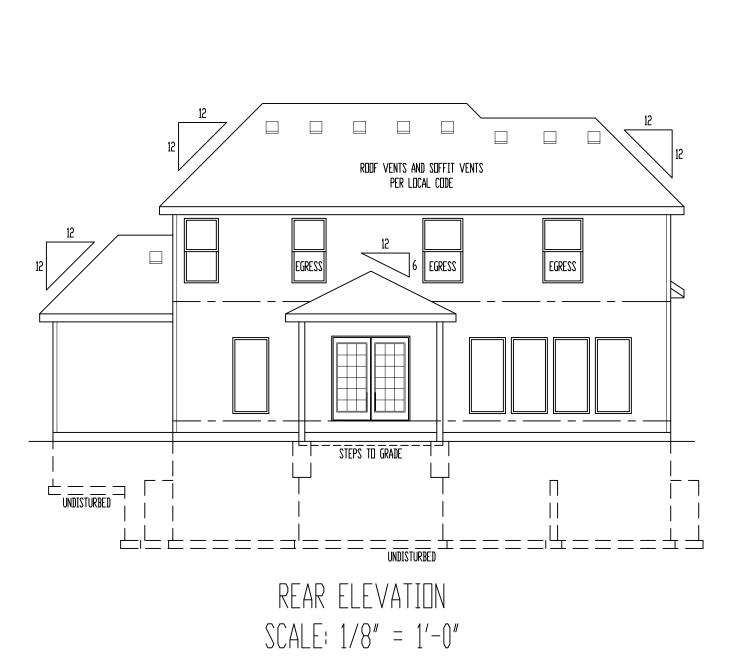
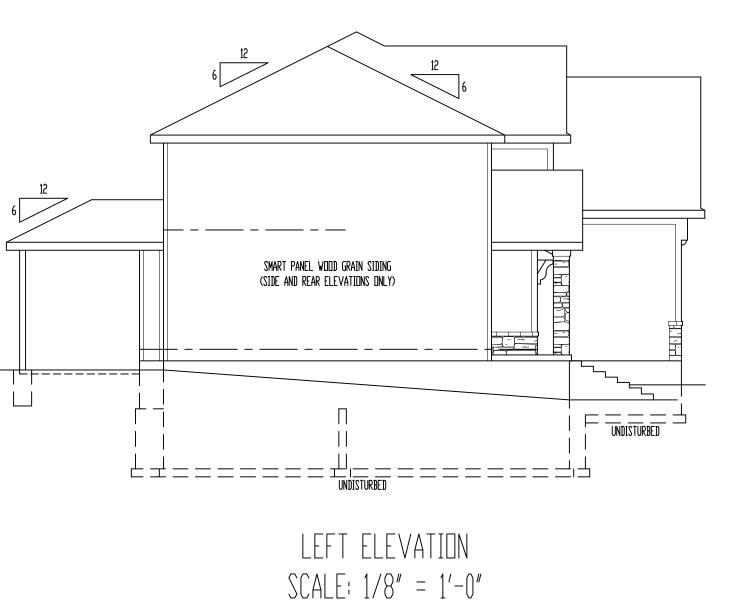


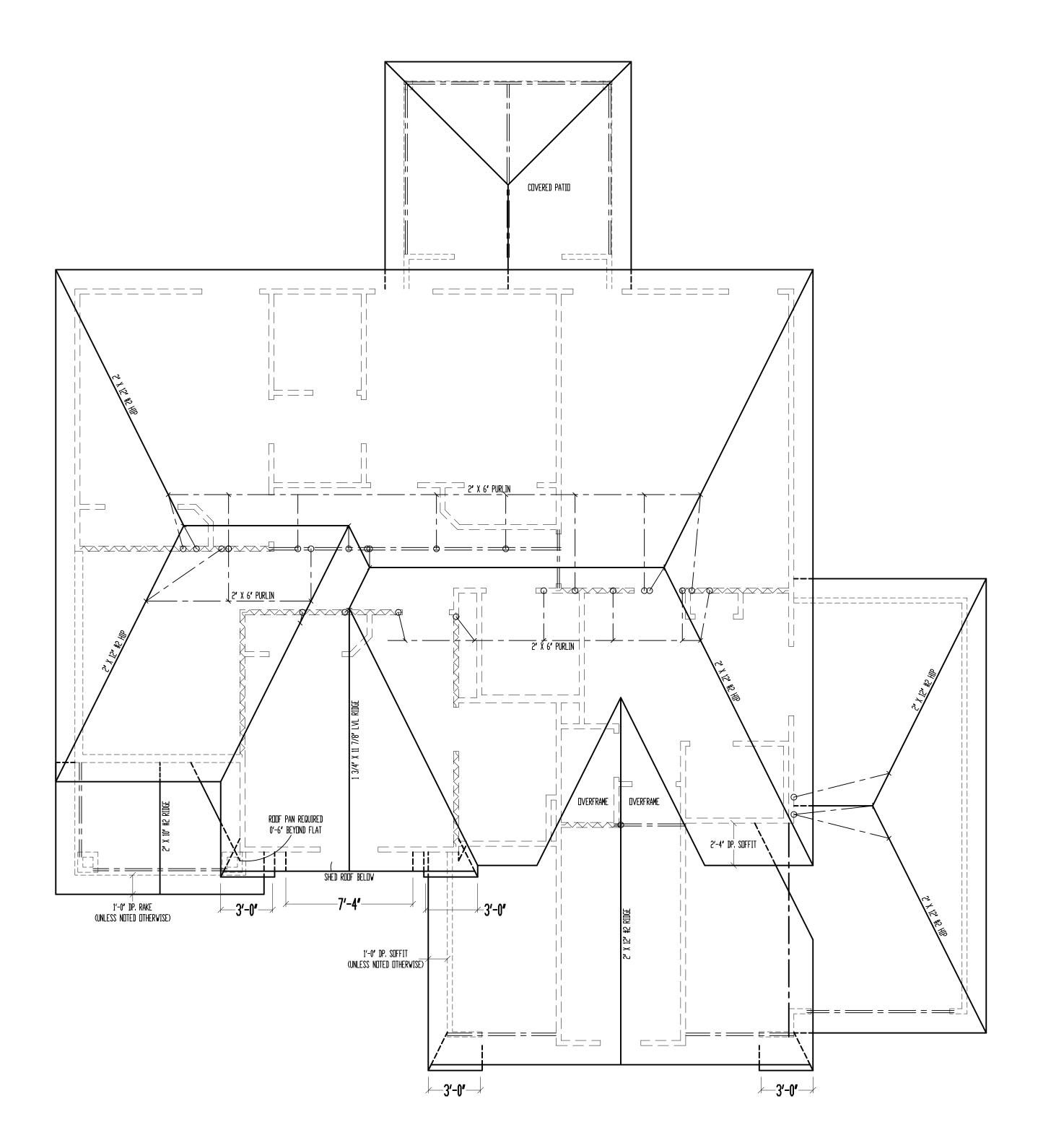
RIGHT ELEVATION SCALE: 1/8'' = 1'-0''





ELEVATIONS: Smart Panel Vood Grain Siding on Side and Rear Elevations Composition Roof Shingles Locate Roof and Soffit Vents Per Code Adjust Foundation to Grade optional deck:

JPTIONAL DECK: DECK CONSTRUCTION TO COMPLY WITH MUNICIPALITY'S RESIDENTIAL DECK STANDARDS 2' X 10' #2 TTD. € 16' D.C. FLOOR JDISTS (MAX. SPAN: 14'-0') 2' X 6' TTD. DECKING 6' X 6' TTD. POSTS 2' X 6' TTD. SPINDLES 2' X 6' TTD. TOP RAIL DETERMINE OPTIONAL STAIRS ON SITE



ROOF Scale: 1/4" = 1'-0"

*ALL RAFTERS SHALL BE 2' X 6' #2 @ 16' D.C., UNLESS NOTED OTHERWISE.

Flashing note: Drip Edge, valleys and flashings to be metal clad.

RDDF NDTES: RDDF DESIGNED FOR LIGHT RDDF COVERING

30psf TOTAL LOAD [10psf DL, 20psf LL (SL)]

* RAFTERS (HEM-FIR, DDUG-FIR, DR EQUAL): SEE SPAN CHARTS BELDV

<u>Code minimum</u>

	RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN	
	#2-2x6	024° D.C.	11′-7 ′	
>>>	#2-2x6	@16″ D.C.	14'-2 '] ‹‹‹
	#2-2x8	024 " D.C.	14'-8 '	
	#2-2x8	@16″ D.C.	17'-11 '	
	#2-2x10	@24″ D.C.	17'-10 '	
	#2-2x10	@16″ D.C.	21'-11 '	
	UDTE ODM			

Note: Code Minimum Allows for a rafter deflection of L/180 total Load

HIGHER PERFORMANCE (RECOMMENDED)

RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	024″ D.C.	8′-6 ′
#2-2x6	@16″ D.C.	9′-9 ′
#2-2x8	024 " D.C.	11'-3'
#2-2x8	@16″ D.C.	12'-9 '
#2-2x10	024″ D.C.	14'-3 '
#2-2x10	@16″ D.C.	16'-3 '

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

* VAULTS TO BE 2x10 DEPTH

- * RIDGE BOARDS ARE: (UNLESS OTHERWISE NOTED)
- #2- 2X8 UP TO 10/12 PITCH
- #2- 2X10 DVER 10/12 PITCH
- * ALL HIPS & VALLEYS ARE: (UNLESS OTHERWISE NOTED)
- #2- 2X8 UP TO 10/12 PITCH
- #2- 2X10 OVER 10/12 PITCH
- * PURLINS ARE 2X6 MIN.
 - Purlin struts are at 4'-0' d.C. - Purlin struts shall be installed at NDT less than a
 - 45 DEGREE ANGLE VITH THE HORIZONTAL
 - ALL PURLINS STRUTS SHALL HAVE A MAXIMUM UNBRACED LENGTH DF 8'-0'
 - PURLINS STRUTS SHALL BE CONSTRUCTED IN A
 - 'T' CONFIGURATION AND PER THE FOLLOWING CHART:

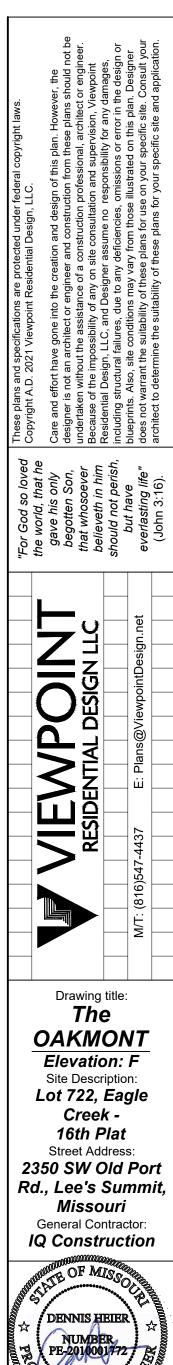
purlin strut	MAX PURLIN STRUT LENGTH
(2) 2x4	8'-0"
(1) 2x4 & (1) 2x6	12'-0 '
(1) 2x6 & (1) 2x8	20'-0 '
(2) 2x6 & (1) 2x8	30'-0"
CONSULT ARCH,/ENGR, >	30'-0 '

 * RIDGE BRACES ARE SAME AS PURLIN BRACES-SPACING, SIZE, CONFIGURATION, & INSTALLATION (SEE PURLIN BRACE NDTES ABDVE)
 * HIP & VALLEY BRACES ARE SAME AS PURLIN SIZE, CONFIGURATION, & INSTALLATION (SEE PURLIN BRACE NDTES ABDVE)

 * VERTICAL BRACE IF DOT IS UNDER HIP OR VALLEY
 * SLASH IS TOP END OF BRACE (/), DOT IS BOTTOM OF BRACE (o).
 * ~ ~ ~ ~ DENDTES BEARING WALL

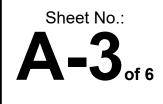
*	—	—— Di	ENDTES	roof	BRACE
* ——	_	N	CALINA	PLIRI 1	'N

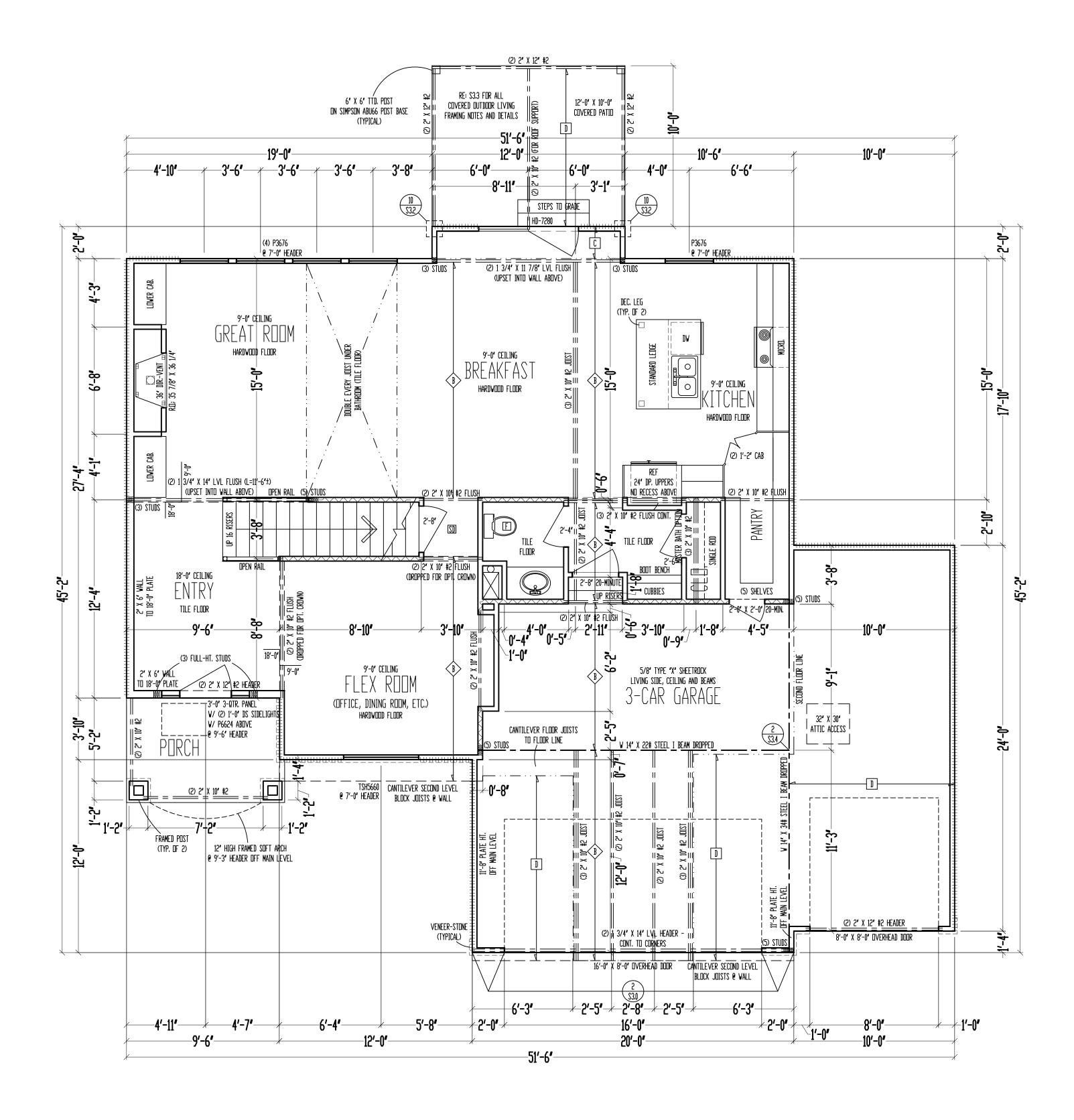
* ----- DENDTES PURLIN *----- DENDTES BEARING STRUCTURE



DENNIS HEIER NUMBER PE-201001772 PE-201001772 Date: 3-29-AD 2021 Rev. 1: Rev. 2: Rev. 3:

Sheet Title: ROOF PLAN





9'-0" CEILING 2" X 10" FLOOR SYSTEM MAIN LEVEL SCALE: 1/4" = 1'-0"

MAIN LEVEL: 1094 SQ, FT, SECOND LEVEL: 1225 SQ, FT, TOTAL: 2319 SQ, FT,

> GARAGE: 667 SQ. FT. UNFIN. BASEMENT: 1055 SQ. FT. COV. DUT/LIV: 120 SQ. FT.

