" OSB/CDX FLOOR SHEATHING - SEE STRUCT. DWGS

PREFABRICATED ROOF TRUSSES -SLOPE TOP CHORD (2%)

(2) 2X TOP PLATE STAGGER SEAMS

6D/S4.0 FOR FASTENER METAL COPING - MATCH SS ROOFING

SEE TYP. TOP PLATE DETAIL

WEDGE WASHER - 24" O.C.

3/4" GALV. THRU-BOLT W/

H2.5A CLIP AT EACH STUD-

TPO MEMBRANE

CHORD OF TRUSS

5/8" GYP. BD. (PAINTED) AT_

(1) 10D TOENAIL ON EA SIDE OF

PREFABRICATED ROOF TRUSSES -

(2) 10D TOENAILS AT EACH SIDE

H2.5A CLIP AT EACH STUD-

PARAPET STUD TO TOP/BOTTOM

SLOPE TOP CHORD (2%)

OF PARAPET STUD

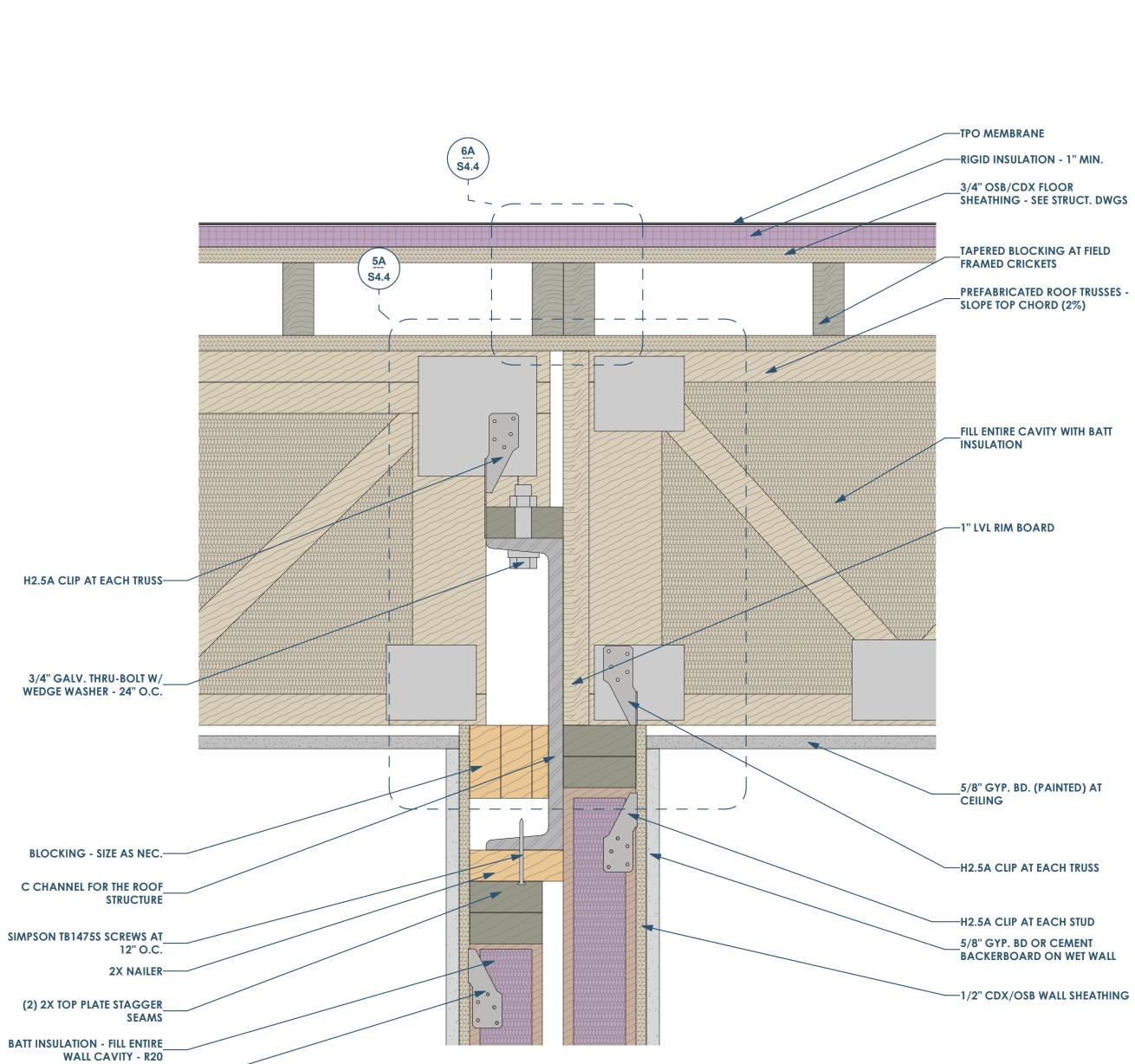
CHORD OF TRUSS

INSULATION

CEILING

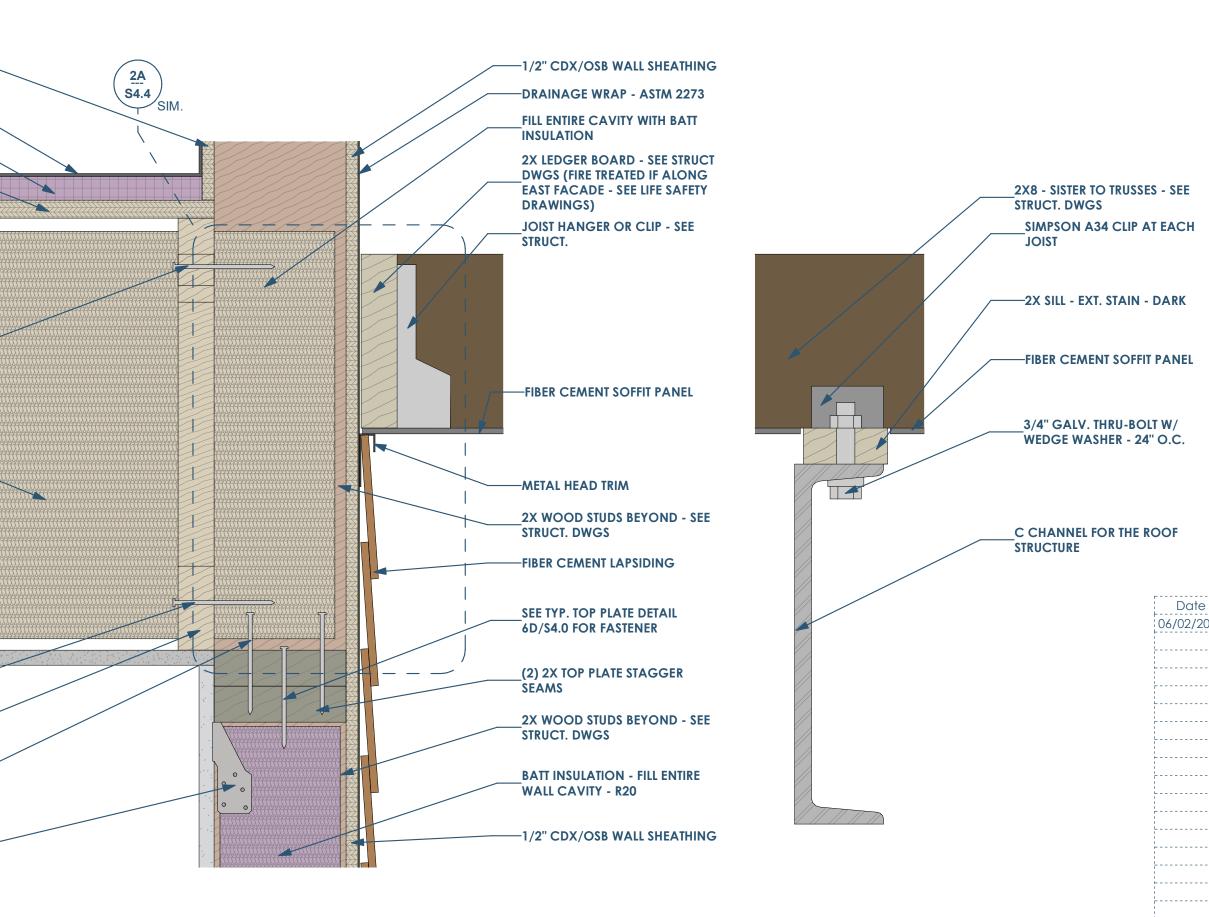
3/4" OSB/CDX FLOOR

H2.5A CLIP AT EACH TRUSS

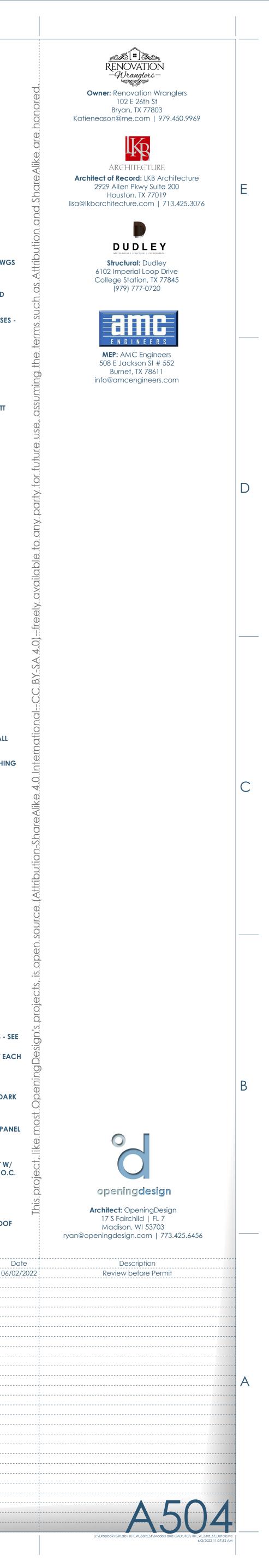


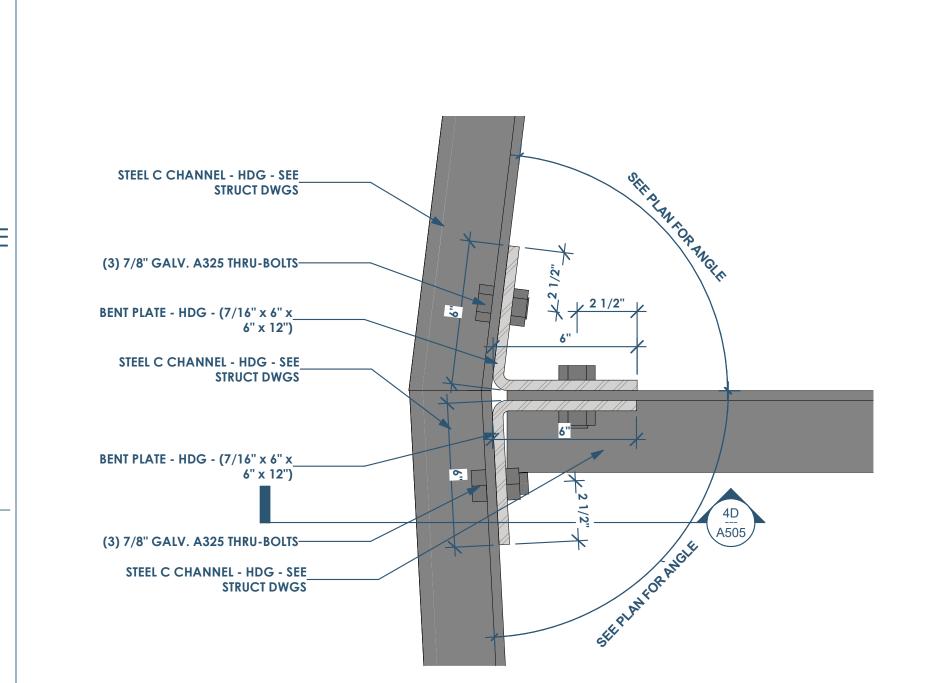
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3C SECTION DEATIL - AT ROOF BEAM A504 3" = 1'-0"



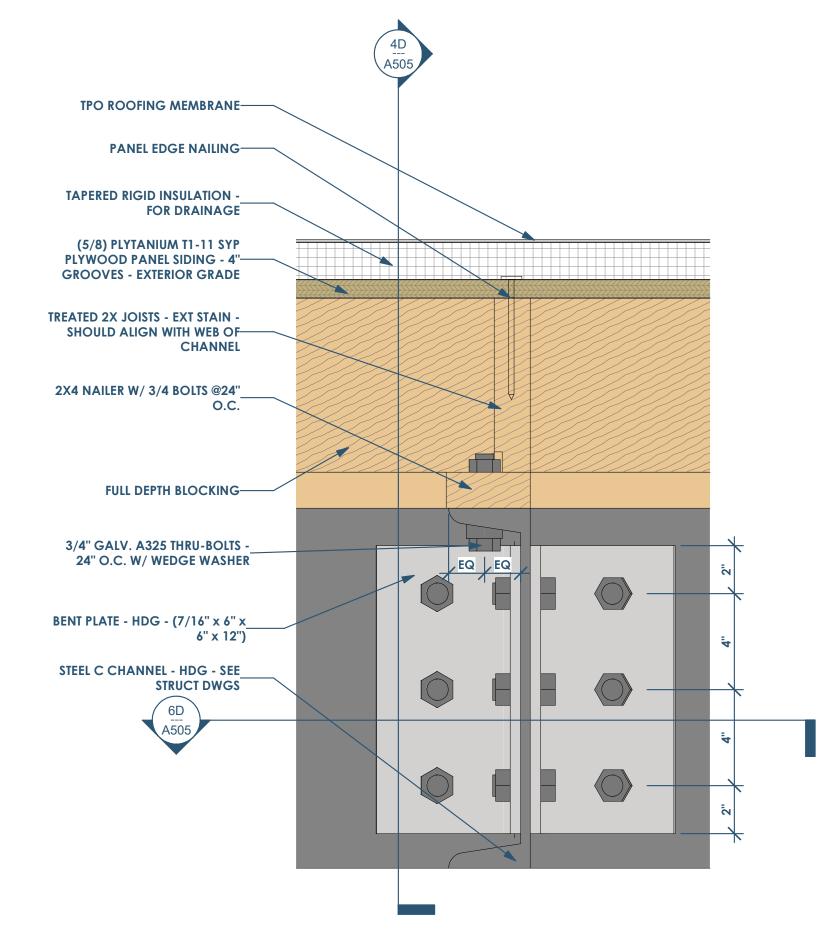
2A A504 SECTION DETAIL - ALCOVE AT ROOF BEAM 3" = 1'-0"





6D A505 **DETAIL- ROOF - C CHANNEL PLAN** 3" = 1'-0"

6

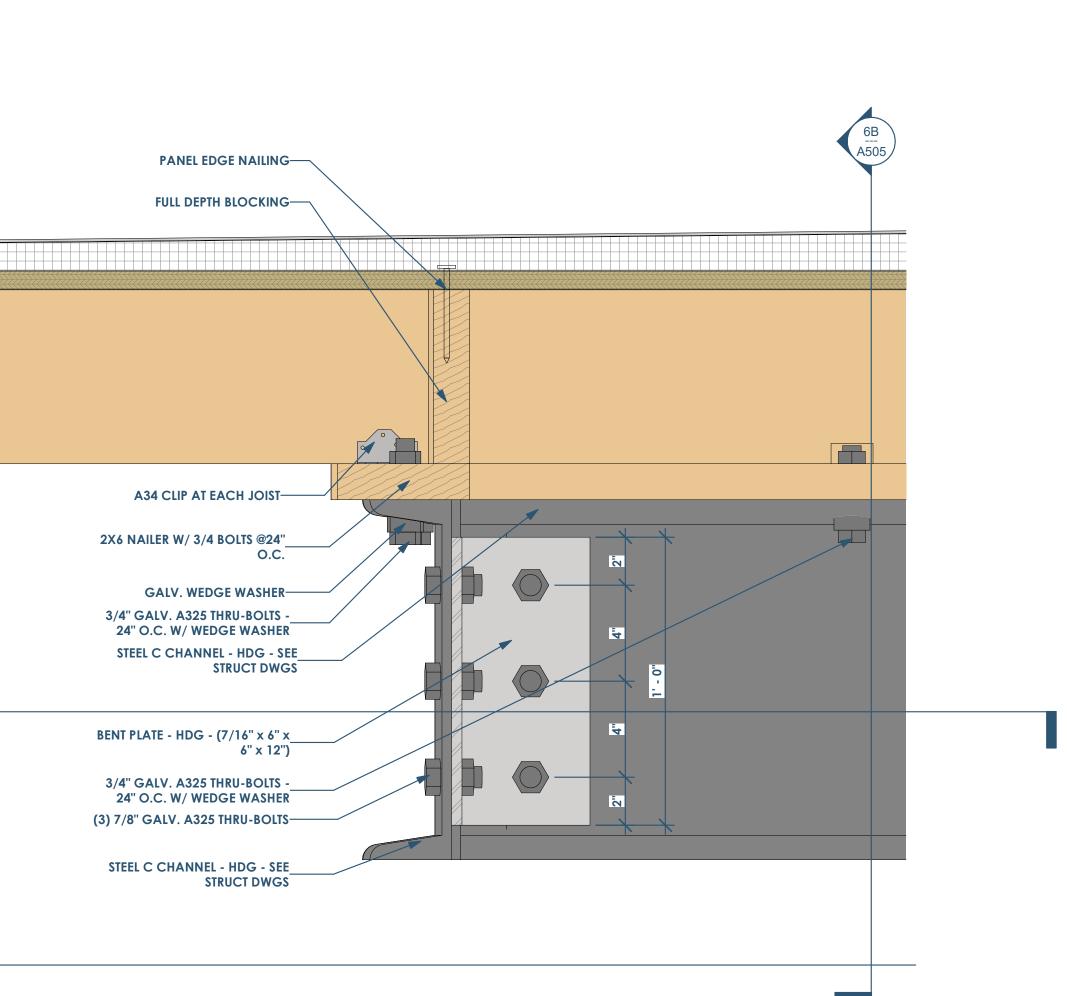


6B A505 DETAIL- ROOF - C CHANNEL SECTION 1 3" = 1'-0"

