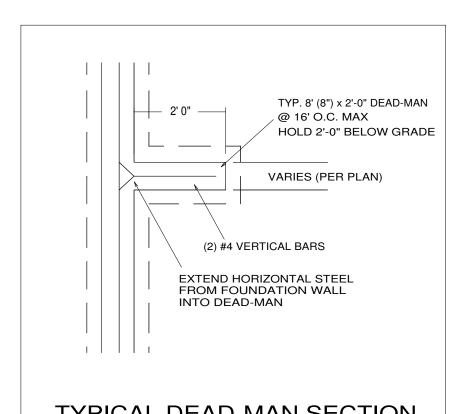


RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
11/30/2021



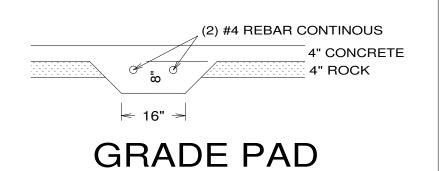
SEE ELEVATION FOR WALL HEIGHTS

NOTE... ELECTRICAL SERVICE TO BE 200 AMP.

NOTE... DOUBLE JOIST UNDER ALL PARALLEL WALLS ABOVE UNLESS NOTED

S.D. = SMOKE DETECTOR

TYPICAL DEAD-MAN SECTION



1/2" = 1'0"

CONCRETE PIER PAD

42" × 42" × 12"CONCRETE PAD WITH (6)

#4 BARS EACH WAY (UNLES NOTED)

REBAR MAY BE BROUGHT UP DIRECTLY THROUGH THE CONCRETE, PROVIDED IT IS SLEEVED AND COMES UP INSIDE THE BUILDING *#4 FOOTING BAR AT MIN. 20' IN LENGTH MIN. 2 TIE WIRES REQUIRED

#4 OR LARGER BARS

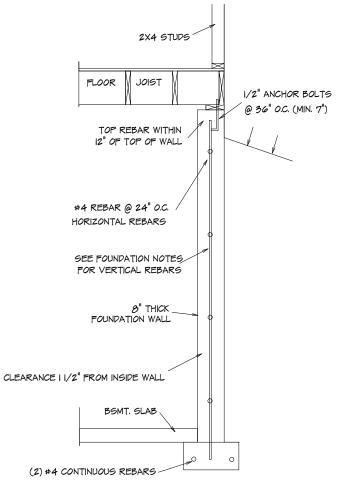
1. Section 250.52 of the National Electrical Code requires that the concrete encased reinforcing steel be included in the grounding electrode system... This means that you must have "an electrode encased by at least 50 mm (2 in.) of concrete, located horizontally near the bottom or vertically, and within that portion of a concrete foundation or footing that is in direct contact with the earth, consisting of at least 6.0 m (20 ft) of one or more bare or zinc galvanized or other electrically conductive coated steel reinforcing bars or rods of not less than 13 mm (1/2 in.) in diameter, or consisting of at least 6.0 m (20 ft) of bare copper conductor not smaller than 4 AWG.

2. Reinforcing bars shall be permitted to be bonded together by the usual steel tie wires or other effective means. Where multiple concrete-encased electrodes are present at a building or structure, it shall be permissible to bond only one into the grounding electrode system." Proper lap splices are required

UFER GOUNDING SECTION

STEEL COLUMNS TO BE 3" DIAMETER SCHEDULE 40 PIPE MANUFACTURED IN ACCORDANCE WITH ASTM A53 GRADE B OR APPROVED EQUIVALENT UNLESS NOTED

