

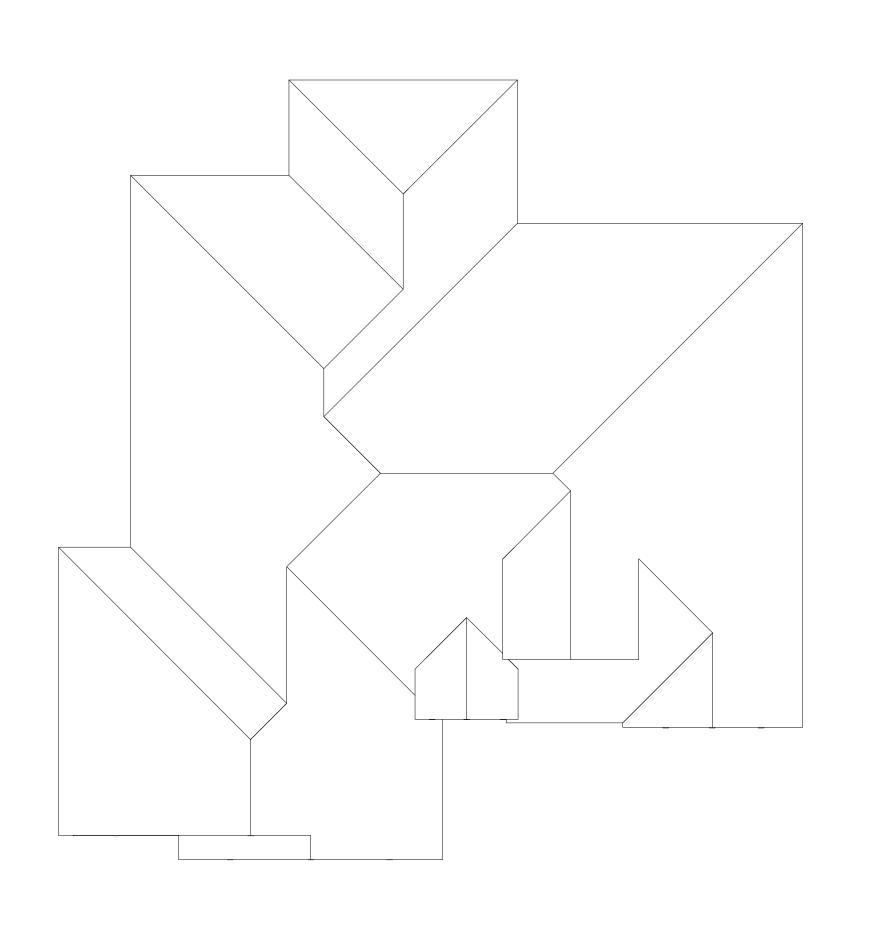
DATE 2-23-22

PLAN NO.

3298

SHEET NO.

