

ROOF FRAMING NOTES

ROOF DESIGNED FOR LIGHT ROOF COVERING 30psf TOTAL LOAD [10psf DL, 20psf LL (SL)]

ROOF SYSTEM IS DESIGNED TO MEET REQUIREMENTS

*RAFTERS (HEM-FIR, DOUG-FIR, OR EQUAL):

	CODE MINIMUM						
RAFTERS SPACING		SPACING	MAX HORIZONTAL CLEARSPAN				
	#2-2x6	AT 24" OC	11'-7"				
	#2-2x6	AT 16" OC	14'-2"				
	#2-2x8	AT 24" OC	14'-8"				
	#2-2x8	AT 16" OC	17'-11"				
	#2-2x10	AT 24" OC	17'-10"				
	#2-2x10	AT 16" OC	21'-11"				

NOTE: CODE MINIMUM ALLOWS FOR A RAFTER DEFLECTION OF L/180 TOTAL LOAD

HIGHER PERFORMANCE

RAFTERS SPACING #2-2x6

#2-2x6 #2-2x8 AT 24" OC AT 16" OC #2-2x8

AT 24" OC #2-2x10 #2-2x10

APEX ENGINEERS, INC. RECOMMENDED

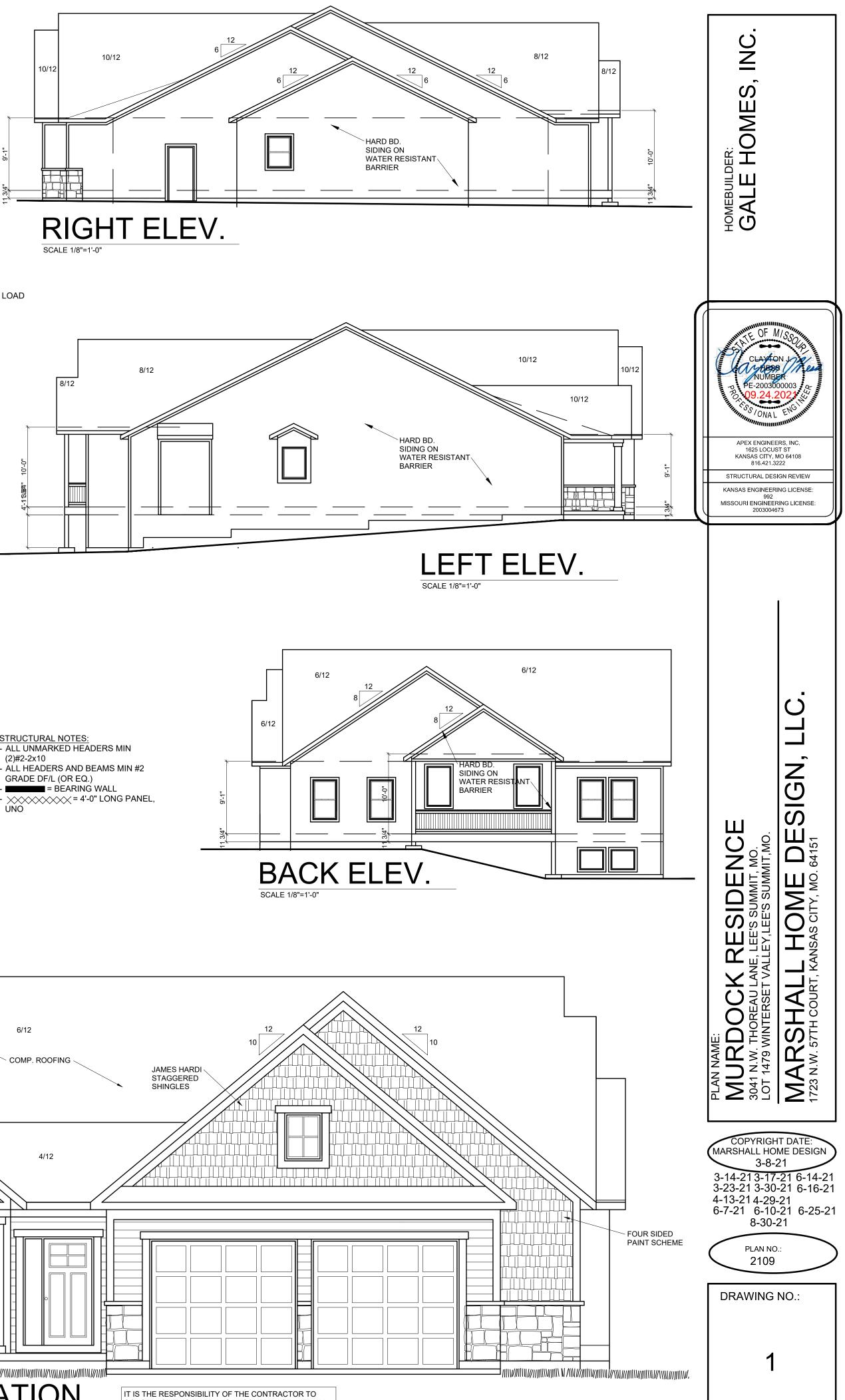
- #2-2x10 UP TO 9:12 PITCH
- #2-2x12 OVER 9:12 PITCH
- *ALL HIPS AND VALLEYS ARE (UNLESS OTHERWISE NOTED) #2-2x10 UP TO 9:12 PITCH #2-2x12 OVER 9:12 PITCH
- *PURLINS ARE 2x6 MIN
- PURLIN STRUTS ARE AT 4'-0" OC
- ALL PURLIN STRUTS SHALL HAVE A MAX UNBRACED
- LENGTH OF 8'-0"
- CONFIGURATION AND PER THE FOLLOWING CHART:

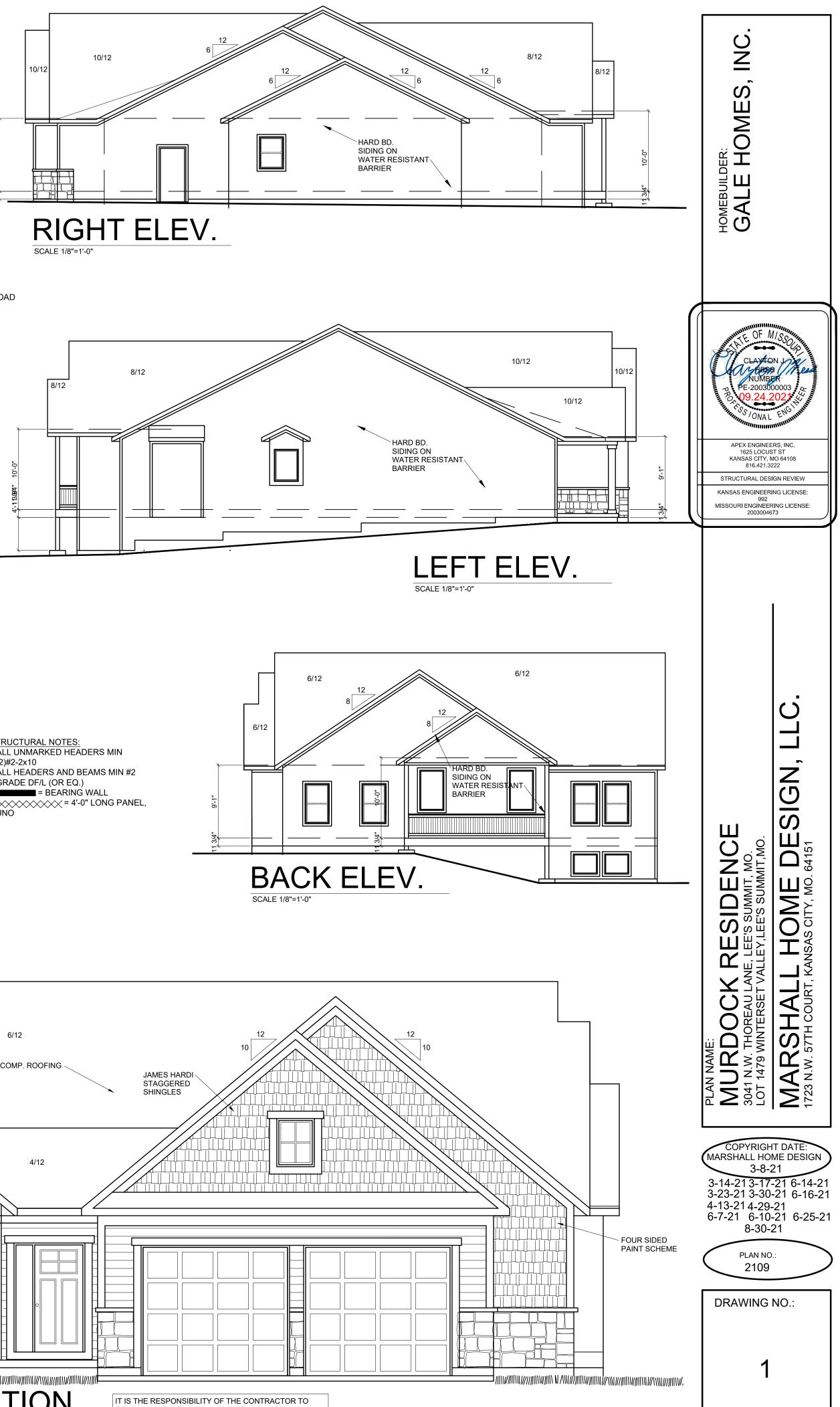
PURLIN STRUT	MAX PURLIN STRUT LENGTH
(2)2x4	8'-0"
(1)2x4 AND (1)2x6	12'-0"
(1)2x6 AND (1)2x8	20'-0"
(2)2x6 AND (1)2x8	30'-0"

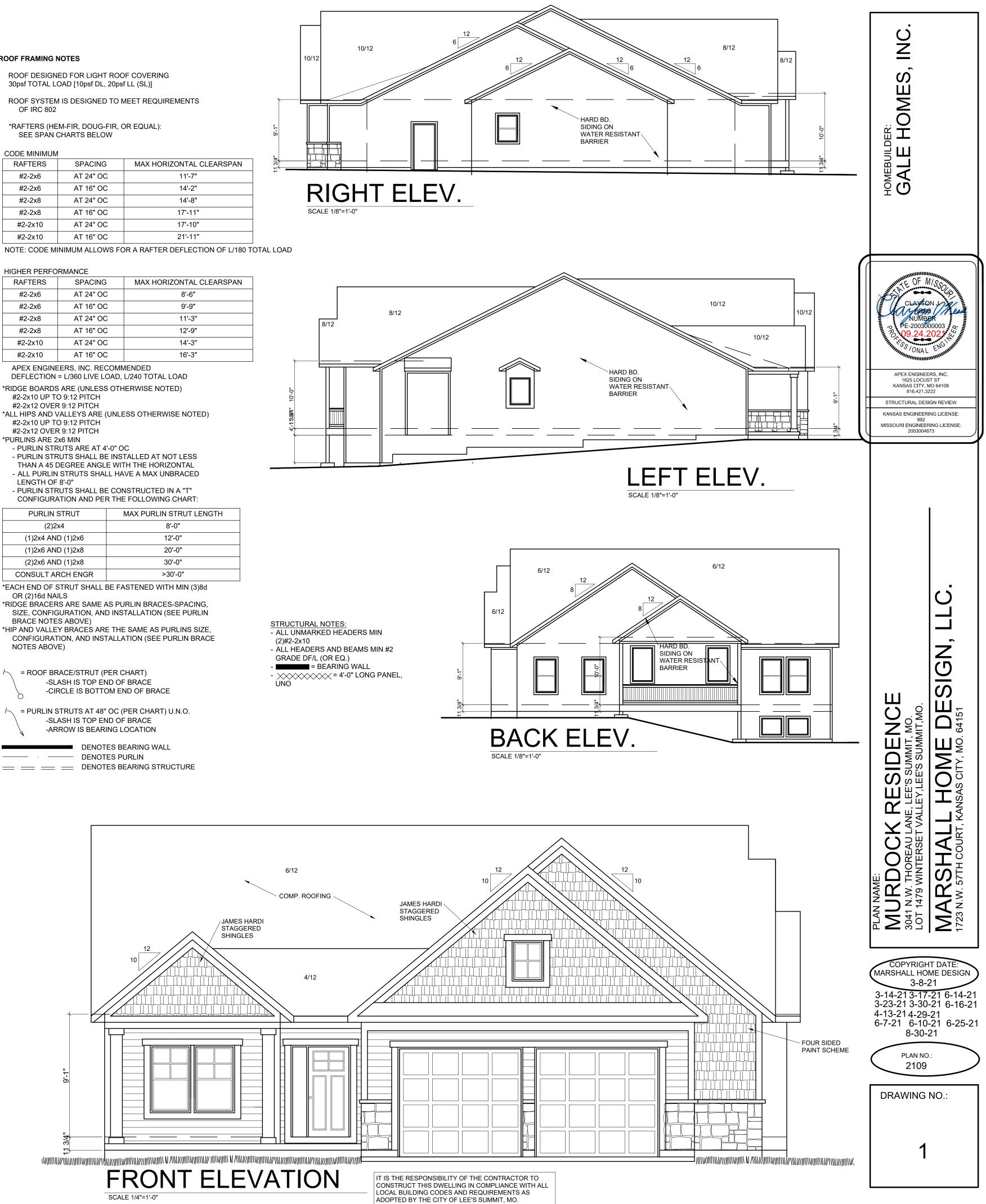
- CONSULT ARCH ENGR >30'-0" *EACH END OF STRUT SHALL BE FASTENED WITH MIN (3)8d OR (2)16d NAILS
- *RIDGE BRACERS ARE SAME AS PURLIN BRACES-SPACING, SIZE, CONFIGURATION, AND INSTALLATION (SEE PURLIN BRACE NOTES ABOVE)
- *HIP AND VALLEY BRACES ARE THE SAME AS PURLINS SIZE, CONFIGURATION, AND INSTALLATION (SEE PURLIN BRACE NOTES ABOVE)

= ROOF BRACE/STRUT (PER CHART)

- /── = PURLIN STRUTS AT 48" OC (PER CHART) U.N.O. -SLASH IS TOP END OF BRACE
 - DENOTES BEARING WALL







MARSHALL HOME DESIGN: BUILDERS PLAN DEFINITION

THE TERM 'BUILDERS PLAN' REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS. AS THE NAME IMPLIES, THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION. THE CONTRACTOR WARRANTS TO MARSHALL HOME DESIGN, LLC AND AND ITS CONSULTANTS, THAT THEY POSSESS THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND ARCHITECTURAL DESIGN SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES, THE CONSTRUCTION DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TERMED'BUILDERS PLANS' IN RECOGNITION OF THE CONTRACTORS SOPHISTICATION. ALTHOUGH MARSHALL HOME DESIGN, LLC. AND ITS CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, WE CANNOT GUARANTEE PERFECTION. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO MARSHALL HOME DESIGN, LLC. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE 'BUILDER PLANS' TO THE FIELD CONDITIONS ENCOUNTERED AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, DIMINSION AND QUALITY. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF MARSHALL HOME DESIGN, LLC. AND ITS CONSULTANTS ARE UNAUTHORIZED. IT IS ALSO UNDERSTOOD THAT THE CONTACTOR WILL BE RESPONSIBLE FOR MEETING ALL APPLICABLE BUILDING CODES. IN THE EVENT ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER FOR THE CONSTRUCTION OF ANY ASPECT OF THE PROJECT MARSHALL HOME DESIGN, LLC. OR A QUALIFIED ARCHITECT OR ENGINEER SHALL IMMEDIATELY BE RETAINED. FAILURE TO NOTIFY MARSHALL HOME DESIGN, LLC. OT THESE NEEDS, OR OF CHANGES TO THE PLANS, SHALL RELIEVE MARSHALL HOME DESIGN LLC., AND ITS CONSULTANTS OF ALL RESPONSIBILITIES OF THE CONSEQUENSES.