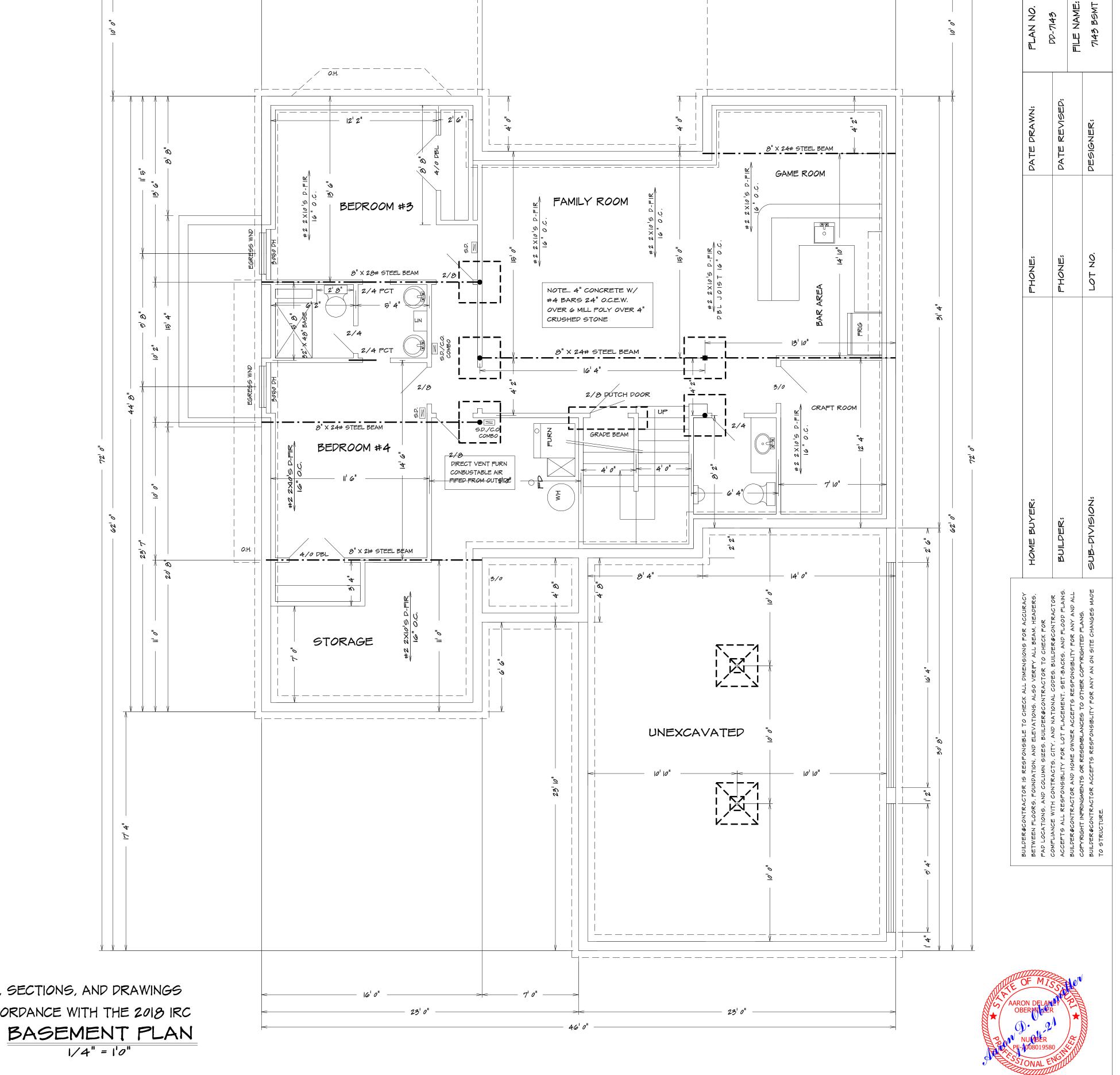
Note...Bridging. Joists exceeding a nominal 2 inches by 12 inches shall be supported laterally by solid blocking, diagonal bridging (wood or metal), or a continuous 1-inch-by-3-inch strip nailed across the bottom of joists perpendicular to joists at intervals not exceeding 8 feet. (R502.7.1)



TYPICAL FOUNDATION WALL

42" X 42" X I2" CONCRETE PADS WITH (6) #4 REBARS EACH WAY (UNLESS NOTED)

