

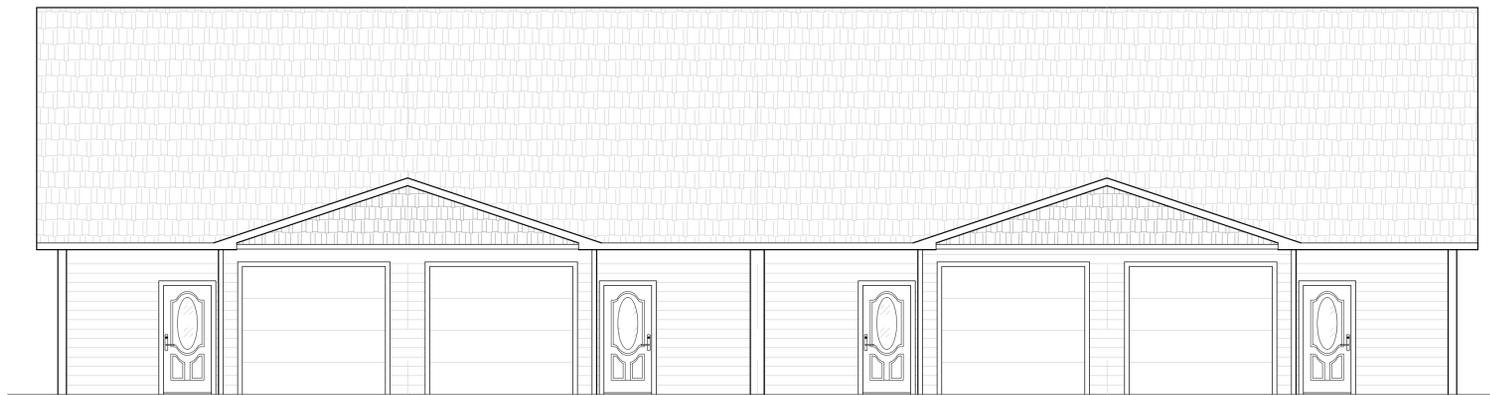
**DEFERRED SUBMITTAL:** Truss Engineering Documents are required to be submitted prior to inspection.

# Park Springs Phase 5

\* See record for Additional Energy measures.

\* See Reference Page for additional information.

\*See Table N1101.1(1) for all insulation factors



## Project Summary

Big Creek Builders  
27781 Medical Springs  
Baker City, OR 97814

## Building Area

Main Floor .....982.78 Sq. Ft.  
2nd Floor .....286.69 Sq. Ft.  
Garage .....243.64 Sq. Ft.  
Acreage .....22' x 99.98'  
Zoning .....100 Res.  
Elevation .....3451 Ft.

## Drawing Index

- A1.1 Property Layout
- B1.1 North / East Elevation
- B2.2 South / West Elevation
- C1.1 Main Floor Layout Plan
- C1.2 Main Floor Plan
- C2.1 Upper Floor Layout Plan
- C2.2 Upper Floor Plan
- D1.1 Foundation Layout Plan
- D1.2 Foundation Plan
- D6.1 Truss Plan
- S1.1-2 Section Elevations
- S1.3-4 Section Elevations
- S1.5 Section Elevations
- S1.8 Detail Drawings



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**Park Springs Phase 5**  
 Church St.  
 Baker City, OR 97814



Latitude / Longitude: 44.7787 -117.8137	
Site-Specific Climatic and Geographic Design Criteria	
County	Baker County
Adjusted Ground Snow Load	18 psf
Code minimum Ground Snow Load for prescriptive design	36 psf
Basic Design Wind Speed	103 mph
Seismic Design Category	C
Weathering Potential	Severe
Frost line depth	24 inches
Decay Potential	Slight
Air Freezing Index	2000

**ORSC Requires:**

1. A "Balanced Fresh Air System" Installed in structure. (HRV or Timer System)
2. RADON Mitigation Required. If Mechanically venting the crawl space a RADON System is STILL Required. in addition to venting of under floor space.

- Decay Protections: 33 to 37
- Exiting: 96 to 98
- Lumber Grade: 38
- Glazing: 112 to 113
- Floors: 39 to 48
- Garage: 114 to 116
- Decks: 49 to 51
- Bathrooms: 117 to 120
- Lateral Bracing: 52 to 64
- Insulation: 121 to 127
- Walls: 66 to 74
- Smoke Alarms: 128 to 130
- Roof: 75 to 83
- C/O Alarms: 131 to 133
- Roofing: 84 to 90
- Mechanical/Heating: 134 to 148
- Attics: 91, 92
- Radon Mitigation: 152
- Interior: 93 to 95

See for new stricter requirements.

ORSC Appendix AF Requires Radon Mitigation. See 150 of Plan Review Document.

SEE: Plan Review Documentation, these documents are considered part of the Approved Plans. 1-152

- General: 1 to 8
- Foundations: 9, 11 to 28
- Moisture Control: 30 to 32

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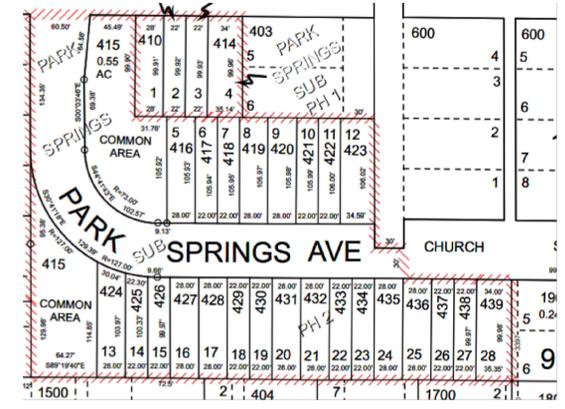
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Approved Plans are required to be available on site for all Inspections.