+++++++++++++++++++++ = WALL BRACING PER FRAMING NDTE #1 AND PER CALCULATIONS ON SHEET \$1.1.

Framing Notes

1. MAIN LEVEL EXTERIDR WALLS SHALL BE SHEATHED W/ 7/16' D.S.B. A.P.A. PANELS W/ 80 CDMMDN NAILS @ 6' D.C. AT EDGES & @ 12' D.C. IN THE FIELD. SMART PANEL, DR EQUAL, INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

VALLS, UNLESS NOTED OTHERWISE. 5. LOV TIES @ 4'-0' D.C. (TYPICAL)

6. RUN STUDS THE FULL HEIGHT OF RAISED PLATE WALLS.
7. BLOCK JOISTS ABOVE BEAMS, CANTILEVERS AND LOAD BEARING WALLS WITH JOIST MATERIAL (NOT REQUIRED WITH 1-JOISTS).
8. PROVIDE MULTIPLE STUDS FOR SOLID BEARING BELOW ALL BEAMS.
9. ALL DESIGNATED 2' X 6' WALLS SHALL HAVE DOUBLE KING STUDS AT DOOR AND WINDOW OPENINGS.

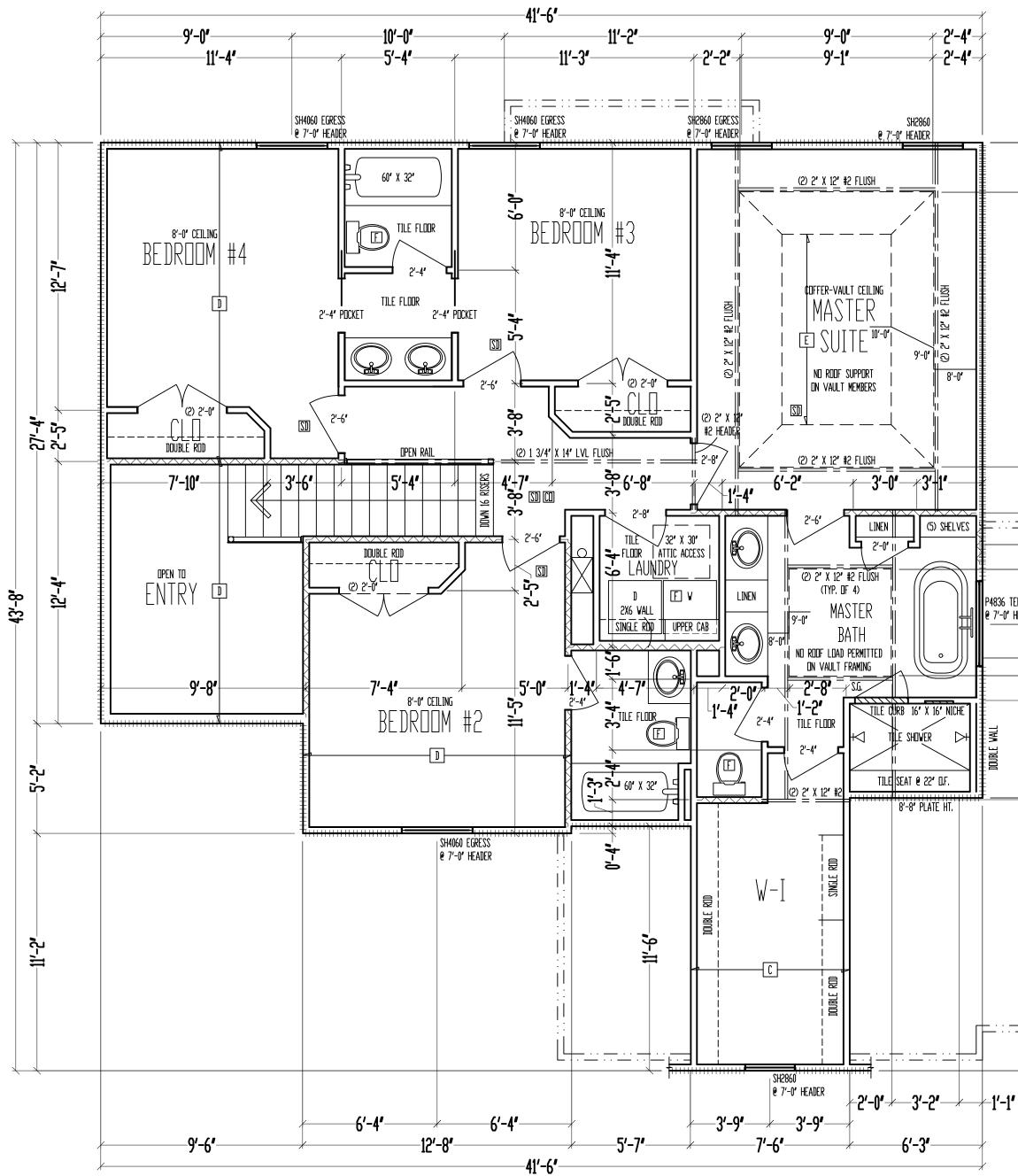
a) duir and winduw openings.
10. All unsquare walls shall be 45°, unless noted otherwise.
11. All walls to be framed V/ Min. Stud grade 2' X 4's @ 16' d.C.,

UNLESS NOTED OTHERVISE. 12. EXTERIOR WALL BOTTOM PLATES SHALL BE NAILED TO FRAMING

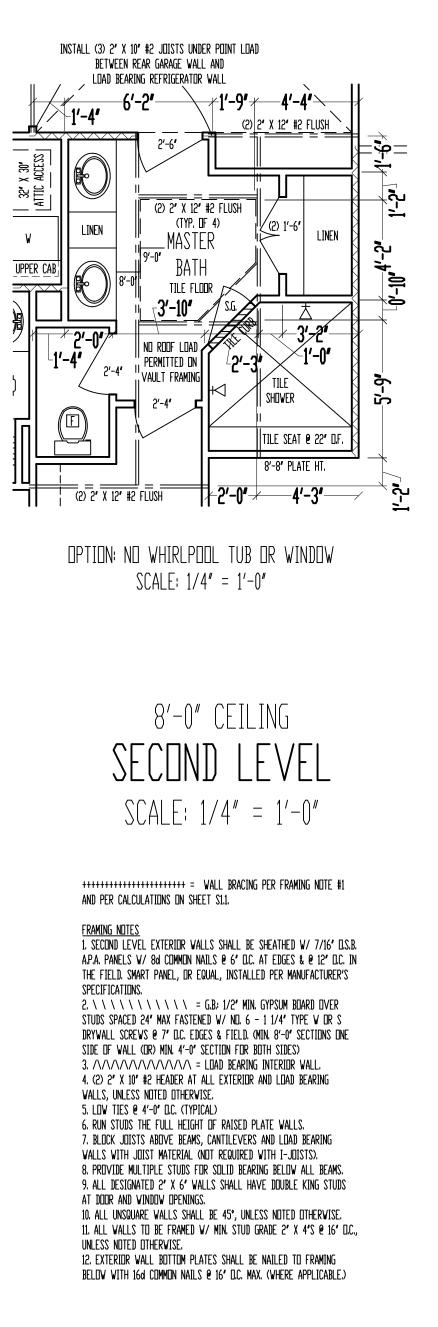
BELOW WITH 16d COMMON NAILS @ 8' D.C. MAX. (WHERE APPLICABLE.)

	JOIST SCHEDULE					
$\langle A \rangle$	2" X 10" #3 FLODR JOIST @ 16" D.C.					
\bigcirc	2" X 10" #2 FLODR JOIST @ 16" D.C.					
0	2" X 6" #3 CEILING JOIST € 16" D.C.					
D	2" X 6" #2 CEILING JOIST @ 16" D.C.					

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Mathematical and the solution of the solution					
Drawing title: The OAKMONT Elevation: F Site Description: Lot 722, Eagle Creek - 16th Plat Street Address: 2350 SW Old Port Rd., Lee's Summit, Missouri General Contractor: IQ Construction CF MISSOURI DENNIS HEIER PE-201001772 CONAL ENCLOUR CONAL ENCLOUR CON					



<u>+-2'-4'</u>--**2′-4″**-2'-4' <u>× 12' #2</u> FlugH 12'-11' \$ 8'-0**'** ູ່ -,01-,02 -2'-2 **≁,9-,I**≁ : <u>_____</u> : : <u>____</u> : : <u>___</u> : : <u>___</u> : . (5) SHELVES 1,-2 43'-8" P4836 TEMP. € 7'-0" HEADER 1'-2' 8'-2' 4'-7" 0'-1' 12'-10'

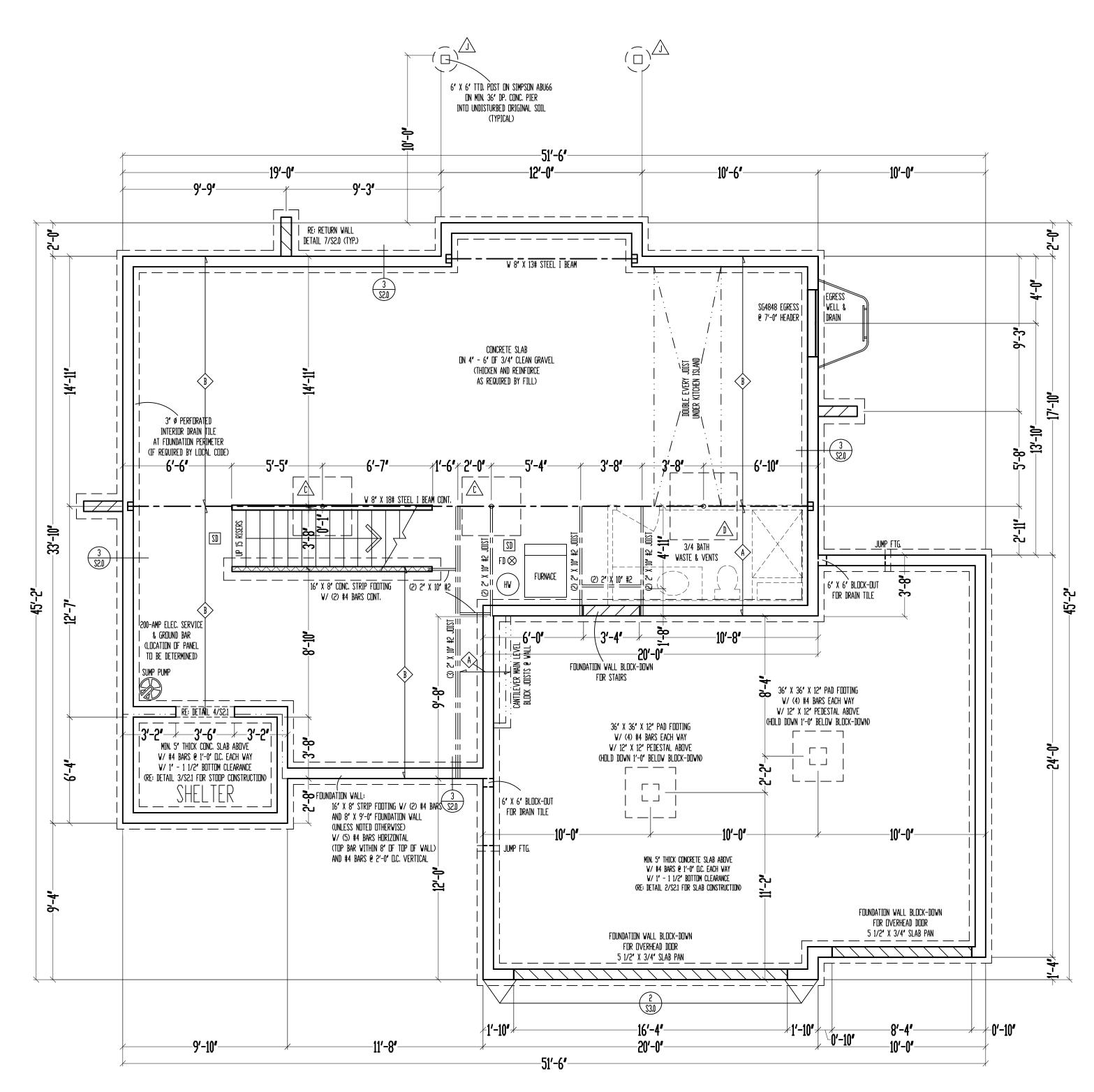


	JOIST SCHEDULE
C	2" X 6" #3 CEILING JOIST € 16" D.C.
	2" X 6" #2 CEILING JOIST @ 16" D.C.

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	RESIDENTIAL DESIGN LLC	M/T: (816\547_4137 E: Dlanc@\/iawmointDecim nat	
L 235 Rd., G IQ Date Rev Rev Rev Rev	. 1: . 2:	e On: F iption: Eagl k - Plat dress: DId P Sumi ntracto ructic SSO EIER EIER EIER EIER EIER EIER EIER EIE	e ort mit, r: on Alagement 1 021

SECOND LEVEL PLAN





9'-0" FOUNDATION WALLS (UNLESS NOTED OTHERWISE) ON 16" X 8" STRIP FOOTINGS (STEP WHERE GRADE REQUIRES)

> 2" X 10" FLOOR SYSTEM FOUNDATION SCALE: 1/4" = 1'-0"

++++++++++++++++ = WALL BRACING PER FRAMING NOTE #1 AND PER CALCULATIONS ON SHEET S1.1.

Framing Notes

1. BASEMENT LEVEL EXTERIOR WODD-FRAMED WALLS SHALL BE SHEATHED W/ 7/16' D.S.B. A.P.A. PANELS W/ 8d COMMON NAILS @ 6' D.C. AT EDGES & @ 12' D.C. IN THE FIELD. SMART PANEL, DR EQUAL, INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

2. \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ = GB: 1/2' MIN. GYPSUM BDARD DVER STUDS SPACED 24' MAX FASTENED V/ ND. 6 - 1 1/4' TYPE V DR S DRYWALL SCREWS @ 7' D.C. EDGES & FIELD. (MIN. 8'-0' SECTIONS DNE SIDE DF WALL (DR) MIN. 4'-0' SECTION FOR BOTH SIDES)

3. ////////////// = LOAD BEARING INTERIOR WALL. 4. (2) 2' X 10" #2 HEADER AT ALL EXTERIOR AND LOAD BEARING WALLS, UNLESS NOTED OTHERWISE. 5. LOW TIES @ 4'-0' D.C. (TYPICAL)

6. RUN STUDS THE FULL HEIGHT OF RAISED PLATE WALLS.

7. BLOCK JOISTS ABOVE BEAMS, CANTILEVERS AND LOAD BEARING WALLS WITH JOIST MATERIAL (NOT REQUIRED WITH I-JOISTS).

8. PROVIDE MULTIPLE STUDS FOR SOLID BEARING BELOW ALL BEAMS.

9. All designated 2" X 6" walls shall have double king studs at door and window openings.

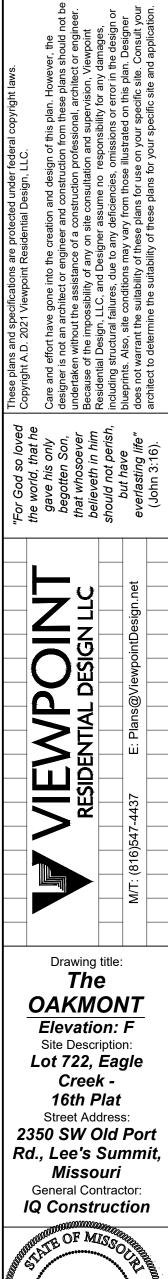
10. ALL UNSQUARE WALLS SHALL BE 45°, UNLESS NOTED OTHERVISE. 11. ALL WALLS TO BE FRAMED W/ MIN. STUD GRADE 2' X 4'S @ 16' D.C., UNLESS NOTED OTHERWISE. 12. 1/2' Ø ANCHOR BOLTS W/ MIN. 7' EMBEDMENT @ 48' D.C. MAX. & WITHIN 6' - 12' DF END DF EACH PLATE LENGTH.

