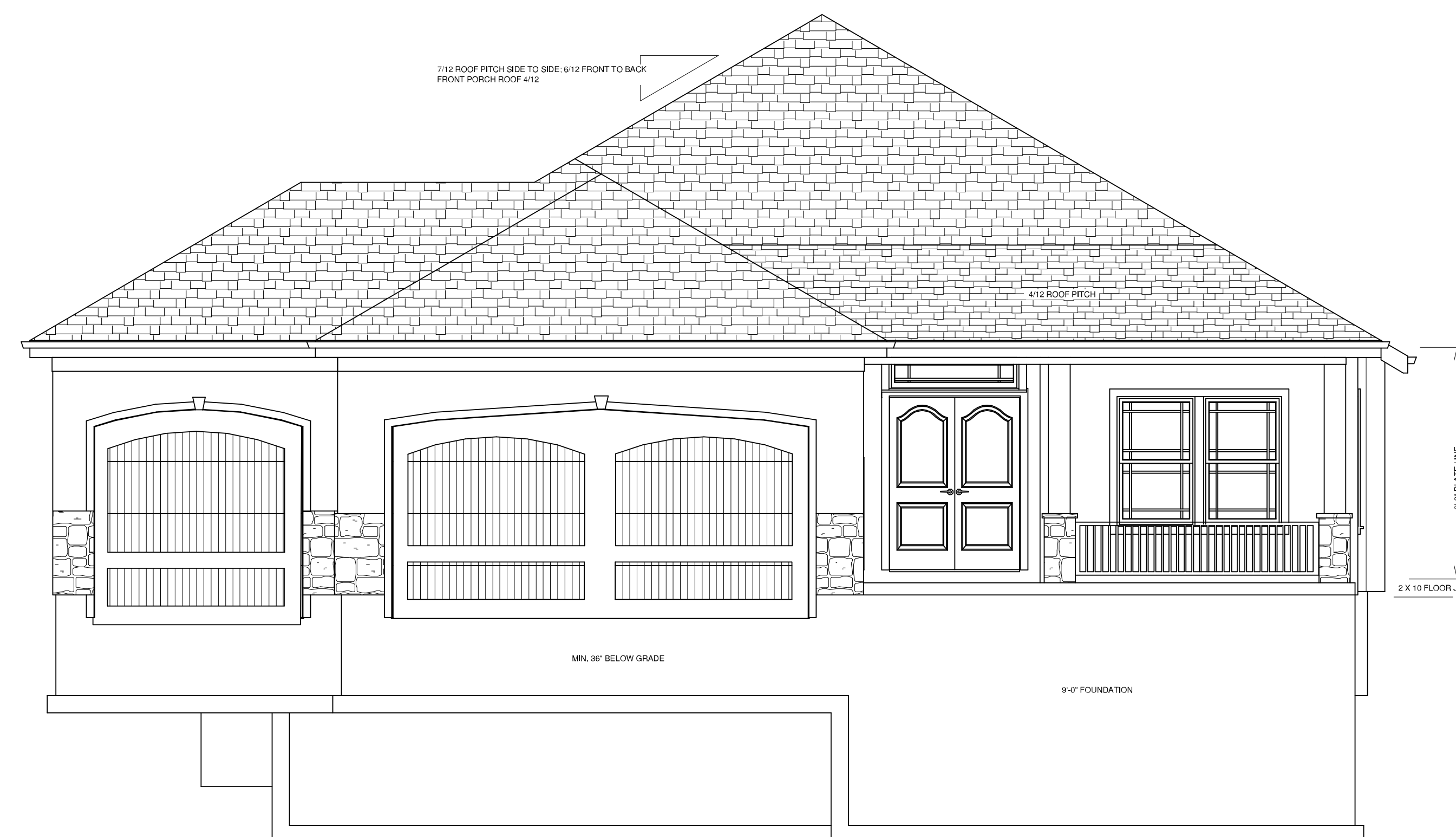


**PLANS AND CONSTRUCTION TO BE IN
ACCORDANCE WITH 2018 IRC AS ADOPTED
BY THE CITY OF LEE'S SUMMIT, MO**



7/12 ROOF PITCH SIDE TO SIDE: 6/12 FRONT TO BACK
FRONT PORCH ROOF 4/12
12" SOFFITS
3" FASCIA
6" RAKES

HOUSE SQ. FT.
MIN LEVEL: 1810 SQ. FT.
GARAGE: 653 SQ. FT.
BACK PORCH: 120 SQ. FT.
UNFINISHED BSMT 1810 SQ. FT.

**RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI**

09/02/2020

4708 NE SARATOGA CT.
LEE'S SUMMIT, MO



PAGE 1

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PLAN: 210

ELEVATIONS

SCALE: 1/4" = 1'-0"

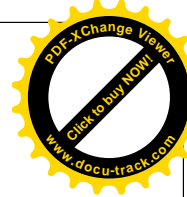
THE
WELLINGTON
MC 107

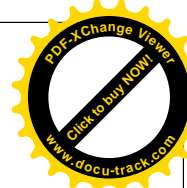
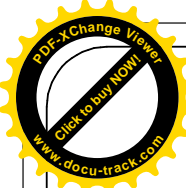
DRI
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On the subject of knowledge, these plans are drawn to comply with owner's and/or builder's specifications and any changes made on them after prints are made will be done at the owner's and/or builder's expense and responsibility. The contractor shall verify all dimensions and enclosed drawing. The maker of these plans is not an architect or engineer, is not liable for errors once construction has begun. While every effort has been made in the preparation of this plan to avoid mistakes, the maker can not guarantee all human error. The contractor of the job must check all dimensions and other details prior to construction and be solely responsible thereafter.

BUILDING CONTRACTOR/HOME OWNER
TO REVIEW AND VERIFY ALL DIMENSIONS,
SPECS. AND CONNECTIONS BEFORE
CONSTRUCTION BEGINS.

ELECTRICAL SYSTEM CODE: SEC.2701
MECHANICAL SYSTEM CODE: SEC.2801
PLUMBING SYSTEM CODE: SEC.2901





Combustion Air Calculations

90% Efficient Furnace so Combustion Air Calculations are not applicable.

CONCRETE

Concrete strength shall comply with the following minimum strength requirements at 28 days [IRC R402.2]:

- 2,500 psi for basements floor slabs on undisturbed grade.
- 3,000 psi for footings, foundation walls, and other vertical concrete.
- 3,500 psi for carport and garage floor slabs on undisturbed grade.
- 3,500 psi for structural floor slabs.

Concrete shall be 6% (+/- 1%) air-entrained for garage slabs and for all locations footings, walls or flatwork where exposed to weather. Rebar shall be minimum 40 ksi 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 WITH AIR INFILTRATION AT A RATE OF LESS THAN 3 AIR CHANGES PER HOUR (AT ACH50 STANDARD 0 R303.4

