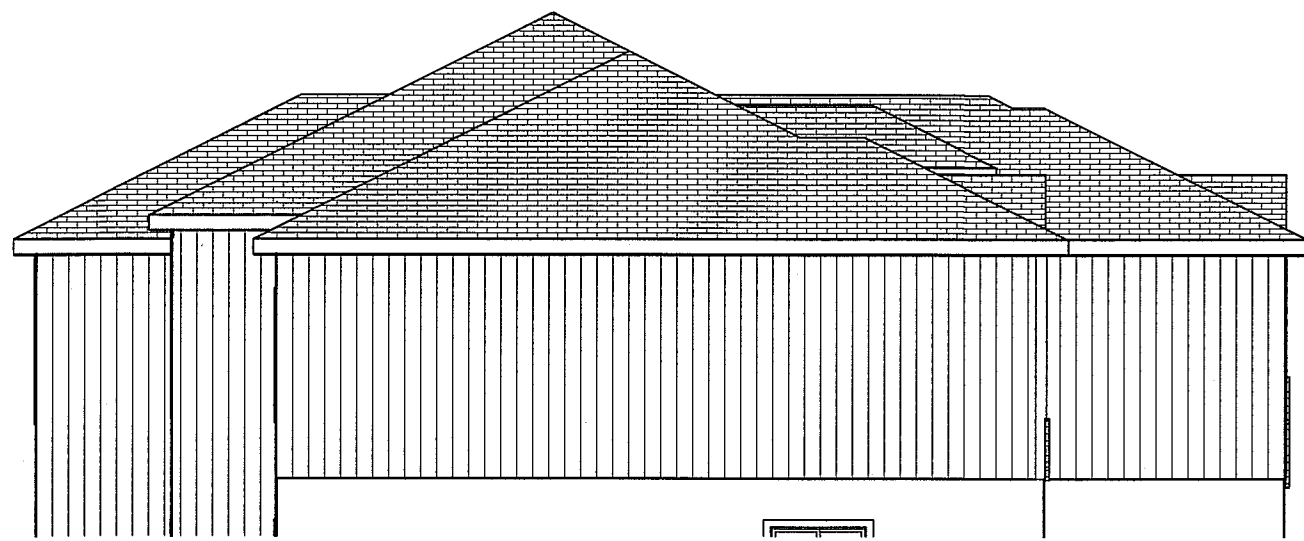
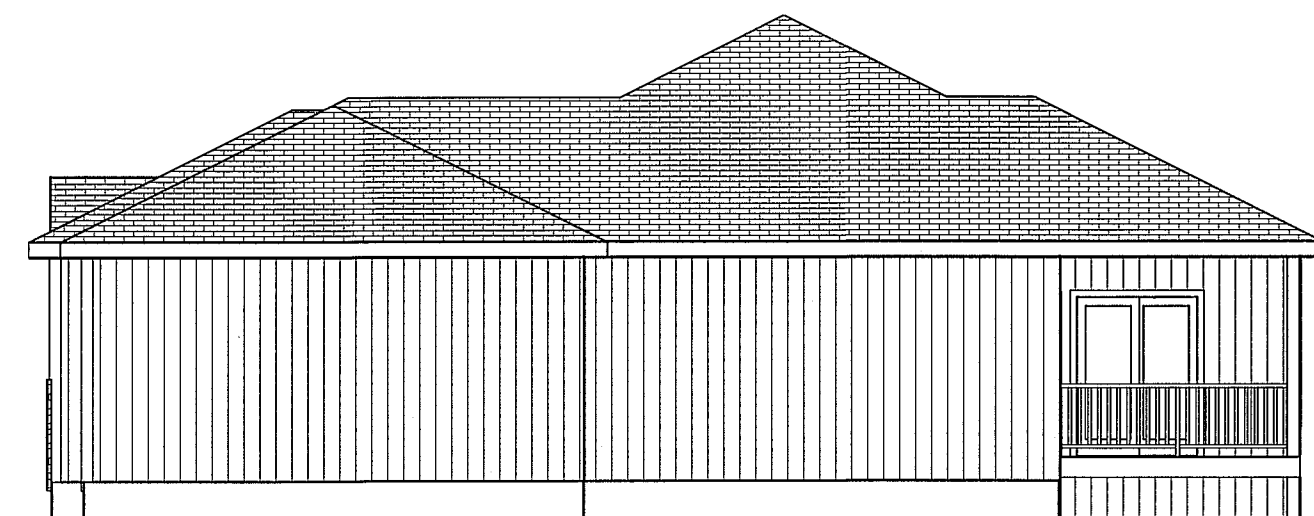




FRONT EL.
STUCCO & STONE



LEFT EL.
1/8 = 1-0



RIGHT EL.
1/8 = 1-0



REAR EL.
1/8 = 1-0

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

BEHOME LLC
LOT 132 MONTICELLO
4816 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1-0