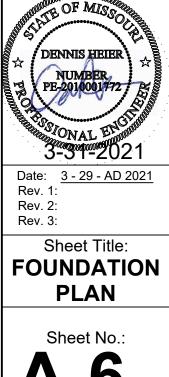
13. NEW FOUNDATION SHALL BEAR ON ORIGINAL SOIL WITH MINIMUM BEARING CAPACITY OF 1500 PSF. A GEDTECHNICAL ENGINEER IS RECOMMENDED FOR VERIFICATION OF THESE CONDITIONS DURING THE EXCAVATION PHASE, ENGINEER OF RECORD ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION NOT VERIFIED TO BE FOUNDED ON ANYTHING SHORT OF THE AFOREMENTIONED REQUIREMENTS.

		. –
	STEEL COLUMN &	
P	AD FOOTING SCHEDULE	
	3' X 11 GA, STEEL COLUMN DN 30' X 30' X 10' PAD FOOTING W/ (4) #4 BARS EACH WAY (12.5k)	
\mathbb{A}	3 1/2" X 11 GA. STEEL COLUMN DN 36" X 36" X 10" PAD FOOTING W/ (4) #4 BARS EACH WAY (18.0k)	
ſ	3' SCH, 40 STEEL COLUMN DN 42' X 42' X 12' PAD FODTING W/ (5) #4 BARS EACH WAY (24.5k)	4
	3 1/2" SCH. 40 STEEL COLUMN DN 48" X 48" X 12" PAD FODTING W/ (6) #4 BARS EACH WAY (32.0k)	
Æ	3 1/2" SCH. 40 STEEL COLUMN DN 54" X 54" X 14" PAD FODTING W/ (7) #4 BARS EACH WAY (40.5k)	
F	3 1/2" SCH. 40 STEEL COLUMN DN 60" X 60" X 14" PAD FODTING W/ (8) #4 BARS EACH WAY (50.0k)	

PIER FOOTING SCHEDULE					
G	12" ø pier ftg.				
	16" ø pier ftg.				
\bigtriangleup	18' ø pier ftg.				
\bigwedge	24' ø pier ftg.				

	JOIST SCHEDULE	
\diamondsuit	2" X 10" #3 FLOOR € 16" 0.C.	JOIST
	2" X 10" #2 Floor @ 16" 0.C.	JOIST





	FASTENER SCHEDULE FOR STRUCTURAL MEMBERS	
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
	ROOF	
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	4-8d (2½" x 0.113")	TOENAIL
CEILING JOISTS TO PLATE, TOE NAIL	4-8d (2½" x 0.113")	PER JOIST, TOENAIL
CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS, FACE NAIL	4-10d (3" x 0.128")	FACE NAIL
CEILING JOIST TO PARALLEL RAFTER (HEEL JOINT)	TBLE R802.5.2	FACE NAIL
COLLAR TIE TO RAFTER, FACE NAIL OR 1 $\frac{1}{4}$ x 20 GA. RIDGE STRAP TO RAFTER	4-10d (3" x 0.128")	FACE NAIL, EACH RAFTER
RAFTER OR ROOF TRUSS TO PLATE	3-16d BOX NAILS (3½" x 0.135") OR 3-10d COMMON NAILS (3" x 0.148")	2 TOE NAILS ON ONE SIDE AND 1 TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS
ROOF RAFTERS TO RIDGE, VALLEY, OR HIP RAFTERS OR ROOF RAFTER TO MINIMUM 2" RIDGE BEAM	4-16d (3 ½" x 0.135") - TOENAIL; 3-16d BOX (3 ½" x 0.135") - END NAIL	TOENAIL, END NAIL
	WALL	
STUD TO STUD (NOT AT BRACED WALL PANELS)	10d (3" x 0.128")	16" O.C. FACE NAIL
STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d (3½" x 0.135")	12" O.C. FACE NAIL
BUILT-UP HEADER, TWO PIECES WITH ½" SPACER	16d (3½" x 0.135")	12" O.C. EACH EDGE FACE NAIL
CONTINUOUS HEADER TO STUD	4-8d (2½" x 0.131")	TOENAIL
TOP PLATE TO TOP PLATE	10d (3" x 0.128")	12" O.C. FACE NAIL
DOUBLE TOP PLATE SPLICE	8-16d COMMON (3 ¹ / ₂ " x 0.162")	FACE NAIL ON EACH SIDE OF END JOINT (MIN. 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (NOT AT BRACED WALL PANELS)	16d COMMON (3 ¹ / ₂ " x 0.162")	16" O.C. FACE NAIL
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (AT BRACED WALL PANEL)	3-16d BOX (3 ½" x 0.135")	3 EACH 16" O.C. FACE NAIL
TOP OR SOLE PLATE TO STUD, END NAIL	4-8d BOX (2 ½" x 0.113") - TOENAIL; 3-16d BOX (3 ½" x 0.135") - END NAIL	TOENAIL, END NAIL (SEE LEFT)
TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	3-10d BOX (3" x 0.128")	FACE NAIL
1" BRACE TO EACH STUD AND PLATE	3-8d BOX (2 ½" x 0.113")	FACE NAIL
1"x6" SHEATHING TO EACH BEARING	3-8d BOX (2 ½" x 0.113")	FACE NAIL
1"x8" SHEATHING TO EACH BEARING	3-8d BOX (2 ½" x 0.113") - FACE NAIL; WIDER THAN 1"x8" - 4-8d BOX (2 ½" x 0.113")	FACE NAIL
	FLOOR	
JOIST TO SILL, TOP PLATE, OR GIRDER	4-8d BOX (2 ¹ / ₂ " x 0.113")	TOE NAIL
RIM JOIST, BAND JOIST, OR BLOCKING TO SILL OR TOP PLATE (ROOF APPLICATIONS ALSO)	8d BOX (2 ¹ / ₂ " x 0.113")	4" O.C. TOE NAIL
1" x 6" SUBFLOOR OR LESS TO EACH JOIST	3-8d BOX (2 ½" x 0.113")	FACE NAIL
2" SUBFLOOR TO JOIST OR GIRDER	3-16d BOX (3 ½" x 0.135")	BLIND AND FACE NAIL
2" PLANKS (PLAN & BEAM - FLOOR AND ROOF)	3-16d BOX (3 ½" x 0.135")	AT EACH BEARING, FACE NAIL
BAND OR RIM JOIST TO JOIST	3-16d COMMON (3 ½" x 0.162")	END NAIL
BUILT-UP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	10d BOX (3" x 0.128")	24" O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	4-16d BOX (3 ½" x 0.135")	AT EACH JOIST OR RAFTER, FACE NAIL
BRIDGING OR BLOCKING TO JOIST	2-10d BOX (3" x 0.128")	EACH END, TOENAIL

ESCRIPTION OF BUILDING MATERIAL	FASTNER SCHEDULE FOR	R STRUCTURAL MEMBERS	INTERMEDIATE SUPPORTS (INCHES)					
	IBFLOOR, ROOF AND INTERIOR WALL SHE							
3/8" - 1/2"	6d COMMON (2" x 0.113") NAIL (SUBFLOOR, WALL) 8d COMMON NAIL (ROOF)	6	12					
¹⁹ / ₃₂ " - 1"	8d COMMON NAIL (2½" x 0.131")	6	12					
11%" - 11⁄4"	10d COMMON (3" x 0.148") NAIL OR 8d (2½" x 0.131") DEFORMED NAIL	6	12					
OTHER WALL SHEATHING								
¹ / ₂ " STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 $\frac{1}{2}$ " GALVANIZED ROOFING NAIL, $\frac{7}{16}$ " HEAD DIAMETER, OR 1 $\frac{1}{4}$ " LONG 16 GA. STAPLE WITH $\frac{7}{16}$ " OR 1" CROWN	3	6					
25" STRUCTURAL CELLULOSIC 72 FIBERBOARD SHEATHING	1 $\frac{3}{4}$ " GALVANIZED ROOFING NAIL, $\frac{7}{16}$ " HEAD DIAMETER, OR 1 $\frac{1}{2}$ " LONG 16 GA. STAPLE WITH $\frac{7}{16}$ " OR 1" CROWN	3	6					
½" GYPSUM SHEATHING	1½" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1½" LONG; 1¼" SCREWS, TYPE W OR S	7	1 7					
%" GYPSUM SHEATHING	1¾" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1½" LONG; 1½" SCREWS, TYPE W OR S	7	7					
W	OOD STRUCTURAL PANELS, COMBINATIO	N SUBFLOOR UNDERLAYMENT TO FRAM	ING					
⅔" AND LESS	6d DEFORMED (2" x 0.120") NAIL OR 8d COMMON (2½" x 0.131") NAIL	6	12					
%" - 1" 8d COMMON (2½" x 0.131") NAIL OR 8d DEFORMED (2½" x 0.120") NAIL		6	12					
11⁄8" - 11⁄4"	10d COMMON (3" x 0.148") NAIL OR 8d DEFORMED (2½" x 0.120") NAIL	6	12					

1. IF INFORMATION LISTED ON PLAN SHEETS CONTRADICTS INFORMATION IN THIS TABLE, INFORMATION ON PLANS TAKES PRECEDENCE OVER INFORMATION LISTED IN THIS TABLE

FOUNDATION NOTES

- PSI FOR BASEMENT AND INTERIOR FLOOR SLABS-ON-GRADE, 3000 PSI FOR FOUNDATION WALLS, AND 3500 PSI FOR PORCHES AND GARAGE FLOOR SLABS
- STANDARDS PROVIDE A MINIMUM 4"-DIAMETER PERFORATED DRAIN PIPE ALONG PERIMETER OF USABLE SPACE AT FOOTING LEVEL OR OTHER EQUIVALENT MATERIALS PER IRC SECTION R405.1. THE PIPE SHALL BE COVERED WITH A MINIMUM
- MINIMUM 20 GALLON SUMP PIT FOUNDATION SHALL BE DESIGNED FOR A BEARING CAPACITY OF 1500 PSF AND FOUNDED ON COMPETENT ORIGINAL SOIL AS DETERMINED AND CONFIRMED BY A LICENSED GEOTECHNICAL ENGINEER OR ENGINEERING GEOLOGIST. ENGINEER OF RECORD ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION NOT VERIFIED TO BE FOUNDED ON ANY
- SOIL WITH THE AFOREMENTIONED MINIMUM PROPERTIES. 5. FOOTINGS SHALL BE A MINIMUM OF 16" WIDE x 8" DEEP AND SHALL HAVE A MINIMUM OF (2) CONTINUOUS GRADE 40 #4 BARS WITH 3" BOTTOM CLERANCE. BOTTOM OF FOOTING SHALL BE LOCATED A MINIMUM OF 3'-0" BELOW GRADE FOR FROST PROTECTION.
- CONCRETE PADS SUP0PORTING COLUMN LOADS SHALL BE NO SMALLER THAN 2'-0" x 2'-0" x 1'-0" DEEP WITH A MINIMUM OF (4) GRADE 40 #4 BARS EACH WAY WITH 3" BOTTOM CLEARANCE
- FOUNDATION WALLS SHALL BE A MINIMUM OF 8" NOMINAL WIDTH AND SHALL HAVE HOIZONTAL GRADE 40 #4 BARS AT 2'-0" O.C. MAX. WITH VERTICAL #4 BARS AS REQUIRED ON FOUNDATION CROSS SECTION ON SHEET S2.0 REINFORCEMENT SHALL LAP A MINIMUM OF 2'-0" (CLASS B SPLICE)
- INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB 10. BASEMENT FLOOR SLAB SHALL BE A MINIMUM OF 4" THICK ON A MINIMUM BASE COURSE OF 4" TO 6" OF SAND, GRAVEL OR CRUSHED ROCK. BETWEEN THE BASE COURSE AND FLOOR SLAB SHALL BE PLACED A 6-MIL POLY
- VAPOR RETARDER WITH MINIMUM OVERLAP OF 6" AT DISCONTINUITIES 11. IF A FLOOR IS TO BE SUPPORTED BY A MINIMUM OF 2'-0" OF GRANULAR FILL OR 8" OF EARTH, BASEMENT SLAB SHALL BE DESIGNED BY A LICENSED ENGINEER
- SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WALL WITH 1/2" Ø ANCHOR BOLTS EMBEDDED A MINIMUM OF 12. 7" INTO CENTER OF WALL STEM AND SHALL BE INSTALLED AT A MAXIMUM OF 6'-0" O.C. (OR AS NOTED ON PLANS) AND SHALL BE INSTALLED WITHIN 6" TO 12" OF EACH END OF EACH SILL PLATE LENGTH, PER IRC SECTION R403.1.6
- 13. FOUNDATION WINDOW WELLS SHALL BE PROVIDED WITH MINIMUM DIMENSIONS AS SHOWN IN DETAIL ON SHEET S2 0 14. THE GARAGE FLOOR SHALL SLOPE TOWARD THE VEHICLE DOORS OR TO A TRENCH OR UNTRAPPED DRAIN THAT

DISCHARGES TO THE EXTERIOR, ABOVE GRADE

FRAMING NOTES

- 15. ALL DIMENSIONAL LUMBER SHALL BE DOUGLAS-FIR-LARCH GRADE #2, UNLESS NOTED OTHERWISE ON PLANS 16. ALL INTERIOR LOAD-BEARING AND EXTERIOR WALL HEADERS SHALL BE (2) #2 - 2x10's, UNLESS NOTED OTHERWISE ON PLANS
- BLOCK OVER BEAMS AND AT CANTILEVERS AND DOOR JAMBS 18. INTERIOR NON-BEARING WALLS RESTING ON BASEMENT SLAB SHALL BE ISOLATED FROM ABOVE FRAMING BY A
- MINIMUM OF 3/2 ALL HEADERS/BEAMS SHALL BEAR ON A MINIMUM OF (2) 2x4 POSTS (KING AND JACK STUDS), UNLESS NOTED 19. OTHERWISE
- 20. WHERE JOISTS SPAN PARALLEL TO FOUNDATION, BLOCKING SHALL BE PROVIDED IN THE TWO SPACES MOST ADJACENT TO THE FOUNDATION WALL AT 4'-0" O.C. FOR THE PURPOSE OF TRANSFERRING LATERAL FOUNDATION WALL LOAD TO THE FLOOR DIAPHRAGM. FASTEN JOISTS AND BLOCKING TO SILL PLATE WITH (4) 10d NAILS. IF MECHANICAL DUCTWORK IS INSTALLED IN ONE OF THESE FIRST TWO BAYS, FASTEN 2x4's FLAT AT 4'-0" O.C. BETWEEN JOIST(S) AND/OR SILL AND PROVIDE BLOCKING AS PRESCRIBED ABOVE IN THE NEXT TWO JOIST BAYS. SECURE 2x4's TO JOIST(S)/SILL PLATE WITH (4) 10d NAILS. 21. ALL WOOD MATERIAL SUPPORTED ON CONCRETE OR MASONRY SHALL BE TREATED OR OF DECAY-RESISTANT
- MATERIAI 22. JOISTS UNDER BEARING PARTITIONS ON PLANS HAVE BEEN SIZED TO SUPPORT THE DESIGN LOAD. JOISTS FRAMING INTO THE FACE OF A STEEL OR WOOD BEAM SHALL BE SUPPORTED WITH APPROPRIATE 23.
- COLD-FORMED STEEL JOIST HANGERS JOISTS FRAMED ON TOP OF STRUCTURAL MEMBER SHALL BE SUPPORTED AT EN DS BY FULL-DEPTH SOLID 24. BLOCKING MIN. 1%" IN THICKNESS OR BY FASTENING RIM TO JOISTS PER FASTENING TABLE TO LEFT
- ALL WALL COVERINGS SHALL COMPLY WITH IRC SECTION R702.3 25. 26. ALL RAFTERS AND COLLAR TIES SHALL COMPLY WITH IRC SECTION R802.3.
- 27. ALL RAFTERS SHALL HAVE 2x4 COLLAR TIES @ 4-0" O.C. IN UPPER ½ OF VERTICAL DISTANCE BETWEEN CEILING AND ROOF
- BLOCKING BETWEEN JOISTS UNDER A LOAD-BEARING WALL IS NOT REQUIRED 28. PER IRC SECTION 501.3, BOTTOM OF ALL FLOOR ASSEMBLIES ABOVE UNFINISHED AREAS SHALL BE PROVIDED WITH 29. A ½" GYPSUM BOARD MEMBRANE OR RESIDENTIAL FIRE SPRINKLER SYSTEM WHEN FLOOR SYSTEM IS CONSTRUCTED OF OTHER THAN DIMENSION LUMBER OR STRUCTURAL COMPOSITE LUMBER EQUAL TO OR GREATER THAN 2x10 NOMINAL DIMENSION(WHERE REQUIRED BY ENFORCING JURISDICTION)
- ENGINEERED LVL's SHALL HAVE MINIMUM PROPERTIES OF Fb = 2600 psi, E=1900 ksi, AND Fv=285 psi 30 31. ENGINEERED PARALLAMS SHALL HAVE MINIMUM PROPERTIES OF Fb = 2600 psi, E = 2000 ksi, AND Fv = 290 psi
- 32. COLUMN CONNECTION TO STEEL BEAMS SHALL BE WITH A CLIP POST CAP WITH ALL FOUR TAB EARS BENT AROUND THE BOTTOM FLANGE OF THE BEAM. FOR A BEARING PLATE, FOUR HOLES SHALL BE DRILLED IN THE BOTTOM FLANGE OF THE STEEL BEAM TO MATCH THE HOLE PATTERN OF THE PLATE. ½" x 2" BOLTS SHALL THEN BE INSTALLED WITH A FLAT WASHER, LOCK WASHER, AND A NUT IN EACH OF THE HOLES. THE POST CAP MAY BE WELDED TO THE STEEL BEAM IN ACCORDANCE WITH AWS D1.1-92 AS AN ALTERNATIVE, AND WOULD NEED TO BE INSPECTED BY AN AWS-CERTIFIED INSPECTOR.
- 33. WHEN MECHANICAL EQUIPMENT IS LOCATED IN AN ENCLOSED ROOM, THERE SHALL BE (2) 14"x12" VENTS LOCATED IN A WALL COMMON WITH ADDITIONAL LIVING AREA. ONE VENT SHALL BE LOCATED SUCH THAT THE BOTTOM OF THE VENT BEGINS 12" FROM THE FLOOR AND THE OTHER VENT SHALL BE LOCATED SUCH THAT THE TOP OF THE VENT BEGINS 12" FROM THE CEILING.
- 34. ALL ROOF SHEATHING SHALL BE Tr OSB WITH 8d COMMON NAILS @ 6" O.C. AT PANEL EDGES AND @ 12" O.C. IN FIELD