3. CARBON MONOXIDE DETECTORS REQUIRED 9 R3150

4. STEEL COLUMNS SHALL BE MINIMUM SCHEDULE 40 R407.3

5. DECK LEDGER ATTACHMENT TO HOUSE SHALL BE PER TABLES 507.2 AND 507.2.1

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 N1103.2.3

16. CERTAIN HOT WATER PIPES SHALL BE INSULATED N1103.4

17. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR M1507.2

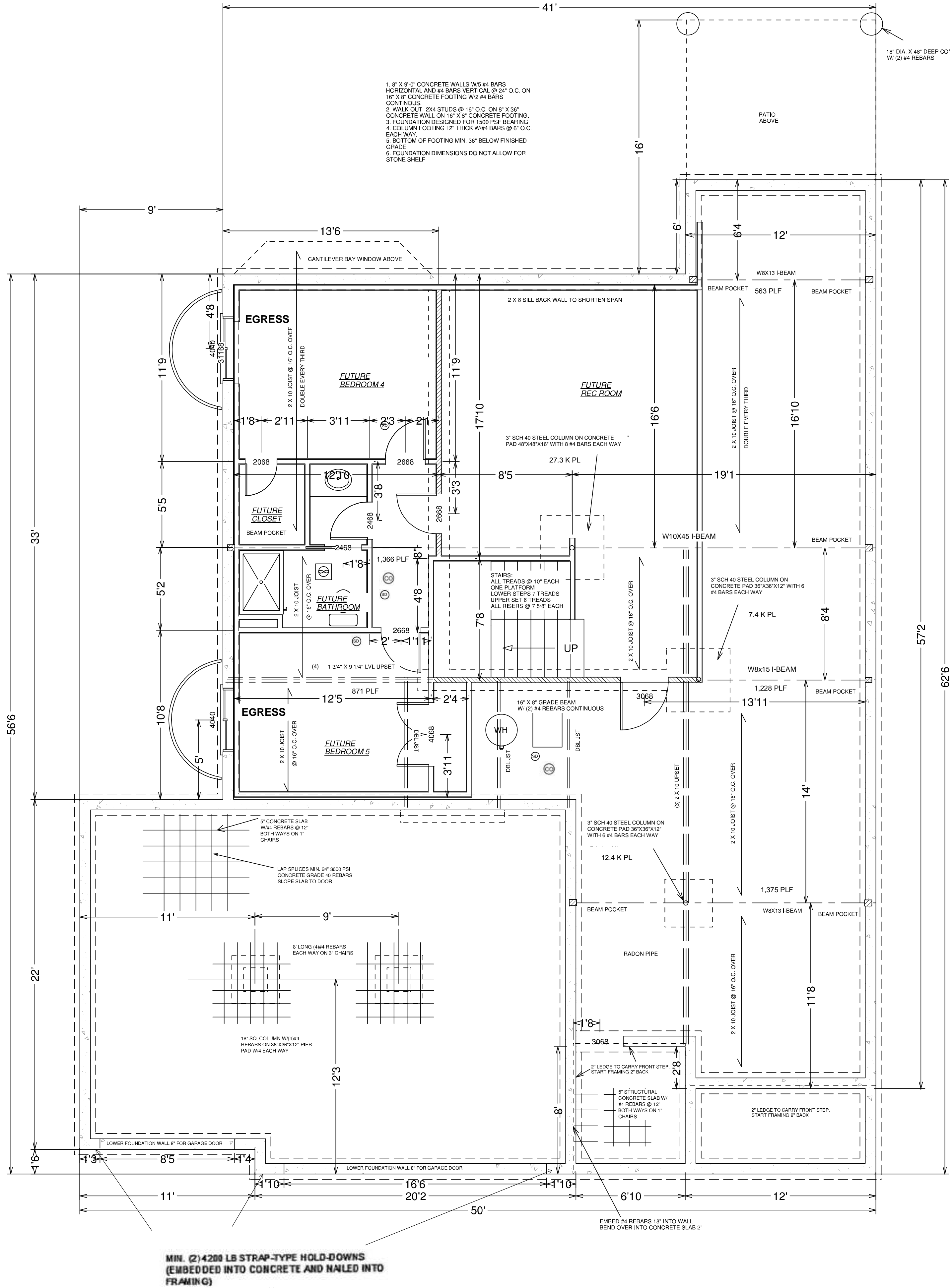
18. MAKEUP AIR SYSTEM REQUIRED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM M1503.4

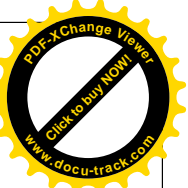
19. BUILDING CAVITIES IN A THERMAL ENVELOPE WALL (INCLUDING THE WALL BETWEEN THE HOUSE AND GARAGE) SHALL NOT BE USED AS RETURN AIR PLENUMS (UNLESS THE REQUIRED INSULATION AND AIR BARRIER ARE MAINTAINED) IRC M1601.1.1, #7.5

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





(CO) CO DETECTOR

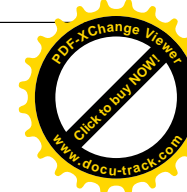
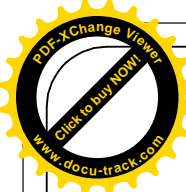
**METHOD PFH: PORTAL
FRAME WITH HOLD-DOWNS**

