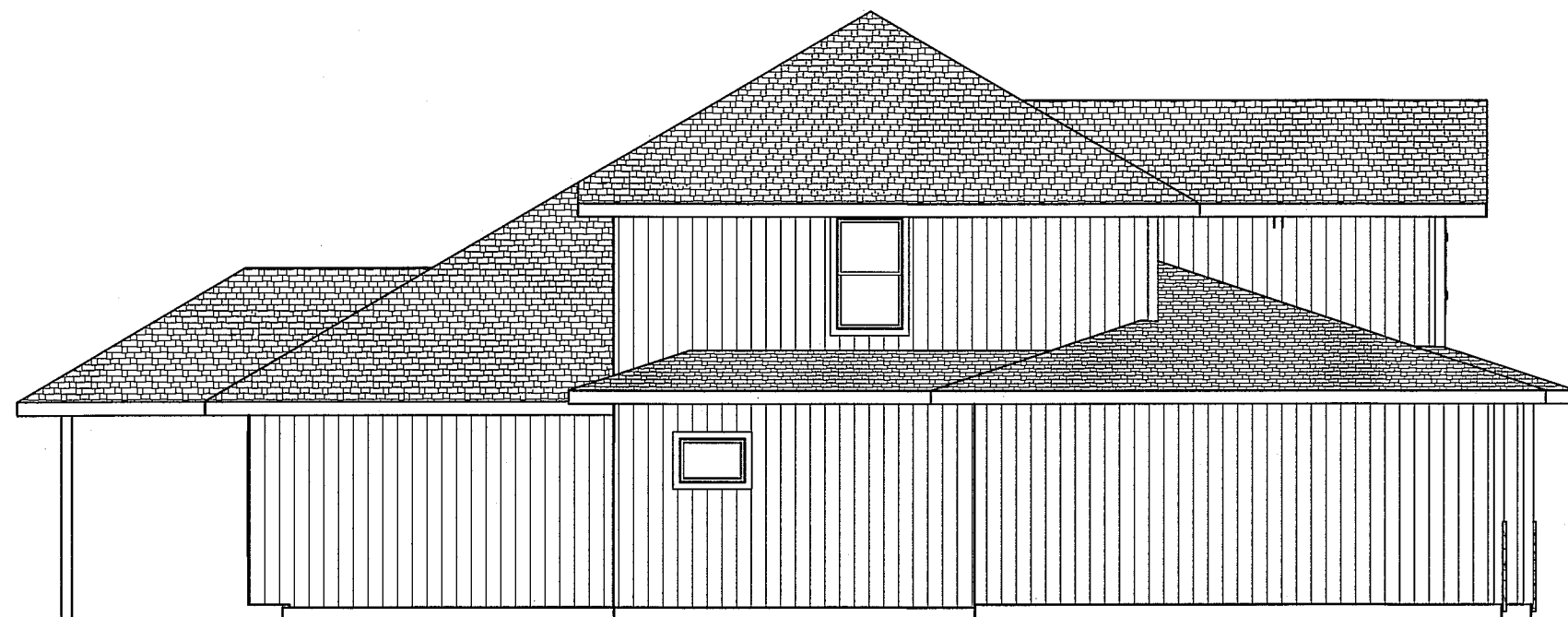
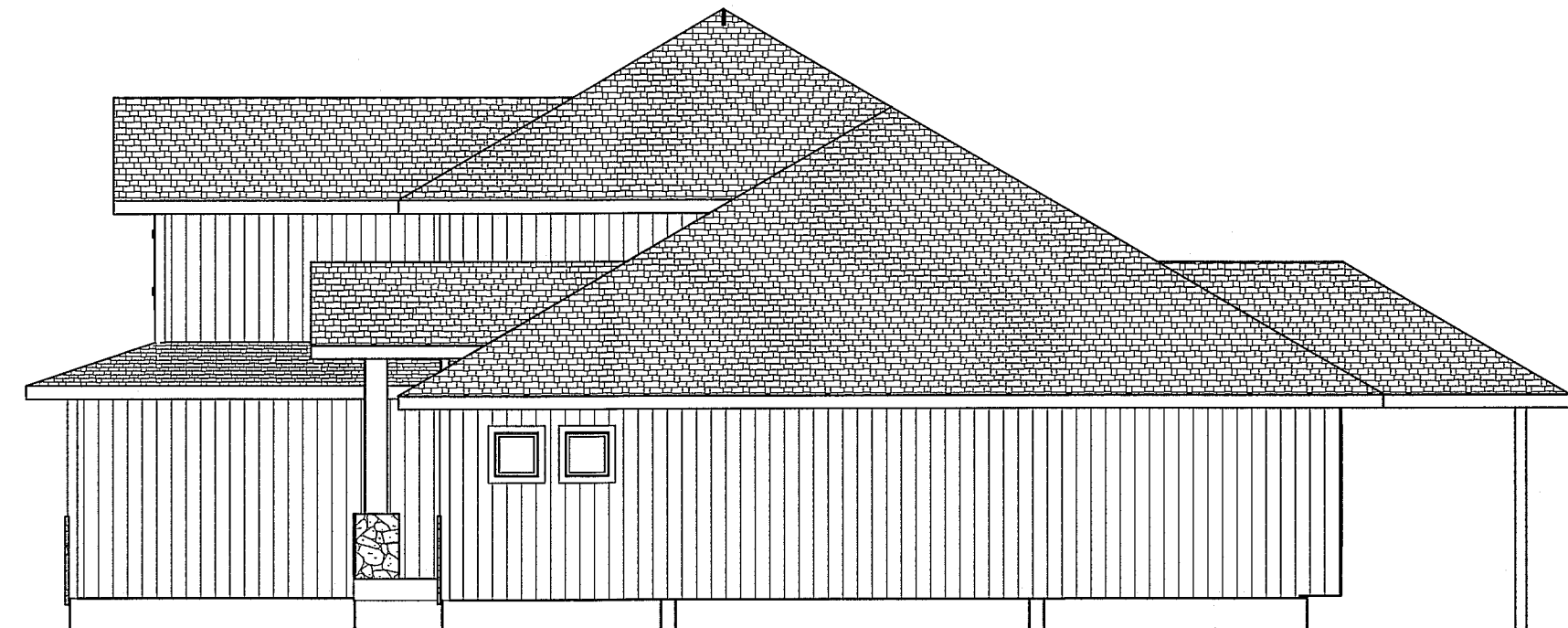




