

ROOF PLAN
1/8 = 1-0
6/12 ROOF PITCH

RAFTERS 2 X 6 DF NO 2 @ 16" OC TYP.
HIPS AND RIDGES 2 X 8 DF NO 2 TYP.



TURN CORNER STONE 18" FRONT ELEVATION
STUCCO, LAP, & STONE SIDING 8-0 GARAGE DOORS NOTE HILLCREST RECESS
ELEVATION B RETURNS LP SMART
SIDING TURN CORNER STONE 18"

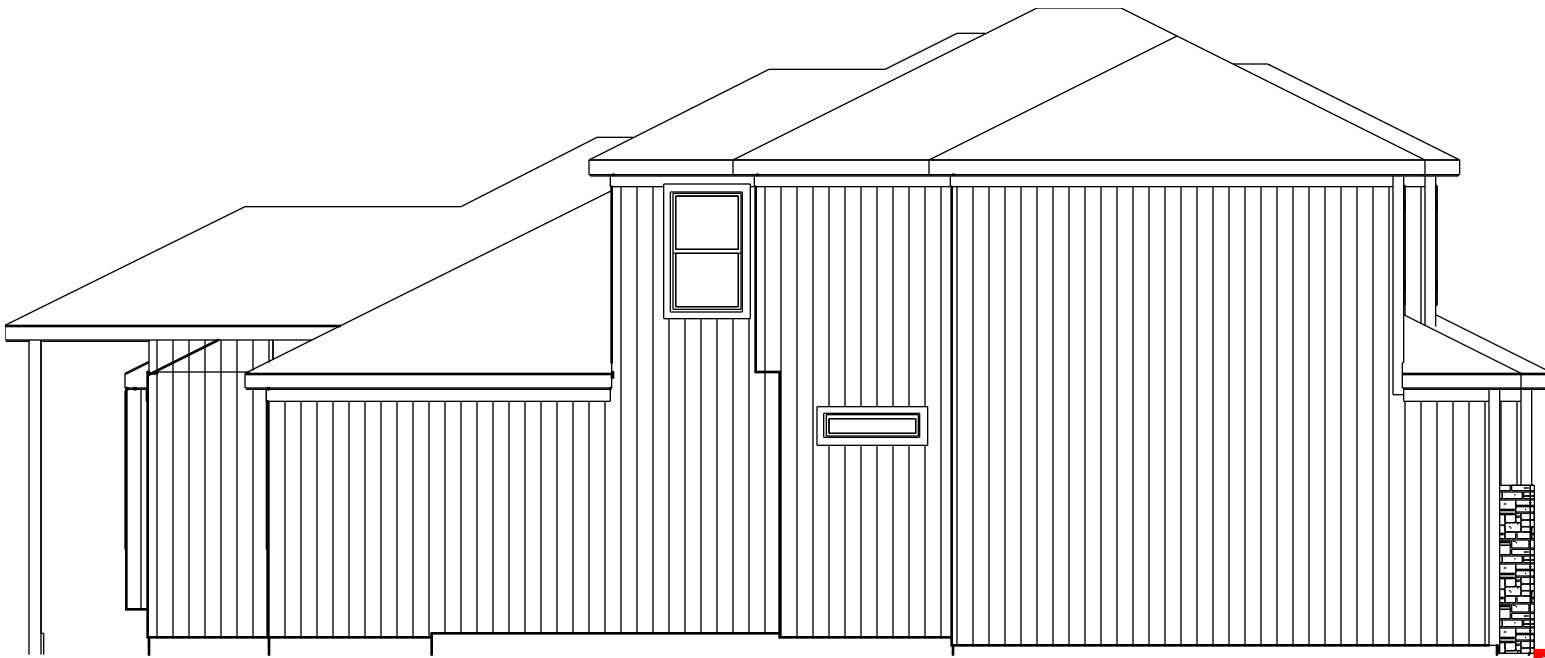
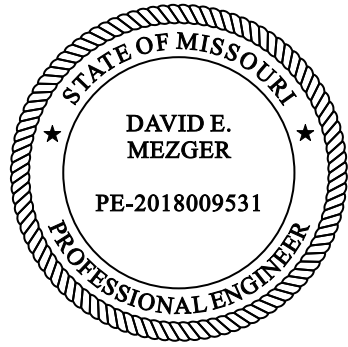


REAR EL.
1/8 = 1-0

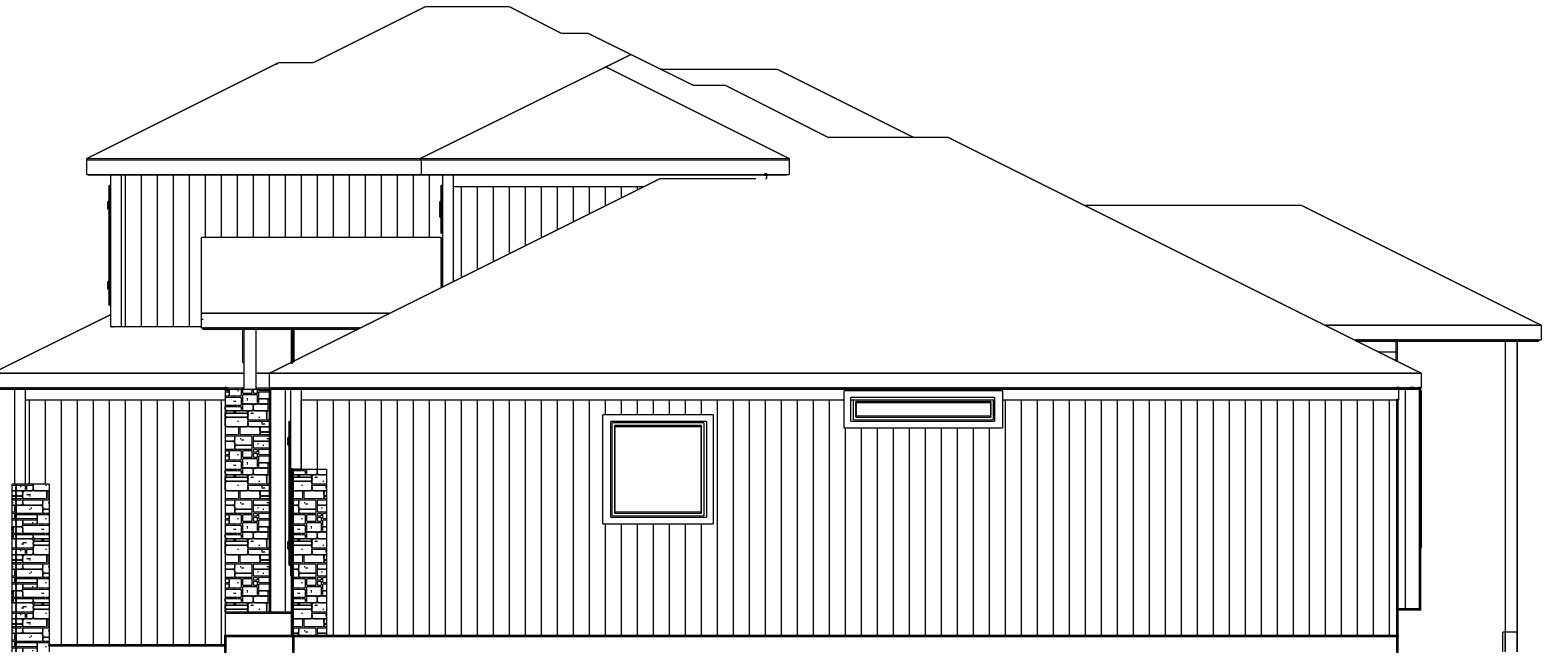
3 SIDES LP PANEL SIDING

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David Mezger Engineering LLC
212 NE Circle Dr.
Kansas City, MO 64116