1 OF 5





FRONT EL. LAP, SHAKE AND STONE SIDING

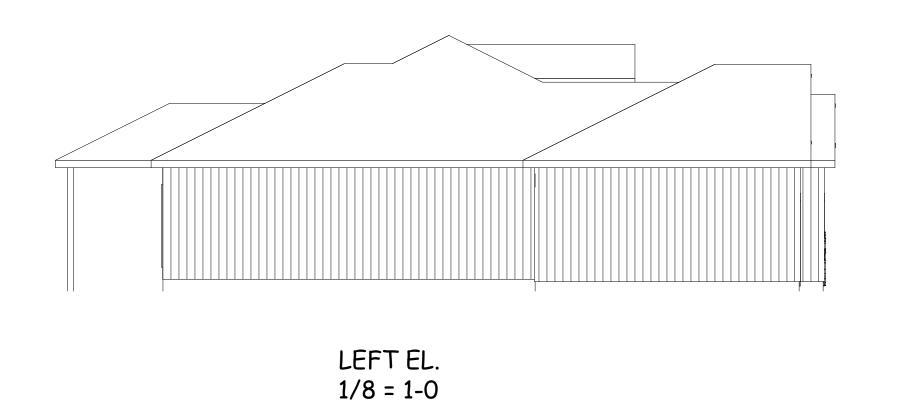
ROOF PLAN

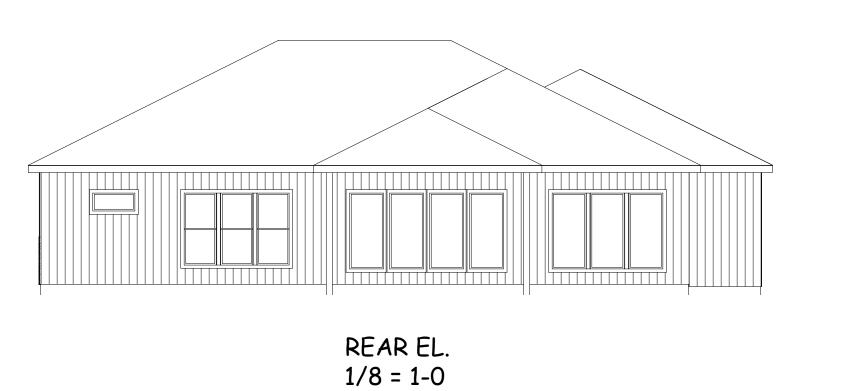
1/8 = 1-0

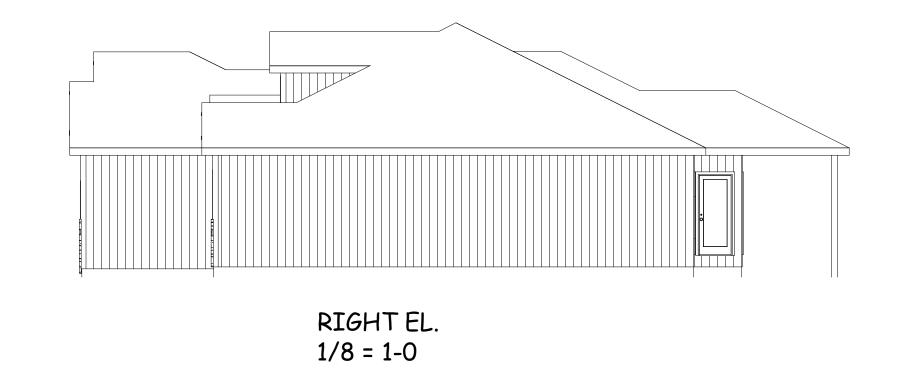
ROOF PITCHES 6/12 TYP.

RAFTERS 2 X 6 DF NO 2 @ 16" OC TYP.

HIPS AND RIDGES 2 X 8 DF NO 2 TYP.

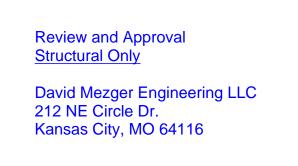






3 SIDES LP PANEL





DAVID E. MEZGER

PE-2018009531

Review and Approval Structural Only

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

> DAVID E. MEZGER

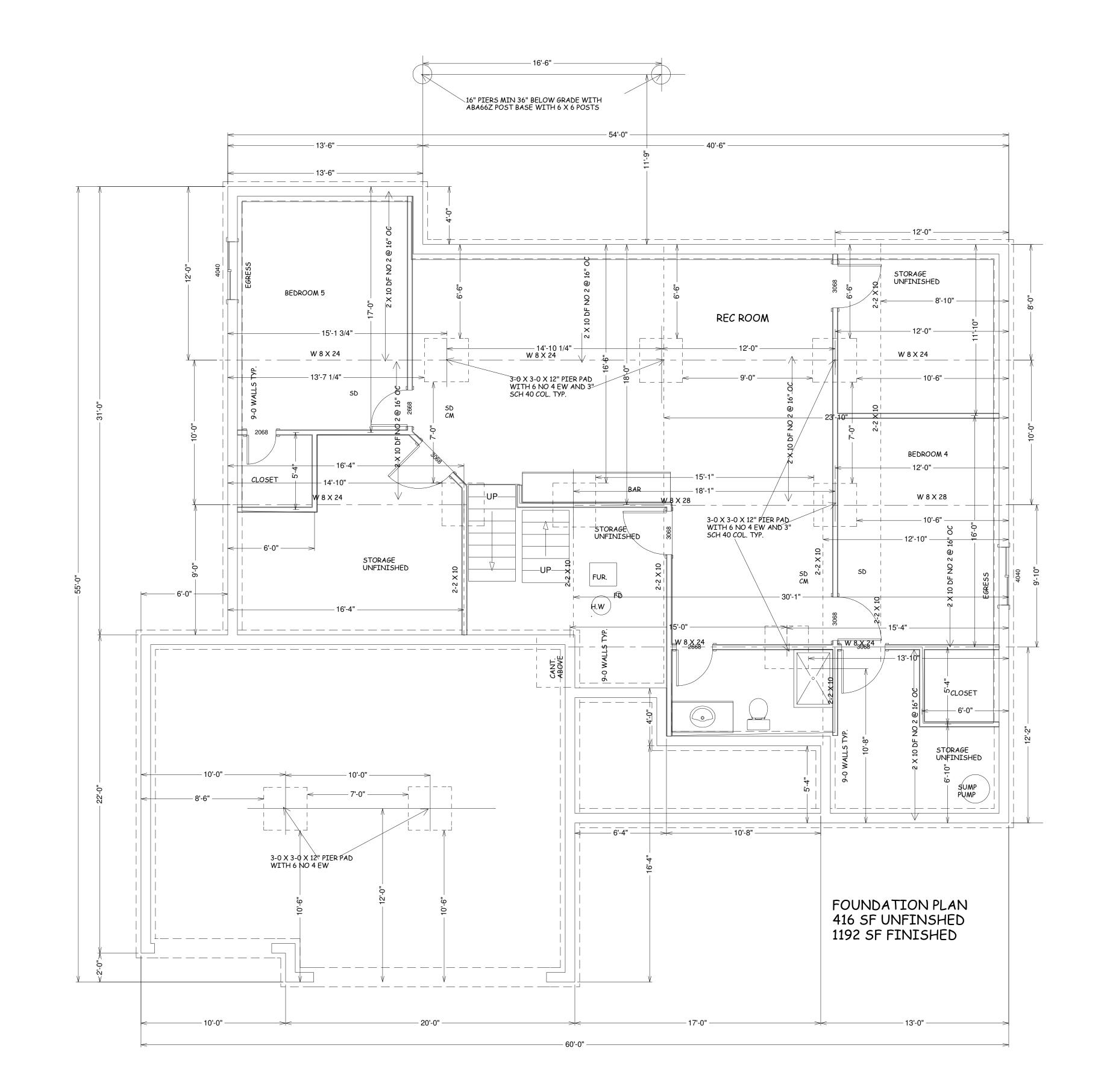
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SCALE 1/4" = 1-0