Call 514-524-2024

No Changes, Alterations or Modifications of these plans shall be made without first securing approval from the Baker City Building Department.

Map 09S40E16DA  
Lots 424 - 439  
44.779 / -117.814



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Title Page

A



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# Park Springs Phase 5

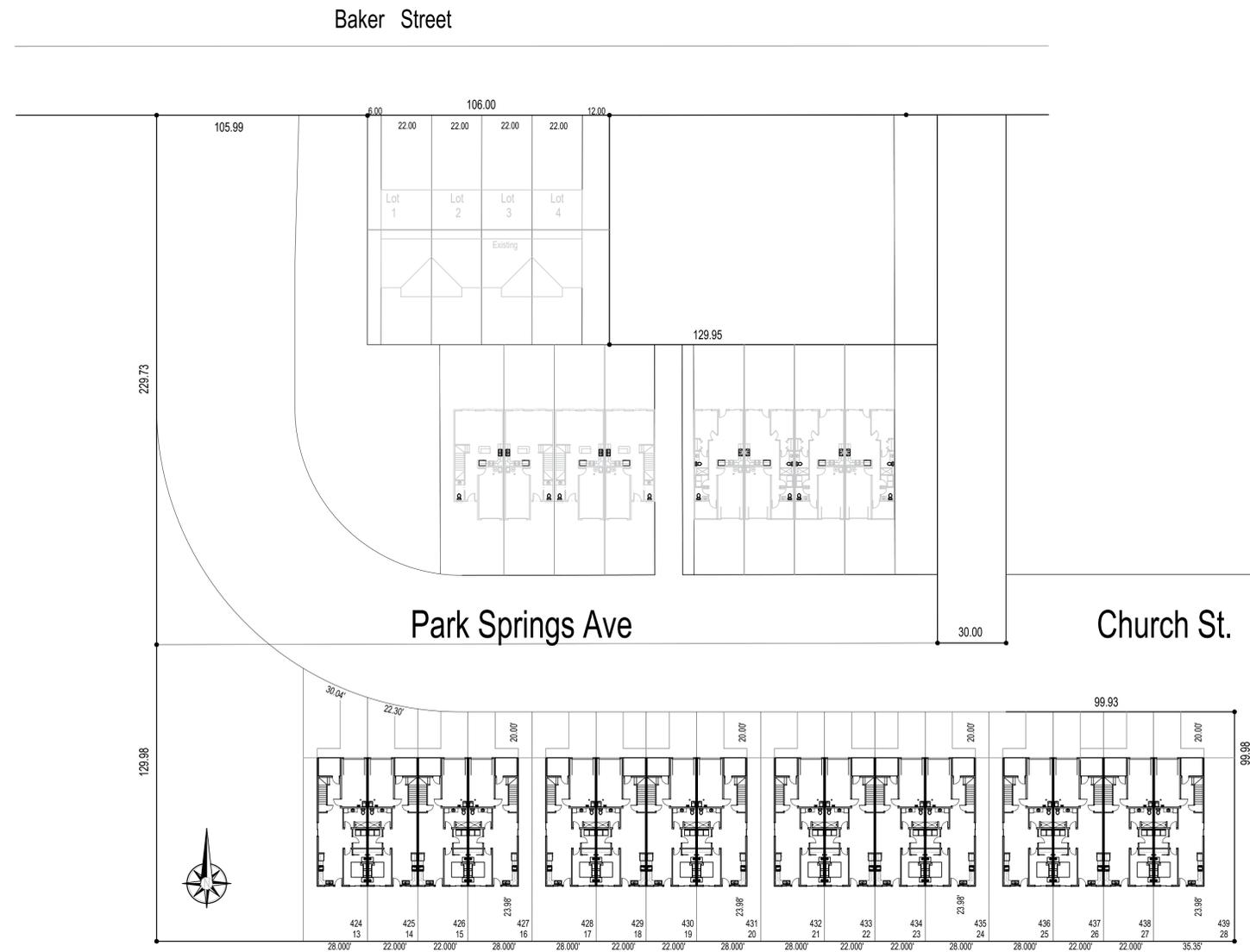
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Property Layout