LEFT EL.
1/8 = 1-0

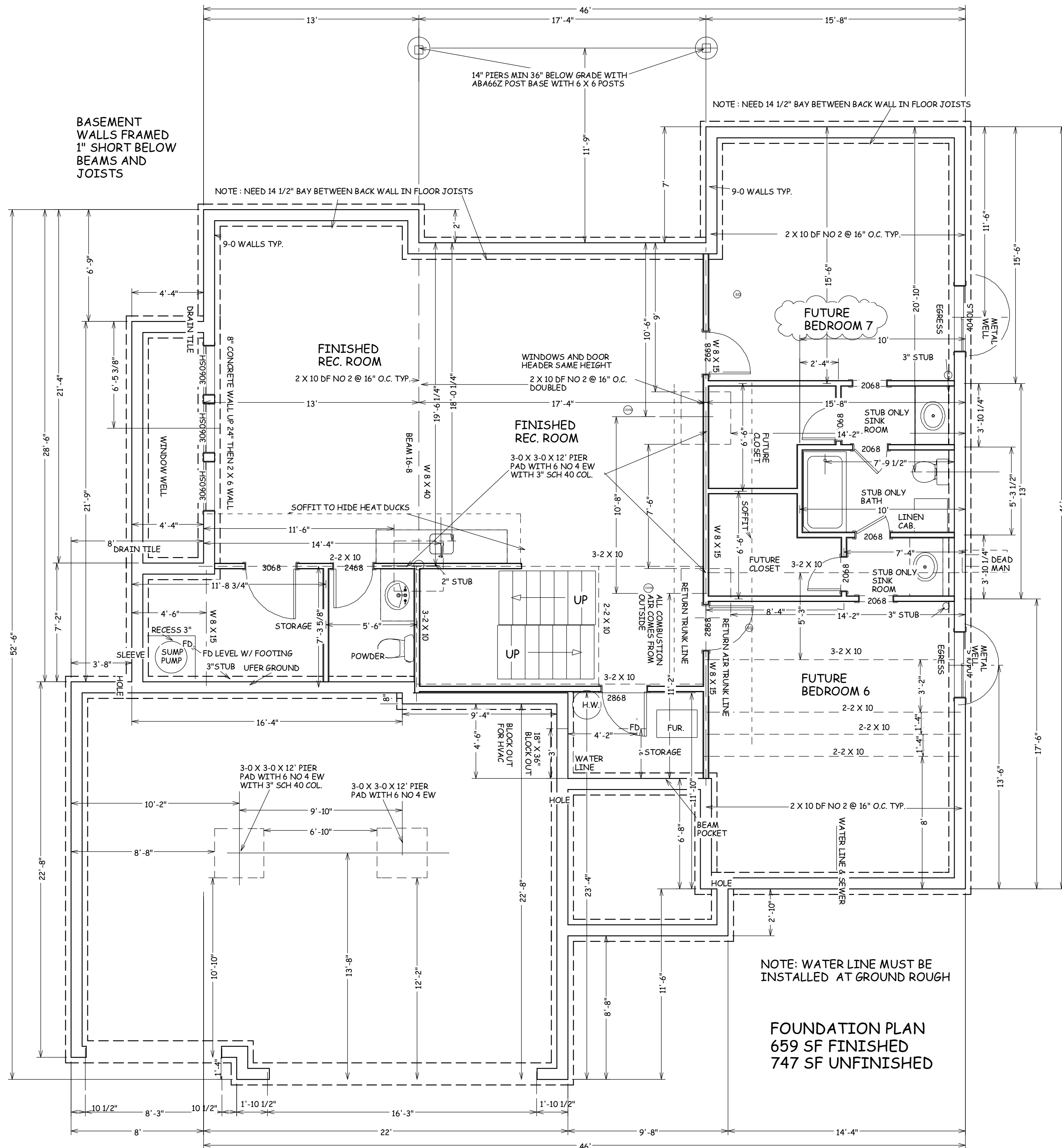


RIGHT EL.
1/8 = 1-0

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/23/2024 12:03:57

| | |
|---|------------|
| BUILD IN ACCORDANCE WITH 2018 INTERNATIONAL RESIDENTIAL CODE AND LOCAL CODES. | |
| TRUMARK HOMES DEL RAY II LOT 3 WOODLAND OAKS 2620 NE WOODLAND OAK DRIVE LEE SUMMIT MO | |
| SCALE | 1/4" = 1-0 |
| DATE | 9-20-24 |
| PLAN NO. | 4298 |
| SHEET NO. | 1 OF 6 |

David Mezger Engineering LLC
212 NE Circle Dr.
Kansas City, MO 64116



BUILD IN ACCORDANCE WITH
2018 INTERNATIONAL
RESIDENTIAL CODE AND
LOCAL CODES.

TRUMARK HOMES
DEL RAY II
LOT 3 WOODLAND OAKS
22620 NE WOODLAND OAK DRIVE
LEE SUMMIT MO

SCALE
1/4" = 1'-0"

DATE
9-20-24

PLAN NO.

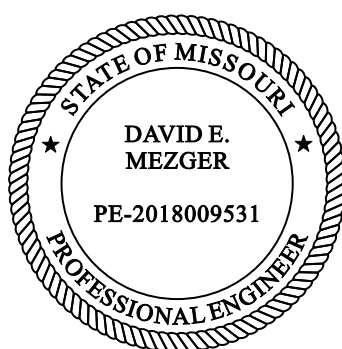
4298

SHEET NO.

