

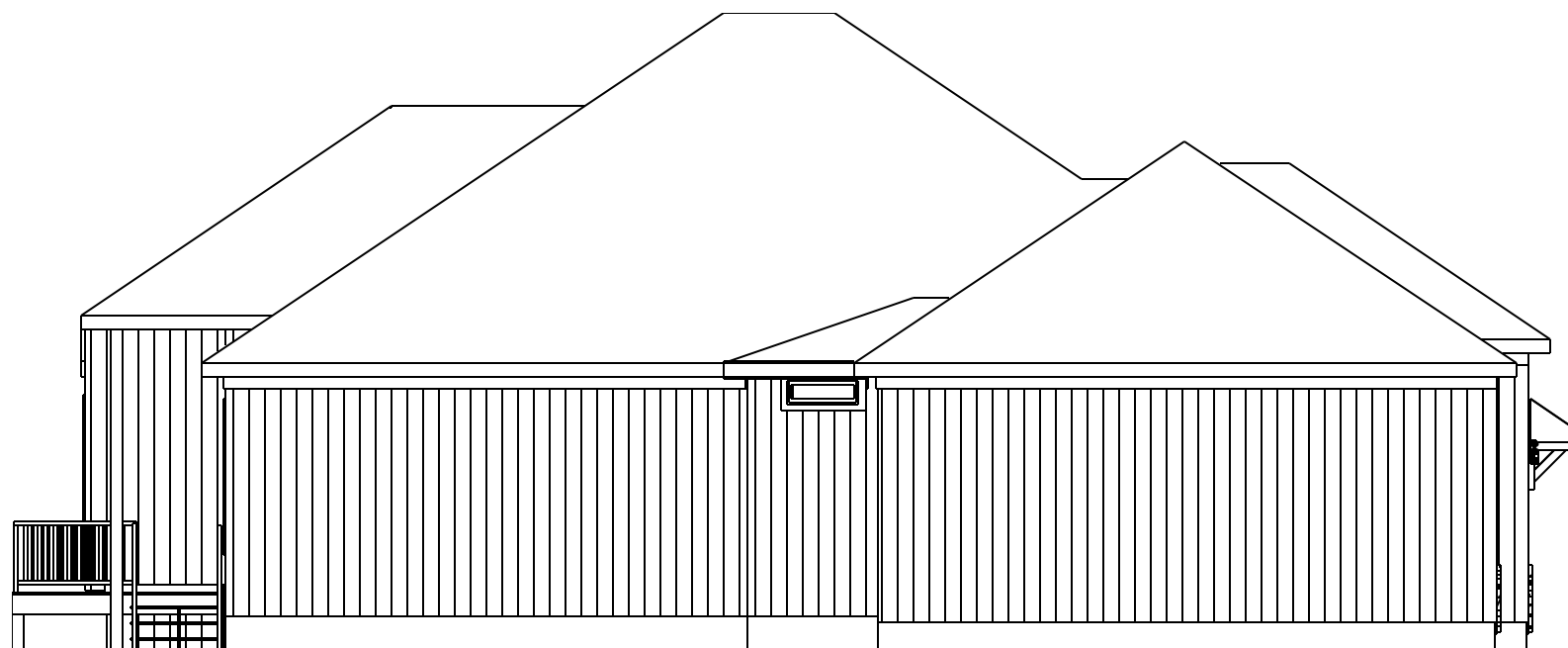
ROOF PLAN
1/8 = 1-0
8/12 ROOF PITCH

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

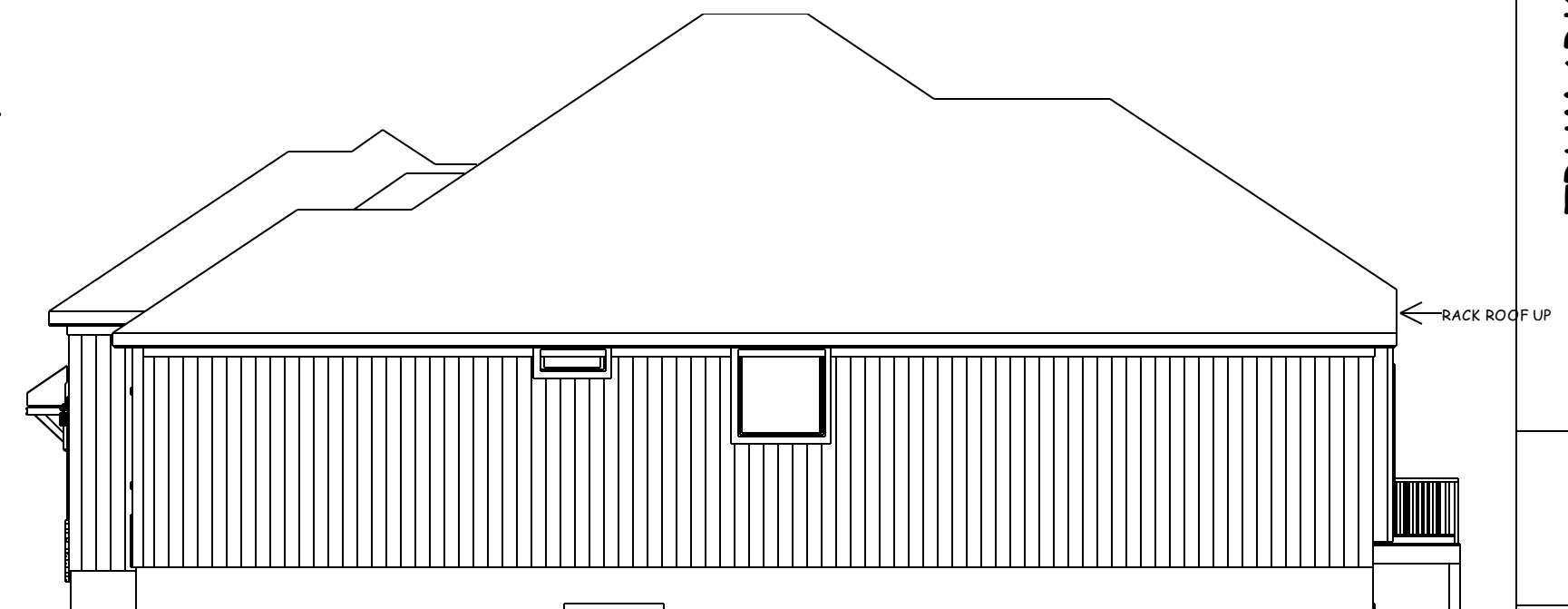


8-0 GARAGE DOORS
HILL CREST RECESS FRONT ELEVATION
STUCCO & STONE SIDING ELEVATION A

RETURNS LP SMART
SIDING



LEFT EL.
1/8 = 1-0



RIGHT EL.
1/8 = 1-0

3 SIDES LP PANEL SIDING