GLAZING NOTES

- 35. 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 2'-0" ARC OF THE DOOR IN A CLOSED POSITION AND FOR WHICH THE BOTTOM EDGE IS WITHIN 5'-0" OF THE FLOOR, WALLS ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 5'-0" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS, AND WHIRLPOOLS, GLAZING IN FIXED OR OPENABLE PANELS EXCEEDING NINE SQUARE FEET AND FOR WHICH THE BOTTOM EDGE IS LESS THAN 1'-6" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 3'-0"
- 36. ALL OPERABLE WINDOWS SHALL HAVE FALL PROTECTION PER IRC SECTION R612.2

ATTIC VENTILATION

37. ENCLOSED ATTICS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW. VENTILATING OPENINGS SHALL BE PROVIDED WITH CORROSION-RESISTANT WIRE MESH, WITH 1/4" TO 1/4" OPENINGS. THE TOTAL FREE VENTILATING AREA SHALL NOT BE LESS THAN λ_{50} OF THE AREA OF SPACE VENTILATED, EXCEPT WHERE THE VENTILATORS ARE LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED - THE REQUIRED AREA MAY BE REDUCED TO 1/300.

EMERGENCY EGRESS

- 38. PROVIDE A MINIMUM OF ONE WINDOW FOR EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 SQUARE FEET WITH A MINIMUM OPENABLE HEIGHT OF 2'-0" AND A MINIMUM WIDTH OF 1'-9". IN ADDITION, THE OPENABLE
- PORTION OF EGRESS WINDOWS SHALL NOT EXCEED 3'-8" ABOVE THE ADJOINING FLOOR OR PERMANENT STEP. 39. PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA AND ON EACH FLOOR, INCLUDING BASEMENT (IF APPLICABLE). ALARMS SHALL BE HARDWIRED TOGETHER SO THAT THE ACTIVATION OF
- ONE SMOKE ALARM WILL ACTIVATE ALL SMOKE ALARMS IN THE DWELLING. PROVIDE CARBON MONOXIDE DETECTORS OUTSIDE EACH SLEEPING AREA.

MASONRY VENEER

- 40. MASONRY VENEER SHALL BE ANCHORED TO THE SUPPORTING WALL STUDS WITH CORROSION-RESISTANT METAL TIES EMBEDDED IN MORTAR OR GROUT AND EXTENDING INTO THE VENEER A MINIMUM OF 1/2", WITH NOT LESS THAN 5/8" MORTAR OR GROUT COVER TO OUTSIDE FACE 41. VENEER TIES, IF STRAND WIRE, SHALL NOT BE LESS IN THICKNESS THAN NO. 9 U.S. GAGE WIRE AND SHALL HAVE A
- CORRUGATED. 42. EACH TIE SHALL SUPPORT NOT MORE THAN 2.67 SQUARE FEET OF WALL AREA AND SHALL BE SPACED NOT MORE
- THAN 32 INCHES ON CENTER HORIZONTALLY AND 24 INCHES ON CENTER VERTICALLY. VENEER TIES AROUND WALL OPENINGS: ADDITIONAL METAL TIES SHALL BE PROVIDED AROUND ALL WALL OPENINGS GREATER THAN 16 INCHES IN EITHER DIMENSION. METAL TIES AROUND THE PERIMETER OF OPENINGS

GARAGE NOTES

44. DOOR(S) BETWEEN THE GARAGE AND DWELLING SHALL BE MINIMUM 1%" SOLID CORE OR HONEY-COMBED STEEL DOOR WITH 20-MINUTE FIRE RATING EQUIPPED WITH A SELF-CLOSING DEVICE 45. VEHICLE DOORS AND FRAMES SHALL BE DESIGNED AND INSTALLED TO MEET THE 115-MPH 3-SECOND GUST LOADING PER DASMA 108 AND ASTM E 330-96 PER IRC 2018

CONCRETE SHALL BE AIR-ENTRAINED BETWEEN 5%-7% WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2500

THE FOUNDATION DESIGN SHALL COMPLY WITH THE ENFORCING JURISDICTION'S RESIDENTIAL FOUNDATION

OF 6" OF GRAVEL OR CRUSHED ROCK. THE DRAIN SHALL DAYLIGHT BELOW FOOTING LEVEL OR TERMINATE IN A

HOOK EMBEDDED IN THE MORTAR JOINT, OR IF SHEET METAL, SHALL BE NOT LESS THAN NO. 22 U.S. GAGE BY 7/4"

SHALL BE SPACED NOT MORE THAN 3 FEET ON CENTER AND PLACED WITHIN 12 INCHES OF THE WALL OPENING.

GARAGE NOTES (CONTINUED)

45.

- THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREAS BY MINIMUM %" GYP. BOARD APPLIED TO THE GARAGE SIDE OF FRAMING. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE, THE GARAGE CEILING ASSEMBLY SHALL BE PROTECTED WITH A MINIMUM ⁵/₈" TYPE X GYP. BOARD. WHERE A FLOOR/CEILING SPACE IS PROVIDED ABOVE THE GARAGE COLUMNS AND BEAMS SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED WITH 5/" GYP. BOARD.
- GARAGE DOOR H-FRAME FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM FLOOR TO CEILING AND SHALL BE FASTENED WITH 2%"" x 0.120" NAILS AT 7" O.C. STAGGERED WITH (7) 31/4" x 0.120" NAILS THROUGH THE JAMB INTO THE HEADER. MINIMUM 2x8 HEADER FOR ATTACHMENT OF COUNTER BALANCE SYSTEM.

DESIGN LOADING (PER TABLE R301.5)

MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS (PSF)							
USE	LIVE LOAD	DEAD LOAD					
UNINHABITABLE ATTICS WITHOUT STORAGE	10	10					
UNINHABITABLE ATTICS WITH LIMITED STORAGE	20	10					
HABITABLE ATTICS AND ATTICS SERVED WITH FIXED STAIRS	30	10					
BALCONIES (EXTERIOR) AND DECKS	40	10 ^d					
FIRE ESCAPES	40	10					
GUARDRAILS AND HANDRAILS ^a	200 [°]	-					
GUARDRAIL IN-FILL COMPONENTS ^b	50 ^c	-					
PASSENGER VEHICLE GARAGES	50	DEPENDENT UPON SLAB CONSTRUCTION					
ROOMS OTHER THAN SLEEPING ROOM	40	10 ^d					
SLEEPING ROOM	30	10 ^d					
STAIRS	40	10 ^d					

a. A single concentrated load applied in any direction at any point along the top b. Guard in-fill components (all those except the handrail), ballusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to one square foot. This load

need not be assumed to act concurrently with any other live load requirement. c. Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the infill components. These loads shall be determined independently of one another, and loads are assumed not to occur with any other live load.

d. An additional dead loading of 10 psf shall be applied where thinset tile floor is to be installed. An additional dead loading of 50 psf shall be applied where mudset tile floor is to be installed

INSULATION/EFFICIENCY

- 1. BUILDING ENVELOPE INSULATION SHALL COMPLY WITH IRC TABLE N1102.1.1 OR THE 2012 IECC (SEE SHEET S3.1 FOR FRAMING DETAILS AND TABLES ON THIS SHEET FOR MORE INFORMATION)
- CATHEDRAL -VAULTED CEILING FRAMING SHALL BE FRAMED WITH A MINIMUM INSULATION VALUE OF R-38. IF VAULTED RAFTERS DO NOT PROVIDE REQUIRED DEPTH TO ACHIEVE R-38 INSULATION BUILDER SHALL FUR DOWN RAFTERS PER DETAILS PROVIDED ON SHEET S3.1.

INSULATION AND FENESTRATION REQUIRE	MENTS BY COMPONENT (TABLE N1102 1 1)
CLIMATE ZONE	4-A
FENESTRATION U-FACTOR	0.35
SKYLIGHT U-FACTOR	0.55
GLAZED FENSTRATION SHGC	0.40
CEILING R-VALUE	49
WOOD FRAME WALL R-VALUE	15
MASS WALL R-VALUE	8 / 13
FLOOR R-VALUE	19
BASEMENT WALL R-VALUE	10-CONTINUOUS OR 13-CAVITY
SLAB R-VALUE AND DEPTH	10 AT 2'-0"
CRAWL SPACE WALL R-VALUE	10-CONTINUOUS OR 13-CAVITY
DUCTWORK EXPOSED TO OUTSIDE AIR R-VALUE	8
DUCTWORK NOT EXPOSED TO OUTSIDE AIR R-VALUE	6
CATHEDRAL VAULTED CEILING R-VALUE	38

DUCT SEALING

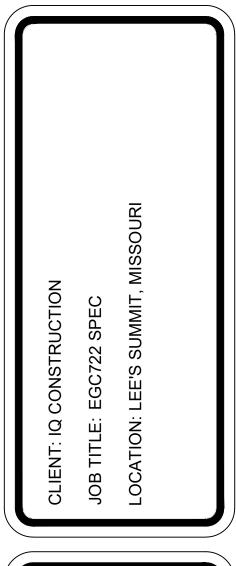
N1103 2 2 (R403 2 2) SEALING (MANDATORY) DUCTS AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1601.4.1 OF 2018 IRC EXCEPTIONS:

- AIR-IMPERMEABLE SPRAY FOAM PRODUCTS SHALL BE PERMITTED TO BE APPLIED WITHOUT ADDITIONAL JOINT SEALS.
- WHERE A DUCT CONNECTION IS MADE THAT IS PARTIALLY INACCESSIBLE, THREE 2. SCREWS OR RIVETS SHALL BE EQUALLY SPACED ON THE EXPOSED PORTION OF THE JOINT SO AS TO PREVENT A HINGE EFFECT.
- CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS AND SEAMS IN 3. DUCTS OPERATING AT STATIC PRESSURES LESS THAN 2 INCHES OF WATER COLUMN PRESSURE CLASSIFICATION SHALL NOT REQUIRE ADDITIONAL CLOSURE SYSTEMS.
- DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER OF THE FOLLOWING: POST-CONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM 1. PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.
- 2. ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. IF THE AIR HANDLER IS NOT INSTALLED AT THE
- TIME OF THE TEST, TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA EXCEPTION: THE TOTAL LEAKAGE TEST IS NOT REQUIRED FOR DUCTS AND AIR HANDLERS

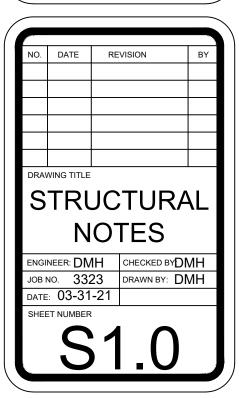
LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE.
MECHANICAL VENTILATION SYSTEM FAN EFFICACY

ME	<u>ECHANICAL VENTILATIO</u>		
FAN LOCATION	AIR FLOW RATE	MINIMUM EFFICACY	AIR FLOW RATE
TAN LOCATION	MINIMUM (CFM)	(CFM/WATT)	MAXIMUM (CFM)
RANGE HOODS	ANY	2.8	ANY
IN-LINE FAN	ANY	2.8	ANY
BATHROOM, UTILITY ROOM	10	1.4	90
BATHROOM, UTILITY ROOM	90	2.8	ANY









RESIDENTIAL SEISMIC & WIND ANALYSIS

			INCOLDENT				
							INPUT
DETERMINE WEIGHT	OF HOUSE:					CALCULATED VALUE	
OCATION				DEAD LOAD (psf)	AREA (ft ²)	WEIGHT (lbs.)	
ROOF		i			10	3039	30390
EILING					10	3039	30390
ECOND FLOOR					10	1221	12210
IRST FLOOR					10	3039	30390
				WALL LENGTH (ft)	WALL HEIGHT (ft)	WALL UNIT WT. (psf)	WEIGHT (lbs)
ECOND FLOOR EXT	. WALL DL			169.34	9	9	13716.54
IRST FLOOR EXT. W	VALL DL			193.34	10	10	19334
				DEAD LOAD (psf)	AREA (ft2)	WEIGHT (lbs)	
	. PARTITION WALL DL				6	1221	7326
IRST FLOOR INT. P/	ARTITION WALL DL			6	3039	18234	
		1	DESIGN PER 115 MPH	3-SECOND GUST, EXPOSU	RE C AND MEAN ROOF HEIGHT <= 3	/	
FRONT-TO-BACK				SIDE-TO-SIDE			
	AREA	LOAD			AREA	LOAD	l i i i i i i i i i i i i i i i i i i i
SLOPED ROOF	274	2305		SLOPED ROOF	204	1736	
VERT. ROOF	26	320	CUMULATIVE	VERT. ROOF	8	99	CUMULATIVE
2ND	415	5202	7826	2ND	431.7	5390	7225
1ST	566.5	6963	14789	1ST	496.87	6177	13402
		PRESSURE (PS	F) - PER ASCE CH. 6				
	SLOPED ROOF	ZONE B		9.7	ZONE C	11.3	2a (FIG. 28.6-1, ASCE7)
	WALL/VERT. ROOF	ZONE A		14.2	ZONE D	7.7	9.034
	MEAN ROOF HT., h		24				

a) If there is a walkout wall to be sheathed, determine tributary wind area and enter here. If no walkout, enter 0 for area. q_{z10}=0.00256K_zK_{zt}K_dV² (ASCE7-10 Velocity Pressure) q_{z10_ASD} =0.6 q_{z10} (Design Velocity Pressure for ASD analysis under ASCE7-10 and IRC/IBC 2012)