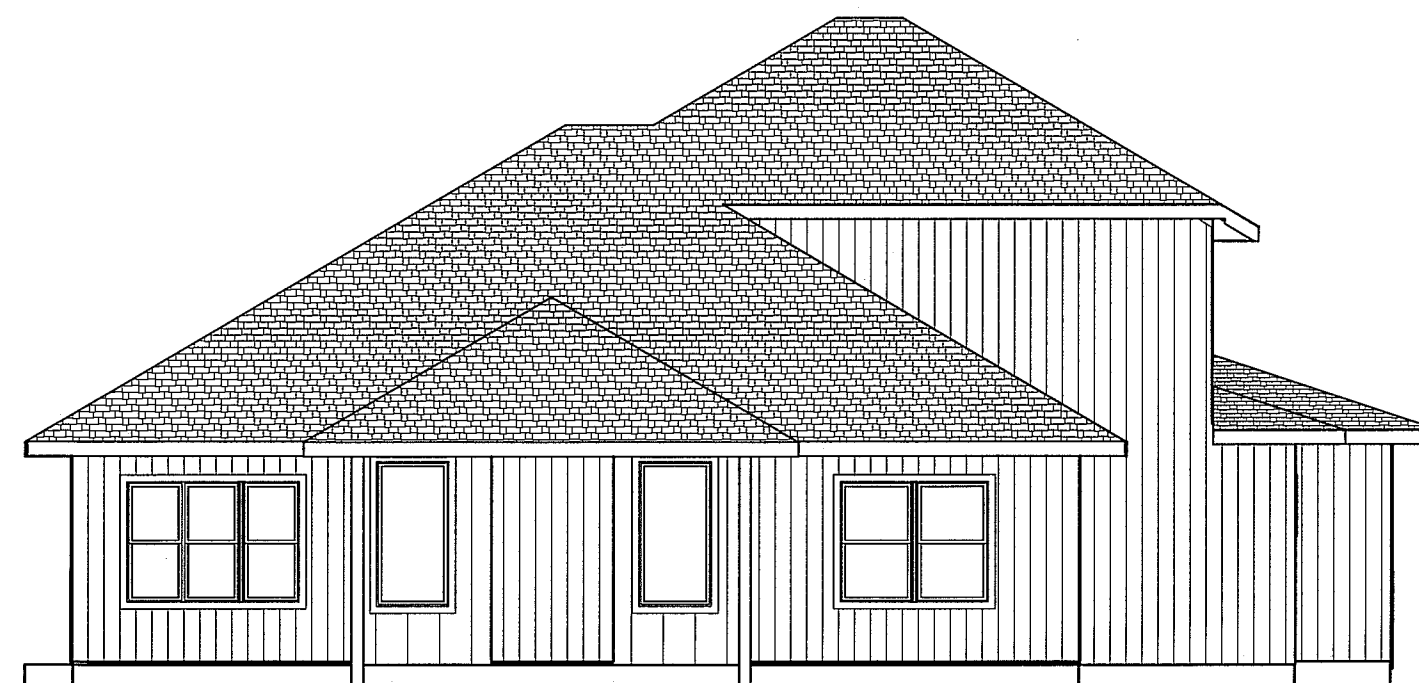
FRONT EL.



LEFT EL.  
1/8" = 1'-0"



RIGHT EL.  
1/8" = 1'-0"



REAR EL.  
1/8" = 1'-0"

RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
CODES ADMINISTRATION  
LEE'S SUMMIT, MISSOURI  
07/28/2020

STATE OF MISSOURI  
JOSEPH A. TOWNS  
REGISTERED PROFESSIONAL  
ENGINEER  
NO. 22017  
E-22017  
APPLIES TO STRUCTURAL  
ELEMENTS ONLY

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

NICK ZVACEK HOMES  
ANDERSON III  
LOT 70 SUMMIT VIEW FARMS  
2300 SW CHASE CIR  
LEE SUMMIT MO

SCALE  
1/4" = 1'-0"

