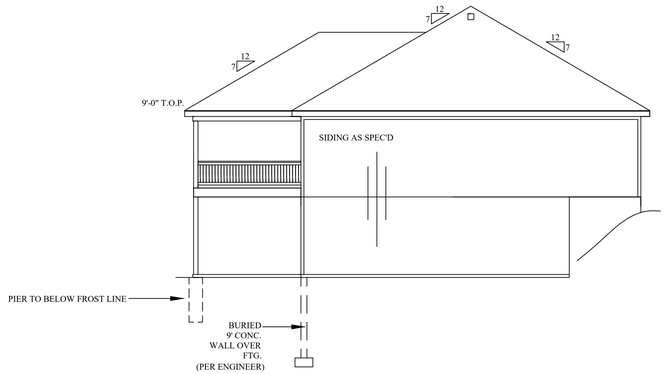
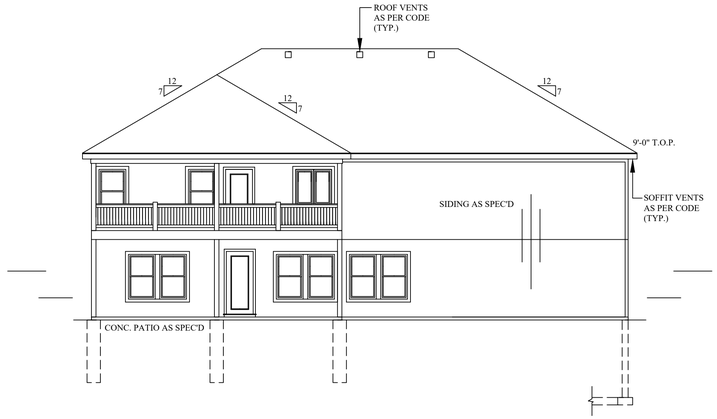


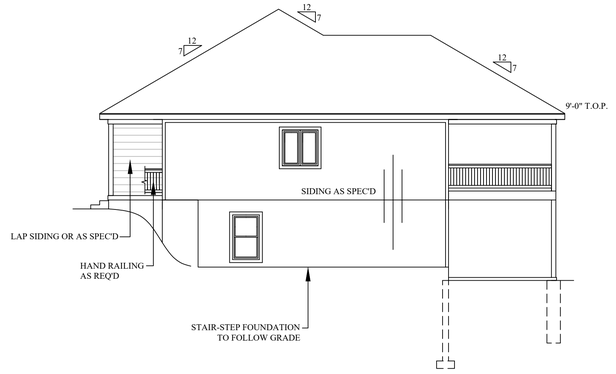

# LEFT ELEVATION

1/8" =1'-0"



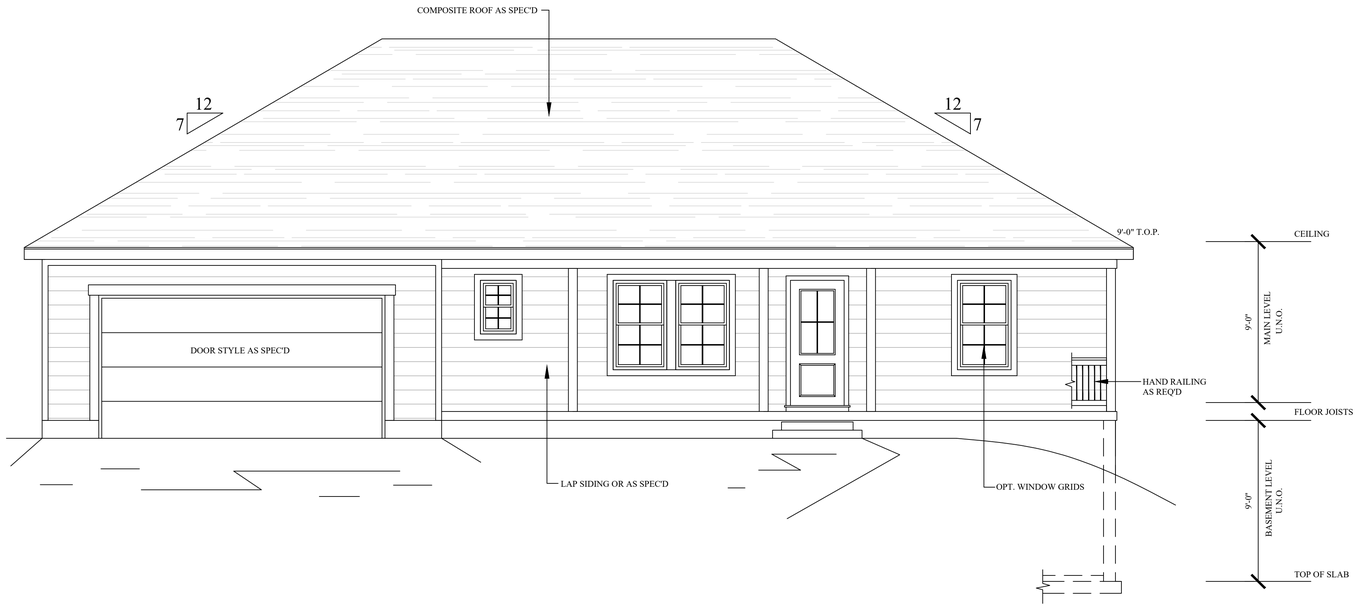

# REAR ELEVATION

1/8" =1'-0"




# RIGHT ELEVATION

1/8" =1'-0"




# FRONT ELEVATION

1/4" =1'-0"

ALBERT P. HERMANS
NUMBER E-23306
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

12/26/23

NOTE: DESIGN AND CONSTRUCTION SHALL CONFORM TO 2018 IRC.
ASSUMED SOIL BEARINGS PRESSURE = 1500 PSF.

BUILDING ADDRESS: 1404 NE Ernest Way
Lees Summit MO 64086

CONTRACTOR TO CHECK AND VERIFY ALL
DIMENSIONS AND JOB SITE CONDITIONS
PRIOR TO CONSTRUCTION.



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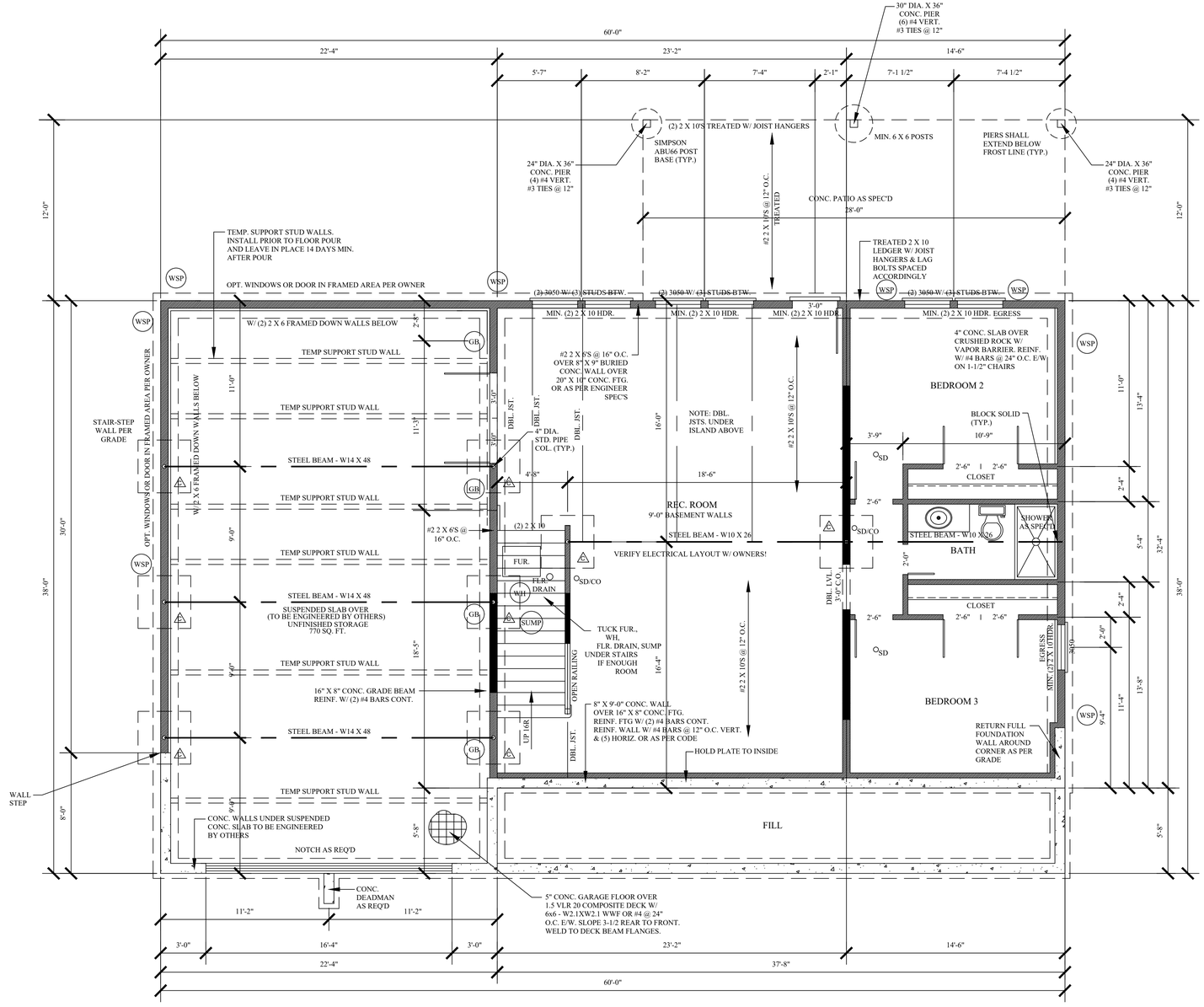
| PLAN: MEDLIN | DATE: 12/26/2023 | PAGE: 1 OF 4 |
|---|---|---|