2 OF 6

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/23/2024 12:03:57

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212 NE Circle Dr.
Kansas City, MO 64116



BUILD IN ACCORDANCE WITH
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TRUMARK HOMES
DEL RAY II
LOT 3 WOODLAND OAKS
2620 NE WOODLAND OAK DRIVE
LEE SUMMIT MO

SCALE
1/4" = 1'-0"

DATE
9-20-24

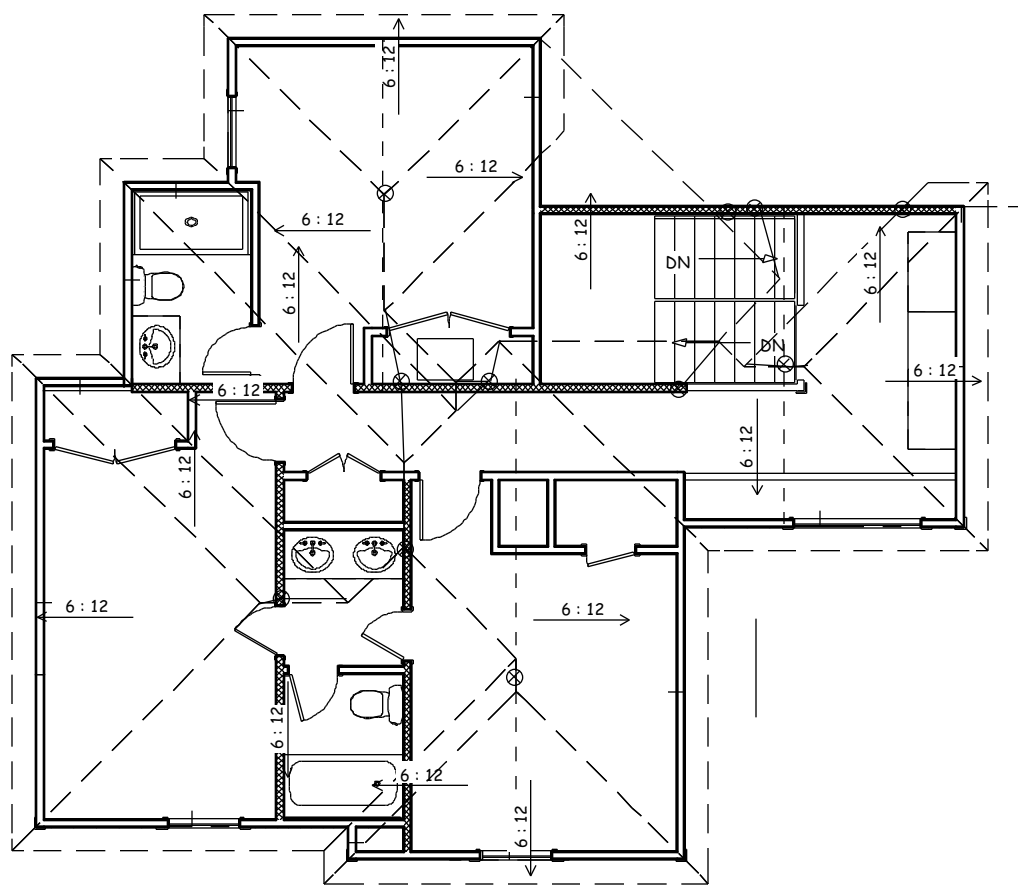
PLAN NO.

4298

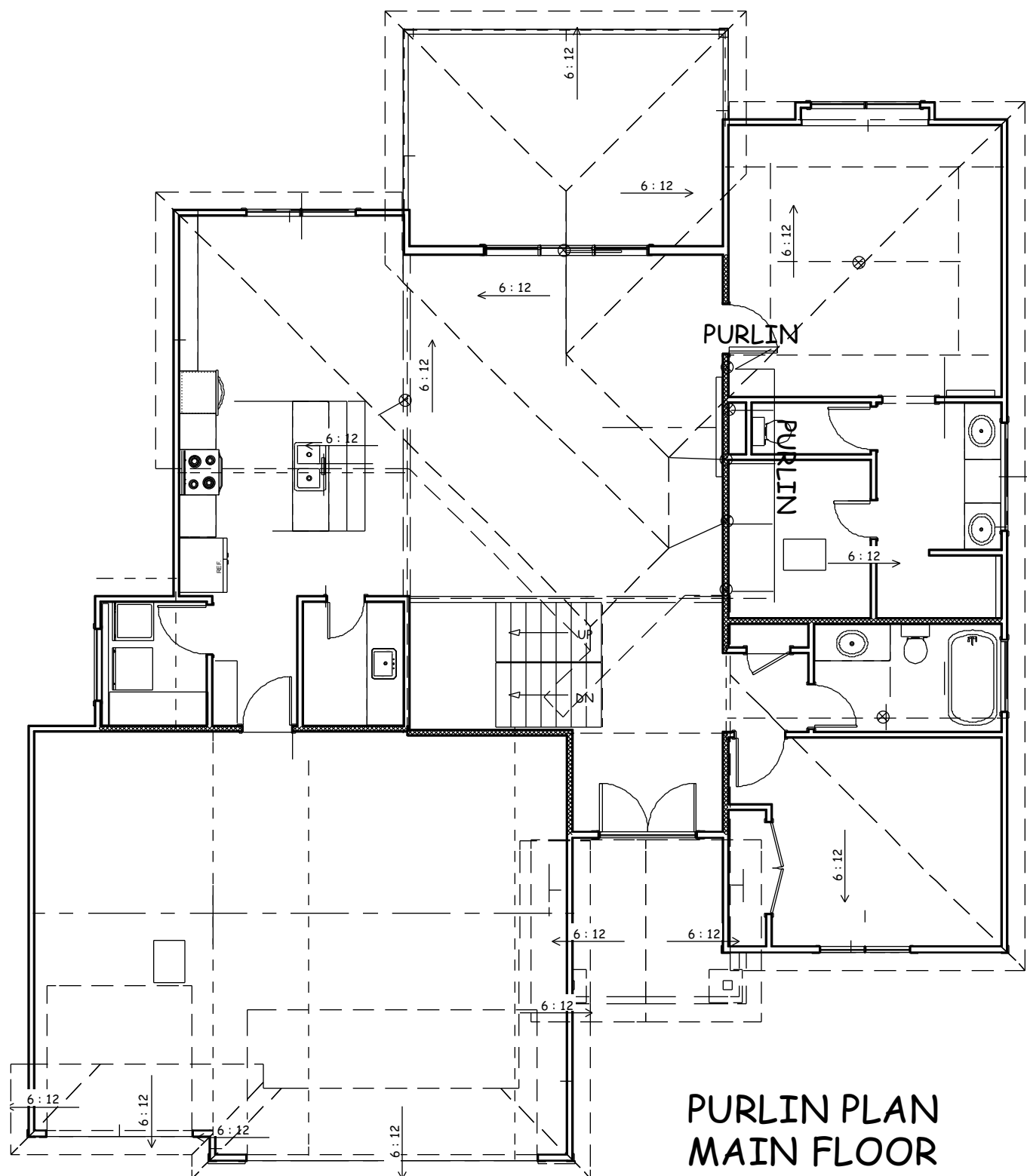
SHEET NO.