ALL NOTES, SECTIONS, AND DRAWINGS ARE IN ACCORDANCE WITH THE 2018 IRC



DD-7143-C

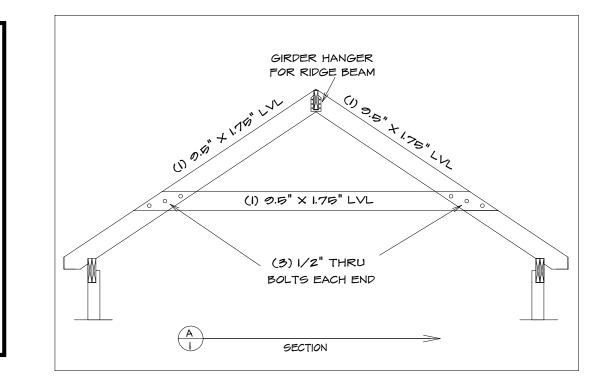
SEE ELEVATION FOR WALL HEIGHTS

NOTE ... ELECTRICAL SERVICE TO BE 200 AMP.

NOTE... DOUBLE JOIST UNDER ALL PARALLEL WALLS

ABOVE UNLESS NOTED





BEARING WALL LINES

1/4" = 110"

GENERAL HEADER SPEC	CIFICATIONS:
REQUIRED AREAS NEEDING HEADERS:	HEADER DESCRIPTIONS:
WINDOWS/DOORS UP TO 38" R.O.	(2) #2 D-FIR 2XIO'S
WINDOWS/DOORS 38" UP TO 72" R.O.	(2) #2 D-FIR 2XIO'S W/I/2" GLUE PLY
WINDOWS/DOORS 72" UP TO 96" R.O.	(2) 9 1/2" L.V.L.
8'0" GARAGE DOORS W/CEILING & ROOF LOAD	(2) 0 1/2" L.V.L.
9'0" GARAGE DOORS W/CEILING & ROOF LOAD	(2) 9 1/2" L.V.L.
8'0" GARAGE DOORS W/SECOND FLOOR	(2) 9 1/2" L.V.L.
9'0" GARAGE DOORS W/SECOND FLOOR	(2) 7/8" L.V.L.
16'0" GARAGE DOOR W/NO SECOND FLOOR	(2) 7/8" L.V.L.
16'0" GARAGE DOORS W/SECOND FLOOR	(2) 14" L.V.L.
USE HEADERS FOR OPENINGS ABOVE	: UNLESS SPECIFIED OTHERWISE.

R312.2.1 Window sills.

In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the fininshed floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch-diameter (102 mm) sphere where such openings are located within 24 inches (610 mm) of the finished floor.

1. Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.

2. Openings that are provided with window fall prevention devices that comply with ASTM F 2090.

3. Windows that are provided with window opening control devices that comply with Section R312.2.2.

R312.2.2 Window opening control devices.

Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section R310.1.1.