2ND FLOOR TRIBUTARY WEIGHT

1ST FLOOR TRIBUTARY WEIGHT
S _S (SITE GROUND MOTION - %g - FROM ASCE7 SEISMIC MAP)
F _a (from ASCE7 Table 11.4-1)
S _{DS} (= 2/3 * S _S * F _a)

R (from ASCE7 Table 12.2-1)

		SEISMIC SHEAR			
CATION D FLOOR		Fror	n ASCE7 (Eq. 12.8-1):		_s * W / R) (lbs.) 598
T FLOOR	· · · · · · · · · · · · · · · · · · ·				450
Sheathing Location	Min. Sheathing Schedule	Fastening Schedule	Allowat	ble Shear (#/LF)	Code Reference
Exterior <u>(Option #1)</u>	7/16" APA Rated Plywood/OSB	1-1/2" 16ga. Staples w/ 1" penetration@ 6" OC Edges, 6" OC Field For 24" stud spacing, 12" OC Field For 16" stud spacing		155	per IBC, Table 2306.3(1)
Exterior (Option #2)	7/16" APA Rated Plywood/OSB	1-1/2" 16ga. Staples w/ 1" penetration@ 4" OC Edges, 6" OC Field For 24" stud spacing, 12" OC Field For 16" stud spacing		230	per IBC, Table 2306.3(1)
Exterior (Option #3)	7/16" APA Rated Plywood/OSB	1-1/2" 16ga. Staples w/ 1" penetration@ 3" OC Edges, 6" OC Field For 24" stud spacing, 12" OC Field For 16" stud spacing		310	per IBC, Table 2306.3(1)
Exterior (Option #4)	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing	8d Common Nails w/ 1-3/8" penetration @ 6" O.C. Edges, 12" O.C. Field for 7/16" APA-rated plywood/OSB or shiplap panel sheathing OR @ 4" O.C. Edges, 12" O.C. Field for 3/8" shiplap panel sheathing		220	
Exterior <u>(Option #5)</u>	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing	8d Common Nails w/ 1-3/8" penetration @ 4" O.C. Edges, 12" O.C. Field for 7/16" APA-rated plywood/OSB or shiplap panel sheathing OR @ 3" O.C. Edges, 12" O.C. Field for 3/8" shiplap panel sheathing		320	AF&PA SDPW Table 4.3A
Exterior (Option #6)	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing and double studs at each panel edge	8d Common Nails w/ 1-3/8" penetration @ 3" O.C. Edges, 12" O.C. Field		410	AF&PA SDPW Table 4.3A
Interior	1/2" Gypsum Board	No. 6- 1 ¹ / ₄ " Type W or S Screws @ 8" O.C. Edges, 12" O.C. Field		60	per IBC, Table 2306.4.4
Interior	16 Ga. Simpson/USP Type WB Steel X-Brace (or equal)	(3) 16d @ end studs & (1) 8d @ intermediate studs (per manufacturer specifications - see detail on sheet S3)		325	

67638.27 103699.54

12.0%

1.6 0.128

6.5

WIDTH OF 2ND STORY (FT.)

DEPTH OF 2ND STORY (FT.)

41.5

43.17

EXTERIOR SHEATHIN	NG OPTION FOR SECO	ND FLOOR	4				
EXTERIOR SHEATHIN	NG OPTION FOR FIRST	FLOOR	4		WIDTH OF 1ST STORY (FT.)	51.5	
		DEPTH OF 1ST STORY (FT.)	45.17				
			BACK WALL OF GARAGE (FT.) 20				
					GAR. WALL: 1=F-B, 2=S-S	2	
			EXTER	RIOR STRUCTURAL WALL	LENGTHS (ft.) & RESISTANCES		
		SE		WINE			
FRONT-TO-BACK RESISTANCE (lbs.)			SIDE-TO-SIDE	RESISTANCE (lbs.)	FRONT-TO-BACK	RESISTANCE (lbs.)	

	FRONT-TO-BACK	RESISTANCE (lbs.)	SIDE-TO-SIDE	RESISTANCE (lbs.)	FRONT-TO-BACK	RESISTANCE (lbs.)	SIDE-TO-SIDE	RESISTANCE (lbs.)
2ND FLOOR	50	14000	44	12320	50	19600	44	17248
1ST FLOOR	71	19880	35	9800	71	27832	35	13720
F		ADDITIONAL RESIS			Anchor Bolt Spacing	(in.)	16d Nail Spacing req'd at I	oottom plate (in.)
		SEISMIC	WIND		diameter (in.)	0.5	2nd Floor F-B	31
2ND FLOOR FRONT-TO-BACK 2ND FLOOR SIDE-TO-SIDE 1ST FLOOR FRONT-TO-BACK		0	0		Shear value (per NDS)	944	2nd Floor S-S	39
		0	0		Spacing F-B (inches)	110.7	1st Floor F-B	17
		0	0		spacing S-S (inches)	139.3	1st Floor S-S	21
1ST FLOOR SIDE-TO-	SIDE	0	0					

RESISTANCE REQUIRED IN ADDITION TO RESISTANCE PROVIDED BY EXTERIOR WALLS**								
	ADDITIONAL RESISTANCE REQUIRED (POUNDS)	PORTAL FRAMES OR PERF. SHEAR WALL RESISTANCE	INTERIOR X-BRACES (325#/BRACE)	INTERIOR WALL LENGTH W/ 1/2" GYPSUM BOARD PER TABLE (FT.)	INT. WALL LENGTH SHEATHED W/ OSB (TOTAL LENGTH, ONE SIDE, FT.)	RESISTANCE PROVIDED BY ADDITIONAL METHODS (POUNDS)	OK?	
2ND FLOOR FRONT-TO-BACK	0					0	YES	
2ND FLOOR SIDE-TO-SIDE	0					0	YES	
1ST FLOOR FRONT-TO-BACK	0					0	YES	
1ST FLOOR SIDE-TO-SIDE	0					0	YES	
**NOTES: 1) SEE ATTACHED CALCULATIONS FOR PORTAL FRAME OR PERFORATED SHEAR WALL RESISTANCE CAPACITIES (IF APPLICABLE),								

2) SEE SHEET S1 FOR INTERIOR STEEL X-BRACE INSTALLATION, 3) INTERIOR WALLS SHEATHED WITH OSB SHALL BE ATTACHED WITH SAME STAPLE/NAILING PATTERN AS EXTERIOR OSB ON SAME FLOOR (SEE TABLE ABOVE) AND ARE ONLY APPLICABLE FOR FULL-HEIGHT SECTIONS OF 2'-8" OR LONGER

ALL LATERAL BRACING ACHIEVED AT EXTERIOR WALLS AND WALLS DIRECTLY ON FOUNDATIONS; THEREFORE, NO INTERIOR BRACING PER 2012 IRC SECTION R502.2.1 IS REQUIRE WIND UPLIET ANALYSI

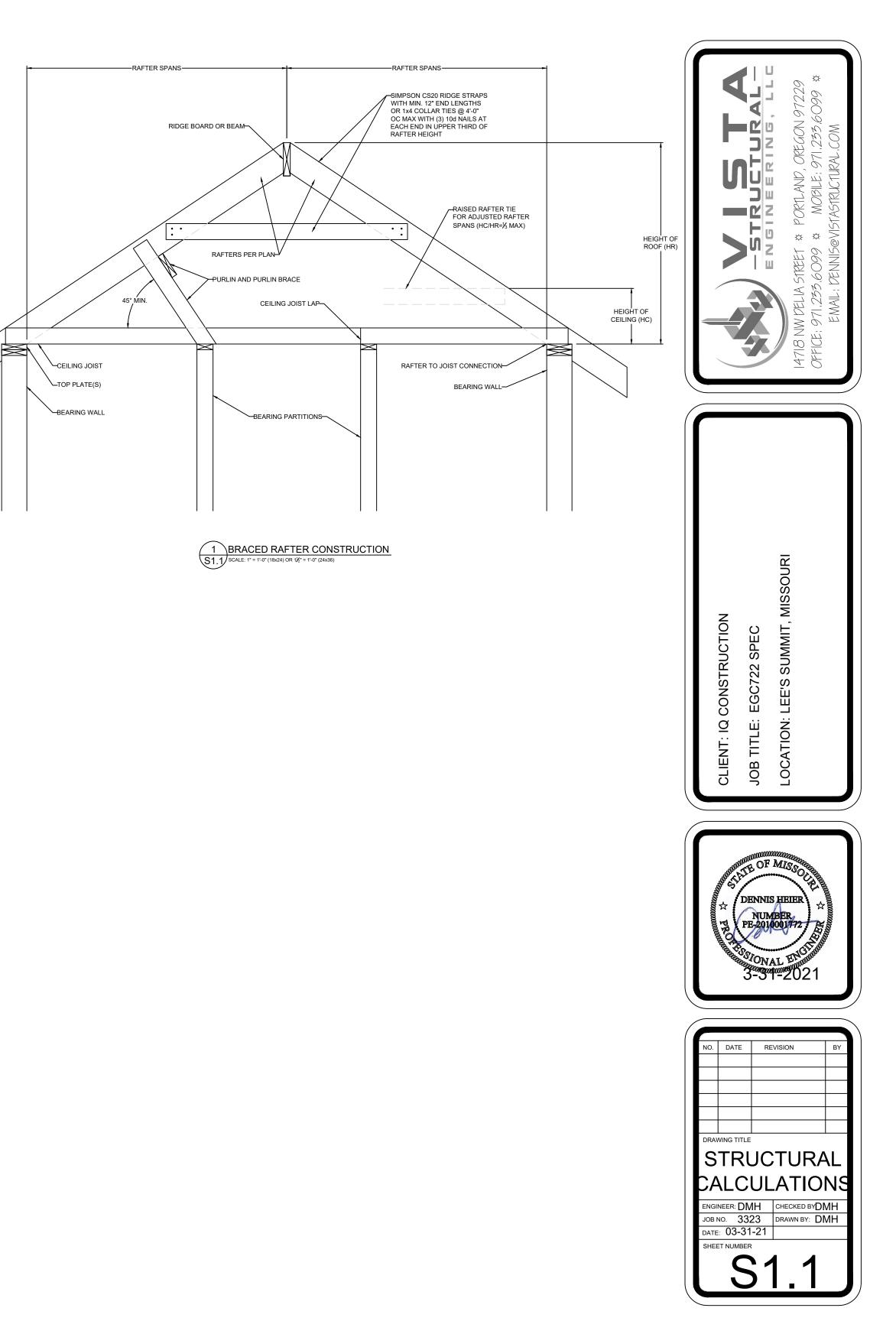
				WIND OF LIT I	ANALISIS		
	X/12	DEGREES					
ROOF PITCH (MAX)	8	33.7	PITCH OF 6 OR LESS:	EOH -13.3, E -7.2, G -5.2			
ASCE 7							
LENGTH (FT.) PRESSURE (PSF) LINEAL FT. OF OH UPLIFT F			UPLIFT PER FT* (LBS)				
OVERHANG	1	-1.08	195.34	-1.08			
	TOTAL AREA (FT ²)	ZONE E AREA (FT ²)	ZONE G AREA (FT ²)	PRESSURE ZN. E (PSF)	PRESSURE ZN. G (PSF)	TOTAL FORCE (LBS)	FORCE PER LINEAL FT @ PERIMETER (LBS)
MAIN ROOF**	2326.255	1203.364936	1122.890064	-1.08	-0.36	-1704	-8.8
*ALONG PERIMETER TOTAL UPLIFT P		TOTAL UPLIFT PER LINEAL	FOOT ALONG EXTERIOR (PO	UNDS)	-9.9	UPLIFT OK	
**INSIDE EXTERIOR WALLS RESISTANCE DUE TO DEAD WEIGHT & (3) 10d		WEIGHT & (3) 10d TOENAILS		251.6			

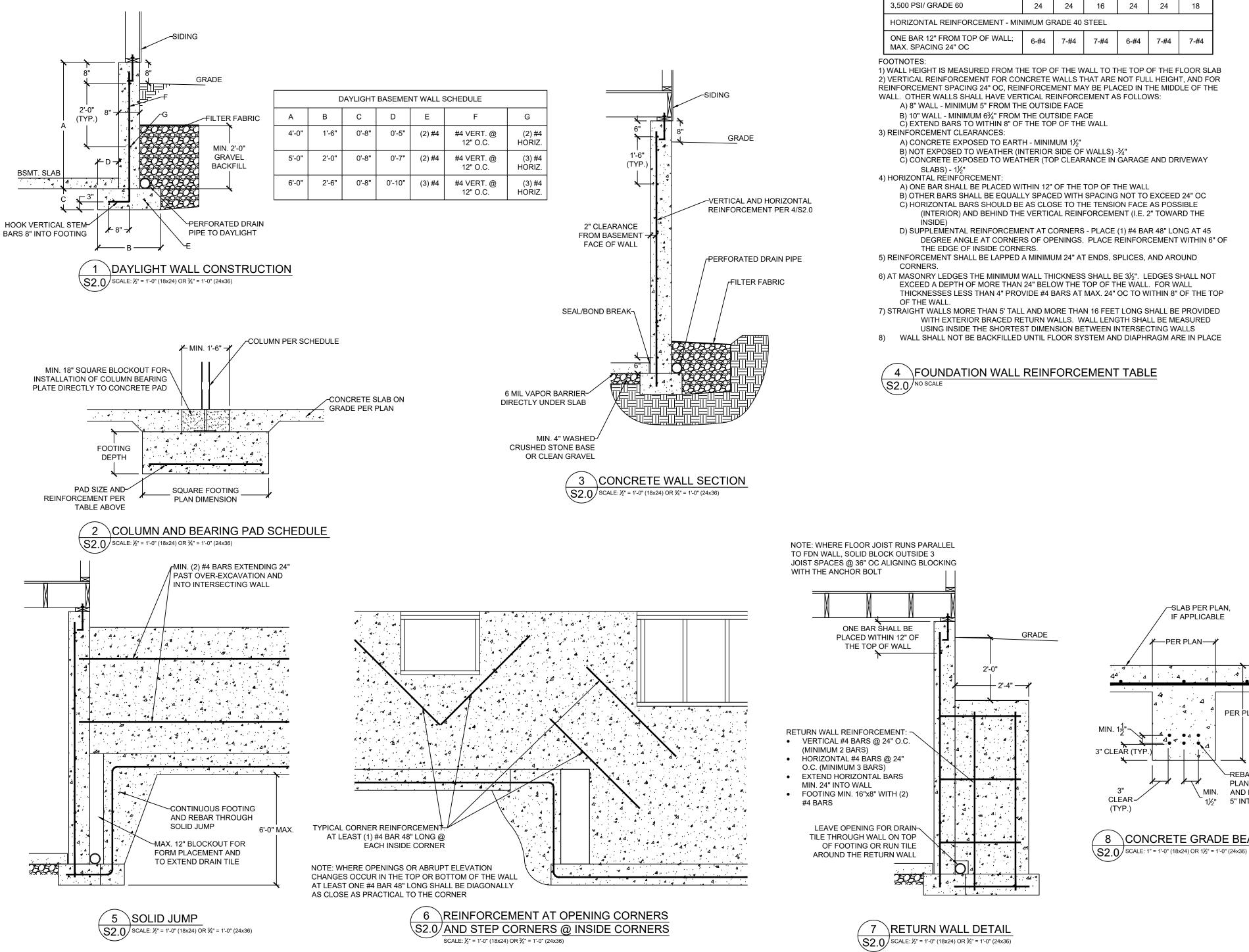
NOTE FOR CONSTRUCTION:

THE CONTINUOUS STRUCTURAL PANEL SHEATHING BRACING METHOD REQUIRES USE OF THE ABOVE TABLE FOR SHEATHING OF THE ENTIRE STRUCTURE. IN ADDITION, FRAMING MEMBERS SHALL BE @ 16" O.C. MAX., UNBLOCKED, AND W/ SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS

NOTE FOR DESIGN: ALL WALLS USED IN THE CALCULATION OF THE RESISTANCE FOR THIS STRUCTURE SHALL HAVE A MINIMUM UNINTERRUPTED HEIGHT OF 8'-0" AND LENGTH OF 2'-8". ALLOWABLE RESISTANCES HAVE BEEN #/FT AND INCREASED BY 40% FOR WIND LOADS, PER VALUES IN 2012 IBC SECTION 2306 AND AF&PA SDPWS TABLE 4.3A. FOR EXAMPLE, 7/16" APA-RATED SHEATHING WITH 8d @ 6" & 12" HAS A SEISMIC SHEAR VALUE OF 24 A WIND SHEAR VALUE OF 335#/FT - 40% GREATER THAN THAT OF SEISMIC)

NOTE: SOIL SITE CLASS ASSUMED TO BE CLASS D. IF SITE CONDITIONS ARE DETERMINED TO BE CLASS E OR F, CONSULT ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION





CONCRETE STRENGTH/GRADE	8" THICK WALL			10" THICK WALL		
REINFORCEMENT (#4 BARS)	8'	9'	10'	8'	9'	10'
3,000 PSI/ GRADE 40	24	24	16	24	24	18
3,500 PSI/ GRADE 40	24	24	16	24	24	18
3,000 PSI/ GRADE 60	24	24	16	24	24	18
3,500 PSI/ GRADE 60	24	24	16	24	24	18
HORIZONTAL REINFORCEMENT - MINIMUM GRADE 40 STEEL						
ONE BAR 12" FROM TOP OF WALL; MAX. SPACING 24" OC	6-#4	7-#4	7-#4	6-#4	7-#4	7-#4

1) WALL HEIGHT IS MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE FLOOR SLAB 2) VERTICAL REINFORCEMENT FOR CONCRETE WALLS THAT ARE NOT FULL HEIGHT, AND FOR REINFORCEMENT SPACING 24" OC, REINFORCEMENT MAY BE PLACED IN THE MIDDLE OF THE WALL. OTHER WALLS SHALL HAVE VERTICAL REINFORCEMENT AS FOLLOWS:

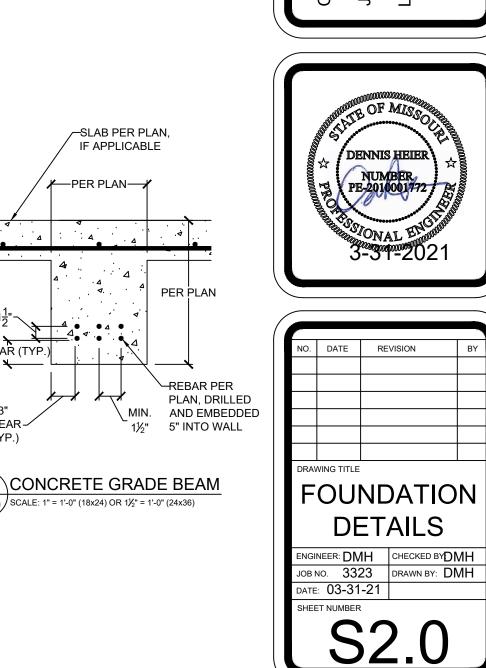
- B) NOT EXPOSED TO WEATHER (INTERIOR SIDE OF WALLS) -3/4"
- C) CONCRETE EXPOSED TO WEATHER (TOP CLEARANCE IN GARAGE AND DRIVEWAY

- B) OTHER BARS SHALL BE EQUALLY SPACED WITH SPACING NOT TO EXCEED 24" OC C) HORIZONTAL BARS SHOULD BE AS CLOSE TO THE TENSION FACE AS POSSIBLE (INTERIOR) AND BEHIND THE VERTICAL REINFORCEMENT (I.E. 2" TOWARD THE
- D) SUPPLEMENTAL REINFORCEMENT AT CORNERS PLACE (1) #4 BAR 48" LONG AT 45 DEGREE ANGLE AT CORNERS OF OPENINGS. PLACE REINFORCEMENT WITHIN 6" OF

5) REINFORCEMENT SHALL BE LAPPED A MINIMUM 24" AT ENDS, SPLICES, AND AROUND

- 6) AT MASONRY LEDGES THE MINIMUM WALL THICKNESS SHALL BE 31/2". LEDGES SHALL NOT EXCEED A DEPTH OF MORE THAN 24" BELOW THE TOP OF THE WALL. FOR WALL THICKNESSES LESS THAN 4" PROVIDE #4 BARS AT MAX. 24" OC TO WITHIN 8" OF THE TOP
- WITH EXTERIOR BRACED RETURN WALLS. WALL LENGTH SHALL BE MEASURED USING INSIDE THE SHORTEST DIMENSION BETWEEN INTERSECTING WALLS
- 8) WALL SHALL NOT BE BACKFILLED UNTIL FLOOR SYSTEM AND DIAPHRAGM ARE IN PLACE

FOUNDATION WALL REINFORCEMENT TABLE



-SLAB PER PLAN. IF APPLICABLE

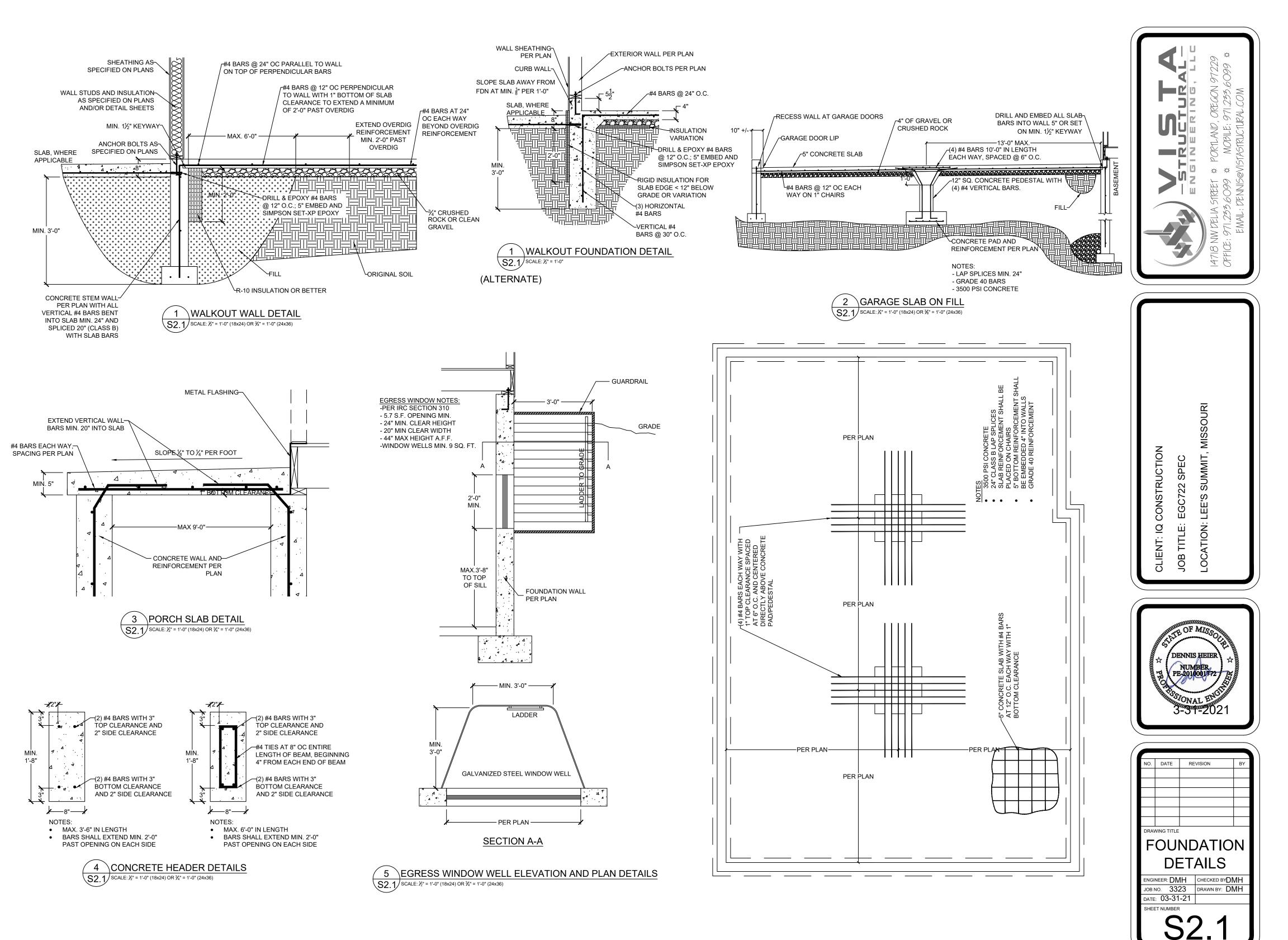
4

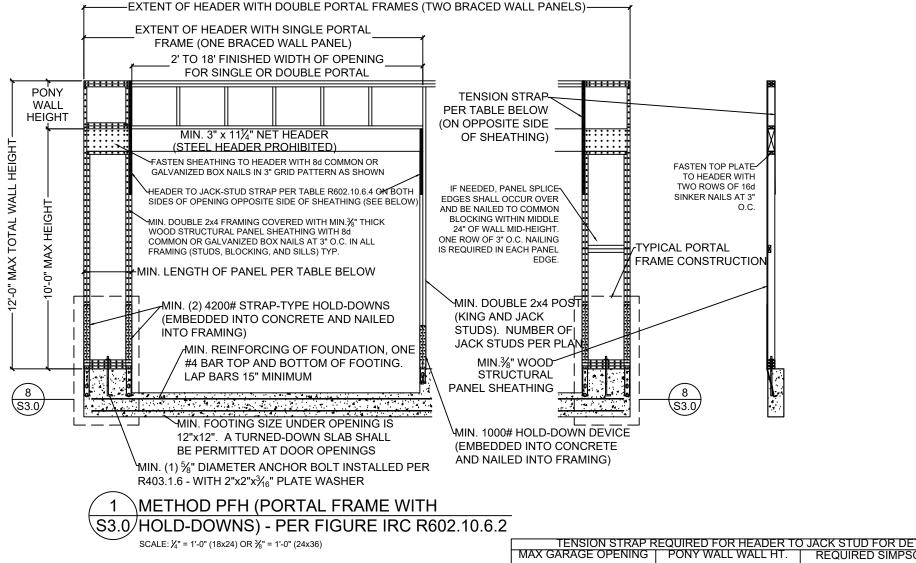
11/2"

PER PLAN

×

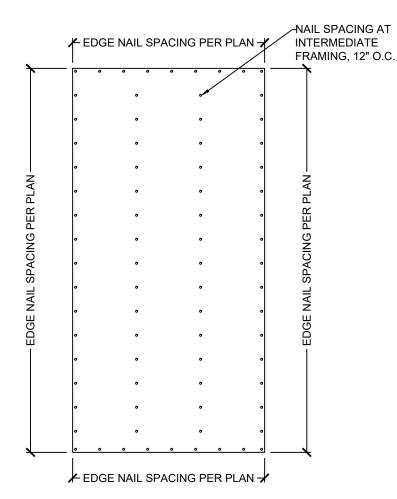
OREGON AND P O R ¢ STREET MISSOURI CONSTRUCTION SUMMIT, SPEC EGC722 LEE'S Q JOB TITLE: LOCATION: **CLIENT**:



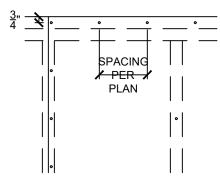


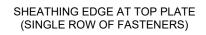
	MINIMUM PANEL LENGTH FOR DETAIL 1/S3.0 (INCHES)					
	WALL HEIGHT 8 FEET 9 FEET 10 11 8 FEET 9 FEET FEET FEET					
SUPPORTING ROOF ONLY	16	16	16	18	20	
SUPPORTING ONE STORY AND ROOF	24	24	24	27	29	

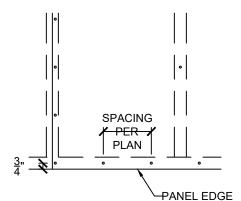
	TENSION STRAP REQUIRED FOR HEADER TO JACK STUD FOR DETAILS 1/S3.0 A						
MAX GARAGE OPENING (FT.)	PONY WALL WALL HT. (FT.)	REQUIRED SIMPSON STRAP	MIN. STR.				
18'-0"	0'-0"	CS20					
9'-0"	1'-0"	CS20					
18'-0"	1'-0"	CS14					
9'-0"	2'-0"	CS18					
18'-0"	2'-0"	CMSTC16					
9'-0"	4'-0"	CMSTC16					
16'-0"	4'-0"	CMST14					