STRUCTURAL DESIGN, SOILS TESTING, HVAC, MEP DESIGNS, SITE PLAN/GRADING FOUNDATION DRAINAGE DESIGN, BRACED WALL PANEL DESIGN AND ENERGY/INSULATION DESIGN BY OTHERS.

COLUMN & PIER PAD SCHEDULE (REF. 5/S2.0)COLUMN MARKPAD SIZEREINFORCEMENTCOLUMN SIZE

Â	30" x 30" x 12"	(4) #4 BAR E.W.	3" NOMI
B	36" x 36" x 12"	(4) #4 BAR E.W.	3" NOMI
Ŕ	42" x 42" x 12"	(5) #4 BAR E.W.	3" NOMI
\triangle	48" x 48" x 12"	(6) #4 BAR E.W.	3" NOMI
Ē	54" x 54" x 16"	(8) #4 BAR E.W.	3½" NOMINA
F	60" x 60" x 16"	(10) #4 BAR E.W.	3 ¹ ⁄ ₂ " NOMINA

 COLUMN & PAD SIZES SHOWN ARE FOR MAXIMUM COLUMN HEIGHT OF 10'-0", REQUIRES SEPARATE ENGR'D DESIGN IF GREATER THAN 10'-0" TALL.
 COLUMN & PIER PAD SIZES SHOWN ARE BASED ON AN ASSUMED MINIMUM

ALLOWABLE SOIL BEARING CAPACITY OF 1,500PSF.

COLUMN & PIER SCHEDULE

MARK COLUMN SIZI		PIER DIA.
Â	6x6	12"
Â	6x6	16"
Â	6x6	18"
Ŕ	6x6	24"
	6x6	28"

1. ALL PIERS TO BEAR ON ORIGINAL, UNDISTURBED SOIL OF 1,500 PSF BEARING CAPACITY OR FILL COMPACTED AND TESTED TO CONFORM TO THE RECOMMENDATIONS

OF A GEOTECHNICAL ENGINEER. 2. PIERS SHALL EXTEND BELOW THE FROST

LINE: MIN. DEPTH OF 36" BELOW GRADE.

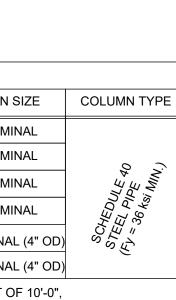
3. POST SHALL BE TREATED OR CEDAR WITH SIMPSON ABU66 POST BASE

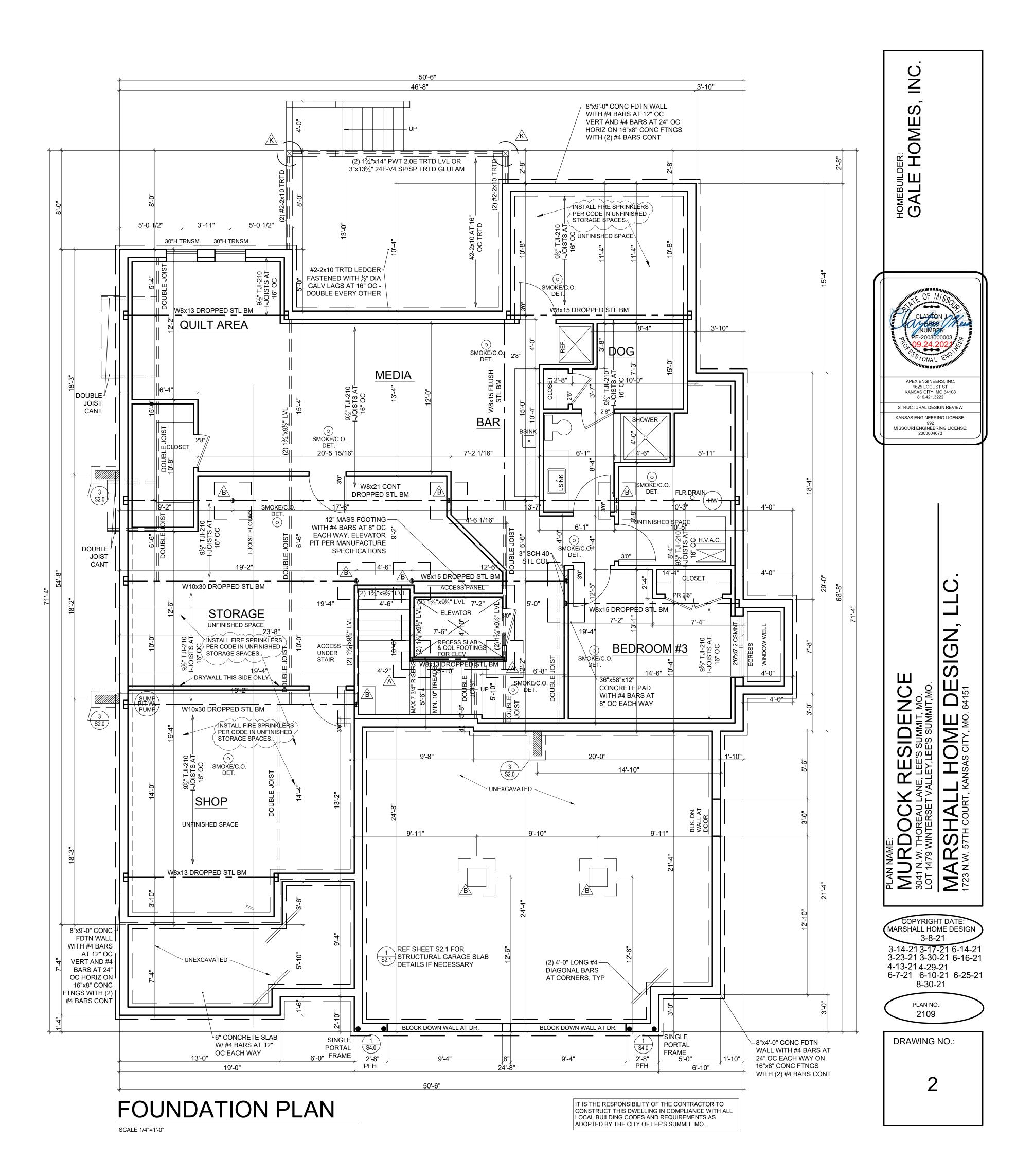
DETAIL REFERENCES1TYPICAL FOUNDATION WALL DETAIL2TYPICAL "UNRESTRAINED"
FOUNDATION WALL DETAIL3TYPICAL DEAD MAN DETAIL4FOUNDATION WALL JUMP DETAIL5COLUMN PAD DETAIL5COLUMN PAD DETAIL1TYPICAL STRUCTURAL GARAGE
SLAB PLAN2STRUCTURAL GARAGE SLAB
PIER PAD DETAIL3STRUCTURAL GARAGE SLAB /
WALL SECTION6TYPICAL OVERDIG DETAIL AT
BASEMENT SLAB

ALTERNATE BRACED WALL PANEL S4.0 DETAIL

APA NARROW WALL BRACING S4.0 METHOD WITHOUT HOLD-DOWNS

COLUMN AND PIER PAD SCHEDULE (SHEET S2.0)





MARSHALL HOME DESIGN: **BUILDERS PLAN DEFINITION** THE TERM "BUILDERS PLAN" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS. AS THE NAME IMPLIES,

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STRUCTURAL DESIGN, SOILS TESTING, HVAC, MEP DESIGNS, SITE PLAN/GRADING FOUNDATION DRAINAGE DESIGN, BRACED WALL PANEL DESIGN AND ENERGY/INSULATION DESIGN BY OTHERS.

BRACED WALL METHODOLOGY CONTINUOUS EXTERIOR SHEATHING PER WSP METHOD (BELOW) UNLESS OTHERWISE NOTED ON THE PLAN

XXXX EXTERIOR BRACED WALLS:

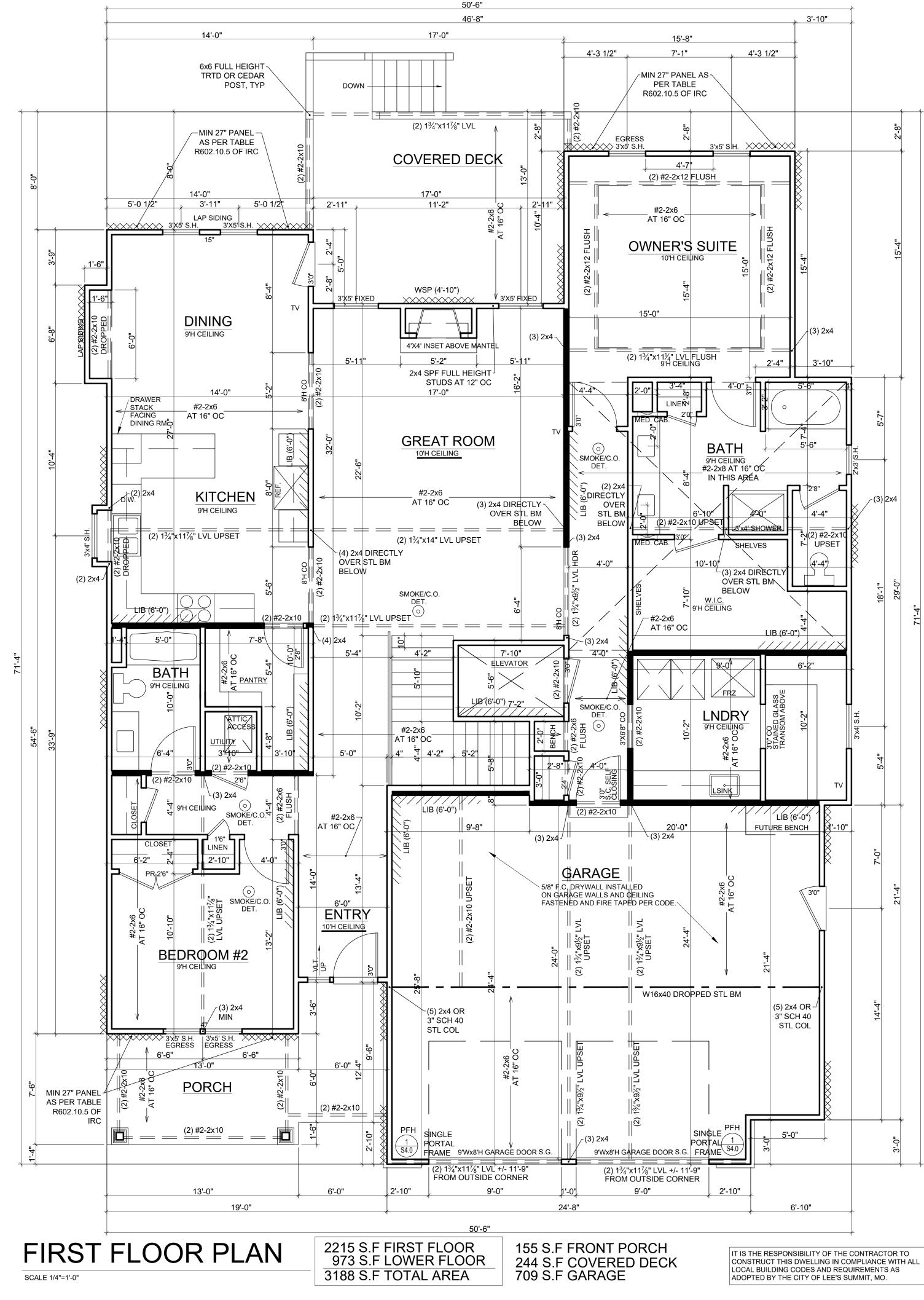
WSP METHOD: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN $\frac{7}{16}$ " WITH MINIMUM SPAN RATING OF $\frac{24}{16}$ FOR 24" OC SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN FIELD. (NOTE: FRAMING MEMBERS 16" OC MAX, UNBLOCKED, AND WITH SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS)

//// INTERIOR BRACED WALLS (REF 2-S4.0):

GB METHOD: ¹/₂" MIN. GYPSUM BOARD OVER STUDS SPACED 24" MAX. FASTENED WITH No 6 - 1¹/₄" TYPE 'W' OR 'S' DRYWALL SCREWS AT 7" OC EDGES AND FIELD (MIN. 4'-0" SECTION FOR BOTH SIDES.) OR

LIB METHOD:

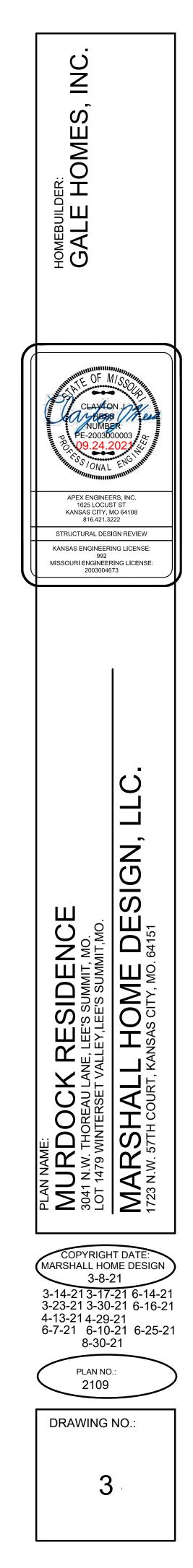
1x4 WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA. TYPE WB (OR EQUAL) STL. X-BRACE(S) AT 45° TO 60° ANGLES, MAXIMUM 16" O.C. STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.