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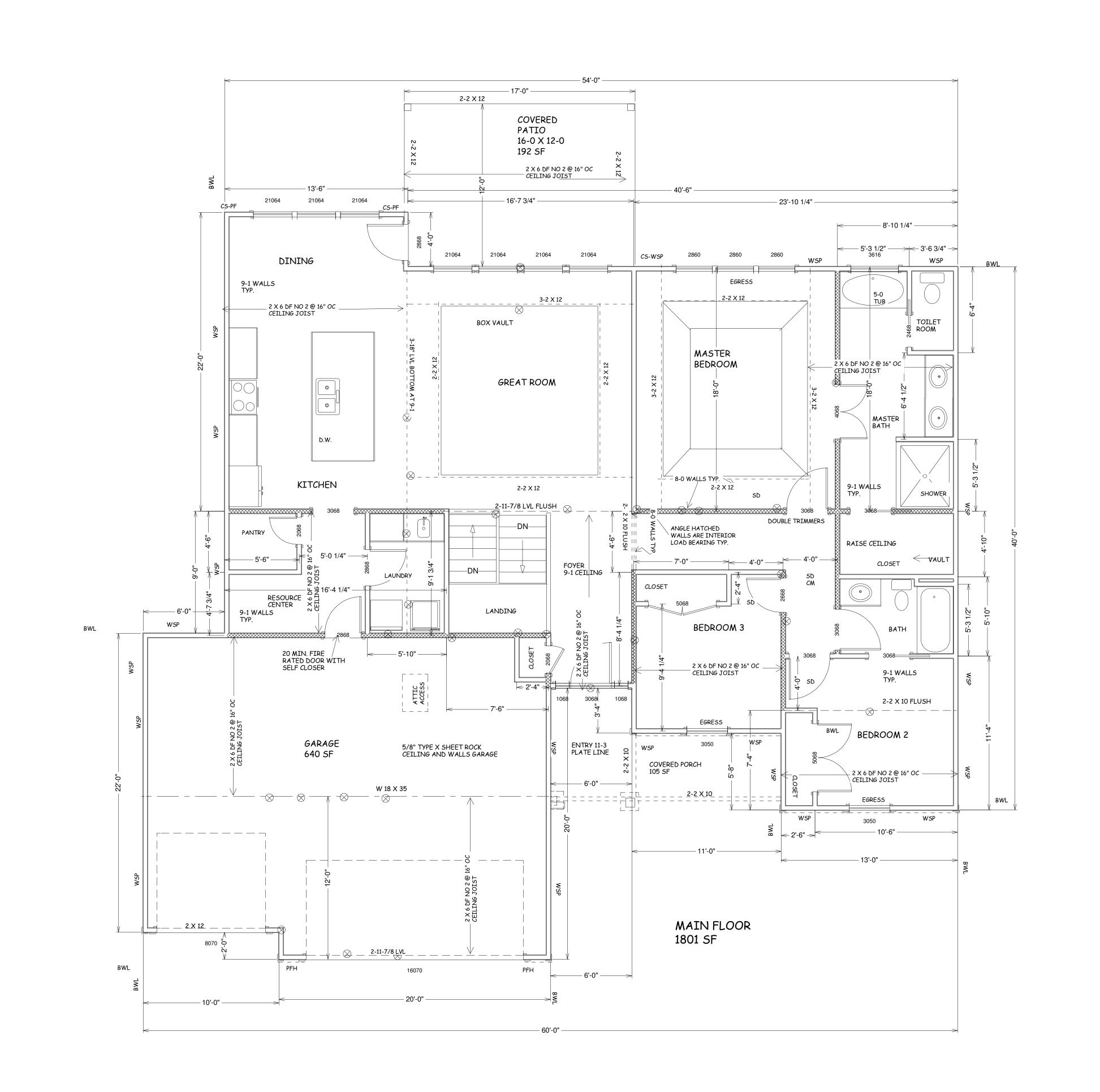
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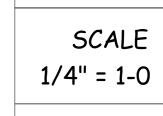
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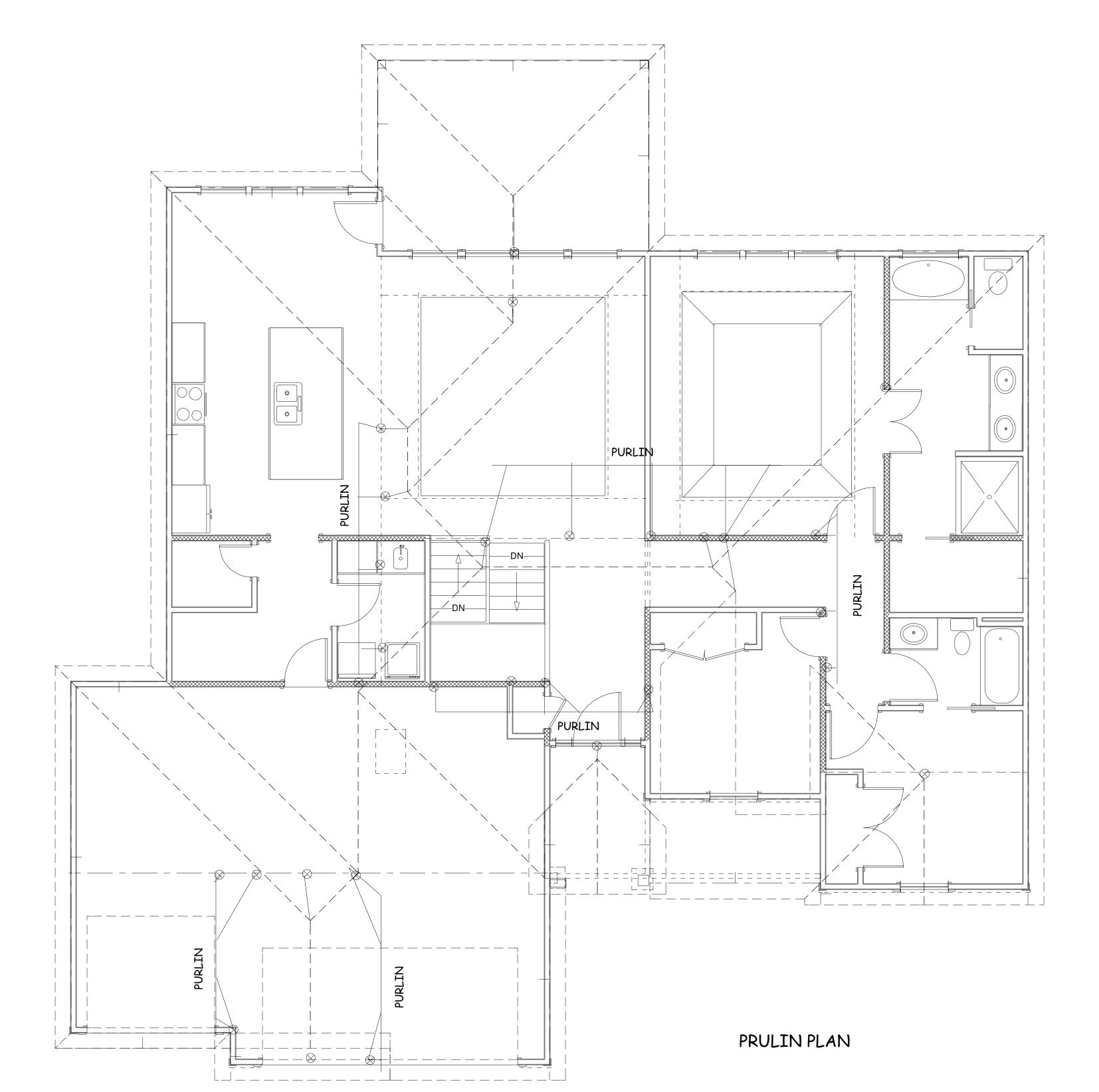
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RELEASE FOR