DATE  
7-10-20

PLAN NO.  
3158

SHEET NO.  
1 OF 6

NICK ZVACEK HOMES  
ANDERSON III  
LOT 70 SUMMIT VIEW FARMS  
2300 SW CHASE CIR  
LEE SUMMIT MO

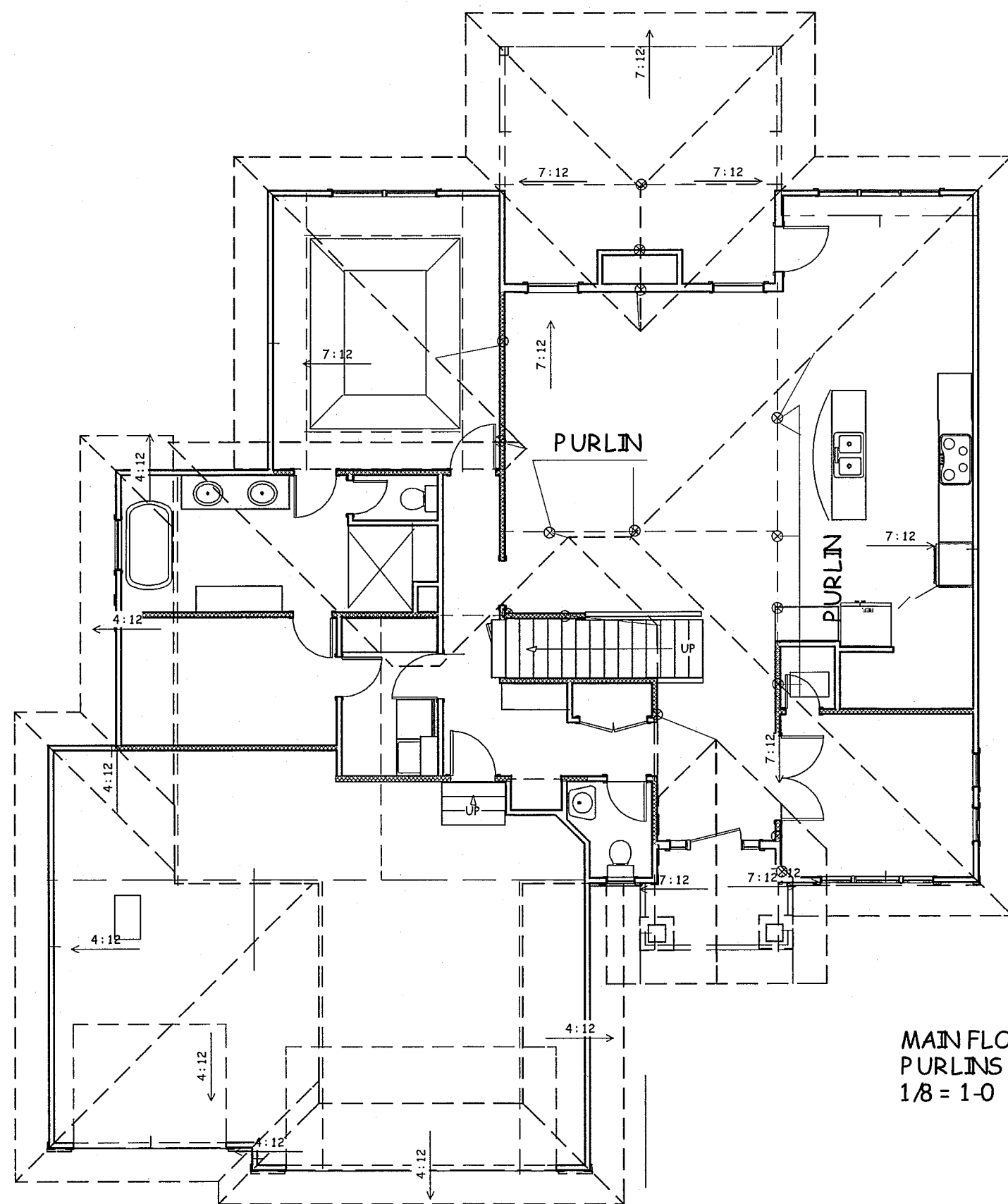
2 OF 6  
PLEASE FOR CONSTRUCTION  
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LEE'S SUMMIT, MISSOURI