6

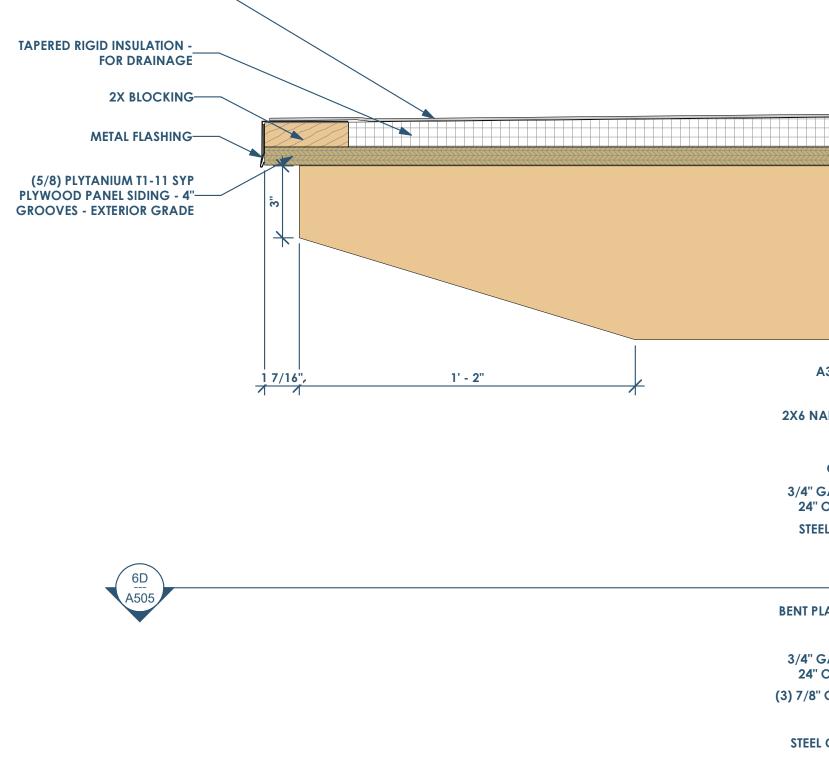


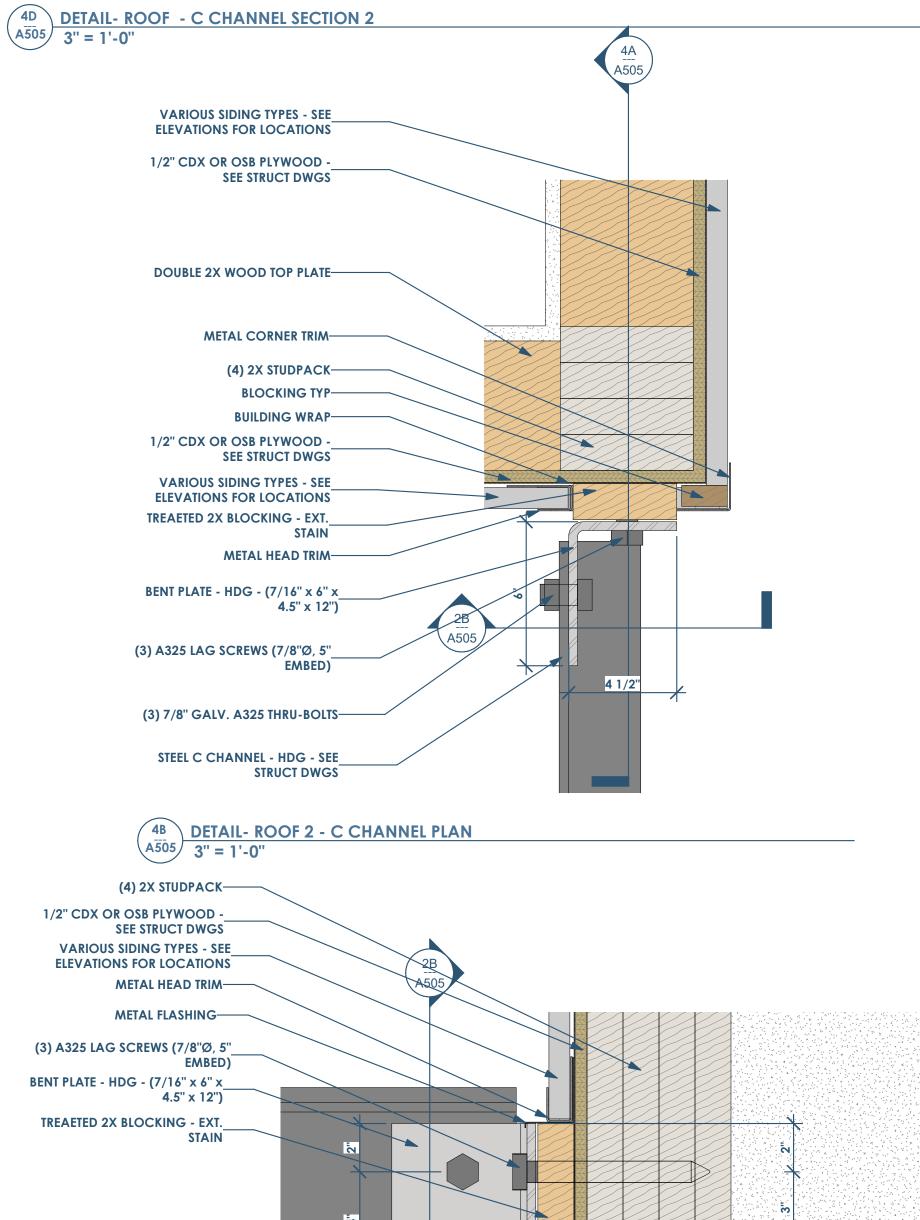


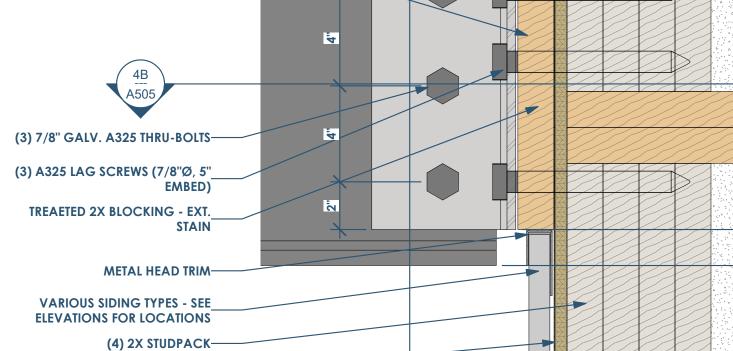


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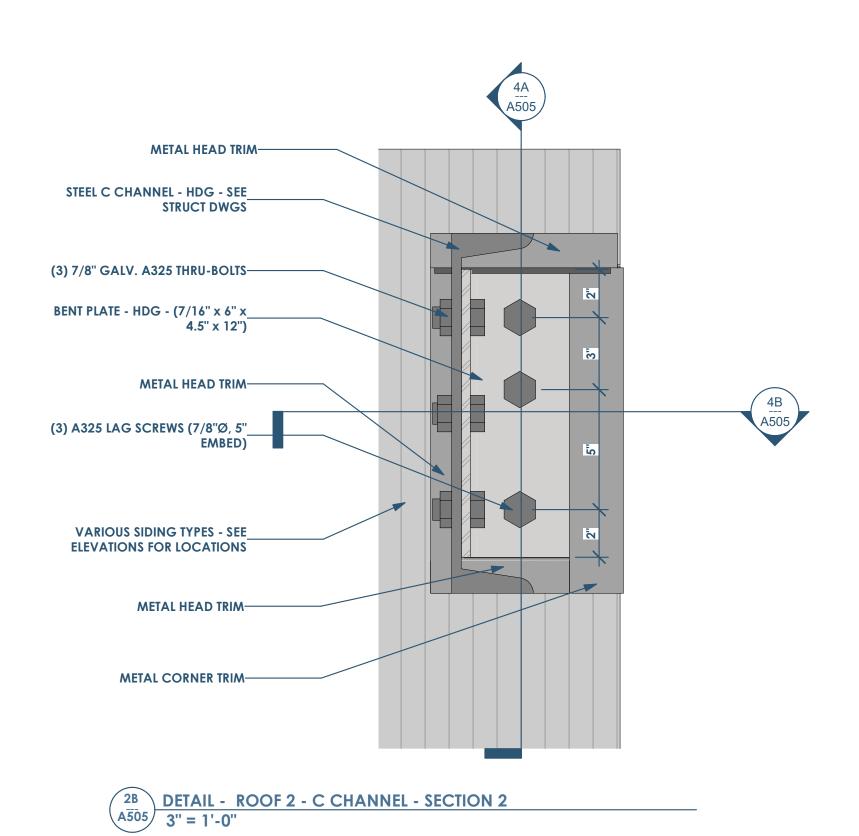
TPO ROOFING MEMBRANE





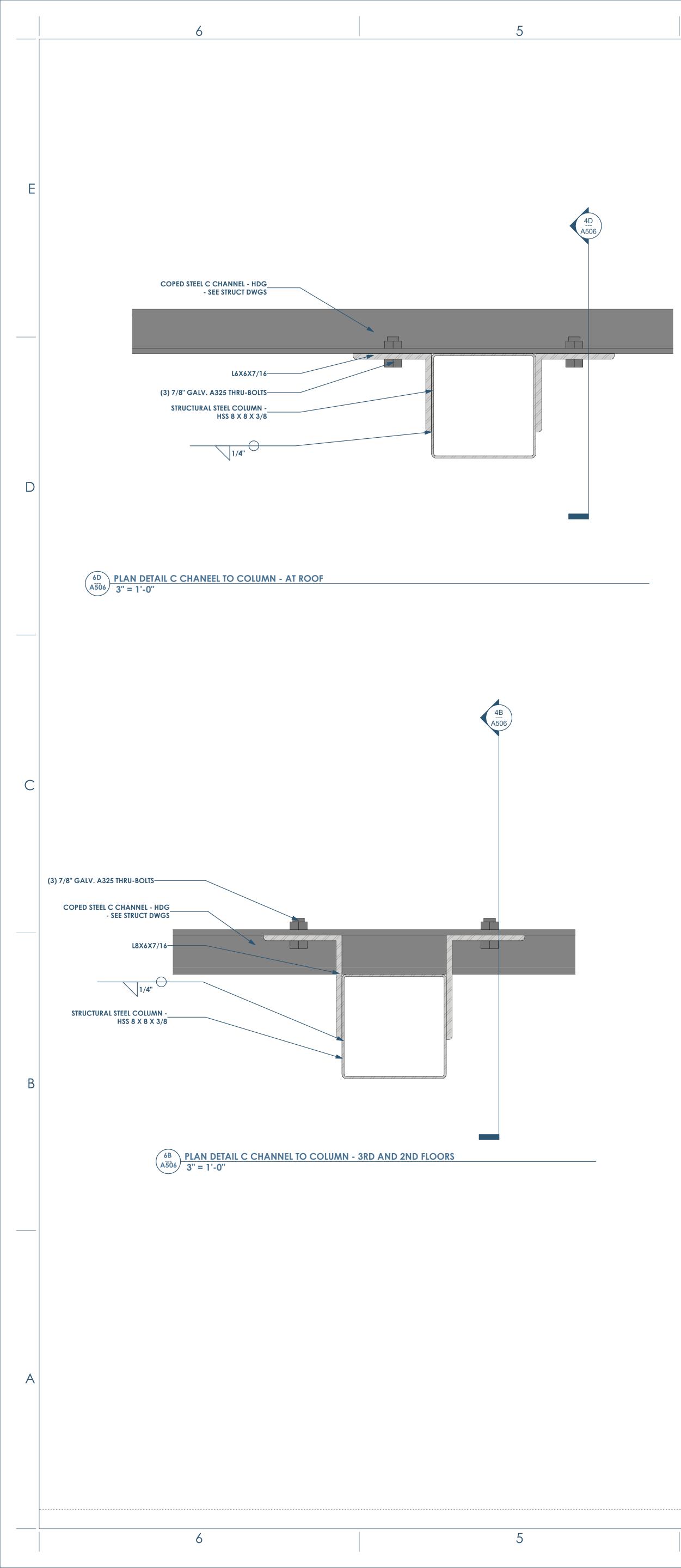


BUILDING WRAP-





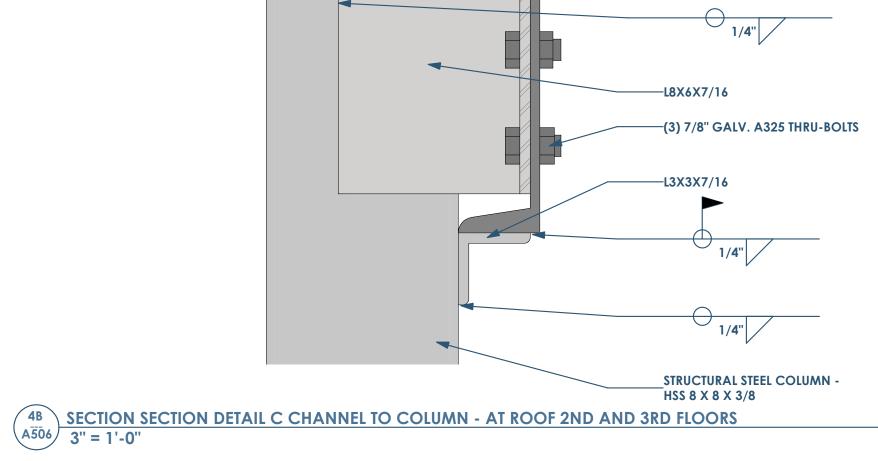




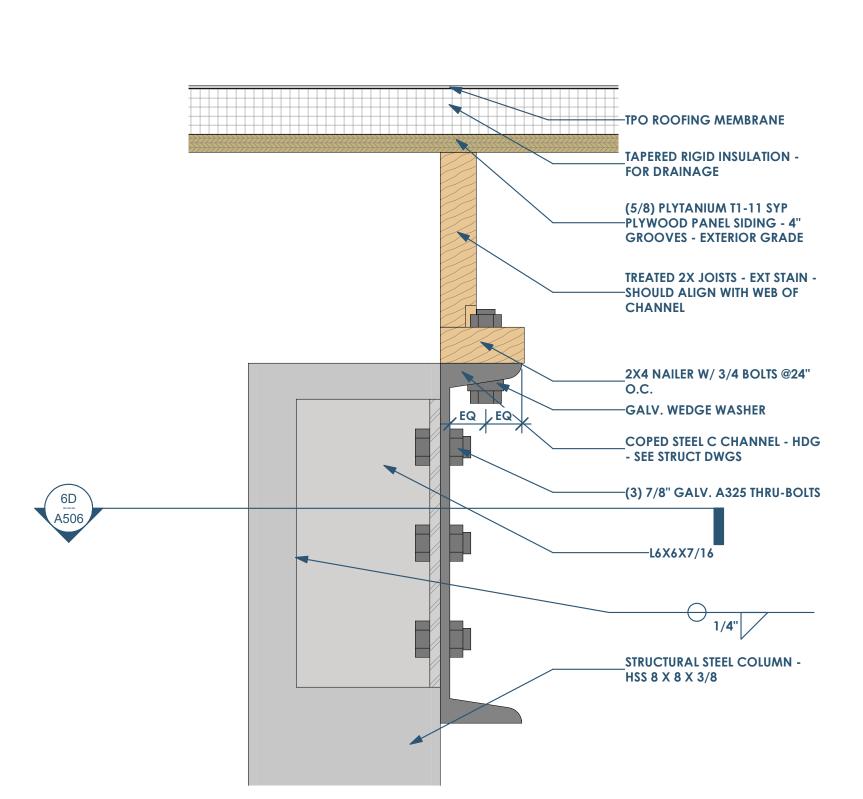


6B

A506



4D A506 SECTION DETAIL C CHANNEL TO COLUMN - AT ROOF 3" = 1'-0"



∪ 1/4"

1/4"

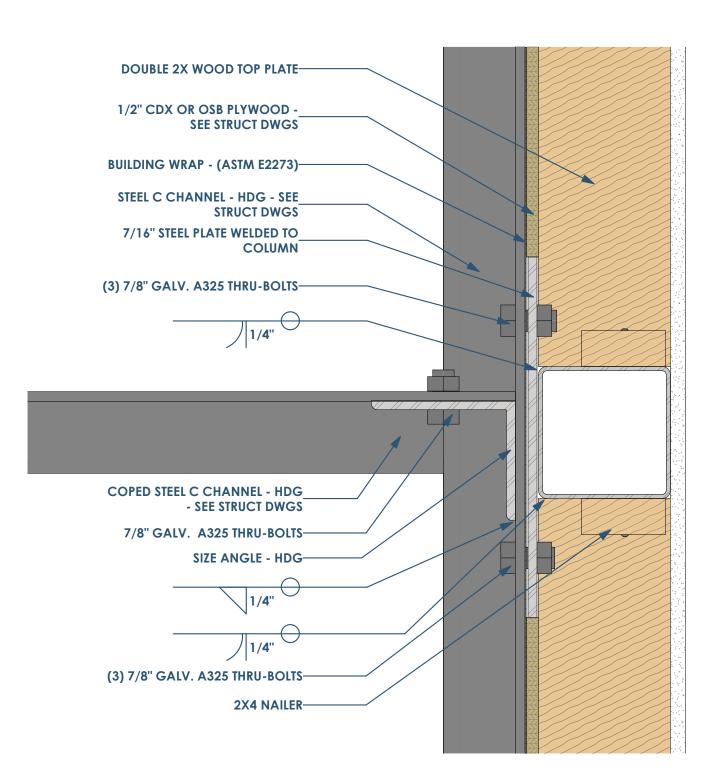
COPED STEEL C CHANNEL - HDG - SEE STRUCT DWGS

—L3X3X7/16

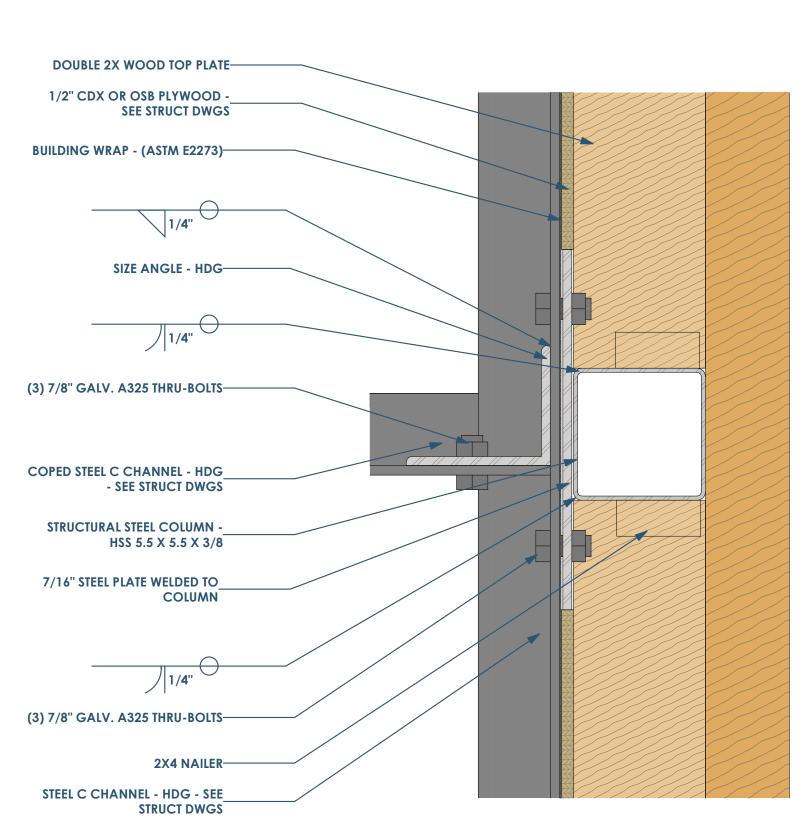


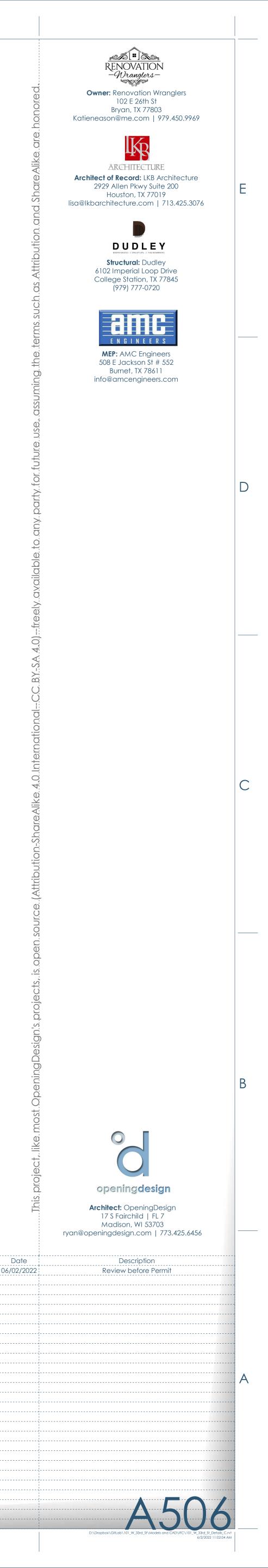


2



2D A506 PLAN DETAIL C CHANEEL TO COLUMN AT WALL - ROOF 3" = 1'-0"





1

5

DOOR SCHEDULE - TYPE											
TYPE MARK	COUNT	ТҮРЕ	WIDTH	HEIGHT	FIRE RATING	DOOR TYPE	DOOR MATERIAL	FRAM TYPE	FRAME MATERIAL	GLAZING	TYPE COMMENTS
D1	28	SINGLE - LITE - MUNTINS - 3-0 x 6-8	3' - 0''	6' - 8''		B1	CW - CLAD WOOD DOOR	Α	CW - CLAD WOOD DOOR	GL - TEMPERED - INSULATED - LOW-E	
D2	24	SINGLE - FLUSH - 3-0 x 6-8	3' - 0"	6' - 8''		A1	WD - HOLLOW CORE	Α	WD	-	
D3	30	SINGLE - FLUSH - 2-10 x 6-8	2' - 10"	6' - 8''		A1	WD - HOLLOW CORE	Α	WD	-	
D4	11	SINGLE - FLUSH - 2-0 x 6-8	2' - 0"	6' - 8''		A1	WD - HOLLOW CORE	Α	WD	-	
D5	6	DOUBLE - FLUSH - 5-0 x 6-8	5' - 0''	6' - 8''		A2	WD - HOLLOW CORE	Α	WD	-	
D6	1	SINGLE - HOLLOW METAL - 3-0 x 6-8	3' - 0"	6' - 8"		A1	нм	Α	нм	N/A	

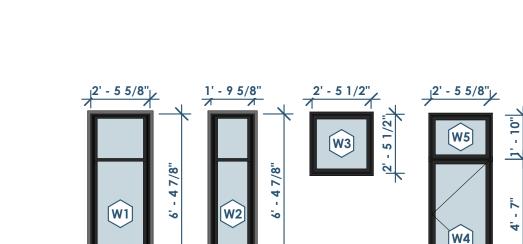
SIMPLIFIED WINDOW SCHEDULE						
PHASE CREATED	TYPE MARK	COUNT	ТҮРЕ	WIDTH	HEIGHT	TYPE COMMENTS
1ST PHASE	W1	46	DOUBLE HUNG - TYPE 2	2' - 5 5/8"	6' - 4 7/8"	BOTTOM SASH LIMITED TO 4" MAX OPEN
1ST PHASE	W2	31	DOUBLE HUNG - TYPE 1	1' - 9 5/8"	6' - 4 7/8"	BOTTOM SASH LIMITED TO 4" MAX OPEN
1ST PHASE	W3	18	FIXED PICTURE - TYPE 1	2' - 5 1/2"	2' - 5 1/2"	
1ST PHASE	W4	1	CASEMENT - TYPE 1	2' - 5 5/8"	4' - 7"	ADA REACH REQUIREMENTS FOR TYPE A UNITS
1ST PHASE	W5	1	FIXED PICTURE - TYPE 2	2' - 5 5/8"	1' - 10"	