4 CONSTRUCTION
AS NOTED ON PLANS REVIEW



VAULT INSULATION DETAIL 1. DWELLING / GARAGE OPENINGS BETWEEN GARAGE AND SLEEPING 2 X 10 VAULT RAFTER PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS SHALL BE 1" AIR SPACE WITH FOAM AIR EQUIPPED WITH SOLID WOOD OR STELL DOORS NOT LESS THAN 1-3/8" ENERGY CONSERVATION CODE THICK OR 20 MINUTE RATED DOORS, WITH SELF CLOSING DEVICES 2 X 2 NAILED TO BOTTOM OF THE FOLLOWING VALUES ARE NEEDED. RAFTERS 12" O.C. WITH 12 D REQUIRED FOR GARAGE / DWELLING SEPERATION DOORS R302.5.1 2. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM IS REQUIRED FOR R-15 IN WALLS ANY DWELLING IN COMPLIANCE WITH IRC M 1505 3. CARBON MONOXIDE DETECTORS REQUIRED IRC R 315 $\,$ R-49 IN ATTICS R-38 HIGH DENSITY 4. STEEL COLUMNS SHALL BE MINIMUM SCHEDULE 40 R407.3 INSULATION R-38 IN VAULTS R-30 REDUCTION FOR VAULTS IS ONLY FOR 500 SF 5. DECK SHALL BE BUILT PER TABLES 507.2 , 507.2.1, 507.3, 507.6, INTERCONNECTED HARD WIRED SMOKE DETECTORS SHALL BE INSTALLED IN EACH 507.5.1(1)&(2), 507.5, AND 507.6 BEDROOM AND OUTSIDE OF EACH BEDROOM 6. STUDS SHALL BE CONTINUOUS BETWEEN FLOOR, CEILING AND OR R-19 IN FLOORS OVER UNCONDITIONED SPACES ROOF DIAPHRAGMS R602.3 ALL PLUMBING IF EXISITING SHALL BE CAPPED AND AIR TESTED PRIOR TO ROUGH-IN 7. ADDED REQUIREMENTS FOR WINDOW FALL PROTECTION R312.2 R-10 IN CRAWL SPACE WALLS INSPECTION FOR LEAK VERIFICATION 8. NEW PROVISIONS FOR ATTACHMENT OF RAFTERS, TRUSSES AND BASEMENT WALLS R-13 CAVITY OR R-10 CONTINOUS ROOF BEAMS R802.3.1. R802.11 9. INSULATION REQUIRED FOR ALL BASEMENT WALLS (INCLUDING SLABS SHALL BE R-10 FOR A DEPTH OF 2 FOOT UNFINISHED BASEMENTS) N1102.1 A WINDOW U FACTOR OF .35 OR BETTER 10. EXTERIOR WINDOWS/DOORS SHALL HAVE U-FACTOR 0.35 AND GLAZING SHALL HAVE SOLAR HEIGHT GAIN FACTOR OF 0.40 N1102.1 ICE & WATER SHEILD REQUIRED ON ALL DUCTWORK NEEDS TO HAVE AN R-8 VALUE 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 ROOF IS DESIGNED FOR 25 P.S.F. SNOW LOAD MIN. COMP. SHINGLES OVER 12. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE (E.G. RIDGE BOARDS AND HIPS ARE TO BE 2 15# FELT CAN LIGHTS IN ATTIC) SHALL BE IC-RATED, LEAKAGE-RATED AND X MATERIAL, AND NOT LESS THAN SEALED TO THE GYPSUM WALLBOARD N1102.4.4 THE END CUT OF RAFTER RAFTERS AND CEILING 7/16" APA 2 X 6 DF NO. 2 / JOISTS CONNECTIONS IN 13.PROGRAMMABLE THERMOSTAT REQUIRED N1103.1.1 RATED ROOF ACCORDANCE IRC 802.3 SHEATHING PROVIDE RAFTER TIES PER SECTION 802.3 14. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2 % AIR LEAKAGE AND 802.3.1 WHEN UNABLE TO CONNECT RAFTERS TO CEILING JOISTS DRIP EDGE AND GUTER RATE N1103.2.2.1 1 X 8 FASCIA 15. BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE OVER 2 X 6 2 X 6 DF NO. 2 SUBFASCIA SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE KCBRC AT 16" OC 16. CERTAIN HOT WATER PIPES SHALL BE INSULATED N1103.4 **VENTS** GARAGE SHALL HAVE 5/8 TYPE X 17. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR SHEET ROCK CEILING AND WALLS 7/16 APA RATED SIDING OVER 18. MAKEUP AIR SYSTEM REQUIRED FOR KITHCHEN EXHAUST HOODS 2 - 2 X 10 DF NO 2 WATER RESISTIVE HOUSE WRAP IN THAT EXCEED 400 CFM M1503.4 HEADERS TYP. U.N.O. COMPLIANCE WITH SECTION 703.2 WALLS OVER 10-2 TO 18-0 STUDS SHALL BE 2 X 6 DF NO 2 @ 16" O.C. TYP. OF THE IRC 2 X 4 DF NO. 2 19. BUILDING CAVITIES IN A THERMAL ENVELOPE WALL (INCLUDING AT 16" OC THE WALL BETWEEN THE HOUSE AND GARAGE) SHALL NOT BE USED AS 3/4" T & G SUB FLOOR RETURN AIR PLENUMS ALL STUDS GO FROM FLOOR TO CEILING OR RAFTER DIAFRAM TYP. 1/2 " ANCHOR BOLTS AT 5-0 OC MIN. , AND BE GLUED AND NAILED 20. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING LOCATED WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. SHALL EXTEND A MINIMUM OF SPACE AND THE GARAGE M1601.6 2 X 10 DF NO 2 @ 7" INTO CONCRETE 16" OC TYP. 21. A CONCRETE- ENCASED GROUNDING ELECTRODE ('UFER' GROUND) 2 X4 TREATED PLATE OVER REINFORCEMNT AT MIN. CONCRETE STRENGTH CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICE E3608.1 SILL SEALER CORNERS OF OPENINGS 2,500 PSI BASEMENT FLOOR SLABS UNDISTURBED GRADE 22. COMPLIANCE WITH THE REQUIRMENT AND SHOW CONNECTION AS 3,000 PSI FOR FOOTINGS , FOUNDATION WALLS, AND OTHER VERTICAL NEEDED FOR ROOF BEAM, TRUS, RAFTER, AND GIRDER CONNECTION FOR LONG AT 45 DEGREE 3,500 PSI FOR CARPORT AND GARAGE FLOOR SLABS ON UNDISTURBED GRADE, DAMPPROOF WALLS BELOW GRADE UPLIFT PER IRC 802.11. ALL RAFTERS BE IN COMPLIANCE WITH IRC 502.11 ANGLE AT CORNERS, FILL ALL VIODS & HONEYCOMB AREAS
BEFORE DAMPPROOFING