STRUCTURAL NOTES: - ALL UNMARKED HEADERS MIN (2)#2-2x10 - ALL HEADERS AND BEAMS MIN #2 GRADE DF/L (OR EQ.)

= BEARING WALL

UNO



BUILDING COMPONENT	MATERIAL	FASTENING
ROOF SHEATHING ¹	7/16" PLYWOOD	16 GA x 1-3/4" STAPLES AT 3" OC EDGES AND 6" OC IN FIELD
ROOF SHEATTING	1x4 #3 FURRING	1/2" CROWN STAPLES
		8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN THE FIELD
	3/4" T&G YELLOW PINE PLYWOOD	14 GA x 2" STAPLES AT 4" OC
FLOOR SHEATHING ¹	APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED	EDGES AND 8" OC IN THE FIELD 12.5 GA x 1-1/2" RING OR SCREW
		SHANK NAILS AT 6" OC EDGES AND 8" OC IN THE FIELD
		7" OC NAILED / 12" OC SCREWED WITH
CEILING COVERING ¹	1/2" GYPSUM SHEATHING	13 GA, 1-3/8" LONG, 19/64" HEAD; 0.098 DIA, 1-1/4" LONG, ANGRINGED; 5d
		COOLER NAIL, 0.086 DIA, 1-5/8" LONG, 15/64" HEAD; OR GYP BD NAIL, 0.086 DIA,
		1-5/8" LONG, 9/32" HEAD
INTERIOR WALL		6d COMMON NAILS; 1-5/8" GALVANIZED STAPLES; 1-1/4"
COVERING ¹	1/2" GYPSUM SHEATHING	SCREWS, TYPE W OR S- AT 4" OC
EXTERIOR WALL		EDGES AND 8" OC IN THE FIELD 8d COMMON NAILS AT 6" OC EDGES
SHEATHING	MIN 3/8" APA RATED SHEATHING	AND 12" OC IN THE FIELD
	*SUPPORTING 2 FLOORS, ROOF,	*TOE NAIL RIM JOIST TO SILL OR TOP 8d COMMON AT 6" OC; 3"x0.131" AT 6" OC; 3"x0.131"
	AND CEILING OR LESS.	PLATE: AT 6" OC *TOE NAIL STUD TO TOP AND SOLE PLATE: (4) 8d COMMON; (4) 3"x0.131"
	*HEIGHT: 10'-0" OR LESS SIZE: NOM 2x4 (NOM 2x6 WHEN	*END NAIL TOP AND SOLE PLATE TO STUD: (2) 16d COMMON; (3) 3"x0.131" *FACE NAIL BUILT-UP CORNER STUDS: 16d AT 24" OC; 3"x0.131" AT 16"
	SUPPORTING 2 FLOORS, CEILING,	*FACE NAIL BUILT-UP CORNER STUDS (AT BRACED WALL PANELS): 16d COMMON NAILS AT 16" OC; 3"x0.131" AT 12" OC *FACE NAIL JACK STUDS/TRIMMERS
CONVENTIONAL WOOD	AND ROOF) *SPECIES: DOUG-FIR, HEM-FIR,	*FACE NAIL JACK STODS/TRIMMERS SUPPORTING HEADERS WITH: *FACE NAIL DBL TOP PLATE: 16d COMMON AT 16" OC; 3"x0.131" AT 12" OC;
FRAMED WALLS	SOUTH PINE, SPRUCE-PINE-FIR	*DBL TOP PLATES WITH MIN 48" OFFSET
	*MAXIMUM SPACING 16" OC *STUDS 10' LENGTH OR LESS	OF EACH. FACE NAIL LAPPED AREA WITH: (8) 16d COMMON; (12) 3"x0.131"; (12) 3"x0.128" *FACE NAIL DBL TOP PLATES AT LAPPED
	SHALL BE #3 STANDARD, OR STUD	CORNERS AND INTERSECTIONS WITH: (2) 16d COMMON; (3) 3"x0.131"; (3) 3"x0.128" *FACE NAIL SOLE PLATE TO FRAMING
	GRADE *STUDS OVER 10' LENGTH SHALL	SYSTEM WITH:16d COMMON AT 16" OC; 3"x0.131" AT 12" OC*TOENAIL BRIDGING TO JOIST, EACH END:(2) 8d COMMON; (2) 3"x0.131"; (3) 3"x0.128"*FACE NAIL LEDGER STRIPS SUPPORTING
	BE MIN #2 GRADE	JOISTS OR RAFTERS WITH: (3) 16d COMMON; (4) 3"x0.131"; (4) 3"x0.128"
		*TOE NAIL HEADERS TO WALL STUDS WITH (4) 8d
CONVENTIONAL WOOD	PER PLAN	NAILS AT EACH END.
HEADER FRAMING		*FACE NAIL DOUBLE PIECE HEADERS WITH 16d NAILS AT 16" CENTERS ALONG EACH EDGE.
RAFTER TIES ²	MIN 2x4 MEMBERS AT EACH RAFTER	REF TABLE R802.5.2
COLLAR TIES	MIN 1x4 MEMBERS AT 48" OC	FACENAIL TO RAFTERS IN UPPER 1/3 OF ATTIC SPACE WITH (3) 10d NAILS AT EACH
	ERIALS TO BE APPLIED PERPENDICUL	AR TO JOISTS AND ENDS STAGGERED.
	E REQUIRED WHEN A STRUCTURAL RII ULTED ROOM). SUCH SHALL BE NOTED	DGE HAS BEEN PROVIDED AND ADEQUATELY AS "STRUCTURAL" ON THE PLAN.
BUILDING COMPONENT	FASTEN TO	FASTEN WITH
BUILDING COMPONENT	TO RIDGE/VALLEY/HIP RAFTERS	TOENAIL WITH (4) 16d
RAFTERS		ENDNAIL WITH (3) 16d
	TO PLATE	TOENAIL WITH (2) 16d
CEILING JOISTS	TO TOP PLATE	TOENAIL WITH (3) 8d AT EACH END
		DISTS RUN PARALLEL TO RAFTERS D RAFTERS WITH (3) 10d MIN
	TO SILL OR GIRDER	TOENAL WITH: (3) 8d COMMON; (3) 3"x0.131"; (4) 3"x0.128"
FLOOR JOISTS	TO RIM JOIST	ENDNAIL WITH: (3) 16d COMMON; (4) 3"x0.131"; (4) 3"x0.12
RACED WALL PANELS	TO FRAMING MEMBER	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131"
PERP TO FRAMING //EMBERS ABOVE/BELOW:	TO FRAMING AND	TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131" SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131"
ARALLEL TO FRAMING	BLOCKING AT 16" OC	AND AT EACH BLOCK: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131"
IEMBERS ABOVE/BELOW:		
		AND AT EACH BLOCK: (3) 8d COMMON; 3"x0.131"

NOTE: MEMBER THICKNESS AND FASTENING LISTED IN THIS SCHEDULE ARE MINIMUM IRC REQUIREMENTS. SPECIFIC PROJECT REQUIREMENTS NOTED WITHIN THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, IF REQUIRED BY APEX ENGINEERS DESIGN NEEDING TO BE MORE STRINGENT, SHALL BE FOLLOWED.

ENERGY REQUIREMENTS

1. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE SHALL BE IC-RATED, LEAKAGE RATED, AND SEALED TO THE GYPSUM WALLBOARD AS REQUIRED PER N1102.4.5. 2. PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER N1103 1 1 3. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2% AIR LEAKAGE RATE PER

N1103.3.2.1. 4. BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR

PLENUMBS PER N1103.3.5 5. HOT WATER PIPES SHALL BE INSULATED AS REQUIRED PER N1103.4. 6. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1501 1 7. MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM AS REQUIRED PER M1503.6.

8. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE PER M1601.6.

ENERGY CONSERVATION

THE ENERGY EFFICIENCY OF THE DWELLING SHALL COMPLY WITH THE FOLLOWING TABLE(S) (WHERE THERE ARE DISCREPANCIES BETWEEN THIS TABLE AND THE PLANS, THE MOST RESTRICTIVE SHALL APPLY). IF TABLE 1 IS NOT COMPLETED AND ACCOMPANIED BY RESCHECK CALCULATIONS, THEN TABLE 2 SHALL BE APPLIED.
TABLE 1 - ResCheck COMPLIANCE SOFTWARE (FILL IN APPLICABLE)

VALUES FROM ResCheck CALCS.)				
BUILDING ELEMENT	MIN VALUE			
WALLS - FRAMED	R-			
WALLS - BASEMENT	R-			
FLOORS - UNCONDITIONED SPACE	R-			
FLOORS - OVER OUTSIDE AIR	R-			
FLOORS - CRAWL SPACE	R-			
SLAB - PERIMETER	R-			
CEILING - FLAT	R-			
CEILING - CATHEDRAL	R-			
DOORS - GLASS	U-			
DOORS - SOLID	U-			
WINDOWS - OPERABLE	U-			
WINDOWS - FIXED	U-			
WINDOWS - OTHER	U-			
FURNACE	AFUE-			
AIR CONDITIONER	SEER-			
NOTE: FOR USE OF TABLE 1 A ResCheck COMPLIANCE FORM MUST BE SUBMITTED WITH PLANS.				
TABLE 2 -PRESCRIPTIVE ENVELOPE (MIN PRESCRIPTIVE APPROACH				
ACCEPTABLE FOR ANY DWELLING.)				
BUILDING ELEMENT	MIN VALUE			
CEILING - FLAT	R-49			
CEILING - CATHEDRAL**	R-30			
CEILING - CATHEDRAL	R-38			
FLOORS - UNCONDITIONED SPACED	R-19			
FLOORS - OVER OUTSIDE AIR	R-30			
WALLS - BASEMENT	R-10 (CONT) OR R-13 (CAVITY)			
CONCRETE SLAB ON GRADE	R-10 (FOR 2FT)			
SKYLIGHTS	U=0.55			
WALLS - EXTERIOR (2x4)	R-13 (CAVITY) + R-5 (CONT)			
WALLS - EXTERIOR (2x6)	R-20			
WALLS - CRAWL SPACE	R-19			
GLAZING*	U<=0.32			
GLAZING*	SHGF<=0.40			
NOTE: TABLE 2 PER IRC TABLE N1102 1 2				

TABLE 2 PER IRC TABLE N1102.1.2

*DEFAULT U-FACTOR FOR DOUBLE PANE. ARGON FILLED LOW-E TREATMENT IS U=0.35

**LIMITED TO AREAS LESS THAN 500 SQ-FT OR 20% OF CEILING AREA.

DEFERRED SUBMITTALS

1. THE ARCHITECT OR ENGINEER OF RECORD SHALL LIST THE DEFERRED SUBMITTALS ON THE PLANS FOR REVIEW BY THE BUILDING OFFICIAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN THE GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING, THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITH A SPECIFIED PERIOD. DEFERRAL OF ANY SUBMITTAL ITEMS SHALL HAVE THE PRIOR APPROVAL OF THE BUILDING OFFICIAL.

- 2. DEFERRED SUBMITTAL ITEMS (WHEN APPLICABLE):
- A. TRUSSES B. I-JOISTS
- C. GUARDRAILS AND HANDRAILS
- D. STEEL FABRICATED STAIRS
- E. PRE-MANUFACTURED CANOPIES AND AWNINGS
- F. PRECAST HOLLOW CORE SLABS
- G. GROUND IMPROVEMENT AND/OR STRUCTURAL FOUNDATION SOLUTIONS (SUCH AS DRILLED PIERS)

CONCRETE

CONCRETE SHALL BE AIR ENTRAINED WITH A MINIMUM COMPRESSIVE STRENGTH OF 28 DAYS OF 2,500 PSI FOR BASEMENT AND INTERIOR FLOOR SLABS, 3,000 PSI FOR BASEMENT AND FOUNDATION WALLS, AND 3,500 FOR PORCHES, CARPORTS, AND GARAGE FLOOR SLABS.

GLAZING

GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS: GLASS IN STORM DOORS; INDIVIDUAL FIXED OR OPENABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARCH OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS WITHIN 60" OF THE FLOOR: WALLS ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR; ENCLOSURES FOR SPAS. TUBS, SHOWERS, AND WHIRLPOOLS; GLAZING IN FIXED OR OPENABLE PANELS EXCEEDING 9 SQUARE FEET AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".