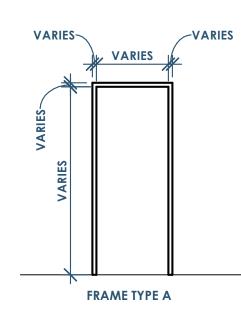


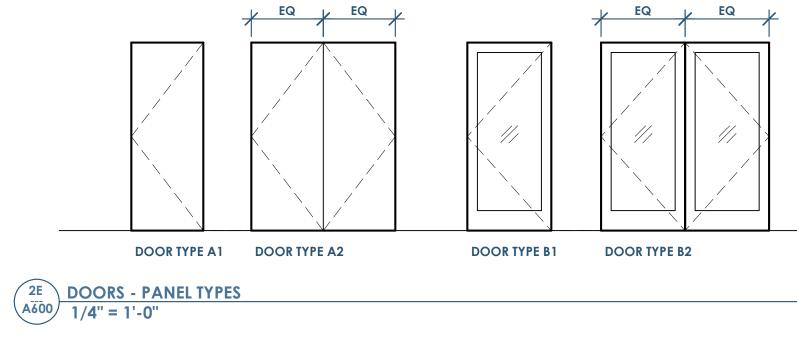
2C A600 WINDOW TYPES 1/4" = 1'-0"

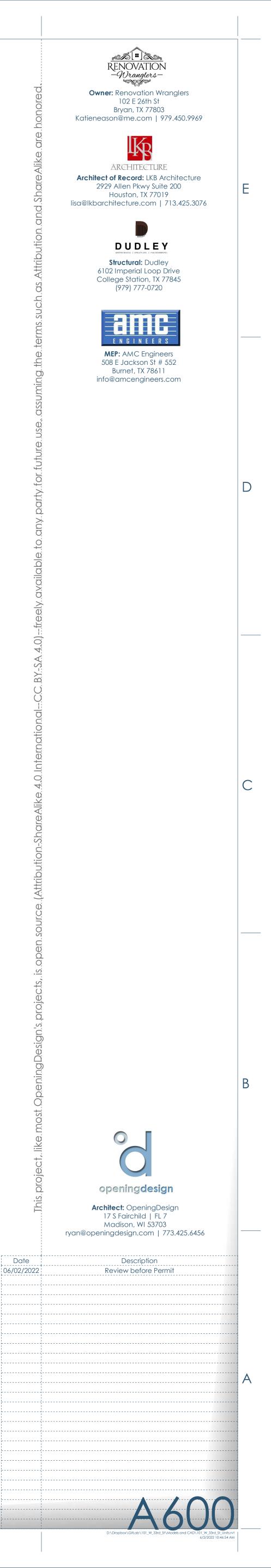
2



2D A600 1/4" = 1'-0"







BXUV.U341
Design/System/Construction/Assembly Usage Disclaimer
 Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials. Authorities Having Jurisdiction should be consulted before construction.
 Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
 When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
Only products which bear UL's Mark are considered Certified.
BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada ee General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances
ee General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances
Design No. U341
August 19, 2020
Bearing Wall Rating — 1 Hr.
Finish Rating — Min 20 min.
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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BXUV.U341 | UL Product iQ surface of Classified veneer baseboard with joints reinforced with paper tape.

4. Sheathing — (Optional) — Septum may be sheathed with min 7/16 in. thick wood structural panels min grade "C-D" or "Sheathing" or min 1/2 in. thick Mineral and Fiber Boards*. See Mineral and Fiber Boards (CERZ) category for names of Classified companies.

5. Batts and Blankets* — 3-1/2 in. max thickness glass or mineral fiber batt insulation. Optional when sheathing (Item 4) is used on both halves of wall. See Batts and Blankets (BZJZ) category for list of Classified companies.

5A. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product. US GREENFIBER LLC — INS735, INS745 and INS750LD for use with wet or dry application. INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only.

5B. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 5) when Sheathing (Item 4) is used on both halves of wall -Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft. NU-WOOL CO INC — Cellulose Insulation

5C. Batts and Blankets* — (Required for use with Wall and Partition Facings and Accessories, Item 2A. Use of Sheathing, Item 4, does not nullify requirement of Item 5C for use with Item 2A) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5D. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 5) and Item 5A when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³. **INTERNATIONAL CELLULOSE CORP** — Celbar-RL

5E. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 5) - Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft³. **APPLEGATE HOLDINGS L L C** — Applegate Advanced Stabilized Cellulose Insulation

6. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below: A. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Wallboard attached to furring channels as described in Item 2.

B. Steel Framing Members* — Used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction https://iq.ulprospector.com/en/profile?e=14916 5/8

into clips.

No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

into clips. **REGUPOL AMERICA** — Type SonusClip

6D. Steel Framing Members* — (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below: a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

b. Steel Framing Members* — Used to attach resilient channels (Item 6Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to



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2. Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick 4 ft wide. Gypsum board applied horizontally or vertically, unless specified below, and nailed to studs and bearing plates 7 in. OC with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam head. As an alternate, No. 6 bugle head drywall screws, 1-7/8 in. long, may be substituted for the 6d cement coated nails. When Steel Framing Members* (Item 6-6C) are used, wallboard attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

furring channels. PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196 BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CABOT MANUFACTURING ULC (View Classification) — CKNX.R25370

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

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HORIZONTAL SECTION

items 4 and 5.

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660 CGC INC (View Classification) — CKNX.R19751

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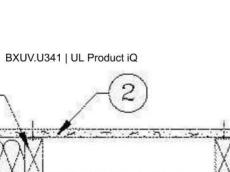
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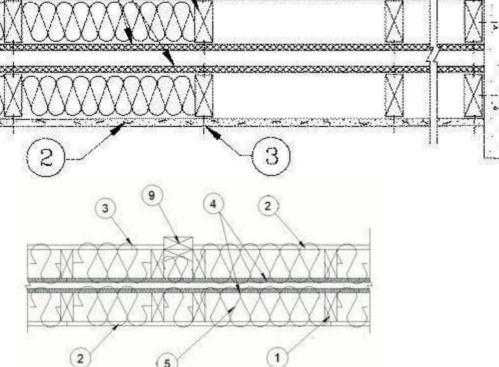
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1. Wood Studs — Nom 2 by 4 in., spaced 24 in. OC max. Cross braced at mid-height and effectively firestopped at top and bottom of wall. No min. air space between stud rows except to accommodate attachment of sheathing, where required. See

When used in widths other than 48 in., gypsum board to be installed horizontally.

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

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BXUV.U341 | UL Product iQ 6E. Steel Framing Members* — (Optional, Not Shown) — Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the

7. Wall and Partition Facings and Accessories* — (Optional, Not shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

screws supplied with the accessory and per the accessory manufacturer's installation instructions.

mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the

8. Mineral and Fiber Board* — ((Optional, Not Shown) — For optional use as an additional layer on one or both sides of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing as described in Item 2. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. HOMASOTE CO — Homasote Type 440-32

9. Non-Bearing Wall Partition Intersection — (Optional) — Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Nonbearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

(Optional, Not Shown) Alternate Construction For Use On One Side Of The Wall. 10. Mineral and Fiber Board* — For use with Items 10A-10D) — Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. HOMASOTE CO — Homasote Type 440-32

10A. Glass Fiber Insulation — (For use with Item 10) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

10B. Batts and Blankets* - (As an alternate to Item 10B, For use with Item 10), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC. THERMAFIBER INC — Type SAFB, SAFB FF

10C. Adhesive — (For use with Item 10) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

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clips with one No. $10 \times 1/2$ in. pan-head self-drilling screw.

KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

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NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

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SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. Gypsum Board* — (As an alternate to Item 2, not shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically to studs and bearing plates on one side of the assembly with 1-5/8 in. long Type S screws spaced 12 in. OC at perimeter of panels and 8 in. OC in the field. Horizontal joints of vertically applied panels need not be backed by studs. Panel joints covered with paper tape and two layers of joint compound. Screwheads covered with two layers of joint compound. Batts and Blankets placed in stud cavity as described in Item 5C. Not evaluated for use with Steel Framing Members, Furring Channels or Fiber, Spraved PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-530 (finish rating 23 min).

2B. Gypsum Board* — (As an alternate to Item 2, not shown) — Any 5/8 in. thick gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified companies listed below shown in the **Gypsum Board*** (CKNX) category. Applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally. UNITED STATES GYPSUM CO

USG BORAL DRYWALL SFZ LLC

USG MEXICO S A DE C V

2C. Gypsum Board* — (As an alternate to Item 2, Not Shown) — 5/8 in. thick gypsum panels applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally. AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSW-6, Type FSL

THAI GYPSUM PRODUCTS PCL — Type C or Type X

PAC INTERNATIONAL L L C — Type RC-1 Boost

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6A. **Steel Framing Members*** — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

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b. Steel Framing Members* — Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted

PLITEQ INC — Type Genie Clip

6B. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

b. Steel Framing Members* — Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips. **STUDCO BUILDING SYSTEMS** — RESILMOUNT Sound Isolation Clips - Type A237R

6C. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below: A. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of

B. Steel Framing Members* — Used to attach furring channels (Item 6CA) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted

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2D. Gypsum Board* — (As an alternate to Items 2, 2A, 2B and 2C) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed as described in Item 2. When used in widths of other than 48 in., gypsum boards are to be installed horizontally. GEORGIA-PACIFIC GYPSUM L L C — GreenGlass Type X, Type DGG.

2E. Gypsum Board* — (As an alternate to Items 2 through 2D) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in Item 2. GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board.

2F. Gypsum Board* — (As an alternate to Items 2 through 2E) - Installed as described in Item 2. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC. Not for use with item #6. NATIONAL GYPSUM CO — Type SBWB

2G. Gypsum Board* — (As an alternate to Items 2 through 2F) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock ES.

2H. Gypsum Board* — (As an alternate to Items 2 through 2G) — Installed as described in Item 2. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. **CERTAINTEED GYPSUM INC** — Type SilentFX

2I. Wall and Partition Facings and Accessories* — (As an alternate to Items 2 through 2H) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

2J. Gypsum Board* — (As an alternate to 5/8 in. Type FSW in Item 2) — 2 layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal joints on the same side need not be staggered. Inner layer attached with fasteners, as described in item 2, spaced 24 in. OC. Outer layer attached per Item 2. NATIONAL GYPSUM CO — Type FSW.

2K. Gypsum Board* — (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally. CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3. Joints and Nailheads — Gypsum board joints of outer layer covered with tape and joint compound. Nail heads of outer layer covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire https://iq.ulprospector.com/en/profile?e=14916

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10D. Gypsum Board* — (For use with Item 10) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 10). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min. AMERICAN GYPSUM CO - Type AG-C

CERTAINTEED GYPSUM INC - Type C

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CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Type CTypes C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

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USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

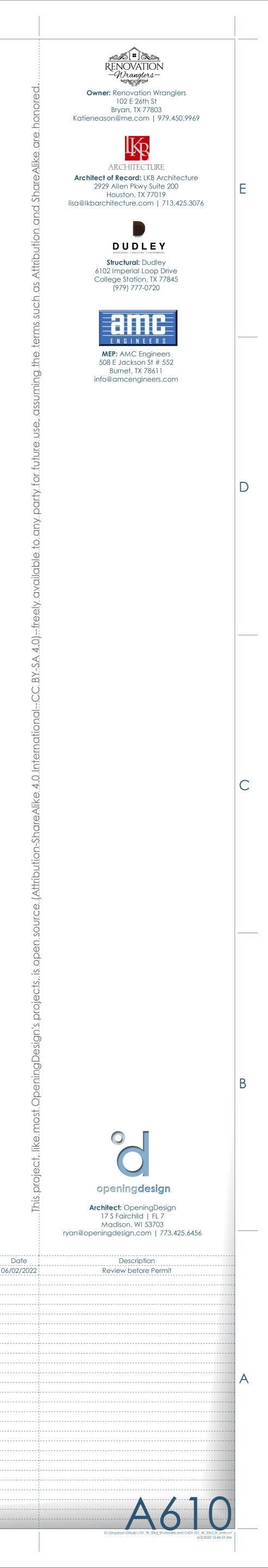
Last Updated on 2020-08-19

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- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction. • Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance
- encountered in the field. • When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction
- Only products which bear UL's Mark are considered Certified.

Fire-resistance Ratings - ANSI/UL 263 BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U305

May 27, 2022

Design Criteria and Allowable Variances

Design Criteria and Allowable Variances

Finish Rating — See Items 3, 3A, 3D, 3E, 3F, 3G, 3H, 3J and 3L. STC Rating - 56 (See Item 9) This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress

used — See Guide <u>BXUV</u> or <u>BXUV7</u> * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be

Bearing Wall Rating — 1 Hr

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5/28/22, 5:11 PM iq.ulprospector.com_en/profile_BXUV.U305 - Fire-resistance Ratings - ANSI/UL 263 | UL Product iQ in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths of other than 48 in., gypsum boards are to be installed GEORGIA-PACIFIC GYPSUM L L C — Type DGG (finish rating 20 min), GreenGlass Type X (finish rating 23 min)

3F. Gypsum Board* — (As an alternate to Items 3, 3A, 3B, 3C, 3D, and 3E) — 5/8 in. glass-mat faced with square edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC around the perimeter and in the field with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereaft CGC INC — Type USGX (finish rating 22 min)

UNITED STATES GYPSUM CO — Type USGX (finish rating 22 min.)

USG BORAL DRYWALL SFZ LLC —, Type USGX (finish rating 22 min.

USG MEXICO S A DE C V — Type USGX (finish rating 22 min.)

3G. Gypsum Board* — (As an alternate to Items 3 through 3F) — 5/8 in. thick paper surfaced applied vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. **GEORGIA-PACIFIC GYPSUM L L C** — Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min)

3H. Gypsum Board* — (As an alternate to Items 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically only. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. NATIONAL GYPSUM CO — Type SBWB

31. Gypsum Board* — (As an alternate to Items 3 through 3H, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES (finish rating 20 min)

3J. **Gypsum Board*** — (As an alternate to Item 3) — 5/8 in. thick paper surfaced applied vertically or horizontally. Gypsum panels secured with 1-1/4 in. Type W coarse thread gypsum panel steel screws spaced a maximum of 12 in. OC. **CERTAINTEED GYPSUM INC** — Type SilentFX

3K. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 8 in. OC with the last screw 1 in, from the edge of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally. NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min).

3L. Gypsum Board* — (As an alternate to Item 3) — For Direct Application to Studs Only — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

3M. Gypsum Board* — (As an alternate to Items 3) — For Direct Application to Studs Only — For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the https://ig.ulprospector.com/en/profile?e=14888 5/12

5/28/22, 5:11 PM iq.ulprospector.com_en/profile_BXUV.U305 - Fire-resistance Ratings - ANSI/UL 263 | UL Product iQ b. Steel Framing Members* — Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channel PAC INTERNATIONAL L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6A. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members on one side of studs as described below: a. Furring Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips. KINETICS NOISE CONTROL INC — Type Isomax

6B. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. PLITEQ INC — Type Genie Clip

6C. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

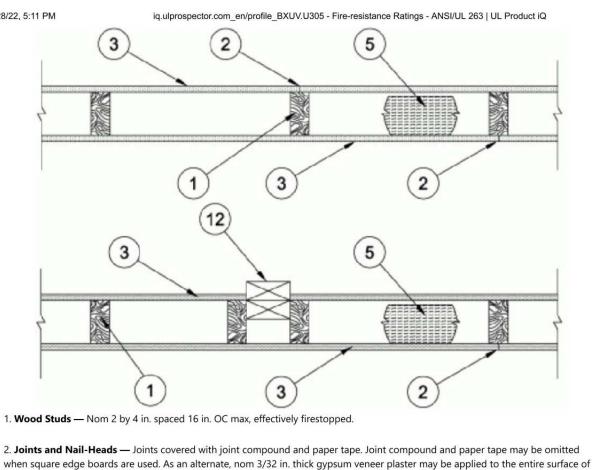
b. Steel Framing Members* — Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips. STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6D. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below: a. Furring Channels - Formed of No. 25 MSG galv steel, spaced 24 in, OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with a double strand of No. 18 AWG twisted steel wire. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. REGUPOL AMERICA — Type SonusClip

6E. Steel Framing Members* — (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below: a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 3.

b. Steel Framing Members* — Used to attach resilient channels (Item 6Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in.



3. Gypsum Board* - 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Items 6 through 6F, Steel Framing Members*. When Items 6, 6B, 6C, 6D, 6E, or 6F, Steel Framing Members*, are used, gypsum panels attached to furring channels with 1 in. long Type S bugle-

head steel screws spaced 12 in. OC. When Item 6A, Steel Framing Members*, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S buglehead steel screws spaced 12 in, OC, All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3. When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

(finish rating 22 min), Type LightRoc (finish rating 23 min.) or Type AG-C **BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO** — Type DBX-1 (finish rating 24 min)

CABOT MANUFACTURING ULC — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

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5/28/22, 5:11 PM iq.ulprospector.com_en/profile_BXUV.U305 - Fire-resistance Ratings - ANSI/UL 263 | UL Product iQ face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4. RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

3N. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick, 4 ft. wide, applied horizontally or vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 3 or 3A. CERTAINTEED GYPSUM INC — Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2 (finish rating 24 min)

30. Wall and Partition Facings and Accessories* — (As an alternate to Item 3, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527 (finish rating 24 min).

horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by wood studs. Horizontal joints on the same side between face and base layers need not be staggered. Base layer gypsum panels fastened to studs with 1-1/4 in. long drywall nails spaced 8 in. OC. Face layer gypsum panels fastened to studs with 1-7/8 in. long drywall nails spaced 8 in. OC starting with a 4" stagger. NATIONAL GYPSUM CO — Type FSW (finish rating 25 min)

3Q. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally CERTAINTEED GYPSUM INC — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3R. Gypsum Board* — (As an alternate to Item 3. For use with Item 5H) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied either horizontally or vertically, and screwed to panels with 1-5/8 in. long Type W coarse thread steel screws at 8 in. OC at perimeter and in the field with the last two screws 4 and 3/4 in. from the edges of the board when applied as the base layer. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

3S. Gypsum Board* — 3/4 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels secured as described in Item 3 with nail length increased to 2 in. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-13

3T. Wall and Partition Facings and Accessories* — (As an alternate to 5/8 in. thick board as outlined in Item 3) — Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally. Fastened with #6 x 2 in. long drywall screws spaced 8 in. OC along the perimeter and 12 in. OC in the field. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 545

3U. Gypsum Board* — (As an alternate to Item 3 - For use with Foamed Plastic products, Item 5J) — 5/8 in. thick, 4 ft. wide, applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. AMERICAN GYPSUM CO — Types AGX-1

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CABOT MANUFACTURING ULC — Type X

CERTAINTEED GYPSUM INC — Type X https://iq.ulprospector.com/en/profile?e=14888

5/28/22, 5:11 PM iq.ulprospector.com_en/profile_BXUV.U305 - Fire-resistance Ratings - ANSI/UL 263 | UL Product iQ pan-head self-drilling screw. KEENE BUILDING PRODUCTS CO INC - Type RC+ Assurance Clip

6F. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — Used to attach furring channels (Item 6Fa) to studs. Clips spaced 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

6G. Steel Framing Members* — (Optional, Not Shown) — Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 16 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions. PAC INTERNATIONAL L L C — Type RC-1 Boost

7. Furring Channel — Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. Caulking and Sealants — (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound 9. STC Rating — The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 2, above — Nailheads Shall be covered with joint compound.

B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.

. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglas insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.

D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly

E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. Wall and Partition Facings and Accessories* — (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Sypsum Board. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

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12" = 1'-0"



Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min.), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12

3P. Gypsum Board* — (As an alternate to Item 3, Not Shown) — Two layers nom. 5/16 in. thick gypsum panels applied vertically or

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(finish rating 21 min), Type CLLX (finish rating 24 min)

iq.ulprospector.com_en/profile_BXUV.U305 - Fire-resistance Ratings - ANSI/UL 263 | UL Product iQ CERTAINTEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min); Type EGRG or GlasRoc (finish rating 23 min), GlasRoc-2, Type Habito (finish rating 26 min), Type LWTX (finish rating 18 min), Type LGFC6A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min), Type ULIX (finish rating 20 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing Type-LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing Type- DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LW2X (finish rating 22 min), Veneer Plaster Base - Type LW2X (finish rating 22 min), Water Rated - Type LW2X (finish rating 22 min), Sheathing - Type LW2X (finish rating 22 min), Soffit - Type LW2X (finish rating 22 min), Type DGL2W (finish rating 22 min), Water Rated - Type DGL2W (finish rating 22 min), Sheathing - Type DGL2W (finish rating 22 min)

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8, Type FSLX (finish rating 21 min), Type RSX (finish rating 26 min).