## COLUMN & PIER PAD SCHEDULE (REF. 5/S2.0)

| COLUMN MARK | PAD SIZE | REINFORCEMENT | COLUMN SIZE | COLUMN TYPE |
|---|---|---|---|---|
| A | 30" x 30" x 12" | (4) #4 BAR E.W. | 3" DIA. | SCHEDULE 40 STEEL PIPE (7'-0" MIN.) |
| B | 36" x 36" x 12" | (4) #4 BAR E.W. | PER PLAN | |
| C | 42" x 42" x 12" | (5) #4 BAR E.W. | PER PLAN | |
| D | 48" x 48" x 12" | (6) #4 BAR E.W. | 3" DIA. | |
| E | 54" x 54" x 16" | (8) #4 BAR E.W. | 3½" DIA. | |
| 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.



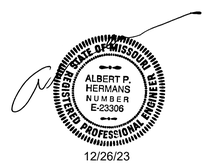

GB = GYPSUM BOARD

PFG = PORTAL FRAME GARAGE

WSP = WOOD STRUCTURAL PANEL

# BASEMENT

1/4" =1'-0" 1068 FINISHED SQ. FT.




12/26/23

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

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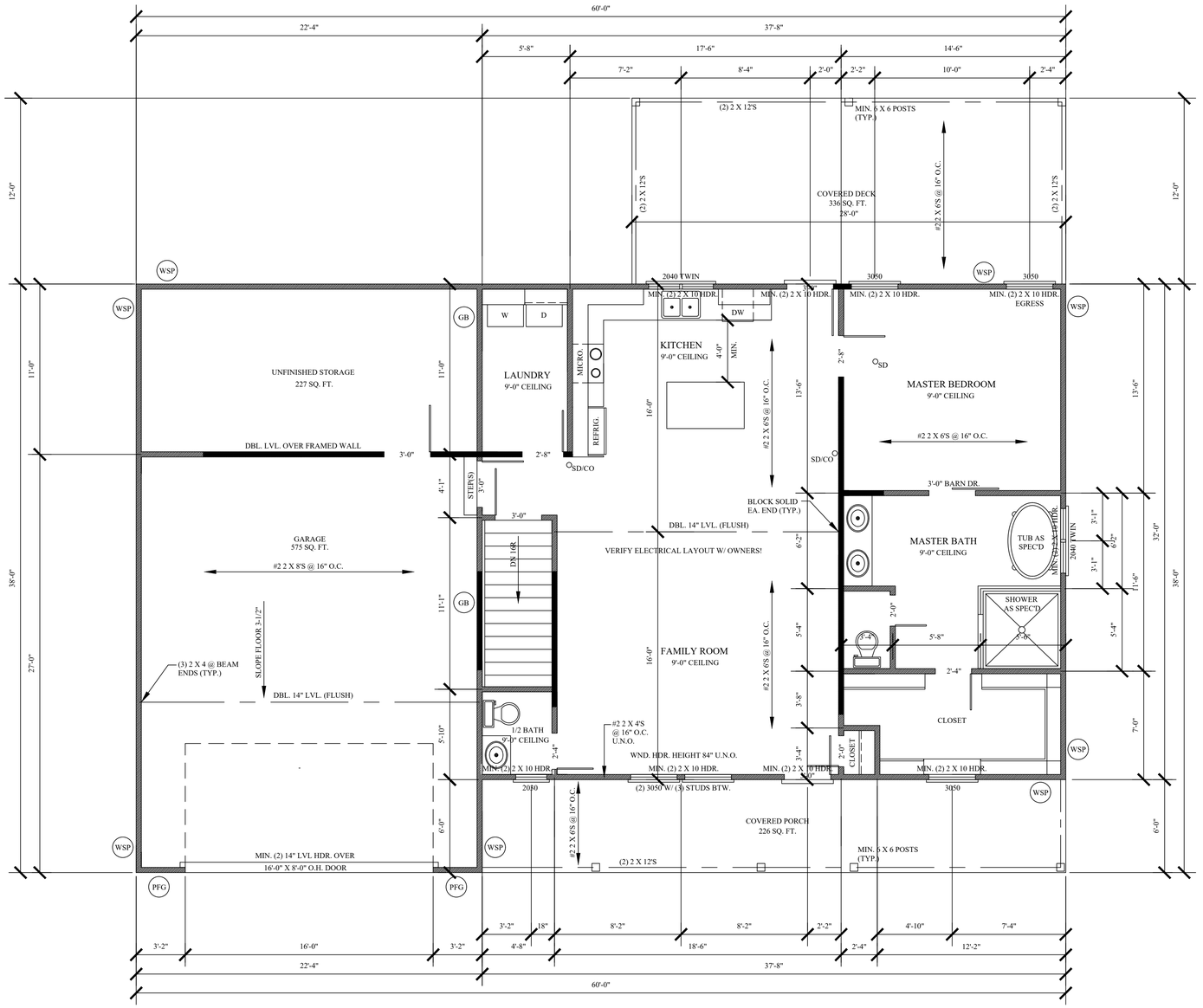
PLAN: MEDLIN | DATE: 12/26/2023 | PAGE: 2 OF 4




GB = GYPSUM BOARD

PFG = PORTAL FRAME GARAGE

WSP = WOOD STRUCTURAL PANEL

# MAIN LEVEL

1/4" =1'-0" 1216 SQ. FT.

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND JOB SITE CONDITIONS PRIOR TO CONSTRUCTION.

STATE OF MISSOURI
ALBERT P. HERMANS
NUMBER E-23306
REGISTERED PROFESSIONAL ENGINEER

12/26/23

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

| |
|---|
| MAIN LEVEL: 1216 FINISHED |
| BASEMENT: 1068 FINISHED |
| FRONT PORCH: 226 SQ. FT. |
| COVERED DECK: 336 SQ. FT. |
| UNFINISHED STORAGE GARAGE: 227 SQ. FT. - GARAGE TOTAL: 802 SQ. FT. |
| UNFINISHED SPACE UNDER SUSPENDED GARAGE SLAB: 770 SQ. FT. |
| UNFINISHED SPACE UNDER SUSPENDED GARAGE SLAB: 770 SQ. FT. |

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R802.5.2 Ceiling Joist and Rafter Connections

Where ceiling joists run parallel to rafters, they shall be connected to rafters at the top wall plate in accordance with Table R802.5.2. Where ceiling joists are not connected to the rafters at the top wall plate, they shall be installed in the bottom third of the rafter height in accordance with Figure R802.4.5 and Table R802.5.2. Where the ceiling joists are installed above the bottom third of the rafter height, the ridge shall be designed as a beam. Where ceiling joists do not run parallel to rafters, the ceiling joists shall be connected to top plates in accordance with Table R602.3(1). Each rafter shall be tied across the structure with a rafter tie or a 2-inch by 4-inch (51 mm × 102 mm) kicker connected to the ceiling diaphragm with nails equivalent in capacity to Table R802.5.2.