# A1.1





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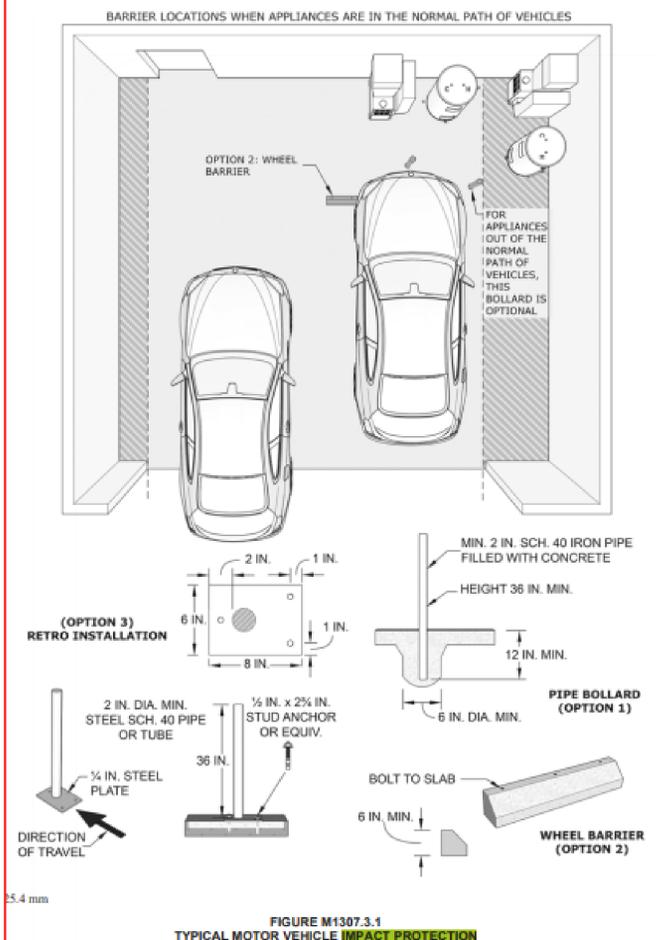
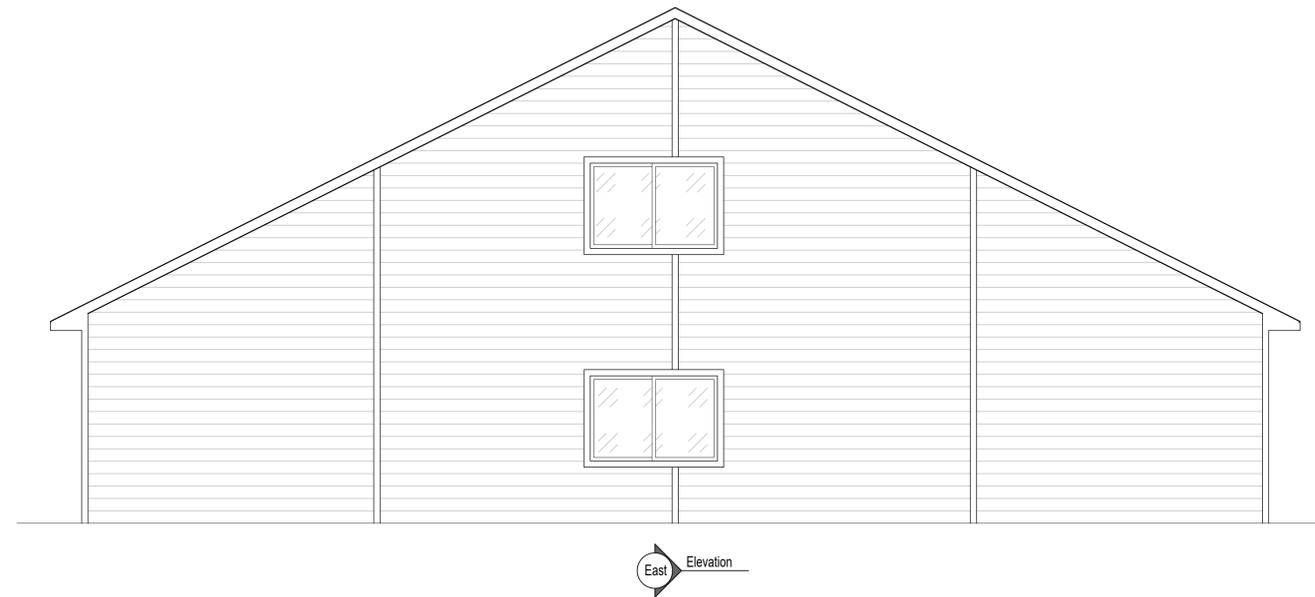
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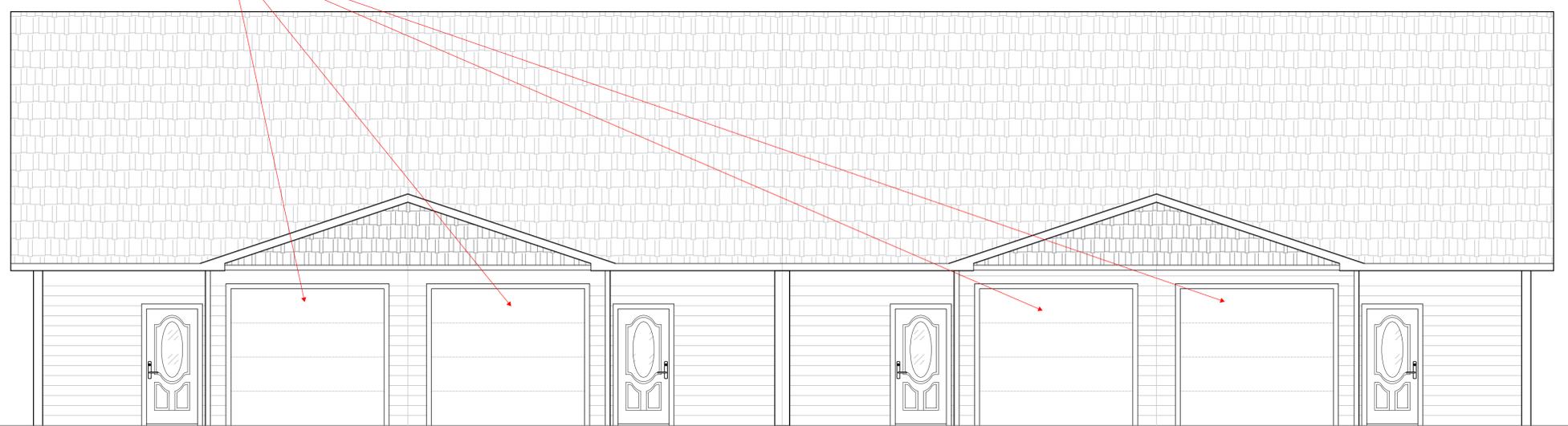
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North / East Elevation