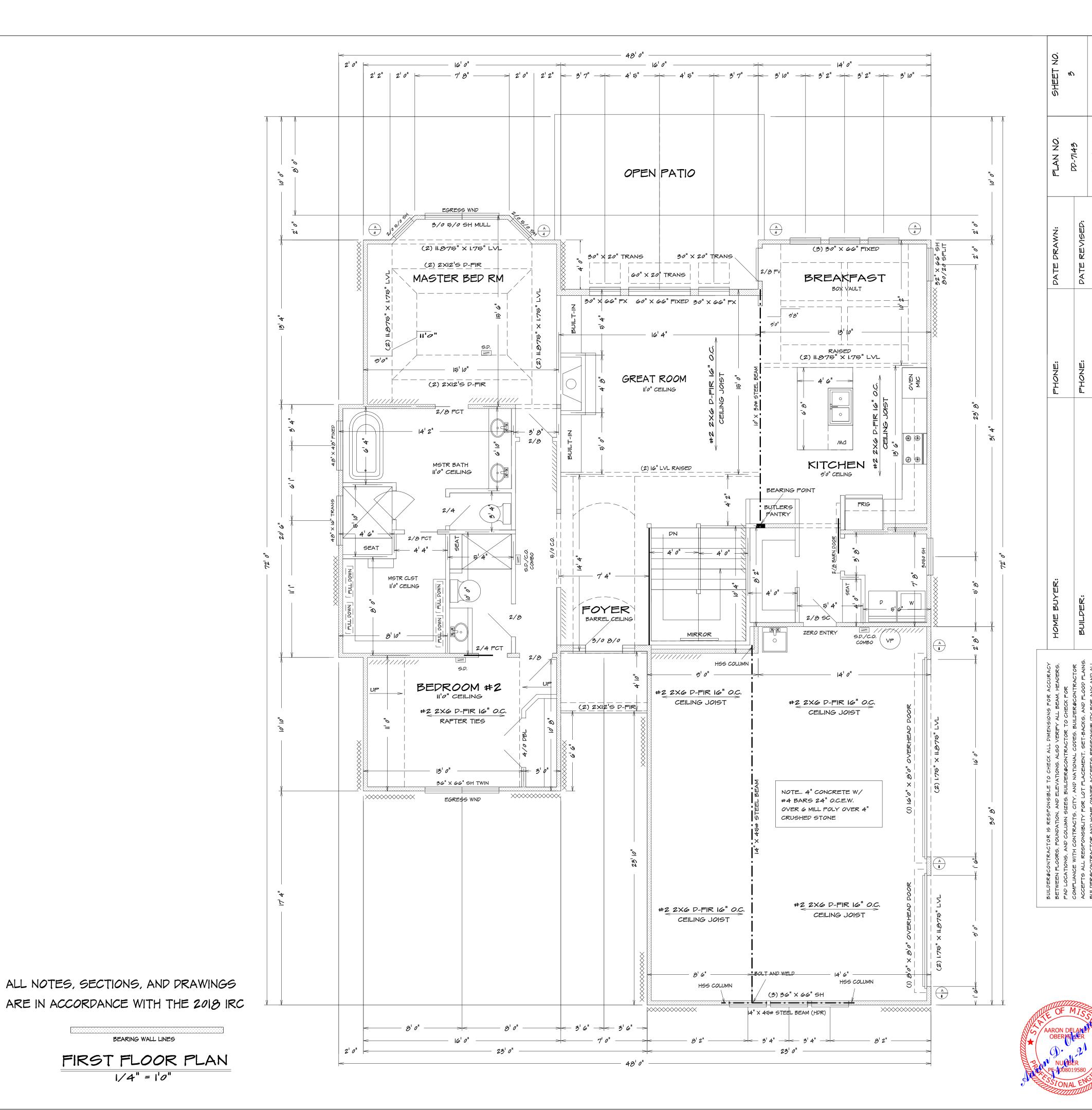
Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet, one-half of which must be openable.