**TABLE R802.5.2**

**RAFTER/CEILING JOIST HEEL JOINT CONNECTIONS[a, b, c, d, e, g]**

| RAFTER SLOPE | RAFTER SPACING (inches) | GROUND SNOW LOAD (psf) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20[f] | | | | 30 | | | | 50 | | | | 70 | | | |
| | | Roof span (feet) | | | | | | | | | | | | | | | |
| | | 12 | 20 | 28 | 36 | 12 | 20 | 28 | 36 | 12 | 20 | 28 | 36 | 12 | 20 | 28 | 36 |
| | | Required number of 16d common nails[a, b] per heel joint splices[c, d, e] | | | | | | | | | | | | | | | |
| 3:12 | 12 | 4 | 6 | 8 | 10 | 4 | 6 | 8 | 11 | 5 | 8 | 12 | 15 | 6 | 11 | 15 | 20 |
| | 16 | 5 | 8 | 10 | 13 | 5 | 8 | 11 | 14 | 6 | 11 | 15 | 20 | 8 | 14 | 20 | 26 |
| | 24 | 7 | 11 | 15 | 19 | 7 | 11 | 16 | 21 | 9 | 16 | 23 | 30 | 12 | 21 | 30 | 39 |
| 4:12 | 12 | 3 | 5 | 6 | 8 | 3 | 5 | 6 | 8 | 4 | 6 | 9 | 11 | 5 | 8 | 12 | 15 |
| | 16 | 4 | 6 | 8 | 10 | 4 | 6 | 8 | 11 | 5 | 8 | 12 | 15 | 6 | 11 | 15 | 20 |
| | 24 | 5 | 8 | 12 | 15 | 5 | 9 | 12 | 16 | 7 | 12 | 17 | 22 | 9 | 16 | 23 | 29 |
| 5:12 | 12 | 3 | 4 | 5 | 6 | 3 | 4 | 5 | 7 | 3 | 5 | 7 | 9 | 4 | 7 | 9 | 12 |
| | 16 | 3 | 5 | 6 | 8 | 3 | 5 | 7 | 9 | 4 | 7 | 9 | 12 | 5 | 9 | 12 | 16 |
| | 24 | 4 | 7 | 9 | 12 | 4 | 7 | 10 | 13 | 6 | 10 | 14 | 18 | 7 | 13 | 18 | 23 |
| 7:12 | 12 | 3 | 4 | 4 | 5 | 3 | 4 | 5 | 6 | 3 | 4 | 5 | 7 | 3 | 5 | 7 | 9 |
| | 16 | 3 | 4 | 5 | 6 | 3 | 4 | 5 | 6 | 3 | 5 | 7 | 9 | 4 | 6 | 9 | 11 |
| | 24 | 3 | 5 | 7 | 9 | 3 | 5 | 7 | 9 | 4 | 7 | 10 | 13 | 5 | 9 | 13 | 17 |
| 9:12 | 12 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 5 | 3 | 4 | 5 | 7 |
| | 16 | 3 | 4 | 4 | 5 | 3 | 3 | 4 | 5 | 3 | 4 | 5 | 7 | 3 | 5 | 7 | 9 |
| | 24 | 3 | 4 | 6 | 7 | 3 | 4 | 6 | 7 | 3 | 6 | 8 | 10 | 4 | 7 | 10 | 13 |
| 12:12 | 12 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 5 |
| | 16 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 5 | 3 | 4 | 5 | 7 |
| | 24 | 3 | 4 | 4 | 5 | 3 | 3 | 4 | 6 | 3 | 4 | 6 | 8 | 3 | 6 | 8 | 10 |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

a. 40d box nails shall be permitted to be substituted for 16d common nails.

b. Nailing requirements shall be permitted to be reduced 25 percent if nails are clinched.

c. Heel joint connections are not required where the ridge is supported by a load-bearing wall, header or ridge beam.

d. Where intermediate support of the rafter is provided by vertical struts or purlins to a load-bearing wall, the tabulated heel joint connection requirements shall be permitted to be reduced proportionally to the reduction in span.

e. Equivalent nailing patterns are required for ceiling joist to ceiling joist lap splices.

f. Applies to roof live load of 20 psf or less.

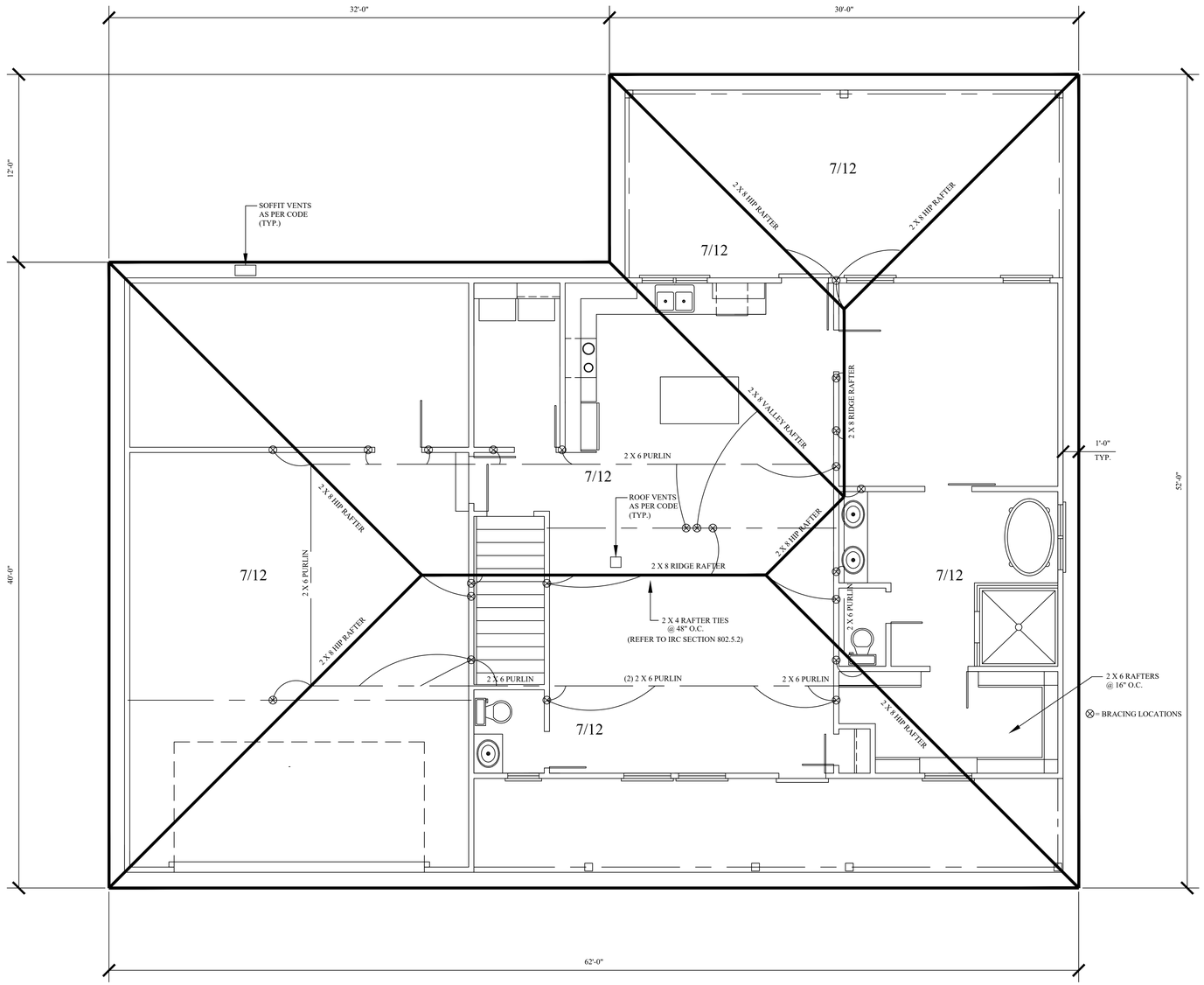
g. Tabulated heel joint connection requirements assume that ceiling joists or rafter ties are located at the bottom of the attic space. Where ceiling joists or rafter ties are located higher in the attic, heel joint connection requirements shall be increased by the following factors:

| $H_C/H_R$ | Heel Joint Connection Adjustment Factor |
|---|---|
| 1/3 | 1.5 |
| 1/4 | 1.33 |
| 1/5 | 1.25 |
| 1/6 | 1.2 |
| 1/10 or less | 1.11 |

where:

$H_C$ = Height of ceiling joists or rafter ties measured vertically above the top of the rafter support walls.

