

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 7/16" WITH MINIMUM SPAN RATING OF 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

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

GB METHOD: ½" 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.)

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.

COLUMN & PIER PAD SCHEDULE (REF. 5/S2.0)									
COLUMN MARK	COLUMN MARK PAD SIZE REINFORCEMENT COLUMN SIZE								
Á	30" x 30" x 12"	(4) #4 BAR E.W.	3" DIA.						
B	36" x 36" x 12"	(4) #4 BAR E.W.	3" DIA.	0 5					
<u>c</u>	42" x 42" x 12"	(5) #4 BAR E.W.	3" DIA.	DULE 40 PIPE KSI MIN.)					
<u></u>	48" x 48" x 12"	(6) #4 BAR E.W.	3" DIA.	4EDU 38 KS					
Æ	54" x 54" x 16"	(8) #4 BAR E.W.	3½" DIA.	00 77. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.					
F	60" x 60" x 16"	(10) #4 BAR E.W.	3½" DIA.						

- 1. COLUMN & PAD SIZES SHOWN ARE FOR MAXIMUM COLUMN HEIGHT OF 10'-0",
- REQUIRES SEPARATE ENGR'D DESIGN IF GREATER THAN 10'-0" TALL. 2. COLUMN & PIER PAD SIZES SHOWN ARE BASED ON AN ASSUMED MINIMUM
- ALLOWABLE SOIL BEARING CAPACITY OF 2,000psf.

COLUMN & PIER SCHEDULE									
MARK	MARK COLUMN SIZE								
Ĝ	6x6	12"							
Ĥ	6x6	16"							
$\triangle$	6x6	18"							
k	6x6	24"							
$\triangle$	6x6	28"							

- 1. ALL PIERS TO BEAR ON ORIGINAL, UNDISTURBED SOIL OF 2,000psf 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 REFERENCES**

 $\frac{1}{820}$  TYPICAL FOUNDATION WALL DETAIL

2 TYPICAL "UNRESTRAINED" \$2.0 FOUNDATION WALL DETAIL

 $\frac{3}{(S2.0)}$  TYPICAL DEAD MAN DETAIL

FOUNDATION WALL JUMP DETAIL

5 S2.0 COLUMN PAD DETAIL

1 TYPICAL STRUCTURAL GARAGE S2.1 SLAB PLAN

2 STRUCTURAL GARAGE SLAB PIER PAD DETAIL

3 STRUCTURAL GARAGE SLAB / WALL SECTION 6 TYPICAL OVERDIG DETAIL AT BASEMENT SLAB

1 ALTERNATE BRACED WALL PANEL S4.0 DETAIL

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

COLUMN AND PIER PAD SCHEDULE (SHEET S2.0)

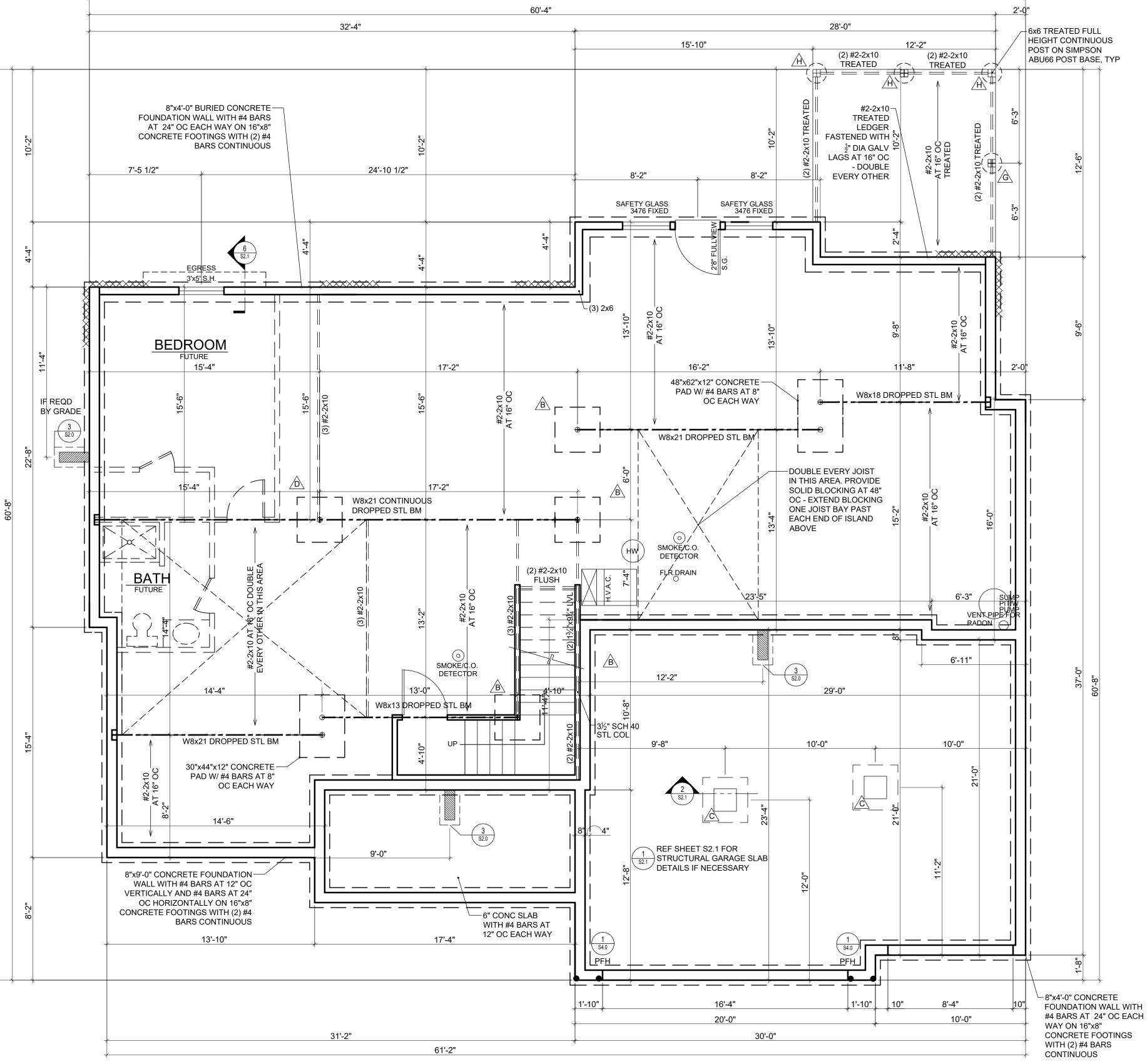
STRUCTURAL NOTES: - ALL UNMARKED HEADERS MIN (2)#2-2x10 - ALL HEADERS AND BEAMS MIN #2 GRADE DF/L (OR EQ.) = BEARING WALL - WALL - WOO = 4'-0" LONG PANEL, UNO

# **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.



62'-4"

FOUNDATION PLAN SCALE 1/4"=1'-0"

UNFINISHED BASEMENT - 1910 sq ft



STRUCTURAL DESIGN REVIEW KANSAS ENGINEERING LICENSE: MISSOURI ENGINEERING LICENSE: 2003004673

ARMHOU SEQUOIA
Lot 65 Hoork Farms
2038 SW Red Barn R
Lee's Summit, MO 64

> ESIGN, LLC. SAS CITY, MO 6451 8 □ Š

COPYRIGHT MARSHALL HOME DESIGN 11-14-17 REV. 1-9-18

HOMEBUILDER:
ASPEN HOMES
6618 ROYAL ST., PLEAS,
RESIDENTIAL DESIGN B'
MARSHALL HOM
1723 N.W. 57TH COURT,

DRAWING NO.:

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

### XXXX EXTERIOR BRACED WALLS:

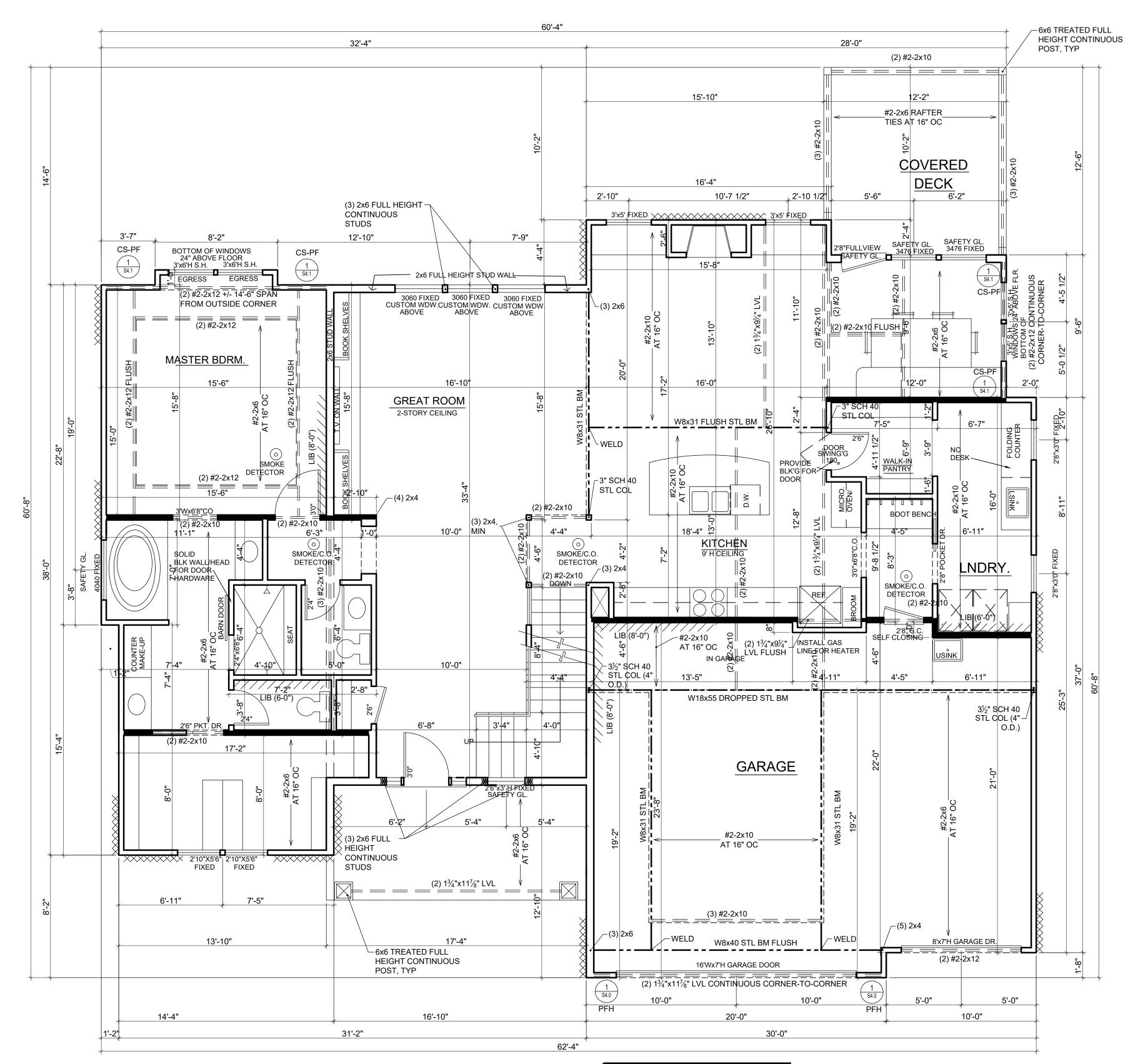
WSP METHOD: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN  $\frac{3}{8}$ " WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN  $\frac{7}{16}$ " WITH MINIMUM SPAN RATING OF  $\frac{24}{16}$  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

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

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

METHOD

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.



FIRST FLOOR PLAN

1910 FIRST FLOOR AREA 1003 SECOND FLR. AREA 2913 TOTAL AREA 678 S.F. GARAGE 151 S.F. COVERED DECK

KANSAS ENGINEERING LICENSE:

MISSOURI ENGINEERING LICENSE: 2003004673 SEQUOIA FARMHOU

Lot 65 Hoork Farms
2038 SW Red Barn Rd

Lee's Summit, MO 64082

S618 ROYAL ST., PLEASANT VALLEY, MO. 64068
RESIDENTIAL DESIGN BY:
MARSHALL HOME DESIGN, LLC.