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-5W (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11 PG-13 (Nails increased to 2 in.), Type PG-C or PGI (finish rating 26 min)

PANEL REY S A — Type ARX, GREX, GRIX, PRX, PRC, PRC2; Types RHX, Guard Rey, MDX, ETX (finish rating 22 min), PRX2 (finish rating 21 min)

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULIX (finish rating 20 min)

USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

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AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LighttRoc (finish rating 25 min.) https://iq.ulprospector.com/en/profile?e=14888

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CGC INC — Type SCX

PANEL REY S A — Type ARX, PRX

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

THAI GYPSUM PRODUCTS PCL — Type X

UNITED STATES GYPSUM CO — Types SCX and SGX

USG BORAL DRYWALL SFZ LLC — Types SCX and SGX

USG MEXICO S A DE C V — Type SCX

3V. Gypsum Board* - (As an alternate to Item 3. For use with Item 5K) - Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the

4. Steel Corner Fasteners — (Optional) — For use at wall corners. Channel shaped, 2 in. long by 1 in. high on the back side with two 1/8 in. wide cleats protruding into the 5/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the gypsum board, no greater than 2 in. from corner of gypsum board, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.

5. Batts and Blankets* — (Optional — Required when Item 6A is used (RC-1)) — Glass fiber or mineral wool insulation. Placed to completely or partially fill the stud cavities. When Item 6A is used, glass fiber or mineral wool insulation shall be friction-fitted to completely fill the stud cavities.

CERTAINTEED CORP JOHNS MANVILLE

KNAUF INSULATION LLC

MANSON INSULATION INC ROCKWOOL — Types Acoustical Fire Batts and Type AFB, min. density 1.69 pcf / 27.0 kg/m³

NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts

ROCK WOOL MANUFACTURING CO — Delta Board

THERMAFIBER INC — Type SAFB, SAFB FF

5A. Fiber, Sprayed* — (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product. When Item 6B is used, Fiber, Sprayed shall be INS735, INS745, INS750LD, INS765LD, INS773LD or SANCTUARY.

U S GREENFIBER L L C — INS735, INS745, INS750LD and SANCTUARY for use with wet or dry application. INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only

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a minimum equal to the depth of the bearing wall.

5/28/22, 5:11 PM iq.ulprospector.com en/profile BXUV.U305 - Fire-resistance Ratings - ANSI/UL 263 | UL Product iQ 11. Cementitious Backer Units* - (Optional Item Not Shown - For Use On Face Of 1 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing

12. Non-Bearing Wall Partition Intersection — (Optional) — Two nominal 2 by 4 in. studs or nominal 2 by 6 in. studs nailed together with two 3 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at

13. Mesh Netting — (Not Shown) — Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

14. Mineral and Fiber Board* — (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with 2 in. long Type W steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. HOMASOTE CO — Homasote Type 440-32

14A. Mineral and Fiber Board* — (Optional, Not Shown) — For use with Items 14B-14E) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. HOMASOTE CO — Homasote Type 440-32

14B. Glass Fiber Insulation — (For use with Item 14A) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

14C. Batts and Blankets* — (As an alternate to Item 14B, For use with Item 14A), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in, face of the studs with staples placed 24 in OC **THERMAFIBER INC** — Type SAFB, SAFB FF

14D. Adhesive — (For use with Item 14A) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

14E. Gypsum Board* — (For use with Item 14A) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 14A). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min. AMERICAN GYPSUM CO — Type AG-C

CGC INC — Types C, IP-X2, IPC-AR

CERTAINTEED GYPSUM INC — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

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MARCO POLO - 101 33RD STREET - CITY OF BRYAN TOWNSITE, BLOCK 96, LOT 3-5 & PT OF 6 & PT OF ALLEY - BRYAN, TX 77803

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rating 24 min), Type WRX (finish rating 24 min)

NATIONAL GYPSUM CO — Type FSW (finish rating 24 min) rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min),

24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

CGC INC — Types AR, IP-AR **UNITED STATES GYPSUM CO** — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required. CGC INC — Type SHX **UNITED STATES GYPSUM CO** — Type SHX

USG MEXICO S A DE C V — Type SHX

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NU-WOOL CO INC — Cellulose Insulation

of wall. THERMAFIBER INC - Type SAFB, SAFB FF

for names of Classified companies.

completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

Sprayed (CCAZ). AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

to completely filling stud cavity.

Gaco WallFoam 183M

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NATIONAL GYPSUM CO — Types FSK-C, FSW-C

PANEL REY S A — Type PRC

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CERTAINTEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min), Type EGRG or GlasRoc.

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type C (finish rating 24 min), Type IPC-AR (finish rating 24 min), IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SCX (finish rating 24 min), Type SCX (finish rating 24 min), Type C (finish

Type SHX (finish rating 24 min), Type FRX-G (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating

3B. Gypsum Board* — (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.

3C. Gypsum Board* — (As an alternate to Items 3, 3A and 3B) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse

3D. Gypsum Board* — (As an alternate to Items 3, 3A, 3B, or 3C — Not Shown) — For Direct Application to Studs Only- Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in, long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips

or optional at other locations. Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". **RAY-BAR ENGINEERING CORP** — Type RB-LBG (finish rating 24 min) 3E. Gypsum Board* — (As an alternate to Items 3, 3A, 3B, 3C, and 3D) — 5/8 in. thick gypsum panels, with square edges, applied

either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed 7 in. OC with 6d cement coated nails 1-7/8

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5C. Batts and Blankets* — Required for use with resilient channels, Item 7, 3 in. thick mineral wool batts, friction-fitted to fill interior

5D. Glass Fiber Insulation — (As an alternate to Item 5C) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) Categories

5E. Batts and Blankets* — (Required for use with Wall and Partition Facings and Accessories, Item 3D) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to

5F. Fiber, Sprayed* — (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D) — As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber,

5G. Fiber, Sprayed* — (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D). — As an alternate to Batts and Blankets (Item 5) and Item 5A - Brown Colored Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed stud cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³. INTERNATIONAL CELLULOSE CORP — Celbar-RL

5H. Foamed Plastic* — (Optional -For use with Item 3R) — Spray applied, foamed plastic insulation, at any thickness from partial fill

SES FOAM INC — Nexseal[™] 2.0 or Nexseal[™] 2.0 LE Spray Foam and Sucraseal Spray Foam. 5I. Fiber, Sprayed* — (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) - Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any

means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft³. APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

5J. Foamed Plastic* — (Optional, Not Shown - For use with Item 3U) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity. GACO WESTERN L L C — Types GacoEZSpray F4500, GacoProFill FR6500R, Gaco 052N, GacoOnePass F1850, GacoOnePass Low GWP F1880, and

5K. Foamed Plastic* — (Optional, Not Shown - For use with Item 3V) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity. CARLISLE SPRAY FOAM INSULATION - Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim

21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCX, Foamsulate 70, and Foamsulate HFO. 6. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied

together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

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PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

14F. Mineral and Fiber Board — (Optional, Not Shown) — For optional use as an additional layer on one side of wall - Nom 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on one side of the wall in between the wood studs and the UL Classified Gypsum Board (Item 3). Fiber boards installed with 1-1/4 in. long, Type W, bugle head, coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 3) installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or

intended as a substitute for the required layer(s) of UL Classified Gypsum Board. **BLUE RIDGE FIBERBOARD INC** — SoundStop

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively. Last Updated on 2022-05-27

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured

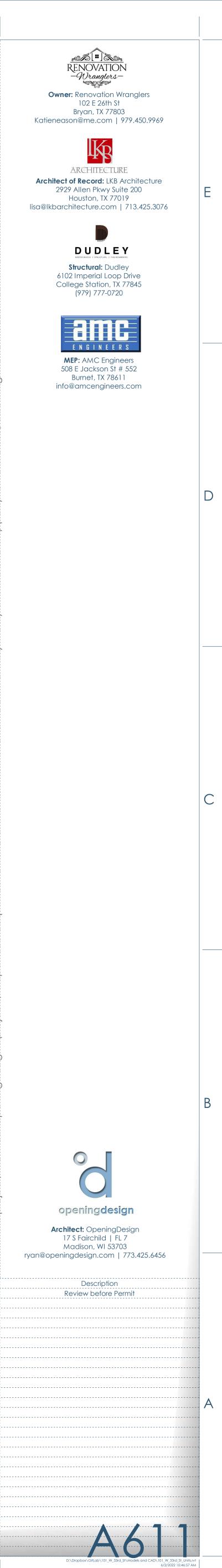
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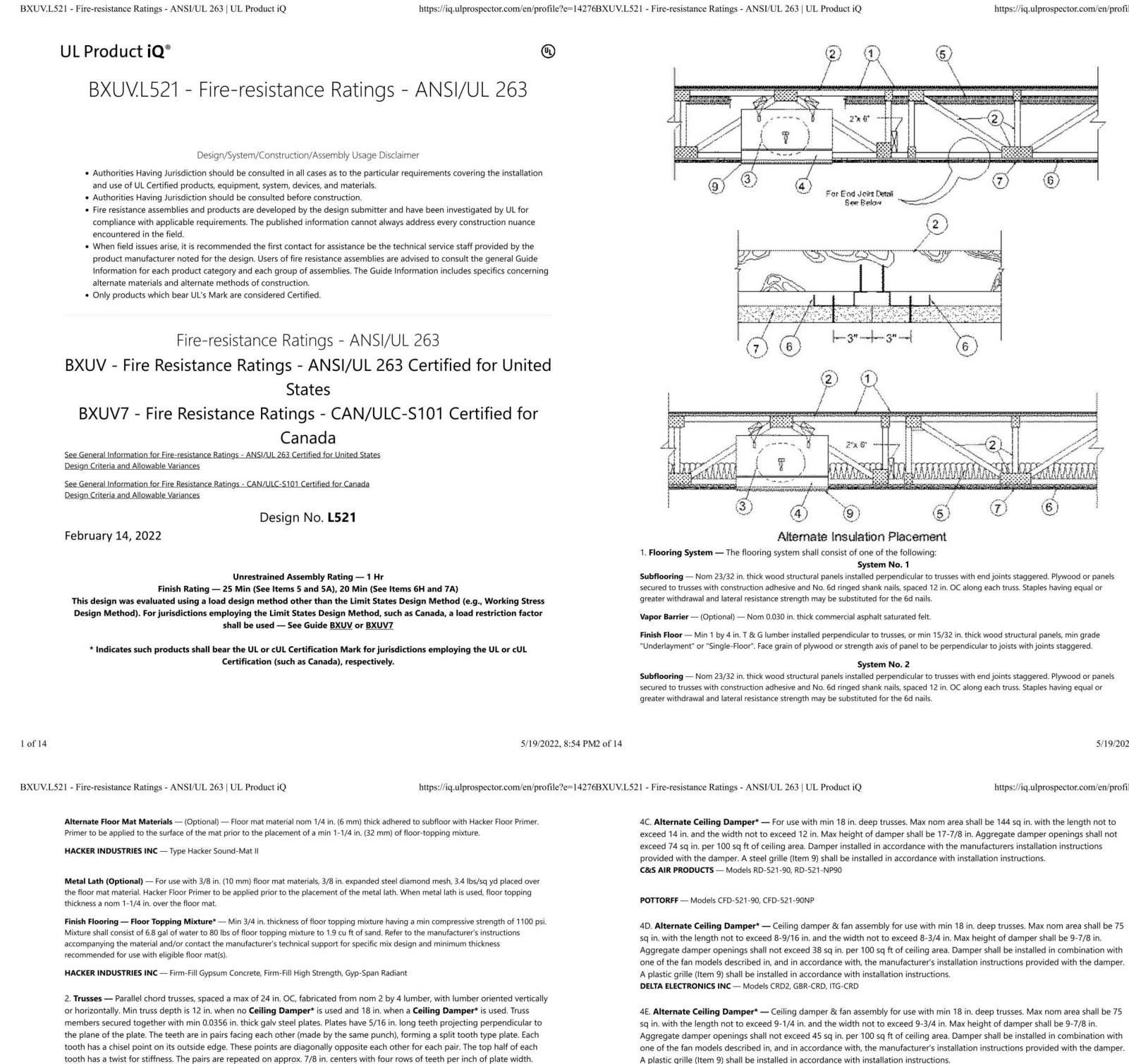
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3. Air Duct* — Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

4. Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 324 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 14 in. Aggregate damper openings shall not exceed 162 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions. C&S AIR PRODUCTS — Model RD-521

POTTORFF — Model CFD-521

4A. Alternate Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 196 sq in. with the length not to exceed 26 in. and the width not to exceed 14 in. Max height of damper shall be 7 in. Aggregate damper openings shall not exceed 98 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) not to exceed 144 in.² shall be installed in accordance with installation instructions. C&S AIR PRODUCTS — Model RD-521-BT

POTTORFF — Model CFD-521-BT

4B. Alternate Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions. C&S AIR PRODUCTS - Models RD-521-IP, RD-521-NP

POTTORFF — Models CFD-521-IP, CFD-521-NP

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A plastic grille (Item 9) shall be installed in accordance with installation instructions. DELTA ELECTRONICS INC - Model SIG-CRD

4F. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions. DELTA ELECTRONICS INC — Model SMT-CRD

4G. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.

PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA - Model PC-RD05C5

4H. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions. BROAN-NUTONE L L C — Model RDFUWT

41. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille (Item 9) shall be installed in accordance with installation instructions. BROAN-NUTONE L L C — Models RDJ1 and RDH

4J. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in

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accordance with installation instructions.

BROAN-NUTONE L L C — Model RDMWT

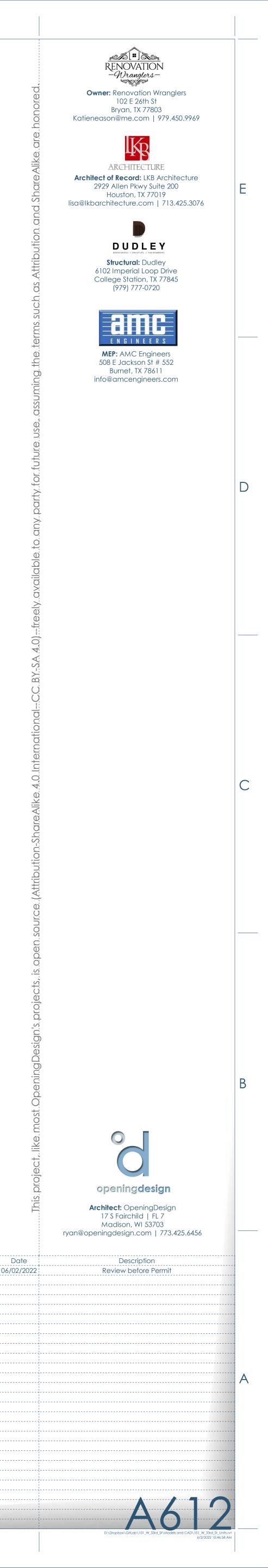
5E. Foamed Plastic* — (As alternate to Item 5, 5A, or 5C, Not Shown) — Spray foam insulation applied dir of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 10 in. at a nominal density, depending on the product installed. Spray foam insulation is limited to use with minimum 18 in. deep trusses (Item 2).

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Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt. Finish Flooring* — Floor Topping Mixture — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.	System No. 6 Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.
UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD	Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.
LATICRETE SUPERCAP L L C — Types LRK, HSLRK	Floor Mat Materials* — (Optional) — Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping
USG MEXICO S A DE C V — Types LRK, HSLRK, CSD	thickness shall be a min of 3/4 in. (19 mm). HACKER INDUSTRIES INC — FIRM-FILL SCM 125
Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material. UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25	Alternate Floor Mat Materials — (Optional) — Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm). HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250
Alternate Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding minimum thickness of floor topping over floor mat. GRASSWORX L L C — SC Types	Alternate Floor Mat Materials — (Optional) — Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm) HACKER INDUSTRIES INC — FIRM-FILL SCM 400
System No. 3 (For Use with Item 7A Only) Finish Floor — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and 2-1/2 in. long nails, spaced 12 in. OC along each truss and 8 in. OC at the perimeter.	Alternate Floor Mat Materials — (Optional) — Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm). HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750
System No. 4 Structural Cement-Fiber Units* — Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self- countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel. UNITED STATES GYPSUM CO — Types STRUCTO-CRETE, USGSP	Metal Lath (Optional) — (Optional) — For use with 3/8 in. (10 mm), or greater, floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1 in. (25 mm) over the floor mat. Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand. Refer to the manufacturer's instructions accompanying the material and/or contact the manufacturer's technical support for specific mix design and minimum thickness recommended for use with eligible floor mat(s). HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Gyp-Span Radiant
Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design. UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD	System No. 7 Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.
LATICRETE SUPERCAP L L C — Types LRK, HSLRK	Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.
USG MEXICO S A DE C V — Types LRK, HSLRK, CSD Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.	Finish Floor* — Mineral and Fiber Board — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. HOMASOTE CO — Type 440-32 Mineral and Fiber Board
System No. 5 Structural Cement-Fiber Units* — Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self- countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel. UNITED STATES GYPSUM CO — Types STRUCTO-CRETE, USGSP	 Subflooring —Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Vapor Barrier —(Optional) - Nom 0.030 in. thick commercial asphalt saturated felt. Floor Mat Materials* — (Optional) — Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of floor-topping mixture. Floor topping thickness a min 1 in. over the floor mat. HACKER INDUSTRIES INC — Type Hacker Sound-Mat
5/19/2022, 8:54 P. 21 - Fire-resistance Ratings - ANSI/UL 263 UL Product iQ https://iq.ulprospector.com/en/profile?e=1427	PM4 of 14 5/19/2022, 8:54 PM 276BXUV.L521 - Fire-resistance Ratings - ANSI/UL 263 UL Product iQ https://iq.ulprospector.com/en/profile?e=14276
accordance with installation instructions. BROAN-NUTONE L L C — Model RDMWT	When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed
4K. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions. BROAN-NUTONE L L C — Model RDMWT2	using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 4 through 4H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 5 through 5B, or 6A through 6I. BASF CORP — Enertite® NM, Enertite® G, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, and Walltite® HP+
5. Batts and Blankets* — (Optional) — Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced 24 in. OC, no insulation shall be installed in the concealed space. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced a max of 12 in. OC or when the Steel Framing Members (Item 6B) are used, there is no limit in the overall thickness of insulation, and the insulation can be secured against the subflooring, held suspended in the concealed space or draped over the resilient or furring channels (or Steel Framing Members) and gypsum panel membrane. When Steel Framing Members (Item 6C) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ca) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Cd). The finished rating has only been determined when the insulation is secured to the subflooring.	 5F. Foamed Plastic* — — (As alternate to Item 5, 5A, 5B, 5C or 5E, Not Shown) — Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). Spray foam insulation is limited for use with minimum 18 in. deep trusses (Item 2). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 4 through 4K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Not evaluated for use with Items 5 through 5B, or 6A through 6I. SES FOAM INC — EasySeal.5 5G. Foamed Plastic* — (As alternate to Item 5 - not to be used in combination with any alternates to item 5) — Spray foam
5A. Fiber, Sprayed* — (Dry Dense Packed 100% Borate Formulation) — (Optional) — As an alternate to Item 5, When used, the resilient channel and gypsum board attachment is modified as specified in Items 6 and 7 and wire mesh (Item 10) shall be attached to the furring channels to facilitate installation of the material. The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft ³ , in accordance with the application instructions supplied with the product. When Item 5A (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 6B, 6C, 6G or 6H. U S GREENFIBER L L C — INS735, INS745, INS750LD, INS765LD, INS773LD, & SANCTUARY to be used with dry application only.	insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 11 in. at a nominal 0.5 lb/ft ³ - 2.5 lb/ft ³ density, while maintaining a minimum 7 in. clearance between the spray foam insulation and the gypsum board (Item 7). Spray foam insulation is limited for use with minimum 18 in. deep trusses (Item 2). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board spaced maximum 3 in. away from gypsum butt joints. Gypsum board to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 4 through 4K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Only for use with item 6 not evaluated for use with alternates to item 6.
5B. Fiber, Sprayed* — (Loose Fill 100% Borate Formulation) — (Optional) — As an alternate to Items 5 and 5A, The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a minimum dry density of 0.5 lb/ft ³ and at a max thickness of 3-1/2 in., in accordance with the application instructions supplied with the product. Wire mesh (Item 10) shall be attached to the furring channels to facilitate installation of the material. When Item 5B (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 6B, 6C, 6D, 6E, 6F, 6G, 6H or 6I. U S GREENFIBER L L C — INS735, INS745, INS750LD, INS765LD, INS773LD, & SANCTUARY to be used with dry application only.	 CARLISLE SPRAY FOAM INSULATION — Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCX, Foamsulate 70, and Foamsulate HFO. 6. Resilient Channels — Formed from min 25 MSG galv steel installed perpendicular to trusses. When there is no insulation installed in the concealed space the resilient channels are spaced 24 in. OC. When insulation (Item 5) is secured to the underside of the subfloor the resilient channels are spaced 16 in. OC. When insulation, Items 5, 5A or 5B is applied over the resilient channels channel, or when Item 5C, 5E or 5F is applied to underside of subflooring, the resilient channels
5C. Foamed Plastic* — (As alternate to Item 5, 5A, or 5B, Not Shown) — Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft ³ density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). Spray foam insulation is limited for use with minimum 18 in. deep trusses (Item 2). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 4 through 4K) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 5 through 5B, or 6A through 6I. SES FOAM INC — Sucraseal	 are spaced 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint as shown in the above illustration. Additional channels shall extend min 6 in. beyond each side edge of panel. 6A. Steel Framing Members* — (Not Shown) — As an alternate to Item 6. a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5, 5A or 5B is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.
5D. Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* — (As described above in Items 5 through 5B) — (For Use with Item 7A, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6H)/gypsum board (Item 7A) ceiling membrane.	b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 x 2-1/2 in. course drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. course drywall screw through the center pole. RSIC-Six secured to alternating trusses with No. 10, X 3-1/2 in. course
5E. Foamed Plastic* — (As alternate to Item 5, 5A, or 5C, Not Shown) — Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft ³ or 2.0 lb/ft ³	with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. RSIC-Si-X secured to alternating trusses with No 10. X 3-1/2 in. coarse screw. Furring channels are friction fitted into clips. RSIC-1, RSIC-V and RSIC-Si-X clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in.

long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that

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supports the gypsum board butt joints, as described in Item 7. When Fiber, Sprayed (Item 5B) is used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board shall be installed as described in Item 7.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75), RSIC-Si-X

6B. Steel Framing Members — (Not Shown) — As an alternate to Item 6, main runners, cross tees, cross channels and wall angle as listed below. a. Main Runners — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Hanger wires to be located adjacent to main runner/cross tee intersections. Hanger wires wrapped and twist-tied on 16d nails driven in to side of trusses at least 5 in. above the bottom face.

b. Cross Tees or Channels — Nom 4 ft long cross tees, with 15/16 in. or 1-1/2 in. wide face, or nom 4 ft long cross channels, with 1-1/2 in. wide face, either spaced 16 in. OC, installed perpendicular to the main runners. Additional cross tees or channels used 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.

c. Wall Angle or Channel — Painted or galv steel angle with 1 in. legs or channel with 1 in. legs, 1-9/16 in. deep attached to walls at perimeter of ceiling with fasteners 16 in. OC. To support steel framing member ends and for screw-attachment of the gypsum panel.