$H_R$ = Height of roof ridge measured vertically above the top of the rafter support walls.




# ROOF PLAN

1/4" =1'-0"

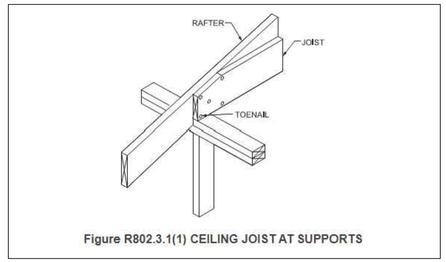
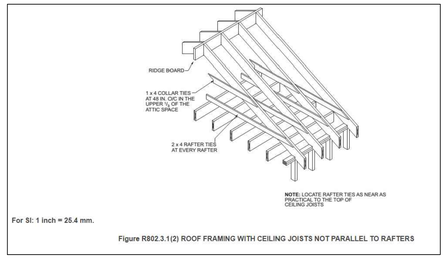



**Figure R802.3.1(1) CEILING JOIST AT SUPPORTS**




For SI: 1 inch = 25.4 mm.

**Figure R802.3.1(2) ROOF FRAMING WITH CEILING JOISTS NOT PARALLEL TO RAFTERS**

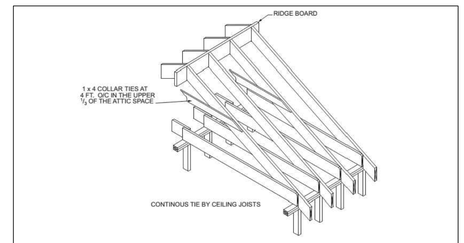
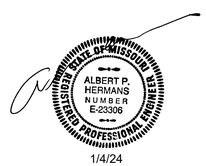



**Figure R802.3.1(3) ROOF FRAMING WITH CEILING JOISTS PARALLEL TO RAFTERS**




1/4/24

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Lees Summit MO 64086

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND JOB SITE CONDITIONS PRIOR TO CONSTRUCTION.

NOTE: THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT THIS STRUCTURE IS BUILT IN STRICT COMPLIANCE WITH ALL GOVERNING CODES (COUNTY, STATE, & FED.). ALL CONSTRUCTION TO MEET 2018 IRC AND LOCAL BUILDING PRACTICES. ANY DEVIATION FROM PLANS MUST BE APPROVED BY OWNER PRIOR TO EXECUTION. FOLEY CAD SERVICES OR AFFILIATES OR ASSIGNS SHALL NOT BE LIABLE FOR STRUCTURAL DESIGN OR FUNCTION OF THESE HOUSE PLANS.


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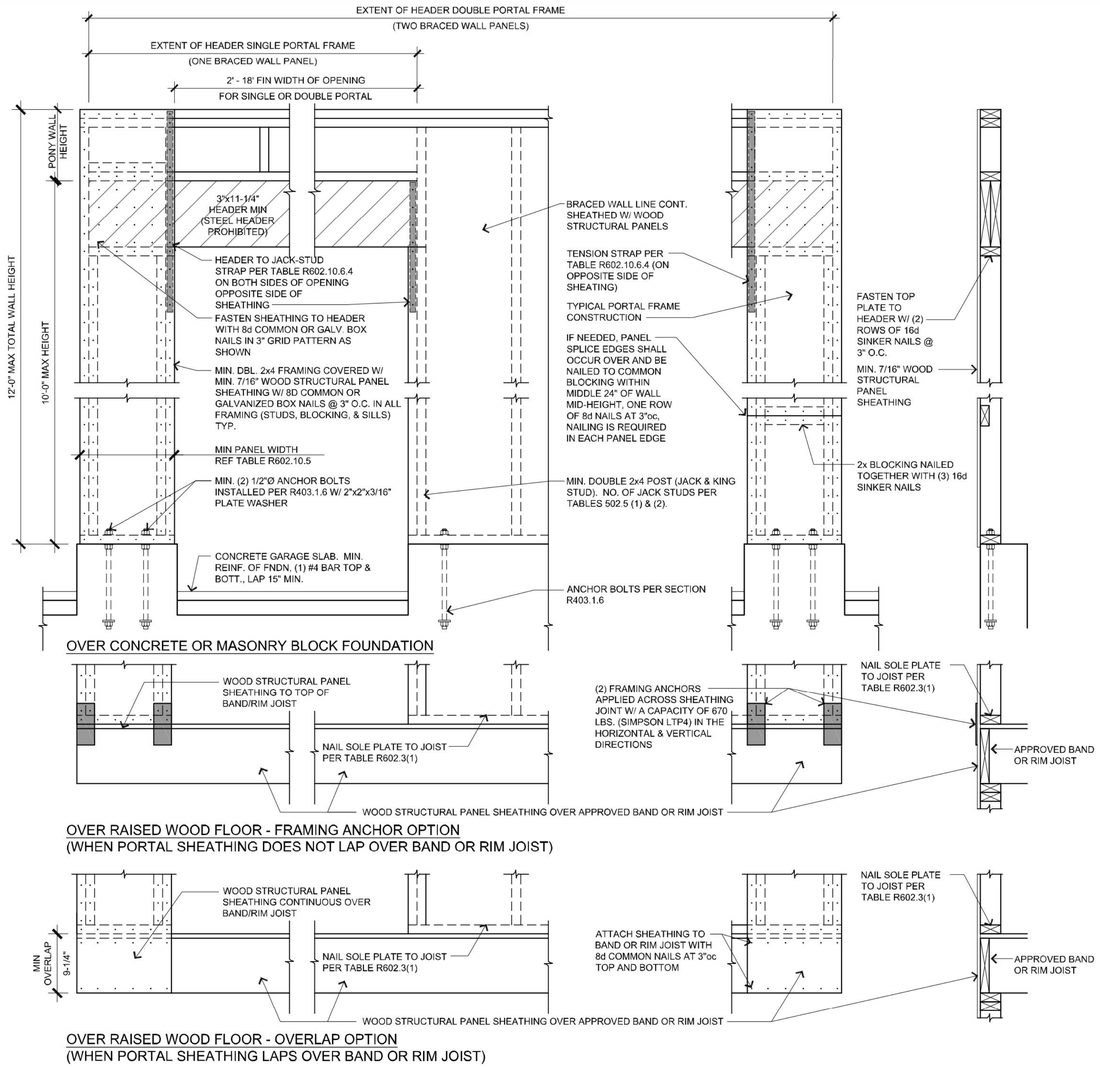
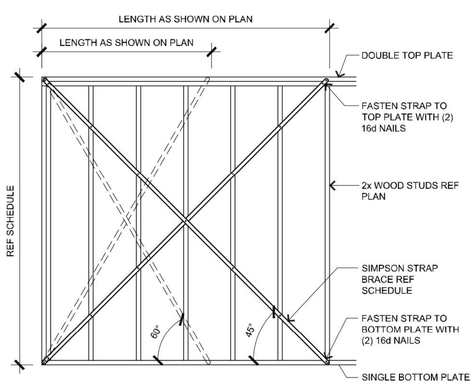
PLAN: MEDLIN | DATE: 12/26/2023 | 




## 3 METHOD CS-PF CONT SHEATHED PORTAL FRAME PANEL (R602.10.6.4)

SCALE: 1" = 1'-0"