JOSEPH A. TOWNS P.E.  
MO. LIC E 22017  
PROFESSIONAL SEAL  
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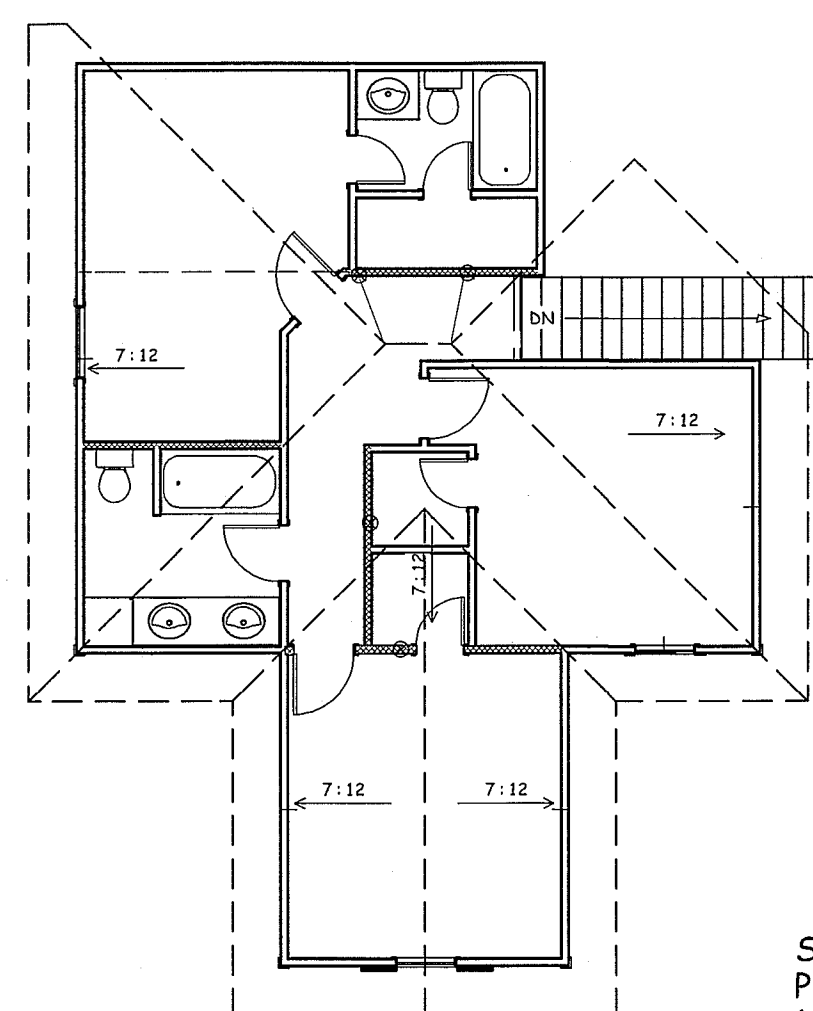
JOSEPH A. TOWNS P.E.  
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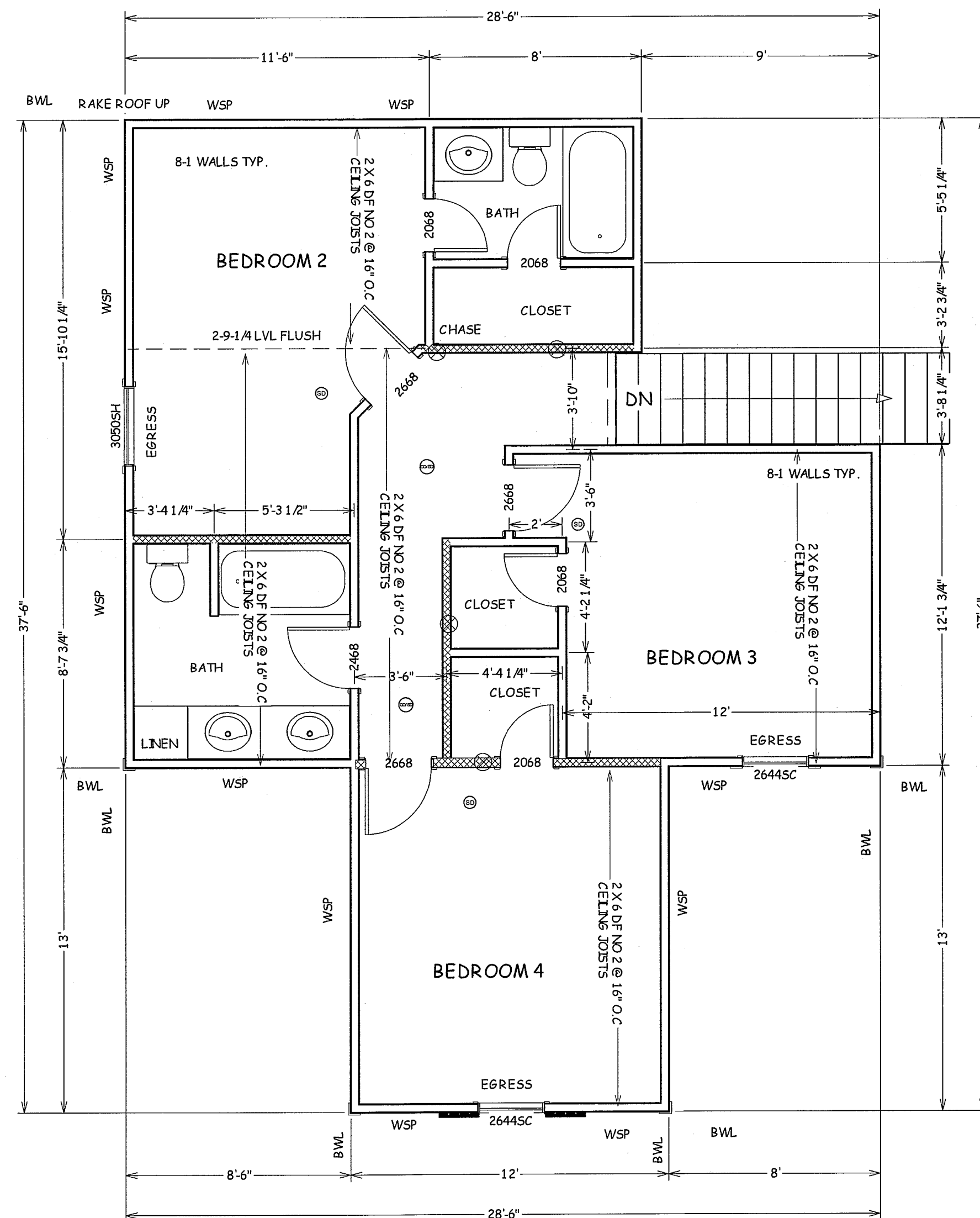