CGC INC — Type DGL or RX

USG INTERIORS LLC — Type DGL or RX

6C. Steel Framing Members* — (Not Shown) — As an alternate to Item 6. a. Furring Channels — Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max. 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Cb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 7.

b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Cd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Cd) location.

d. Steel Framing Members* — Hangers spaced 48 in. OC. max along truss, and secured to the Blocking (Item 6Cc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions. KINETICS NOISE CONTROL INC — Type ICW

6D. **Steel Framing Members*** — (Not Shown) — As an alternate to Item 6.

a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, and secured to

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from base layer end joints. Butted side joints of outer layer to be offset min. 18 in. from butted side joints of base layer. When Steel Framing Members (Item 6C) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ca). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer. When **Steel Framing Members** (Item 6D) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Butted end joints shall be staggered min 2 ft. within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two furring channels shall be spaced approximately 4 in. OC, and be attached to underside of the truss with one Isomax clip at each end of the channel. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC in the field. The end of the outer layer boards at the butt joint shall be attached to the base layer boards with 1-5/8 in. long Type G screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min 18 in. from butted side joints of base layer. Outer layer shall be finished as described in Item 8. When Steel Framing Members (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide are installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels using 1 in. long No. 6 Type S buglehead steel screws spaced 12 in. OC in the field of the board. Butted end joints shall be staggered minimum 2 ft. within the assembly. Additional furring channels constructed as per Item 6E shall be used to support each end of each gypsum board. These additional furring channels shall be attached to underside of the truss with Genie clips as described in Item 6E. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field. The outer layer boards at the butt joint shall be attached to the base layer boards with No. 10, 1-1/2 in. long drywall screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min of 24 in. from base layer end joints. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer. When Steel Framing Members (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S buglehead steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel. When alternate Steel Framing Members* (Item 6G) are used, gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip with hold down clips to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall

When **Steel Framing Members** (Item 6I) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1-1/4 in. long, fine thread, #6, Type S bugle-head steel screws spaced 8 in. OC along butt joints and in the field of the board. Gypsum board butted end joints shall be staggered minimum 24 in. and occur 3 in. from the continuous furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonusClip at every truss involved with the butt joint.

screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the

backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4

When Steel Framing Members (Item 6J) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to resilient channels. Gypsum board secured to resilient channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board and located 3/4 in. from side joints and 3 in. end joints. Gypsum board joints are to be staggered by a minimum of 24 in.

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When Steel Framing Members (Item 6L) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 7. Adjacent butt joints staggered minimum 48 in. OC. When Steel Framing Members (Item 6M) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 7. Butt joints staggered minimum 24 in. OC. CGC INC — Types C, IP-X2, IPC-AR

Item 5B.

described below.

described in Item 7.

described below.

PLITEQ INC — Type Genie Clip

CGC INC — Type ULIX

UNITED STATES GYPSUM CO — Type ULIX

may be applied to the entire surface of gypsum board.

9. Grille — Grille installed in accordance with the installation instructions provided with the ceiling damper.

trusses. The cut-openings in the poultry netting shall be staggered at a maximum of 6 ft.

Up Service. Always look for the Mark on the product. in the following format: "© 2022 UL LLC"

in. from the side joints and max 8 in. OC in the field of the board.

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https://iq.ulprospector.com/en/profile?e=14276BXUV.L521 - Fire-resistance Ratings - ANSI/UL 263 | UL Product iQ

the bottom chord of alternating trusses with two No. 8 x 2-1/2 in. course drywall screws, one through the hole at each end of the clip. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. Two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 5B. **KINETICS NOISE CONTROL INC** — Type Isomax

6E. Steel Framing Members* — (Not Shown) — As an alternate to Item 6.

a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, and secured to the bottom chord of alternating trusses with one No. 8 x 2-1/2 in. coarse drywall screw through center grommet. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. Not evaluated for use with

6F. Steel Framing Members* — (Not Shown) — As an alternate to Items 6, furring channels and Steel Framing Members as

a. Furring Channels — Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to joists. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. Steel Framing Members* — Used to attach furring channels (Item a) to the trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the joists with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold furring channel that supports the gypsum board butt joints as

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6G. Steel Framing Members* — (Not Shown) — As an alternate to Item 6 — Not for use with Items 5, 5A or 5B — Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation. USG INTERIORS LLC — Type DGL or RX

6H. Resilient Channels — For Use With Item 7A - Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 5D is applied over the resilient channel/gypsum panel ceiling membrane.

6l. Steel Framing Members* — (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as a. Furring Channels — Formed of No. 25 MSG galvanized steel, 2-1/2 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel

b. Steel Framing Members* — Used to attach furring channels (Item 6Ia) to the trusses (Item 2). Clips spaced 48 in. OC on alternating trusses and secured to the bottom chord of the trusses with one 2-1/2 in. coarse drywall screw through the center grommet in accordance with the manufacturer's installation instructions. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the furring channel that supports one end of the gypsum board butt joints as described in Item 7. **REGUPOL AMERICA** — Type SonusClip

6J. Steel Framing Members* — (Not Shown) — Used to attach resilient channels (Item 6) to trusses (Item 2). Clips spaced 48 in. OC on adjacent trusses, and secured to trusses with one No. 8 x 2-1/2 in. coarse drywall screw through center grommet hole. Channels secured to clips with one #10 x 1/2 in. pan-head self-drilling screw. Ends of adjoining channels overlapped 6 in. and secured together with two #8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board butt joints require additional resilient channels spaced 3 in. from the butt joint on either side. One edge of the extra channels will extend to an adjacent truss where it is secured with a clip. **KEENE BUILDING PRODUCTS CO INC** — Type RC+ Assurance Clip

6K. Steel Framing Members* — (Not Shown) — As an alternate to Item 6. furring channels and Steel Framing Members as

described below. a. Furring Channels — Hat channels formed of No. 25 MSG galv steel, nom. 2-23/32 in. wide by 7/8 in. deep, When there is no insulation installed in the concealed space the resilient channels are spaced 24 in. OC. When insulation (Item 5) is secured to the underside of the subfloor the resilient channels are spaced 16 in. OC. When insulation, Items 5, 5A or 5B is applied over the resilient channel/gypsum panel ceiling membrane, or when Item 5C, 5E or 5F is applied to underside of subflooring, the resilient channels are spaced 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC with No. 8 x 2-1/2 in. course drywall screw through the center grommet. Furring channels are friction fitted into clips. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. **CLARKDIETRICH BUILDING SYSTEMS** — Type ClarkDietrich Sound Clip

6L. Steel Framing Members* — (Not Shown

a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to the trusses. Channels secured to Cold Rolled Channels at every intersection with a 3/4 in. TEK screw through each furring channel leg. Ends of adjoining channels overlapped 12 in. and fastened together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap, or with two 3/4 in. TEK screws in each leg of the overlap section. Two furring channels used at end joints of gypsum board (Item 7), each extending a min of 6 in. beyond both side edges of the board.

b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Ld) and secured with two 3/4 in. TEK screws. Adjoining lengths of cold rolled channels lapped min. 12 in. and secured along bottom legs with four 3/4 in. TEK screws and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6Ld) location with 16d nails or minimum 2-1/2 in. screws.

d. Steel Framing Members* — Spaced 48 in. OC. max along truss, and secured to the truss on alternating trusses with two, #10 x 1-1/2 in. screws through mounting holes on the hanger bracket. PAC INTERNATIONAL L L C — Type RSIC-SI-CRC EZ Clip

6M. Steel Framing Members* — (Not Shown) — As an alternate to Item 6.

a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to trusses and friction fit into Steel Framing Members (Item 6Mc). Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap or with two TEK screws along each leg of the 6 in. overlap. Two furring channels used at end joints of gypsum board (Item 7). Butt joint channels held in place by strong

spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b.

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UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

7A. Gypsum Board* — For use with Items 5D and 6H. Nom 5/8 in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Finish Rating with this ceiling system is 20 min.

8. Finishing System — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster

10. Wire Mesh — (Not Shown) — For use with Item 5A and 5B — 1 in. 20 gauge galvanized poultry netting installed between the furring channels and gypsum board. The poultry netting is attached with washers and 1/2 in. wafer head screws, spaced 24 in. OC., to the furring channels. The Fiber, Sprayed (Item 5A or 5B) is installed through cut-openings in the poultry netting, in-between

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2022-02-14

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https://iq.ulprospector.com/en/profile?e=14276BXUV.L521 - Fire-resistance Ratings - ANSI/UL 263 | UL Product iQ

https://iq.ulprospector.com/en/profile?e=14276

5/19/2022, 8:54 PM12 of 14

back channels placed upside down, on top of, and running perpendicular to primary furring channels, extending 6 in. longer than length of gypsum side joint. Strong back channels spaced maximum 48 in. OC. Strong back channels secured to every intersection of primary furring channels with four 7/16 in. pan head screws, two along each of the legs at intersections. Butt joint channels run perpendicular to strong back channels and shall be minimum 6 in. longer than length of joint, secured to strong back channels with 7/16 in. pan head screws, two along each of the legs at intersection with strong back channels.

b. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6c) location with 16d nails or minimum 2-1/2 in. screws.

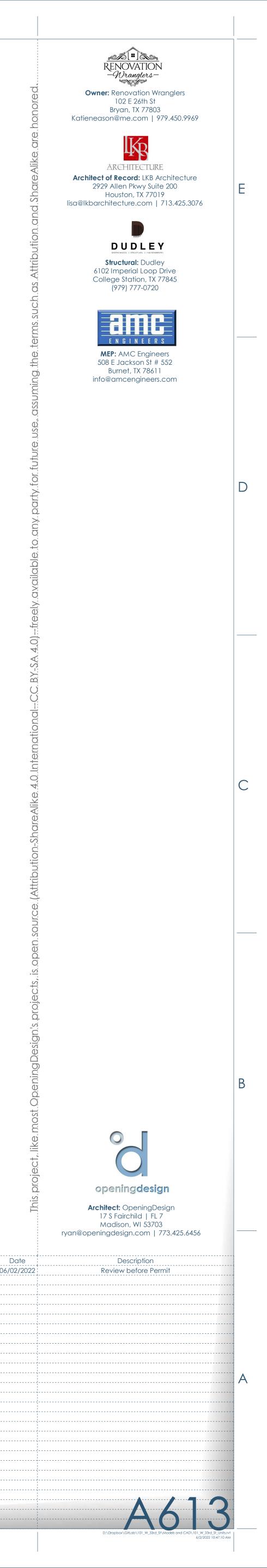
c. Steel Framing Members* — Used to attach furring channels (Item 6La) to trusses. Clips spaced 48 in. OC and secured along truss webs at each furring channel intersection with min. 3/4 in. long self-drilling #10 x 1-1/2 in. screws through each of the provided hole locations. Furring channels are friction fitted into clips. PAC INTERNATIONAL L L C — Type RSIC-S1-1 Ultra

6N. Steel Framing Members* — (Optional, Not Shown) — Used as an alternate method to attach resilient channels to structural members. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions. Gypsum Board butt joints staggered minimum 24 in. OC and Gypsum Board screws spaced 8 in. OC when used. PAC INTERNATIONAL L L C — Types RC-1 Boost

7. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide gypsum panels. When resilient channels (Item 6) are used, gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. When insulation (Items 5 or 5A) is applied over the resilient channel/gypsum panel ceiling membrane screw spacing shall be reduced to 8 in. OC. When insulation (Item 5C, 5E or 5F) is applied to the underside of the subflooring, screw spacing shall be reduced to 8 in. OC and minimum 1-1/4 in. long Type S screws to install gypsum to the resilient channels (Item 6), and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. End joints secured to both resilient channels as shown in end joint detail. When Steel Framing Members (Item 6A) are used, gypsum panels installed with long dimensions perpendicular to furring channels. Panels attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 8 in. OC along butted end joints and in the field of the panel. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum panel shall be supported by a single length of furring channel equal to the width of the gypsum panel plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to underside of the truss with one clip at each end of the channel. When Steel Framing Members* (Item 6B) are used, gypsum panels installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Panels fastened to cross tees with 1 in. long . Type S bugle-head screws spaced in the field and 8 in. OC along end joints. Panels fastened to main runners with 1 in. long . Type S bugle-head screws spaced midway between cross tees. Screws along sides and ends of panels spaced 3/8 to 1/2 in. from panel edge. End joints of panels shall be staggered with spacing between joints on adjacent panels not less than 4 2 ft OC. When Fiber, **Sprayed** (Items 5A or 5B) is used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer gypsum board secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. End joints secured to both resilient channels as shown in end joint detail. Outer layer gypsum board secured with 1-5/8 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Outer layer shall be finished as described in Item 8. When both Steel Framing Members (Item 6A) and Fiber, Sprayed (Items 5A or 5B) are used, furring channels spaced 12 in. OC and two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimension perpendicular to furring channels. Base layer secured to furring channels with nom 1 in. long Type S bugle head screws spaced 8 in. OC along butted end joints and in the field of the board. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the underside of the truss with one clip at each end of the channel. Outer layer secured to furring channels using 1-5/8 in. long Type S screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min. of 8 in.

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UL Product iQ®

XHEZ.F-C-3012 - Through-penetration Firestop Systems

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XHEZ - Through-penetration Firestop Systems XHEZ7 - Through-penetration Firestop Systems Certified for Canada See General Information for Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems Certified for Canada

System No. F-C-3012 April 06, 2018

ANSI/UL1479 (ASTM E814)	CAN/ULC S11
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 1 and 1-3/4 Hr (See Item 3)	FT Ratings — 0, 1 and 1-3/4 Hr (See
	FH Ratings — 1 and 2 Hr (See Item 1
	FTH Ratings — 0, 1 and 1-3/4 Hr (Se

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6C A614 FIRE STOP - FLOOR - FRAMED - ELECTRIC CABLE - F_1HR&2HR - T_1HR&2HR - L_NA - HILTI - XHEZ.F-C-3012 12" = 1'-0"

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XHEZ.F-C-8009 - Through-penetration Firestop Systems

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XHEZ - Through-penetration Firestop Systems XHEZ7 - Through-penetration Firestop Systems Certified for Canada See General Information for Through-penetration Firestop Systems See General Information for Through-penetration Firestop Systems Certified for Canada