REAR EL.
1/8 = 1-0

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/07/2025 3:25:28

Review and Approval
Structural Only

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
WOOD BRIDGE 6
LOT 192 WOODSIDE RIDGE
2237 NW KILLARNEY LN
LEE SUMMIT MO

SCALE
1/4" = 1-0

DATE
2-17-25

PLAN NO.

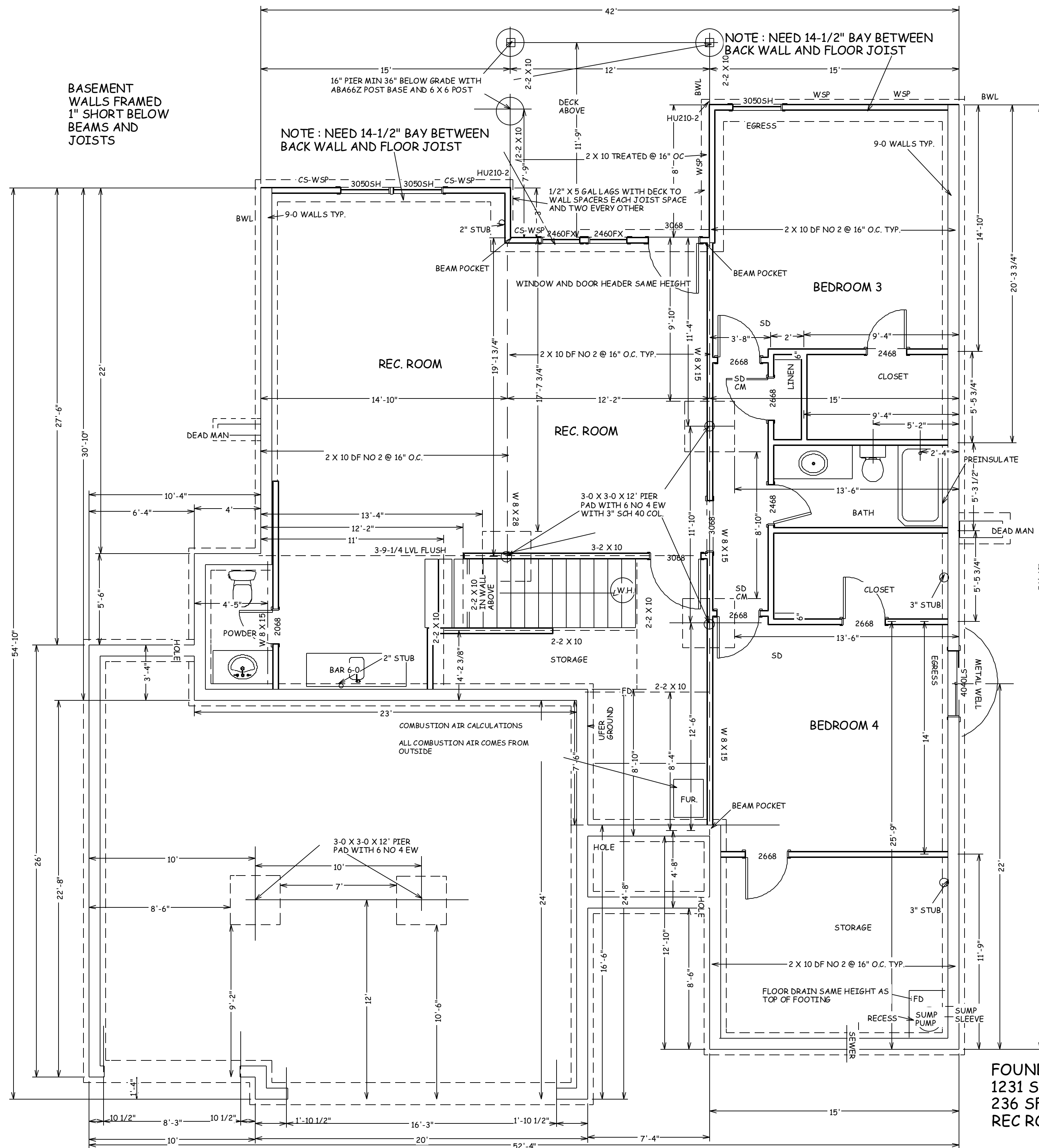
4360

SHEET NO.