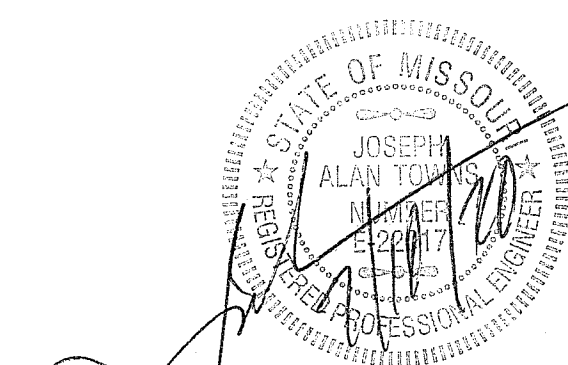
MAIN FLOOR  
PURLINS AND STRUTS  
1/8" = 1'-0"



SECOND FLOOR  
PURLINS AND STRUTS  
1/8" = 1'-0"



SECOND FLOOR  
741 SF



JOSEPH A. TOWNS P.E.  
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PLAN NO.

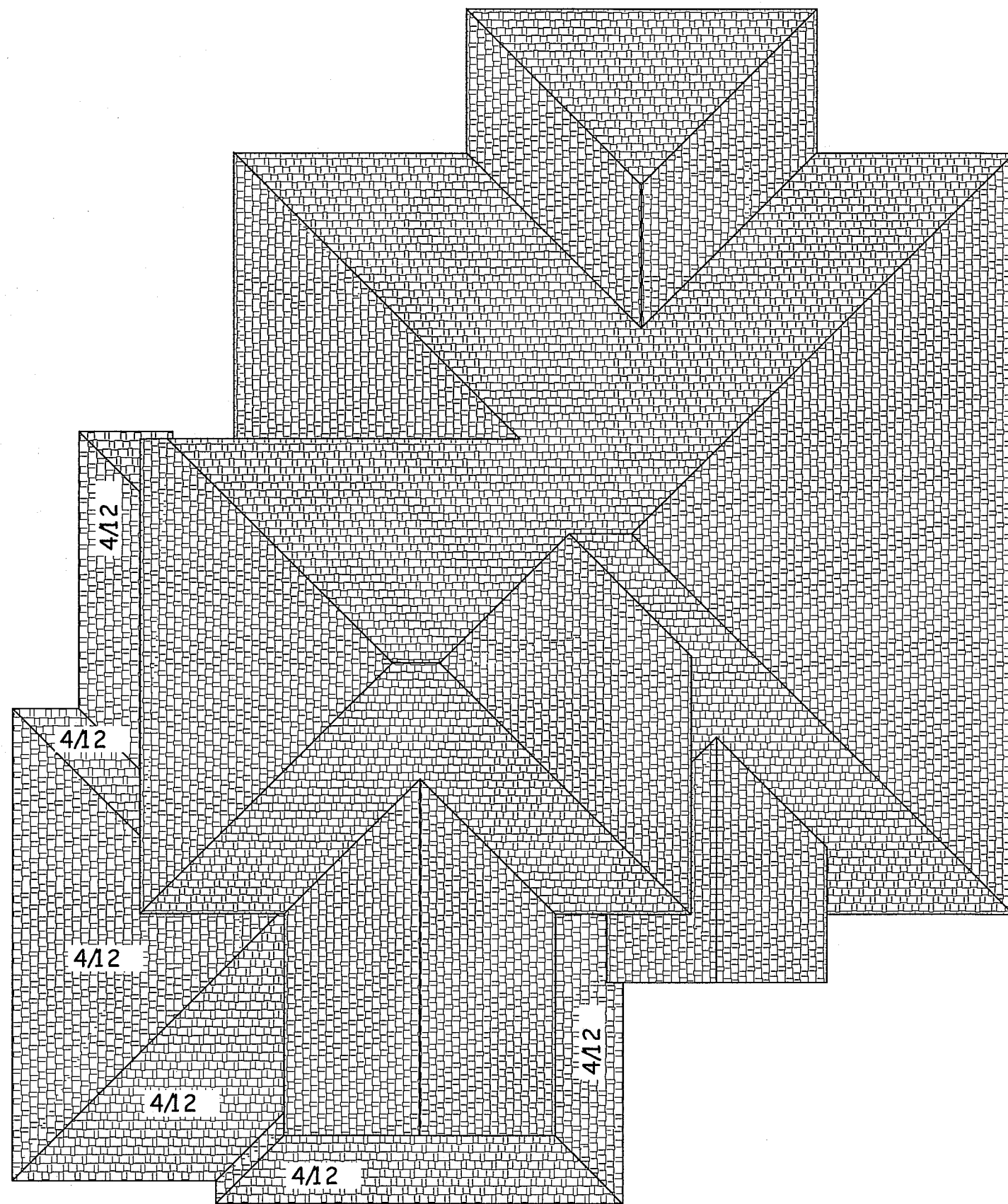
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07/28/2020





ROOF PLAN  
1/8" = 1-0  
ROOF PITCHES 7/12 TYP. UNO

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

24" SOFFITS TYP.

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

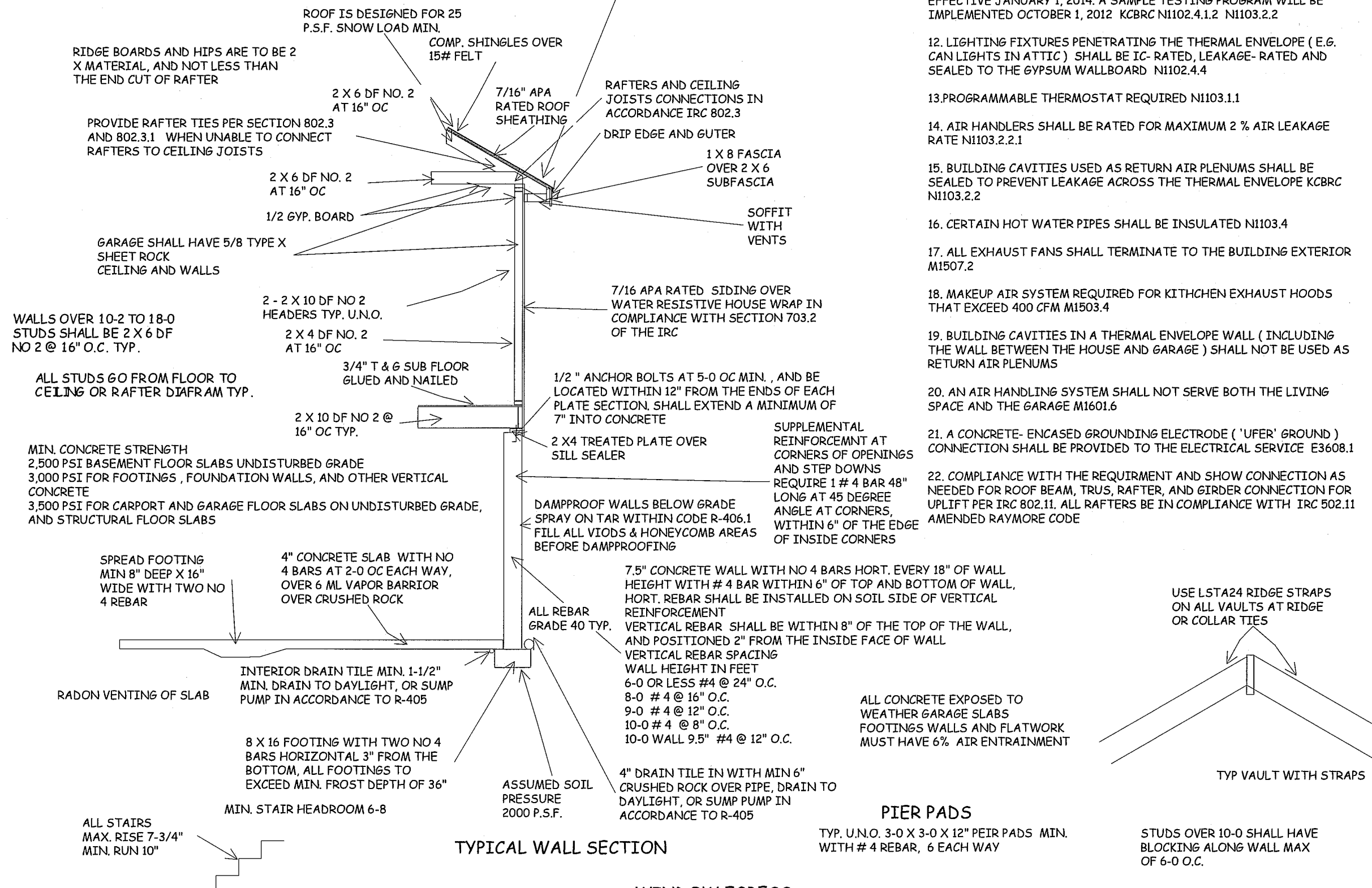
R-10 IN CRAWL SPACE WALLS

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 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 REQUIRED 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