COPYRIGHT
MARSHALL HOME DESIGN
11-14-17
REV. 1-9-18

PLAN NO.: 1765

DRAWING NO.:

3

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

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

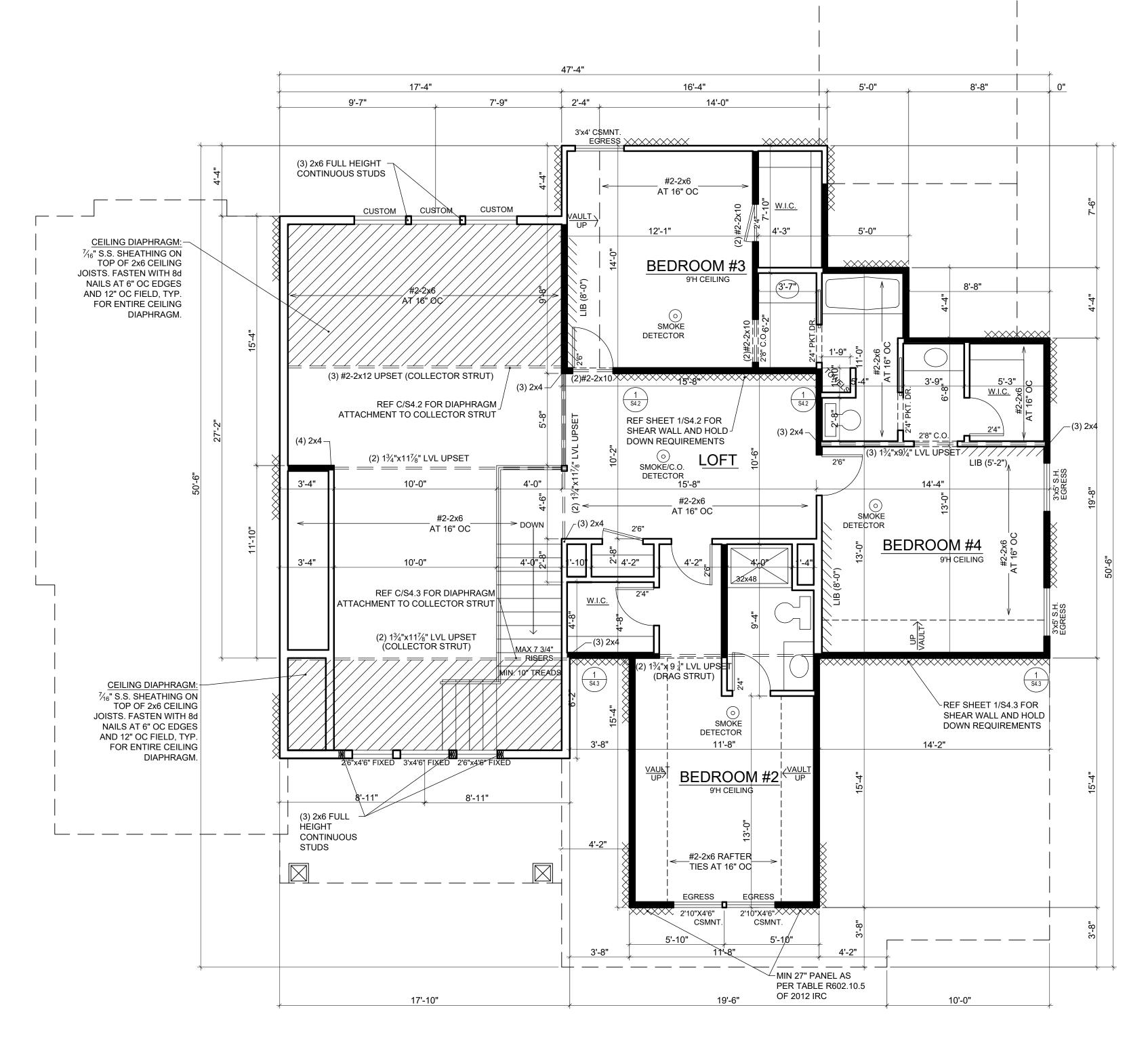
# XXXX EXTERIOR BRACED WALLS:

WSP METHOD: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN %" 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 \(^{7}\_{16}\)" WITH MINIMUM SPAN RATING OF \(^{24}\_{16}\) 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

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

GB METHOD: ½" 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.



SECOND FLOOR PLAN SCALE 1/4"=1'-0"



**ARMHOU** SEQUOIA I Lot 65 Hoork Farms 2038 SW Red Barn Rd Lee's Summit, MO 640

DESIGN, LLC.
ANSAS CITY, MO 6451 8

COPYRIGHT MARSHALL HOME DESIGN 11-14-17 REV. 1-9-18



DRAWING NO.:

- THIS IS AN ENGINEERED ROOF STRUCTURE DESIGNED FOR COMPLIANCE WITH IRC 802.3, BUILD AS SHOWN WITH NO DEVIATIONS.
- 2. ALL HIPS ARE DESIGNED TO BE CONTROLLED BY BENDING.
- SHEAR AT BEARING WITH MIN  $5\frac{1}{2}$ " **DEPTH DOES NOT CONTROL DESIGN. FOR VALLEYS REF 4/S3.2**

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

### **ROOF FRAMING NOTES**

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

ROOF SYSTEM IS DESIGNED TO MEET REQUIREMENTS OF IRC 802

\*RAFTERS (HEM-FIR, DOUG-FIR, OR EQUAL): SEE SPAN CHARTS BELOW

### CODE MINIMUM

RAFTERS	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	MAX HORIZONTAL CLEARSPAN
#2-2x6	AT 24" OC	8'-6"
#2-2x6	AT 16" OC	9'-9"
#2-2x8	AT 24" OC	11'-3"
#2-2x8	AT 16" OC	12'-9"
#2-2x10	AT 24" OC	14'-3"
#2-2x10	AT 16" OC	16'-3"

APEX ENGINEERS, INC. RECOMMENDED

DEFLECTION = L/360 LIVE LOAD, L/240 TOTAL LOAD

\*RIDGE BOARDS ARE (UNLESS OTHERWISE NOTED) #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 - PURLIN STRUTS SHALL BE INSTALLED AT NOT LESS

THAN A 45 DEGREE ANGLE WITH THE HORIZONTAL

- ALL PURLIN STRUTS SHALL HAVE A MAX UNBRACED LENGTH OF 8'-0"

- PURLIN STRUTS SHALL BE CONSTRUCTED IN A "T" 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"

CONSULT ARCH ENGR \*EACH END OF STRUT SHALL BE FASTENED WITH MIN (3)8d

OR (2)16d NAILS \*RIDGE BRACERS ARE SAME AS PURLIN BRACES-SPACING,

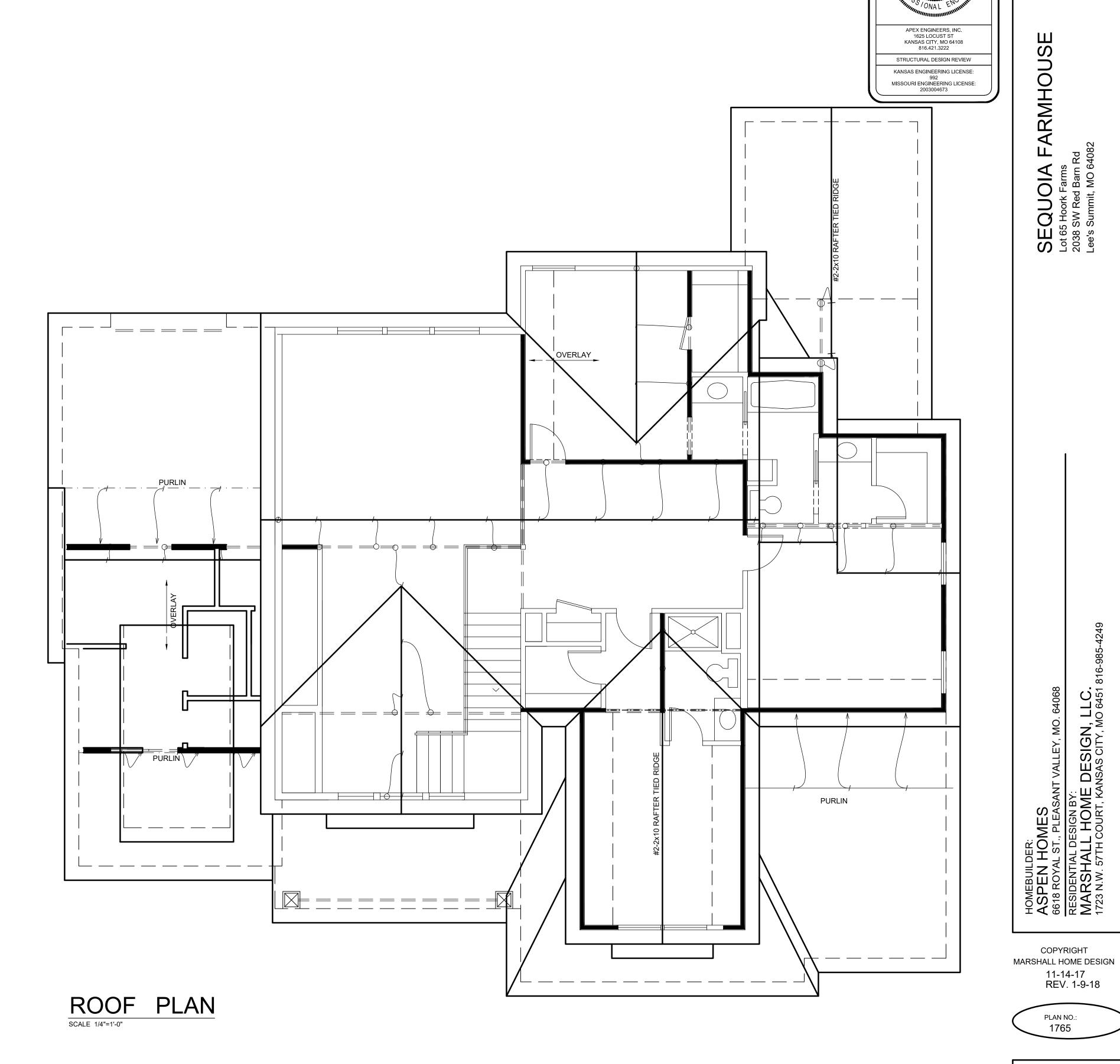
SIZE, CONFIGURATION, AND INSTALLATION (SEE PURLIN BRACE NOTES ABOVE) \*HIP AND VALLEY BRACES ARE THE SAME AS PURLINS SIZE,

CONFIGURATION, AND INSTALLATION (SEE PURLIN BRACE NOTES ABOVE)

= ROOF BRACE/STRUT (PER CHART) -SLASH IS TOP END OF BRACE -CIRCLE IS BOTTOM END OF BRACE

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

DENOTES BEARING WALL — · — · — DENOTES PURLIN ===== DENOTES BEARING STRUCTURE



DRAWING NO.:

11-14-17

REV. 1-9-18

OS/N

BUILDING COMPONENT	MATERIAL	FASTENING
	7/16" PLYWOOD	16 GA x 1-3/4" STAPLES AT 3" OC EDGES AND 6" OC IN FIELD
ROOF SHEATHING <sup>1</sup>	1x4 #3 FURRING	1/2" CROWN STAPLES
FLOOR SHEATHING <sup>1</sup>	3/4" T&G YELLOW PINE PLYWOOD APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED	8d COMMON NAILS AT 6" OC EDGES  AND 12" OC IN THE FIELD  14 GA x 2" STAPLES AT 4" OC  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
CEILING COVERING <sup>1</sup>	1/2" GYPSUM SHEATHING	7" OC NAILED / 12" OC SCREWED WITH 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 COVERING <sup>1</sup>	1/2" GYPSUM SHEATHING	6d COMMON NAILS; 1-5/8" GALVANIZED STAPLES; 1-1/4" SCREWS, TYPE W OR S- AT 4" OC EDGES AND 8" OC IN THE FIELD
EXTERIOR WALL SHEATHING	MIN 3/8" APA RATED SHEATHING	8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN THE FIELD
CONVENTIONAL WOOD FRAMED WALLS	*SUPPORTING 2 FLOORS, ROOF, AND CEILING OR LESS. *HEIGHT: 10'-0" OR LESS SIZE: NOM 2x4 (NOM 2x6 WHEN SUPPORTING 2 FLOORS, CEILING, AND ROOF) *SPECIES: DOUG-FIR, HEM-FIR, SOUTH PINE, SPRUCE-PINE-FIR *MAXIMUM SPACING 16" OC *STUDS 10' LENGTH OR LESS SHALL BE #3 STANDARD, OR STUD GRADE *STUDS OVER 10' LENGTH SHALL BE MIN #2 GRADE	*TOE NAIL RIM JOIST TO SILL OR TOP PLATE:  *TOE NAIL STUD TO TOP AND SOLE PLATE:  *END NAIL TOP AND SOLE PLATE TO STUD:  *FACE NAIL BUILT-UP CORNER STUDS:  *FACE NAIL BUILT-UP CORNER STUDS:  *FACE NAIL JOENSTRIMMERS SUPPORTING HEADERS WITH:  *FACE NAIL DBL TOP PLATE:  *TOE NAIL TOP PLATES WITH MIN 48" OFFSET OF EACH. FACE NAIL LAPPED AREA WITH:  *FACE NAIL DBL TOP PLATES AT LAPPED CORNERS AND INTERSECTIONS WITH:  *FACE NAIL SOLE PLATE TO FRAMING SYSTEM WITH:  *FACE NAIL BRIDGING TO JOIST, EACH END:  *FACE NAIL LEDGER STRIPS SUPPORTING JOISTS OR RAFTERS WITH:  **GOMMON AT 6" OC; 3"x0.131" AT 6" OC; 3"x0.131"  (2) 16d COMMON; (3) 3"x0.131"  (2) 16d COMMON; (3) 3"x0.131" AT 16"  (2) 16d COMMON NAILS AT 16" OC; 3"x0.131" AT 12" OC; 3"x0.128"  16d COMMON AT 16" OC; 3"x0.131"; (12) 3"x0.128"  (3) 16d COMMON; (2) 3"x0.131"; (3) 3"x0.128"  16d COMMON AT 16" OC; 3"x0.131" AT 12" OC; 3"x0.131"; (12) 3"x0.128"  (4) 8d COMMON; (3) 3"x0.131"  16d AT 24" OC; 3"x0.131" AT 16"  (5) 16d COMMON AT 16" OC; 3"x0.131" AT 12" OC; 3"x0.131" AT 12" OC; 3"x0.131"; (12) 3"x0.128"  (5) 16d COMMON; (2) 3"x0.131"; (3) 3"x0.128"  (6) 16d COMMON; (2) 3"x0.131"; (3) 3"x0.128"  (7) 16d COMMON; (2) 3"x0.131" AT 12" OC; 3"x0.131"; (12) 3"x0.128"  (8) 16d COMMON; (12) 3"x0.131"; (12) 3"x0.128"  (8) 16d COMMON; (12) 3"x0.131"; (12) 3"x0.128"  (8) 16d COMMON; (12) 3"x0.131"; (12) 3"x0.128"  (9) 16d COMMON; (12) 3"x0.131" AT 12" OC; 3"x0.131" AT 12" OC; 3"x0.131"; (12) 3"x0.128"  (8) 16d COMMON; (12) 3"x0.131"; (12) 3"x0.128"  (9) 16d COMMON; (12) 3"x0.131" AT 12" OC; 3"x0.131"; (12) 3"x0.128"  (13) 16d COMMON; (2) 3"x0.131"; (3) 3"x0.128"
CONVENTIONAL WOOD HEADER FRAMING	PER PLAN	*TOE NAIL HEADERS TO WALL STUDS WITH (4) 8d NAILS AT EACH END. *FACE NAIL DOUBLE PIECE HEADERS WITH 16d NAILS AT 16" CENTERS ALONG EACH EDGE.
RAFTER TIES <sup>2</sup>	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
RAFTER TIES SHALL NOT E	TERIALS TO BE APPLIED PERPENDICUL BE REQUIRED WHEN A STRUCTURAL RII JULTED ROOM). SUCH SHALL BE NOTED	OGE HAS BEEN PROVIDED AND ADEQUATELY
BUILDING COMPONENT	FASTEN TO	FASTEN WITH
	TO RIDGE/VALLEY/HIP RAFTERS	TOENAIL WITH (4) 16d ENDNAIL WITH (3) 16d
RAFTERS	TO PLATE	TOENAIL WITH (2) 16d
CEILING JOISTS	TO TOP PLATE	TOENAIL WITH (3) 8d AT EACH END
SEIE 110 001010		DISTS RUN PARALLEL TO RAFTERS D RAFTERS WITH (3) 10d MIN
FI 6 6 5 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	TO SILL OR GIRDER	TOENAL WITH: (3) 8d COMMON; (3) 3"x0.131"; (4) 3"x
FLOOR JOISTS	TO RIM JOIST	ENDNAIL WITH: (3) 16d COMMON; (4) 3"x0.131"; (4) 3"
RACED WALL PANELS ERP TO FRAMING	TO FRAMING MEMBER	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131"
EMBERS ABOVE/BELOW: ARALLEL TO FRAMING EMBERS ABOVE/BELOW:	TO FRAMING AND BLOCKING AT 16" OC	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131" AND AT EACH BLOCK: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131" AND AT EACH BLOCK: (3) 8d COMMON; 3"x0.131"

### **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

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

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)

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 LISE OF TARLE 1 A PacChack COMPL	IANCE FORM MIIST BE

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.

APPROVAL OF THE BUILDING OFFICIAL.

2. DEFERRED SUBMITTAL ITEMS (WHEN APPLICABLE):

- DEFERRED SUE 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

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

ALL LUMBER SIZES ARE FOR DOUGLAS FIR-LARCH UNLESS NOTED OTHERWISE.
 ALL HEADERS TO BE MIN (2) #2-2x10 UNLESS NOTED OTHERWISE.
 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" CENTERS WITHIN THE JOIST SPACE(S) AND THEN PROVIDE SOLID BLOCKING, INSTALLED UPRIGHT, IN THE NEXT TWO JOIST SPACES. SECURE THE 2x4s TO THE

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 MINIMUM 3" AND SHALL BE NAILED TOGETHER WITH A MINIMUM 10d FACE NAILS.

11. JOISTS FRAMING INTO A WOOD GIRDER OR BEAM SHALL BE SUPPORTED BY APPROVED FRAMING ANCHORS OR MINIMUM 2"x2" LEDGER STRIPS.

12. FRAMING OF OPENINGS - HEADERS AND TRIMMERS SHALL BE OF SUFFICIENT CROSS SECTION TO SUPPORT THE FLOOR FRAMING. TRIMMER JOISTS SHALL BE DOUBLED WHEN THE HEADER IS SUPPORTED MORE THAN 3'-0" FROM THE 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 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.

8. SPACE STRINGERS AT 16" OC MAX.

# 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

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.

### **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					
NOTE: LIEAVA/ DOOF OOVEDING VAILL							

NOTE: HEAVY ROOF COVERING WILL NOT BE INSTALLED OR USED IN THE DESIGN CALCULATIONS UNLESS IT IS SPECIFICALLY NOTED ON THE PLANS THAT THE DESIGN IS FOR HEAVY ROOF COVERINGS.

# E DESIGN IS FOR HEAVY ROOF COVERII

**FOUNDATIONS** 

1. THE FOUNDATION DESIGN SHALL BE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2000 PSF, UNLESS OTHERWISE INDICATED ON THE PLANS OR IF MODIFIED BY AN ENGINEERING REPORT BASED ON ACTUAL SITE CONDITIONS. 2. CONCRETE SHALL MEET THE FOLLOWING SPECIFIED DESIGN STRENGTH

CRITERIA:
- 2500 PSI FOR BASEMENT FLOOR SLABS ON UNDISTURBED SOIL
- 3000 PSI FOR FOOTINGS AND FOUNDATION WALLS

- 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) LOW 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

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

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 24" DIAMETER OR 20" SQUARE SUMP PIT EXTENDING A MINIMUM 24" BELOW THE BOTTOM OF

BASEMENT FLOOR.

18. INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB.

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

# **EXPANSIVE SOILS DISCLAIMER:**

DRAWINGS FOR REVIEW AND APPROVAL

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

APEX ENGINEERS, INC. (APEX) RECOMMENDS THAT ALL FOOTING EXCAVATION 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.





MISSOURI ENGINEERING LICENSE:

2003004673

www.apex-engineers.com

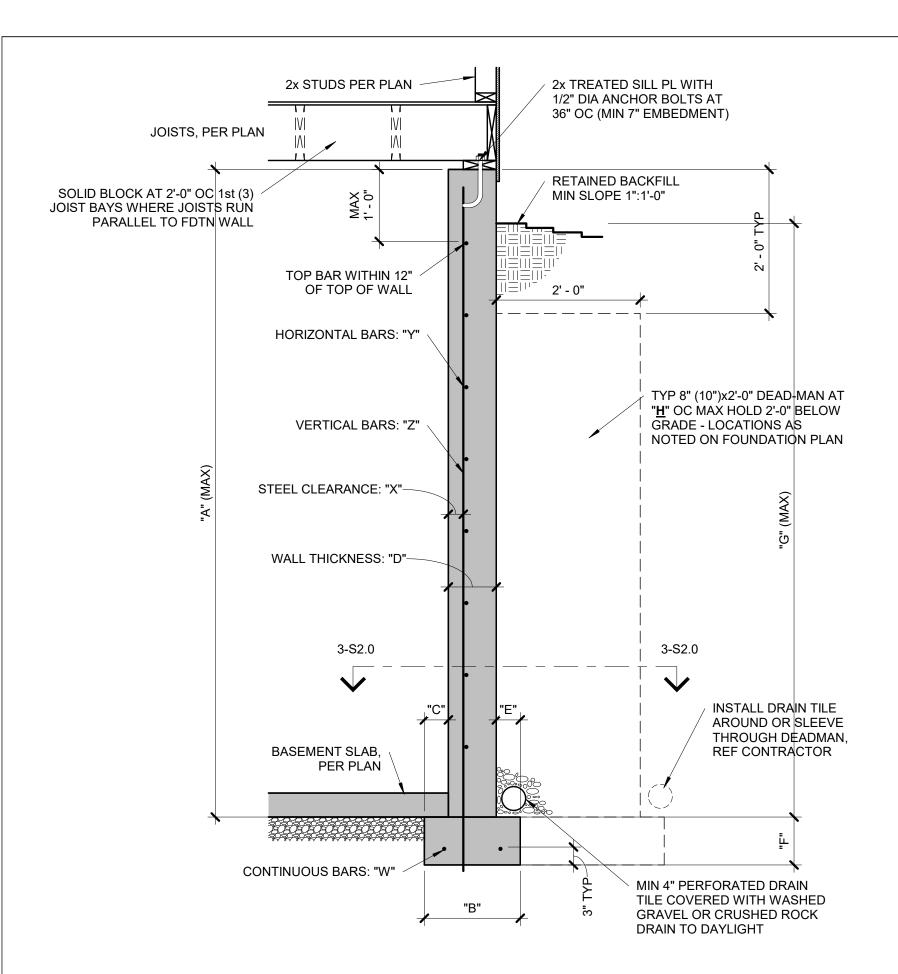
CLIENT:
Aspen Homes
6618 Royal St
Pleasant Valley, MO 64068

		PR	OJE	СТ	#:				435	94	
		DRAWN BY:						XXX			
		CHECKED BY:							ВІ	DC	
		SUBMITTAL DATE:						2022.01.25			
BLE		COMMENTS									
ONS		DATE									
ON		#									
	- 1 1										

SHEET:

GENERAL NOTES

S1.0



#### **CONCRETE DIMENSIONS** REINFORCING BARS(GRADE 40 BARS) "W" "X" "Y" 8'-0" 1'-4" 4" 8" 4" 8" 7'-6" 20'-0" | | (2) #4 | 2 1/2" | #4 BARS AT 24" OC | #4 BARS AT 24" OC 9'-0" | 1'-4" | 4" | 8" | 4" | 8" | 8'-6" | 20'-0" | (2) #4 | 2 1/2" | #4 BARS AT 24" OC | #4 BARS AT 24" OC (2) #4 | 2 1/2" | #4 BARS AT 18" OC | #4 BARS AT 18" OC 10'-0" 1'-8" 5" 10" 5" 10" 9'-6" 20'-0"

1. DIMENSION SHOWN IS FOR MAXIMUM UNINTERRUPTED WALL PANEL LENGTH BEFORE A DEAD-MAN SHALL BE INSTALLED. NOTE, A MINIMUM 2'-0" RETURN OR OFFSET IN THE FOUNDATION WALL SHALL SUBSTITUTE AS A DEAD-MAN AND/OR BREAK IN THE WALL PANEL LENGTH. 2. VERTICAL REINFORCING STEEL TO EXTEND TO WITHIN 8" OF TOP WALL. MINIMUM (1) #4 HORIZONTAL BAR WITHIN 12" OF TOP AND BOTTOM OF WALL.

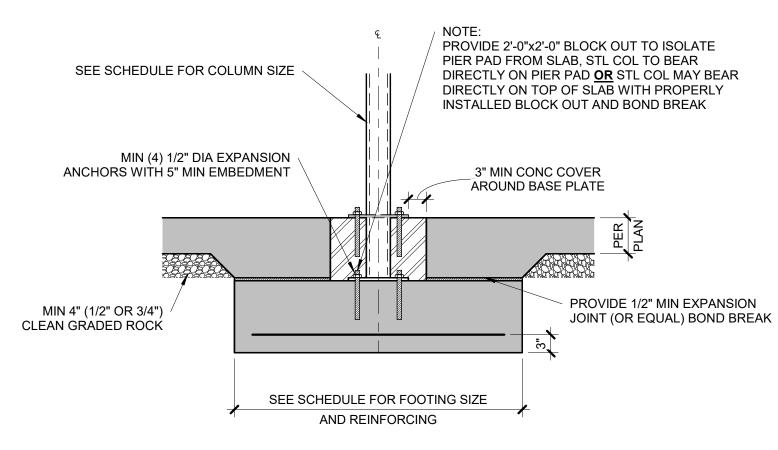
3. BURIED CONCRETE FOUNDATION WALLS UP TO 9'-0" TALL MAY BE 8" NOMINAL THICKNESS WITH #4 BARS AT 24" OC BOTH WAYS OVER 16"x8" CONCRETE FOOTINGS WITH (2) #4 BARS CONTINUOUS, UNLESS OTHERWISE REQUIRED BY ENGINEERING REPORT BASED ON ACTUAL SITE CONDITIONS. 4. WALL WILL NOT ACHIEVE FULL STRENGTH UNTIL FIRST FLOOR DECK AND BASEMENT SLAB HAVE BEEN PLACED.