EMERGENCY EGRESS AND RESCUE

1. PROVIDE ONE WINDOW FROM EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 SQUARE FEET WITH A MINIMUM OPENABLE HEIGHT OF 24 INCHES AND WIDTH OF 20 INCHES.

2. BASEMENT EGRESS TO MEET THE REQUIREMENTS OF IRC SECTION 310. 3. SMOKE ALARMS SHALL BE INSTALLED AS REQUIRED PER IRC 2018 SECTION R314. 4. PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM. OUTSIDE OF EACH SLEEPING AREA, ON EACH FLOOR INCLUDING BASEMENTS AND HABITABLE ATTICS, AND NOT LESS THAN 3'-0" HORIZONTALLY FROM DOOR OR OPENING OF A BATHROOM THAT CONTAINS A BATHTUB OR SHOWER. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING 5. CARBON MONOXIDE ALARMS SHALL BE INSTALLED AS REQUIRED PER IRC 2018 SECTION R315.

6. CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA. WHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED WITHIN THE BEDROOM.

FRAMING GENERAL

1. ALL LUMBER SIZES ARE FOR DOUGLAS FIR-LARCH UNLESS NOTED OTHERWISE. 2. ALL HEADERS TO BE MIN (2) #2-2x10 UNLESS NOTED OTHERWISE. 3. BLOCK CANTILEVERS, DOORJAMBS, AND OVER BEAMS. 4. ALL HEADERS TO BEAR ON A MINIMUM OF (2) 2x4 STUD POSTS UNLESS NOTED OTHERWISE

5. INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE. 6. WHERE JOISTS RUN PARALLEL TO FOUNDATION WALLS, SOLID BLOCKING FOR A MINIMUM OF (2) JOIST SPACES BE PROVIDED TO A MAXIMUM OF 2'-0" CENTERS TO TRANSFER LATERAL LOADS ON THE WALL TO THE FLOOR DIAPHRAGM. THE BLOCKING SHALL BE SECURELY NAILED TO THE JOISTS AND FLOORING. NAIL JOISTS AND BLOCKING TO SILL PLATE WITH (3) 10d NAILS (IRC SECTION R602.3.(1)) 7. IF DUCTS ARE INSTALLED IN THE FIRST JOIST SPACE(S), NAIL 2x4s FLAT AT 2'-0" NOTE: HEAVY ROOF COVERING WILL NOT BE INSTALLED OR USED IN CENTERS WITHIN THE JOIST SPACE(S) AND THEN PROVIDE SOLID BLOCKING, THE DESIGN CALCULATIONS UNLESS IT IS SPECIFICALLY NOTED ON INSTALLED UPRIGHT, IN THE NEXT TWO JOIST SPACES. SECURE THE 2x4s TO THE THE PLANS THAT THE DESIGN IS FOR HEAVY ROOF COVERINGS. SILL PLATE WITH (4) 10d NAILS.

8. ALL SILLS AND SLEEPERS SUPPORTED ON CONCRETE OR MASONRY AND FURRING ATTACHED TO CONCRETE OR MASONRY SHALL BE OF DECAY RESISTANT MATERIALS 9. JOISTS UNDER BEARING PARTITIONS SHALL BE DOUBLED AND COMPLY WITH

IRC SECTION R502.4. 10. JOISTS FRAMING FROM OPPOSITE SIDES OVER BEARING SUPPORTS SHALL LAP A 1. THE FOUNDATION DESIGN SHALL BE BASED ON A MINIMUM SOIL BEARING MINIMUM 3" AND SHALL BE NAILED TOGETHER WITH A MINIMUM 10d FACE NAILS. CAPACITY OF 2000 PSF. UNLESS OTHERWISE INDICATED ON THE PLANS OR IF 11. JOISTS FRAMING INTO A WOOD GIRDER OR BEAM SHALL BE SUPPORTED BY MODIFIED BY AN ENGINEERING REPORT BASED ON ACTUAL SITE CONDITIONS. 2. CONCRETE SHALL MEET THE FOLLOWING SPECIFIED DESIGN STRENGTH APPROVED FRAMING ANCHORS OR MINIMUM 2"x2" LEDGER STRIPS. 12. FRAMING OF OPENINGS - HEADERS AND TRIMMERS SHALL BE OF SUFFICIENT CRITERIA: CROSS SECTION TO SUPPORT THE FLOOR FRAMING. TRIMMER JOISTS SHALL BE - 2500 PSI FOR BASEMENT FLOOR SLABS ON UNDISTURBED SOIL DOUBLED WHEN THE HEADER IS SUPPORTED MORE THAN 3'-0" FROM THE - 3000 PSI FOR FOOTINGS AND FOUNDATION WALLS

TRIMMER JOIST BEARING. WHEN THE HEADER SPAN EXCEEDS 4'-0", THE HEADER AND TRIMMER SHALL BE DOUBLED.

13. JOISTS AT SUPPORTS SHALL BE SUPPORTED LATERALLY AT THE ENDS BY FULL-DEPTH SOLID BLOCKING NOT LESS THAN 2" NOMINAL THICKNESS OR BY ATTACHMENT TO A HEADER, BAND OR RIM JOIST OR TO AN ADJOINING STUD OR OTHERWISE PROVIDED WITH LATERAL SUPPORT TO PREVENT ROTATION. 14. WATER-RESISTIVE BARRIER SHALL BE PROVIDED OVER ALL EXTERIOR WALLS. ONE LAYER OF No 15 ASPHALT FELT OR ANY OTHER BARRIER THAT MEETS ASTM D226 TYPE 1 FELT. (R703.2)

15. WHERE CEILING JOISTS ARE NOT INSTALLED CONNECTED TO THE RAFTERS AT THE TOP PLATE AND/OR WHERE CEILING JOISTS ARE NOT INSTALLED PARALLEL TO THE RAFTERS, RAFTER TIES SHALL BE INSTALLED IN THE LOWER 1/3 OF THE ATTIC SPACE AND IN ACCORDANCE WITH TABLE 1-S1.0. 16. COLLAR TIES SHALL BE PROVIDED IN THE UPPER 1/3 OF THE ATTIC SPACE IN ACCORDANCE WITH TABLE 1-S1.0.

GARAGE

1. THE GARAGE FLOOR SHALL SLOPE TOWARDS THE GARAGE DOORWAYS. 2. DOORS BETWEEN THE GARAGE AND THE DWELLING - MINIMUM 1-3/8" SOLID CORE OR HONEY COMBED STEEL DOOR OR 20-MINUTE FIRE RATED. 3. THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY 5/8", TYPE X GYPSUM BOARD, OR EQUIVALENT MATERIALS APPROVED FOR ONE-HOUR FIRE-RESISTIVE CONSTRUCTION, APPLIED TO GARAGE SIDE. WHERE THE SEPARATION IS A FLOOR-CEILING ASSEMBLY, THE STRUCTURE SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED BY 5/8", TYPE X GYPSUM BOARD, OR MATERIALS APPROVED FOR ONE-HOUR FIRE-RESISTIVE CONSTRUCTION OR EQUIVALENT, APPLIED TO THE GARAGE SIDE. PULL DOWN STAIRS LOCATED WITHIN GARAGE SHALL BE RATED TO BE ADEQUATELY PROTECTED WITH MATERIALS APPROVED FOR ONE-HOUR FIRE-RESISTIVE CONSTRUCTION. ATTIC ACESS PANELS LOCATED WITHIN GARAGE SHALL BE OF 5/8", TYPE X GYPSUM BOARD, OR MATERIALS FOR ONE-HOUR FIRE-RESISTIVE

CONSTRUCTION. 4. GARAGE DOOR AND FRAME- THE H-FRAME FOR THE ATTACHMENT OF THE 4. GARAGE DOOR AND FRAME- THE H-FRAME FOR THE FOLLOWING 2x6 TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM THE FLOOR TO CEILING ATTACHED WITH 1-3/4" x 0.120" NAILS AT 7" OC STAGGERED WITH (7) 3-1/4" x 0.120" NAILS THRU THE JAMB INTO THE HEADER, MINIMUM 2x8 HEADER FOR ATTACHMENT OF COUNTER BALANCE SYSTEM.

STAIRWAYS

1. STAIRWAYS SHALL PROVIDE A MAXIMUM 7-3/4" RISE AND MINIMUM 10" RUN. 2. PROVIDE MINIMUM 36" GUARDRAILS ON THE OPEN SIDES OF RAISED FLOORS, PORCHES, AND BALCONIES; MINIMUM 34" GUARDRAILS ON THE OPEN SIDES OF STAIRWAYS LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW. GUARDRAIL ENCLOSURES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL PATTERNS THAT DO NOT ALLOW PASSAGE OF A SPHERE 4" IN DIAMETER. 3. EACH STAIRWAY OF THREE OR MORE RISERS SHALL PROVIDE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34" AND 38" ABOVE THE NOSING OF THE TREADS

4. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1-1/4" MINIMUM TO 2" MAXIMUM OR OTHER APPROVED GRASPABLE SHAPER PER IRC SECTION 311.7.8.5.

5. PROVIDE A MINIMUM 6'-8" OF HEADROOM CLEARANCE IN STAIRWAYS. 6. ENCLOSED ACCESSIBLE SPACE UNDER STAIRWAYS SHALL HAVE WALLS AND THE UNDERSIDE OF THE STAIR AND LANDING PROTECTED WITH 1/2" GYPSUM BOARD ON ENCLOSURE SIDE PER IRC SECTION 302.7. 7. SPIRAL STAIRS TO BE CONSTRUCTED PER IRC SECTION 311.7.10.1. 8. SPACE STRINGERS AT 16" OC MAX.

GENERAL

1. PLANS SHALL COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE WITH AMENDMENTS AS ADOPTED BY THE GOVERNING JURISDICTION. IF ANY CHANGES OR DEVIATIONS FROM THE PLANS ARE MADE DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY THE APPROPRIATE AUTHORITY AND ENGINEER OF RECORD, EITHER (OR BOTH) OF WHOM MAY REQUIRE REVISED DRAWINGS OR CALCULATIONS AT ITS DISCRETION

2. REPRODUCTION, ALTERATION, OR RE-USE BY ANY METHOD OF ALL OR PORTIONS OF THESE STRUCTURAL PLANS OR VARIATIONS THEREOF WITHOUT WRITTEN PERMISSION FROM APEX ENGINEERS, INC IS STRICTLY PROHIBITED. THE DRAWINGS AND DETAILS OF THIS SHEET SET. BEING INSTRUMENTS OF SERVICE. ARE AND SHALL REMAIN THE PROPERTY OF APEX ENGINEERS, INC. AN UNSEALED VERSION, OR A VERSION VOID OF APEX ENGINEERS LOGO AND/OR TITLE BLOCK, SHALL BE CONSIDERED AN UNAUTHORIZED REPRODUCTION.

3. WHERE DISCREPENCIES EXIST BETWEEN THE STANDARD COMMENTS, NOTES FROM THE DESIGN PROFESSIONAL OR THE CODE. THE MOST RESTRICTIVE SHALL APPLY. THE DWELLING SHALL COMPLY WITH THE FOLLOWING LOAD CONDITIONS:

AREA	MIN DEAD LOAD	MIN LIVE LOAD
EXTERIOR BALCONIES	10 PSF	60 PSF
DECKS	10 PSF	40 PSF
CEILING JOISTS/ATTICS NO STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE 3:12 OR LESS	5 PSF	10 PSF
CEILING JOISTS/ATTICS WITHOUT STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE OVER 3:12 OR LESS	10 PSF	10 PSF
CEILING JOISTS/ATTICS WITH STORAGE - DOOR/PULL DOWN LADDER ACCESS	10 PSF	20 PSF
ROOMS - NON-SLEEPING	10 PSF	40 PSF
ROOMS - SLEEPING	10 PSF	30 PSF
ROOF - LIGHT ROOF COVERING	10 PSF	20 PSF
ROOF - HEAVY ROOF COVERING CONCRETE/TILE/SLATE	20 PSF	20 PSF

FOUNDATIONS

- 3500 PSI FOR GARAGE FLOOR SLABS 3. FOOTINGS SHALL EXTEND BELOW THE FROST LINE; MINIMUM DEPTH 36 INCHES BELOW GRADE.

4. UNLESS OTHERWISE NOTED ON THE PLANS OR IF SITE CONDITIONS REQUIRE OTHERWISE, FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS. 5. COLUMN PADS SHALL BE A MINIMUM 30"x30"x12" WITH (4) #4 BARS EACH WAY

UNLESS NOTED OTHERWISE. 6. UNLESS NOTED OTHERWISE ON THE PLANS, FOUNDATION WALLS SHALL BE MINIMUM 8" THICK x 8'-0" (OR 9'-0") TALL AND REINFORCED PER DETAIL 1-S2.0 (AND 2-S2.0 WHERE APPLICABLE). FOUNDATION WALLS GREATER THAN 10'-0"

TALL REQUIRE A SEPERATE ENGINEERED DESIGN. PROVIDE A 2'-0" LONG INTERIOR OR EXTERIOR DEAD-MAN FOR ANY STRAIGHT WALL PANELS EXCEEDING 20'-0" IN LENGTH (REF 3-S2.0) 7. REINFORCEMENT SHALL BE MINIMUM GRADE 40 UNLESS NOTED OTHERWISE.

REINFORCEMENT SHALL LAP A MINIMUM OF 24" AT ENDS, SPLICES, AND AROUND CORNERS

8. FOUNDATION WALLS SHALL BE BACKFILLED WITH A CLEAN LEAN CLAY (OR BETTER) I OW VOLUME CHANGE MATERIAL, ON-SITE MATERIAL MAY BE USED IF DEEMED ACCEPTABLE BY THE GEOTECHNICAL ENGINEER OF RECORD. 9. FOUNDATION WALLS WILL NOT ACHIEVE FULL STRENGTH UNTIL THE BASEMENT SLAB AND THE FIRST FLOOR DECK HAVE BEEN PROPERLY PLACED. IF BACKFILLING THE INTERIOR OF THE FOUNDATION WALL WITH GREATER THAN 8" OF EARTHEN FILL OR 24" OF GRANULAR FILL, A STRUCTURAL BASEMENT SLAB. OR ALTERNATE ENGINEERED SOLUTION (i.e. ENGINEERED FILL) WILL BE REQUIRED.