09/02/2020

8-26-20

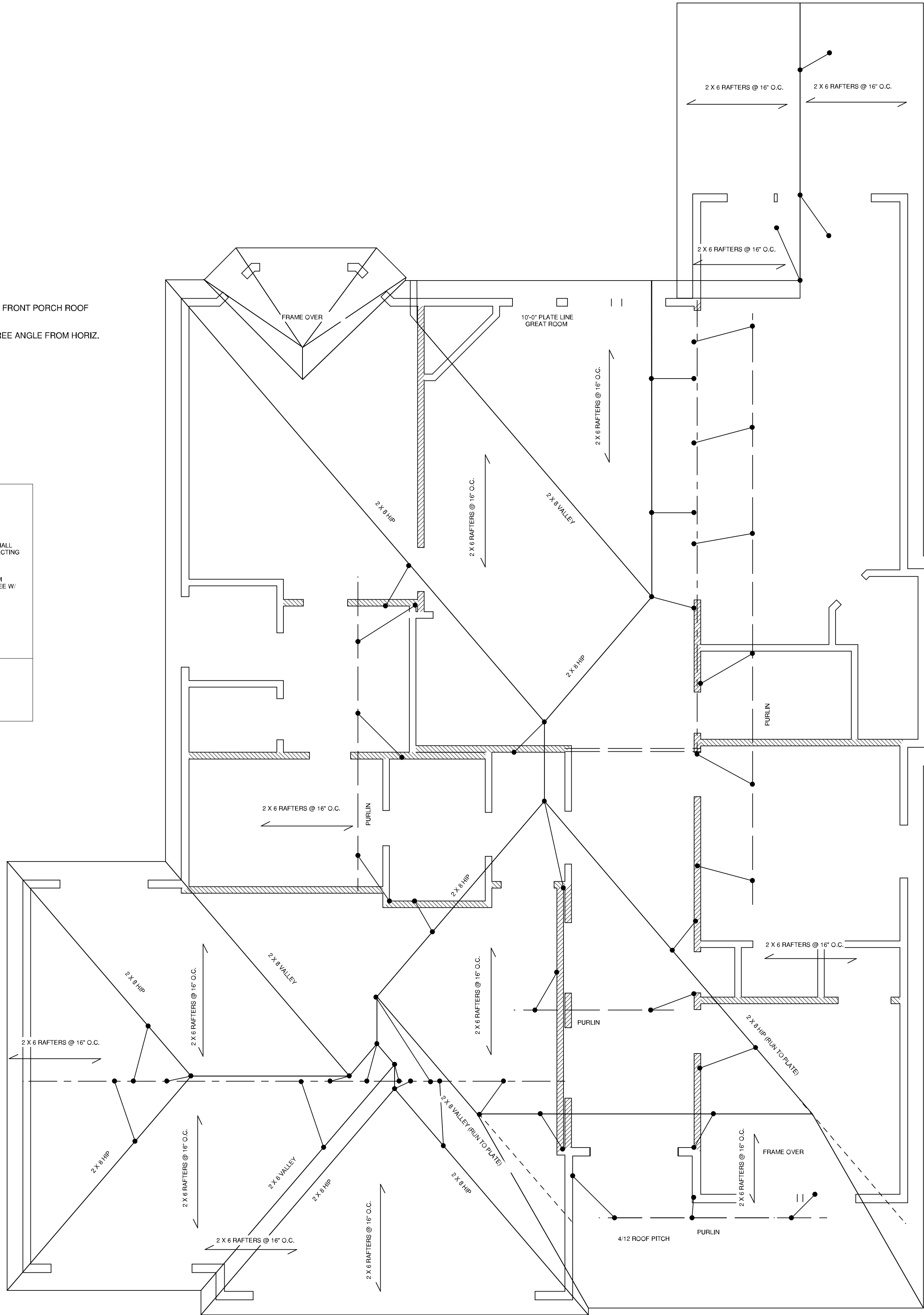
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To the best of my knowledge these plans are drawn to comply with owner's and/or builder's specifications and any changes made on them after prints are made will be done at the owner's and/or builder's expense and responsibility. The contractor shall verify all dimensions and enclosed drawings. The inclusion of these plans is not an architect or engineering liability for errors once construction has begun. In the event of any discrepancy between the preparation of the plans and the actual construction, the contractor shall bear full financial error. The contractor of the job must check all dimensions and other details prior to construction and be solely responsible thereafter.



GENERAL NOTES:
ROOF PITCHES: 6/12 FRONT TO BACK; 7/12 SIDE TO SIDE; 4/12 FRONT PORCH ROOF
1. RAFTER SPANS MEASURED ON HORIZONTAL PROJECTION.
2. BRACE RAFTERS TO BEARING WALLS, LEGS @ MIN. 45 DEGREE ANGLE FROM HORIZ.
3. PURLINS TO BE PERPENDICULAR TO RAFTERS.
4. ROOF LOADING:
 SNOW LOAD-20 PSF
 DEAD LOAD-7 PSF
5. COMPOSITION SHINGLE ROOFING
MAXIMUM RAFTER SPANS: 16" O.C.
2 X 6 DFL: #3 = 10'-10"
2 X 6 DFL: #2 = 14'-2"