AND I AR WITHIN CODE R-406.1
WITHIN 6" OF THE EDGE
OF INSIDE CORNERS AND STRUCTURAL FLOOR SLABS 4" CONCRETE SLAB WITH NO SPREAD FOOTING 4 BARS AT 2-0 OC EACH WAY, 7.5" CONCRETE WALL WITH NO 4 BARS HORT. EVERY 18" OF WALL MIN 8" DEEP X 16" HEIGHT WITH # 4 BAR WITHIN 6" OF TOP AND BOTTOM OF WALL, HORT, REBAR SHALL BE INSTALLED ON SOIL SIDE OF VERTICAL OVER 6 ML VAPOR BARRIOR WIDE WITH TWO NO USE LSTA24 RIDGE STRAPS OVER CRUSHED ROCK 4 REBAR ON ALL VAULTS AT RIDGE OR COLLAR TIES ALL REBAR REINFORCEMENT GRADE 40 TYP. VERTICAL REBAR SHALL BE WITHIN 8" OF THE TOP OF THE WALL, AND POSITIONED 2" FROM THE INSIDE FACE OF WALL VERTICAL REBAR SPACING INTERIOR DRAIN TILE MIN. 1-1/2" MIN. DRAIN TO DAYLIGHT, OR SUMP WALL HEIGHT IN FEET 6-0 OR LESS #4 @ 24" O.C. RADON VENTING OF SLAB 8-0 # 4 @ 16" O.C. PUMP IN ACCORDANCE TO R-405 ALL CONCRETE EXPOSED TO 9-0 # 4 @ 12" O.C. WEATHER GARAGE SLABS 10-0 # 4 @ 8" O.C. FOOTINGS WALLS AND FLATWORK 10-0 WALL 9.5" #4 @ 12" O.C. 8 X 16 FOOTING WITH TWO NO 4 MUST HAVE 6% AIR ENTRAINMENT BARS HORIZONTAL 3" FROM THE BOTTOM, ALL FOOTINGS TO 4" DRAIN TILE IN WITH MIN 6" TYP VAULT WITH STRAPS EXCEED MIN. FROST DEPTH OF 36" ASSUMED SOIL \ CRUSHED ROCK OVER PIPE, DRAIN TO PRESSURE DAYLIGHT, OR SUMP PUMP IN MIN. STAIR HEADROOM 6-8 PIER PADS 2000 P.S.F. ACCORDANCE TO R-405 ALL STAIRS TYP. U.N.O. 3-0 X 3-0 X 12" PEIR PADS MIN. WITH # 4 REBAR, 6 EACH WAY STUDS OVER 10-0 SHALL HAVE MAX. RISE 7-3/4" TYPICAL WALL SECTION BLOCKING ALONG WALL MAX MIN. RUN 10" OF 6-0 O.C. WINDOW EGRESS REQUIREMENTS WINDOW SAFETY GLAZING PER 