3 OF 6

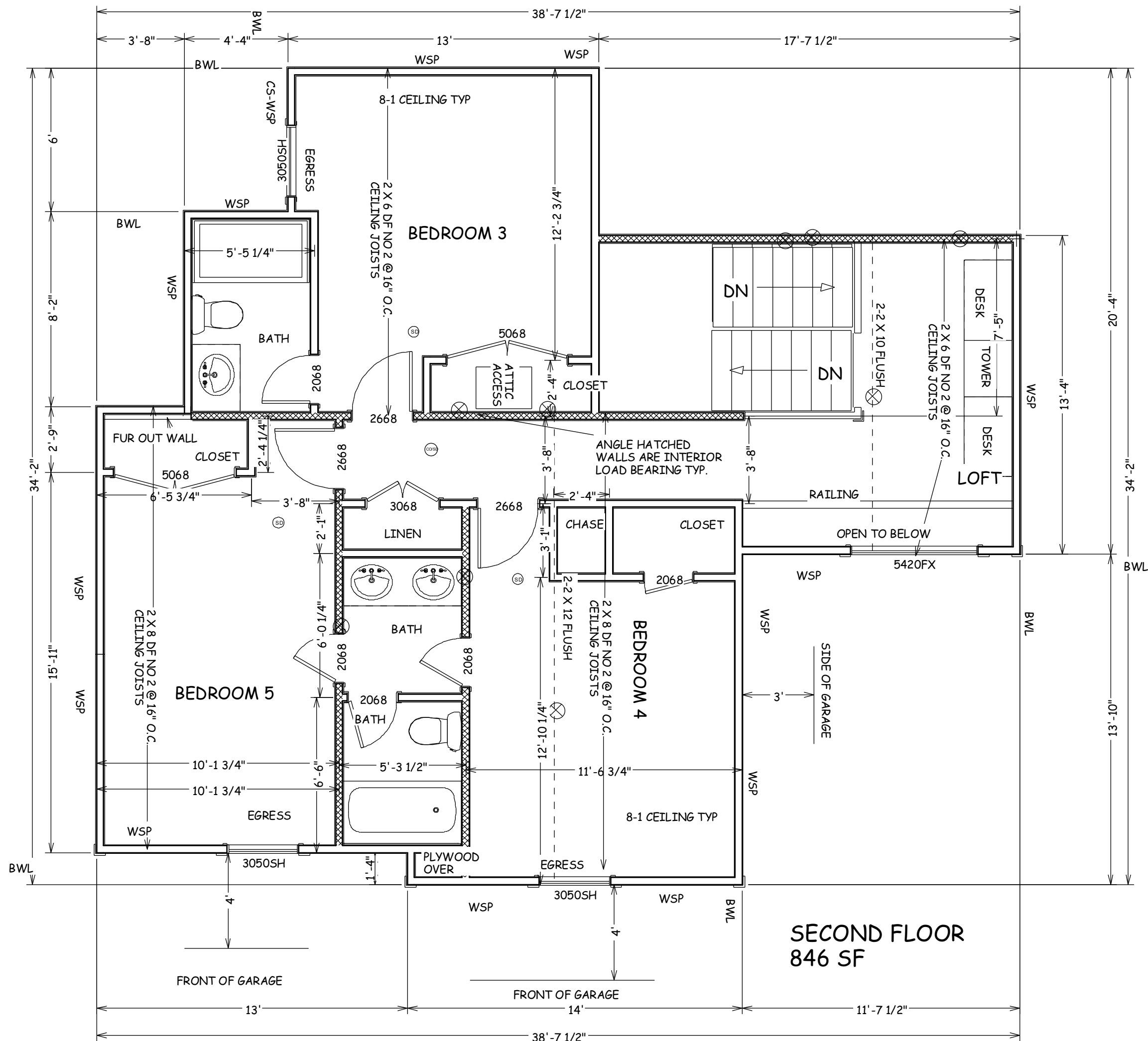
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/23/2024 12:03:57



PURLIN PLAN
SECOND FLOOR
1/8" = 1-0

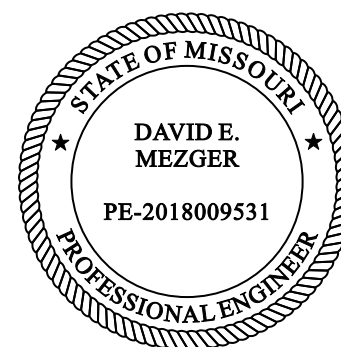


PURLIN PLAN
MAIN FLOOR
1/8" = 1-0



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4 OF 6

ENERGY CONSERVATION CODE
THE FOLLOWING VALUES ARE NEEDED.