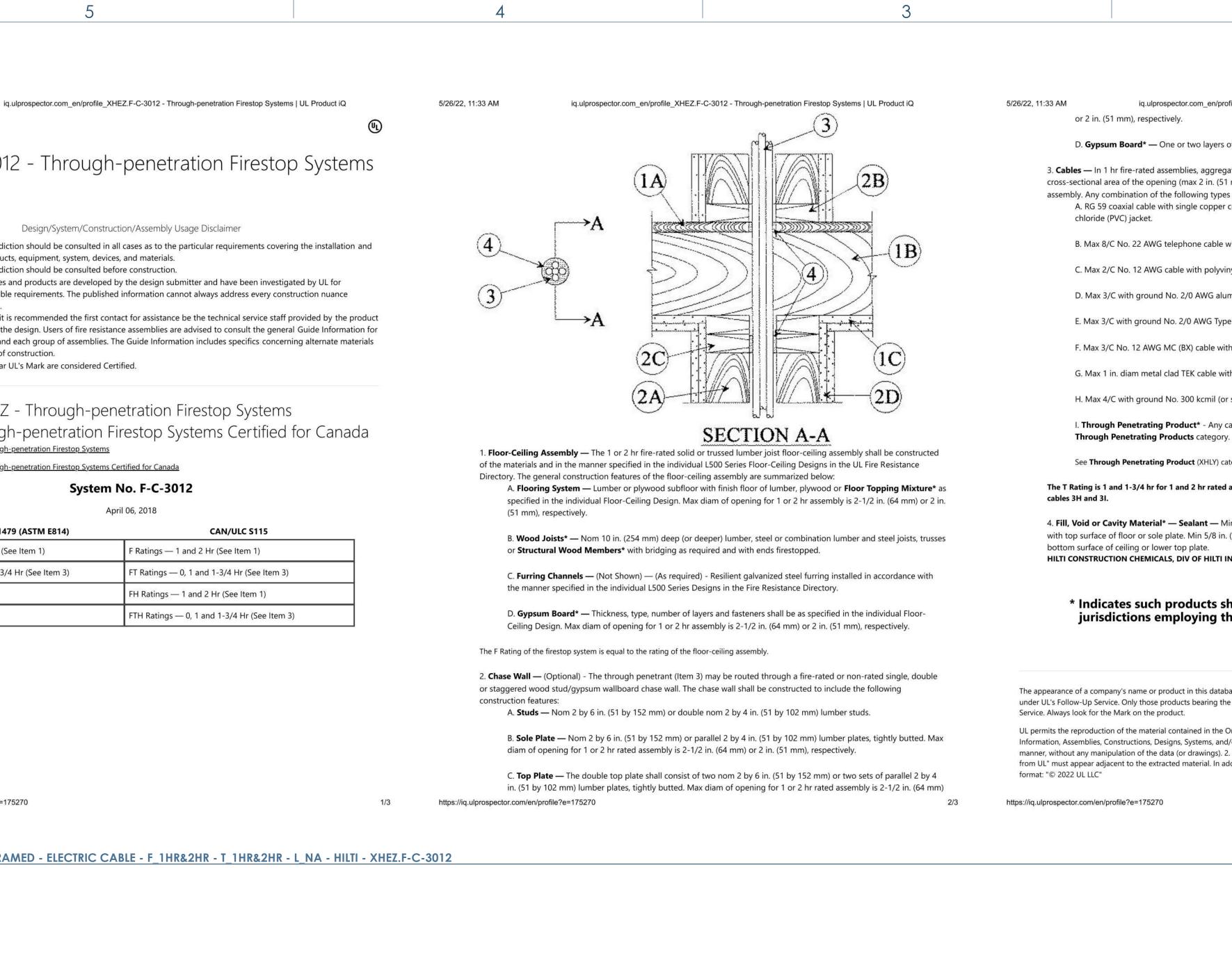
System No. F-C-8009

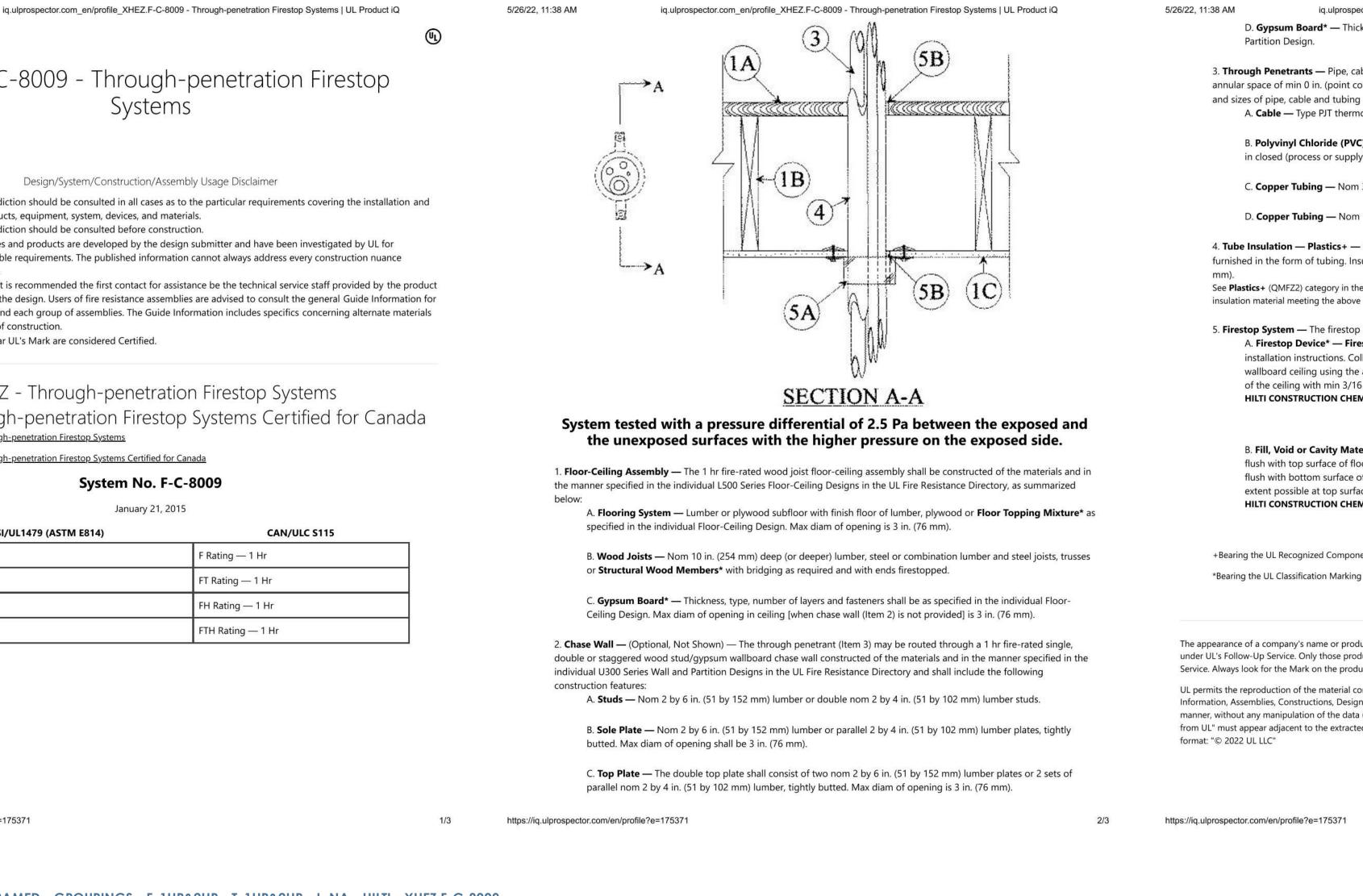
January 21, 2015

CAN/UL		
F Rating — 1 Hr		
FT Rating — 1 Hr		
FH Rating — 1 Hr		
FTH Rating — 1 Hr		

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6A FIRE STOP - FLOOR - FRAMED - GROUPINGS - F_1HR&2HR - T_1HR&2HR - L_NA - HILTI - XHEZ.F-C-8009 A614/ 12" = 1'-0"





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D. **Gypsum Board*** — One or two layers of min 1/2 in. (13 mm) gypsum board.

3. Cables — In 1 hr fire-rated assemblies, aggregate cross-sectional area of cables in opening to be max 45 percent of the cross-sectional area of the opening (max 2 in. (51 mm) diam bundle). Cables to be rigidly supported on both sides of floor assembly. Any combination of the following types and sizes of copper conductors may be used: A. RG 59 coaxial cable with single copper conductor, cellular polyethylene cellular foam insulation and polyvinyl chloride (PVC) jacket.

B. Max 8/C No. 22 AWG telephone cable with polyvinyl chloride (PVC) jacketing.

C. Max 2/C No. 12 AWG cable with polyvinyl chloride (PVC) insulation and jacketing.

D. Max 3/C with ground No. 2/0 AWG aluminum or copper Type SER cable with polyvinyl chloride (PVC) insulation.

E. Max 3/C with ground No. 2/0 AWG Type NM cable with polyvinyl chloride (PVC) insulation.

F. Max 3/C No. 12 AWG MC (BX) cable with polyvinyl chloride (PVC) insulation.

G. Max 1 in. diam metal clad TEK cable with PVC jacket.

H. Max 4/C with ground No. 300 kcmil (or smaller) aluminum SER cable with PVC insulation and jacket.

I. Through Penetrating Product* - Any cables, Metal-Clad Cable+ or Armored Cable+ currently Classified under the

See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.

The T Rating is 1 and 1-3/4 hr for 1 and 2 hr rated assemblies, respectively, for cables 3A through 3G. The T Rating is 0 hr for

4. Fill, Void or Cavity Material* — Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of fill material also applied within the annulus, flush with bottom surface of ceiling or lower top plate. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A Sealant or FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2018-04-06

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iq.ulprospector.com_en/profile_XHEZ.F-C-8009 - Through-penetration Firestop Systems | UL Product iQ D. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in individual Wall and

3. Through Penetrants — Pipe, cable and tubing to be bundled and rigidly supported on both sides of floor assembly. A nom annular space of min 0 in. (point contact) to max 1/2 in. (13 mm) is required within the firestop system. The following types and sizes of pipe, cable and tubing are to be used in the firestop system in sufficient quantities to fill the firestop device: A. Cable — Type PJT thermoset cable, 5/C No. 18 AWG copper conductor, plastic insulation and jacket.

B. Polyvinyl Chloride (PVC) Pipe — Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

C. Copper Tubing — Nom 3/4 in. (19 mm) diam (or smaller) Type L (or heavier) copper tubing.

D. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L (or heavier) copper tubing.

4. Tube Insulation — Plastics+ — Nom 1/2 in. (13 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Insulation to be installed only on one through reverant having a max nom diam of 3/4 in. (19

See Plastics+ (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used.

5. Firestop System — The firestop system shall consist of the following: A. Firestop Device* — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the penetrants and secured to underside of gypsum wallboard ceiling using the anchor hooks provided with the collar. The anchor hooks are to be secured to the surface of the ceiling with min 3/16 in. diam min 2-1/2 in. long toggle bolts. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC --- CP 64-3 90/3"N, CP 64-3 63/2"N, CP 64-3 50/1-1/2"N.

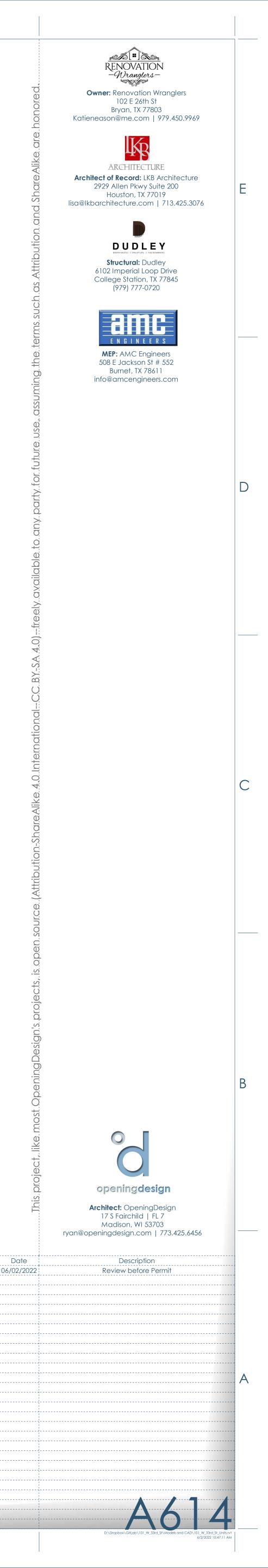
B. Fill, Void or Cavity Material* — Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with bottom surface of ceiling or lower top plate. Caulk to be forced into interstices of penetration group to max extent possible at top surface of floor or sole plate and bottom surface of ceiling or lower top plate. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

+Bearing the UL Recognized Component Mark

Last Updated on 2015-01-21

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XHEZ.F-C-1168 - Through-penetration Firestop Systems

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XHEZ - Through-penetration Firestop Systems XHEZ7 - Through-penetration Firestop Systems Certified for Canada

See General Information for Through-penetration Firestop Systems See General Information for Through-penetration Firestop Systems Certified for Canada

System No. F-C-1168

April 29, 2020

ANSI/UL1479 (ASTM E814)	CAN/
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (Se
T Ratings — 1 and 2 Hr (See Item 1)	FT Ratings — 1 and 2 Hr (S
L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 1 and 2 Hr (S
L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings — 1 and 2 Hr (
	L Rating at Ambient — Less
	L Rating at 400 F — Less th

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5/26/22, 11:25 AM 5/26/22, 11:25 AM iq.ulprospector.com_en/profile_XHEZ.F-C-2030 - Through-penetration Firestop Systems | UL Product iQ UL Product iQ ભ XHEZ.F-C-2030 - Through-penetration Firestop Systems Design/System/Construction/Assembly Usage Disclaimer

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XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. F-C-2030

April 06, 2018

F Ratings — 1 and 2 Hr (See tem 1) T Ratings — 0, 3/4, 1, 1-1/2 and 2 Hr (See Item 3)

construction features:

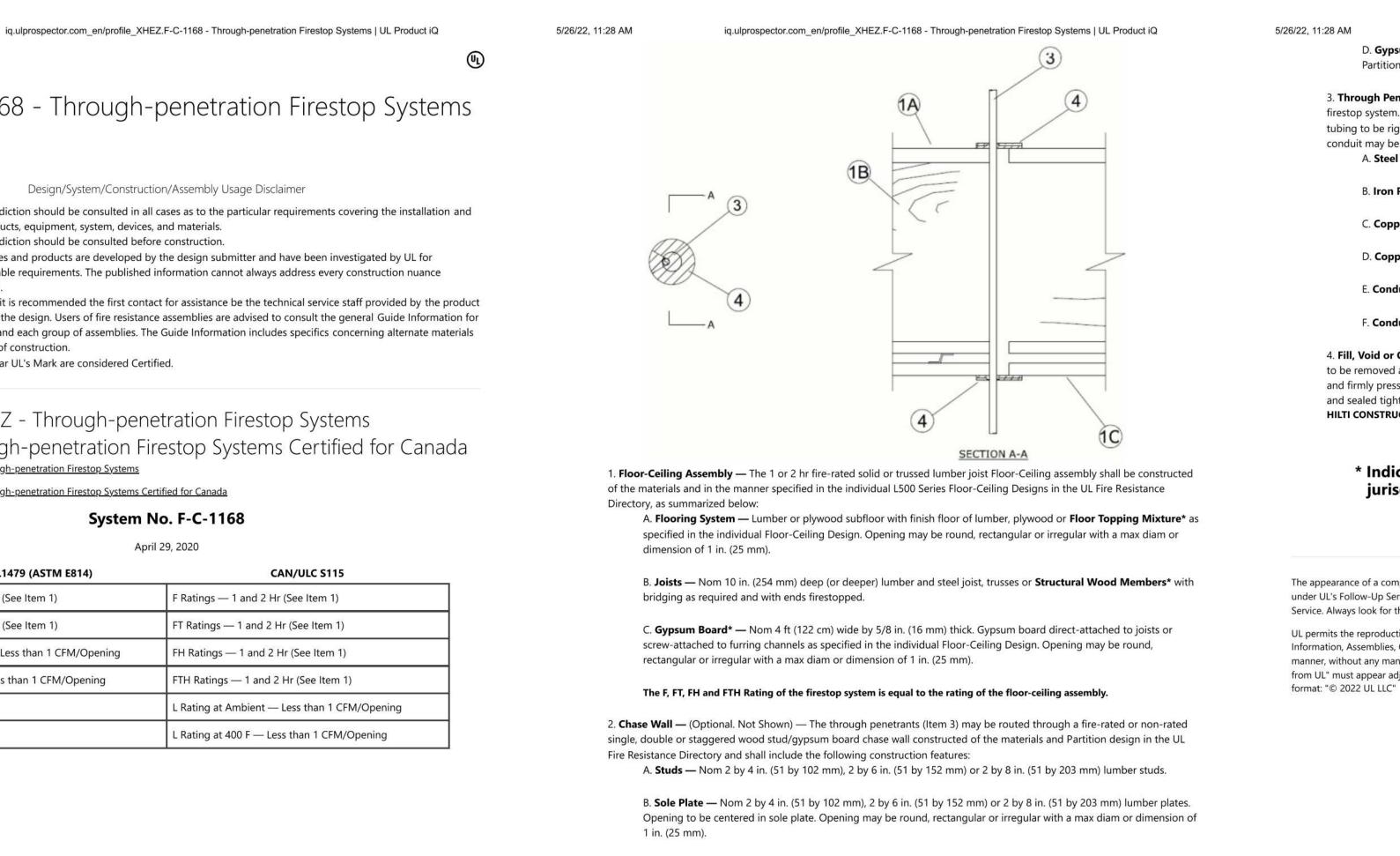
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(6A) FIRE STOP - FLOOR - FRAMED - NONMETALLIC PIPE_CONDUIT_TUBING - F_1HR&2HR - T_1HR&2HR - L_NA - HILTI - XHEZ.F-C-2030 A615 12" = 1'-0"

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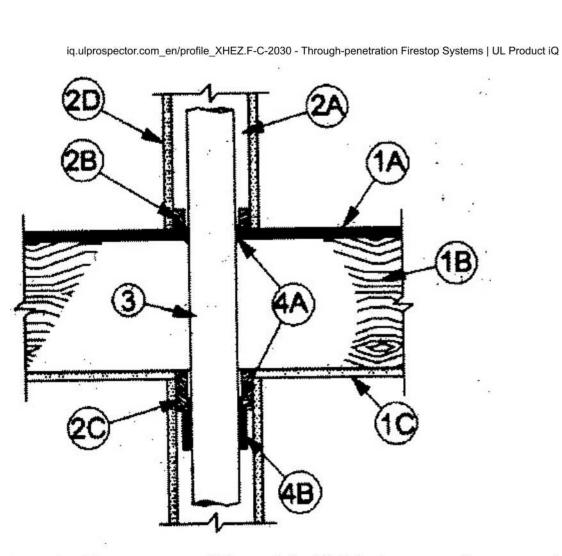




C. Top Plate — The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm) or 2 by 8 in. (51 by 203 mm) lumber. Opening to be centered in top plate. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm).

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System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Floor-Ceiling Assembly — The 1 or 2 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the rating of the floor-ceiling and wall assemblies. The general construction features of the floor-ceiling assembly are summarized below: A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).

B. Joists — Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with end firestopped.

C. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).

D. Furring Channels — (Not Shown) (As required) - Resilient galvanized steel furring installed in accordance with the manner specified in the individual L500 Series Designs in the Fire Resistance Directory.

2. Chase Wall — (Optional) - The through penetrant (Item 3) may be routed through a fire-rated or non-rated single, double or staggered wood stud/gypsum wallboard chase wall. The chase wall shall be constructed to include the following A. Studs — Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.

B. Sole Plate — Nom 2 by 6 in. (51 by 152 mm) (or larger) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).

5/26/22, 11:25 AM iq.ulprospector.com_en/profile_XHEZ.F-C-2030 - Through-penetration Firestop Systems | UL Product iQ C. Top Plate — The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) (or larger) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).

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D. Gypsum Board* — One or two layers of min 1/2 in. (13 mm) gypsum board.

3. Through-Penetrants — One nom 1-1/2 in. (38 mm), 2 in. (51 mm), 3 in. (76 mm) or 4 in. (102 mm) diam nonmetallic pipe to be installed within the firestop system. Diam of opening through flooring system and through sole and top plates of chase wall to be max 2-1/8 in. (54 mm), 2-5/8 in. (67 mm), 4 in. (102 mm) or 5 in. (127 mm) for nom 1-1/2 in. (38 mm), 2 in. (51 mm), 3 in. (76 mm) or 4 in. (102 mm) diam nonmetallic pipe sizes, respectively. Pipe to be rigidly supported on both sides of the floor-ceiling assembly. The T Rating is dependent on the size of the through-penetrant. For 2 hr rated assemblies, the T Rating is 2 hr for 1-1/2 in. (38 mm) diam (and smaller) pipes and 1-1/2 hr for pipes greater than 1-1/2 in. (38 mm) diam. For 1 hr rated assemblies, the T rating is 1 hr for 1-1/2 in. (38 mm) diam (and smaller) pipes, 3/4 hr for 2 in. (51 mm) diam pipes and 0 hr for pipes greater than 2 in. (51 mm) diam. The following types of nonmetallic pipes may be used: A. Polyvinyl Chloride (PVC) Pipe — Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

B. Chlorinated Polyvinyl Chloride (CPVC) Pipe - SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

C. Acrylonitrile Butadiene Styrene (ABS) pipe — Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

D. Flame Retardant Polypropylene(FRPP) Pipe — Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

4. Firestop System — The details of the firestop system shall be as follows: A. Fill, Void or Cavity Material* — Sealant — Min 3/4 in. (19 mm) thickness of fill material to be installed within the annular space between the pipe and the flooring (Item 1A) or sole plate. Min 5/8 in. (16 mm) thickness applied within the annular space, flush with the bottom surface of ceiling or lower top plate. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealantor FS-ONE MAX Intumescent Sealant.

B. Firestop Device* — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to underside of ceiling or chase wall top plate (Item 2C) using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 (38 mm) and 2 in. (51 mm) diam pipes and 3 anchor hooks for 3 in. (76 mm) diam pipes). The anchor hooks are to be secured to the ceiling with min 3/16 in. (5 mm) diam steel toggler bolts or to the chase wall top plate with min No. 12 by min 1 in. (25 mm) long steel wood screws in conjunction with steel washers. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP 643 50/1.5"N, CP643 63/2"N, CP 643 90/3"N or CP643 110/4"N **Firestop Collar**

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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iq.ulprospector.com_en/profile_XHEZ.F-C-1168 - Through-penetration Firestop Systems | UL Product iQ D. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

3. Through Penetrant — Max one metallic pipe, tubing or conduit installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of the opening shall be min 0 in. (point contact). Pipe or tubing to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of pipes, tubing or conduit may be used: A. Steel Pipe — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. Iron Pipe — Nom 3/4 in. (19 mm) diam (or smaller) cast or ductile iron pipe.

C. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L and Type K (or heavier) copper tubing.

D. Copper Pipe — Nom 1/2 in. (13 mm) diam (or smaller) Regular (or heavier) copper pipe.

E. **Conduit** — Nom 3/4 in. (19 mm) diam (or smaller) rigid or flexible steel conduit.

F. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) electrical metallic tubing (EMT).

4. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the penetrant lapping nom 5 mm onto penetrant to completely cover opening and firmly pressed to lap onto the floor and ceiling (or plates) around periphery of opening. Disc seam to be firmly pressed and sealed tight, Disc to be installed at both sides of opening in floor-ceiling assembly. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Putty Disc

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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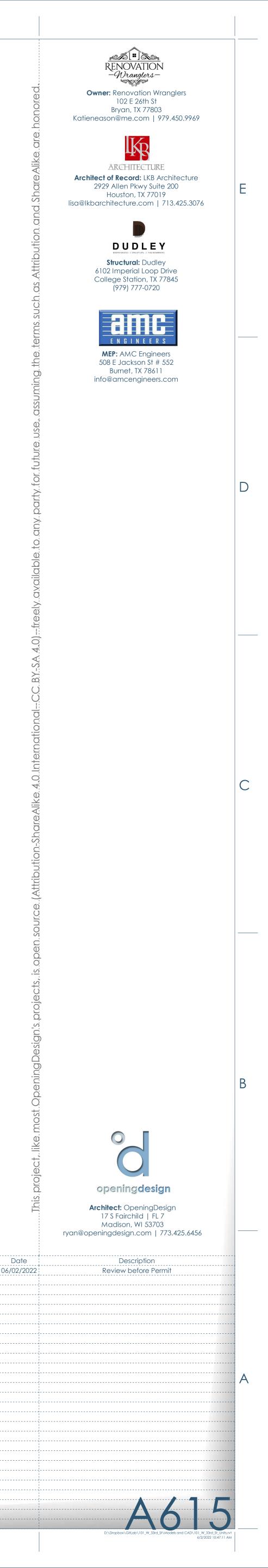
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Last Updated on 2018-04-06

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5/26/22, 11:25 AM iq.ulprospector.com_en/profile_XHEZ.F-C-2030 - Through-penetration Firestop Systems | UL Product iQ UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2022 UL LLC"

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XHEZ.W-L-3441 - Through-penetration Firestop

		stems			instal HILTI 5. Fill
 Design/System/Construction/Assembly Usage Disclaimer Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials. Authorities Having Jurisdiction should be consulted before construction. Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field. When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction. Only products which bear UL's Mark are considered Certified. 				 SECTION A-A 1. Wall Assembly — The 1 or 2 fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board, with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Opening may be round, rectangular or irregular with a max diam or dimension of 1-1/8 in. (19 mm). The Ratings of the firestop system are equal to the fire rating of the wall assembly. 	to be cable seale HILTI 6. Fill be ap HILTI
ee Ge		etration Firestop Systems restop Systems Certified for Canac	la	2. Metallic Sleeve — Nom 1 in. (25 mm) diam (or smaller) rigid steel conduit installed flush with wall surfaces. The annular space between steel sleeve and periphery of opening shall be min 0 in. (point contact) to max 1/8 in. (3 mm). When opening dimension exceeds 1 in. (25 mm), max annular space is 3/8 in. (10 mm).The sleeve shall extend up to 12 in. (305 mm) beyond one or both wall surfaces. As an option, sleeve may extend continuously beyond one wall surface. The conduit sleeve shall be secured to the adjacent stud within the wall cavity with a steel conduit strap attached to web of stud with min two no. 8 sheet metal screws with washers or shall be rigidly supported on those sides of the wall where the sleeve is extended. As an option, the sleeve may be provided with a plastic grommet at the ends of the sleeve.	The appearan under UL's Fo
<u>e 0</u>	System N	il 29, 2020		3. Cables — Within the sleeve (Item 2), the cables may represent a 0 to 100 percent visual fill. Cables to be tightly bundled within the sleeve and rigidly supported on both sides of wall assembly. Any combination of the following types of cables may be used:	Service. Alway UL permits the Information, A manner, withc
	ANSI/UL1479 (ASTM E814)	CAN/ULC S115		A. Max 3/C No. 8 AWG NM copper conductor cable (Romex) with PVC insulation and jacket.	from UL" must format: "© 20
	F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)		B. Type RG 6/U coaxial cable with fluorinated ethylene or PVC insulation and jacketing.	
	T Ratings — 1 and 2 Hr (See item 1)	FT Ratings — 1 and 2 Hr (See item 1)		C. Max 24 fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation.	
	L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 1 and 2 Hr (See Item 1)		D. Max 4 pr No. 22 AWG (or smaller) Cat 5 or Cat 6 computer cables with PVC or plenum rated insulation and jacketing.	
	L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings— 1 and 2 Hr (See item 1)		E. Maximum 3/C No. 10 AWG copper conductor metal-clad cable.	
		L Rating at Ambient — Less than 5.1 L/s/m ² /Opening			
		L Rating at 204 C — Less than 5.1 L/s/m ² /Opening		F. Through Penetrating Product* — Max two copper conductor No. 18 AWG (or smaller) Power or Non-Power Limited Fire Alarm Cable with or without a jacket under a metal armor.	
				AFC CABLE SYSTEMS INC G. Max 7/C-No. 12 AWG copper conductor control cable with PVC or XLPE insulation and jacket. H. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with PVC or plenum rated insulation and jacketing.	
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XHEZ.W-L-1095 - Through-penetration Firestop Systems

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- use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction. • Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for
- compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field. • When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product
- manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction. • Only products which bear UL's Mark are considered Certified.

XHEZ - Through-penetration Firestop Systems XHEZ7 - Through-penetration Firestop Systems Certified for Canada See General Information for Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems Certified for Canada

System No. W-L-1095

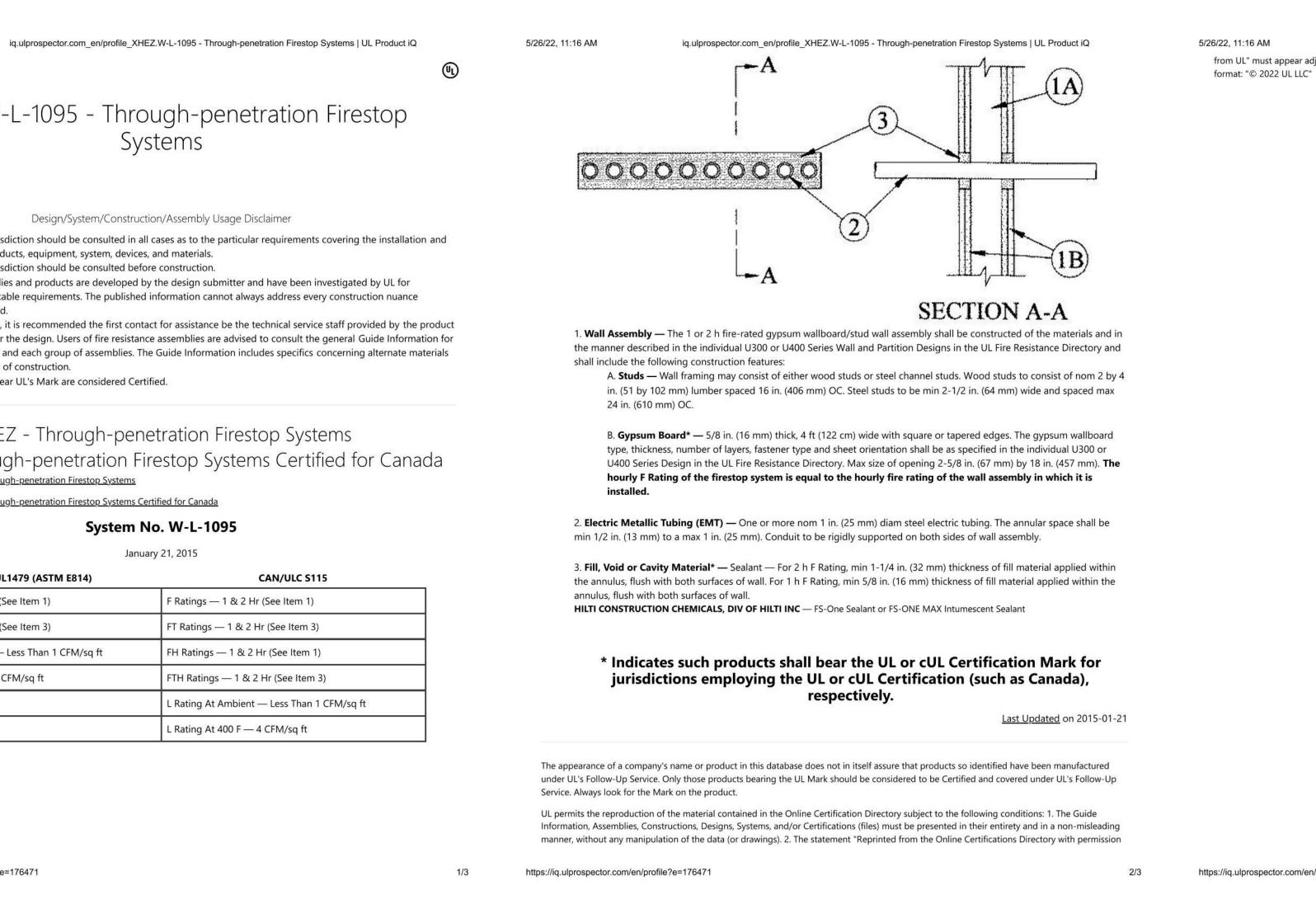
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ANSI/UL1479 (ASTM E814)	CAN/ULC S1
F Ratings — 1 & 2 Hr (See Item 1)	F Ratings — 1 & 2 Hr (See Item 1)
T Ratings — 1 & 2 Hr (See Item 3)	FT Ratings — 1 & 2 Hr (See Item 3
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Ratings — 1 & 2 Hr (See Item
L Rating At 400 F — 4 CFM/sq ft	FTH Ratings — 1 & 2 Hr (See Item
	L Rating At Ambient — Less Than
	L Rating At 400 F — 4 CFM/sq ft

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6A FIRE STOP - WALLS - FRAMED WALLS - METALLIC PIPE, CONDUIT OR TUBING - F_1HR&2HR - T_1HR&2HR - L_5 - HILTI - XHEZ.W-L-1095 A616 12" = 1'-0"

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, V-L-3441 - Through-penetration Firestop			4. Fill, Vo to be rem pressed to installed a



iq.ulprospector.com_en/profile_XHEZ.W-L-3441 - Through-penetration Firestop Systems | UL Product iQ Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc o be removed and disc firmly pressed around the sleeve at each surface of wall to lap min 5 mm onto sleeve and firmly pressed to lap onto the wall around periphery of opening. Disc seams to be firmly pressed and sealed tight, Discs to be installed at both sides of wall opening. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Cable Disc

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5. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc o be removed and disc firmly pressed around the cable/cable bundle at exit from each end of sleeve, lapping min 5 mm onto ables to completely cover opening and firmly pressed to lap onto the sleeve periphery. Disc seam to be firmly pressed and ealed tight, Discs to be installed at both sides of wall opening. **IILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC** — CFS-D 1" Firestop Putty Disc

5. Fill, Void or Cavity Material*— Sealant — As an alternate to Item 4, a min 1/2 in. (13 mm) diam bead of fill material shall e applied at the sleeve/wall interface. Fill material installed symmetrically on both sides of the wall. **HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC** — CP 606 or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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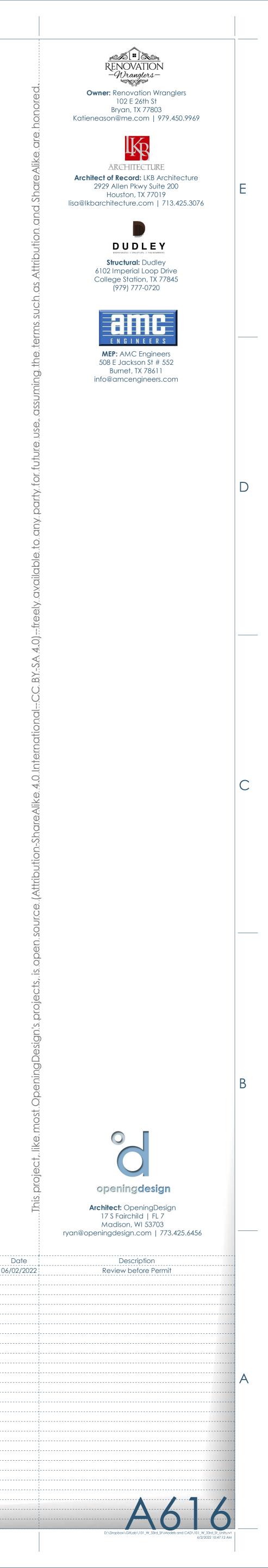
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XHEZ.W-L-2649 - Through-penetration Firestop Systems

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- compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field. • When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product
- manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials
- and alternate methods of construction. Only products which bear UL's Mark are considered Certified.

Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-2649

August 2, 2021

F Ratings — 1 and 2 Hr (See Item 1) T Ratings — 1 and 2 Hr (See Item 1) L Rating At Ambient - 1.2 CFM/sq ft L Rating At 400°F - Less Than 1 CFM/sq ft

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(^{6C}) FIRE STOP - WALLS - FRAMED WALLS - NONMETALLIC PIPE_CONDUIT_TUBING - F_1HR&2HR - T_1HR&2HR - L_5 - HILTI - XHEZ.W-L-2649 (A617) 12" = 1'-0"

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(4) Systems Design/System/Construction/Assembly Usage Disclaimer - 4 Section A-A 1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. B. Gypsum Board* — Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 6 in. (152 mm). XHEZ - Through-penetration Firestop Systems The hourly F, FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T, FT, FTH Ratings of the firestop system are 0 hr for 1 hr fire rated wall assemblies and 1 hr for 2 hr fire rated wall assemblies. 2. Air Conditioning (AC) Line Set — Max of three AC line sets bundled within the opening. Each line set consists of one metallic pipe, one insulated metallic pipe and one electrical cable. The aggregate cross-sectional area of the penetrants does not exceed 84 percent of the cross-sectional area of the wall opening. The annular space between the penetrants and the System No. W-L-8081 periphery of opening shall be min 0 in. (point contact) to max 1-1/2 in. (38 mm). Penetrants to be rigidly supported on both January 28, 2015 sides of wall assembly. 2A. Metallic Pipes — The following types and sizes of metallic pipes, conduits or tubing may be used: CAN/ULC S115 A. Steel Pipe — Nom 1 in. (25 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe. 2 Hr (See Item 1) B. Iron Pipe — Nom 1 in. (25 mm) diam (or smaller) cast or ductile iron pipe. 1 Hr (See Item 1) C. Conduit — Nom 1/2 in (13 mm) diam (or smaller) steel conduit or EMT. 2 Hr (See Item 1) D. Copper Pipe or Tube - Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tube or Regular (or nd 1 Hr (See Item 1) heavier) copper pipe. 2B. Cables — Max 4 pair No. 18 AWG (or smaller) thermostat cable with PVC insulation and jacket. 2C. Pipe Covering — The following pipe covering shall be used with the metallic pipes (Types 2A, 2B and 2D only) having a nom diam greater than 1/2 in. (13 mm): A. Tube Insulation - Plastics# — Nom 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used. https://iq.ulprospector.com/en/profile?e=178189 1/3

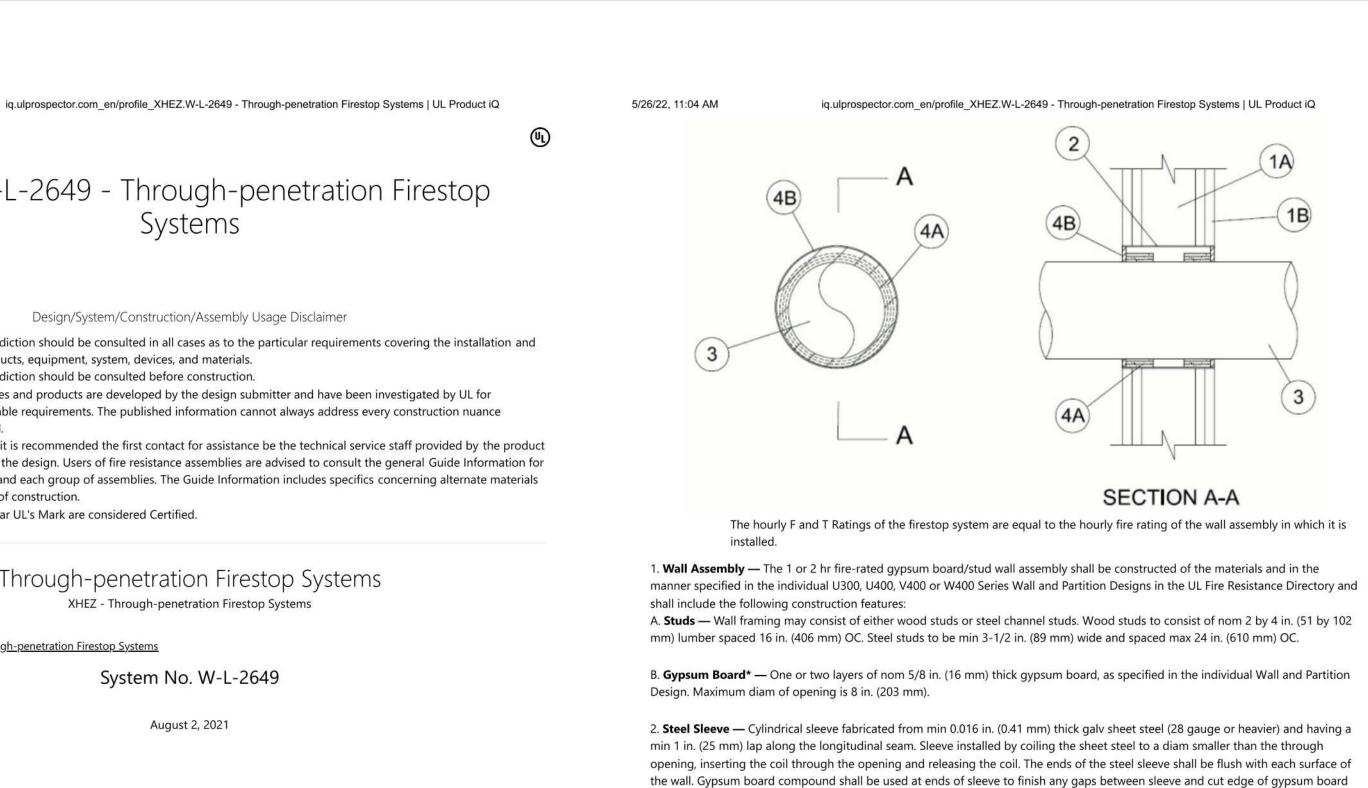
- encountered in the field.

UL Product iQ[®] XHEZ.W-L-8081 - Through-penetration Firestop • Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials. Authorities Having Jurisdiction should be consulted before construction. • Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance • When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction. • Only products which bear UL's Mark are considered Certified. XHEZ7 - Through-penetration Firestop Systems Certified for Canada See General Information for Through-penetration Firestop Systems See General Information for Through-penetration Firestop Systems Certified for Canada https://iq.ulprospector.com/en/profile?e=178189

ANSI/UL1479 (ASTM E814)	
F Rating — 1 and 2 Hr (See Item 1)	F Rating — 1 and 2
T Rating —0 and 1 Hr (See Item 1)	FT Rating —0 and 1
	FH Rating — 1 and
	FTH Rating — 0 and

(6A) WALLS - FRAMED WALLS - GROUPINGS - F_1HR&2HR - T_1HR&2HR - L_NA - HILTI - XHEZ.W-L-8081

(A⁶¹⁷) 12" = 1'-0"



3. Through Penetrants — One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. Annular

space within the firestop system is dependent upon the max diam and type of penetrant used as tabulated in Item 4A. Pipe to be

A. Polypropylene Random (PP-R) Pipe — Nom 6 in. (160 mm) diam (or smaller) Cosmoplast PP-R SDR 6 pipe for use in closed

B. Polypropylene Random (PP-R) Pipe — Nom 6 in. (160 mm) diam (or smaller) Coprax PP-R SDR 6 pipe for use in closed (process

C. Polypropylene Random (PP-R) Pipe — Nom 6 in. (160 mm OD) diam (or smaller) Aquatherm Greenpipe PP-R SDR 7.4 and SDR 11

D. High Density Polyethylene (HDPE) Pipe — Nom 6 in. (152 mm) diam (or smaller) SDR11 HDPE pipe for use in closed (process or

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rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used:

at both sides of wall.

(process or supply) piping systems.

pipe for use in closed (process or supply) piping systems.

or supply) piping systems.

supply) piping systems.

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5/26/22, 11:04 AM iq.ulprospector.com_en/profile_XHEZ.W-L-2649 - Through-penetration Firestop Systems | UL Product iQ E. Polypropylene (PP-RCT) Pipe — Nom 6 in. (160 mm OD) diam (or smaller) Aquatherm Bluepipe PP-R SDR 9 or 11 pipe for use in closed (process or supply) piping systems.

F. Polypropylene (PP-RCT) Pipe — Nom 6 in. (160 mm OD) diam (or smaller) Nupi Americas Niron pipe PP-R SDR 7.3, 9 or 11 pipe for use in closed (process or supply) piping systems.

G. Polypropylene (PP-RCT) Pipe — Nom 6 in. (160 mm OD) diam (or smaller) Aquatechnik NA Fusion-Tech pipe PP-R SDR 7.4 or 11 pipe for use in closed (process or supply) piping systems.

H. Polypropylene (PP-RCT) Pipe — Nom 6 in. (160 mm OD) diam (or smaller) Uponor pipe PP-R SDR 9 or 11 pipe for use in closed (process or supply) piping systems.

4. Firestop System — The firestop system shall consist of the following: A. Fill, Void or Cavity Material* — Wrap Strip — Nom 3/16 in. (4.8 mm) thick by 1-3/4 in. (44 mm) wide intumescent wrap strip. Layers of wrap strip are continuously wrapped around the pipe with ends tightly butted and held in place with tape. Wrap strip installed within the opening at each side of wall and recessed from both surfaces of wall to accommodate the required thickness of sealant (Item 4B). The number of layers for a given size penetrant is shown in table below:

Max Pipe Size, in. (mm)	Max Opening Diam, in. (mm)	Annular Space Min, in. (mm)	Annular Space Max, in. (mm)	Number of Layers	
3 (90)	4-1/2 (114)	3/16 (4.8)	3/4 (19)	1	
4 (110)	6 (152)	3/8 (10)	1-1/8 (29)	2	
6 (160)	8 (203)	9/16 (14)	1-3/16 (30)	3	

Metric dimensions shown for pipes (Items 3A, 3B and 3C) in parenthesis are actual metric OD's marked on pipe.

B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. For L Rating, the sealant shall extend over the edge of sleeve and lap onto the gypsum wall surface at both sides of

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E W45/1-3/4" Firestop Wrap Strip

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively. Last Updated on 2021-08-02

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wall.