308 OVERHEAD GARAGE DOORS SAFETY GLAZING REQUIRED ALONG WALKING SURFACES AND BEDROOM WINDOW EGRESS MINIMUM FOR A DOUBLE HUNG MUST MEET DASMA 115 MPH OR IRC 2018 REQUIRMENTS STAIRS LOCATED WITHIN 36 INCHES HORIZONTALLY OF THE STEPS. WINDOW IS 34 INCH CLEAR WIDTH MIN. AND 24 INCH CLEAR SAFETY GLAZING REQUIRED IF EXPOSED SINGLE PANEL IS IN HEIGHT MIN. WITH A CLEAR OPENABLE AREA OF 5.7 SQUARE FEET EXCESS OF 9 SQUARE FEET OR THE BOTTOM EDGE OF THE GLAZING LADDER 🗆 🖳 IS LESS THAN 18 INCHES ABOVE THE FINISHED FLOOR. A CASEMENT OR SLIDER WINDOW MINIMUMS ARE 20 INCH CLEAR <-- 3'-0" → WIDTH MINIMUM AND 41 INCH CLEAR HEIGHT MINIMUM. WITH A SAFETY GLAZING REQUIRD WHERE THE NEAREST EXPOSED EDGE OF MINIMUM 5.7 SQUARE FOOT OF OPENABLE AREA. EGRESS WINDOW WELL AS NEEDED THE GLAZING IS WITHIN 24 INCHES OF EITHER VERTICAL EDGE OF OPENING OF EGRESS WINDOW NOT MORE THAN 42" PER SECTION 308 MIN 3-0 X 3-0 THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM FROM THE FLOOR WITH LADDER

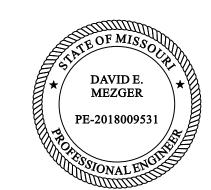
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EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE A WALKING SURFACE, SAFETY OR TEMPERED GLAZING IS REQUIRED.

WINDOWS ARE TO HAVE FALL

PROTECTION PER IRC 312.2

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



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

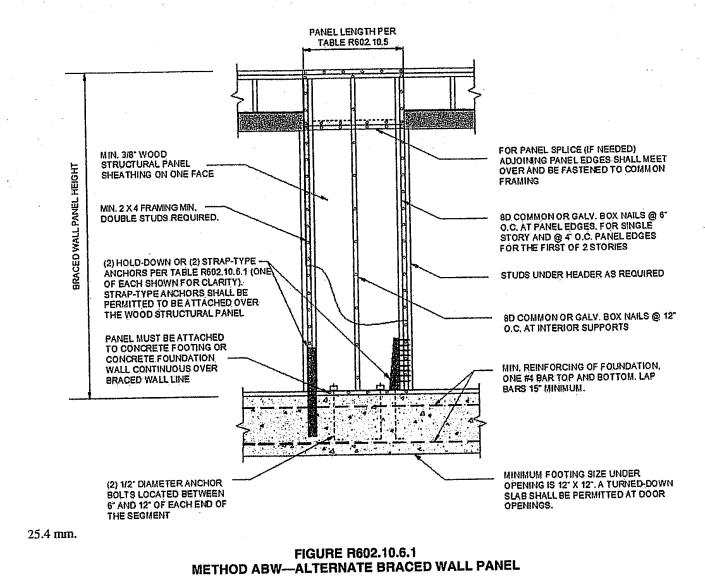
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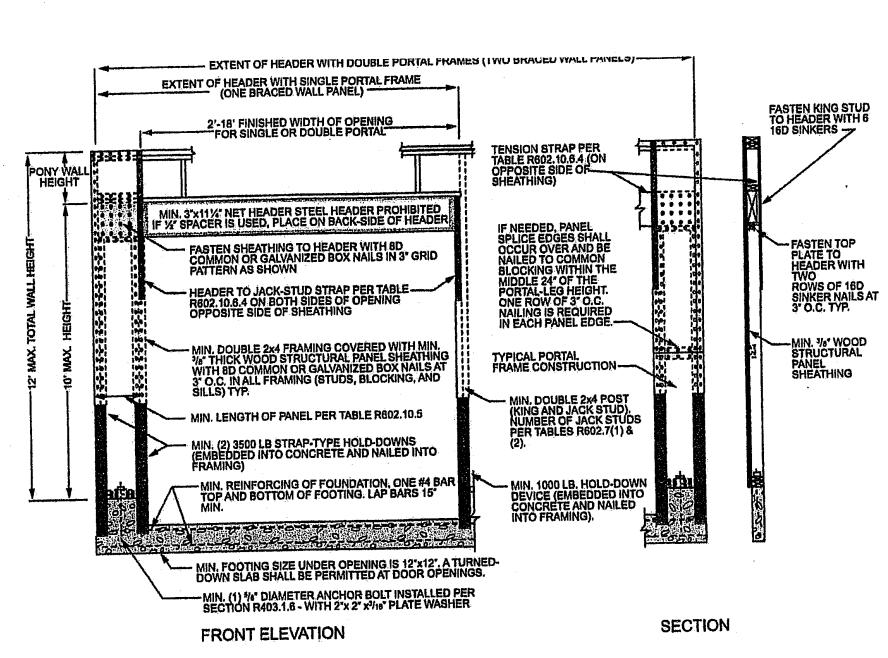
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SHEET NO.