10. WHERE JUMPS OR STEPS IN ELEVATION OCCUR FOUNDATION WALLS AND FOOTINGS SHALL BE FORMED CONTINUOUS AND POURED PER DETAIL 4-S2.0. 11. CONCRETE FLOOR SLABS SHALL BE A MINIMUM 4" THICK OVER A MINIMUM 4" BASE OF 1/2" OR 3/4" CLEAN GRADED ROCK, UNLESS NOTED OTHERWISE OR IF SITE CONDITIONS REQUIRE OTHERWISE.

12. PROVIDE A MIN 6 MIL THICK POLYETHYLENE MOISTURE BARRIER OVER POURUS GRAVEL BASE UNDER BASEMENT FLOOR SLAB PER R405.2.2. LAP JOINTS MINIMUM 6" (NOT REQUIRED FOR GARAGE SLABS OR DETACHED ACCESSORY BUILDINGS).

13. FOR A STRUCTURAL REINFORCED CONCRETE FLOOR OVER A USABLE AREA, SUCH AS A GARGE FLOOR LOCATED OVER A STORAGE AREA. SUBMIT SEALED ENGINEERED DETAILS AND CALCULATIONS. 14. GARAGE SLABS AND BASEMENT OVERDIGS SUPPORTED BY FILL

CONSISTING OF MORE THAN 24" OF GRANULAR FILL OR 8" OF EARTH SHALL BE REINFORCED PER DETAILS 1-S2.1 AND 6-2.1 RESPECTIVELY. WHERE THE LIMITATIONS OF DETAILS 1-S2.1 AND 6-S2.1 ARE NOT MET, A SEPARATE ENGINEERED DESIGN SHALL BE REQUIRED.

15. BASEMENT FOUNDATION SILL PLATES SHALL BE BOLTED TO THE FOUNDATION WITH A MINIMUM OF 1/2" ANCHOR BOLTS EMBEDDED AT LEAST 7" INTO THE CONCRETE AND SPACED NOT MORE THAN 3'-0" ON CENTER AND WITHIN 12" OF EACH END PIECE.

16. FOUNDATION WALLS SHALL BE DAMP-PROOFED PER IRC SECTION R406. 17. PROVIDE A MINIMUM 4" PERFORATED DRAIN AROUND USABLE SPACE BELOW GRADE OR OTHER EQUIVALENT MATERIALS PER IRC SECTION 405.1. THE PIPE SHALL BE PLACED ON A MINIMUM OF 2" OF WASHED GRAVEL OR CRUSHED ROCK AND COVERED WITH NOT LESS THAN 6". THE DRAIN SHALL DAYLIGHT TO THE EXTERIOR BELOW THE FLOOR LEVEL OR TERMINATE IN A MINIMUM 20 GALLON SUMP PIT

18. INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB. 19. INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING, SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE. 20. ALL EARTH RETAINING STRUCTURES ON THE SITE GREATER THAN 4'-0" TALL (EXCLUDING CONCRETE FOUNDATION WALLS RESTRAINED AT BOTH TOP AND BOTTOM) SHALL REQUIRE A SEPARATE ENGINEERED DESIGN (i.e. RETAINING WALLS, WING WALLS, ETC.).

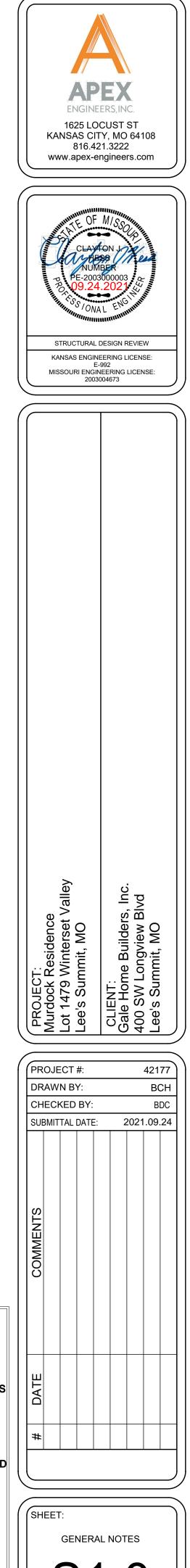
21. INSULATION SHALL BE INSTALLED FOR ALL BASEMENT WALLS AS REQUIRED PER N1102.2.9. 22. A CONCRETE ENCASED GROUNDING ELECTRODE CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICES PER E3608.1.

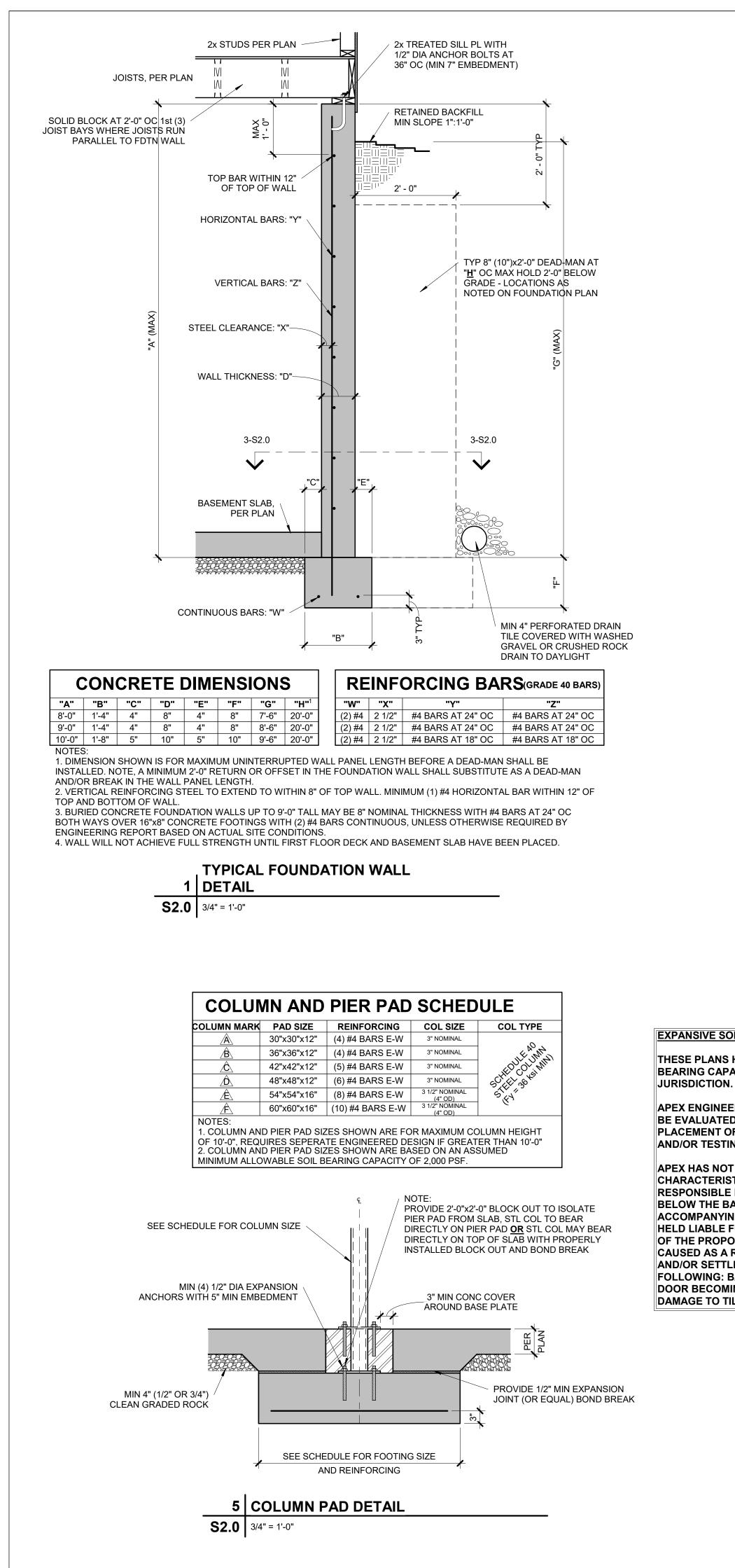
23. ANY GEOTECHNICAL IMPROVEMENT METHODS AND/OR STRUCTURAL SOLUTIONS (SUCH AS DRILLED PIERS) EMPLOYED TO ADDRESS UNACCEPTABLE SUBGRADE CONDITIONS SHALL BE SUBMITTED TO EOR AS ENGINEERED SHOP DRAWINGS FOR REVIEW AND APPROVAL. **EXPANSIVE SOILS DISCLAIMER:**

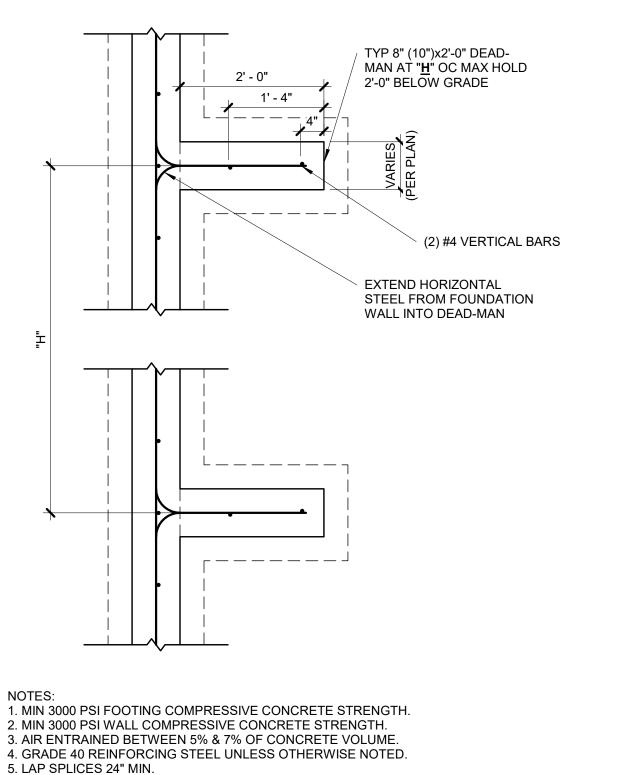
THESE PLANS HAVE BEEN PREPARED BASED ON A PRESUMPTIVE ALLOWABLE BEARING CAPACITY AS ALLOWED BY IRC CODE AND THE LOCAL ENFORCING JURISDICTION.

APEX ENGINEERS, INC. (APEX) RECOMMENDS THAT ALL FOOTING EXCAVATIONS BE EVALUATED BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF ANY FOUNDATION ELEMENTS. GEOTECHNICAL INVESTIGATION AND/OR TESTING IS NOT A SERVICE PROVIDED OR OFFERED BY APEX.

APEX HAS NOT BEEN RETAINED TO DETERMINE THE EXPANSIVE SOIL CHARACTERISTICS OF THE SUBGRADE SOIL AND THEREFORE CANNOT BE HELD **RESPONSIBLE FOR THE VOLUMETRIC CHANGES OF THE SOIL (INCLUDING** BELOW THE BASEMENT SLAB). BY USE OF THESE PLANS WITHOUT AN ACCOMPANYING GEOTECHNICAL ENGINEERING REPORT, APEX SHALL NOT BE HELD LIABLE FOR ANY FUTURE MOVEMENT AND/OR DIFFERENTIAL MOVEMENT OF THE PROPOSED STRUCTURE AND THE POSSIBLE DAMAGE THAT MAY BE CAUSED AS A RESULT OF SUCH MOVEMENT. DAMAGE FROM EXPANSIVE SOILS AND/OR SETTLEMENT CAN RESULT IN AMONGST OTHER THINGS. THE FOLLOWING: BASEMENT SLAB HEAVE, SHEETROCK CRACKS, WINDOWS AND DOOR BECOMING OUT OF PLUMB AND STICKING AND/OR NOT OPENING. DAMAGE TO TILE, MOULDING, AND OTHER COSMETIC FINISHES.







- 6. WALL SHALL BE BACK-FILLED WITH CLEAN, LEAN CLAY (OR BETTER) LOW VOLUME CHANGE MATERIAL. ON-SITE MATERIAL MAY BE USED IF DEEMED
- ACCEPTABLE BY THE GEOTECHNICAL ENGINEER. 7. ASSUMED 2,000 PSF BEARING (TO BE VERIFIED BY GEOTECHNICAL ENGINEER).