R-15 IN WALLS

R-49 IN ATTICS

R-38 IN VAULTS
R-30 REDUCTION FOR VAULTS IS ONLY FOR 500 SF
PF AREA

R-19 IN FLOORS OVER UNCONDITIONED SPACES

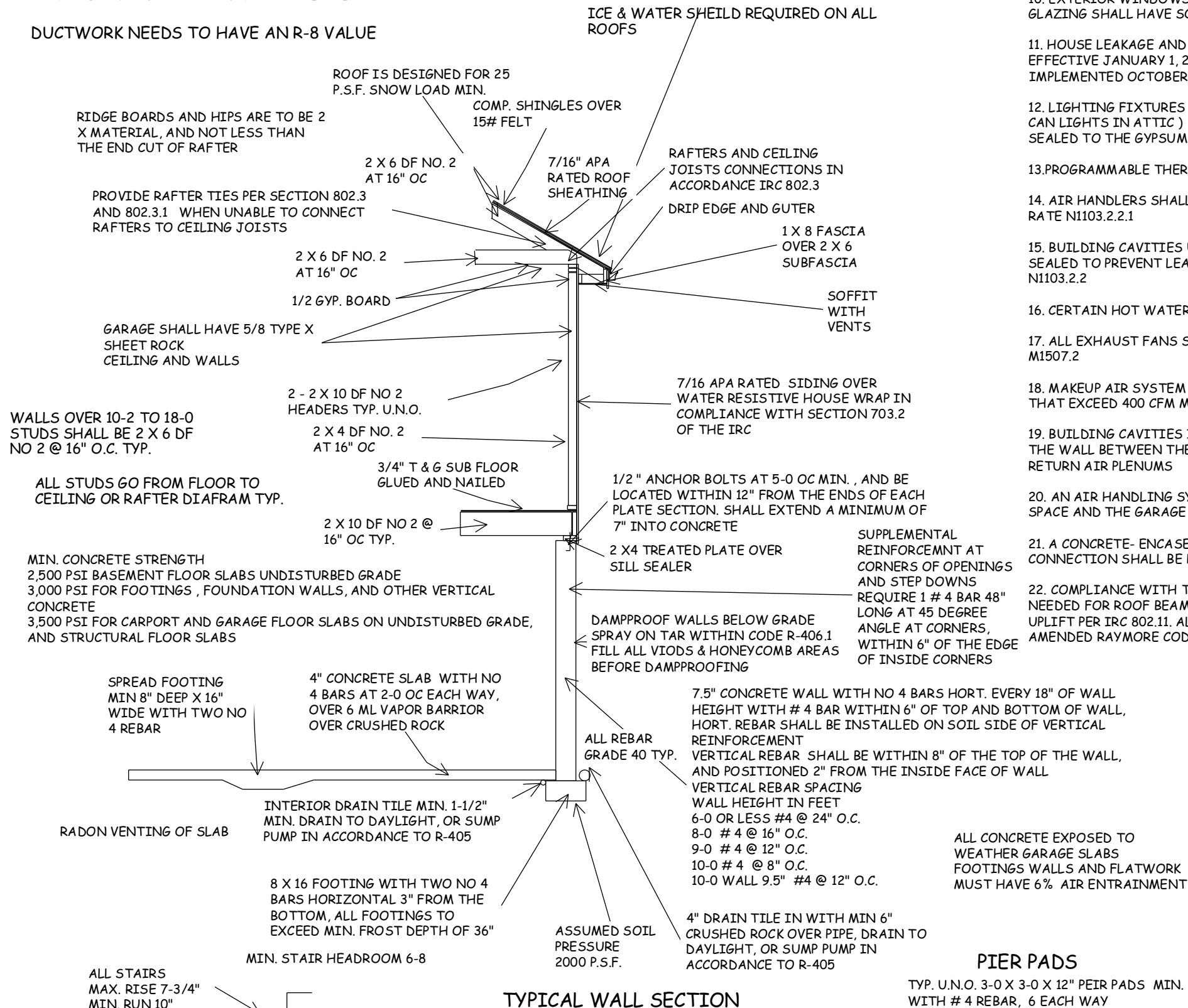
R-10 IN CRAWL SPACE WALLS

BASEMENT WALLS R-13 CAVITY OR R-10 CONTINUOUS

SLABS SHALL BE R-10 FOR A DEPTH OF 2 FOOT

A WINDOW U FACTOR OF .35 OR BETTER

DUCTWORK NEEDS TO HAVE AN R-8 VALUE



TYPICAL WALL SECTION

WINDOW EGRESS REQUIREMENTS

WINDOW SAFETY GLAZING PER 308

SAFETY GLAZING REQUIRED ALONG WALKING SURFACES AND STAIRS LOCATED WITHIN 36 INCHES HORIZONTALLY OF THE STEPS. SAFETY GLAZING REQUIRED IF EXPOSED SINGLE PANEL IS IN EXCESS OF 9 SQUARE FEET OR THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES ABOVE THE FINISHED FLOOR.

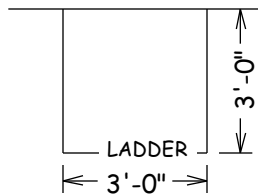
SAFETY GLAZING REQUIRD WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN 24 INCHES OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE A WALKING SURFACE, SAFETY OR TEMPERED GLAZING IS REQUIRED.

WINDOWS ARE TO HAVE FALL PROTECTION PER IRC 312.2

BEDROOM WINDOW EGRESS MINIMUM FOR A DOUBLE HUNG WINDOW IS 34 INCH CLEAR WIDTH MIN. AND 24 INCH CLEAR HEIGHT MIN. WITH A CLEAR OPENABLE AREA OF 5.7 SQUARE FEET MIN. A CASEMENT OR SLIDER WINDOW MINIMUMS ARE 20 INCH CLEAR WIDTH MINIMUM AND 41 INCH CLEAR HEIGHT MINIMUM. WITH A MINIMUM 5.7 SQUARE FOOT OF OPENABLE AREA. OPENING OF EGRESS WINDOW NOT MORE THAN 42" FROM THE FLOOR

PIER PADS

TYP. U.N.O. 3-0 X 3-0 X 12" PEIR PADS MIN. WITH # 4 REBAR, 6 EACH WAY



EGRESS WINDOW WELL AS NEEDED PER SECTION 308 MIN 3-0 X 3-0 WITH LADDER

USE LSTA24 RIDGE STRAPS ON ALL VAULTS AT RIDGE OR COLLAR TIES

TYP VAULT WITH STRAPS

STUDS OVER 10-0 SHALL HAVE BLOCKING ALONG WALL MAX OF 6-0 O.C.

OVERHEAD GARAGE DOORS MUST MEET DASMA 115 MPH OR IRC 2018 REQUIRMENTS

1. DWELLING / GARAGE OPENINGS BETWEEN GARAGE AND SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS SHALL BE EQUIPPED WITH SOLID WOOD OR STEEL DOORS NOT LESS THAN 1-3/8" THICK OR 20 MINUTE RATED DOORS, WITH SELF CLOSING DEVICES REQUIRED FOR GARAGE / DWELLING SEPERATION DOORS R302.5.1
2. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM IS REQUIRED FOR ANY DWELLING IN COMPLIANCE WITH IRC M 1505
3. CARBON MONOXIDE DETECTORS REQUIRED IRC R 315
4. STEEL COLUMNS SHALL BE MINIMUM SCHEDULE 40 R407.3
5. DECK SHALL BE BUILT PER TABLES 507.2 , 507.2.1, 507.3, 507.6, 507.5.1(1)&(2), 507.5, AND 507.6
6. STUDS SHALL BE CONTINUOUS BETWEEN FLOOR, CEILING AND OR ROOF DIAPHRAGMS R602.3
7. ADDED REQUIREMENTS FOR WINDOW FALL PROTECTION R312.2
8. NEW PROVISIONS FOR ATTACHMENT OF RAFTERS, TRUSSES AND ROOF BEAMS R802.3.1 R802.11
9. INSULATION REQUIRED FOR ALL BASEMENT WALLS (INCLUDING UNFINISHED BASEMENTS) N1102.1
10. EXTERIOR WINDOWS/DOORS SHALL HAVE U-FACTOR 0.35 AND GLAZING SHALL HAVE SOLAR HEIGHT GAIN FACTOR OF 0.40 N1102.1
11. HOUSE LEAKAGE AND DUCT LEAKAGE PERFORMANCE STANDARDS EFFECTIVE JANUARY 1, 2014. A SAMPLE TESTING PROGRAM WILL BE IMPLEMENTED OCTOBER 1, 2012 KCBRC N1102.4.1.2 N1103.2.2
12. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE (E.G. CAN LIGHTS IN ATTIC) SHALL BE IC- RATED, LEAKAGE- RATED AND SEALED TO THE GYPSUM WALLBOARD N1102.4.4
- 13.PROGRAMMABLE THERMOSTAT REQUIRED N1103.1.1
14. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2 % AIR LEAKAGE RATE N1103.2.2.1
15. BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE KCBRC N1103.2.2
16. CERTAIN HOT WATER PIPES SHALL BE INSULATED N1103.4
17. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR M1507.2
18. MAKEUP AIR SYSTEM REQUIRED FOR KITHCHEN EXHAUST HOODS THAT EXCEED 400 CFM M1503.4
19. BUILDING CAVITIES IN A THERMAL ENVELOPE WALL (INCLUDING THE WALL BETWEEN THE HOUSE AND GARAGE) SHALL NOT BE USED AS RETURN AIR PLENUMS
20. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE M1601.6
21. A CONCRETE- ENCASED GROUNDING ELECTRODE ('UFER' GROUND) CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICE E3608.1
22. COMPLIANCE WITH THE REQUIRMENT AND SHOW CONNECTION AS NEEDED FOR ROOF BEAM, TRUS, RAFTER, AND GIRDER CONNECTION FOR UPLIFT PER IRC 802.11. ALL RAFTERS BE IN COMPLIANCE WITH IRC 502.11 AMENDED RAYMORE CODE

PURLIN LEG O.C. SUPPORT

2 X 6 DF NO 2 4'-0"
2 X 8 DF NO 2 5'-4"
2 X 10 DF NO 2 8'-0"
2 X 12 DF NO 2 9'-6"

SUPPORT LEG FOR PURLINS

2 X 4 8'-0"
2 X 4 W 2 X 4 T - BRACE 9'-7"
2 X 6 W 2 X 6 T - BRACE 17'-2"
2 X 8 W 2 X 6 T - BRACE 17'-4"

NOTE: LOCATE RAFTER TIES AS NEAR AS PRACTICAL TO THE TOP OF CEILING JOISTS

2 X 4 RAFTER TIES AT EVERY RAFTER TYP.

DOUBLE 2 X 12
2 X 6 @ 16" O.C.