RELEASE FOR CONSTRUCTION

TABLE R602.10.3(1) BRACING REQUIREMENTS BASED ON WIND SPEED MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE Methods DWB, WSP, SFB, PBS, PCP, HPS, BV-WSP, ABW, PFH, PFC, CS-SFB Ultimate Design Wind Speed (mph) Method GB 3.5 5.5 7.0 12.5 12.5 7.5 9.0 15.0 9.0 18.0 10.5 12.5 10.5 18.0 18.0 11.5 ≤ 115 13.5 23.5 23.5 14.0 16.5 29.0 29.0 50 17.0 20.0 34.5 34.5 9.0 11.0 13.0 27.0 15.5 17.0 20.0 35.0 21.0 43.0 24.5 25.0 29.0





4 mm, 1 foot = 304.8 mm.

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

				TABLE R602.10. BRACING METHO	4 DS		
Г					CONNECTION CRITERIA*		
	MET	HODS, MATERIAL	MINIMUM THICKNESS	FIGURE	Fasteners	Spacing	
		LIB Let-in-bracing	1 × 4 wood or approved metal straps at 45° to 60° angles for maximum 16" stud spacing			Wood: per stud and top and bottom plates	
					Metal strap: per manufacturer	Metal: per manufacturer	
		DWB Diagonal wood boards	3/4" (1" nominal) for maximum 24" stud spacing		2-8d $(2^{1}l_{2}^{"} \log \times 0.113^{"} \text{ dia.})$ nails or $2 - 1^{3}l_{4}^{"} \log \text{ staples}$	Per stud	
		WSP Wood structural panel (See Section R604)	3/8"		Exterior sheathing per Table R602.3(3)	6" edges 12" field	
					Interior sheathing per Table R602.3(1) or R602.3(2)	Varies by fastener	
	ethods	BV-WSP* Wood structural panels with stone or masonry veneer (See Section R602.10.6.5)	7/ ₁₆ "	See Figure R602.10.6.5	8d common (2 ¹ / ₂ " × 0.131) nails	4" at panel edges 12" at intermediate supports 4" at braced wall panel end posts	
	Intermittent Bracing Methods	SFB Structural fiberboard sheathing	1/2" or 25/32" for maximum 16" stud spacing		$1^{1}l_{2}^{"}$ long × 0.12" dia. (for $^{1}l_{2}^{"}$ thick sheathing) $1^{3}l_{4}^{"}$ long × 0.12" dia. (for $^{25}l_{32}^{"}$ thick sheathing) galvanized roofing nails	3" edges 6" field	
1	Intermitten	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" edges (including top and bottom plates) 7" field	
		PBS Particleboard sheathing (See Section R605)	³ / ₈ " or ¹ / ₂ " for maximum 16" stud spacing		For ³ / ₈ ", 6d common (2" long × 0.113" dia.) nails For ¹ / ₂ ", 8d common (2 ¹ / ₂ " long × 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, ⁷ / ₁₆ " dia. head nails or ⁷ / ₈ " long, 16 gage staples	members	
		HPS Hardboard panel siding	⁷ / ₁₆ " for maximum 16" stud spacing		0.092" dia., 0.225" dia. head nails with length to accommodate 11/2" 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	