NOTES:	
ALL RAFTERS MIN. #2; 2 X 6 @ 16" O.C. UNLESS OTHERWISE NOTED	
ALL RIDGES, HIPPS AND VALLEYS NOT MARKED SHALL BE (1) NOMINAL SIZE LARGER THAN THE INTERSECTING RAFTERS	
STRUTS TO BE STUD GRADE 2 X 4 WITH MAXIMUM UNBRACED LENGTH OF 8'-0" AND AT AN 45 DEGREE W/ HORIZONTAL	
MAXIMUM UNBRACED LENGTH	
0'-4" - 0"	#2-2X4
4'-1" - 5'-6"	#2-2X6
5'-7" - 6'-3"	#2-2X8
>6'-4" - MIN.	#2-2X8
PURLINS MAX. SPAN	
#2-2X6	4'-0"
#2-2X8	5'-0"
#2-2X10	7'-0"
#2-2X12	8'-2"



RELEASE FOR
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LEE'S SUMMIT, MISSOURI
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LEE'S SUMMIT, MO

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MECHANICAL SYSTEM CODE: SEC.2801
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PAGE
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PLAN:
8-3-18

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

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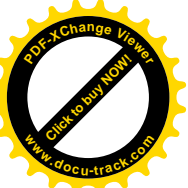
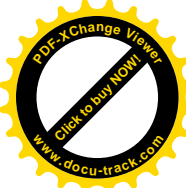
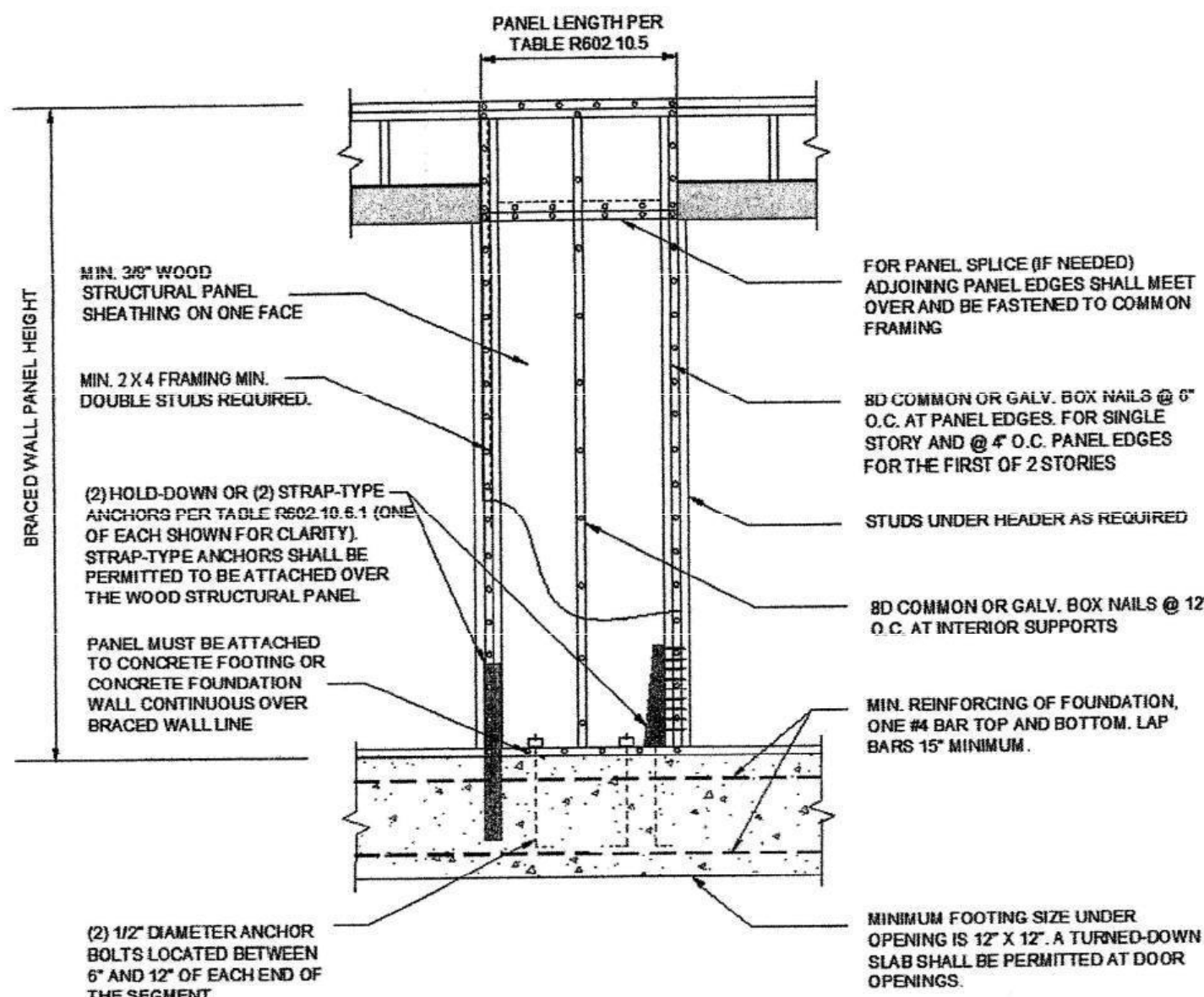
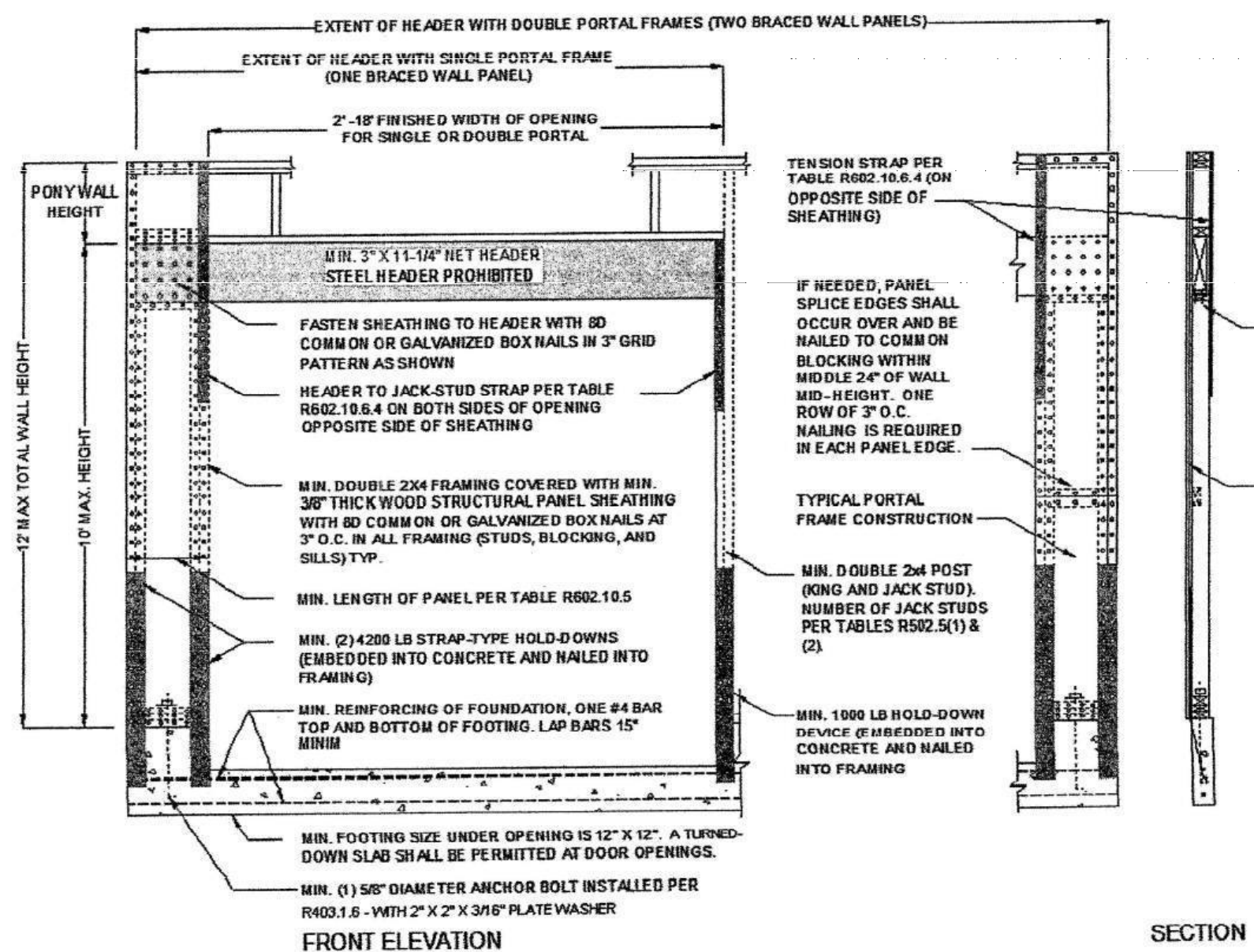