RAFTER AND CEILING JOIST CONNECTIONS SHALL COMPLY WITH SECTIONS R802.5.22 OF THE 2018 IRC.

SKIP ONE CEILING JOISTS THEN DOUBLE NEXT CEILING JOISTS , FOR RAFTER TIES

RAFTER TIES SAME SIZE AS CEILING JOISTS

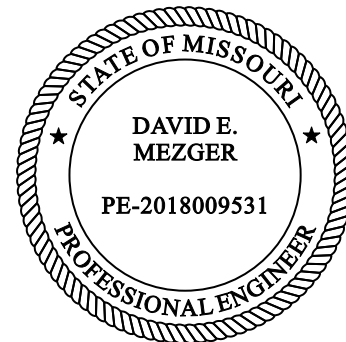
SKIP ONE CEILING JOISTS THEN DOUBLE NEXT CEILING JOISTS , FOR RAFTER TIES

RAFTER TIES SAME SIZE AS CEILING JOISTS

RAFTER TIES

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9-20-24

PLAN NO.

4298

SHEET NO.

5 OF 6

| EXPOSURE CATEGORY 3 33-FOOT MEAN ROOF HEIGHT 10-FOOT WALL HEIGHT 3 BRACED WALL LINES | | MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE ^a | | | | |
|---|----------------|--|------------------------|-----------|---|-----------------------------|
| Ultimate Design Wind Speed (mph) | Story Location | Braced Wall Line Spacing (feet) | Method LB ^b | Method GB | Methods DWB, WSP, SFB, PBS, FCP, HFS, BV-WSP, ABW, PFG, CS-WSP, CS-G, CS-PF | Methods CS-WSP, CS-G, CS-PF |
| ≤ 115 | | 10 | 3.5 | 3.5 | 2.0 | 2.0 |
| | | 20 | 6.5 | 6.5 | 3.5 | 3.5 |
| | | 30 | 9.5 | 9.5 | 5.5 | 4.5 |
| | | 40 | 12.5 | 12.5 | 7.0 | 6.0 |
| | | 50 | 15.0 | 15.0 | 9.0 | 7.5 |
| | | 60 | 18.0 | 18.0 | 10.5 | 9.0 |
| | | 10 | 7.0 | 7.0 | 4.0 | 3.5 |
| | | 20 | 12.5 | 12.5 | 7.5 | 6.5 |
| | | 30 | 18.0 | 18.0 | 10.5 | 9.0 |
| | | 40 | 23.5 | 23.5 | 13.5 | 11.5 |
| | | 50 | 29.0 | 29.0 | 16.5 | 14.0 |
| | | 60 | 34.5 | 34.5 | 20.0 | 17.0 |
| | | 10 | NP | 10.0 | 6.0 | 5.0 |
| | | 20 | NP | 18.5 | 11.0 | 9.0 |
| | | 30 | NP | 27.0 | 15.5 | 13.0 |
| | | 40 | NP | 35.0 | 20.0 | 17.0 |
| | | 50 | NP | 43.0 | 24.5 | 21.0 |
| | | 60 | NP | 51.0 | 29.0 | 25.0 |