1 OF 6

NOT USED

BUILT IN ACCORDANCE WITH 2018 INTERNATIONAL RESIDENTIAL CODE AND LOCAL CODES.	
TRUMARK HOMES WOOD BRIDGE 6 LOT 192 WOODSIDE RIDGE 2237 NW KILLARNEY LN LEE SUMMIT MO	
SCALE	1/4" = 1-0
DATE	2-17-25
PLAN NO.	4360
SHEET NO.	2 OF 6



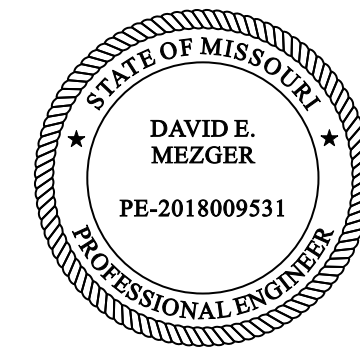
BASEMENT
WALLS FRAMED
1" SHORT BELOW
BEAMS AND
JOISTS

NOTE : NEED 14-1/2" BAY BETWEEN
BACK WALL AND FLOOR JOIST

NOTE : NEED 14-1/2" BAY BETWEEN
BACK WALL AND FLOOR JOIST

Review and Approval
Structural Only

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
WOOD BRIDGE 6
LOT 192 WOODSIDE RIDGE
2237 NW KILLARNEY LN
LEE SUMMIT MO

SCALE
1/4" = 1'-0"

DATE
2-17-25

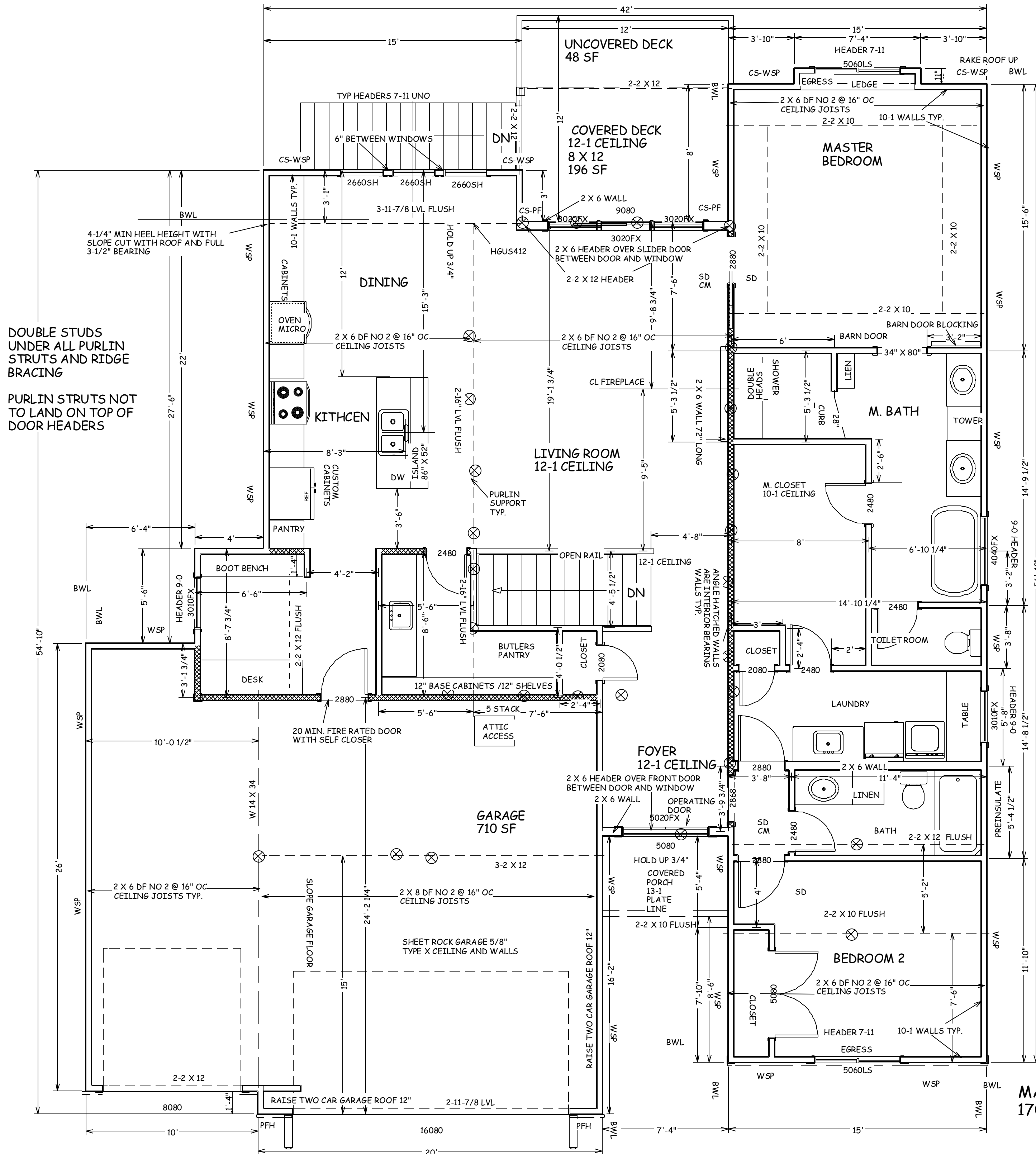
PLAN NO.