DATE
4-29-21

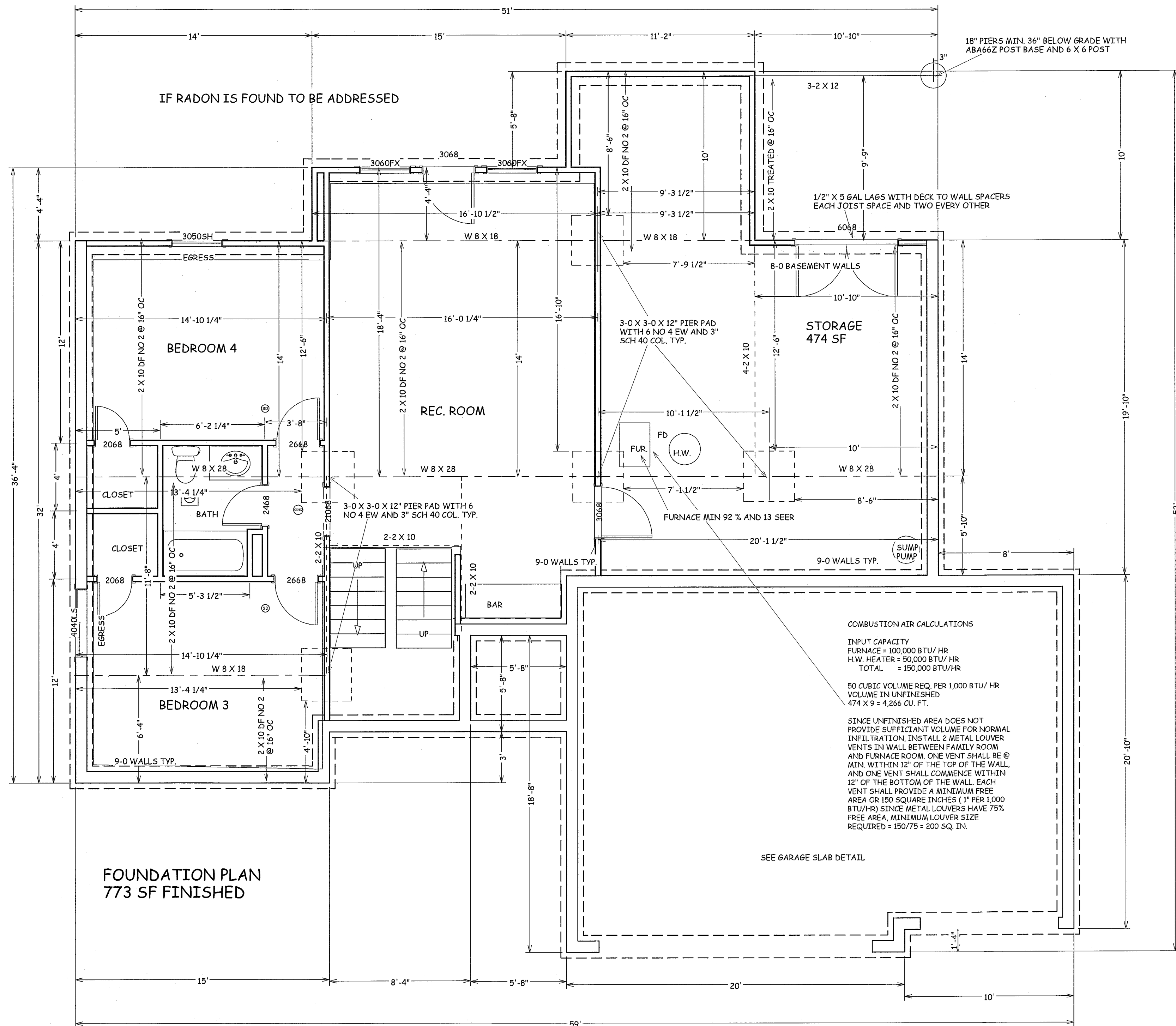
PLAN NO.

3505

SHEET NO.