## 4 INTERIOR BRACED WALL (LIB)

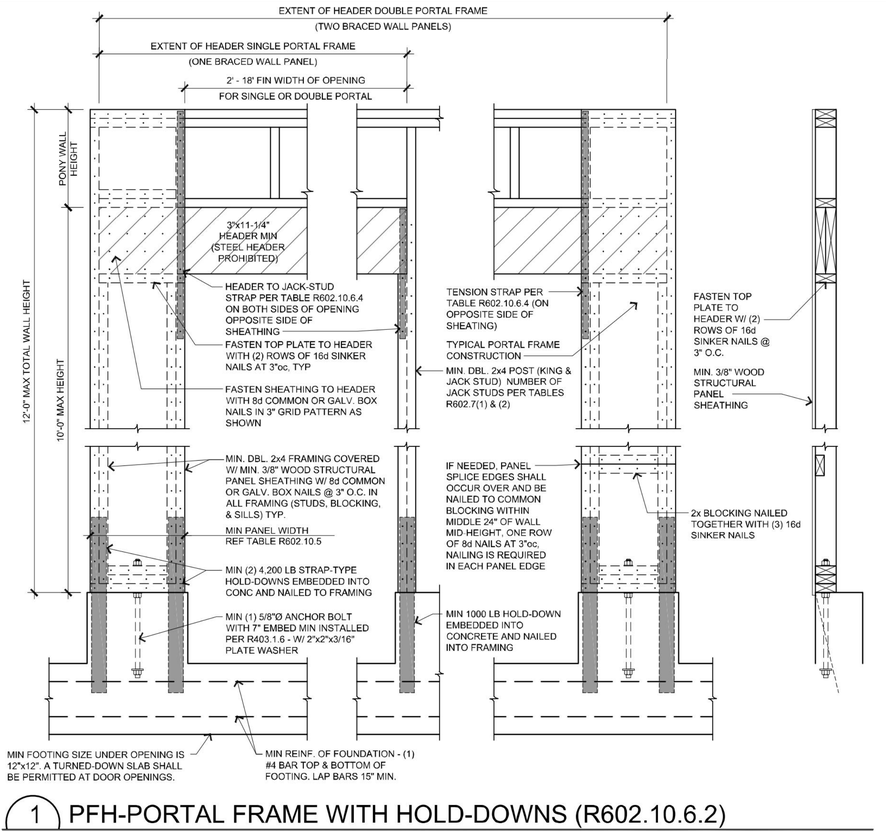
SCALE: N.T.S.

| TABLE R602.10.5 - MINIMUM LENGTH OF BRACED WALL PANELS | | | | | | |
|---|---|---|---|---|---|---|
| METHOD | | WALL LENGTH PER PORTAL HEADER HEIGHT | | | | |
| | | 8 FEET | 9 FEET | 10 FEET | 11 FEET | 12 FEET |
| PFH | SUPPORTING ROOF ONLY | 16" | 16" | 16" | (c) | (c) |
| | SUPPORTING ONE STORY AND ROOF | 24" | 24" | 24" | (c) | (c) |
| PFG | | 24" | 27" | 30" | (d) | (d) |
| CS-PF | SEISMIC DESIGN CATEGORY A, B, C | 16" | 18" | 20" | (e) | (e) |
| | SEISMIC DESIGN CATEGORY $D_0$, $D_1$, $D_2$ | 16" | 18" | 20" | (e) | (e) |

(c) MAXIMUM HEADER HEIGHT FOR PFH IS 10 FEET IN ACCORDANCE WITH FIGURE R602.10.6.2, BUT WALL HEIGHT MAY BE INCREASED TO 12 FEET WITH PONY WALL.
(d) MAXIMUM HEADER HEIGHT FOR PFG IS 10 FEET IN ACCORDANCE WITH FIGURE R602.10.6.3, BUT WALL HEIGHT MAY BE INCREASED TO 12 FEET WITH PONY WALL.
(e) MAXIMUM HEADER HEIGHT FOR CS-PF IS 10 FEET IN ACCORDANCE WITH FIGURE R602.10.4, BUT WALL HEIGHT MAY BE INCREASED TO 12 FEET WITH PONY WALL.

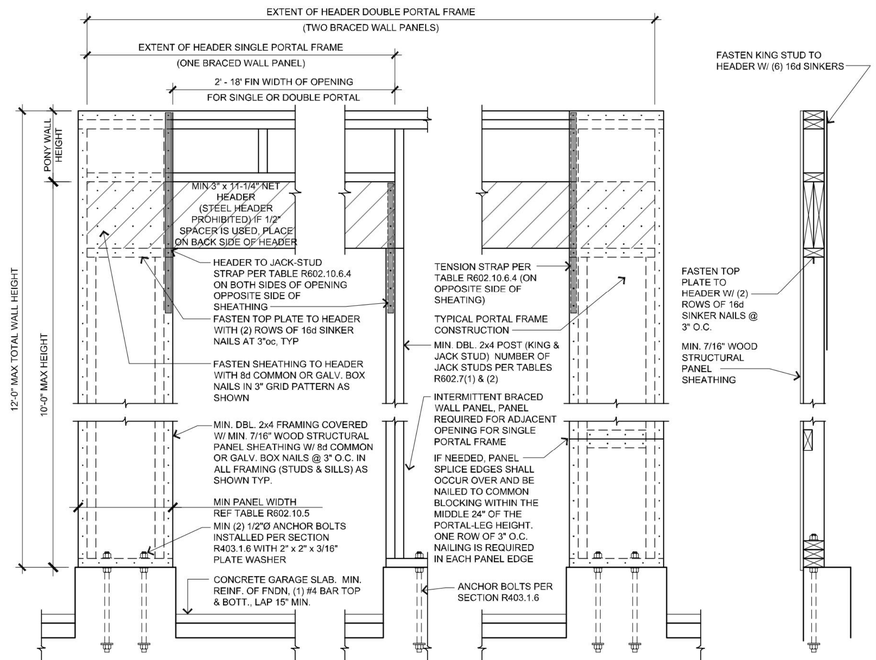
## INTERIOR BRACED WALL SCHEDULE

| SIMPSON MODEL NO. | STRAP LENGTH | WALL DIM'S HEIGHT x WIDTH | ANGLE FROM HORIZONTAL | FASTENERS | |
|---|---|---|---|---|---|
| | | | | PLATES | EA STUD |
| WB106 | 9'-5 5/8" | 8'-0" x 5'-0" | 60° | (2) 16d | (1) 8d |
| WB126 | 11'-4 3/8" | 8'-0" x 8'-0" | 45° | (2) 16d | (1) 8d |
| WB106C | 9'-6" | 8'-0" x 5'-0" | 60° | (2) 16d | (1) 8d |
| WB126C | 11'-4 13/16" | 8'-0" x 8'-0" | 45° | (2) 16d | (1) 8d |
| WB143C | 14'-3" | 10'-0" x 10'-0" | 45° | (2) 16d | (1) 8d |




## 1 PFH-PORTAL FRAME WITH HOLD-DOWNS (R602.10.6.2)

SCALE: 1" = 1'-0"




## 2 PORTAL FRAME AT GARAGE (PFG - R602.10.6.3)

SCALE: 1" = 1'-0"



THIS DRAWING HAS BEEN DEVELOPED BY SDC ENGINEERING, INC. EXCLUSIVELY FOR: MR. MEDLIN FOR THE PROJECT LISTED IN THIS TITLE BLOCK. ANY OTHER UNAUTHORIZED USE IS PROHIBITED.

STATE OF MISSOURI
ALBERT P. HERMANS
NUMBER E-23306
REGISTERED PROFESSIONAL ENGINEER
12/26/23

ENGINEERING, INC.
Consulting Structural and Civil Engineers
5907 Raytown Trafficway
Raytown, Missouri 64133
816-356-1445

| DATE: | 12/14/23 |
|---|---|
| REVISION | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |

DWG. 5

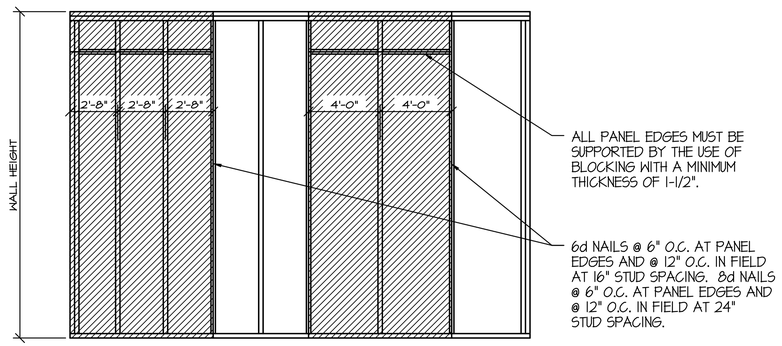
| MINIMUM LENGTH OF CS-WSP BRACED WALL PANELS | | | | | |
|---|---|---|---|---|---|
| ADJACENT CLEAR OPENING HEIGHT | WALL HEIGHT | | | | |
| | 8' | 9' | 10' | 11' | 12' |
| <64" | 24" | 27" | 30" | 33" | 36" |
| 68" | 26" | 27" | 30" | 33" | 36" |
| 72" | 27" | 27" | 30" | 33" | 36" |
| 76" | 30" | 29" | 30" | 33" | 36" |
| 80" | 32" | 30" | 30" | 33" | 36" |
| 84" | 35" | 32" | 32" | 33" | 36" |
| 88" | 38" | 35" | 33" | 33" | 36" |
| 92" | 43" | 37" | 35" | 35" | 36" |
| 96" | 48" | 41" | 38" | 36" | 36" |
| 100" | | 44" | 40" | 38" | 38" |
| 104" | | 49" | 43" | 40" | 39" |
| 108" | | 54" | 46" | 43" | 41" |
| 112 | | | 50" | 45" | 43" |
| 116" | | | 55" | 48" | 45" |
| 120" | | | 60" | 52" | 48" |
| 124" | | | | 56" | 51" |
| 128" | | | | 61" | 54" |
| 132" | | | | 66" | 58" |
| 136" | | | | | 62" |
| 140" | | | | | 66" |
| 144" | | | | | 72" |

REF. TABLE R602.10.5

NOTE: BRACED WALL PANELS MUST COVER 3 STUD SPACES MINIMUM WHEN STUDS ARE AT 16" ON CENTER OR COVER 2 STUD SPACES MINIMUM WHEN STUDS ARE AT 24" ON CENTER.

MINIMUM PANEL THICKNESS = 3/8" AT 16" STUD SPACING, 7/16" AT 24" STUD SPACING.

REF. TABLES R602.3(3) AND R602.10.4.




## WSP SHEAR PANEL BRACING DETAIL

N.T.S.

| MINIMUM LENGTH OF WSP BRACED WALL PANELS | | | | |
|---|---|---|---|---|
| WALL HEIGHT | | | | |
| 8' | 9' | 10' | 11' | 12' |
| 48" | 48" | 48" | 53" | 58" |

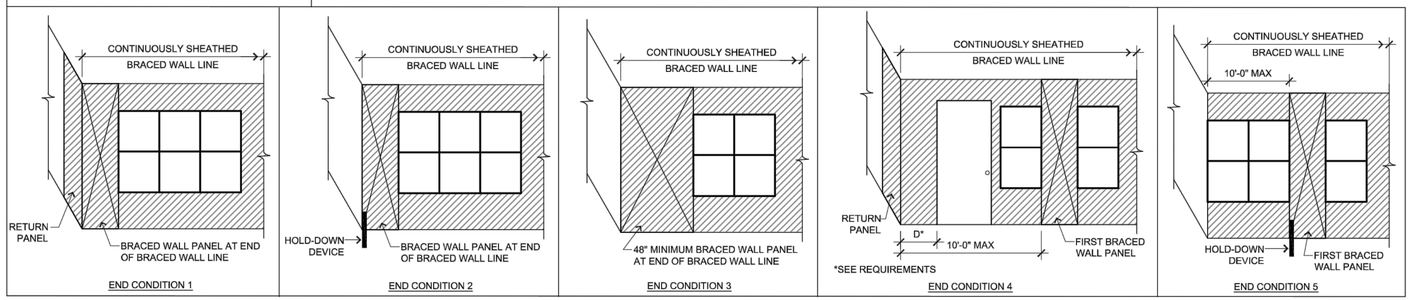
REF. TABLE R602.10.5

REQUIREMENTS

RETURN PANEL:
24" FOR BRACED WALL LINES SHEATHED WITH WOOD STRUCTURAL PANELS
32" FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD

DISTANCE D:
24" FOR BRACED WALL LINES SHEATHED WITH WOOD STRUCTURAL PANELS
32" FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD

HOLD-DOWN DEVICE:
800 lbs CAPACITY FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FLOOR FRAMING BELOW




## 1 END CONDITIONS FOR BRACED WALL LINES WITH CONTINUOUS SHEATHING R602.10.7

SCALE: NTS



STATE OF MISSOURI
ALBERT P. HERMANS
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REGISTERED PROFESSIONAL ENGINEER
12/26/23

ENGINEERING, INC.
Consulting Structural and Civil Engineers
5907 Raytown Trafficway
Raytown, Missouri 64133
816-356-1445

| DATE: | 12/14/23 |
|---|---|
| REVISION | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |

DWG. 6

| CHAPTER 11 MANDATORY PROVISIONS | |
|---|---|
| IRC CODE REFERENCE | DESCRIPTION |
| N1101.14 | REQUIRES POSTING A PERMANENT CERTIFICATE THAT LISTS THE ENERGY EFFICIENT COMPONENTS INSTALLED AND CONSTRUCTED IN THE HOUSE. |
| N1102.4 | REQUIRES THAT AN AIR LEAKAGE TEST (BLOWER DOOR) BE CONDUCTED, VERIFYING THE HOUSE ACHIEVES 3 AIR CHANGES PER HOUR OR LESS LEAKAGE. |
| N1103.1.1 | REQUIRES THAT EACH HVAC SYSTEM BE PROVIDED WITH A PROGRAMMABLE THERMOSTST. |
| N1103.1.2 | REQUIRES THAT HEAT PUMPS MEET SUPPLEMENTARY ELECTRIC HEAT ENERGY EFFICIENCY REQUIREMENTS |
| N1103.3.2 | REQUIRES THAT DUCTS, AIR HANDLERS AND FILTER BOXES JOINTS AND SEAMS BE SEALED. |
| N1103.6 | REQUIRES MECHANICAL VENTILATION SYSTEMS TO MEET MINIMUM EFFICIENCY REQUIREMENTS. |
| N1103.10 | REQUIRES POOLS AND SPAS TO MEET MINIMUM ENERGY EFFICIENCY LEVELS. |

| NAILING SCHEDULE | | |
|---|---|---|
| DESCRIPTIOM OF BLDG. ELEMENTS | # AND NAIL TYPE | SPACING |
| SOLE PLATE TO JOIST | 16d | 16" O. C. |
| SOLE PLATE TO STUD, END NAIL | 2–16d | – |
| DOUBLE STUDS, FACE NAIL | 10d | 24" O. C. |
| DOUBLE TOP PLATES, FACE NAIL | 10d | 24" O. C. |
| RIM JOIST– TOP PLATES, TOE NAIL | 8d | 6" O. C. |
| CLG. JOIST TO PLATE, TOE NAIL | 3–8d | – |
| RAFTER TO PLATE, TOE NAIL | 2–16d | – |
| RAFTER TO RIDGE, VALLEY OR HIP TOE NAIL | 4–16d | – |
| FACE NAIL | 3–16d | – |

DWELLING MUST MEET OR EXCEED THE MINIMUM REQUIREMENTS OF 2018 IRC TABLE N1102.1.2.

| TABLE N1102.1.2 ALTERNATE INSULATION VALUES (WINDOW AREA NOT LIMITED) | | | |
|---|---|---|---|
| CEILING R–VALUE | R–49 | EXTERIOR WALL | R–20 |
| CATHEDRAL CEILING R–VALUE | R–30 | CRAWL SPACE WALL | R–13 |
| FLOOR OVER UNHEATED SPACE | R–19 | GLAZING | U≤ 0.40 |
| FLOOR OVER OUTSIDE AIR | R–30 | N/A | |
| DUCTS OUTSIDE OF THE CONDITIONED SPACE | SUPPLY AND RETURN | | R–8 |
| | IN FLOOR & CEILING ASSEMBLY | | R–6 |
| BASEMENT WALL | R–13 INSULATION CONCRETE WALLS ADJACENT TO FINISHED SPACE. | | |
| ON GRADE TRENCH FOOTINGS | R10, R15 FOR HEATED SLABS | | |

a. DEFAULT U–FACTOR FOR DOUBLE PANE, ARGON FILLED LOW–E TREATMENT IS U= 0.40. FOR ALL SKYLITES USE U–FACTOR = 0.55.