4360

SHEET NO.

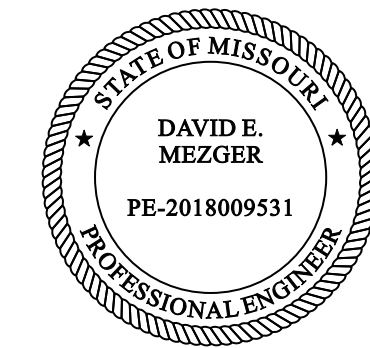
3 OF 6

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/07/2025 3:25:28



Review and Approval
Structural Only

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



MAIN FLOOR
1708 SF

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

TRUMARK HOMES
WOOD BRIDGE 6
LOT 192 WOODSIDE RIDGE
2237 NW KILLARNEY LN
LEE SUMMIT MO

SCALE
1/4" = 1-0

DATE
2-17-25

PLAN NO.

4360

SHEET NO.

4 OF 6

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/07/2025 3:25:28

DUCTWORK NEEDS TO HAVE AN R-8 VALUE



RAFTER TIES



5 OF 6

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/07/2025 3:25:28

TABLE R602.10.3(1) BRACING REQUIREMENTS BASED ON WIND SPEED						
EXPOSURE CATEGORY B 30-FOOT MEAN ROOF HEIGHT 15-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* (feet)	Method LIB*	Method GB	Methods DWB, WSP, SFB, FBS, PCP, HPS, BV-WSP, ABW, PPH, PFC, CS-SFB	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