WINDOW EGRESS REQUIREMENTS

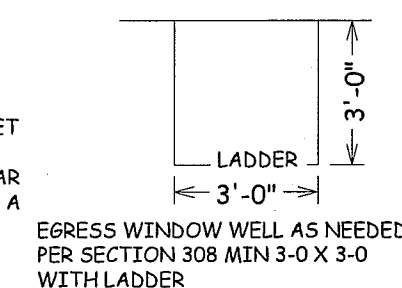
BEDROOM WINDOW EGRESS MINIMUM FOR A DOUBLE HUNG WINDOW IS 34 INCH CLEAR WIDTH MIN. AND 24 INCH CLEAR HEIGHT MIN. WITH A CLEAR OPENABLE AREA OF 5.7 SQUARE FEET MIN. A CASEMENT OR SLIDER WINDOW MINIMUMS ARE 20 INCH CLEAR WIDTH MINIMUM AND 41 INCH CLEAR HEIGHT MINIMUM. WITH A MINIMUM 5.7 SQUARE FOOT OF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

PIER PADS

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

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

OVERHEAD GARAGE DOORS MUST MEET DASHA 115 MPH OR IRC 2018 REQUIREMENTS



ALL POINT LOADS SHALL HAVE A MINIMUM OF 2 STUDS UNLESS NOTED OTHERWISE

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 KITCHEN 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 802.11 AMENDED RAYMORE CODE

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07/28/2020



EXPOSURE CATEGORY B 30-FOOT MEAN ROOF HEIGHT 10-FOOT WALL HEIGHT 2 BRACED WALL LINES		MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE*			
Ultimate Design Wind Speed (mph)	Story Location	Braced Wall Line Spacing <sup>a</sup> (feet)	Method LIB <sup>b</sup>	Method GB <sup>c</sup>	Methods DWB, WSP, SFB, FBS, FCP, HPS, BV-WSP, ABW, PFH, PFC, CS-SFB
≤ 115		10	3.5	3.5	2.0
		20	6.5	6.5	3.5
		30	9.5	9.5	4.5
		40	12.5	12.5	6.0
		50	15.0	15.0	7.5
		60	18.0	18.0	9.0
		10	7.0	7.0	3.5
		20	12.5	12.5	6.5
		30	18.0	18.0	9.0
		40	23.5	23.5	11.5
		50	29.0	29.0	14.0
		60	34.5	34.5	17.0
		10	NP	10.0	6.0
		20	NP	18.5	11.0
		30	NP	27.0	15.5
		40	NP	35.0	20.0
		50	NP	43.0	24.5
		60	NP	51.0	29.0