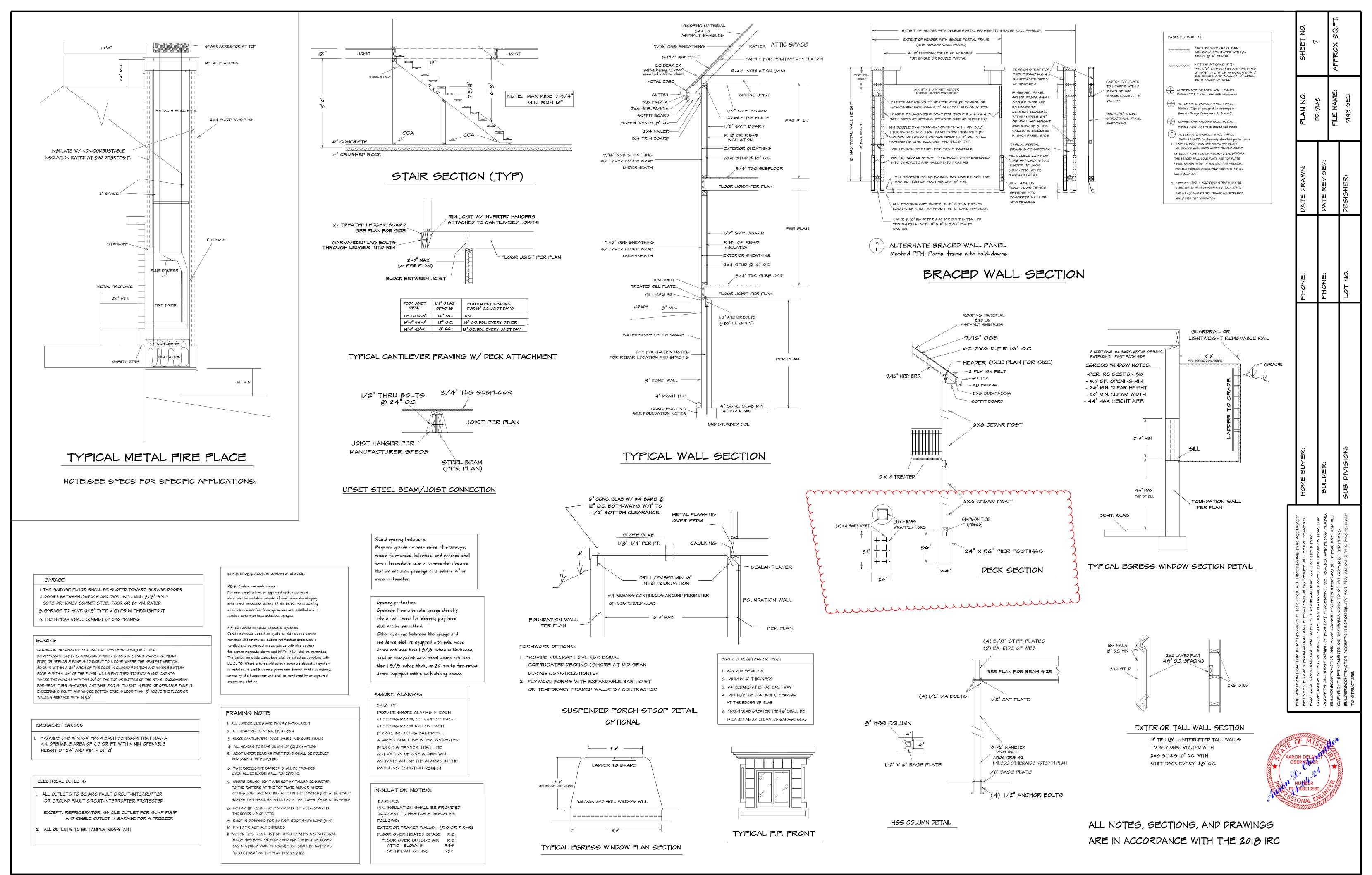
Exception:

The glazed areas shall not be required where artificial light and a local exhaust system are provided.

The minimum local exhaust rates shall be determined in accordance with Section MI507.

Exhaust air from the space shall be exhausted directly to the outdoors.





Foundation Wall Reinforcement Schedule - Table 2

Marrow Ma

Concrete strength/Grade	8 inch	thick	wall	10 inc	h thick	k wall
Reinforcement #4 bar	8'	9'	10'	8'	9'	10'
3,000 psi / Grade 40	16	12	NP	24	16	12
3,500 psi / Grade 40	16	12	NP	24	24	12
3,000 psi / Grade 60	24	16	NP	24	20	16
3,500 psi / Grade 60	24	16	NP	24	24	16
Horizontal reinforcement -	- Minim	num Gr	ade 40	steel	#4	oar
One bar 12" from top of wall; maximum spacing 24" o.c.	4-#4	5-#4	6-#4	4-#4	5-#4	6-#4

- 1) Wall height is measured from the top of the wall to the top of the floor slab.
- 2) Vertical reinforcement for concrete walls that are not full height and for reinforcement spaced 24 inch on center may be placed in the middle of the wall. Other walls shall have vertical reinforcement place as follows:
- a) 8-inch wall Minimum 5 inches from the outside face.
- b) 10-inch wall Minimum 6.75 inches from the outside face.
- c) Extend bars to within 8 inches of the top of the wall. 3) Reinforcement clearances:
- a) Concrete exposed to earth minimum 1-1/2 inches.
- b) Not exposed to weather (interior side of walls) minimum 3/4 inch. c) Concrete exposed to weather (top clearance in garage and driveway slabs)- 1-1/2 inches.
- Horizontal reinforcement:

TABLE R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

- a) One bar shall be placed within 12 inches of the top of the wall. b) Other bars shall be equally spaced with spacing not to exceed 24 inches on center. c) Horizontal bars should be as close to the tension face as possible (interior) and behind
- the vertical reinforcement (i.e.2" towards the inside). d) Supplemental reinforcement at corners - Place 1 #4 bar 48 inches long at 45 degree angle at corners of openings per Figure 4a. Place reinforcement within 6" of the edge of
- 5) Reinforcement shall be lapped a minimum 24 inches at ends, splices, and around corners. 6) At masonry ledges the minimum wall thickness shall be 3-1/2 inches. Ledges shall not exceed a depth of more than 24 inches below the top of the wall. For wall thicknesses less

than 4 inches provide #4 bars at maximum 24 inches on center to within 8 inches of the top of

 Straight walls more than 5 feet tall and more than 16 feet long shall be provided with exterior braced return walls. Wall length shall be measured using inside the shortest dimension between intersecting walls (See 7/S2).

munime

at each bearing

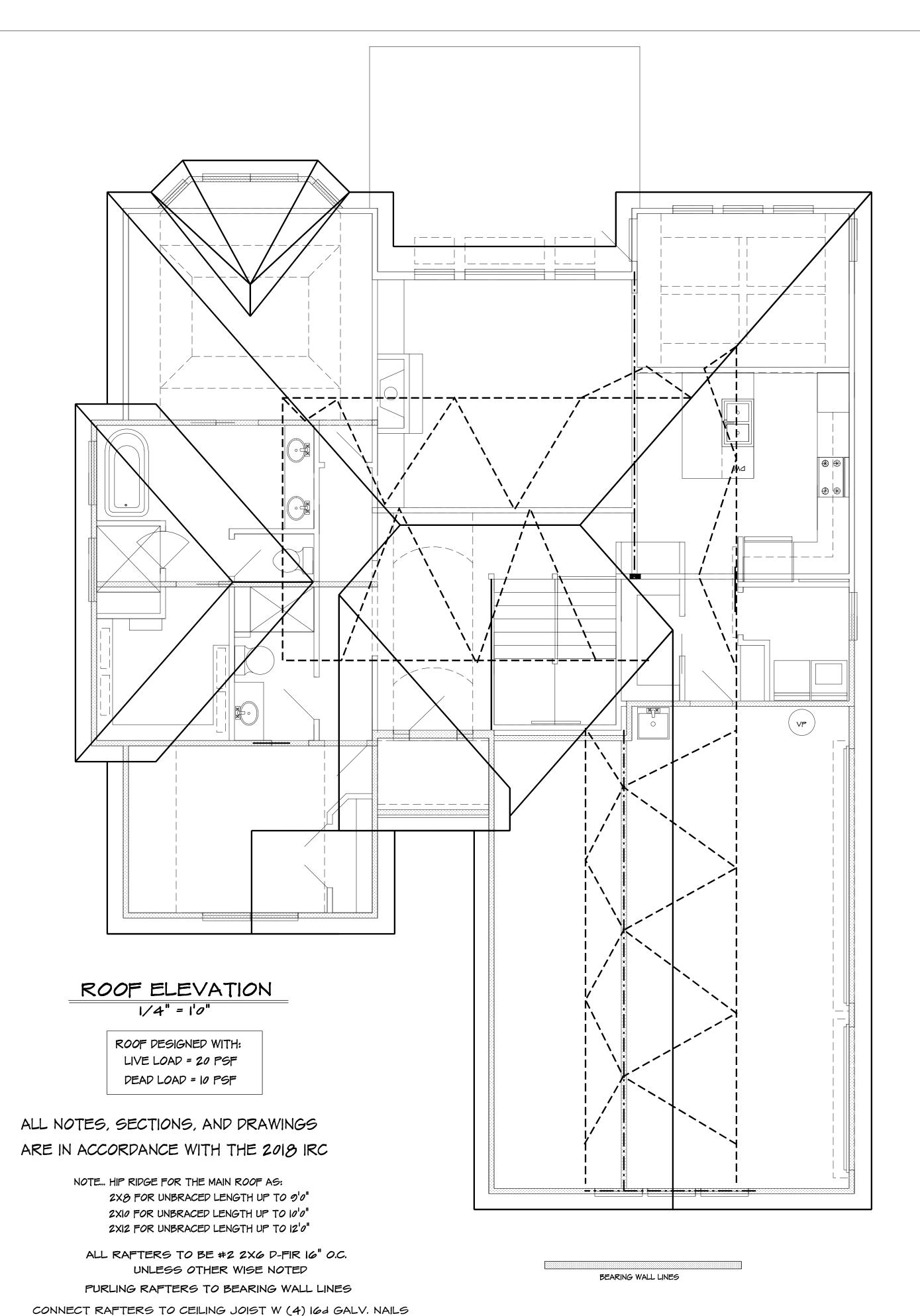
		DESCRIPTION OF	SP	ACING OF FASTENERS
ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER ^{b, c, e}	Edges (inches) ⁱ	Intermediate supports ^{c, e} (inches)
W	ood structural panels, su	sheathing to fi		framing and particleboard wall