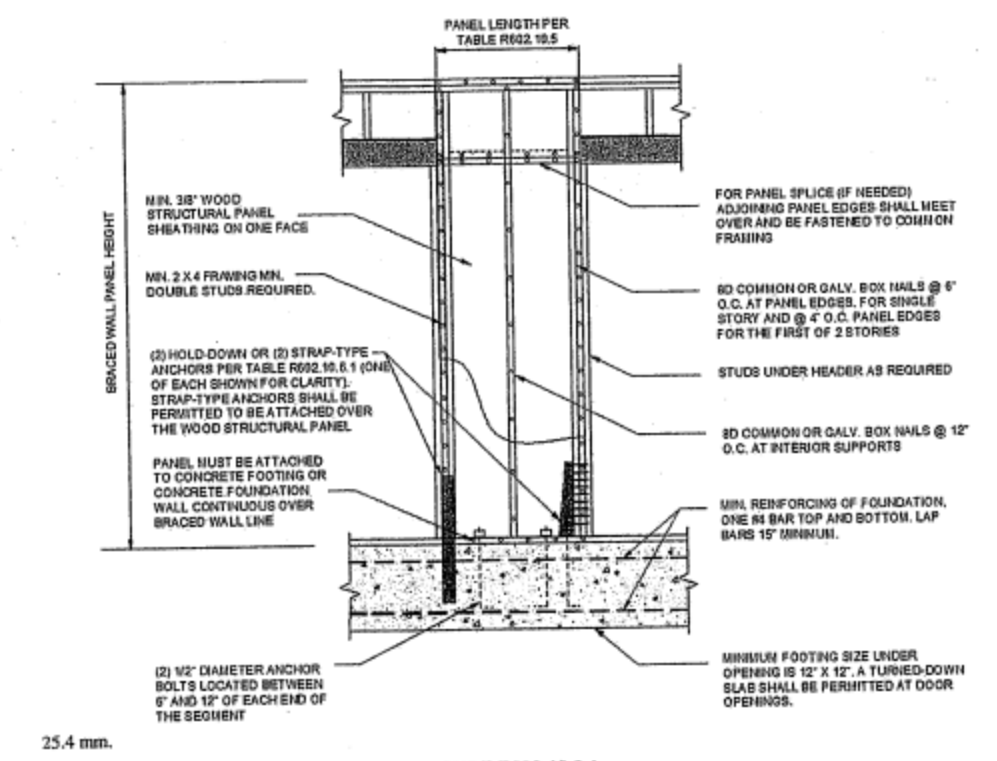


FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL

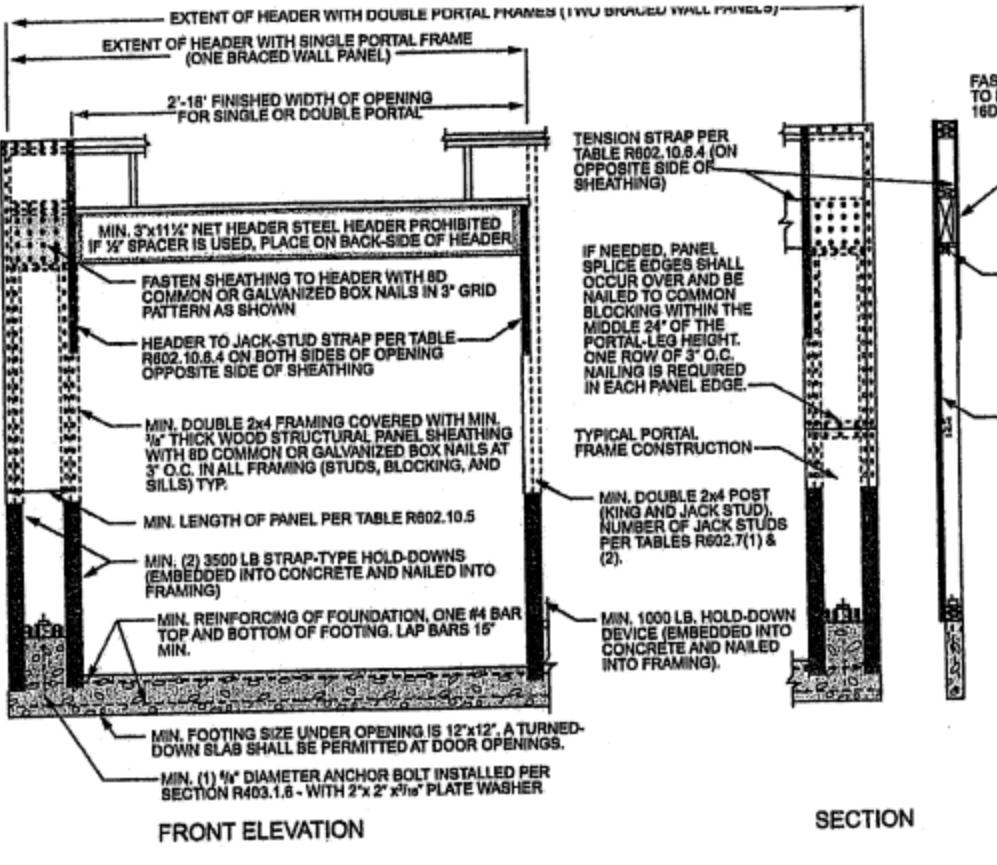


FIGURE R602.10.6.2
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS

BRACING METHODS				
METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA*	
			Fasteners	Spacing
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	1/2" (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)	1/8"		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
BV-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 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(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
FBS Particleboard sheathing (See Section R605)	1/2" or 1/4" for maximum 16" stud spacing		For 1/2", 6d common (2" long x 0.113" dia.) nails For 1/4", 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 gauge, 1/4" dia. head nails or 1/4" long, 16 gauge 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 1/4" penetration into studs	4" edges 8" field
ABW Alternate braced wall	1/8"		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* (inches)					
	8 feet	9 feet	10 feet	11 feet	12 feet	CONTRIBUTING LENGTH (inches)
DWB, WSP, SFB, FBS, 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, ultimate design wind speed < 140 mph	28	32	34	38	42
	SDC D ₁ , D ₂ and D ₃ , 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	—	—	53	48	45
	120	—	—	60	52	48
METHOD (See Table R602.10.4)	Partial header height	8 feet	9 feet	10 feet	11 feet	12 feet
	Supporting roof only	16	16	16	Note c	Note c
	Supporting one story and roof	24	24	24	Note c	Note c
	PFH	24	27	30	Note d	Note d
	PFG	24	27	30	Note d	Note d
	SDC A, B and C	16	18	20	Note e	Note e
	SDC D ₁ , D ₂ and D ₃	16	18	20	Note e	Note e
	CS-PF	16	18	20	Note e	Note e

For S_f: 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.



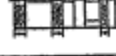



TABLE R602.10.4—continued BRACING METHODS					
METHODS, MATERIAL		MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA*	
				Fasteners	Spacing
Intermittent Bracing Methods	PFH Portal frame with hold-downs	1/4"		See Section R602.10.6.2	See Section R602.10.6.2
	PFG Portal frame at garage	1/4"		See Section R602.10.6.3	See Section R602.10.6.3
Continuous Sheathing Methods	CS-WSP Continuously sheathed wood structural panel	3/4"		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* Continuously sheathed wood structural panel adjacent to garage openings	1/4"		See Method CS-WSP	See Method CS-WSP
	CS-PF Continuously sheathed portal frame	1/4"		See Section R602.10.6.4	See Section R602.10.6.4
	CS-SFB* 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

Fig. R602.10.4 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.

For S_f: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.88 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 garage end 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. 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 D₁, D₂, and D₃.
 e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D₁ through D₃ only.