TABLE R602.10.3(1) BRACING REQUIREMENTS BASED ON WIND SPEED					
EXPOSURE CATEGORY B 30 FOOT MEAN ROOF HEIGHT 10 FOOT EAVE-TO-RIDGE HEIGHT 10 FOOT WALL HEIGHT 2 BRACED WALL LINES		MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE ^a			
Basic Wind Speed (mph)	Story Location	Braced Wall Line Spacing (feet)	Method LIB ^b	Method GB	Methods DWB, WSP, SFB, PBS, PCP, HPS, CS-SFB ^c
≤ 90		10	3.5	3.5	2.0
		20	7.0	7.0	3.5
		30	9.5	9.5	5.0
		40	12.5	12.5	6.0
		50	15.5	15.5	7.5
		60	18.5	18.5	9.0
		10	7.0	7.0	3.5
		20	13.0	13.0	6.5
		30	18.5	18.5	9.0
		40	24.0	24.0	12.0
		50	29.5	29.5	14.5
		60	35.0	35.0	17.0
		10	NP	10.5	5.0
		20	NP	19.0	9.5
		30	NP	27.5	13.5
		40	NP	35.5	17.5
		50	NP	44.0	21.5
		60	NP	52.0	25.5



For SI: 1 inch = 25.4 mm.

FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL



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

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

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TABLE R602.10.4 BRACING METHODS					
METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA ^a		Spacing
			Fasteners	Wood: per stud and top and bottom plates	
Intermittent Bracing Methods	LIB Let-in-bracing		Wood: 2-8d common nails or 3-8d (2 1/2\"/>	Wood: per stud and top and bottom plates	
	DWB Diagonal wood boards		2-8d (2 1/2\"/>	Per stud	
	WSP Wood structural panel (See Section R604)		Exterior sheathing per Table R602.3(3)	6\"/>	
	BV-WSP ^b Wood Structural Panels with Stone or Masonry Veneer (See Section R602.10.6.5)		8d common (2 1/2\"/>	4\"/>	
	SFB Structural fiberboard sheathing		1 1/2\"/>	3\"/>	
	GB Gypsum board		Nails or screws per Table R602.3(1) for exterior locations	For all braced wall panel locations: 7\"/>	
	PBS Particleboard sheathing (See Section R605)		For 1/2\"/>	3\"/>	
	PCP Portland cement plaster		1 1/2\"/>	6\"/>	
	HPS Hardboard panel siding		0.092\"/>	4\"/>	
	ABW Alternate braced wall		See Section R602.10.6.1	See Section R602.10.6.1	

TABLE R602.10.5
MINIMUM LENGTH OF BRACED WALL PANELS

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, PCP, HPS, 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, wind speed < 110 mph	28	32	34	38	42
	SDC D, D ₁ and D ₂ , wind speed < 110 mph	32	32	34	NP	NP
PFH	Supporting roof only	16	16	16	18	20
	Supporting one story and roof	24	24	24	27	29
PFH	Supporting one story and roof	24	27	30	33	36
CS-G		24	27	30	33	36
CS-PF		16	18	20	22	24
CS-WSP, CS-SFB	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
	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

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 when 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 may be increased to 12 feet with pony wall.

d. Maximum opening 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.

TABLE R602.10.4—continued
BRACING METHODS

METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA ^a	
			Fasteners	Spacing
PFH Portal frame with hold-downs	3/4\"/>		See Section R602.10.6.2	See Section R602.10.6.2
PFG Portal frame at garage	3/4\"/>		See Section R602.10.6.3	See Section R602.10.6.3
CS-WSP ^b Continuously sheathed wood structural panel	3/4\"/>		Exterior sheathing per Table R602.3(3)	6\"/>
CS-G ^b Continuously sheathed wood structural panel adjacent to garage openings	3/4\"/>		See Method CS-WSP	See Method CS-WSP
CS-PF ^b Continuously sheathed portal frame	3/4\"/>		See Section R602.10.6.4	See Section R602.10.6.4
CS-SFB ^b Continuously sheathed structural fiberboard	1/2\"/>		1 1/2\"/>	3\"/>