1 OF 5

JOSEPH A. TOWNS P.E.
MO. LIC E 22017
PROFESSIONAL SEAL
APPLIES TO STRUCTURAL
ELEMENTS ONLY



FOUNDATION PLAN
773 SF FINISHED

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

BEHOME LLC
LOT 132 MONTICELLO
4816 NE FREEHOLD CT
LEE SUMMIT MO

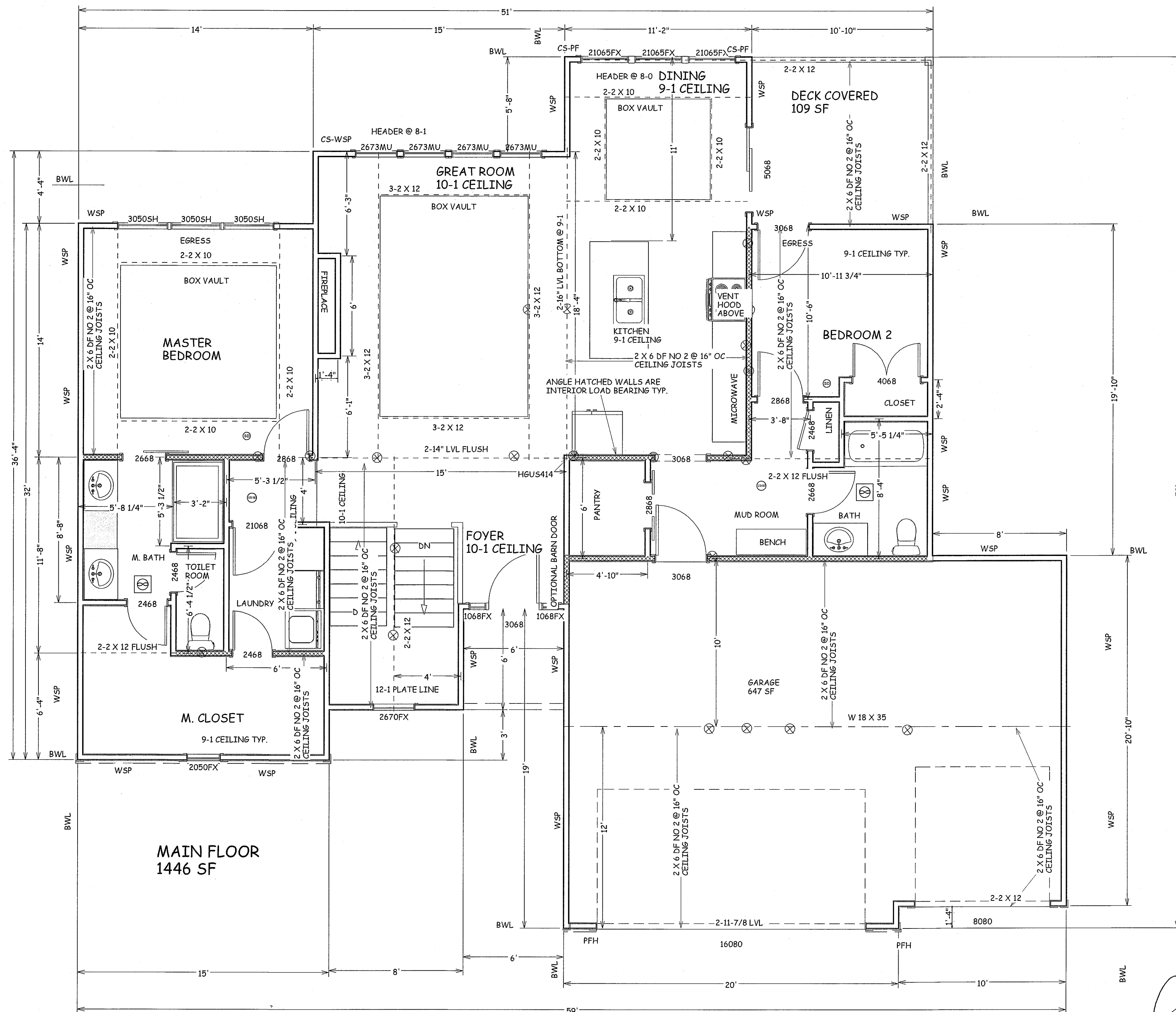
SCALE
1/4" = 1-0

DATE
4-29-21

PLAN NO.
3505

SHEET NO.
2 OF 5

JOSEPH A. TOWNS P.E.
MO. LIC E 22017
PROFESSIONAL SEAL
APPLIES TO STRUCTURAL
ELEMENTS ONLY



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

BEHOME LLC
LOT 132 MONTICELLO
4816 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1'-0"

DATE
4-29-21

PLAN NO.

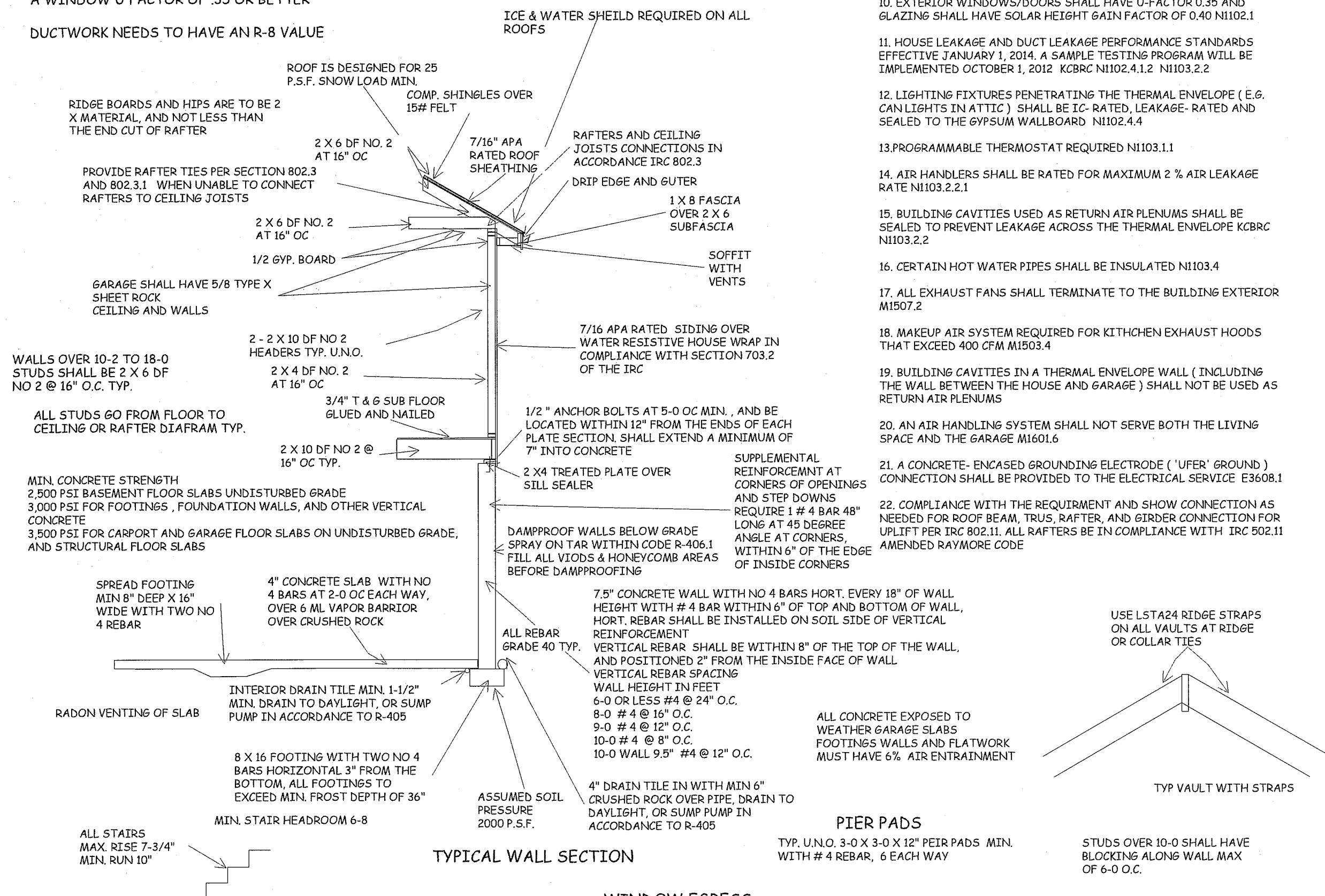
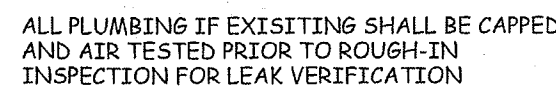
3505