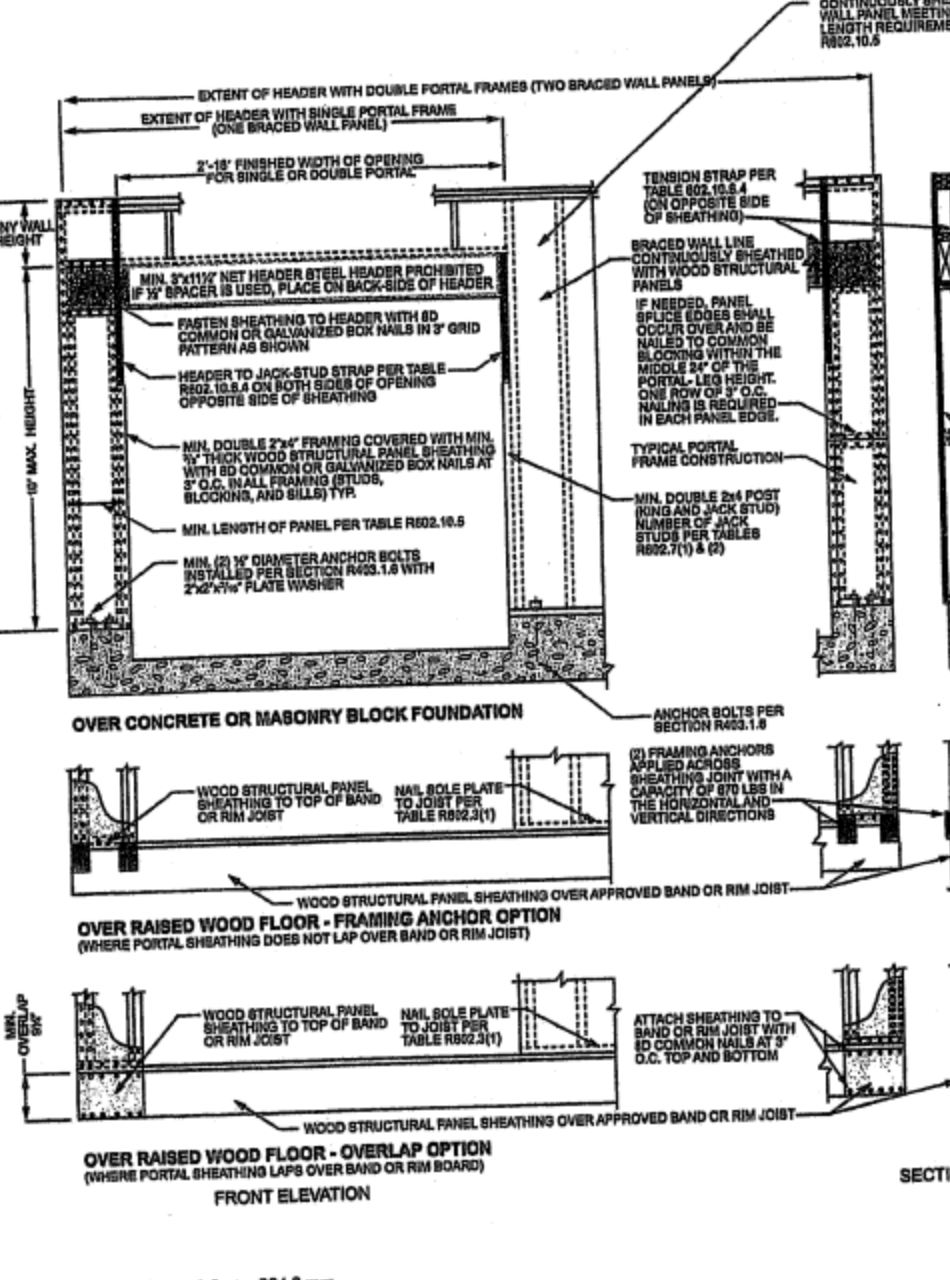
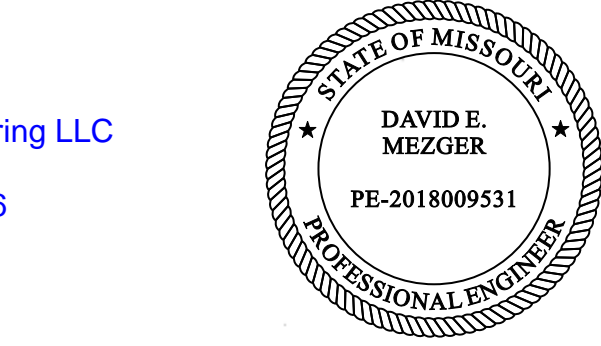


FIGURE R602.10.4
METHOD CS-PF—CONTINUOUSLY SHEATHED PORTAL FRAME PANEL CONSTRUCTION

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



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

Review and Approval
 Structural Only
 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
 WOOD BRIDGE 6
 LOT 192 WOODSIDE RIDGE
 2237 NW KILLARNEY LN
 LEE SUMMIT MO