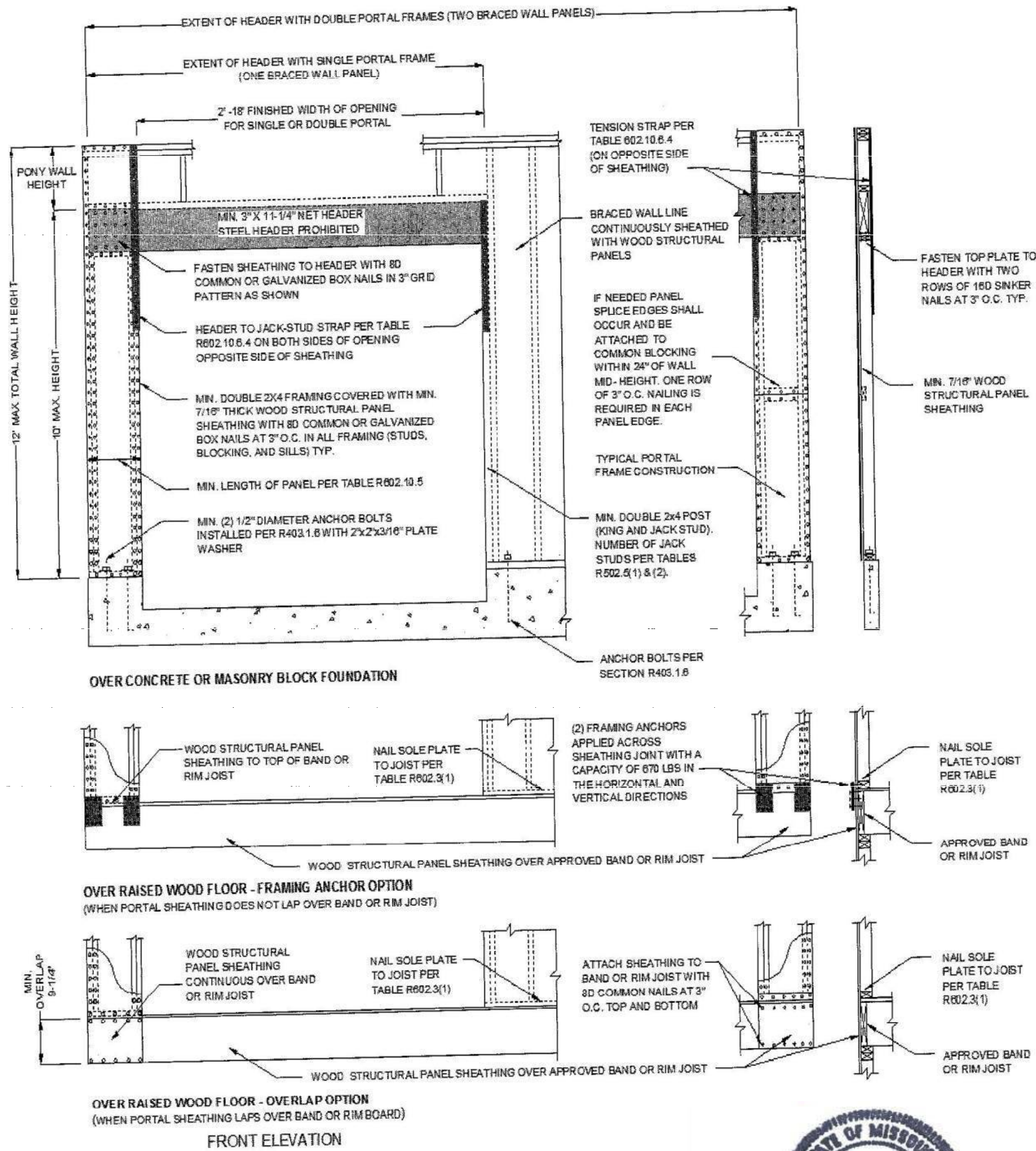
For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.8 N/m², 1 mile per hour = 0.447 m/s.

a. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D_s, D₁, D₂, and D₃.

b. Applies to panels next to garage door opening when supporting gable end wall or roof load only. May only be used on one wall of the garage. In Seismic Design Categories D_s, D₁, and D₂, roof covering dead load may not exceed 3 psf.

c. Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R502.5(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, and in areas where the wind speed exceeds 100 mph.



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

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



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WALL BRACING
DETAILS

THE
WELLINGTON

SCALE: 1/4" = 1'-0"

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