B1.1



Ground Ht. 24' 2-5/8"  
Ridge Ht. 13' 6-9/16"  
Eave Ht. 9' 0-1/16"  
Ground Ht. 0' 0-00"



North Elevation



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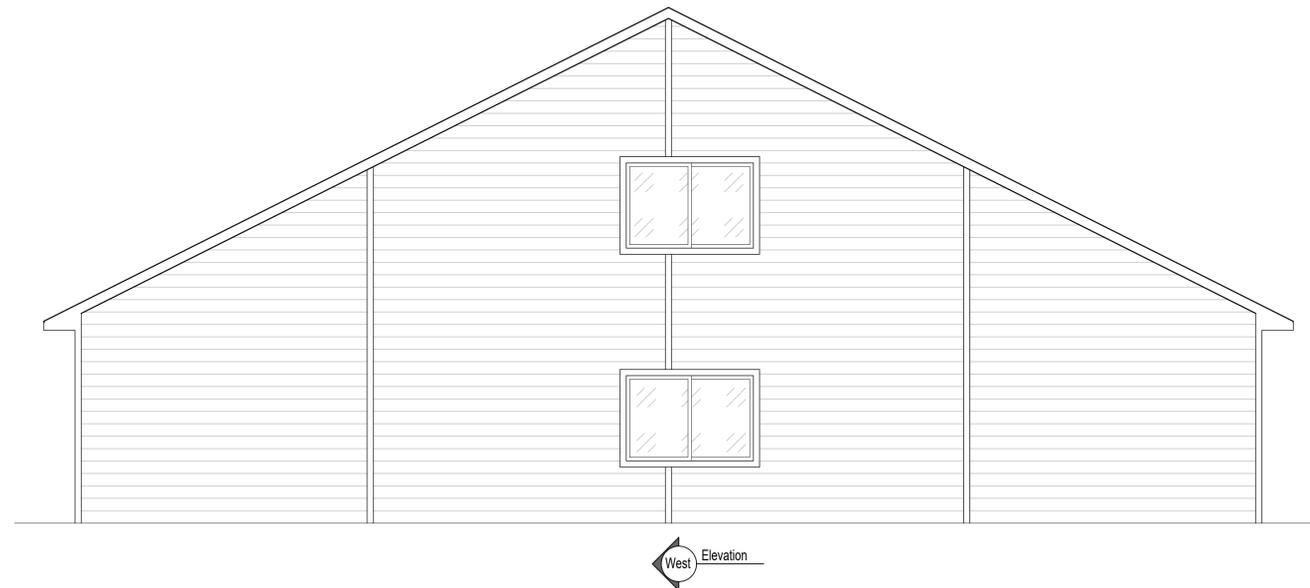
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South West Elevation