METHOD (See Table R602.10.4)		MINIMUM LENGTH*					CONTRIBUTING LENGTH	
				Wall Heigh	it .		(Inches)	
		8 feet	9 feet	10 feet	11 feet	12 feet	Actual ^b	
DWB, WSP, SFB, PBS, PCP, HPS, BV-WSP GB		48	48	48	53	58	Double sided = Actual	
		48	48	48	53	58	Single sided = $0.5 \times Actus$	
	JIB	55	62	69	NP	NP	Actual ⁶	
. A DAY	SDC A, B and C, ultimate design wind speed < 140 mph	28	32	34	38	42	48	
ABW	SDC D ₀ , D ₁ and D ₂ , ultimate design wind speed < 140 mph	32	32	34	NP	NP		
	CS-G	24	27	30	33	36	Actual ^b	
	Adjacent clear opening height (inches)							
	≤ 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	4	
	96	48	41	38	36	36	Actual ^b	
CS-WSP, CS-SFB	100		44	40	38	38		
	104		49	43	40	41		
	108		54	46 50	45	43		
	112			55	48	45	- .	
	116			60	52	48	_	
	120		<u> </u>	1 00	56	51		
	124		$\vdash =$	 	61	54		
	128 132		+=	+	66	58	-	
	136		 			62	-	
	140		 	+		66		
	144				 	72	_	
METHOD			P	ortal heads	r height			
	ble R602,10.4)	8 feet	9 feet	10 feet	11 feet	12 feet		
	Supporting roof only	16	16	16	Note c	Note c	48	
PFH	Supporting one story and roof	24	24	24	Note c	Note c	c	
	PFG	24	27	30	Note d	Note d		
	SDC A, B and C	16	18	20	Note e	Note e		
CS-PF	SDC D ₀ , D ₁ and D ₂	16	18	20	Note e	Note e	Actual ^b	
IP = Not Permitted. Linear interpolation shall	foot = 304.8 mm, 1 mile per hour = 6 be permitted. be it is greater than or equal to the m for PFH is 10 feet in accordance with	inimum la	noth				12 fact with name	

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

			TABLE R602.10.4—cont	inued S		
				CONNECTION CRITERIA'		
N	ETHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	Fasteners	Specing	
g Methods	PFH Portal frame with hold-downs	³/ ₈ "		See Section R602.10.6.2	See Section R602.10.6.2	
Intermittent Bracing Methods	PFG Portal frame at garage	⁷ / ₁₆ "		See Section R602.10.6.3	See Section R602.10.6.3	
 	CS-WSP	3/8"		Exterior sheathing per Table R602.3(3)	6" edges 12" field	
50	Continuously sheathed wood structural panel			Interior sheathing per Table R602.3(1) or R602.3(2)	Varies by fastener	
Continuous Sheathing Methods	CS-G ^{b,c} Continuously sheathed wood structural panel adjacent to garage openings	3/8"		See Method CS-WSP	See Method CS-WSP	
nuous Sh	CS-PF Continuously sheathed portal frame	7/16"		See Section R602.10.6.4	See Section R602.10.6.4	
Conti	CS-SFB ^d Continuously sheathed structural fiberboard	1/2" or ²⁵ /32" for maximum 16" stud spacing		1 $\frac{1}{2}$ " long × 0.12" dia. (for $\frac{1}{2}$ " thick sheathing) 1 $\frac{3}{4}$ " long × 0.12" dia. (for $\frac{25}{2}$ " 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.

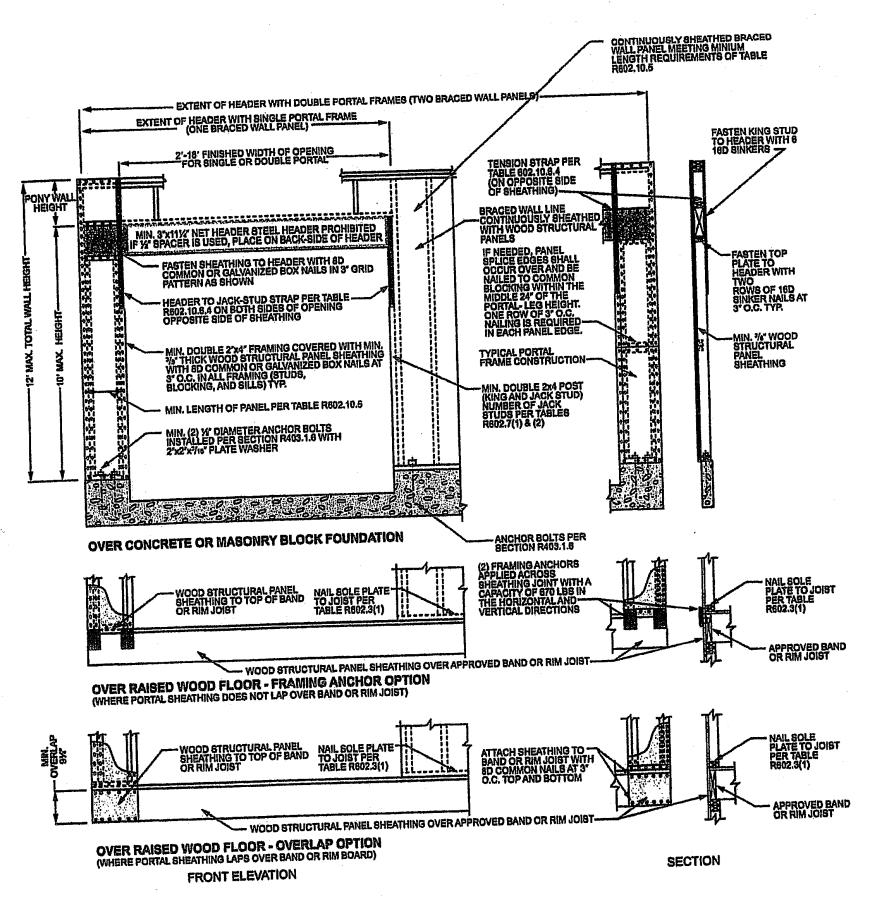
a. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D₀, D₁ and D₂.

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 D₀, 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_0 , D_1 and D_2 .

e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D_0 through D_2 only.



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

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

Review and Approval Structural Only David Mezger Engineering LLC 212 NE Circle Dr.

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