2/3

3/3

5/29/22, 8:39 AM iq.ulprospector.com_en/profile_XHEZ.W-L-8081 - Through-penetration Firestop Systems | UL Product iQ 3. Firestop System — The details of the firestop system shall be as follows: A. Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. Fill material forced into grouped penetrant interstices to max extent possible

within opening. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

B. Fill, Void or Cavity Material* — Wrap Strip - Nom 3/16 in. (5 mm) thick by 1-3/4 in. (44 mm) wide intumescent wrap strip. Wrap strip is continuously wrapped around the outer circumference of bundled penetrants two times with ends butted and held in place with tape. Wrap strip installed flush with both surfaces of wall assembly. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E- W25/1-3/4" Wrap Strip

C. Steel Collar — Steel collar fabricated from coils of precut min 0.016 in. (0.41 mm) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be min 1-3/4 in. (44 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs on 1-3/4 in. (44 mm) centers for securement to both surfaces of wall. In addition, collars contain preformed retainer tabs 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, located opposite the anchor tabs. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam and compressed with a min 1/2 in. (13 mm) wide by 0.028 in. (0.71 mm) thick stainless steel band at collar mid-height. Every other anchor tab of collar secured to surface of wall with min 1-1/2 in. (38 mm) long drywall or laminate screws with min 3/4 in. (19 mm) steel washers.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Bearing the UL Recognized Component Marking

Last Updated on 2015-01-28

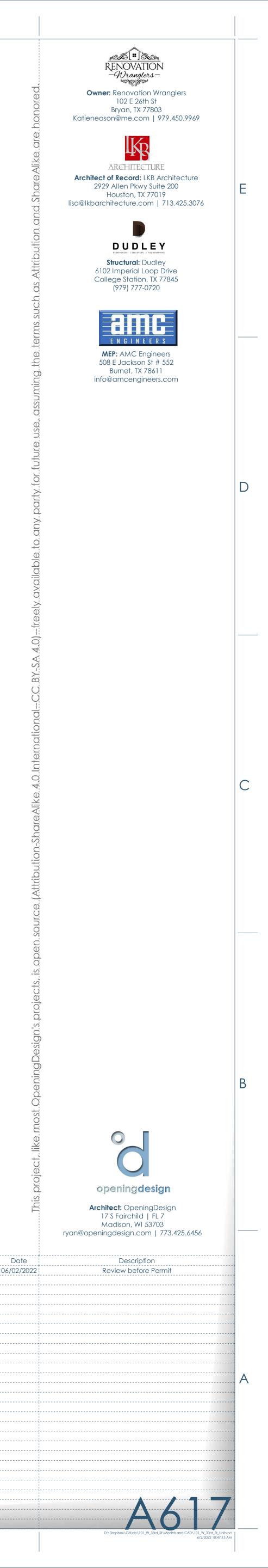
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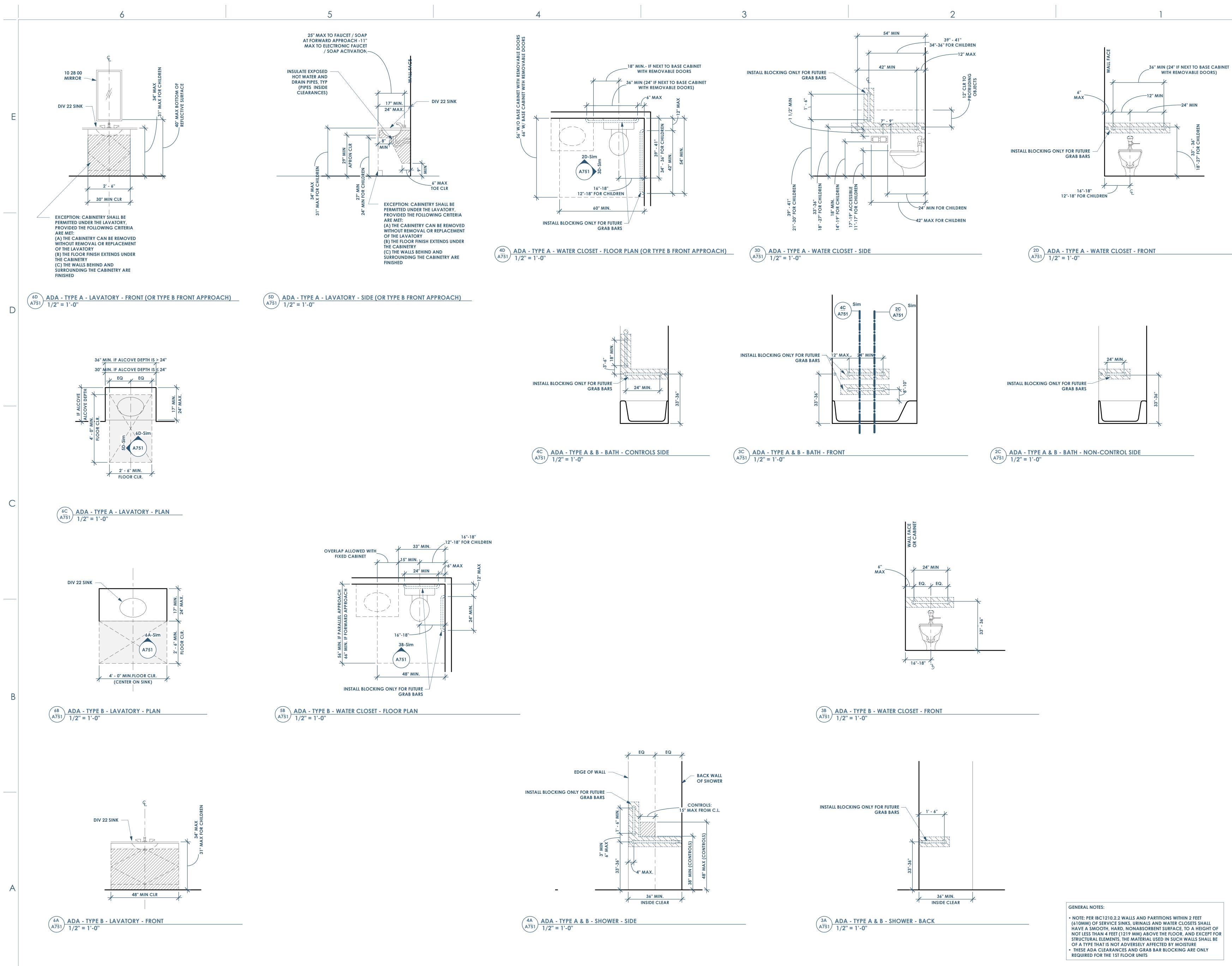
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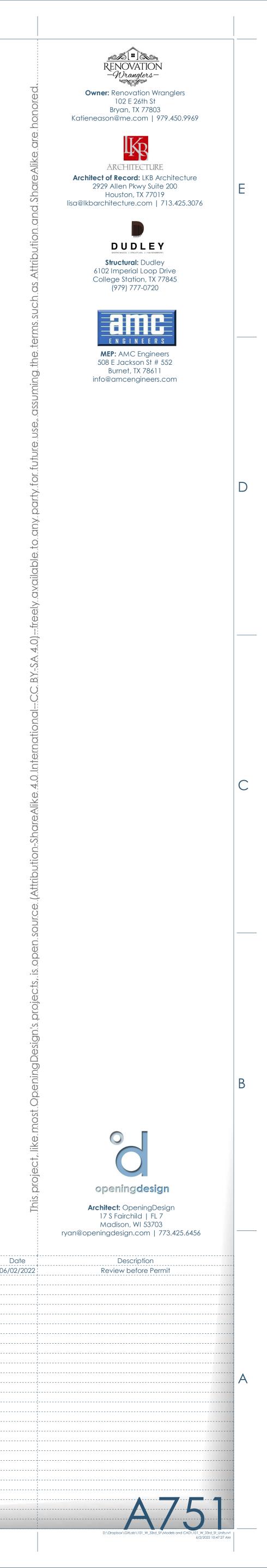
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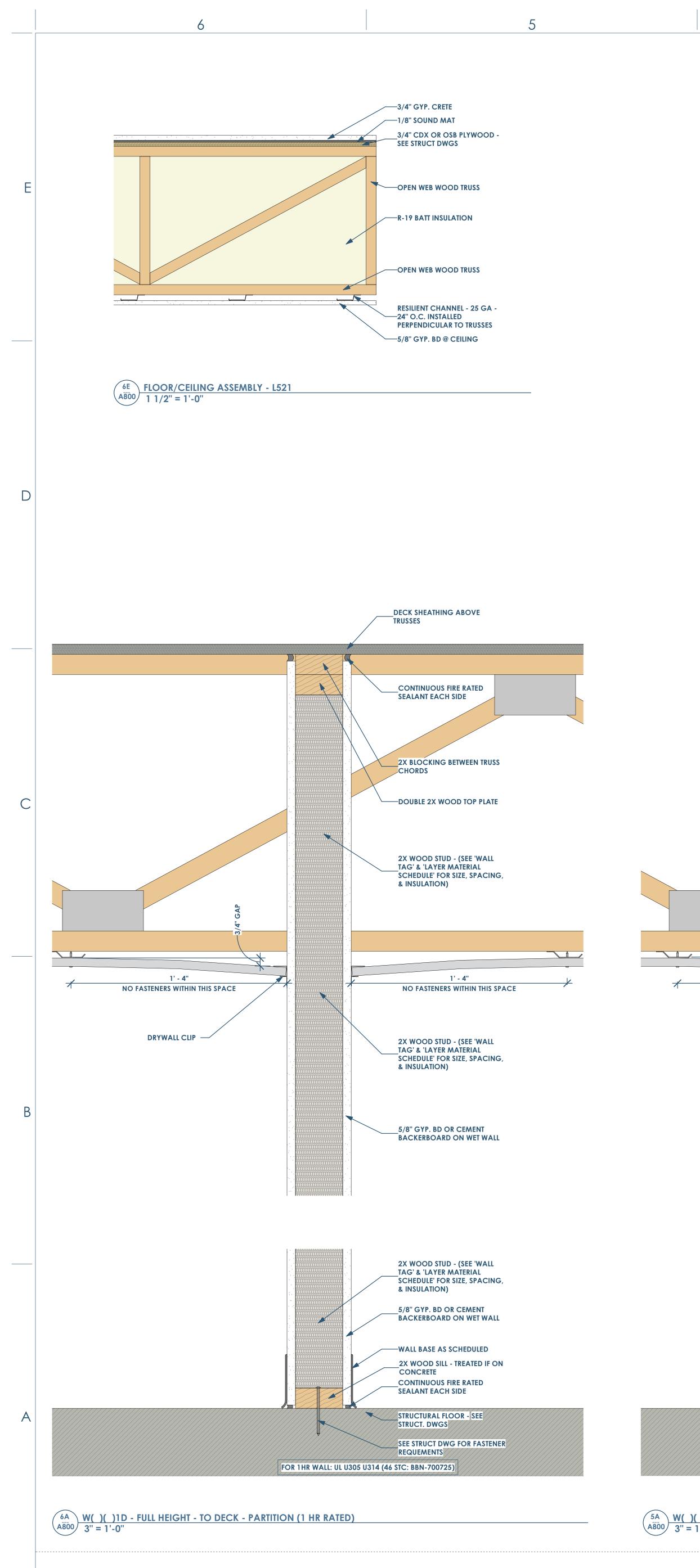
3/3





ADA - TYPE A AND B





2

• <u>1ST LETTER = CORE MATERIAL</u> • W= WOOD • M=METAL C=CONCRETE • B=MASONRY BLOCK • <u>2ND LETTER = SIZE OF CORE</u> • WOOD: NOMINAL STUD SIZES (EX: 4 = 3 1/2") • METAL STUD: (EX 358 = 3 5/8") • CONCRETE: ACTUAL WALL THICKNESS (EX: 8 = 8")

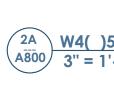
LAYER C= FIBER C Q= CLAPBO SIDING FIBER C BATTEN BOARD 7/8" CORRU METAL S FIBER C CLAPBO SIDING FIBER C BATTEN BOARD 7/8" V=

CORRU METAL 7/8" W= CORRU METAL 7/8" X= CORRU METAL • 4TH NUMBER: FIRE RATING • Ø=0 HOUR • 1=1 HOUR

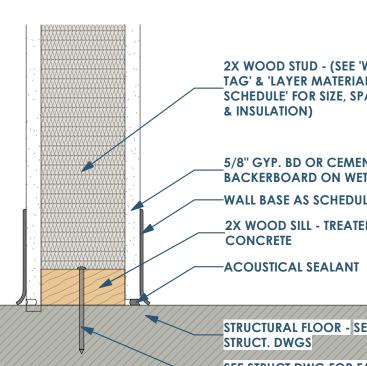
• 2=2 HOUR • 3=3 HOUR • 5=1/2 HOUR • K=<u>KNEE</u> WALL PARTITION

• EXAMPLE: M358BØAR • M=METAL • 358=3 5/8" METAL STUD • B=20 GA METAL STUDS 16" O.C. W/ BATT INSULATION • Ø=0 HOUR • R=<u>FURRED</u> OUT WALL

WALL BASE AS SCHEDULED



5A A800 3" = 1'-0"



2X WOOD STUD - (SEE 'WALL TAG' & 'LAYER MATERIAL SCHEDULE' FOR SIZE, SPACING, & INSULATION)

1' - 4"

NO FASTENERS WITHIN THIS SPACE

SIMPSON DTC TRUSS CLIP @24"

CONNECTOR (NLB) @24" OC

—DOUBLE 2X WOOD TOP PLATE

2X WOOD STUD - (SEE 'WALL

SCHEDULE' FOR SIZE, SPACING,

TAG' & 'LAYER MATERIAL

5/8" GYP. BD OR CEMENT

BACKERBOARD ON WET WALL

& INSULATION)

OC OR FASTENMASTER NON-LOAD BEARING

5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL 2X WOOD SILL - TREATED IF ON CONCRETE

STRUCTURAL FLOOR - SEE STRUCT. DWGS SEE STRUCT DWG FOR FASTENER

REQUEMENTS FOR 1HR WALL: UL U305 (46 STC: BBN-700725)

1' - 4"

NO FASTENERS WITHIN THIS SPACE

DRYWALL CLIP

PARTITION TAG NOMENCLATURE

• MASONRY: NOMINAL BRICK MODULES (EX: 8 = 7 5/8")

 \mathbf{O}

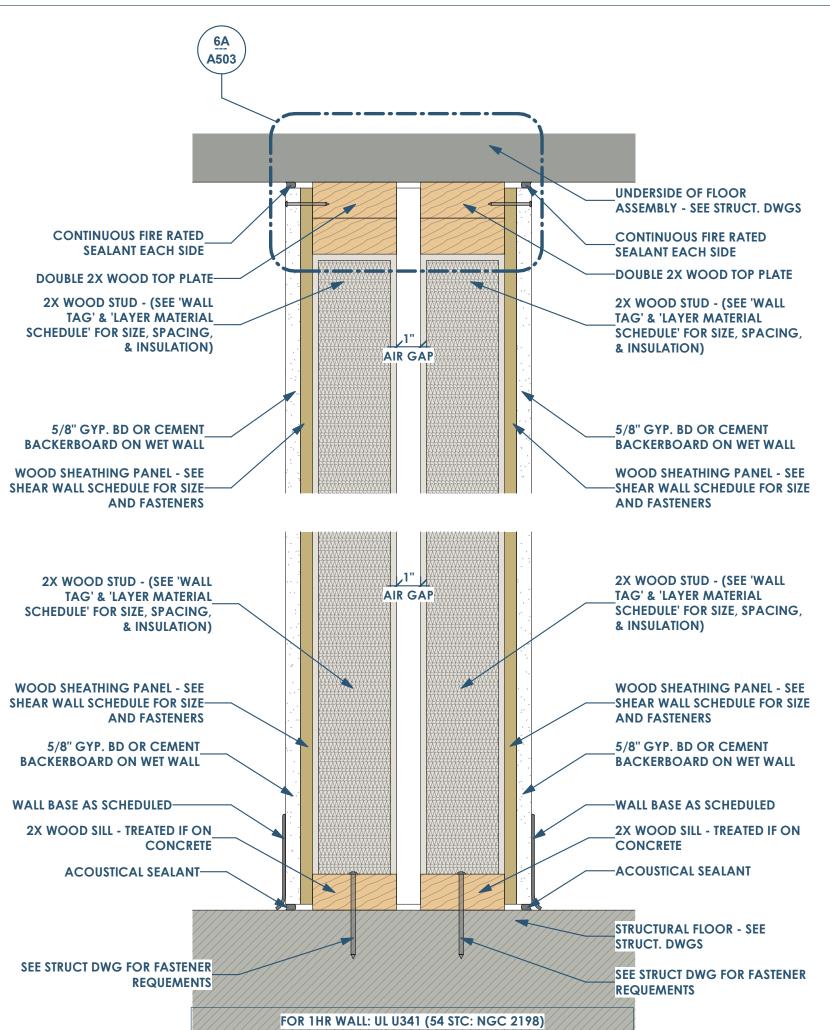
• <u>3RD LETTER = LAYER MATERIAL</u>

LAYER MATERIAL (3RD LETTER)											
ir 3	LAYER 2	LAYER 1	CORE	LAYER 1	LAYER 2	LAYER 3	IF FIRE RATED UL NUMBER				
	-	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL	STUDS 16" O.C. (20 GA. IF METAL)	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL	-	-	UL U305				
	-		STUDS 16" O.C. (20 GA. IF METAL) BATT INSULATION	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL	-	-	UL U305				
	-	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL	STUDS 16" O.C. (20 GA. IF METAL)	(PROVIDE 1/4" AIR GAP IF AGAINST CONCRETE OR MASONRY)	-	-	-				
	-		STUDS 16" O.C. (20 GA. IF METAL) BATT INSULATION	(PROVIDE 1/4" AIR GAP IF AGAINST CONCRETE OR MASONRY) - USE TREATED WOOD STUDS IF IN CONTACT WITH CONCRETE/MASONRY	-	-	-				
	-		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	1" AIR GAP (PART OF A DOUBLE STUD WALL)	-	-	UL 341				
	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	1" AIR GAP (PART OF A DOUBLE STUD WALL)	-	-	UL 341				
R CEMENT - PBOARD NG	DRAINAGE WRAP - ASTM 2273		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL	-	-	-				
R CEMENT - EN AND RD SIDING	DRAINAGE WRAP - ASTM 2273		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL & SHEATHING LAYER, IF AT PARTY WALL (SEE STRUCT DWGS)	-	-	-				
RUGATED	DRAINAGE WRAP - ASTM 2273	STRUCT. DWGS	SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL & SHEATHING LAYER, IF AT PARTY WALL (SEE STRUCT DWGS)	-	-	-				
R CEMENT - PBOARD IG	DRAINAGE WRAP - ASTM 2273		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL & SHEATHING LAYER, IF AT PARTY WALL (SEE STRUCT DWGS)	-	-	UL U305				
R CEMENT - EN AND RD SIDING	DRAINAGE WRAP - ASTM 2273		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL & SHEATHING LAYER, IF AT PARTY WALL (SEE STRUCT DWGS)	-	-	UL U305				
RUGATED	DRAINAGE WRAP - ASTM 2273		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	5/8" GYP. BD OR CEMENT BACKERBOARD ON WET WALL & SHEATHING LAYER, IF AT PARTY WALL (SEE STRUCT DWGS)	-	-	UL U305				
RUGATED	DRAINAGE WRAP - ASTM 2273		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	SHEATHING - SEE STRUCT. DWGS	DRAINAGE WRAP - ASTM 2273	7/8" CORRUGATED METAL SIDING	-				
RUGATED	DRAINAGE WRAP - ASTM 2273		SEE WALL STUD SCHEDULE - STRUCT. DWGS W/(R-19) BATT INSULATION	5/8" FIBERGLASS MAT GYPSUM SHEATHING	DRAINAGE WRAP - ASTM 2273	7/8" CORRUGATED METAL SIDING	UL U305				
	-	16 GA PERFORATED GALV. STEEL	2.5" 12GA. STRUCTURAL METAL STUD - CP90 GALV.	-	-	-	-				

• <u>5TH (AND BEYOND) LETTERS = MODIFIERS</u> • A=PARTIAL HEIGHT PARTITION (WALL LAYER 1, 2, & 3 TO EXTEND 6" <u>ABOVE</u> FINISHED CEILING HEIGHT) • B=PARTIAL HEIGHT WALL (WALL LAYER 1, 2, & 3 TO TERMINATE AT OR <u>BELOW</u> HUNG CEILING)

• D=FULL HEIGHT TO UNDERSIDE OF STRUCTURAL DECK/SHEATHING (CORE AND WALL LAYER 1, 2, & 3 TO TERMINATE AT STRUCTURAL DECK) • F=<u>FULL</u> HEIGHT TO THE BOTTOM OF STRUCTURE • R=<u>FURRED</u> OUT WALL

• A=PARTIAL HEIGHT PARTITION (WALL LAYER 1, 2, & 3 TO EXTEND 6" <u>ABOVE</u> FINISHED CEILING HEIGHT)



2A A800 3" = 1'-0" W4()5F PARTY WALL - 1 HR RATED WALL (ONLY NEEDS TO BE 1/2 HR RATED)