SCALE
 1/4" = 1-0

DATE
 2-17-25

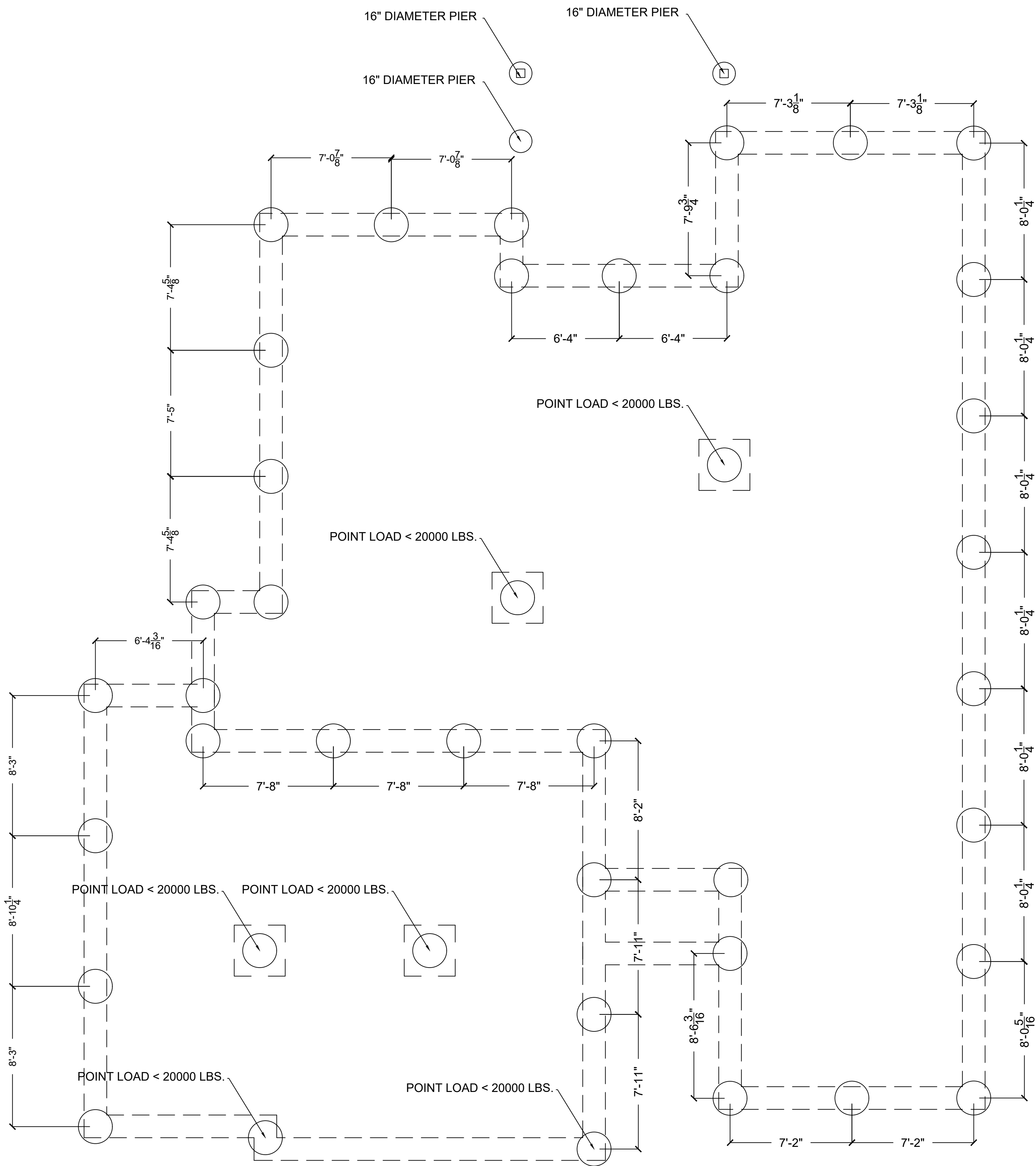
PLAN NO.

4360

SHEET NO.

6 OF 6

RELEASE FOR CONSTRUCTION
 AS NOTED ON PLANS REVIEW
 DEVELOPMENT SERVICES
 LEE'S SUMMIT, MISSOURI
 03/07/2025 3:25:29



PILE CAPACITY (Q_{allow}) CALCULATIONS (USING PRESUMPTIVE LOAD BEARING VALUES IN LIEU OF SOIL TEST DATA)
FROM IRC 2018 TABLE R403.1(1), FOOTING CAPACITY MUST BE A MINIMUM OF 2333 PLF (14" WIDE X 2000 PSF).
ASSUMPTIONS:
SOIL TYPE - GC (CLAYEY GRAVEL)
FROM IBC 2018 TABLE 1802.2, BEARING PRESSURE CAPACITY AT THE SURFACE IS 2000 PSF
WEIGHT OF SOIL 100 PCF
LATERAL BEARING PRESSURE 150 PSF/FT BELOW THE SURFACE
COEFFICIENT OF FRICTION (TO CALCULATE PILE SKIN FRICTION RESISTANCE) .25
SKIN FRICTION RESISTANCE FACTOR OF SAFETY (FOS) 2.0
DESIGN PILE SHALL BE 24" (1.5') IN DIAMETER X 20' DEPTH (OR TO ROCK PRIOR TO 20')

CALCULATE END BEARING
END BEARING CAPACITY = PILE CROSS SECTIONAL AREA X SOIL BEARING CAPACITY AT DEPTH OF PILE TIP
END BEARING CAPACITY = $(PI(2/2)^2)(2000 + 20(100)) = 12566$ LBS