B2.1





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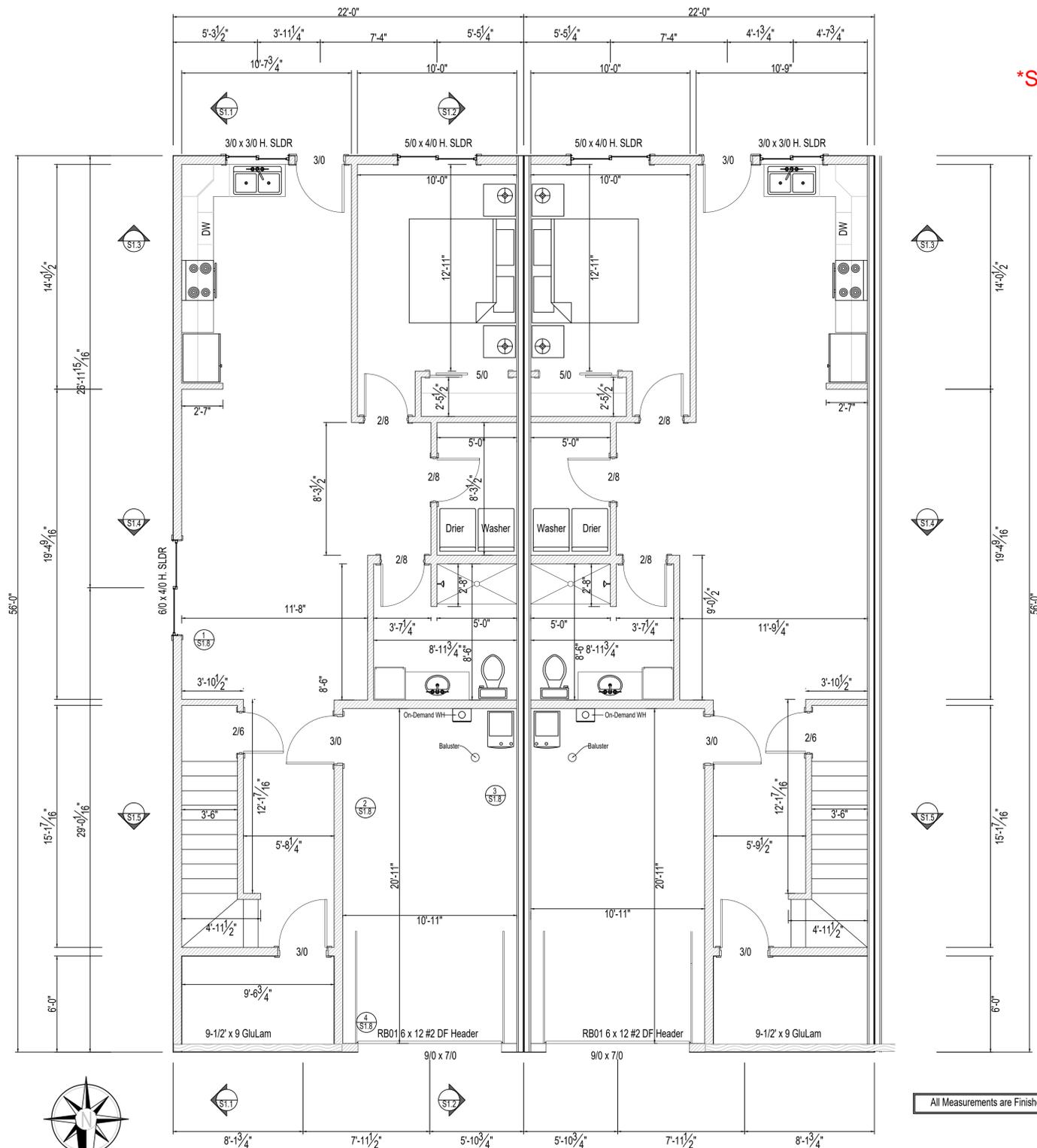
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Main Floor Layout Plan

C1.1



\*See next page.

All Measurements are Finished





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## Church St. Baker City, OR 97814

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Main Floor Plan

# C1.2

\*See reference pages for Table R602.7(1) for all header sizes and spans.

See Reference Pages for Fire Separation options/requirements

\*All bedrooms are required to be provided with emergency escape and rescue openings per 310.2.1



See Figure R307.1 for required bathroom fixture clearances.

\* See Reference Page for guards, handrails and stairs requirements.

N1104.8.2.1 Top plate sealing & Sill/wall. At all walls in contact with vented attics, the wall covering (gypsum board or other) shall be sealed to the top plate with caulk, sealant, gasket or other approved material.

R302.5.1.1 Opening protections. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute fire rated doors.

R302.6 Dwelling-garage fire separation. The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. Attachment of gypsum board shall comply with Table R702.3.5. The wall separation provisions of Table R302.6 shall not apply to garage walls that are perpendicular to the adjacent dwelling unit wall.