32	3/8" - 1/2"	6d common (2" \times 0.113") nail (subfloor wall) 8d common ($2^{1}/_{2}$ " \times 0.131") nail (roof)	6	12 ⁹
33	¹⁹ / ₃₂ " - 1"	8d common nail (2 ¹ / ₂ " × 0.131")	6	129
34	1 ¹ /8" - 1 ¹ /4"	10d common (3" × 0.148") nail or 8d (2 ¹ / ₂ " × 0.131") deformed nail	6	12
		Other wall she	athing ^h	
35	¹ / ₂ " structural cellulosic fiberboard sheathing	$1^1/_2$ " galvanized roofing nail, $^7/_{16}$ " crown or 1" crown staple 16 ga., $1^1/_4$ " long	3	6
36	²⁵ / ₃₂ " structural cellulosic fiberboard sheathing	$1^3/4$ " galvanized roofing nail, $^7/_{16}$ " crown or 1" crown staple 16 ga., $1^1/_2$ " long	3	6
37	1/2" gypsum sheathing ^d	1 ¹ / ₂ " galvanized roofing nail; staple galvanized, 1 ¹ / ₂ " long; 1 ¹ / ₄ screws, Type W or S	7	7
38	5/8" gypsum sheathing ^d	1 ³ / ₄ " galvanized roofing nail; staple galvanized, 1 ⁵ / ₈ " long; 1 ⁵ / ₈ " screws, Type W or S	7	7
Â	Wood stru	ictural panels, combination	subfloor unde	rlayment to framing
39	³ /4" and less	6d deformed (2" × 0.120") nail or 8d common (2 ¹ / ₂ " × 0.131") nail	6	12
40	⁷ /8" - 1"	8d common (2 ¹ / ₂ " × 0.131") nail or 8d deformed (2 ¹ / ₂ " × 0.120") nail	6	12
41	11/8" - 11/4"	10d common (3" × 0.148") nail or 8d deformed (2 ¹ / ₂ " × 0.120") nail	6	12

BUILDING HEIGHT	MINIMUM FOOTING	HORIZONTAL REBAR	LOCATION OF REBAR
1 OR 2 STY.	8"T × 16"W	2-#4	3" FROM BTM.
3 STORY	8"T × 24"W	2-#4	3" FROM BTM.
ACC. STR.	8"T × 12"W	2-#4	3" FROM BTM.

For SI: 1 inch = 25.4 mm. 1 foot = 304.8 mm. 1 mile per hour = 0.447 m/s: 1 Ksi = 6.895 MPa.