DWELLING SHALL COMPLY WITH THE FOLLOWING LOAD CONDITIONS

| AREA | MINIMUM DEAD LOAD | MINIMUM LIVE LOAD |
|---|---|---|
| EXTERIOR BALCONIES | 10 | 60 |
| DECKS | 10 | 40 |
| CEILING JOISTS/ATTICS W/O STORAGE SCUTTLE ACCESS ONLY | 10 | 10 |
| CEILING JOISTS/ATTICS W/ STORAGE–DOOR /PULL DOWN LADDER ACCESS | 10 | 20 |
| ROOMS – NON–SLEEPING | 10 | 40 |
| SLEEPING ROOMS | 10 | 30 |
| ROOF – LIGHT ROOF COVERING | 10 | 20 |
| ROOF – HEAVY ROOF COVERING – CONCRETE/TILE/SLATE | 20 | 20 |

## FOUNDATION NOTES:

–BASEMENT FLOOR TO BE MIN. 4" THICK CONC. SLAB OVER 4" CRUSHED ROCK W/ A 6–MIL–THICK POLYETHYLENE MOISTURE BARRIER BETWEEN SLAB AND ROCK.

–ASSUMED SOIL BEARING CAPACITY–1500 PSF MINIMUM. CONTRACTOR TO VERIFY.

–CONCRETE SHALL BE AIR ENTRANED WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4000 PSI FOR BASEMENT AND INTERIOR FLOOR SLABS, 3000 PSI FOR BASEMENT AND FOUNDATION WALLS AND 4000 PSI FOR PORCHES AND GARAGE FLOOR SLABS.

–LAP FOUNDATION WALL CORNER AND END BARS 24" MINIMUM. LAP FOOTING BARS 24" MINIMUM.

–FOOTINGS TO BE POURED CONTINUOUS AT FOOTING STEPS. (SOLID JUMPS)

–FLOOR SLABS TO HAVE INSTALLED CONTROL JOINTS TO MINIMIZE THE AMOUNT OF RANDOM CRACKING. JOINTS TO BE SAW CUT WITHIN 18 HOURS OF POURING OR MAY BE TOOLED INTO SLAB.

–FOOTINGS SHALL EXTEND BELOW FROST LINE – MINIMUM DEPTH OF 36" BELOW GRADE IS REQUIRED IN THE KANSAS CITY AREA.

–FOUNDATION DRAIN SHALL BE MIN. 4" PERFORATED DRAIN AROUND USABLE SPACE BELOW GRADE OR OTHER EQUIVALENT MATERIALS (2018 IRC SECTION R405.1). DRAIN TO BE COVERED WITH NOT LESS THAN 6" OF WASHED GRAVEL OR CRUSHED ROCK AND SHALL DRAIN TO DAYLIGHT TO THE EXTERIOR BELOW FLOOR LEVEL OR TERMINATE IN A MIN. 20 GALLON SUMP PUMP.

–STEEL REBAR TO BE MIN. OF GRADE 40.

–ANCHOR BOLT SPACING SHALL NOT EXCEED 72" O. C. W/ 7" MINIMUM EMBEDMENT INTO CONCRETE.

–FOUNDATION WALLS TO BE DAMP–PROOFED (2018 IRC SECTION R406)

DESIGN NOTES:

A. STEEL: A–36
WOOD: # 2 D.F.L. OR BETTER
DEFLECTION: L/360
MIN. SOIL BEARING: 2000 PSF

B. ALL L.V.L.S TO BE 2.0E MICROLAMS UNLESS OTHERWISE SPECIFIED.

C. ALL HEADERS TO BE (2) 2"x10" #2 D.F.L. UNLESS OTHERWISE SPECIFIED

D. ALL BEAM AND HEADER SUPPORTS TO BE (3) 2"x4" #2 D.F.L. UNLESS OTHERWISE SPECIFIED.

E. ALL STEEL BEAM POSTS TO BE STANDARD WEIGHT STEEL PIPE COLUMNS UNLESS OTHERWISE SPECIFIED.

F. ALL WINDOW SIZES SPECIFIED ARE IN INCHES ACCORDING TO THE GLASS UNIT SIZE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING WINDOWS TO MATCH AS CLOSELY AS POSSIBLE TO THE MANUFACTURER OF THE THEIR CHOICE.

G. ALL RECEPTACLES ON 15 OR 20 AMP BRANCH CIRCUITS IN FOLLOWING LOCATIONS ARE TO HAVE G.F.C.I. PROTECTION: BATHROOMS, CRAWL SPACES, UNFINISHED PORTIONS OF BASEMENT, SERVING KITCHEN COUNTERTOPS, WITHIN 6' OF SINKS, OUTDOORS AND IN GARAGES WITHIN 6'–6" OF FINISHED FLOOR.

## STRUCTURAL NOTES:

–EXTERIOR WALLS TO BE 2 x 6'S (STUD GRADE) @ 16" O. C. W/ 7/16" CDX PLYWOOD OR OSB SHEATHING AS SUB–SIDING. (R–20 BATT INSULATION)

–PROVIDE SOLID BLOCKING BELOW BEAMS AND LOAD BEARING HEADERS.

–STAIRS TO HAVE 3 STRINGERS NOT TO EXCEED 18" O. C.

–ALL SILLS, SLEEPERS AND FURRING ATTATCHED TO CONCRETE SHALL BE OF DECAY–RESISTANT MATERIALS.

–FRAMING OF OPENINGS: HEADERS & 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' FROM THE TRIMMER JOIST BEARING. WHEN THE HEADER SPAN EXCEEDS 4', THE HEADER AND TRIMMER SHALL BE DOUBLED.

–STUDS SHALL BE CONTINUOUS FROM THE FLOOR TO THE ROOF/CEILING DIAPHRAGM. 2018 IRC 602.3.

NOTE:
EXTERIOR WALLS TO BE CONSTRUCTED IN ACCORDANCE WITH IRC 2018 SECTION R602.10.4 METHOD WSP FOR BRACED WALL CONSTRUCTION WITH CONTINUOUS EXTERIOR WOOD STRUCTURAL PANEL SHEATHING.

ROOF NOTES:

A. PROVIDE ROOF VENTS TOTALING MIN. 1 SQ. FT. NET FREE VENTILATING AREA FOR EA. 300 SQ. FT. OF ATTIC SPACE WITH AN EQUAL AMOUNT OF SOFFIT VENTS.

B. ALL ROOF RAFTERS TO BE #2 D.F.L. 2"x6" @ 16" O.C. UNLESS OTHERWISE SPECIFIED.

PLAN NOTES:

A. ALL DIMENSIONS, JOIST, MICROLAMS LVL'S, BEAMS AND POINT LOADS SHALL BE REVIEWED BY CONTRACTORS AND THEIR SUB CONTRACTORS AND VERIFIED. SDC ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY INFORMATION WHICH IS NOT VERIFIED.

B. CONTRACTOR SHALL NOTIFY SDC ENGINEERING IMMEDIATELY OF ANY DISCREPANCY FOUND WITHIN THESE PLANS.

C. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE AND FEDERAL CODES REGARDING CONSTRUCTION OF THIS PLAN.

D. PLANS ARE DESIGNED AND HOME SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE FOR ONE AND TWO FAMILY DWELLINGS AND ANY AMENDMENTS THAT MAY APPLY.

E. DESIGN CRITERIA WITHIN THIS PLAN ARE SPECIFIED TO PROVIDE WHAT SDC ENGINEERING FEELS IS BEST FOR THE STRUCTURAL INTEGRITY OF THE PLAN. ANY CHANGES TO THOSE SPECIFICATIONS ARE AT THE BUILDERS DISCRETION, HOWEVER SDC ENGINEERING WILL ASSUME NO LIABILITY FOR THE STRUCTURE OF THE PLAN IF CHANGES ARE MADE TO THESE SPECIFICATIONS.

F. DOOR BETWEEN THE GARAGE AND THE DWELLING SHALL BE 1 3/8" THICK SOLID WOOD, 1 3/8" THICK MINIMUM SOLID CORE OR HONEY COMBED STEEL DOOR OR 20–MINUTE FIRE RATED. DOOR SHALL BE EQUIPPED WITH A SELF–CLOSING DEVICE.

G. ALL WALLS BETWEEN THE GARAGE AND HOUSE ARE TO BE CONSTRUCTED WITH 5/8" FIRE ROCK.

H. ALL WINDOWS IN SLEEPING ROOMS OVER 6' ABOVE GRADE MUST BE A MINIMUM OF 24" ABOVE FINISHED FLOOR.

PLANS WERE DESIGNED AND REVIEWED IN ACCORDANCE WITH THE 2018 IRC AS ADOPTED BY THE GOVERNING AUTHORITY.