### TYPICAL FOUNDATION WALL 1 DETAIL

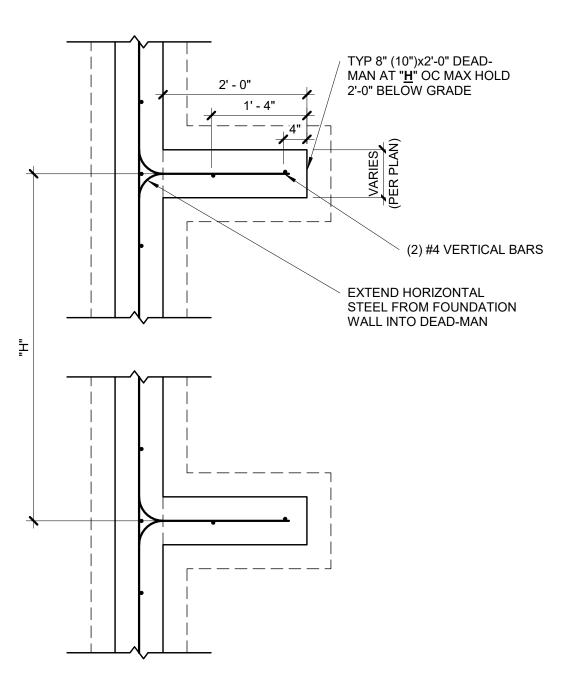
**S2.0** 3/4" = 1'-0"

COLUMN MARK	PAD SIZE	REINFORCING	COL SIZE	COL TYPE
À	30"x30"x12"	(4) #4 BARS E-W	3" NOMINAL	
ΔB	36"x36"x12"	(4) #4 BARS E-W	3" NOMINAL	EANN
<u>Ĉ</u>	42"x42"x12"	(5) #4 BARS E-W	3" NOMINAL	SCHEL SOLDING
<u> </u>	48"x48"x12"	(6) #4 BARS E-W	3" NOMINAL	SOLON SOLON
Æ	54"x54"x16"	(8) #4 BARS E-W	3 1/2" NOMINAL (4" OD)	5,41
Æ	60"x60"x16"	(10) #4 BARS E-W	3 1/2" NOMINAL (4" OD)	

MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF.



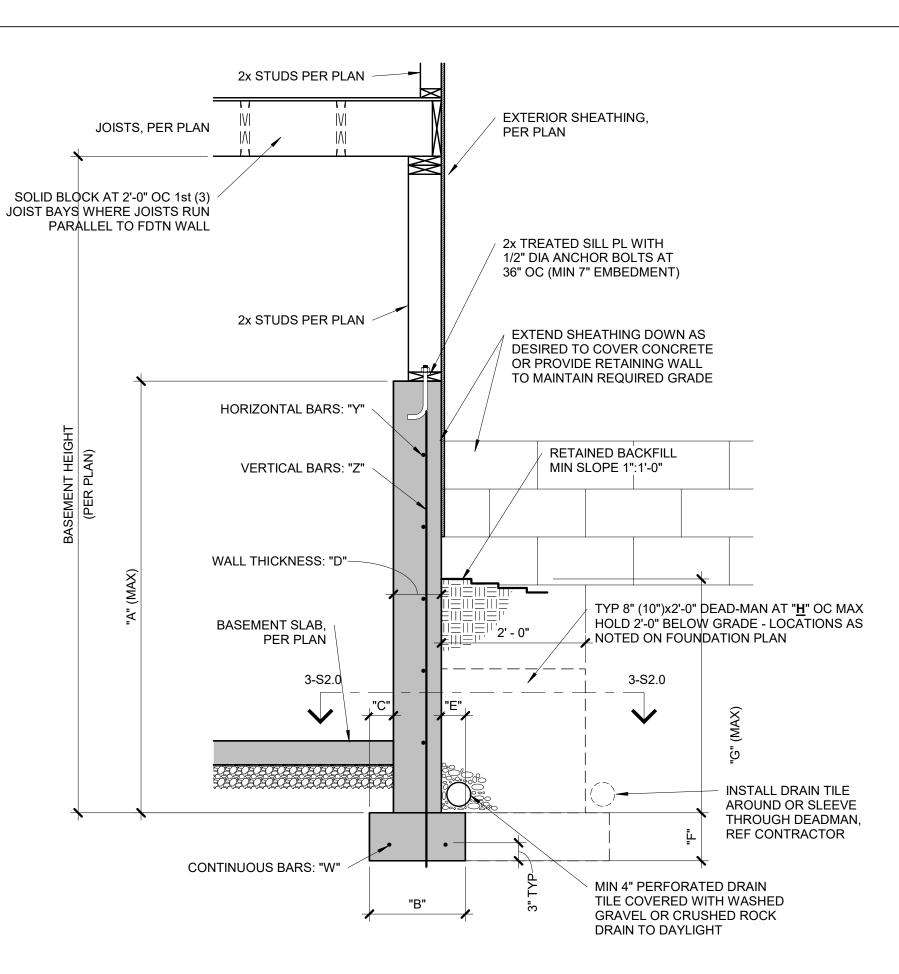
5 COLUMN PAD DETAIL **\$2.0** 3/4" = 1'-0"



- 1. MIN 3000 PSI FOOTING COMPRESSIVE CONCRETE STRENGTH. 2. MIN 3000 PSI WALL COMPRESSIVE CONCRETE STRENGTH.
- 3. AIR ENTRAINED BETWEEN 5% & 7% OF CONCRETE VOLUME. 4. GRADE 40 REINFORCING STEEL UNLESS OTHERWISE NOTED.
- 5. LAP SPLICES 24" MIN.
- 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"



CONCRETE DIMENSIONS						RE	INF	ORCING BA	RS(GRADE 40 BARS)		
"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H" <sup>1</sup>	"W"	"X"	"Υ"	"Z"
4'-0"	1'-4"	4"	8"	4"	8"	3'-4"	20'-0"	(2) #4	N/A	#4 BARS AT 24" OC	#4 BARS AT 24" OC
6'-0"	1'-4"	4"	8"	4"	8"	4'-4"	20'-0"	(2) #4	N/A	#4 BARS AT 24" OC	#4 BARS AT 24" OC
9'-0"	1'-8"	5"	8"	4"	8"	4'-4"	20'-0"	(2) #4	N/A	#4 BARS AT 24" OC	#4 BARS AT 24" OC

**S2.0** 3/4" = 1'-0"

RE	INF	ORCING BARS(GRADE 40 B					
"W"	"X"	"Y"	"Z"				
(2) #4	N/A	#4 BARS AT 24" OC	#4 BARS AT 24" OC				
(2) #4	N/A	#4 BARS AT 24" OC	#4 BARS AT 24" OC				

1. DIMENSION SHOWN IS FOR MAXIMUM UNINTERRUPTED WALL PANEL LENGTH BEFORE A DEAD-MAN SHALL BE INSTALLED. NOTE, A MINIMUM 2'-0" RETURN OR OFFSET IN THE FOUNDATION WALL SHALL SUBSTITUTE AS A DEAD-MAN AND/OR BREAK IN THE WALL PANEL LENGTH.

2. VERTICAL REINFORCING STEEL TO EXTEND TO WITHIN 8" OF TOP WALL. MINIMUM (1) #4 HORIZONTAL BAR WITHIN 12" OF TOP AND BOTTOM OF WALL.

3. THE BASEMENT SLAB IS AN INTEGRAL PART OF THE 'UNRESTRAINED' FOUNDATION WALL DESIGN THEREFORE, IF THE WALL IS BACKFILLED PRIOR TO PLACEMENT OF THE BASEMENT SLAB, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY BRACING THE WALL UNTIL THE BASEMENT SLAB HAS BEEN PLACED.

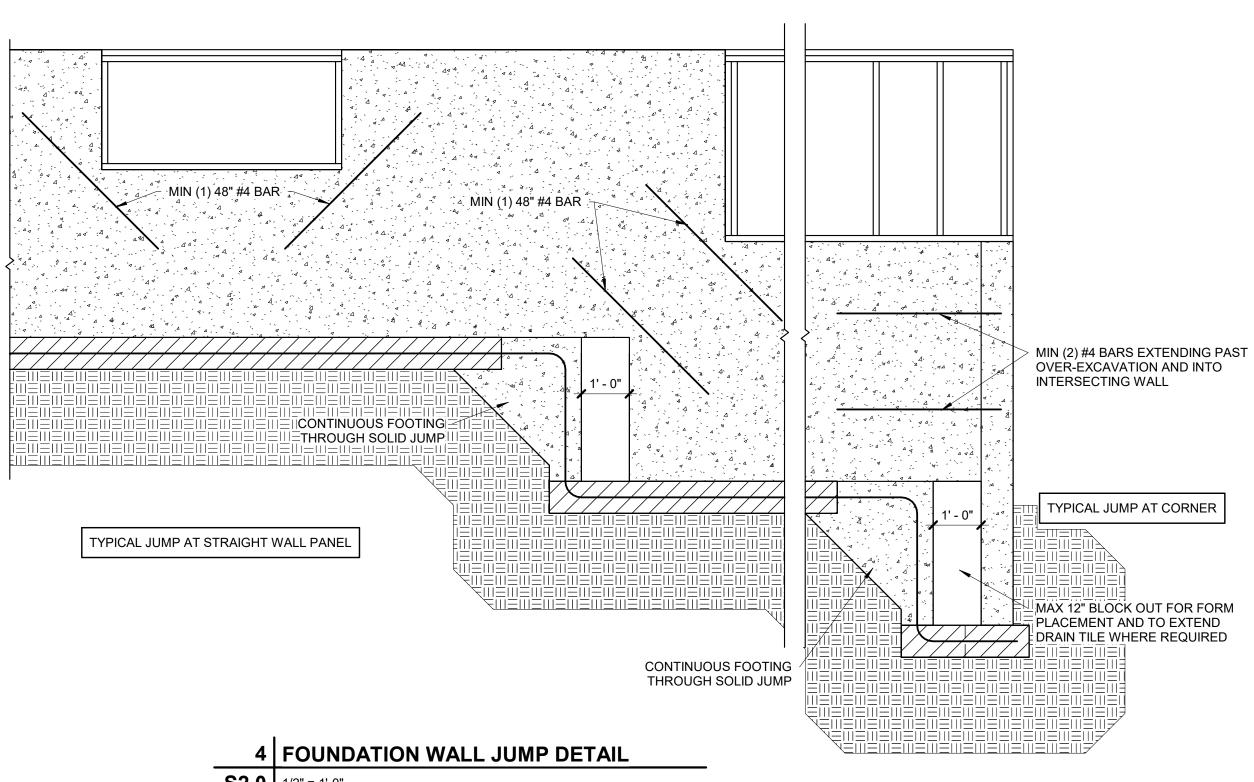
# TYPICAL 'UNRESTRAINED' 2 FOUNDATION WALL DETAIL

# **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.



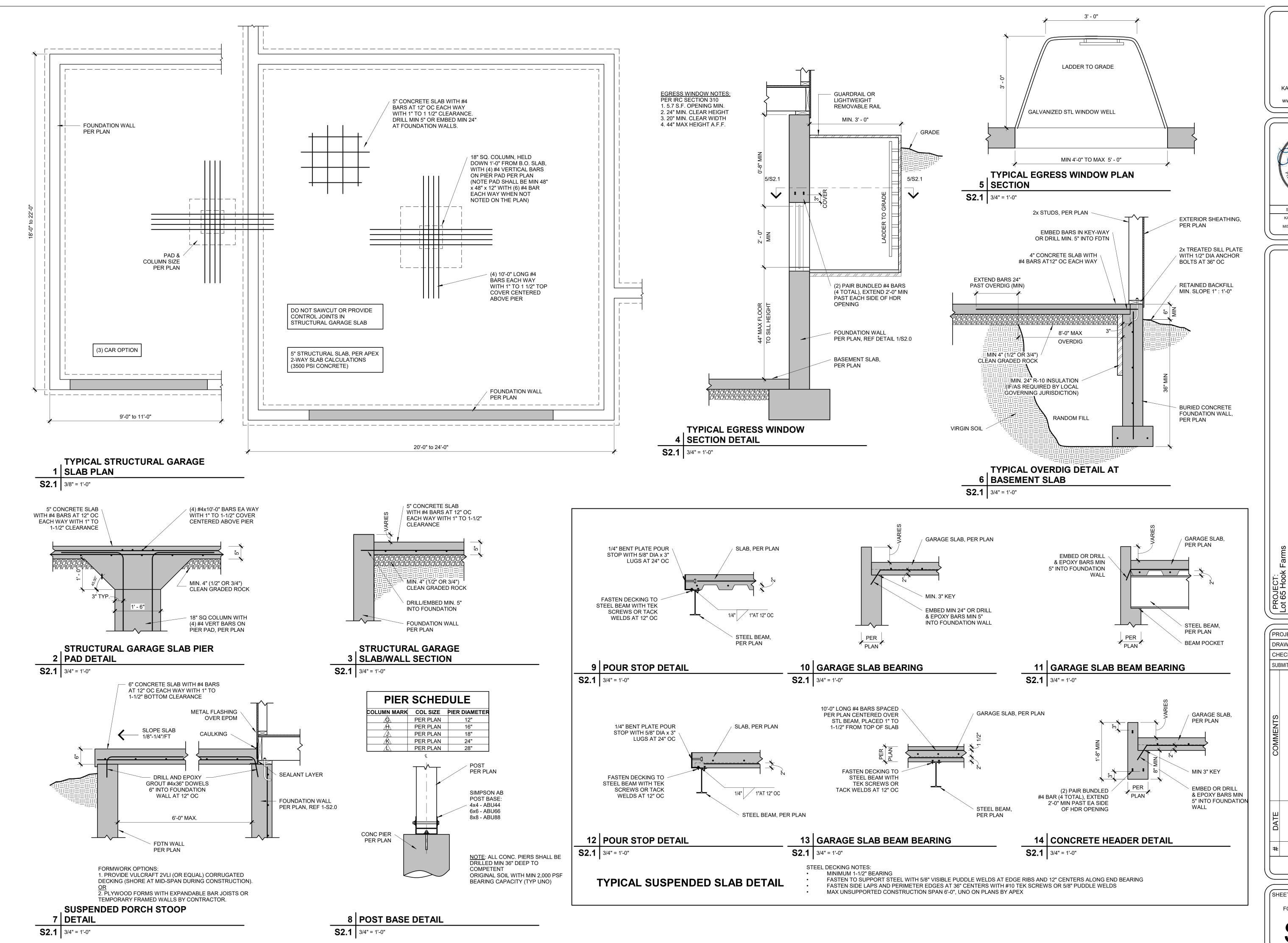
**S2.0** 1/2" = 1'-0"



STRUCTURAL DESIGN REVIEW MISSOURI ENGINEERING LICENSE: 2003004673

PROJECT #: 43594 DRAWN BY: XXX **CHECKED BY** BDC 2022.01.25 SUBMITTAL DATE:

SHEET: FOUNDATION DETAILS



ENGINEERS, INC.