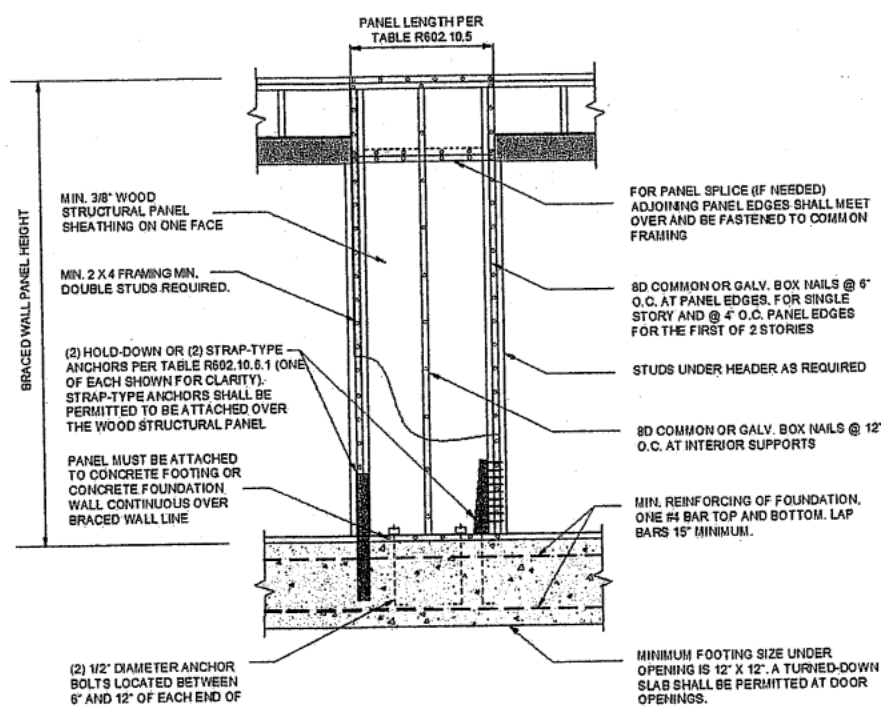


FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL

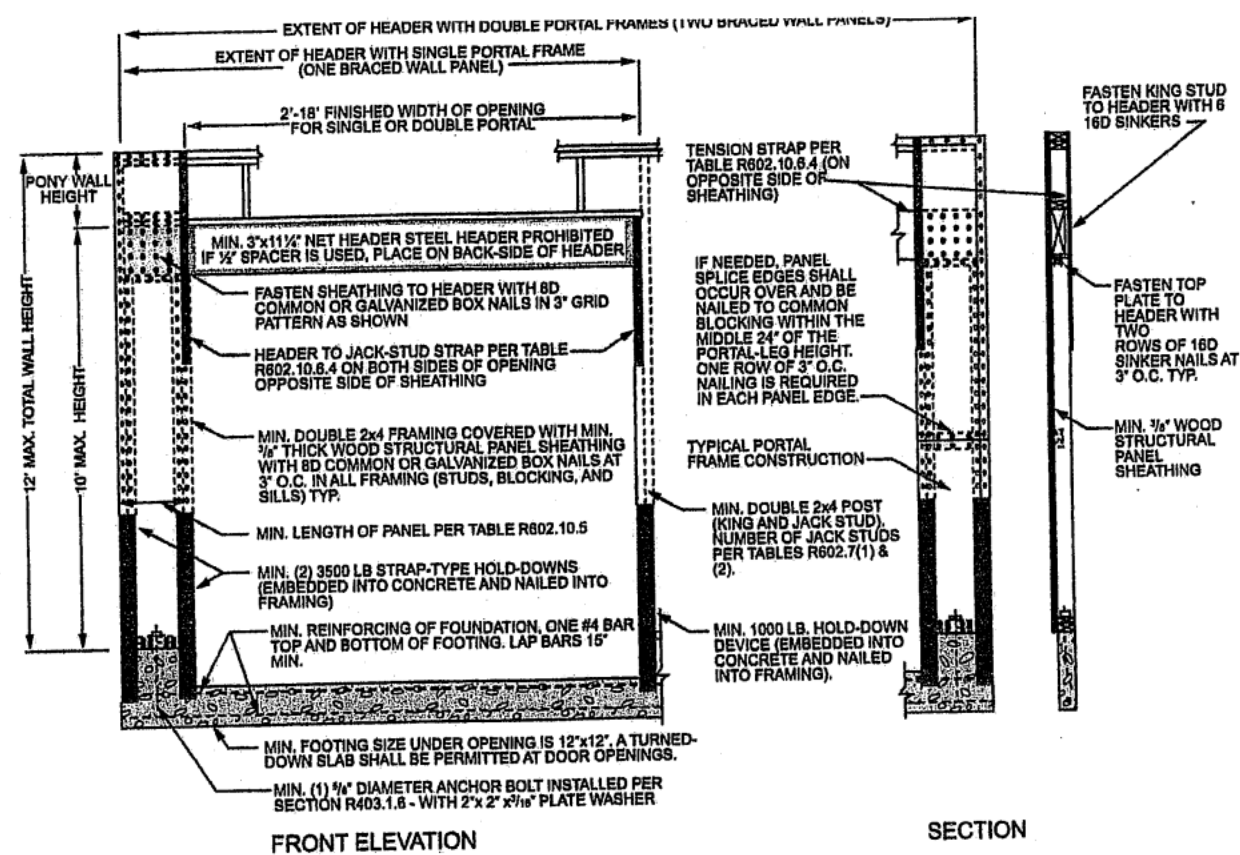

















FIGURE R602.10.6.2
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS

| TABLE R602.10.4 BRACING METHODS | | | | | |
|------------------------------------|---|---|---|--|---|
| METHODS, MATERIAL | MINIMUM THICKNESS | FIGURE | CONNECTION CRITERIA ^a | | |
| | | | Fasteners | Spacing | |
| Intermittent Bracing Methods | LIB Let-in-bracing | 1 × 4 wood or approved metal straps at 45° to 60° angles for maximum 16" stud spacing |  | Wood: 2-8d common nails or 3-8d (2 1/2" long x 0.113" dia.) nails Metal strap: per manufacturer | Wood: per stud and top and bottom plates Metal: per manufacturer |
| | DWB Diagonal wood boards | 1/4" (1" nominal) for maximum 24" stud spacing |  | 2-8d (2 1/2" long x 0.113" dia.) nails or 2 - 1 1/4" long staples | Per stud |
| | WSP Wood structural panel (See Section R604) | 3/8" |  | Exterior sheathing per Table R602.3(3) Interior sheathing per Table R602.3(1) or R602.3(2) | 6" edges 12" field Varies by fastener |
| | BY-WSP Wood structural panels with stone or masonry veneer (See Section R602.10.6.5) | 1/8" | See Figure R602.10.6.5 | 8d common (2 1/2" x 0.131) nails | 4" at panel edges 12" at intermediate supports 4" at braced wall panel end posts |
| | SFB Structural fiberglass sheathing | 1/2" or 3/16" for maximum 16" stud spacing |  | 1 1/2" long x 0.12" dia. (for 1/2" thick sheathing) 1 1/2" long x 0.12" dia. (for 3/16" thick sheathing) galvanized roofing nails | 3" edges 6" field |
| | GB Gypsum board | 1/2" |  | Nails or screws per Table R602.3(1) for exterior locations Nails or screws per Table R702.3.5 for interior locations | For all braced wall panel locations: 7" field edges (including top and bottom panels) 7" field |
| | PBS Particleboard sheathing (See Section R605) | 3/8" or 1/2" for maximum 16" stud spacing |  | For 1/2", 6d common (2" long x 0.113" dia.) nails For 3/8", 8d common (2 1/2" long x 0.131" dia.) nails | 3" edges 6" field |
| | PCP Portland cement plaster | See Section R703.7 for maximum 16" stud spacing |  | 1 1/2" long, 11 gage, 1/8" dia. head nails or 1 1/4" long, 16 gage staples | 6" o.c. on all framing members |
| | HPS Hardboard panel siding | 1/8" for maximum 16" stud spacing |  | 0.092" dia., 0.225" dia. head nails with length to accommodate 1/2" penetration into studs | 4" edges 8" field |
| | ABW Alternate braced wall | 3/8" |  | See Section R602.10.6.1 | See Section R602.10.6.1 |

| TABLE R602.10.4—continued BRACING METHODS | | | | | |
|--|---|--|---|---|--|
| | METHODS, MATERIAL | MINIMUM THICKNESS | FIGURE | CONNECTION CRITERIA ^a | |
| | | | | Fasteners | Spacing |
| Intermittent Bracing Methods | PFH Portal frame with hold-downs | 1/4" |  | See Section R602.10.6.2 | See Section R602.10.6.2 |
| | PFG Portal frame at garage | 7/16" |  | See Section R602.10.6.3 | See Section R602.10.6.3 |
| Continuous Sheathing Methods | CS-WSP Continuously sheathed wood structural panel | 3/8" |  | Exterior sheathing per Table R602.3(3) Interior sheathing per Table R602.3(1) or R602.3(2) | 6" edges 12" field Varies by fastener |
| | CS-G ³⁴ Continuously sheathed wood structural panel adjacent to garage openings | 3/8" |  | See Method CS-WSP | See Method CS-WSP |
| | CS-PF Continuously sheathed portal frame | 7/16" |  | See Section R602.10.6.4 | See Section R602.10.6.4 |
| | CS-SFB ³⁵ Continuously sheathed structural fiberglass | 1/2" or 5/16" for maximum 16" stud spacing |  | 1 1/2" x long x 0.12" dia. (for 1/2" x thick sheathing) 1 1/2" x long x 0.12" dia. (for 5/16" x thick sheathing) galvanized roofing nails | 3" edges 6" field |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.8 N/m², 1 mile per hour = 0.447 m/s.
a. Alternative attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D_s, D₁, and D₂.
b. Applies to panels next to garage door opening where supporting gable end wall or roof load only. Shall only be used on one wall of the garage. In Seismic Design Categories D_s, D₁, and D₂, roof covering dead load shall not exceed 3 psf.
c. Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R602.7(1). A full-height clear opening shall not be permitted adjacent to a Method CS-G panel.
d. Method CS-SFB does not apply in Seismic Design Categories D_s, D₁, and D₂.
e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D_s through D₂ only.