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING OF FASTENERS
	24	Roof	
1	Blocking between joists or rafters to top plate, toe nail	3-8d (2 ¹ / ₂ " × 0.113")	87
2	Ceiling joists to plate, toe nail	3-8d (2 ¹ / ₂ " × 0.113")	s-
3	Ceiling joists not attached to parallel rafter, laps over partitions, face nail	3-10d	s -
4	Collar tie to rafter, face nail or 1 ¹ /4" × 20 gage ridge strap	3-10d (3" × 0.128")	9 -
5.	Rafter or roof truss to plate, toe nail	3-16d box nails (3 ¹ / ₂ " × 0.135") or 3-10d common nails (3" × 0.148")	2 toe nails on one side and 1 toe nail on opposite side of each rafter or trussi
6	Roof rafters to ridge, valley or hip rafters: toe nail face nail	4-16d (3 ¹ / ₂ " × 0.135") 3-16d (3 ¹ / ₂ " × 0.135")	8-
		Wall	
7	Built-up studs-face nail	10d (3" × 0.128")	24" o.c.
8	Abutting studs at intersecting wall corners, face nail	16d (3 ¹ / ₂ " × 0.135")	12" o.c.
9	Built-up header, two pieces with ¹ / ₂ " spacer	16d (3 ¹ / ₂ " × 0.135")	16" o.c. along each edge
10	Continued header, two pieces	16d (3 ¹ / ₂ " × 0.135")	16" o.c. along each edge
11	Continuous header to stud, toe nail	4-8d (2 ¹ / ₂ " × 0.113")	8-
12 13	Double studs, face nail Double top plates, face nail	10d (3" × 0.128") 10d (3" × 0.128")	24" o.c. 24" o.c.
30000	Double top plates, minimum 24-inch offset of end joints, face nail in lapped area	8-16d (3 ¹ / ₂ " × 0.135")	11—
15	Sole plate to joist or blocking, face nail	16d (3 ¹ / ₂ " × 0.135")	16" o.c.
16	Sole plate to joist or blocking at braced wall panels	3-16d (3 ¹ / ₂ " × 0.135")	16" o.c.
17	Stud to sole plate, toe nail	3-8d (2 ¹ / ₂ " × 0.113") or 2-16d (3 ¹ / ₂ " × 0.135")	8F035
18	Top or sole plate to stud, end nail	2-16d (3 ¹ / ₂ " × 0.135")	×-
19	Top plates, laps at corners and intersections, face nail	2-10d (3" × 0.128")	16-
20	1" brace to each stud and plate, face nail	2-8d (2 ¹ / ₂ " × 0.113") 2 staples 1 ³ / ₄ " ×	72.785
21	1" × 6" sheathing to each bearing, face nail	2-8d (2 ¹ / ₂ " × 0.113") 2 staples 1 ³ / ₄ "	1
22	1" × 8" sheathing to each bearing, face nail	2-8d (2 ¹ / ₂ " × 0.113") 3 staples 1 ³ / ₄	y - (-2)
23	Wider than 1" × 8" sheathing to each bearing, face nail	3-8d (2 ¹ / ₂ " × 0.113") 4 staples 1 ³ / ₄ "	12.2
	20	loor	•
24	Joist to sill or girder, toe nail	3-8d (2 ¹ / ₂ " × 0.113")	8-
25	Rim joist to top plate, toe nail (roof applications also)	8d (2 ¹ / ₂ " × 0.113")	6" o.c.
26	Rim joist or blocking to sill plate, toe nail	8d (2 ¹ / ₂ " × 0.113")	6″ o.c.
27	1" × 6" subfloor or less to each joist, face nail	2-8d (2 ¹ / ₂ " × 0.113") 2 staples 1 ³ / ₄ "	5
20	2" subfloor to joist or girder,	2-16d (3 ¹ /2" ×	

CF-PF WALL BRACING SECTION



CONNECT RAFTERS TO RIDGE, VALLEY, AND HIP RIDGE

WITH (4) 16d GALV. NAILS

VERT. RIDGE AND RAFTER SUPPORTS TO BE EQUAL TO OR GREATER

THAN THE DEPTH OF RAFTERS

ALL NOTES, SECTIONS, AND DRAWINGS ARE IN ACCORDANCE WITH THE 2018 IRC

DD-7143-C

Built-up girders and beams, 2-inch lumber layers

31 Ledger strip supporting joists or rafter $3-16d (3^{1}/2^{"} \times 0.135")$ At each joist or rafter