3 | TYPICAL DEAD-MAN SECTION S2.0 3/4" = 1'-0"

JOISTS, PER PLAN PARALLEL TO FDTN WALL

CONCRETE DIM					
"A"	"B"	"C"	"D"	"E'	
4'-0"	1'-4"	4"	8"	4"	
6'-0"	1'-4"	4"	8"	4"	
9'-0"	1'-8"	5"	8"	4"	
NOTES:					
1. DIMENSION SHOWN IS FOR MAX					
INSTALLED. NOTE, A MINIMUM 2'-0"					
AND/O	R BREA		= \\/\		

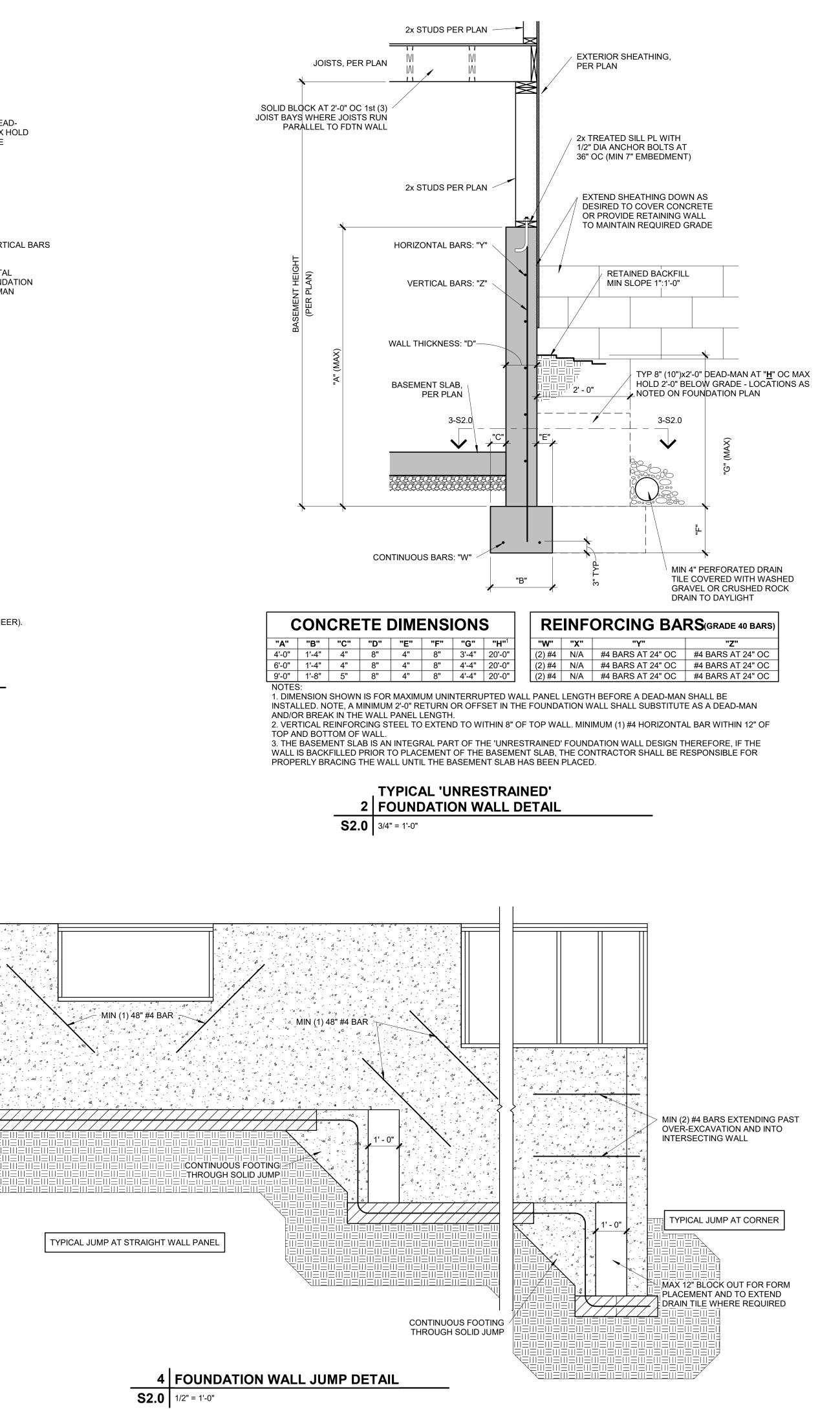
	TYPI
2	FOUI
S2.0	3/4" = 1'-

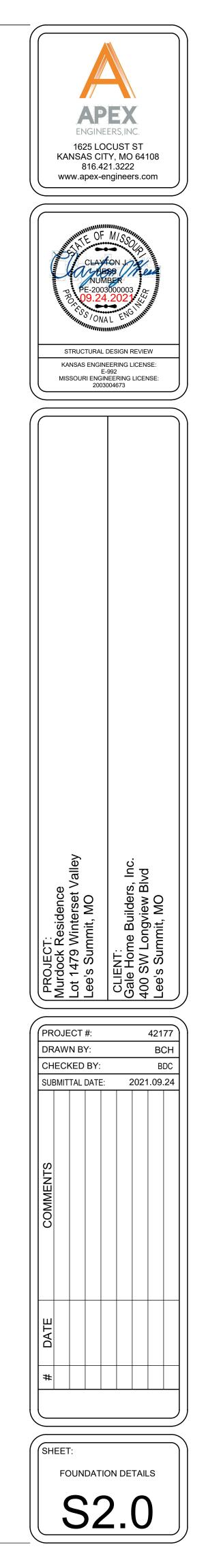
EXPANSIVE SOILS DISCLAIMER:

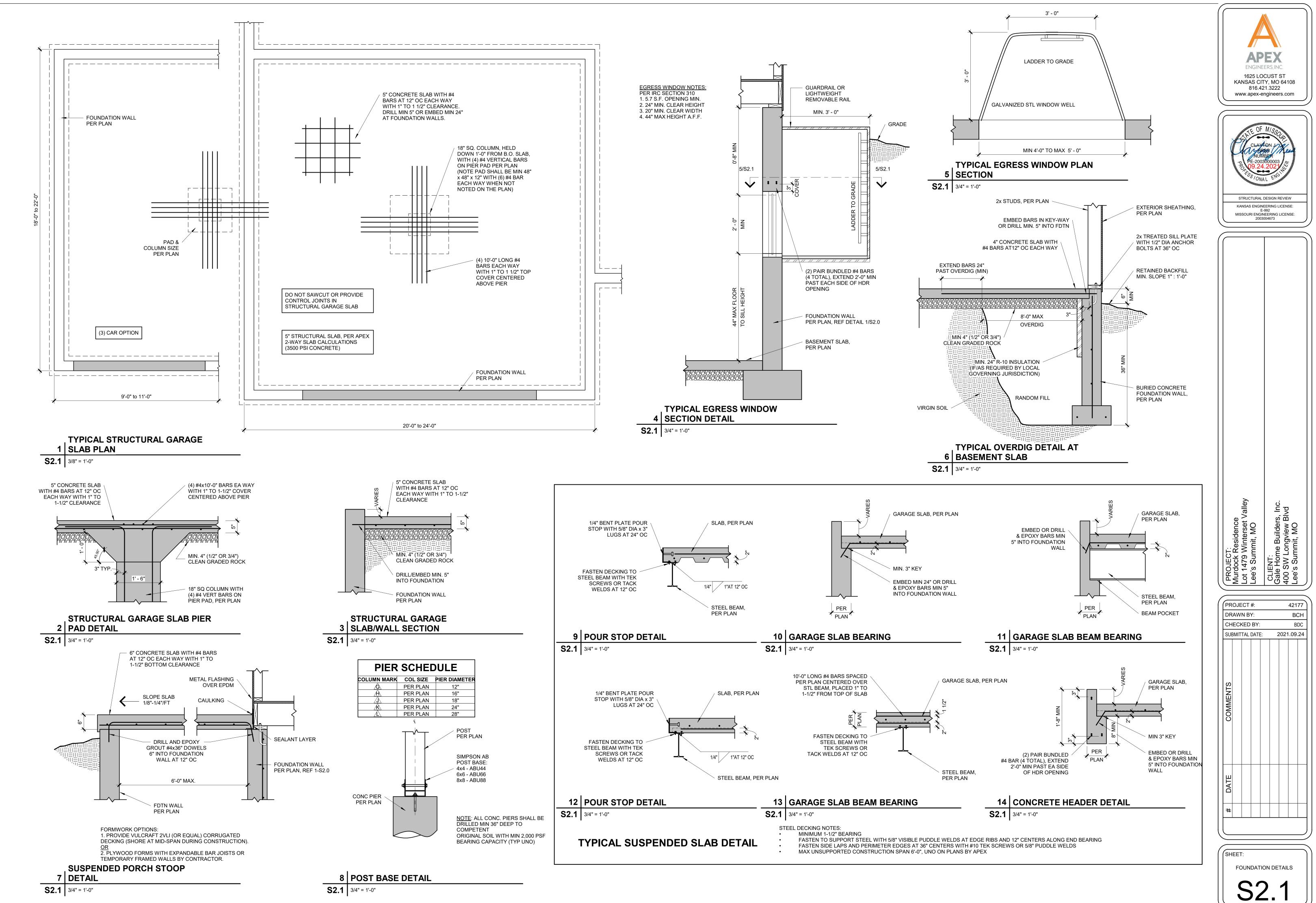
THESE PLANS HAVE BEEN PREPARED BASED ON A PRESUMPTIVE ALLOWABLE BEARING CAPACITY AS ALLOWED BY IRC CODE AND THE LOCAL ENFORCING

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APEX HAS NOT BEEN RETAINED TO DETERMINE THE EXPANSIVE SOIL CHARACTERISTICS OF THE SUBGRADE SOIL AND THEREFORE CANNOT BE HELD **RESPONSIBLE FOR THE VOLUMETRIC CHANGES OF THE SOIL (INCLUDING** BELOW THE BASEMENT SLAB). BY USE OF THESE PLANS WITHOUT AN ACCOMPANYING GEOTECHNICAL ENGINEERING REPORT, APEX SHALL NOT BE HELD LIABLE FOR ANY FUTURE MOVEMENT AND/OR DIFFERENTIAL MOVEMENT OF THE PROPOSED STRUCTURE AND THE POSSIBLE DAMAGE THAT MAY BE CAUSED AS A RESULT OF SUCH MOVEMENT. DAMAGE FROM EXPANSIVE SOILS AND/OR SETTLEMENT CAN RESULT IN AMONGST OTHER THINGS, THE FOLLOWING: BASEMENT SLAB HEAVE, SHEETROCK CRACKS, WINDOWS AND DOOR BECOMING OUT OF PLUMB AND STICKING AND/OR NOT OPENING, DAMAGE TO TILE, MOULDING, AND OTHER COSMETIC FINISHES.