1625 LOCUST ST

KANSAS CITY, MO 64108

816.421.3222

www.apex-engineers.com



STRUCTURAL DESIGN REVIEW

KANSAS ENGINEERING LICENSE:
E-992
MISSOURI ENGINEERING LICENSE:
2003004673

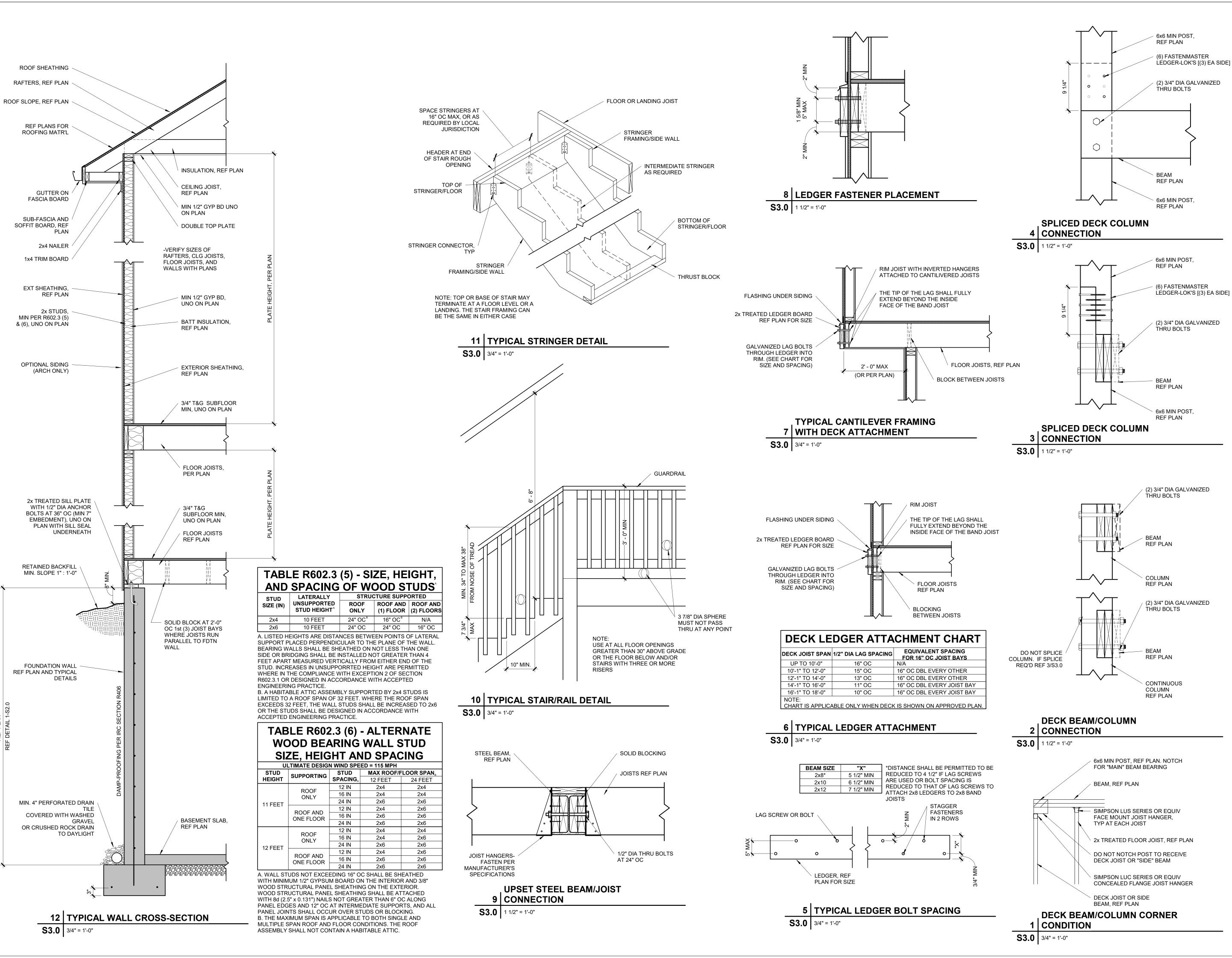
Lot 65 Hook Farms
2038 SW Red Barn Rd
Lee's Summit, MO 64082
CLIENT:
Aspen Homes
6618 Royal St

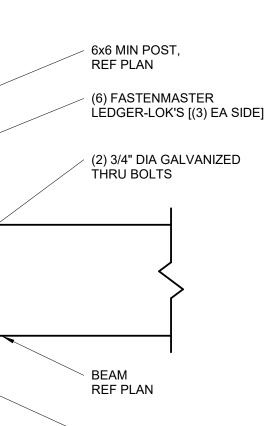
PROJECT #: 43594
DRAWN BY: XXX
CHECKED BY: BDC
SUBMITTAL DATE: 2022.01.25

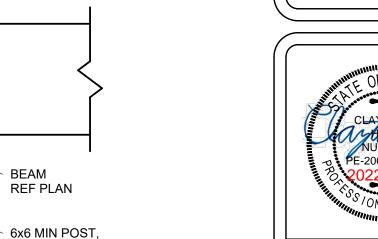
SUBMITTAL DATE: 43594

PROJECT #: 43594
DRAWN BY: XXX
CHECKED BY: BDC
SUBMITTAL DATE: 2022.01.25

SHEET:
FOUNDATION DETAILS







STRUCTURAL DESIGN REVIEW KANSAS ENGINEERING LICENSE: MISSOURI ENGINEERING LICENSE: 2003004673

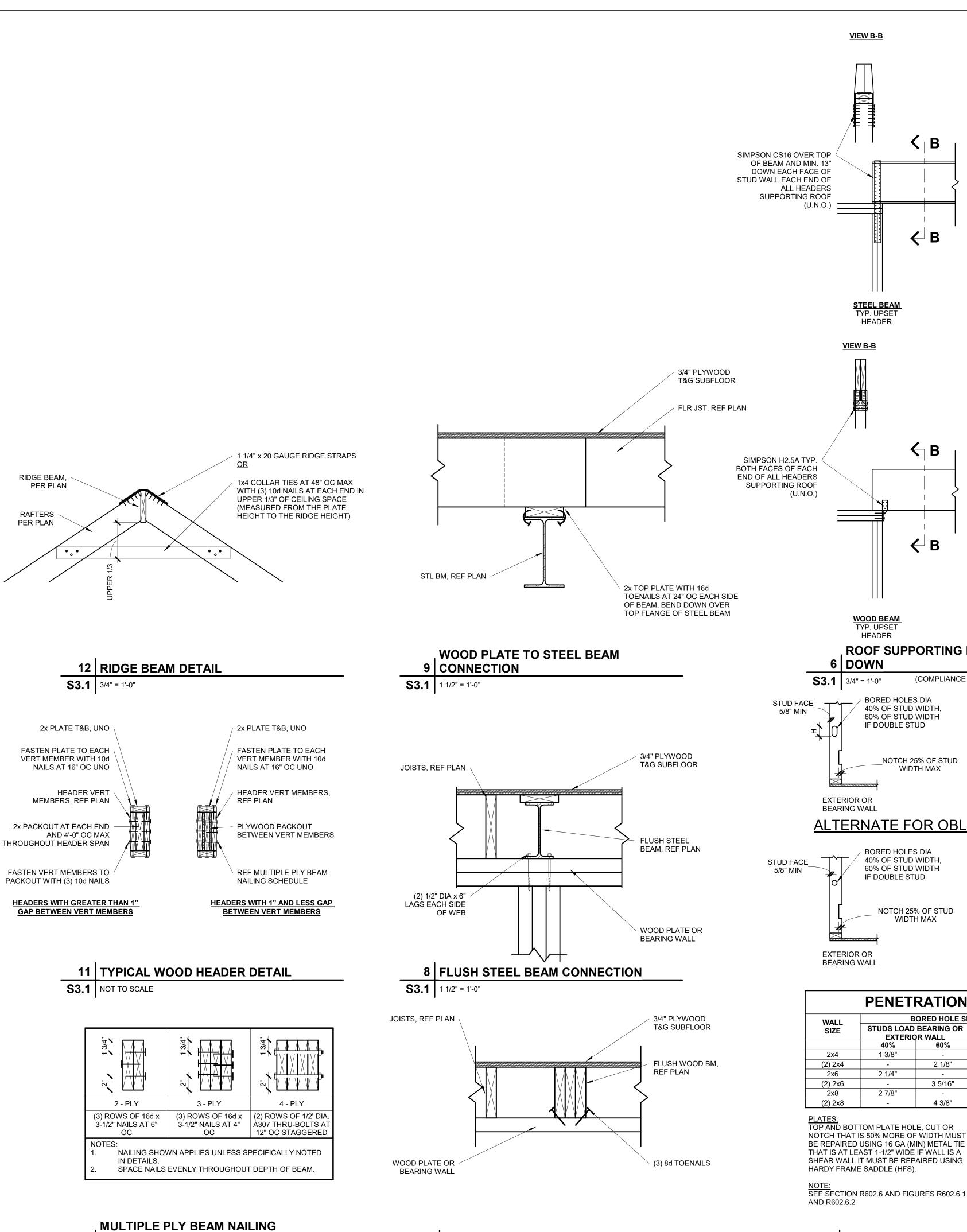
**ENGINEERS,INC** 1625 LOCUST ST

KANSAS CITY, MO 64108

816.421.3222 www.apex-engineers.com

CLIENT:
Aspen Hor
6618 Roys PROJECT #: DRAWN BY: XXX **CHECKED BY** BDC 2022.01.25 SUBMITTAL DATE:

SHEET: FRAMING DETAILS

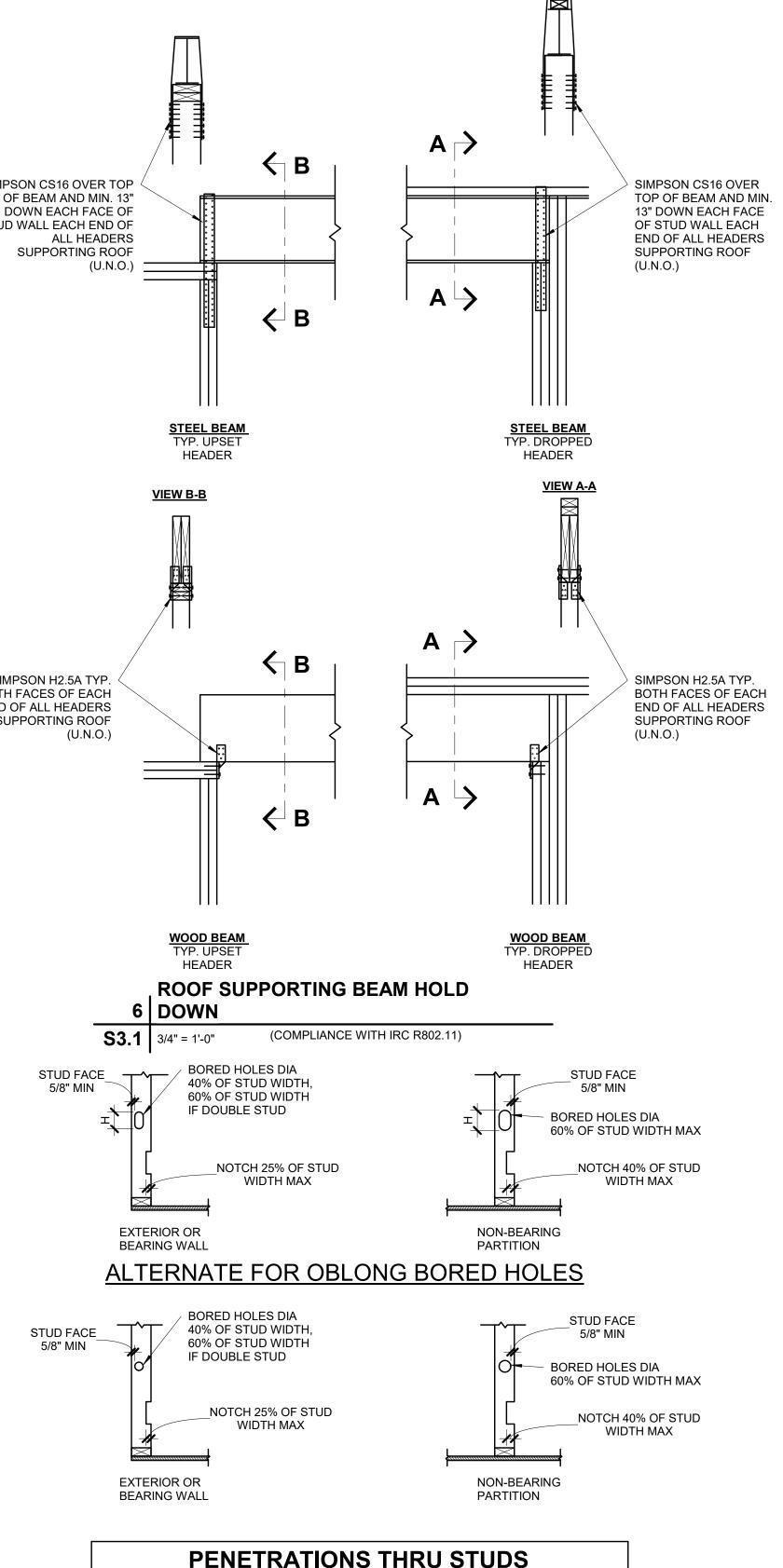


7 FLUSH WOOD BEAM CONNECTION

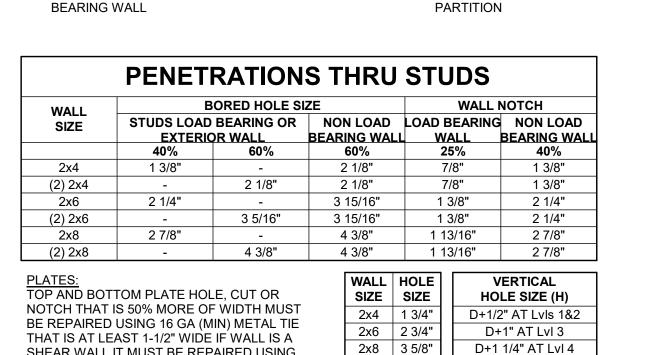
**S3.1** 1 1/2" = 1'-0"

10 SCHEDULE

S3.1 NOT TO SCALE



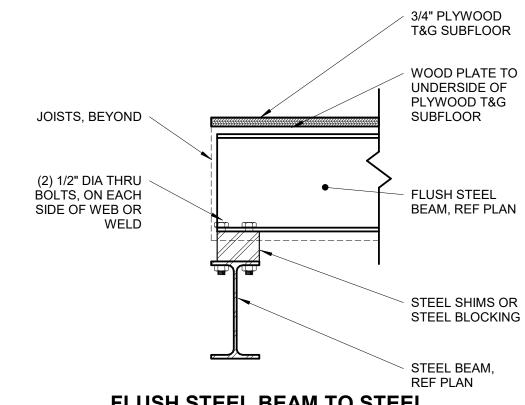
VIEW A-A



D+1 1/2" AT Lvl 5

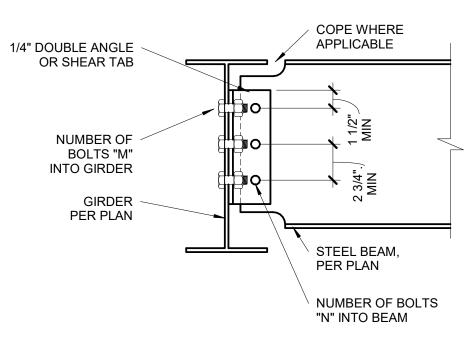
NOTE: SEE SECTION R602.6 AND FIGURES R602.6.1

5 DRILLING & NOTCHING DETAIL **S3.1** 3/4" = 1'-0"



**FLUSH STEEL BEAM TO STEEL** 4 BEAM

**S3.1** 1 1/2" = 1'-0"

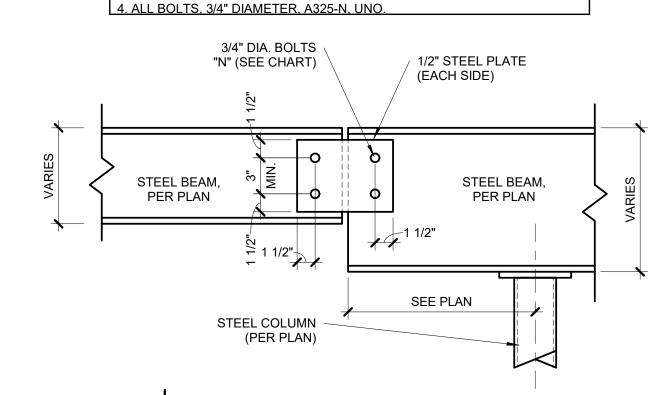


# 3 BEAM TO GIRDER CONNECTION

**S3.1** 1 1/2" = 1'-0"

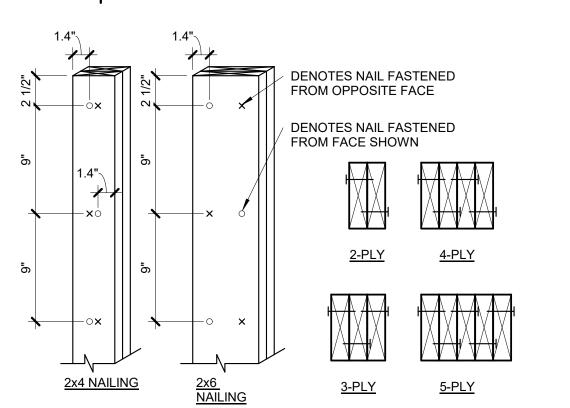
BOLTED CONNECTION.

BEAM CONNECTION SCHEDULE							
BEAM SIZE # OF BOLTS "N" # OF BOLTS "M"							
W8, W10	2	4					
W12, W14	3	6					
W16, W18	4	8					
2. NUMBER OF BOLTS SMALLER OF TWO BE	NS ARE TYPICAL, UNO. IN UPSET BEAM CONNECT AMS AT CONNECTION. LLET WELD MAY BE SUBST						





**S3.1** 1 1/2" = 1'-0"



EACH 2x PLY SHALL BE FASTENED WITH (1) ROW OF 10d NAILS AT 9" OC, ALTERNATING SIDE TO SIDE
1.4" MIN EDGE DISTANCE, AND STARTING 2 1/2" FROM EACH END. EXTEND FULL AREA OF COLUMN AS SOLID BLOCKING THROUGH JOIST BAYS AND WALLS TO LOAD-BERAING BEAM/WALL BELOW

1 BUILT-UP STUD COLUMN

**S3.1** 1 1/2" = 1'-0"

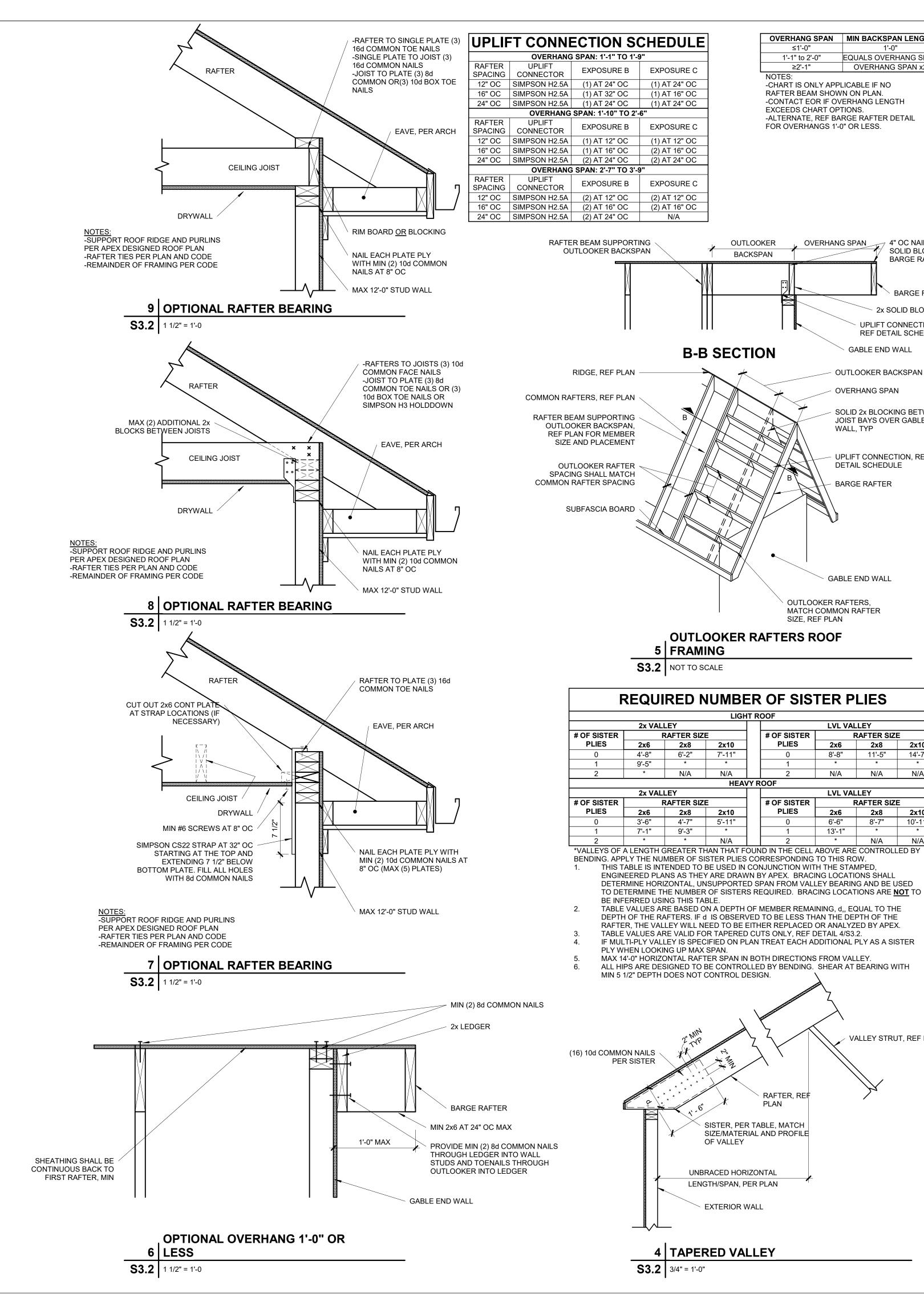


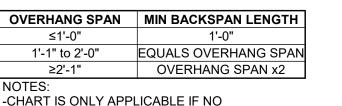


STRUCTURAL DESIGN REVIEW KANSAS ENGINEERING LICENSE: E-992 MISSOURI ENGINEERING LICENSE: 2003004673

CLIEN1: Aspen Hor 6618 Roya Pleasant V PROJECT #: 43594 DRAWN BY: XXX CHECKED BY: BDC 2022.01.25 SUBMITTAL DATE:

SHEET: FRAMING DETAILS





-CHART IS ONLY APPLICABLE IF NO RAFTER BEAM SHOWN ON PLAN. -CONTACT EOR IF OVERHANG LENGTH EXCEEDS CHART OPTIONS. -ALTERNATE, REF BARGE RAFTER DETAIL FOR OVERHANGS 1'-0" OR LESS.