SKIN FRICTION BEARING CAPACITY
THE AVERAGE SKIN FRICTION CAPACITY = $\frac{1}{2}$ THE DEPTH X LATERAL BEARING PRESSURE AT THAT DEPTH X THE SURFACE AREA OF THE PILE X
FRICTION COEFFICIENT ALL DIVIDED BY THE SKIN FRICTION FOS (WITH A MAXIMUM OF 15 TIMES THE LATERAL PRESSURE VALUE, SEE ABOVE,
THEREFORE USE A DEPTH OF $\frac{15}{2}$ OR 7.5')
SKIN FRICTION BEARING CAPACITY = $(7.5(150) \times PI(2)(20) \times .25)/2 = 17671$ LBS

Q_{allow} = END BEARING + SKIN FRICTION - WEIGHT OF THE PILE
WEIGHT OF PILE = $PI(2/2)^2 \times 20 \times 150$ (PCF) = 9425 LBS
 $Q_{allow} = 12566 + 17671 - 9425 = 20812$ LBS

MAXIMUM PILE SPACING = PILE CAPACITY / CODE SPECIFIED FOOTING CAPACITY (PLF) EXCEPT WHERE POINT LOADS FROM BEAMS AND
HEADERS ARE IDENTIFIED.

MAXIMUM PILE SPACING = $20812 / 2333 = 8.92'$ (8'-11")

PILE CONCRETE SHALL BE A MINIMUM 3000 PSI DESIGN MIX
REQUIRED AXIAL CAPACITY IS $P_u = Q_{allow} = 20812$ LBS.
PER IBC 2018 1810.3.2.6, THE AXIAL CONCRETE COMPRESSIVE STRENGTH $P_n = .3(f_c)(A_g) = .3(3000)(452 \text{ IN}^2) = 406800$ LBS. $\gg P_u$
BY IBC 2018 1810.3.9.2, NO AXIAL REINFORCEMENT IS REQUIRED SINCE NO BENDING MOMENT IS ASSUMED.

2018 International Building Code (IBC)				
CHAPTER 18 SOILS AND FOUNDATIONS				
TABLE 1806.2 PRESUMPTIVE LOAD-BEARING VALUES				
CLASS OF MATERIALS	VERTICAL FOUNDATION PRESSURE (psf)	LATERAL BEARING PRESSURE (psf/ft below natural grade)	LATERAL SLIDING RESISTANCE Coefficient of friction	Cohesion (psf) ^b
1. Crystalline bedrock	12,000	1,200	0.70	—
2. Sedimentary and foliated rock	4,000	400	0.35	—
3. Sandy gravel and gravel (GW and GP)	3,000	200	0.35	—
4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000	150	0.25	—
5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1,500	100	—	130

For SI: 1 pound per square foot = 0.0479kPa, 1 pound per square foot per foot = 0.157 kPa/m.

a. Coefficient to be multiplied by the dead load.
b. Cohesion value to be multiplied by the contact area, as limited by Section 1806.3.2 .

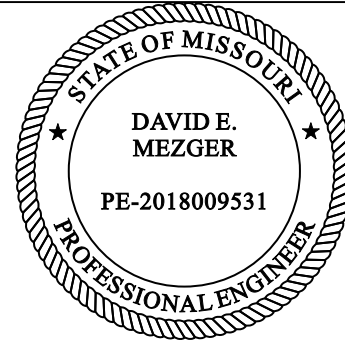
2018 International Building Code (IBC)	
CHAPTER 18 SOILS AND FOUNDATIONS	
1806.3.3 Increase for depth. The lateral bearing pressures specified in Table 1806.2 shall be permitted to be increased by the tabular value for each additional foot (305 mm) of depth to a value that is not greater than 15 times the tabular value.	
Copyright © 2025 International Code Council, Inc., or its licensors (ALL RIGHTS RESERVED). Accessed by David Mezger on 02/22/2025 pursuant to License Agreement with ICC. No further reproduction or distribution authorized. Any Unauthorized reproduction or distribution is a violation of the federal copyright, and subject to civil and criminal penalties thereunder.	

NOTE: ALL PIERS 24" DIAMETER X 20' DEEP
MAXIMUM OR TO ROCK U.N.O.
EMBED (2) #4 BARS 5' INTO TOP OF PIER AND
BEND OVER 24" TO LAP ONTO FOOTING
REINFORCEMENT.

NOTE: THIS DRAWING TO BE WORKED WITH
SHEET 3 OF 6 OF THE ARCHITECTURAL SET.
USE SHEET 3 FOR REFERENCE TO PLACE PIERS.
DIMENSIONS SHOWN ARE FOR VERIFICATION OF
TRIBUTARY SPAN ONLY.

DAVID MEZGER ENGINEERING LLC

212 NE Circle Drive Kansas City, MO 64116
mezgerde@gmail.com
913-481-3774



Engineers seal is for
STRUCTURAL design and
review only.

0	PERMIT ISSUE	2/24/25
NO.	REVISION / ISSUE	DATE

BUILDER / ARCHITECT

TRUMARK HOMES

PROJECT NAME / ADDRESS

PLAN # 4360LA FOOTING
PIER PLAN WITH PIER
SIZING AND DESIGN
CALCULATIONS

PROJECT #: 25018

DATE: 2/24/2025

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

SHEET:
S-0.1