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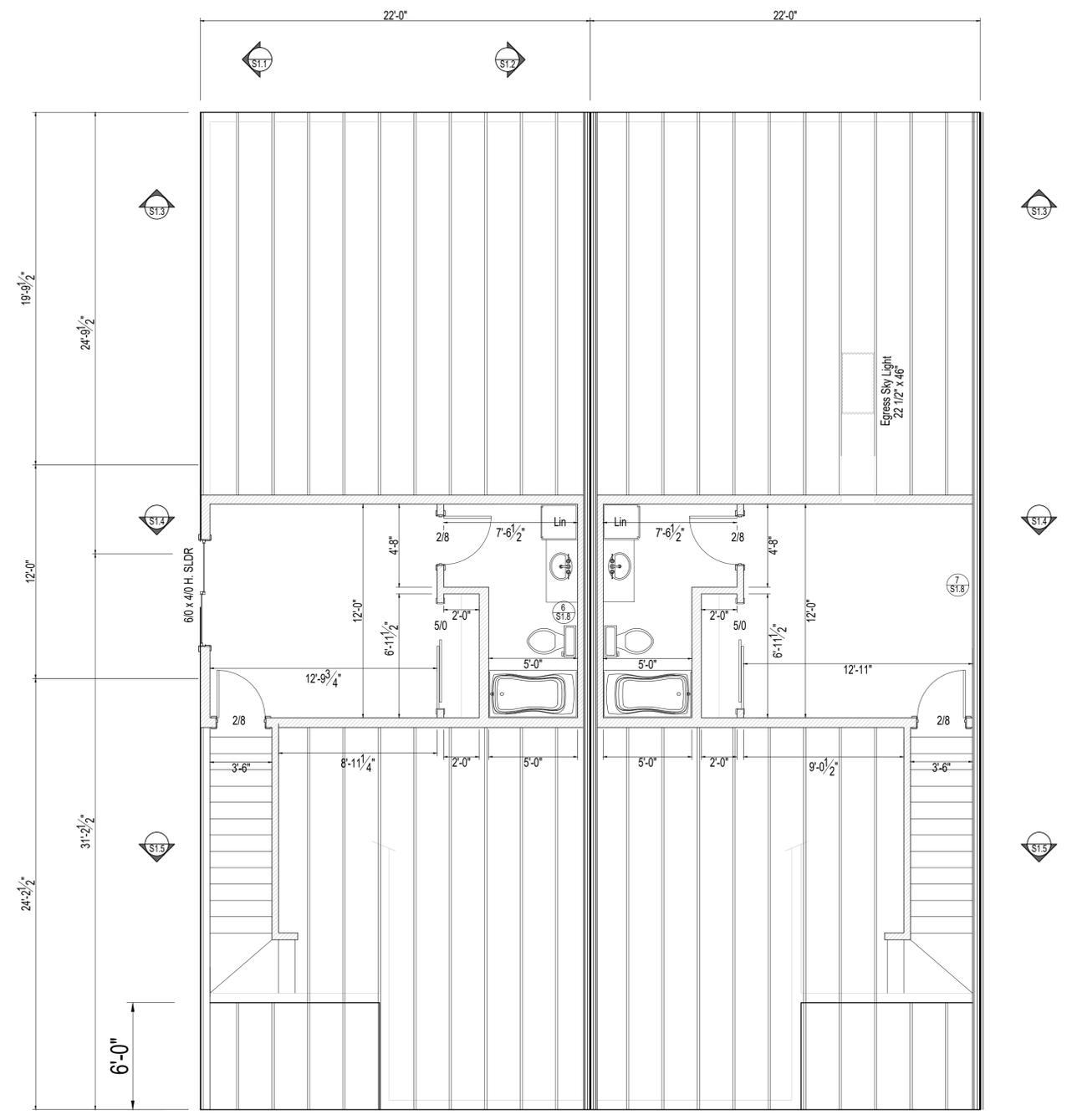
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2nd Floor Layout Plan

C2.1

\*R303.4 Mechanical ventilation. Newly constructed dwelling units shall be provided with whole-house mechanical ventilation in accordance with Section M1505, or with other approved means of ventilation.



\*See next page.