| METHOD (See Table R602.10.4) | MINIMUM LENGTH ^a (inches) | | | | | CONTRIBUTING LENGTH (inches) |
|--------------------------------------|---|--------|---------|---------|---------|--|
| | 8 feet | 9 feet | 10 feet | 11 feet | 12 feet | |
| DWB, WSP, SFB, PBS, FCP, HFS, BV-WSP | 48 | 48 | 48 | 53 | 58 | Actual ^b |
| GB | 48 | 48 | 48 | 53 | 58 | Double sided = Actual Single sided = 0.5 x Actual |
| LIB | 55 | 62 | 69 | NP | NP | Actual ^b |
| ABW | SDC A, B and C, ultimate design wind speed < 140 mph | 28 | 32 | 34 | 38 | 42 |
| | SDC D _s , D ₁ and D ₂ , ultimate design wind speed < 140 mph | 32 | 32 | 34 | NP | NP |
| CS-G | Adjacent clear opening height (inches) | 24 | 27 | 30 | 33 | 36 |
| CS-WSP, CS-SFB | ≤ 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 | 47 |
| | 124 | — | — | — | 56 | 51 |
| | 128 | — | — | — | 61 | 54 |
| | 132 | — | — | — | 66 | 58 |
| | 136 | — | — | — | — | 62 |
| | 140 | — | — | — | — | 66 |
| | 144 | — | — | — | — | 72 |
| PFH | Supporting roof only | 16 | 16 | 16 | Note c | Note c |
| | Supporting one story and roof | 24 | 24 | 24 | Note c | Note c |
| PFG | SDC A, B and C | 24 | 27 | 30 | Note d | Note d |
| CS-PF | SDC A, B and C | 16 | 18 | 20 | Note e | Note e |
| | SDC D _s , D ₁ and D ₂ | 16 | 18 | 20 | Note e | Note e |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.
NP = Not Permitted.
a. Linear interpolation shall be permitted.
b. Use the actual length where it is greater than or equal to the minimum length.
c. Maximum header height for PFH is 10 feet in accordance with Figure R602.10.6.2, but wall height shall be permitted to 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 shall be permitted to be increased to 12 feet with pony wall.
e. Maximum header height for CS-PF is 10 feet in accordance with Figure R602.10.6.4, but wall height shall be permitted to be increased to 12 feet with pony wall.

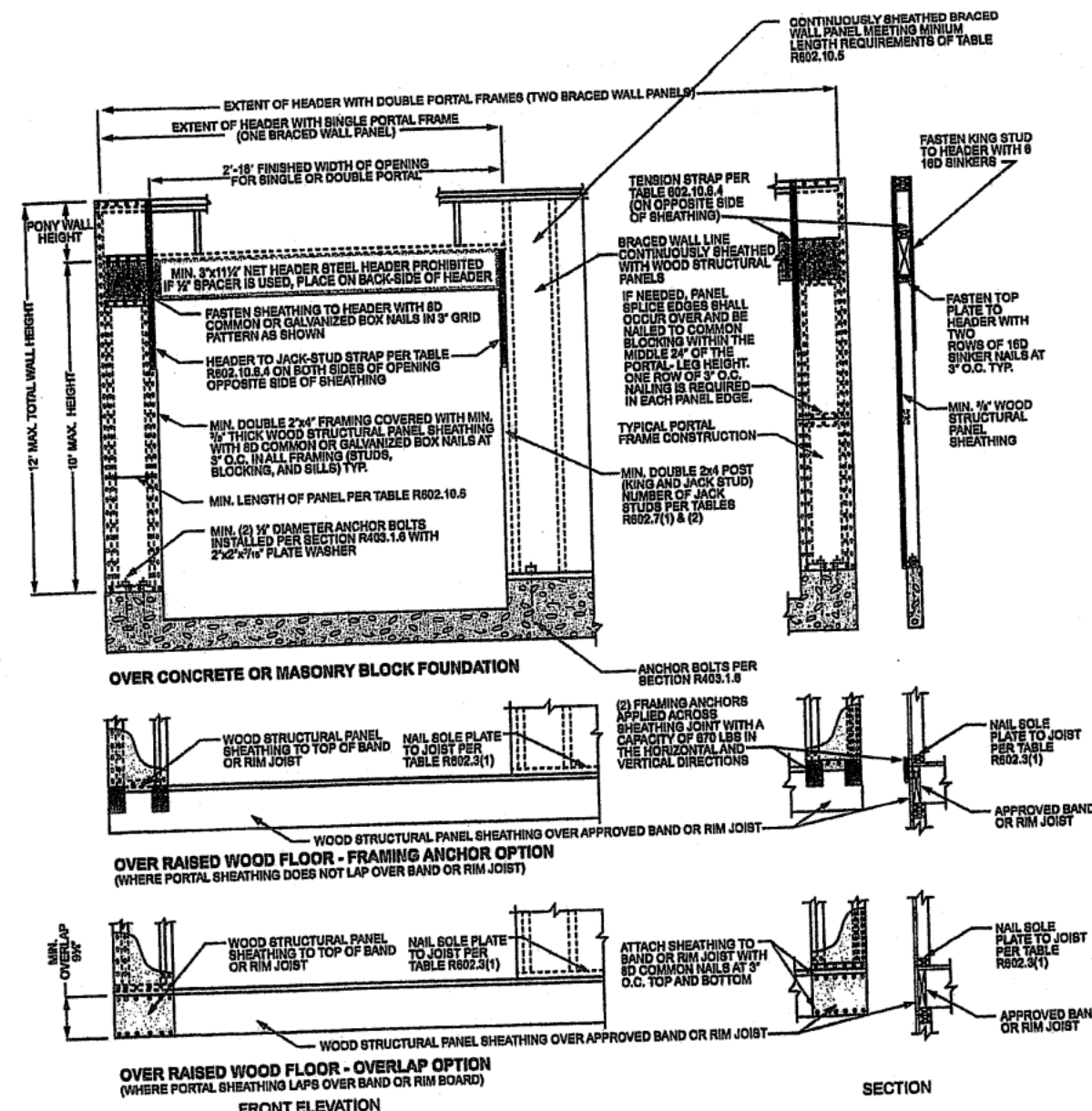
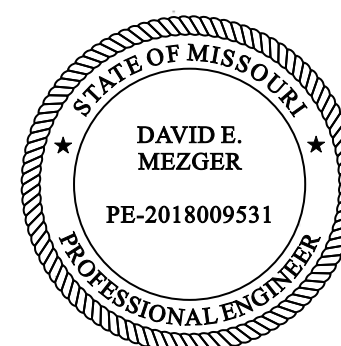


FIGURE R602.10.6.4
METHOD CS-PF—CONTINUOUSLY SHEATHED PORTAL FRAME PANEL CONSTRUCTION



BRACE WALL DETAILS
WIND SPEED 115 MPH
WIND EXPOSURE A
SEISMIC DESIGN CATEGORY A

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