OVERHANG SPAN

4" OC NAIL SPACING AT

BARGE RAFTER

BARGE RAFTER

2x SOLID BLOCKING

UPLIFT CONNECTION, REF DETAIL SCHEDULE

GABLE END WALL

OUTLOOKER BACKSPAN

SOLID 2x BLOCKING BETWEEN

JOIST BAYS OVER GABLE END

UPLIFT CONNECTION, REF

DETAIL SCHEDULE

BARGE RAFTER

GABLE END WALL

LVL VALLEY

LVL VALLEY

13'-1"

RAFTER SIZE

2x6 2x8 2x10

8'-8" | 11'-5" | 14'-7"

N/A N/A N/A

RAFTER SIZE

6'-6" 8'-7"

2x6 2x8 2x10

N/A N/A

VALLEY STRUT, REF PLAN

OUTLOOKER RAFTERS,

SIZE, REF PLAN

OUTLOOKER RAFTERS ROOF

LIGHT ROOF

**HEAVY ROOF** 

# OF SISTER

PLIES

# OF SISTER

RAFTER, REF PLAN

SISTER, PER TABLE, MATCH

SIZE/MATERIAL AND PROFILE

OF VALLEY

**UNBRACED HORIZONTAL** 

LENGTH/SPAN, PER PLAN

EXTERIOR WALL

4 TAPERED VALLEY

**S3.2** 3/4" = 1'-0"

PLIES

5 FRAMING

RAFTER SIZE

2x6 2x8 2x10

RAFTER SIZE

2x6 2x8 2x10

3'-6" 4'-7" 5'-11"

N/A N/A

N/A

\$3.2 NOT TO SCALE

2x VALLEY

2x VALLEY

7'-1" 9'-3"

\*

MATCH COMMON RAFTER

OVERHANG SPAN

WALL, TYP

SOLID BLOCKING AND

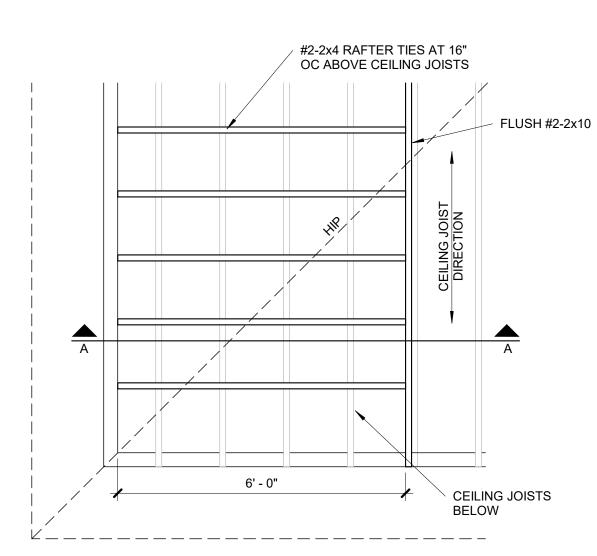
OUTLOOKER

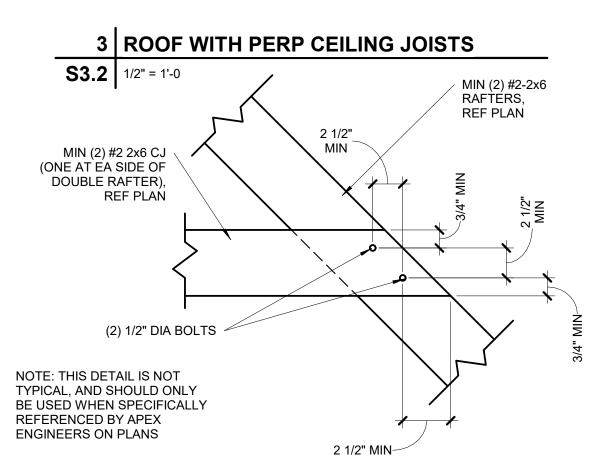
BACKSPAN

**B-B SECTION** 

# RAFTERS, REF PLAN #2-2x4 RAFTER TIES AT EACH RAFTER, MAX 24" OC, ABOVE **CEILING JOISTS** (4) 10d NAILS (3) 8d TOENAILS AT **EACH RAFTER TIE** 6' - 0" +/-8" FLUSH #2-2x10 CEILING JOISTS

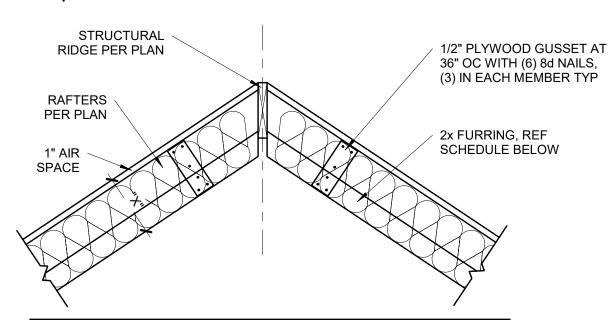
# **A-A SECTION**





### **BOLTED RAFTER HIP** 2 CONNECTION

**S3.2** 1 1/2" = 1'-0"



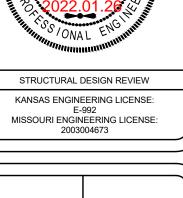
FURR OUT SCHEDULE						
RAFTER SIZE	R-30C INSULATION (X= 9 1/4")	R-38C INSULATION (X=11 1/4")				
2x6	2x6	2x8				
2x8	2x4 2x6					
2x10	NOT REQUIRED	2x4				
2x12	NOT REQUIRED	REQUIRED				
SPAN CHART, 2. ALL VAULTS REQUIRED DE 3. R-30C INSUI 4. R-38C INSUI 5. INSULATION	ED RAFTERS SHALL BE #2-2x6 D UNLESS NOTED OTHERWISE. IS SHALL BE FURRED DOWN WIT PTH OF INSULATION, PLUS 1" A LATION = 8 1/4" THICK LATION = 10 1/4" THICK I REQUIREMENTS MAY BE RED IS ASSEMBLY DOES NOT ALLOW	TH 2x FRAMING TO THE NIR SPACE. UCED TO R30 IF				

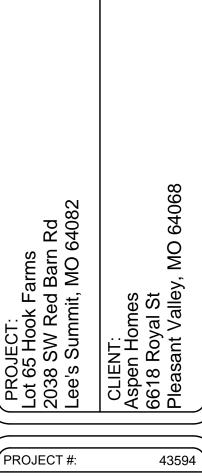
LIMITED TO VAULTED CEILING AREAS THAT ARE LESS THAN 500 SQUARE FEET OR 20 PERCENT OF THE TOTAL INSULATED CEILING AREA, WHICHEVER IS LESS. (PER N1102.2.2)

VAULTED RAFTER INSULATION 1 FURR OUT **S3.2** 3/4" = 1'-0"

ENGINEERS, INC 1625 LOCUST ST KANSAS CITY, MO 64108 816.421.3222 www.apex-engineers.com





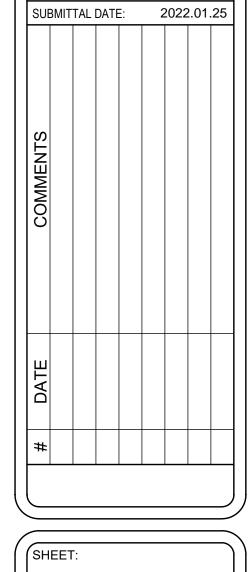


XXX

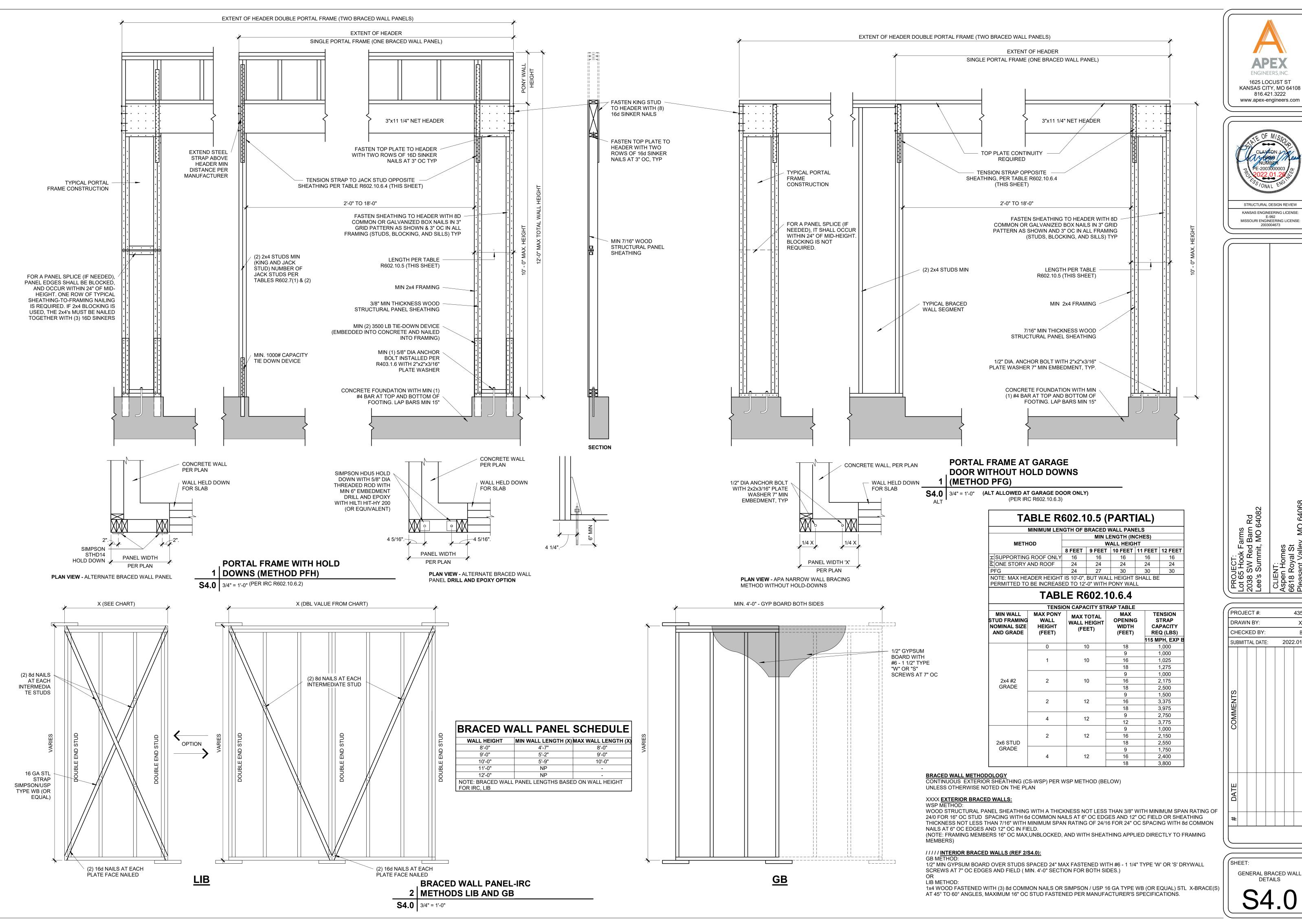
BDC

DRAWN BY:

CHECKED BY:



FRAMING DETAILS



**ENGINEERS,INC** 1625 LOCUST ST KANSAS CITY, MO 64108 816.421.3222

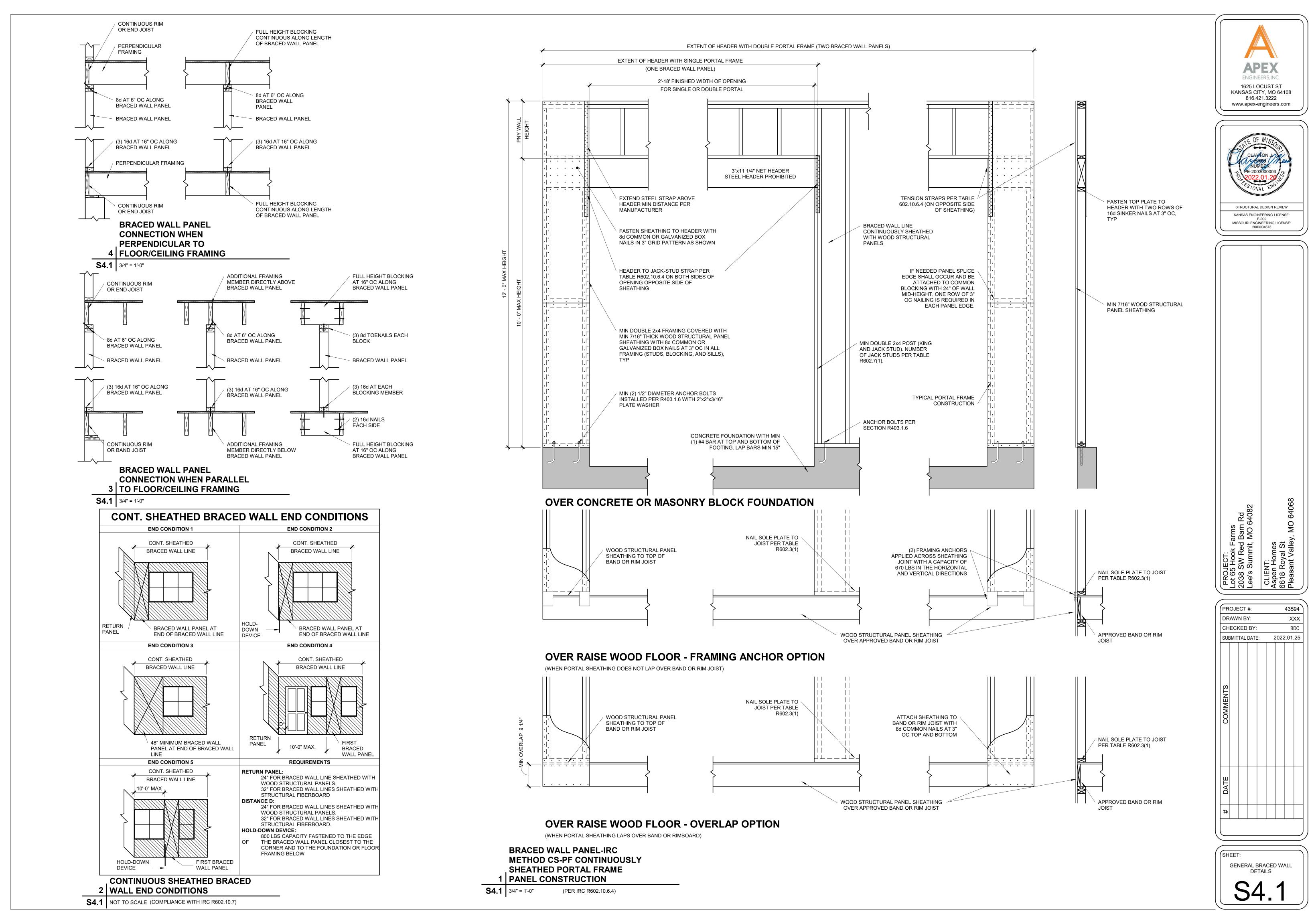


STRUCTURAL DESIGN REVIEW KANSAS ENGINEERING LICENSE:

Aspen Hor 6618 Roya

43594 XXX BDC 2022.01.25

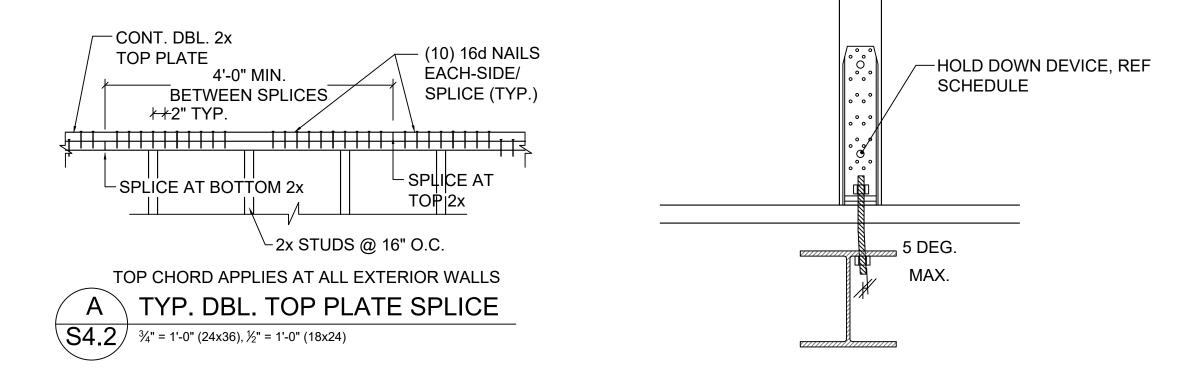
GENERAL BRACED WALL



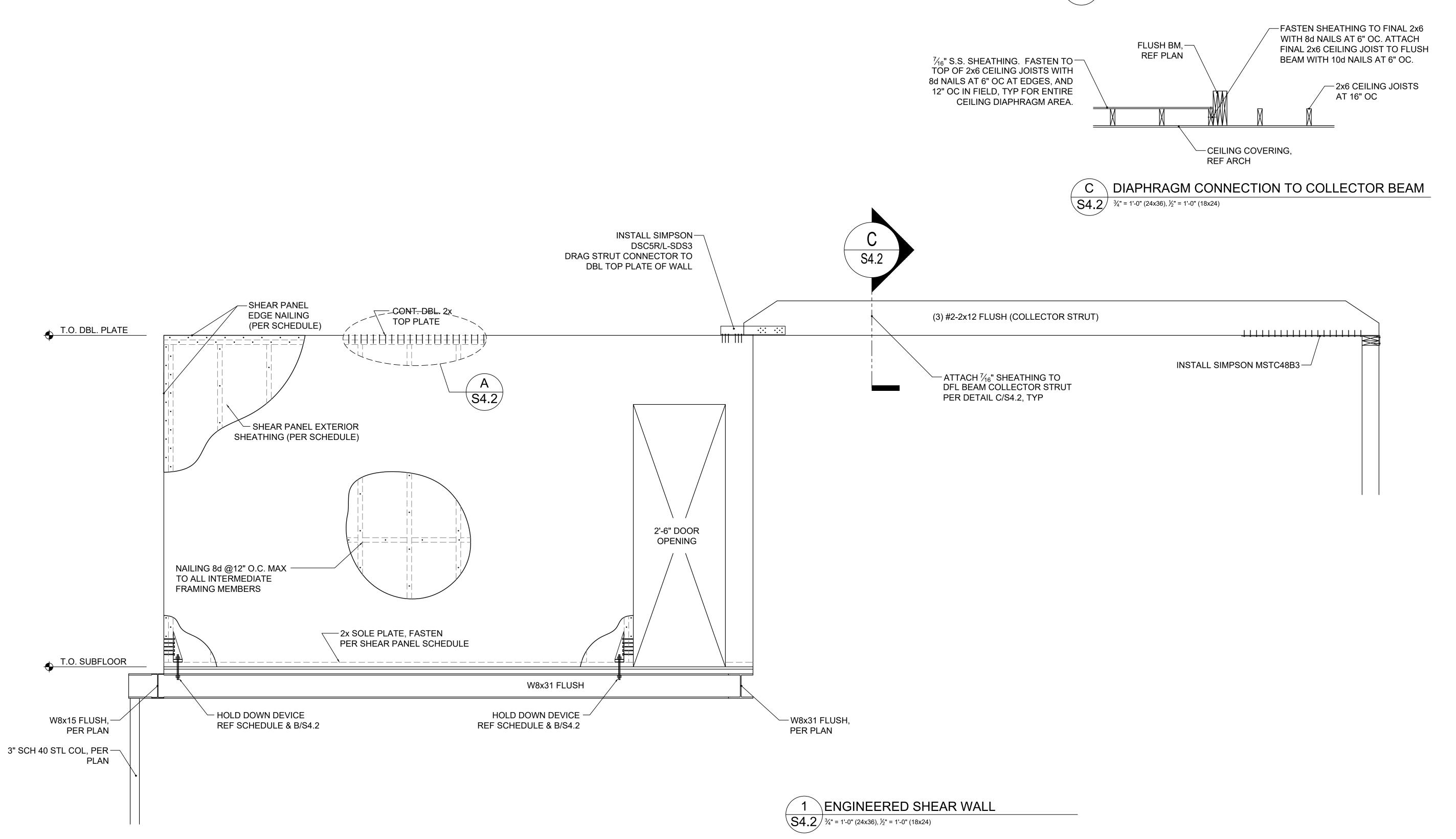
ENGINEERED BRACED WALL PANEL SCHEDULE									
PANEL MARK	FLOOR	SHEATHING	BLOCKING REQUIRED	EDGE NAILING	INTERMEDIATE NAILING	SOLE PLATE NAILING/FASTENING	TIES FOR WALLS AND FLOORS	HOLD DOWN DEVICE	ALL-THREAD DIA & EMBEDMENT DEPTH
1									
S4.2	2nd FLOOR	<sup>15</sup> ⁄ <sub>32</sub> " WSP	YES	8d AT 6"	8d AT 12"	(3) 16d / LINEAL FT	N/A	SIMPSON HDU2	5⁄8", REF B/S4.2
2									
S4.2									

### NOTES

- 1. HOLDDOWN ANCHORS ARE TO BE INSTALLED USING HILTI HIT-HY 200 EPOXY (OR APPROVED EQUAL).
- THREADED ROD SHALL BE A36 (OR APPROVED EQUAL) WITH EMBEDMENT DEPTH PER SCHEDULE.
   USE ALL WOOD SCREWS AND/OR LAG SCREWS IN HOLDDOWN DEVICES AS SPECIFIED BY MANUFACTURER.
- 4. SILL ANCHORS MAY BE CAST-IN-PLACE A307 BOLTS OR EXPANSION BOLTS.
- 5. W.S.P. = WOOD STRUCTURAL PANEL PLYWOOD OR OSB. SEE GENERAL NOTES.

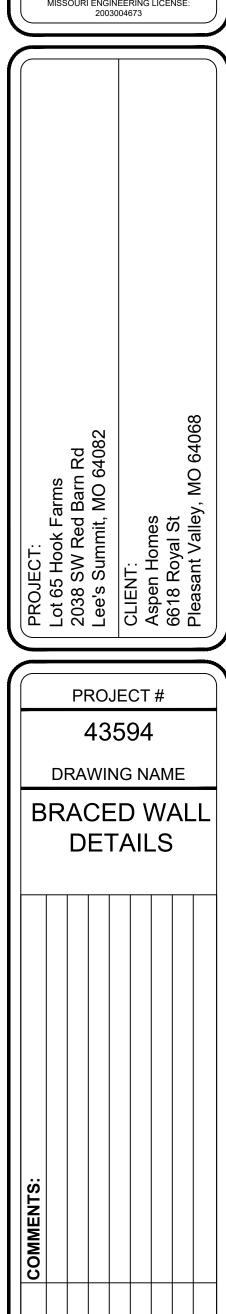


B HOLD DOWN CONNECTION TO STL BM S4.2 1½" = 1'-0" (24x36), 1" = 1'-0" (18x24)









SHEET # **S4.2** 

DESIGNED BY: APEX CHECKED BY: BDC

	ENGINEERED	D BRACED WALL PANEL	SCHEDULE				
PANEL MARK FLOOR SHEATHING F		NTERMEDIATE SOLE PLATE NAILING NAILING/FASTENING	TIES FOR WALLS	HOLD DOWN DEVICE	ALL-THREAD DIA & EMBEDMENT DEPTH	CONT. DBL. 2x TOP PLATE  4'-0" MIN.  BETWEEN SPLICES  ++2" TYP.  (10) 16d NA EACH-SIDI SPLICE (TY	E/HOLD DOWN DEVICE, REF
2nd FLOOR 7/16" WSP	YES 8d AT 6"	8d AT 12" (3) 16d / LINEAL FT	N/A	SIMPSON HDU2	5%", REF B/S4.3	SPLICE AT BOTTOM 2x TOP 2x	
2       \$4.3						TOP CHORD APPLIES AT ALL EXTERIOR WALLS	5 DEC
NOTES: 1. HOLDDOWN ANCHORS ARE TO BE INS 2. THREADED ROD SHALL BE A36 (OR AF 3. USE ALL WOOD SCREWS AND/OR LAG 4. SILL ANCHORS MAY BE CAST-IN-PLAC	S SCREWS IN HOLDDOWN I	DEVICES AS SPECIFIED BY MANUFA	AL). CTURER.			A TYP. DBL. TOP PLATE SPLICE S4.3 3/4" = 1'-0" (24x36), 1/2" = 1'-0" (18x24)	— MAX. ————————————————————————————————————
5. W.S.P. = WOOD STRUCTURAL PANEL F	PLYWOOD OR OSB. SEE G	ENERAL NOTES.	TÖP OF 2x6 8d NAILS AT 12" OC IN FI	EATHING. FASTEN CEILING JOISTS W 6" OC AT EDGES, A ELD, TYP FOR ENT NG DIAPHRAGM AR	VITH \AND AND TIRE		
					C DIAPHRA S4.3 3/4" = 1'-0" (24x36),	REF ARCH AGM CONNECTION TO COLLECTOR BEAM	B HOLD DOWN CONNECTION TO STL BM  S4.3 1½" = 1'-0" (24x36), 1" = 1'-0" (18x24)
T.O. DBL. PLATE	SHEAR PANEL EDGE NAILING (PER SCHEDUL)  SHEAR PANEL SHEAR PANEL SHEATHING (PER S	E) TOP PLATE  TOP PLATE  TOP PLATE	A S4.2			INSTALL SIMPSON DSC5R/L-SDS3 DRAG STRUT CONNECTOR TO DBL TOP PLATE OF WALL  (2) 1-3/4"x9-1/2" LVL FLUSH (DRAG STRUT)	S4.3  ———————————————————————————————————
		NAILING 8d @12" O.C. MAX ——				NAILING 8d @12" O.C. MAX —	
T.O. SUBFLOOR		TO ALL INTERMEDIATE FRAMING MEMBERS	SOLE PLATE, FASTEN R SHEAR PANEL SCHE			TO ALL INTERMEDIATE FRAMING MEMBERS	
<sub>22</sub> Canada	HOLD DOWN DEVICE REF SCHEDULE & B/S4	TO ALL INTERMEDIATE FRAMING MEMBERS  2x PE				FRAMING MEMBERS  —2x10 FLOOR SYSTEM,	HOLD DOWN DEVICE REF SCHEDULE & B/S4.3





KANSAS ENGINEERING LICENSE:
E-992
MISSOURI ENGINEERING LICENSE:
2003004673

CLIENT:
Aspen Homes
6618 Royal St

PROJECT #

43594

DRAWING NAME

BRACED WALL
DETAILS

DESIGNED BY: APEX CHECKED BY: BDC

S4.3