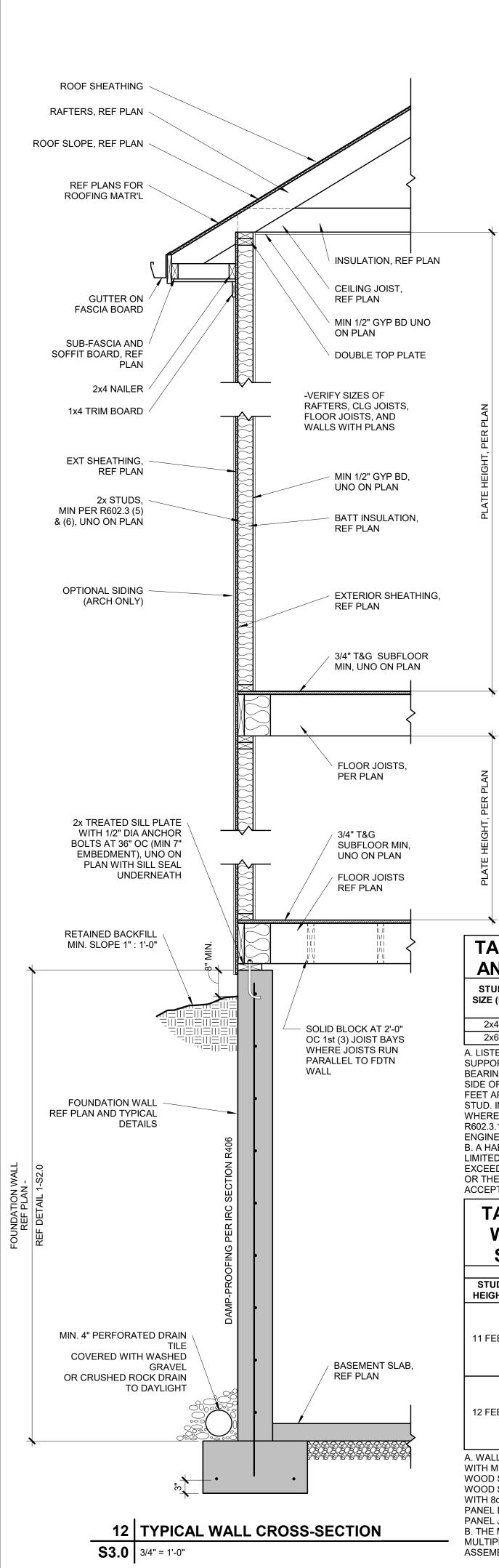


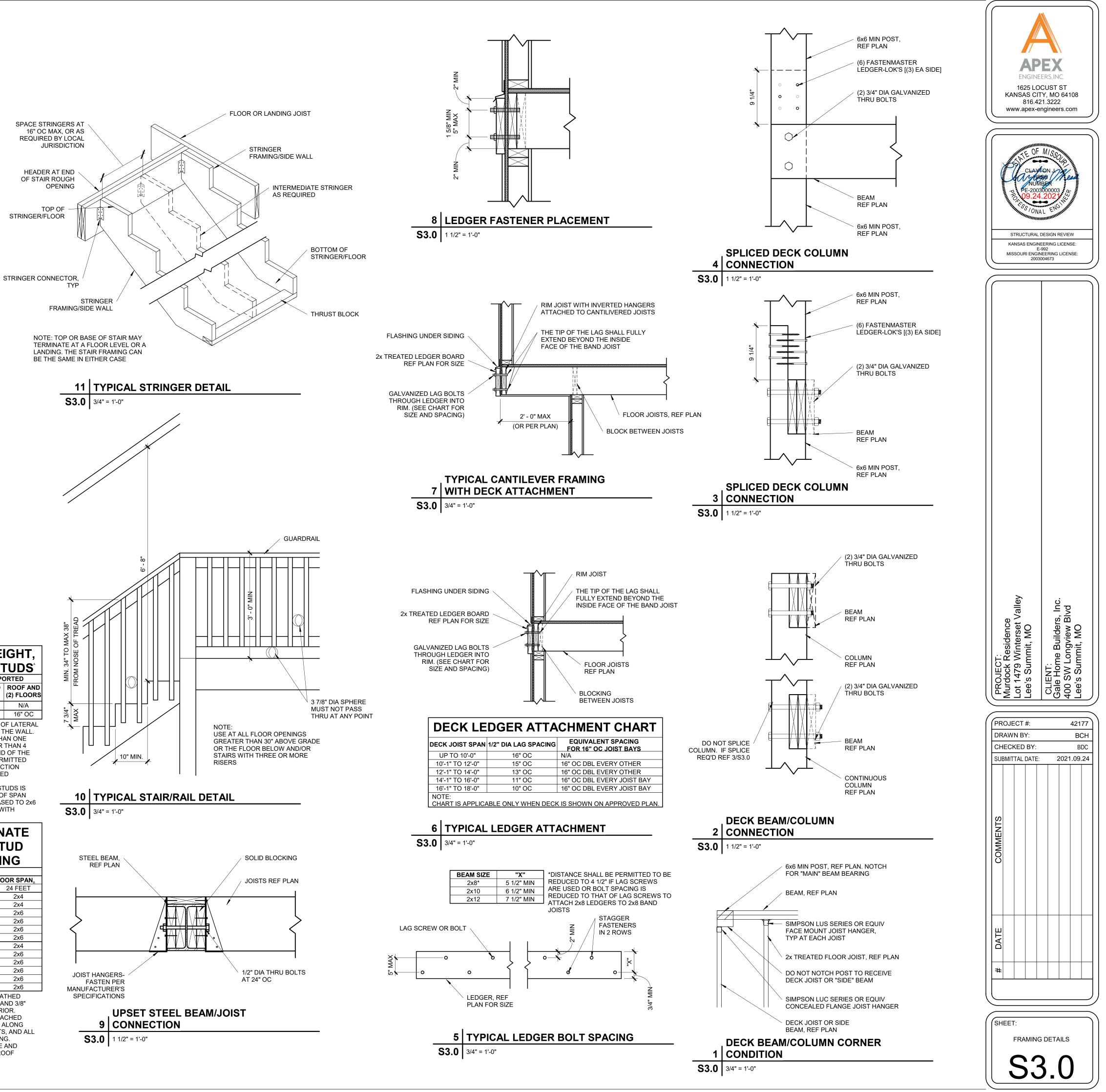
TABLE R602.3 (5) - SIZE, HEIGHT, AND SPACING OF WOOD STUDS^A STRUCTURE SUPPORTED

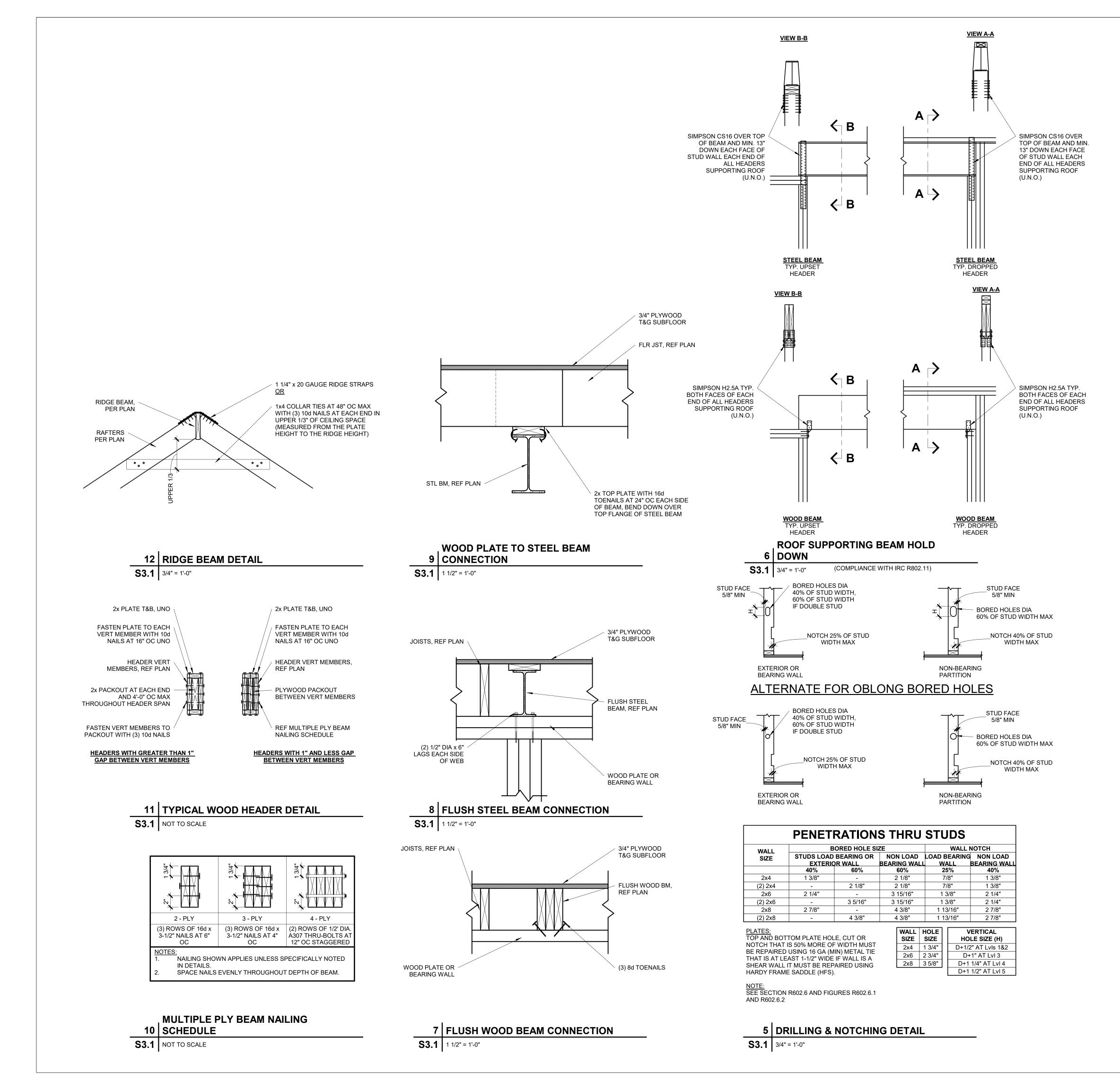
AND	SPACING		<u>200 2</u>	
STUD	LATERALLY	STRUCTURE SUPPORTE		
SIZE (IN)	UNSUPPORTED STUD HEIGHT [^]	ROOF ONLY	ROOF AND (1) FLOOR	RO((2) F
2x4	10 FEET	24" OC [®]	16" OC [₿]	
2x6	10 FEET	24" OC	24" OC	16
SUPPORT P BEARING W. SIDE OR BR FEET APART STUD. INCRI WHERE IN T R602.3.1 OR ENGINEERIN	EIGHTS ARE DISTAI LACED PERPENDIC ALLS SHALL BE SHI IDGING SHALL BE II I MEASURED VERT EASES IN UNSUPPO HE COMPLIANCE W DESIGNED IN ACC NG PRACTICE. BLE ATTIC ASSEME	CULAR TO THI EATHED ON N NSTALLED NO ICALLY FROM DRRTED HEIG VITH EXCEPT ORDANCE WI	E PLANE OF T NOT LESS TH/ DT GREATER 4 EITHER END GHT ARE PER NON 2 OF SEC ITH ACCEPTE	THE V AN O THAN O OF MITT TION
			ED BY 284 SI	005

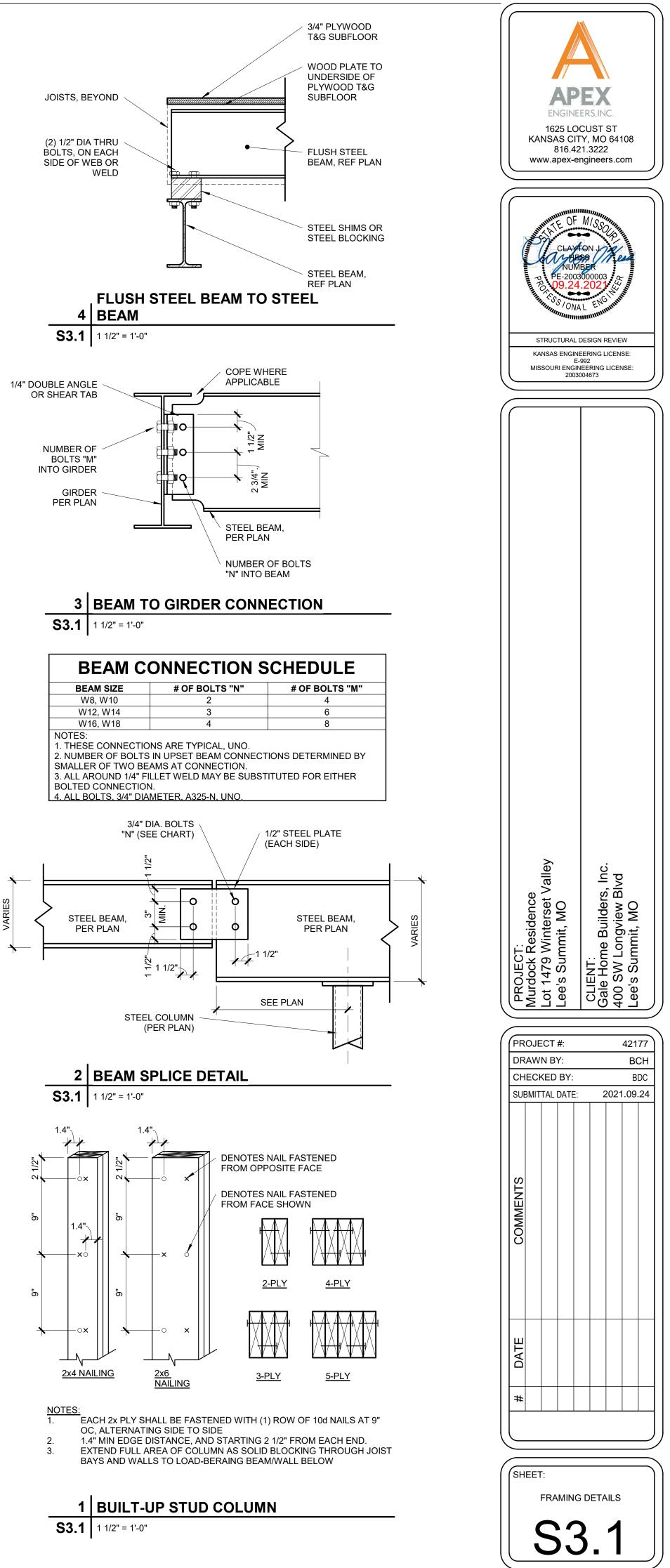
B. A HABITABLE ATTIC ASSEMBLY SUPPORTED BY 2x4 STUDS IS LIMITED TO A ROOF SPAN OF 32 FEET. WHERE THE ROOF SPAN EXCEEDS 32 FEET, THE WALL STUDS SHALL BE INCREASED TO 2x6 OR THE STUDS SHALL BE DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.

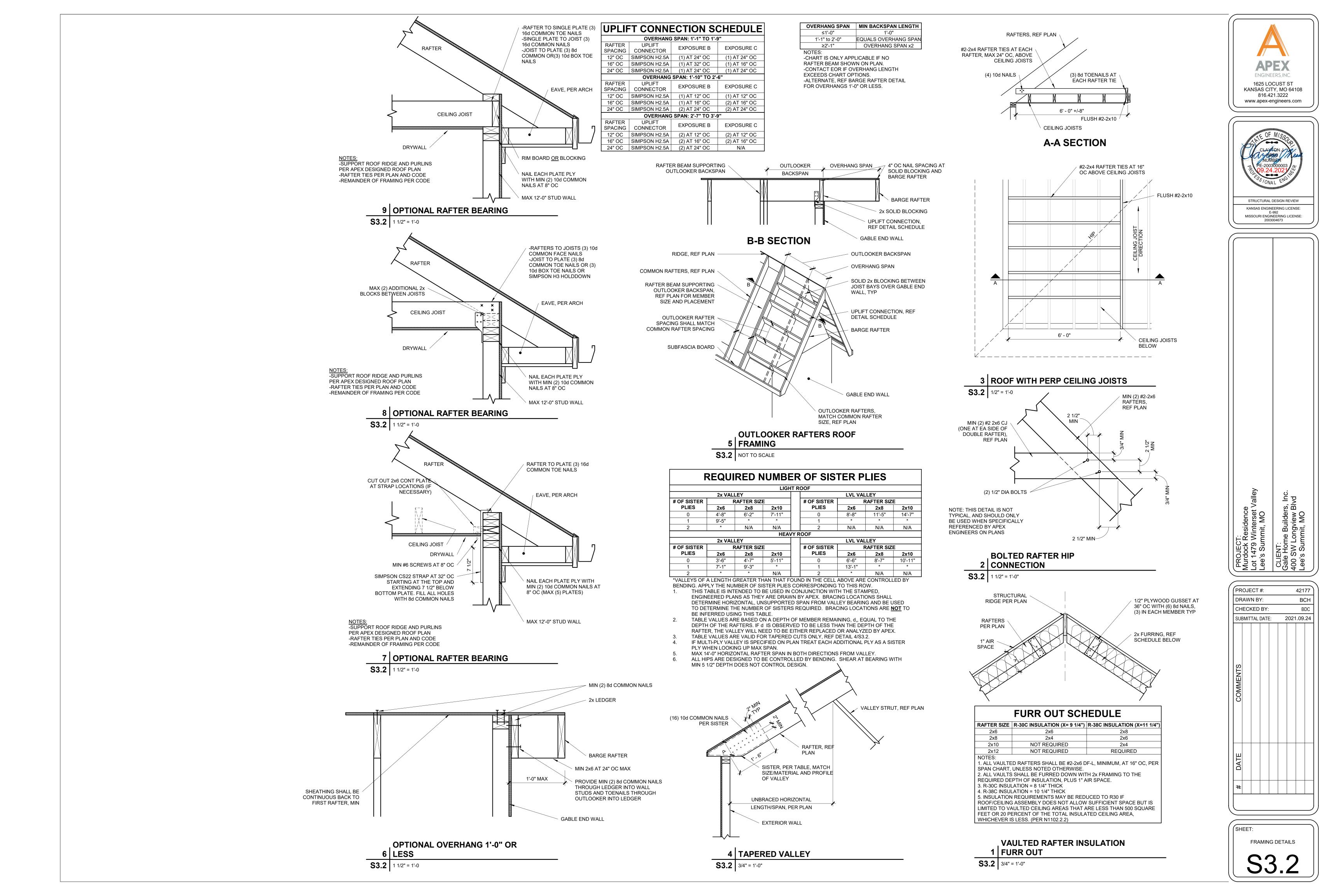
TABLE R602.3 (6) - ALTERNAT WOOD BEARING WALL STUD SIZE, HEIGHT AND SPACING						
	TIMATE DESIG	N WIND SPE				
STUD HEIGHT	SUPPORTING	STUD SPACING _A	MAX ROOF/F 12 FEET	LOOR SI 24 FE		
	ROOF ONLY	12 IN	2x4	2x4		
		16 IN	2x4	2x4		
11 FEET		24 IN	2x6	2x(
	ROOF AND ONE FLOOR	12 IN	2x4	2x(
		16 IN	2x6	2x(
		24 IN	2x6	2x(
	ROOF ONLY	12 IN	2x4	2x4		
		16 IN	2x4	2x(
12 FEET		24 IN	2x6	2x(
	ROOF AND ONE FLOOR	12 IN	2x4	2x(
		16 IN	2x6	2x(
		24 IN	2x6	2x(