All Measurements are Finished



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# Park Springs Phase 5

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2nd Floor Plan

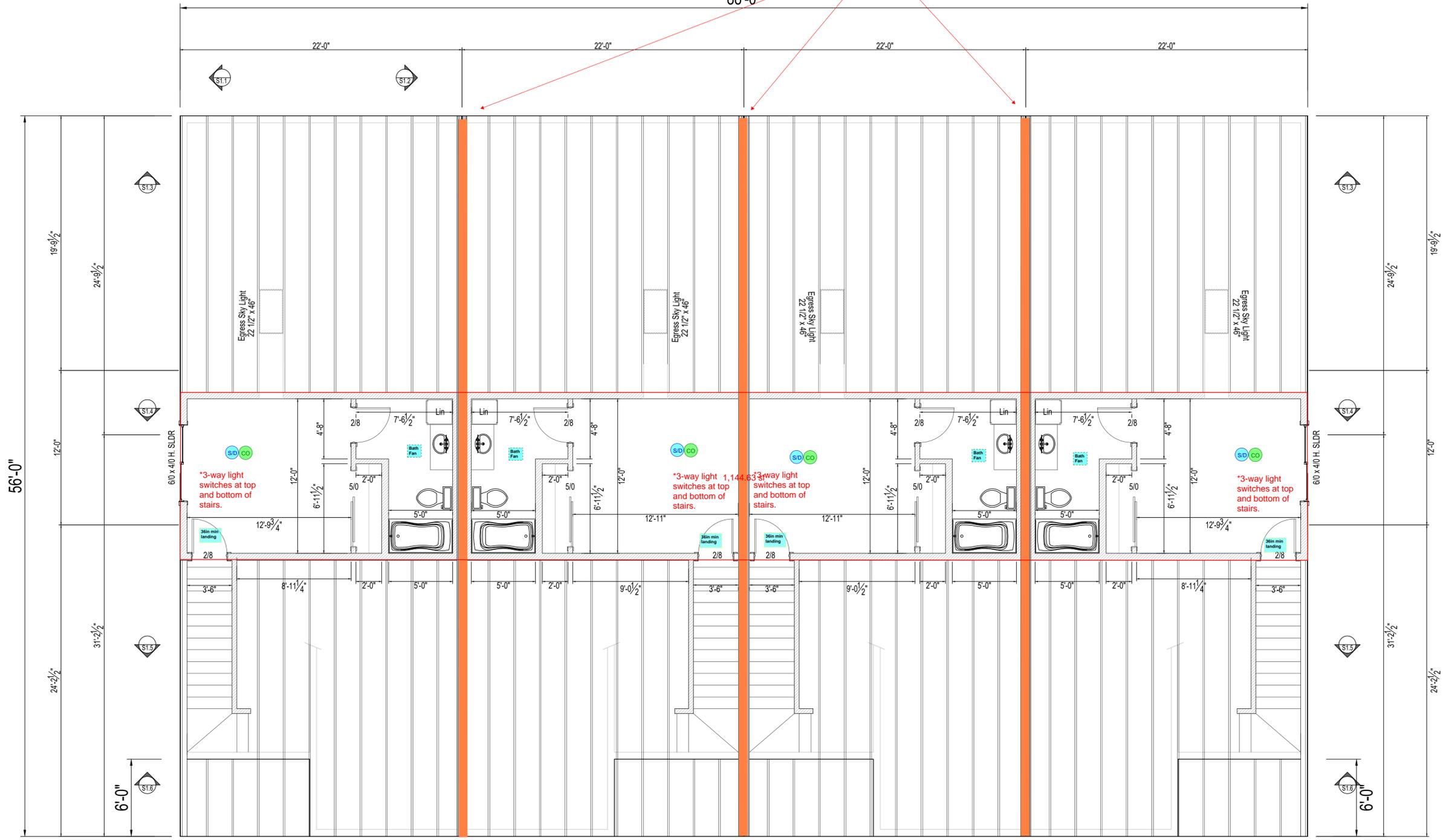
# C2.2

See Figure R307.1 for required bathroom fixture clearances.

\*All bedrooms are required to be provided with emergency escape and rescue openings per 310.2.1

See Reference Page for Fire Separation Options/Requirements

88'-0"



\*3-way light switches at top and bottom of stairs.

\*3-way light switches at top and bottom of stairs.

\*3-way light switches at top and bottom of stairs.

\*3-way light switches at top and bottom of stairs.

All Measurements are Finished

R311.7.6 Landings for stairways. There shall be a floor or landing at the top and bottom of each stairway. The width perpendicular to the direction of travel shall be not less than the width of the flight served. For landings of shapes other than square or rectangular, the depth at the walk line and the total area shall be not less than that of a quarter circle with a radius equal to the required landing width. Where the stairway has a straight run, the depth in the direction of travel shall be not less than 36 inches (914 mm).

Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided that a door does not swing over the stairs.





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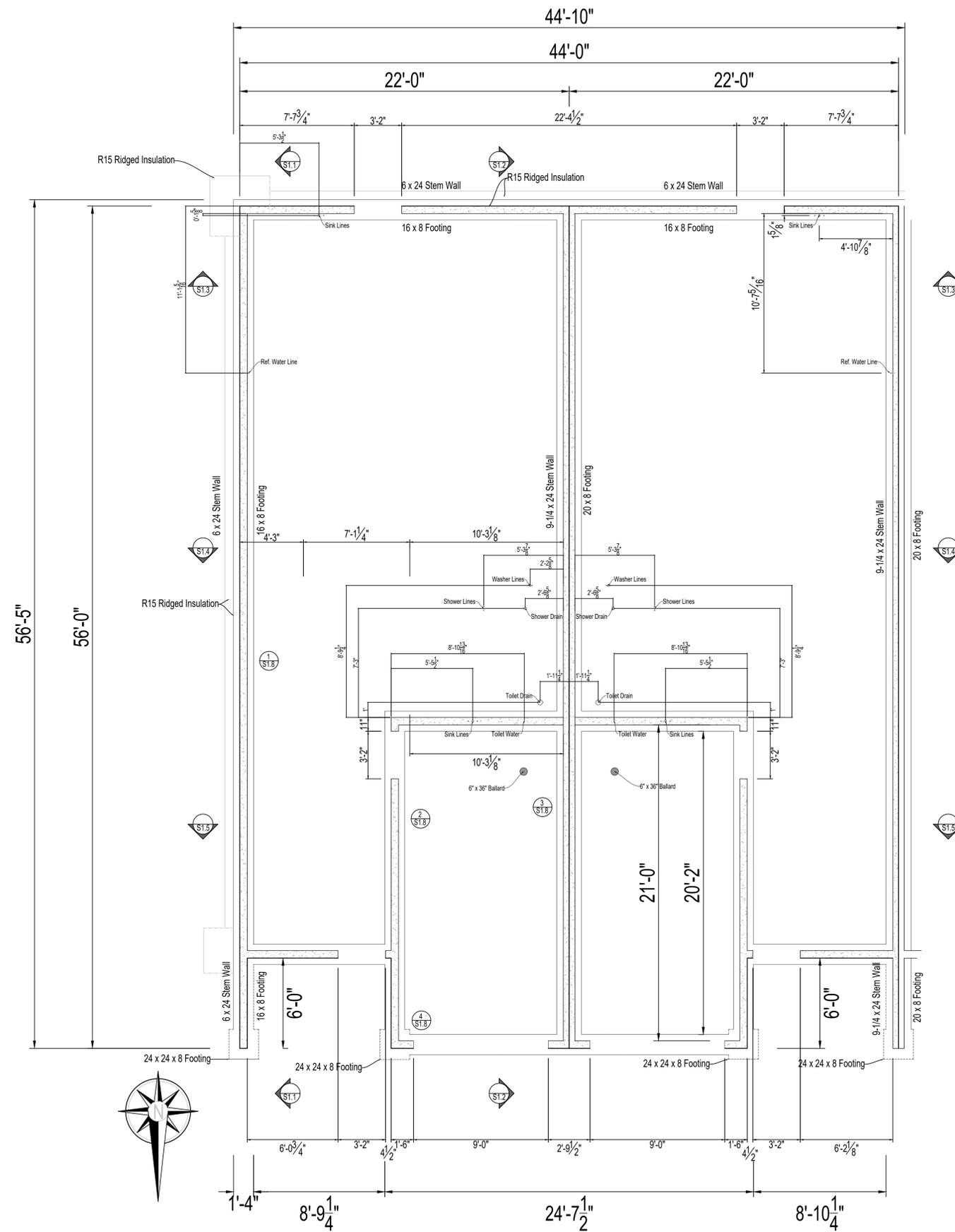
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Foundation Layout Plan

D1.1



\*See next page.