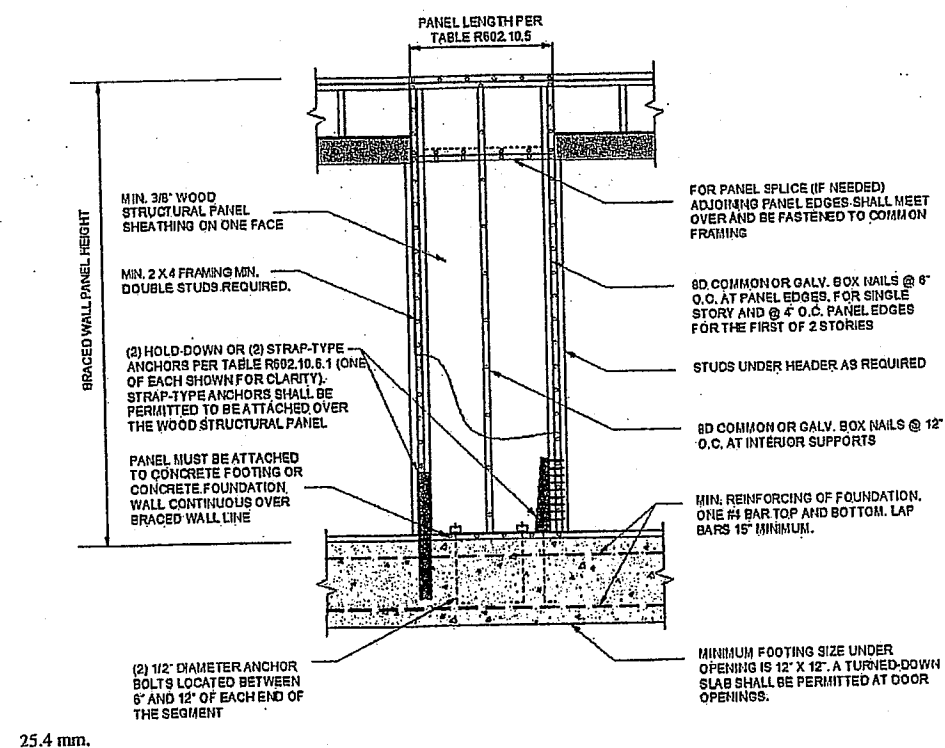


FIGURE R602.10.5.1  
METHOD ABW—ALTERNATE BRACED WALL PANEL

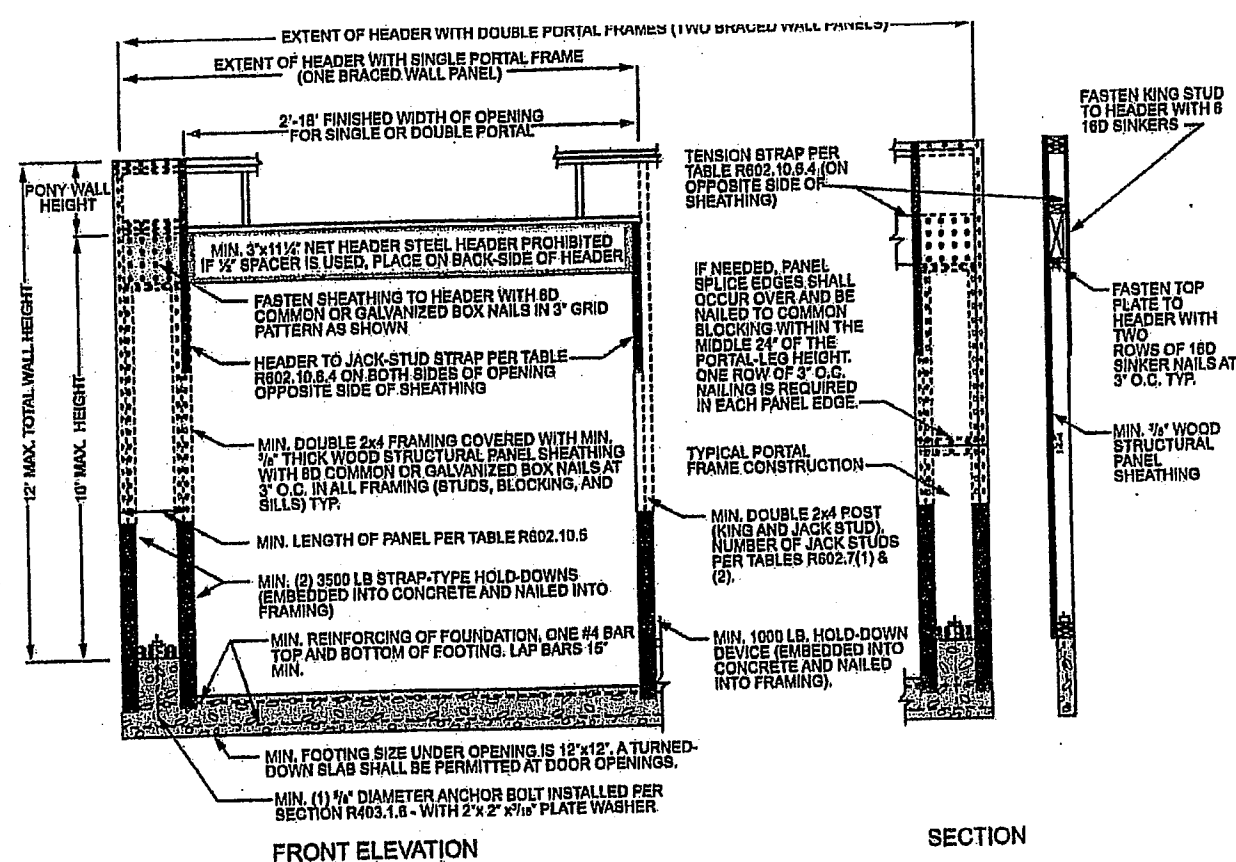


FIGURE R602.10.6.2  
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS

METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA*
LIB Let-in-bracing	1 x 4 wood or approved metal straps at 45° to 60° angles for maximum 16" stud spacing		Fasteners: Wood: 2-8d common nails or 3-8d (2 1/2" long x 0.113" dia.) nails Metal strap: per manufacturer Spacing: Wood: per stud and top and bottom plates Metal: per manufacturer
DWB Diagonal wood boards	1/2" (1" nominal) for maximum 24" stud spacing		2-8d (2 1/2" long x 0.113" dia.) nails or 2 1/4" long staples
WSP Wood structural panel (See Section R604)	1/4"		Exterior sheathing per Table R602.3(3) Interior sheathing per Table R602.3(1) or R602.3(2)
BV-WSP <sup>b</sup> Wood structural panels with stone or masonry veneer (See Section R602.10.6.5)	1/4"	See Figure R602.10.6.5	8d common (2 1/2" x 0.131") nails
SFB Structural fiberglass sheathing	1/4" or 3/16" for maximum 16" stud spacing		1 1/2" long x 0.12" dia. (for 1/4" thick sheathing) 1 1/4" long x 0.12" dia. (for 3/16" thick sheathing) galvanized roofing nails
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
FBS Particleboard sheathing (See Section R605)	3/4" or 1/2" for maximum 16" stud spacing		For 3/4", 6d common (2" long x 0.113" dia.) nails For 1/2", 8d common (2 1/2" long x 0.131" dia.) nails
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 7/16" long, 16 gage staples
HPS Hardboard panel siding	1/4" for maximum 16" stud spacing		0.092" dia., 0.235" dia. head nails with length to accommodate 1 1/2" penetration into studs
ABW Alternate braced wall	1/4"		See Section R602.10.6.1

METHOD (See Table R602.10.4)	MINIMUM LENGTH <sup>a</sup> (inches)						CONTRIBUTING LENGTH (inches)
	8 feet	9 feet	10 feet	11 feet	12 feet	Actual <sup>b</sup>	
DWB, WSP, SFB, FBS, FCP, HPS, BV-WSP	48	48	48	53	58	Actual <sup>b</sup>	Actual <sup>b</sup>
GB	48	48	48	53	58	Double sided = Actual	Single sided = 0.5 x Actual
LIB	35	62	69	NP	NP	Actual <sup>b</sup>	Actual <sup>b</sup>
ABW	SDC A, B and C, ultimate design wind speed < 140 mph	28	32	34	38	42	48
	SDC D <sub>1</sub> , D <sub>2</sub> and D <sub>3</sub> , ultimate design wind speed < 140 mph	32	32	34	NP	NP	Actual <sup>b</sup>
CS-G	Adjacent clear opening height (inches)	24	27	30	33	36	Actual <sup>b</sup>
CS-WSP, CS-SFB	≤ 64	24	27	30	33	36	Actual <sup>b</sup>
	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	—	—	—	—	65	
	144	—	—	—	—	72	
METHOD (See Table R602.10.4)	Portal header height						CONTRIBUTING LENGTH (inches)
	8 feet	9 feet	10 feet	11 feet	12 feet	Actual <sup>b</sup>	
PFH	Supporting roof only	16	16	16	Note c	Note c	48
	Supporting one story and roof	24	24	24	Note c	Note c	1.5 x Actual <sup>b</sup>
CS-PF	SDC A, B and C	16	18	20	Note e	Note e	1.5 x Actual <sup>b</sup>
	SDC D <sub>1</sub> , D <sub>2</sub> and D <sub>3</sub>	16	18	20	Note e	Note e	Actual <sup>b</sup>

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 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.  
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.

METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA*
PFH Portal frame with hold-downs	1/4"		See Section R602.10.6.2
PFH Portal frame at garage	1/4"		See Section R602.10.6.3
CS-WSP <sup>b</sup> Continuously sheathed wood structural panel	1/4"		Exterior sheathing per Table R602.3(3) Interior sheathing per Table R602.3(1) or R602.3(2)
CS-G <sup>b</sup> Continuously sheathed wood structural panel adjacent to garage openings	1/4"		See Method CS-WSP
CS-PF <sup>b</sup> Continuously sheathed portal frame	1/4"		See Section R602.10.6.4
CS-SFB <sup>b</sup> Continuously sheathed structural fiberglass	1/4" or 3/16" for maximum 16" stud spacing		1 1/2" long x 0.12" dia. (for 1/4" thick sheathing) 1 1/4" long x 0.12" dia. (for 3/16" thick sheathing) galvanized roofing nails

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.88 N/m<sup>2</sup>, 1 mile per hour = 0.447 m/s.  
a. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D<sub>1</sub>, D<sub>2</sub> and D<sub>3</sub>.  
b. Applies to panels used 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<sub>1</sub>, D<sub>2</sub> and D<sub>3</sub>, 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<sub>1</sub>, D<sub>2</sub> and D<sub>3</sub>.  
e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D<sub>1</sub> through D<sub>3</sub> only.

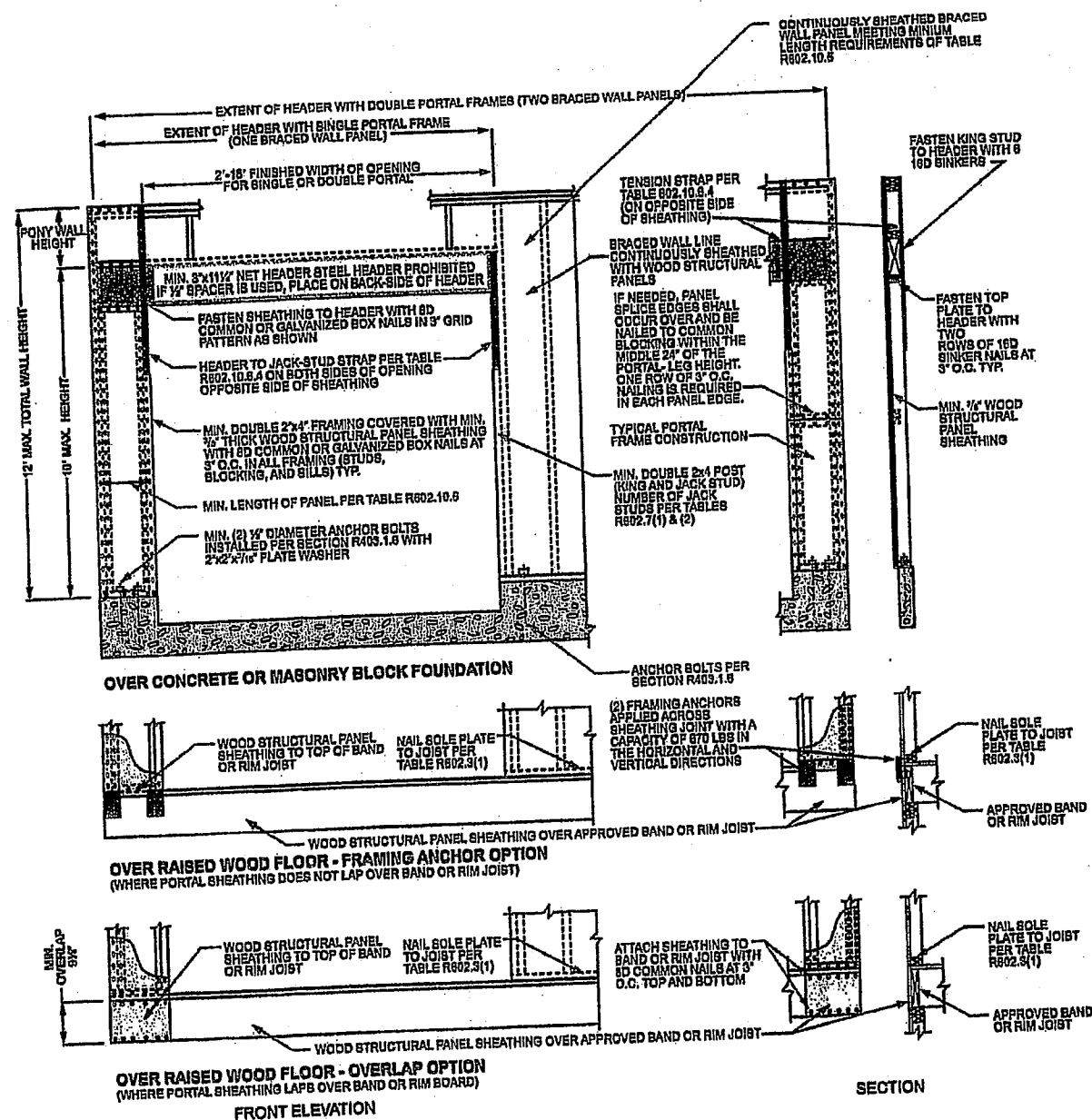
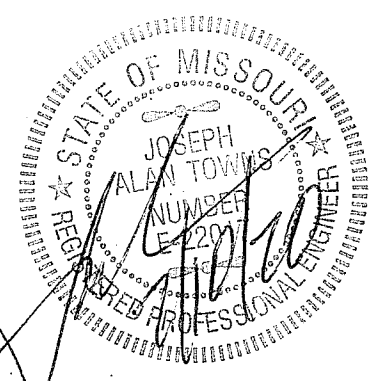


FIGURE R602.10.6.4  
METHOD CS-PF—CONTINUOUSLY SHEATHED PORTAL FRAME PANEL CONSTRUCTION



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