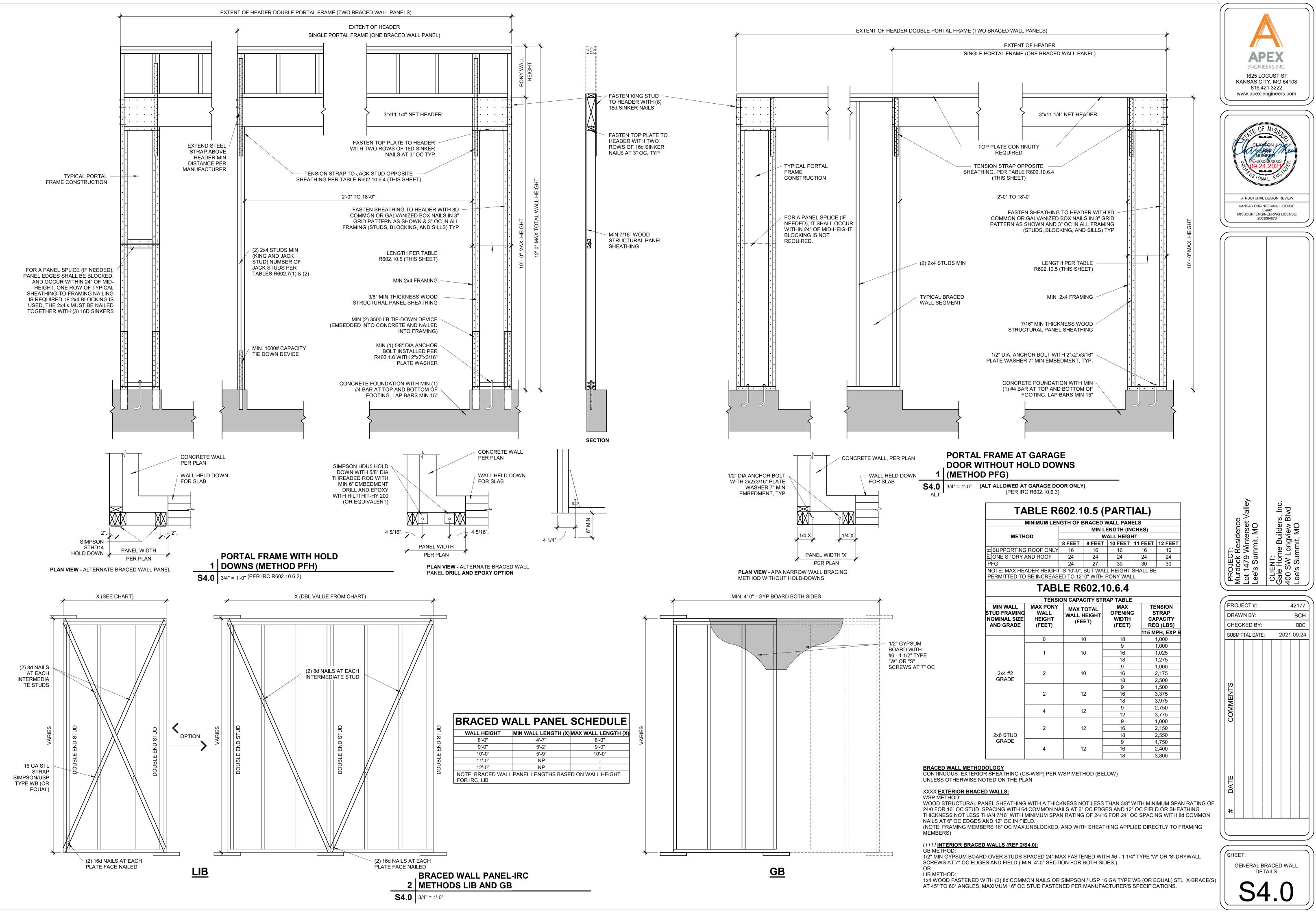
A. WALL STUDS NOT EXCEEDING 16" OC SHALL BE SHEATHED WITH MINIMUM 1/2" GYPSUM BOARD ON THE INTERIOR AND 3/8" WOOD STRUCTURAL PANEL SHEATHING ON THE EXTERIOR. WOOD STRUCTURAL PANEL SHEATHING SHALL BE ATTACHED WITH 8d (2.5" x 0.131") NAILS NOT GREATER THAN 6" OC ALONG PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS, AND ALL PANEL JOINTS SHALL OCCUR OVER STUDS OR BLOCKING. B. THE MAXIMUM SPAN IS APPLICABLE TO BOTH SINGLE AND MULTIPLE SPAN ROOF AND FLOOR CONDITIONS. THE ROOF ASSEMBLY SHALL NOT CONTAIN A HABITABLE ATTIC.

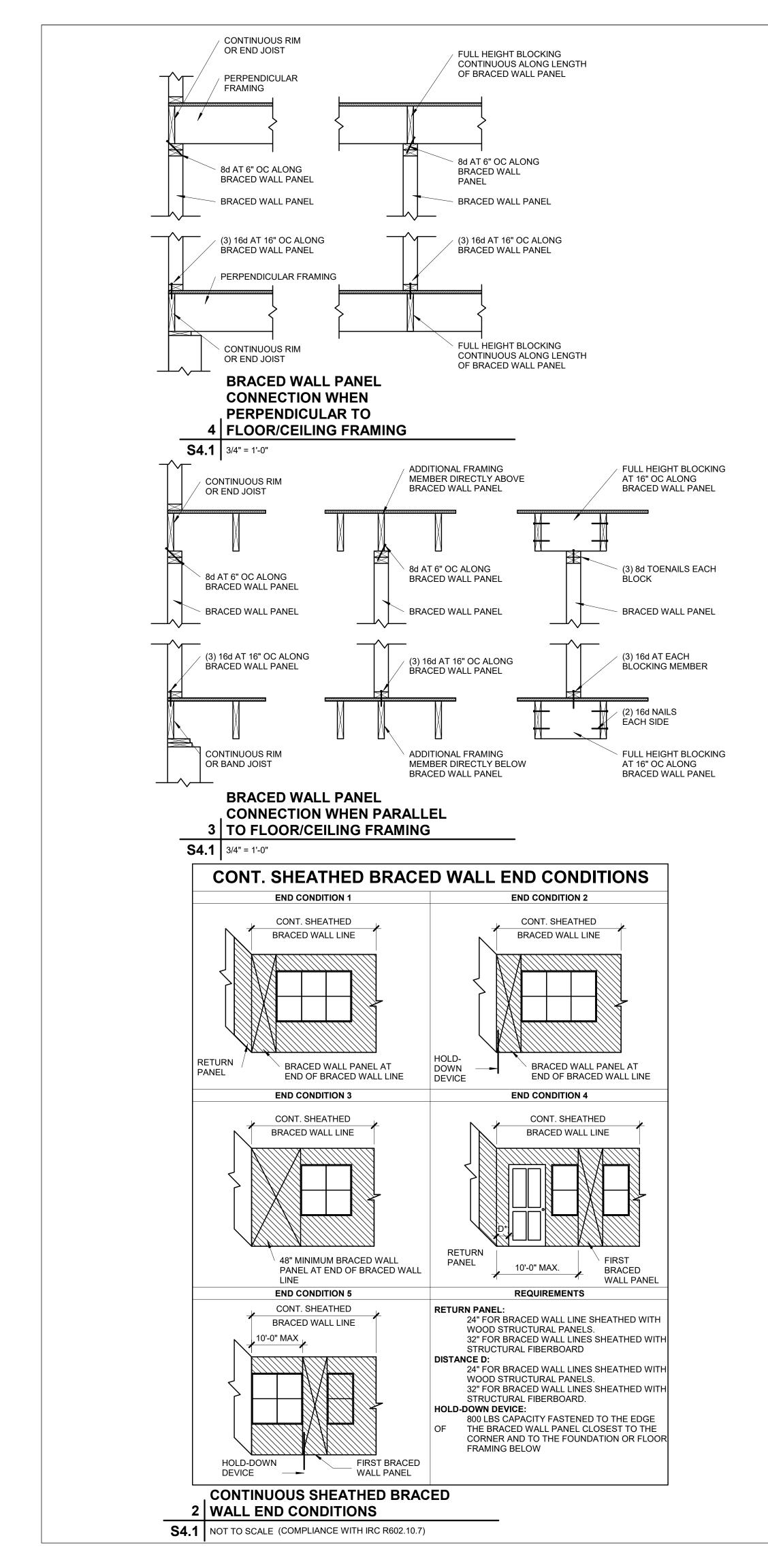


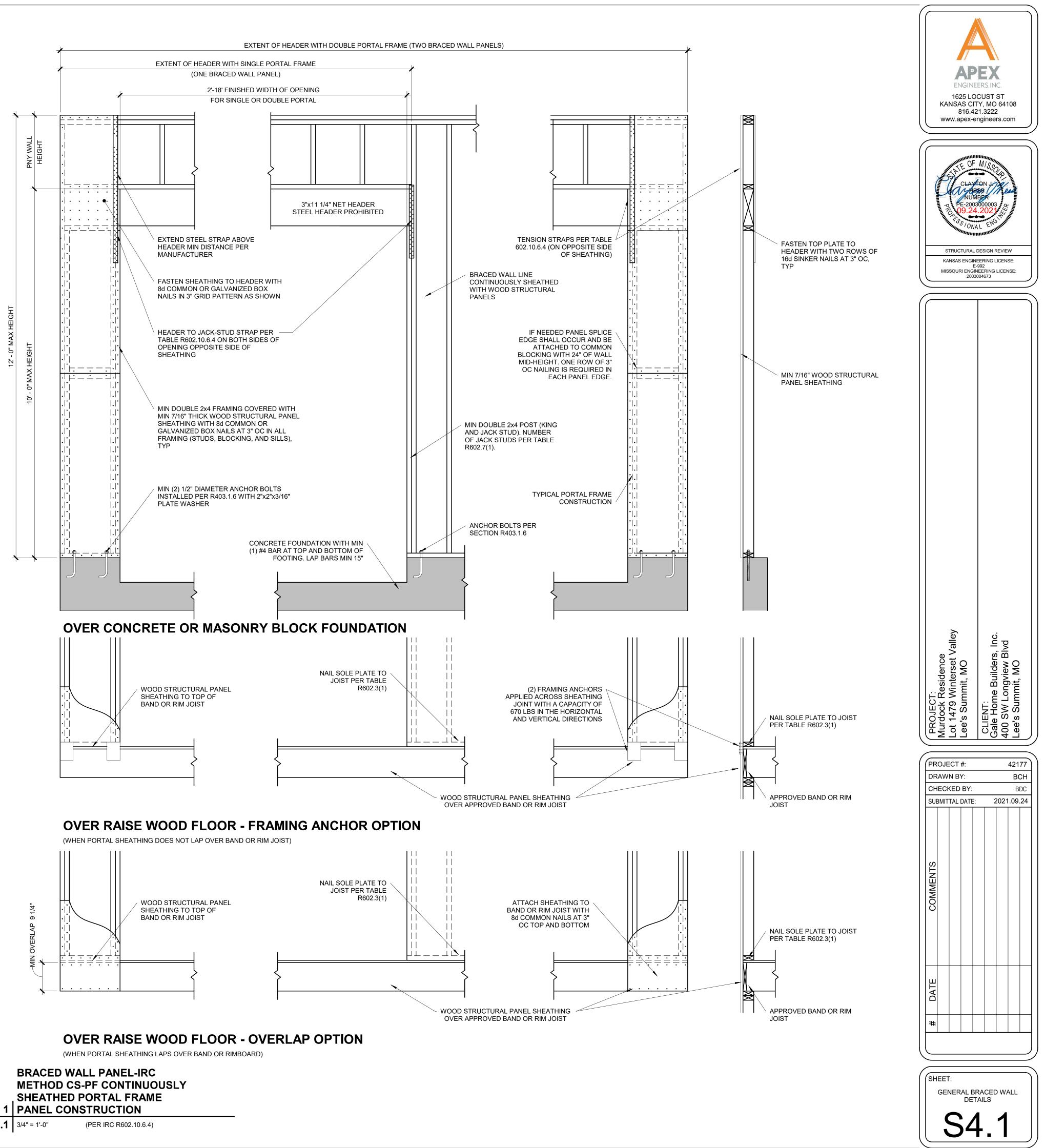












S4.1 3/4" = 1'-0"