SHEET NO.

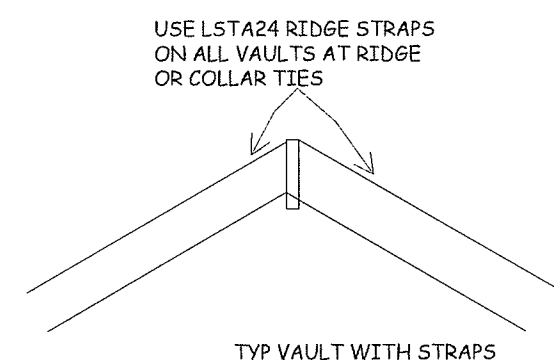
3 OF 5

JOSEPH A. TOWNS P.E.
MO. LIC E 22017
PROFESSIONAL SEAL
APPLIES TO STRUCTURAL
ELEMENTS ONLY

DUCTWORK NEEDS TO HAVE AN R-8 VALUE



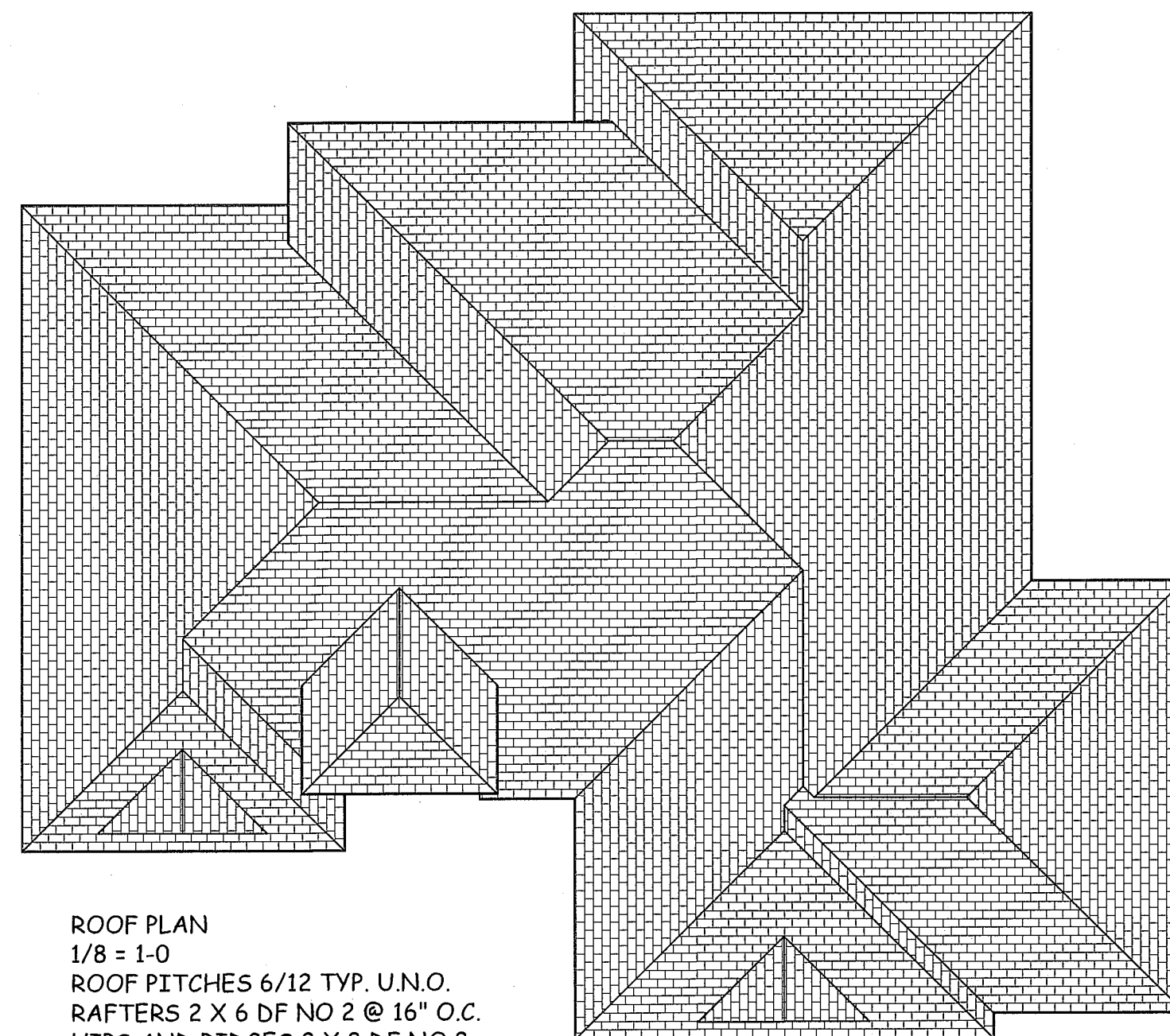
OVERHEAD GARAGE DOORS
MUST MEET DASHA 115 MPH
OR IRC 2018 REQUIREMENTS



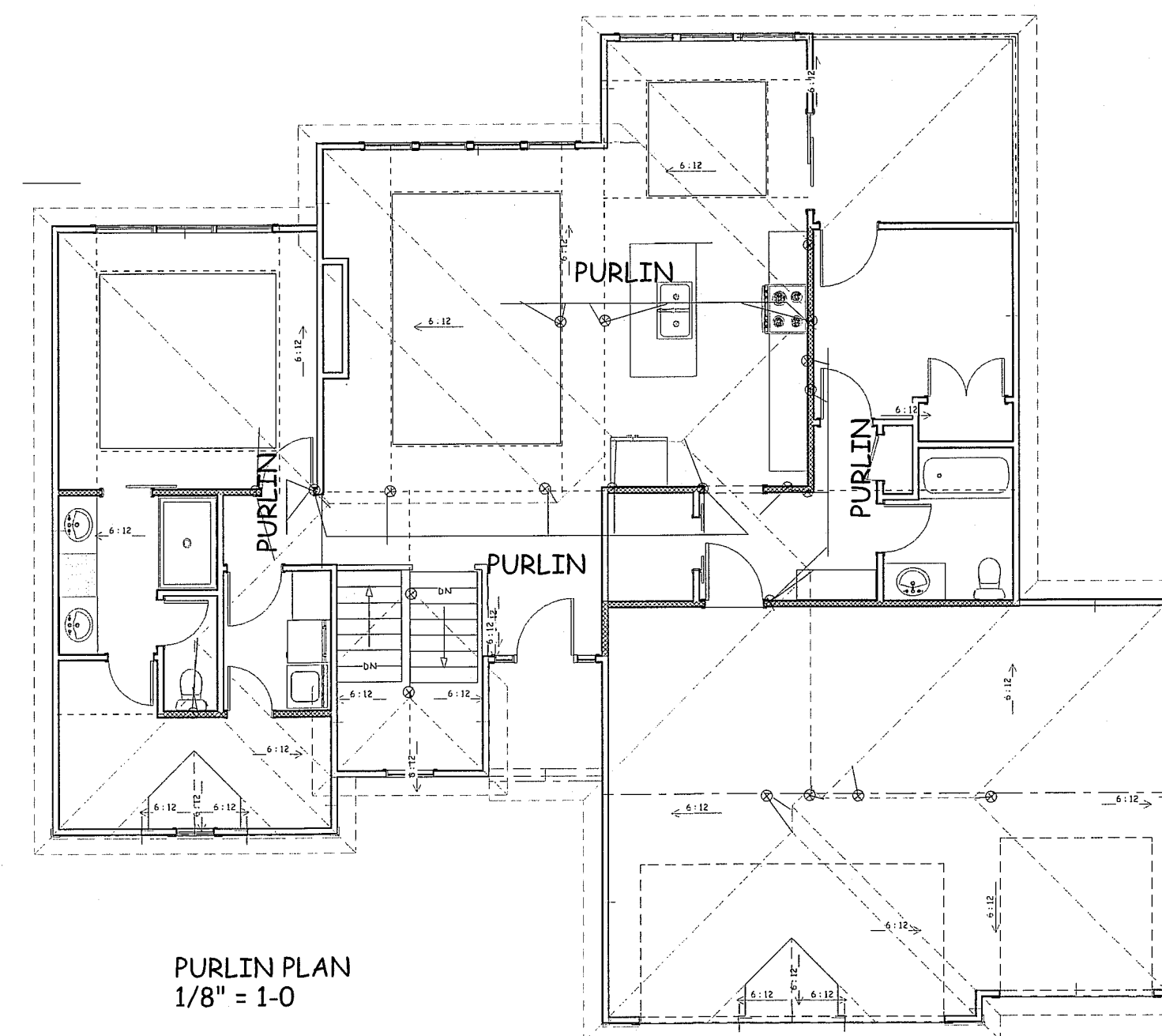
STUDS OVER 10-0 SHALL HAVE
BLOCKING ALONG WALL MAX
OF 6-0 O.C.