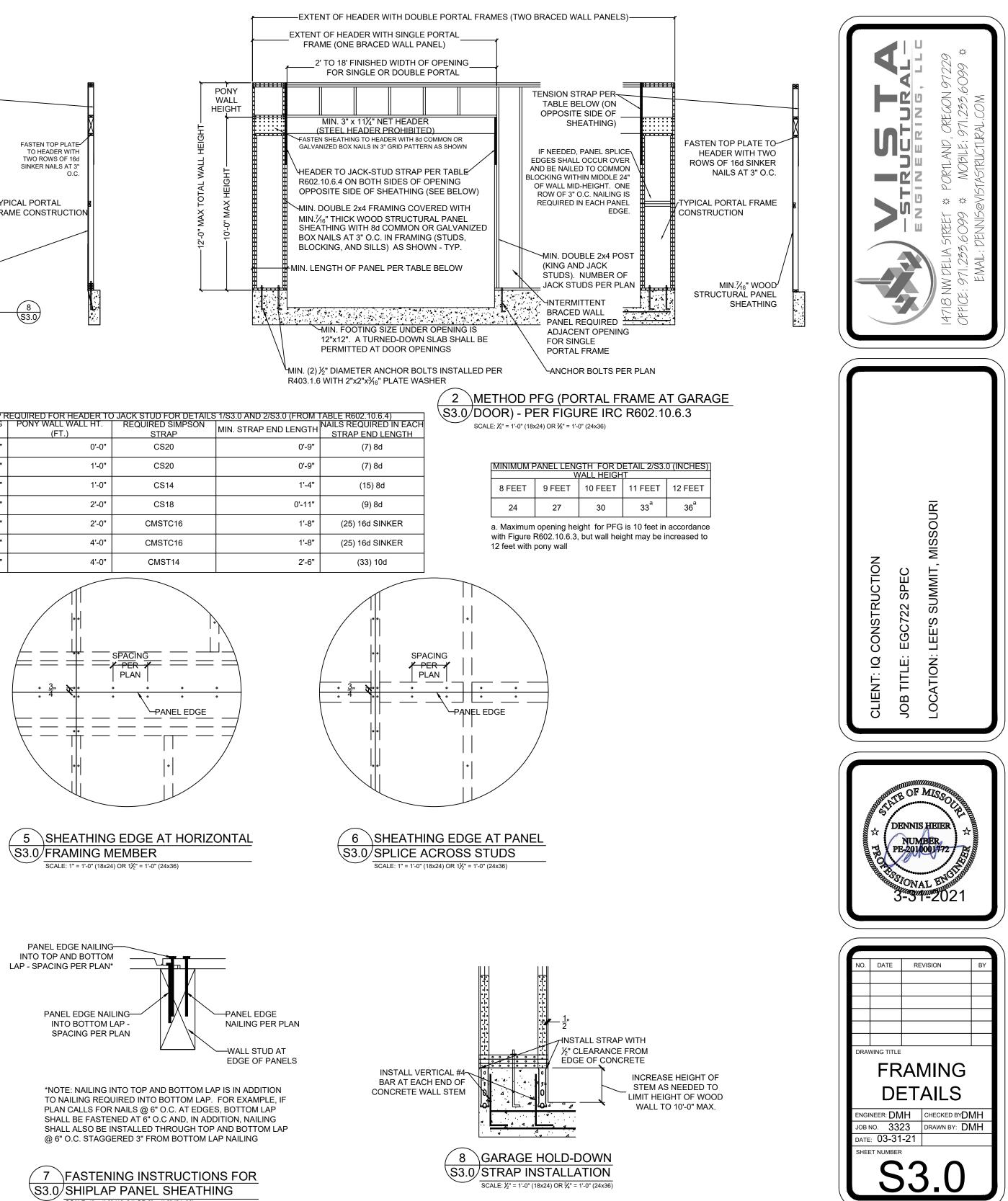


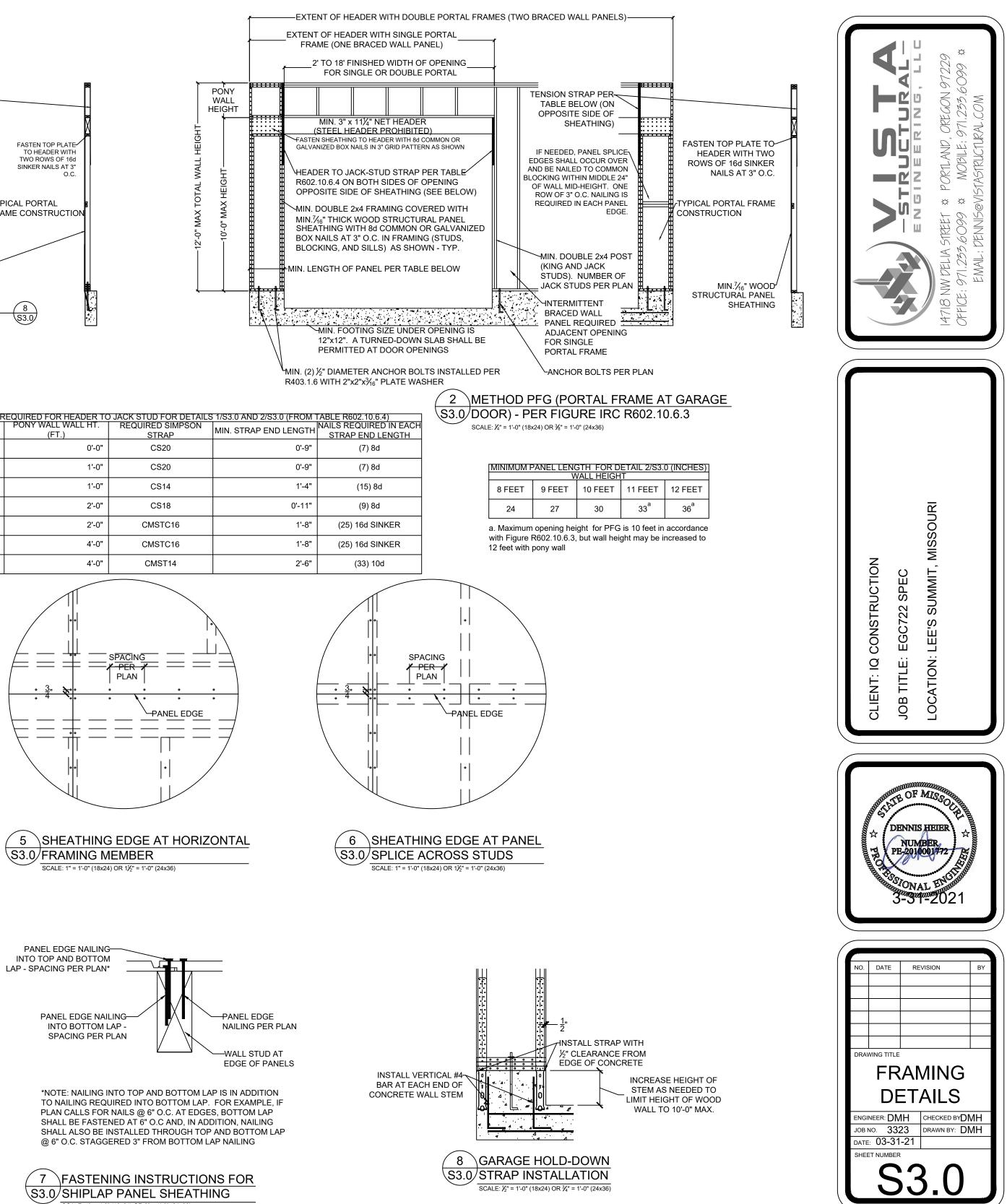


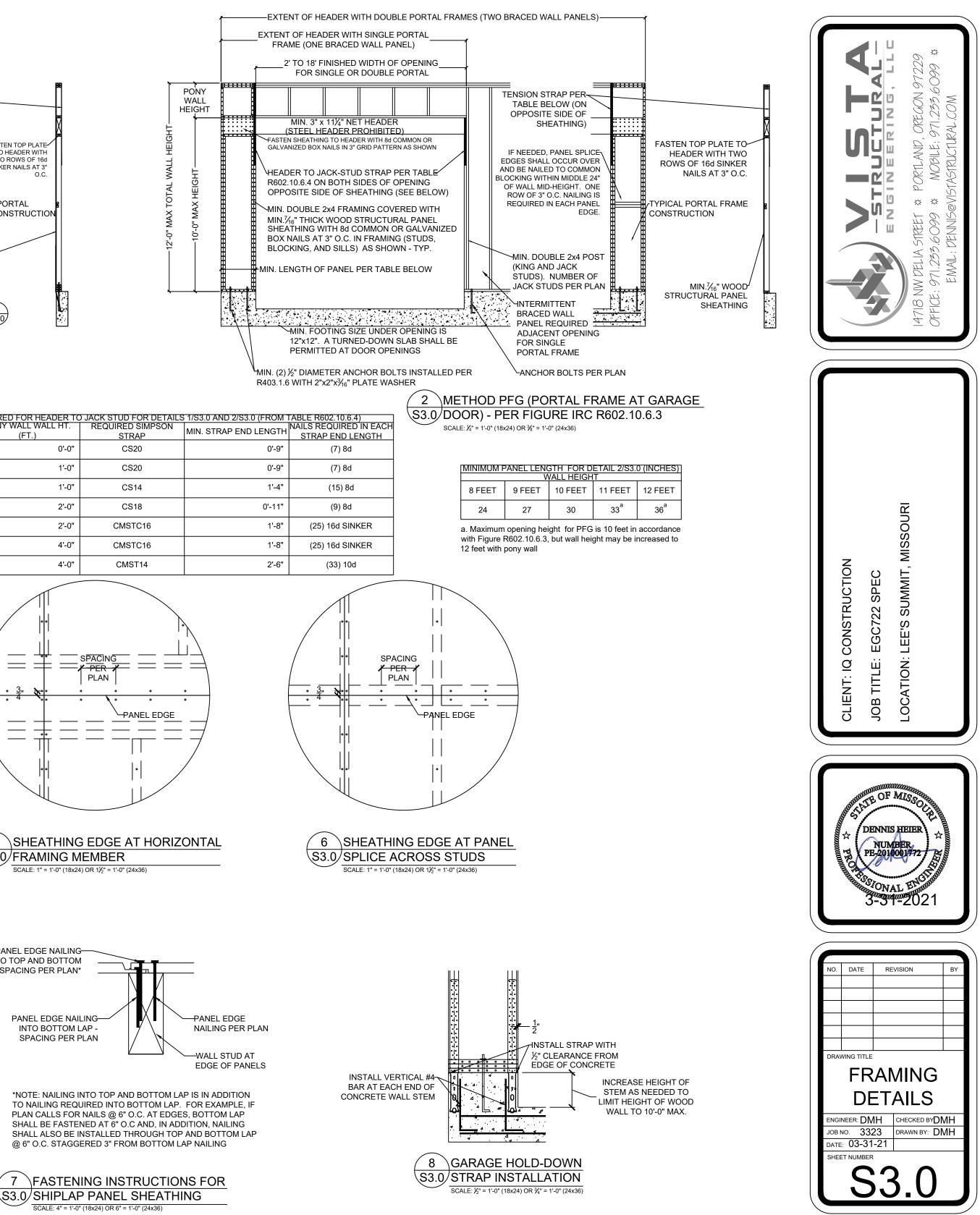


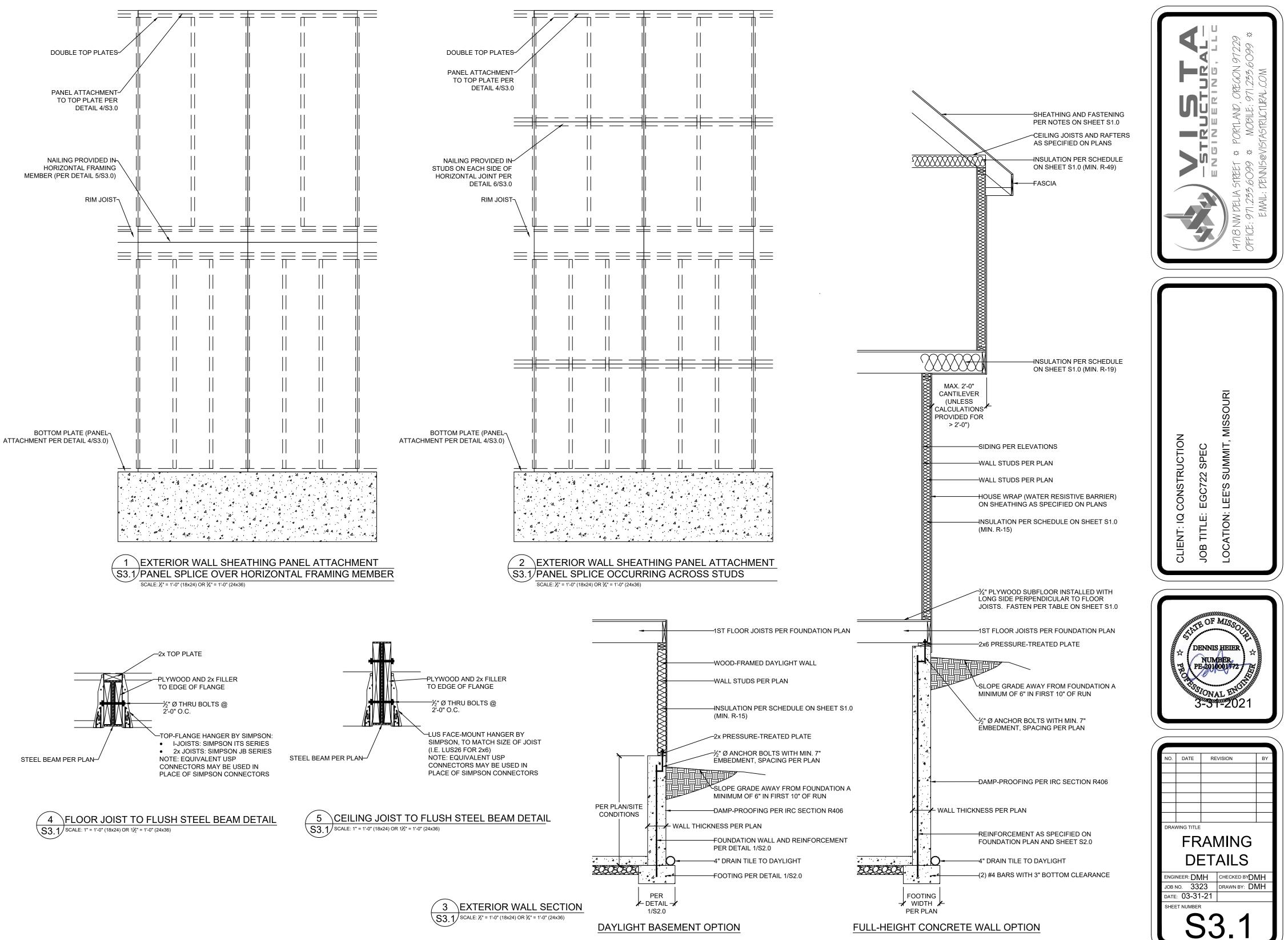
SHEATHING EDGE AT BOTTOM PLATE (SINGLE ROW OF FASTENERS)

SHEATHING EDGE AT TOP 4 S3.0/AND BOTTOM PLATES SCALE: 1" = 1'-0" (18x24) OR 1¹/₂" = 1'-0" (24x36)

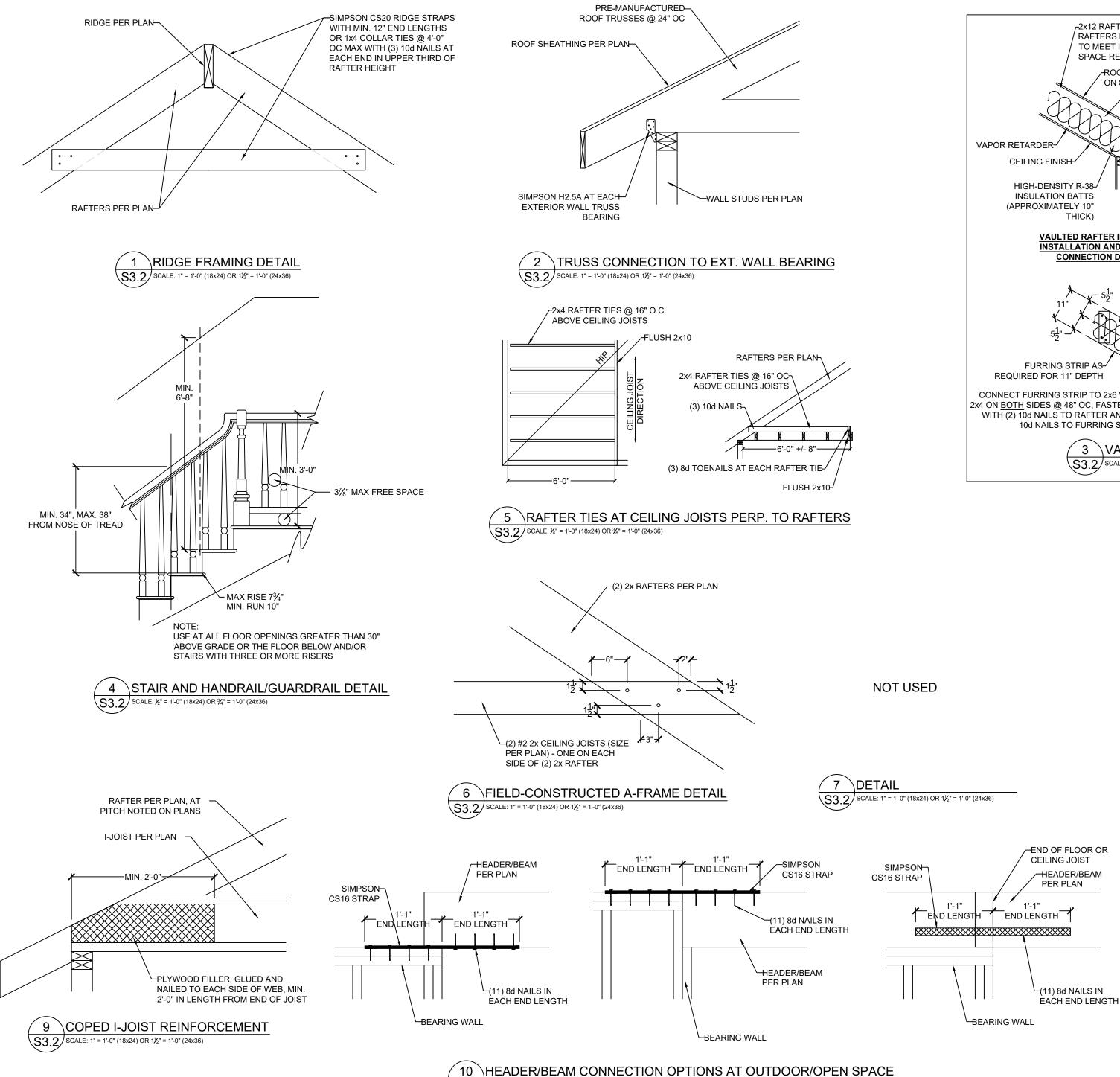




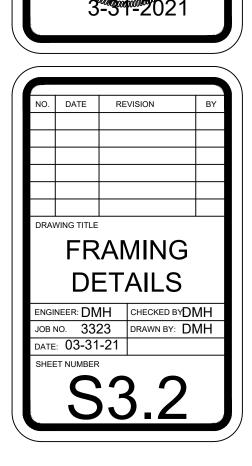




FULL-HEIGHT CONCRETE WALL OPTION



S3.2/SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



JZ

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MISSOURI

LEE'S SUMMIT,

LOCATION:

CONSTRUCTION

Q

CLIENT:

SPEC

EGC722

TITLE:

JOB

TE OF MISS

DENNIS HEIER

NUMBER

PE-2010001772

8 \MAXIMUM ALLOWABLE LENGTH OF S3.2/WOOD WALL STUDS (IRC TABLE 602.3.1)

3) THIS TABLE DOES NOT APPLY FOR STUDS SUPPORTING MEMBERS WITH A TRIB. LENGTH GREATER THAN 6'-0"

ANY SPECIES ARE NOT PERMITTED

20	DR	DR	DR	2x0
NOTES: 1) DR = DESIGI 2) UTILITY, STA			GRADE LUI	MBER OF

10 OR LESS	2x6	2x4	2x4	2x4			
12	2x6	2x6	2x6	2x4			
14	2x6	2x6	2x6	2x6			
16	DR	2x6	2x6	2x6			
18	DR	2x6	2x6	2x6			
20	DR	DR	2x6	2x6			
SUPPORTING TWO FLOORS AND A ROOF							
10 OR LESS	2x6	2x6	2x4	2x4			
12	2x6	2x6	2x6	2x6			
14	2x6	2x6	2x6	2x6			
16	DR	2x6	2x6	2x6			
18	DR	DR	2x6	2x6			
20	DR	DR	DR	2x6			

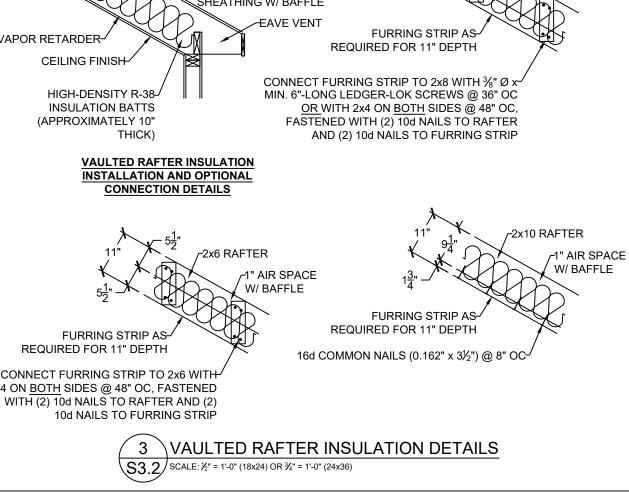
SUPPORTING A ROOF ONLY 10 OR LESS 2x4 2x4 2x4 2x4 12 2x4 2x6 2x4 2x4 14 2x6 2x6 2x6 2x4 16 2x6 2x6 2x6 2x4 18 DR 2x6 2x6 2x6 20 DR DR 2x6 2x6 SUPPORTING ONE FLOOR AND A ROOF

SPACING (INCHES O.C.)

16

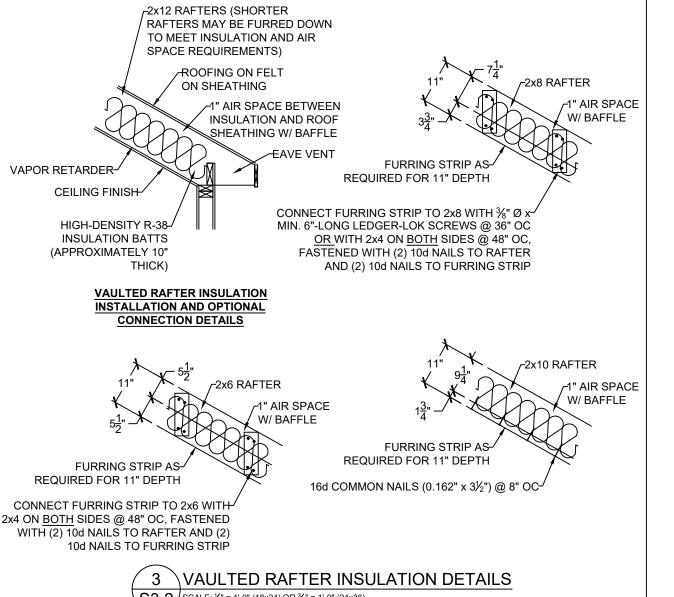
12

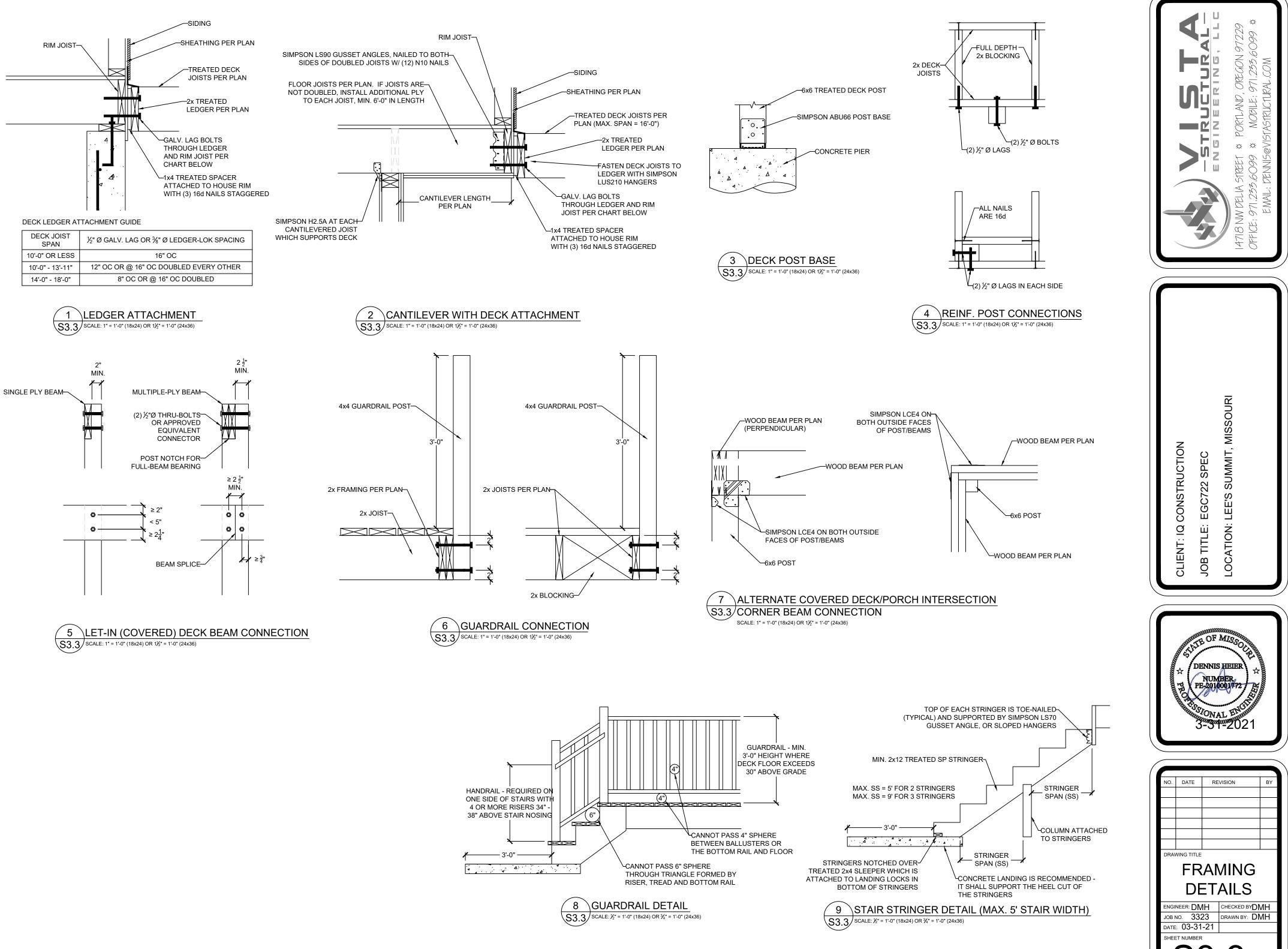
8

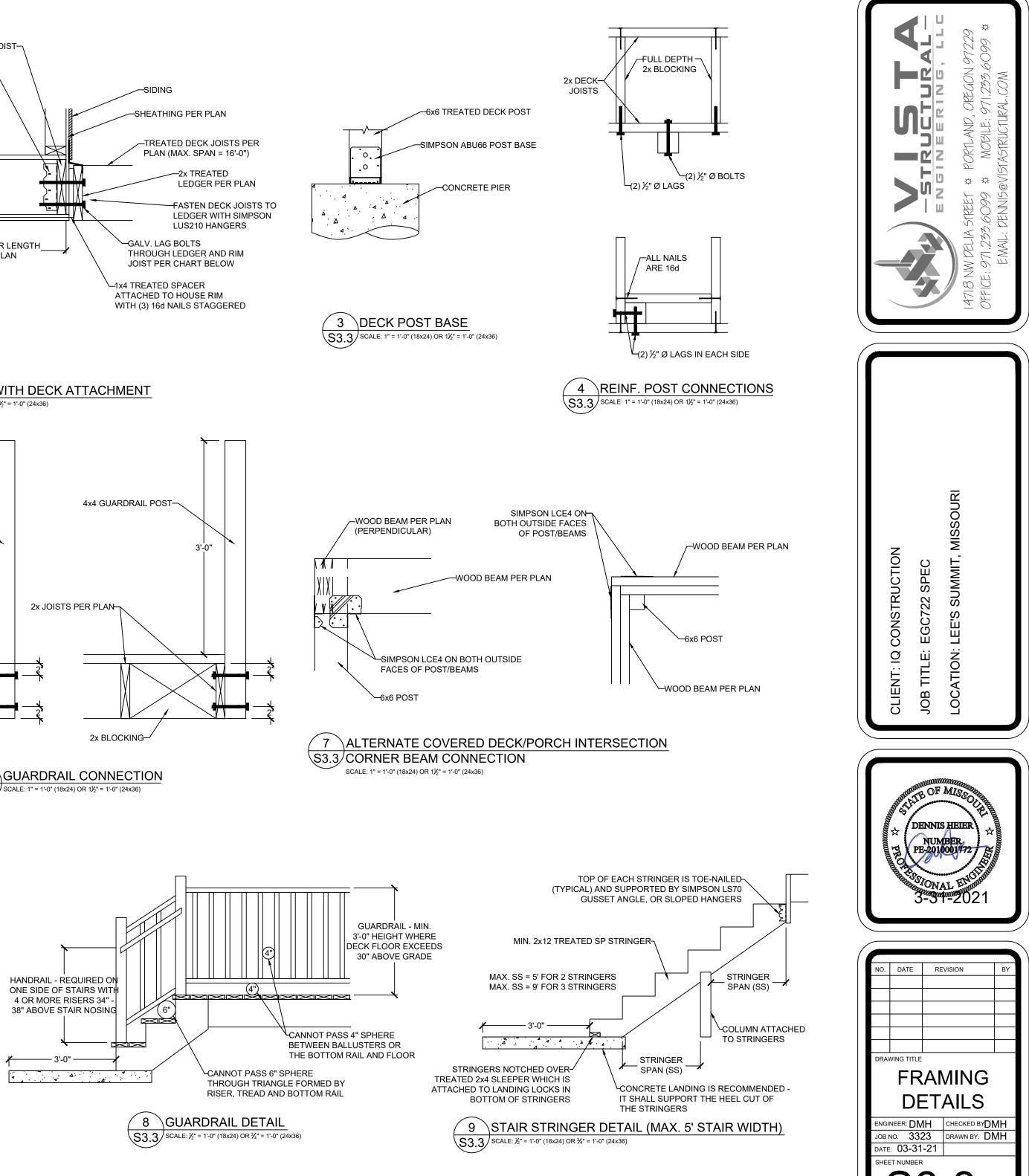


HEIGHT (FT.)

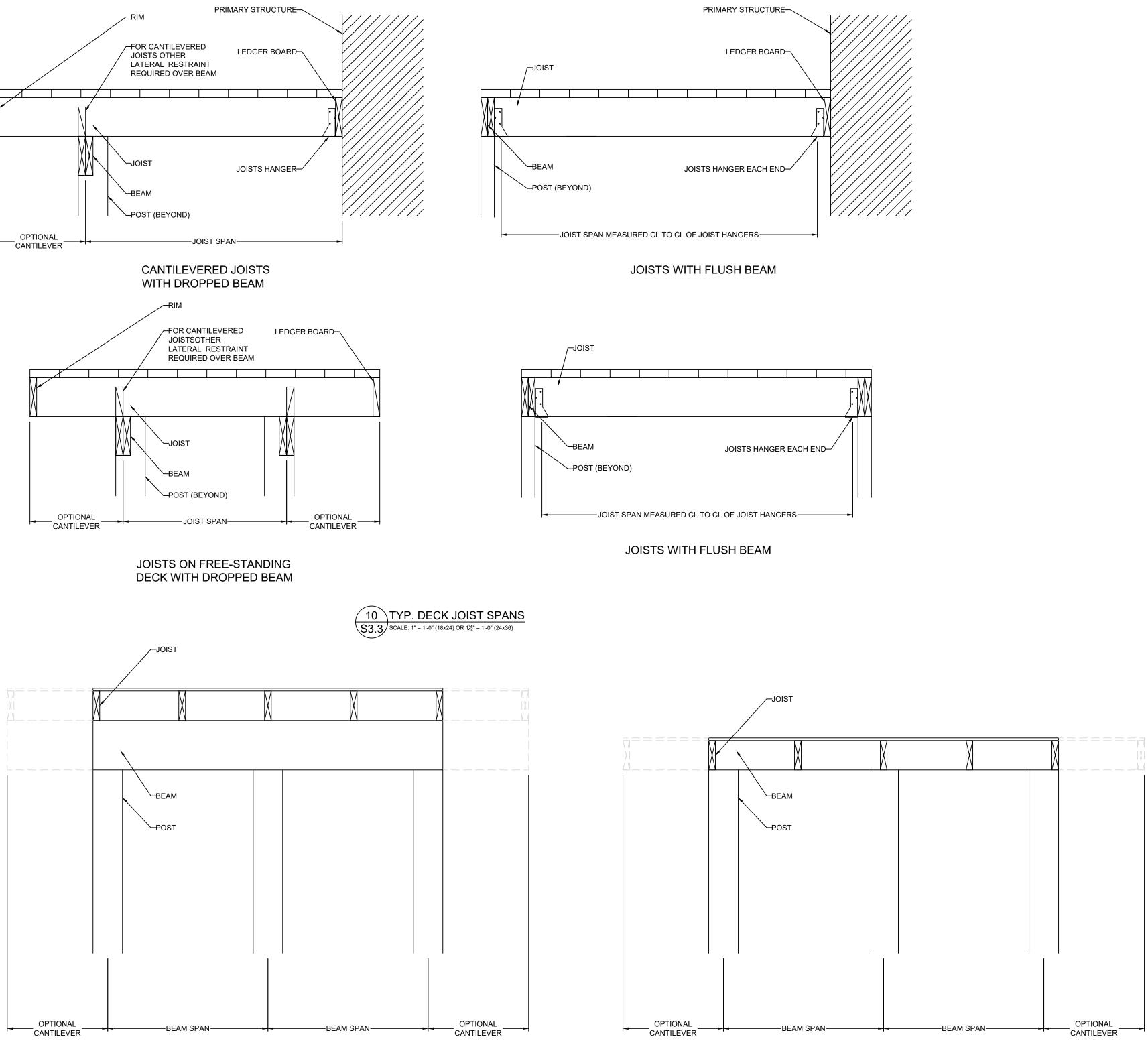
24







DROPPED BEAM



Þ 7229 90 ± ç ט 21 <u>N</u> 80 112 112 Ê PORTL. \geq U ¢ ¢ LEE'S SUMMIT, MISSOURI CLIENT: IQ CONSTRUCTION EGC722 SPEC JOB TITLE: LOCATION: JE OF MISS DENNIS HEIER PE-2010001772 YONAL EN 3-31-2021 DATE REVISION ΒY RAWING TITLE FRAMING DETAILS ENGINEER: DMHCHECKED BYDMHJOB NO.3323DRAWN BY: DMHDATE:03-31-21 SHEET NUMBER S3.3b