## NOTES:

–GLASS IN HAZARDOUS LOCATIONS 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 STAIR–WAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR; ENCLOS–URES FOR SPAS, TUBS, SHOWERS AND WHIRLPOOLS; AND GLAZING IN FIXED OR OPENABLE PANELS EXC–EEDING 9 SQ. FT. AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".

–ALL EXTERIOR WINDOWS AND GLASS DOORS TO BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE 2018 IRC.

–EMERGENCY EGRESS WINDOWS ARE NOTED AT REQUIRED LOCATIONS IN EACH BEDROOM. THE "EGRESS" WINDOW SHALL HAVE A MINIMUM OPENABLE AREA OF 5.7 SQUARE FEET WITH A MINIMUM OPENABLE HEIGHT OF 24 INCHES AND WIDTH OF 21 INCHES. THE SILL HEIGHT OF THE WINDOW SHALL NOT EXCEED 44 INCHES.

–THE BUILDING THERMAL ENVELOPE IS REQUIRED TO BE SEALED (2018 IRC N1102.4.1).

–RECESSED LIGHTING SHALL BE SEALED TO PREVENT LEAKAGE BETWEEN CONDITIONED & UNCONDITIONED SPACE.

–DUCTS, AIR HANDLERS, FILTER BOXES AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED (2018 IRC SECTION N1103.3).

–THE MINIMUM SEER RATING FOR THE AIR CONDITIONER IS 13.

–THE MINIMUM EFFICIENCY RATING FOR THE FORCED AIR FURNACE IS 78%.

–PROVIDE A MECHANICAL VENTILATION SYSTEM FOR ALL BATHROOM & WATER CLOSET ROOMS WHICH DO NOT HAVE A MINIMUM 3 SQUARE FT. EXTERIOR WINDOW, ½ OF WHICH IS OPENABLE.

–STAIRWAYS TO HAVE A MAXIMUM 7¾" RISER AND A MINIMUM 10" TREAD. (IRC 2018 R311.7.5)

–GUARDRAILS AND HANDRAILS TO BE CONSTRUCTED SUCH THAT A 4" SPHERE CANNOT PASS THRU.

–PROVIDE SMOKE ALARMS OUTSIDE AND INSIDE OF EACH SLEEPING ROOM, AND ON EACH FLOOR INCLUDING BASEMENTS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING.

–ALL ELECTRICAL OUTLETS SERVING BATHROOMS, KITCHEN COUNTERS, GARAGE AND WITHIN 6' OF ANY SINK SHALL HAVE GFCI PROTECTION.

–ALL OPERABLE WINDOWS W/SILLS MORE THAN 72" ABOVE FINISHED GRADE OR OUTSIDE SURFACE AND ARE LESS THAN 24" ABOVE FINISHED FLOOR ARE TO BE EQUIPPED WITH A WINDOW OPENING CONTROL DEVICE. THESE MECHANISMS ARE REQUIRED TO COMPLY WITH ASTM 2090.

–CARBON MONOXIDE ALARMS ARE REQUIRED OUTSIDE OF AND IN THE IMMEDIATE VICINITY OF ALL SLEEPING ROOMS. IRC R315.3.

–TAMPER RESISTANT RECEPTACLES ARE REQUIRED AS DESCRIBED BY IRC SECTION E4002.14.

–ARC–FAULT CIRCUIT INTERRUPTER PROTECTION IS ONLY REQUIRED FOR ALL BRANCH CIRCUITS SERVING 15 & 20 AMP RECEPTACLES IN BEDROOMS.

–WHOLE HOUSE VENTILATION REQUIRED WHERE UNDER 3 ACH – R303.

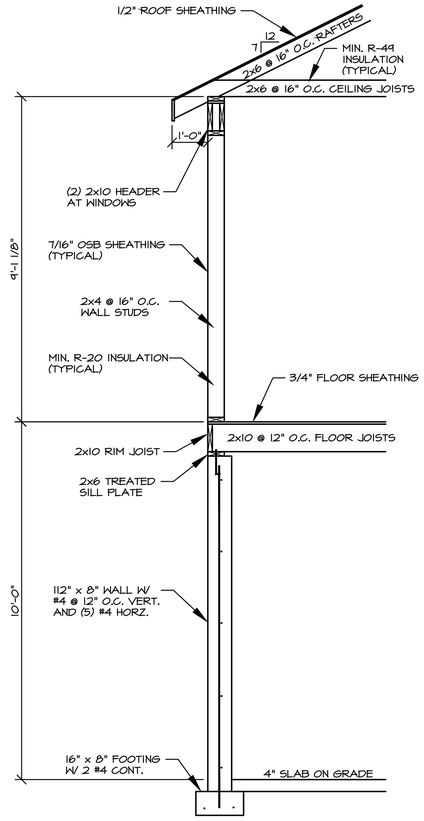
## NOTES:

–ALL NEW HOMES ARE REQUIRED TO HAVE AN AIR LEAKAGE TEST (BLOWER DOOR TEST) PERFORMED TO VERIFY THAT THE AIR LEAKAGE RATE DOES NOT EXCEED 3 AIR CHANGES PER HOUR AT A PRESSURE DIFFERENTIAL OF 50 PASCALS. THE DETAILS OF THE TEST ARE IN SECTION N1102.4.1.2 OF THE 2018 IRC.

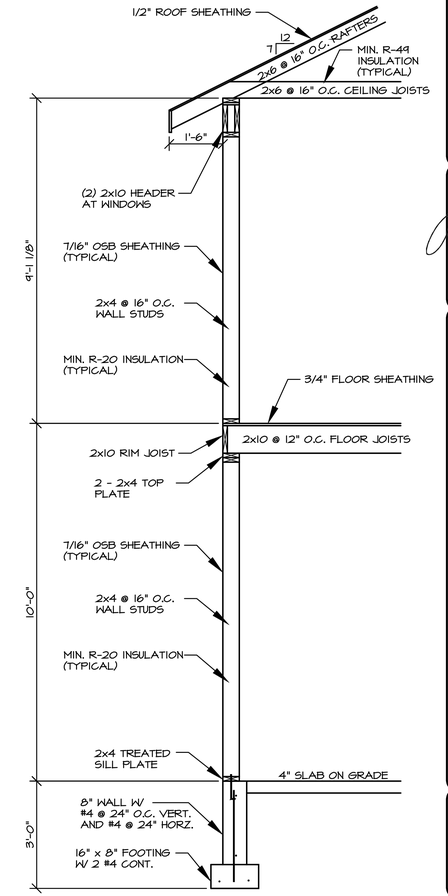
–NEW HOMES THAT HAVE AN AIR LEAKAGE RATE OF LESS THAN 3 AIR CHANGES PER HOUR ARE REQUIRED TO PROVIDE "WHOLE HOUSE MECHANICAL VENTILATION" AS DESCRIBED IN SECTION M1505.4 OF THE 2018 IRC.

–AMENDMENTS TO CHAPTER 11 ENERGY EFFICIENCY OF THE 2018 IRC PROVIDE FOR 3 DIFFERENT COMPLIANCE PATHS:
1.) PRESCRIPTIVE ALTERNATIVE
2.) PERFORMANCE ALTERNATIVE
3.) HERS OPTION
THE NEW HOME COMPLIANCE PATH OPTION MUST BE INDICATED AT THE TIME OF PERMIT APPLICATION.

CHAPTER 11 MANDATES SOME REQUIREMENTS, REGARDLESS OF THE COMPLIANCE PATH CHOSEN. THESE REQUIREMENTS ARE LISTED IN THE TABLE ABOVE.




TYPICAL WALL SECTION
SCALE: 1/2" = 1'-0"




TYPICAL WALL SECTION - WALK OUT
SCALE: 1/2" = 1'-0"



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STATE OF MISSOURI
ALBERT P. HERMANS
NUMBER E-23306
REGISTERED PROFESSIONAL ENGINEER
12/26/23

SDC ENGINEERING, INC.
Consulting Structural and Civil Engineers
5907 Raytown Trafficway
Raytown, Missouri 64133
816-356-1445

| DATE: | 12/14/23 |
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