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

1. DWELLING / GARAGE OPENINGS BETWEEN GARAGE AND SLEEPING PORTIONS 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 40 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 REQUIREMENT 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



ROOF PLAN
1/8" = 1'-0"
ROOF PITCHES 6/12 TYP. U.N.O.
RAFTERS 2 X 6 DF NO 2 @ 16" O.C.
HIPS AND RIDGES 2 X 8 DF NO 2



PURLIN PLAN
1/8" = 1'-0"

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

BEHOME LLC
LOT 132 MONTICELLO
4816 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1'-0"

DATE
4-29-21

PLAN NO.

3505

SHEET NO.

4 OF 5

JOSEPH A. TOWNS P.E.
MO. LIC E 22017
PROFESSIONAL SEAL
APPLIES TO STRUCTURAL
ELEMENTS ONLY

EXPOSURE CATEGORY B • 35-FOOT HIGH 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 ^a (feet)	Method LIB ^b	Method GB	Methods DWB, WSP, SFB, PFS, FCF, HPS, BV-WSP, ABW, PFH, PCF, CS-SFB	Methods CS-WSP, CS-SFB, 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

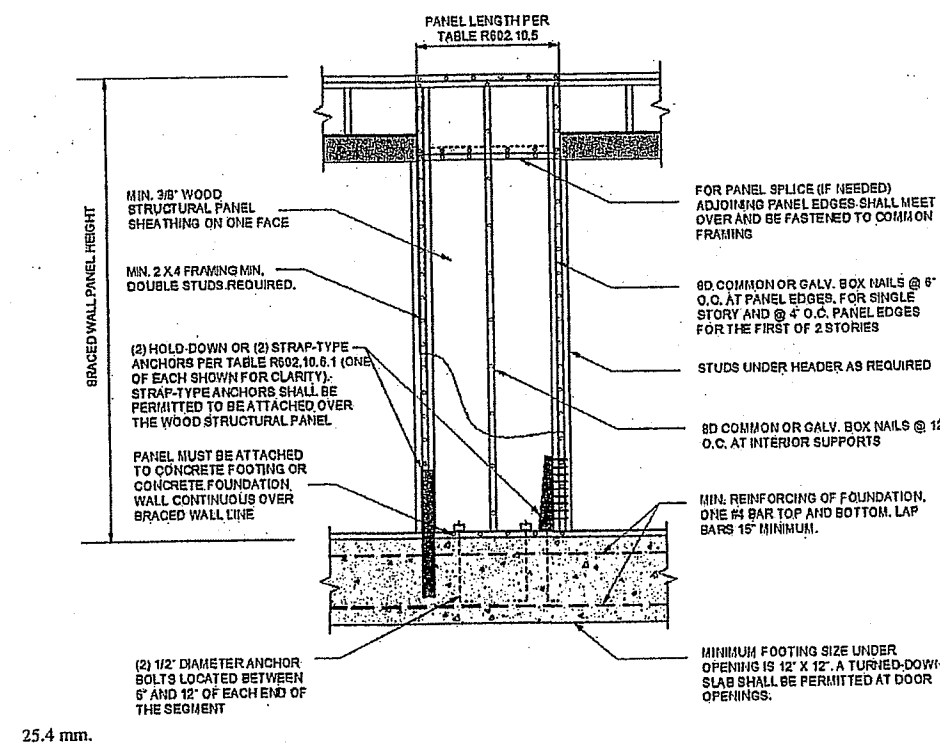
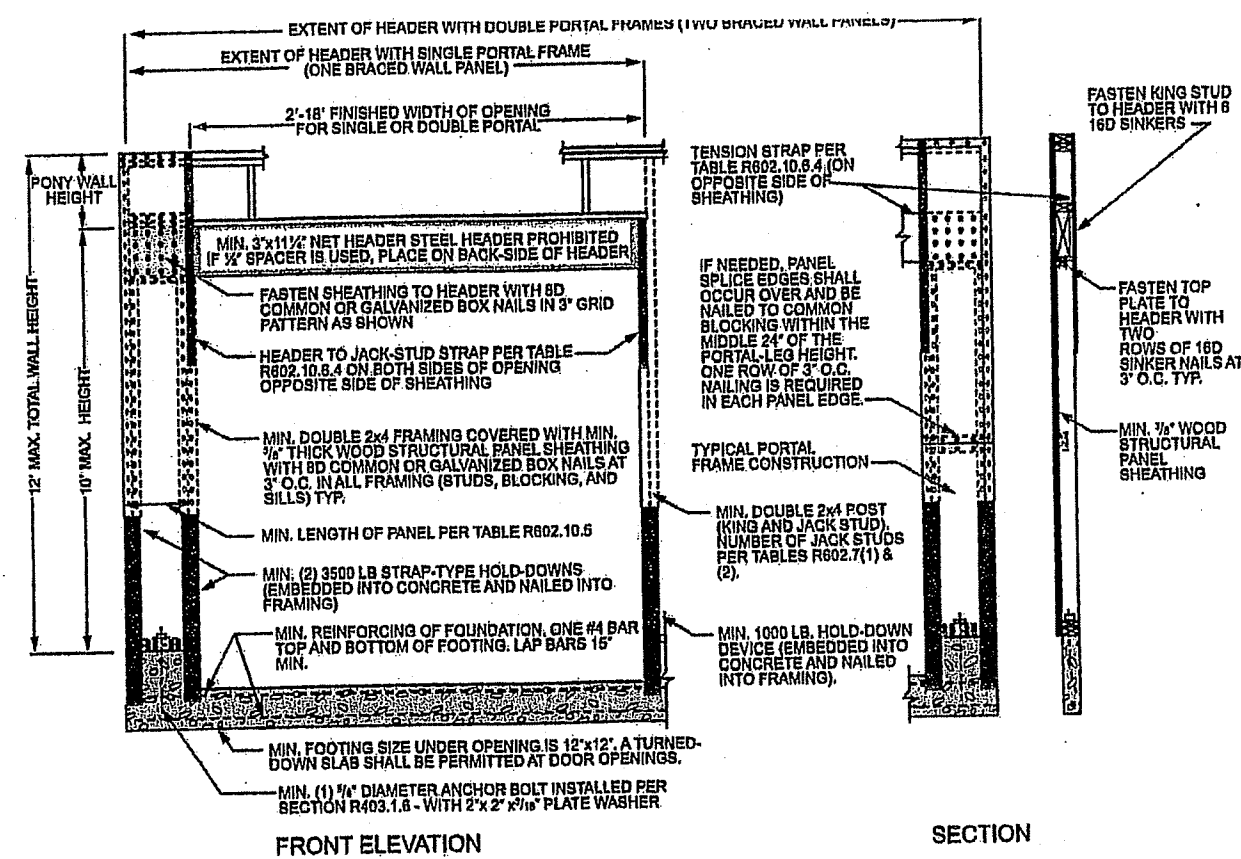


FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL



4 mm, 1 foot = 304.8 mm.

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

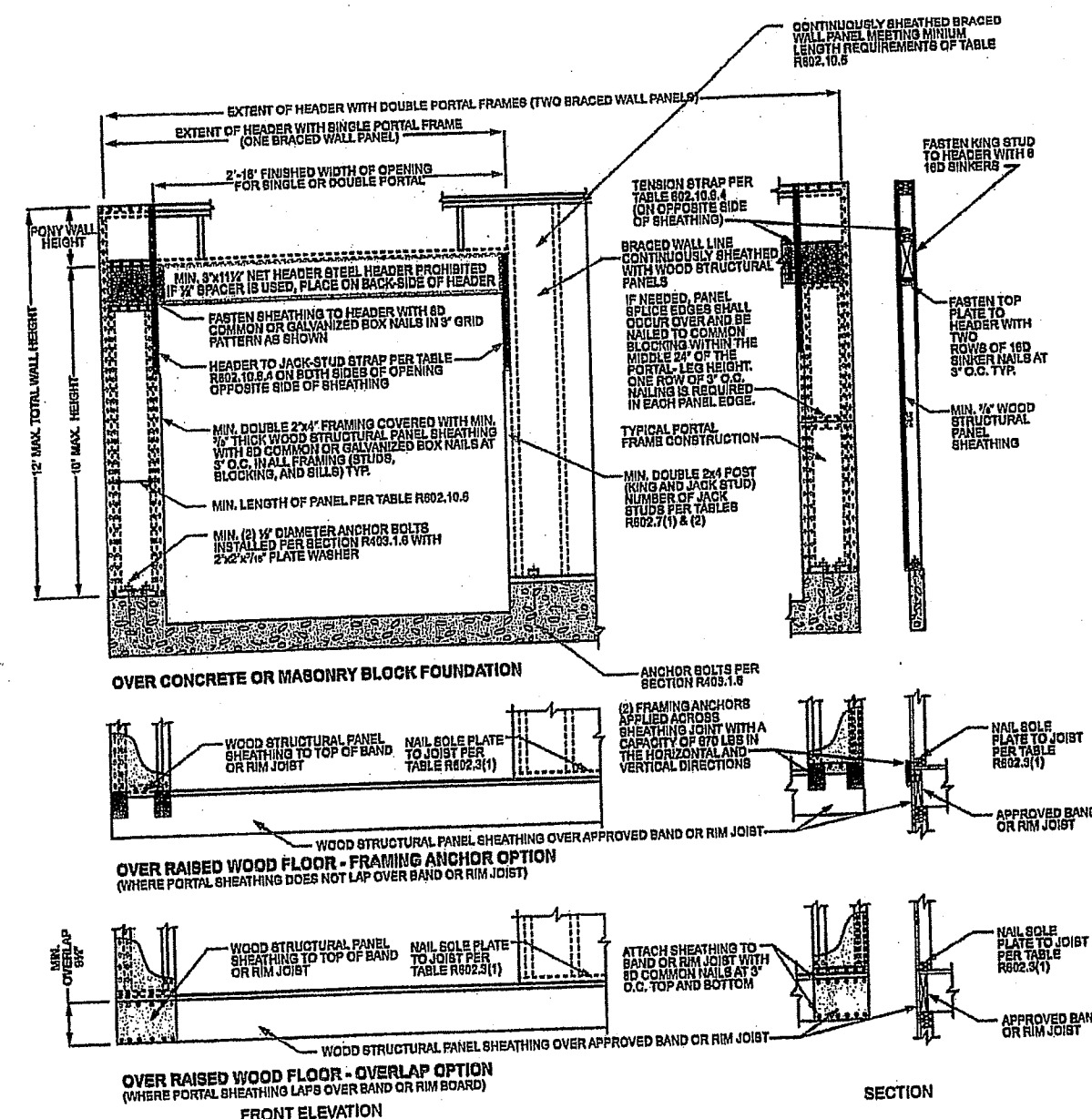
METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA ^a	
			Fasteners	Spacing
LIB Let-in-bracing	1 x 4 wood or approved metal straps at 45° to 60° angles for maximum 16\" stud spacing		Wood: 2-8d common nails or 3-8d (2 1/2\" long x 0.113\" dia.) nails Metal strap: per manufacturer	Wood: per stud and top and bottom plates Metal: per manufacturer
DWB Diagonal wood boards	1/2\" (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)	1/2\"		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
BV-WSP ^b Wood structural panels with stone or masonry veneer (See Section R602.10.6.5)	1/2\"	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 fiberboard sheathing	1/2\" or 3/4\" for maximum 16\" stud spacing		1 1/2\" long x 0.12\" dia. (for 1/2\" thick sheathing) 1 1/4\" long x 0.12\" dia. (for 3/4\" thick sheathing) galvanized roofing nails	3\" edges 6\" field
GB Gypsum board	1/2\"		Nails or screws per Table R602.3.5 for interior locations	For all braced wall panel locations: 7\" edges (including top and bottom plates) 7\" field
PFS Particleboard sheathing (See Section R605)	1/2\" or 3/4\" for maximum 16\" stud spacing		For 1/2\", 6d common (2\" long x 0.131\" dia.) nails For 3/4\", 8d common (2 1/2\" long x 0.131\" dia.) nails	3\" edges 6\" field
PCF Portland cement plaster	See Section R703.7 for maximum 16\" stud spacing		1 1/2\" long, 11 gage, 1/8\" dia. head nails or 1/4\" 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 1/2\" penetration into studs	4\" edges 8\" field
ABW Alternate braced wall	1/2\"		See Section R602.10.6.1	See Section R602.10.6.1

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, PFS, PCF, 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, ultimate design wind speed < 140 mph	28	32	34	38	42
	SDC D ₀ , 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	36
	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
METHOD (See Table R602.10.4)	Portal header height					
	8 feet	9 feet	10 feet	11 feet	12 feet	
PFH	Supporting roof only	16	16	16	Note c	Note c
PFG	Supporting one story and roof	24	24	24	Note c	Note c
	Supporting one story and roof	24	27	30	Note d	Note d
CS-PF	SDC A, B and C	16	18	20	Note e	Note e
	SDC D ₀ , 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.

METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA ^a	
			Fasteners	Spacing
PFH Portal frame with hold-downs	1/2\"		See Section R602.10.6.2	See Section R602.10.6.2
PFG Portal frame at garage	1/2\"		See Section R602.10.6.3	See Section R602.10.6.3
CS-WSP Continuously sheathed wood structural panel	1/2\"		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 ^b Continuously sheathed wood structural panel adjacent to garage openings	1/2\"		See Method CS-WSP	See Method CS-WSP
CS-PF Continuously sheathed portal frame	1/2\"		See Section R602.10.6.4	See Section R602.10.6.4
CS-SFB ^c Continuously sheathed structural fiberboard	1/2\" or 3/4\" for maximum 16\" stud spacing		1 1/2\" long x 0.12\" dia. (for 1/2\" thick sheathing) 1 1/4\" long x 0.12\" dia. (for 3/4\" 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, D₁, D₂ and D₃.
b. Applies to panels next to garage door opening where supporting gable and wall or roof load only. Shall only be used on one wall of the garage. In Seismic Design Categories D₁, D₂ and D₃, roof covering dead load shall not exceed 3 psf.
c. Change 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 D₁, D₂ and D₃.
e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D₁ through D₃ 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

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

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

BEHOME LLC
LOT 132 MONTICELLO
4816 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1'-0"

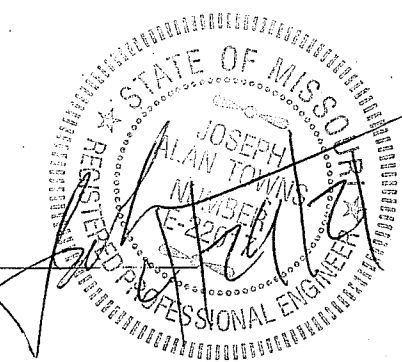
DATE
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PLAN NO.

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SHEET NO.

5 OF 5



JOSEPH A. TOWNS P.E.
MO. LIC # 22017
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