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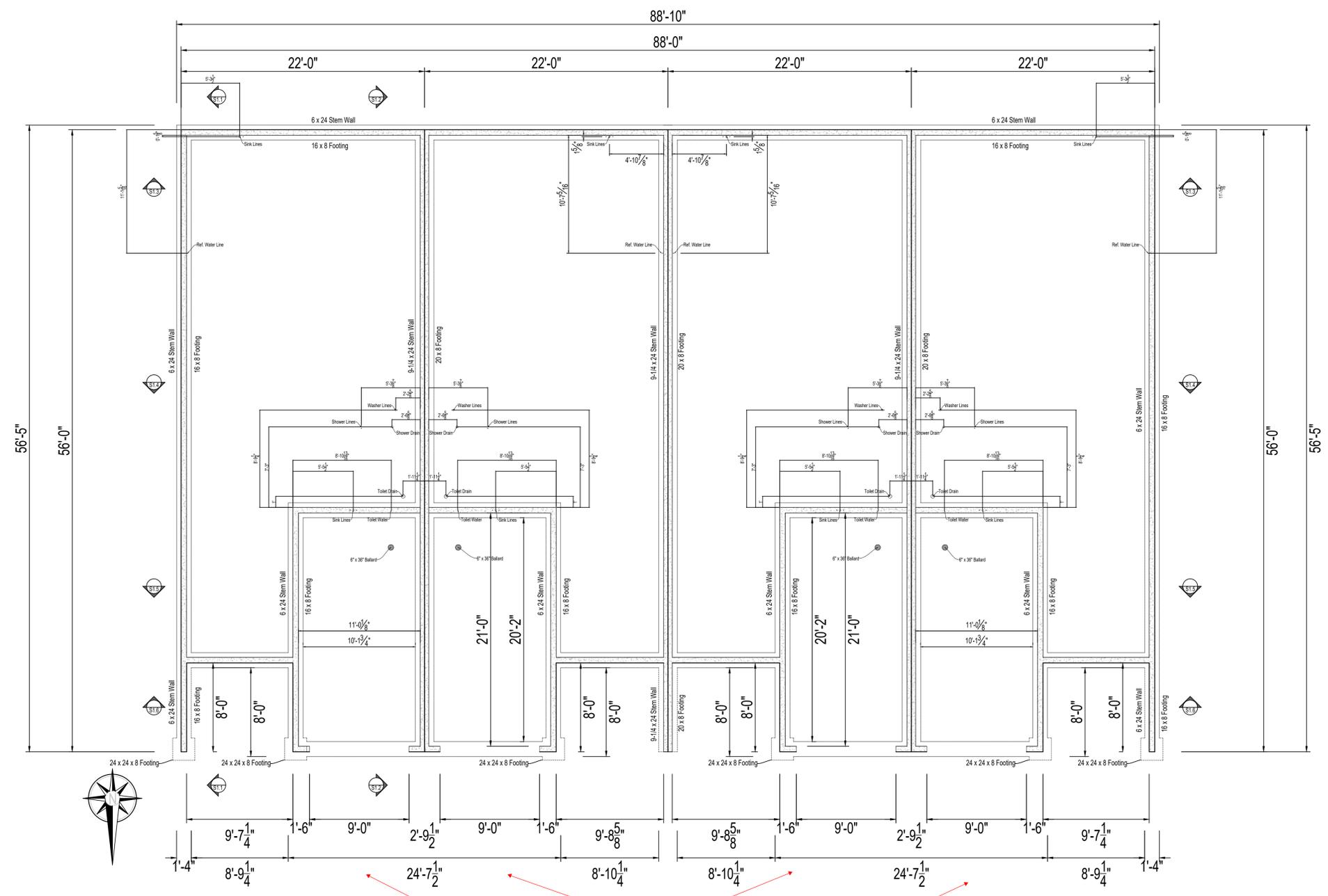
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Foundation Plan

D1.2

ORSC Appendix AF Requires Radon Mitigation. See 150 of Plan Review Document.

\*Current code requires minimum 10ft long horizontal collector with 5ft of perforation. See Appendix AF

Vertical Reinforcement is required to be tied in place for footing inspection.



R608.5.5 Construction joints in walls. Construction joints shall be made and located to not impair the strength of the wall. Construction joints in plain concrete walls, including walls required to have not less than No. 4 bars at 48 inches (1219 mm) on center by Section R608.6, shall be located at points of lateral support, and not less than one No. 4 bar shall extend across the construction joint at a spacing not to exceed 24 inches (610 mm) on center. Construction joint reinforcement shall have not less than 12 inches (305 mm) of embedment on both sides of the joint.

Construction joints in reinforced concrete walls shall be located in the middle third of the span between lateral supports, or located and constructed as required for joints in plain concrete walls.

R309.1 Floor surface. The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.



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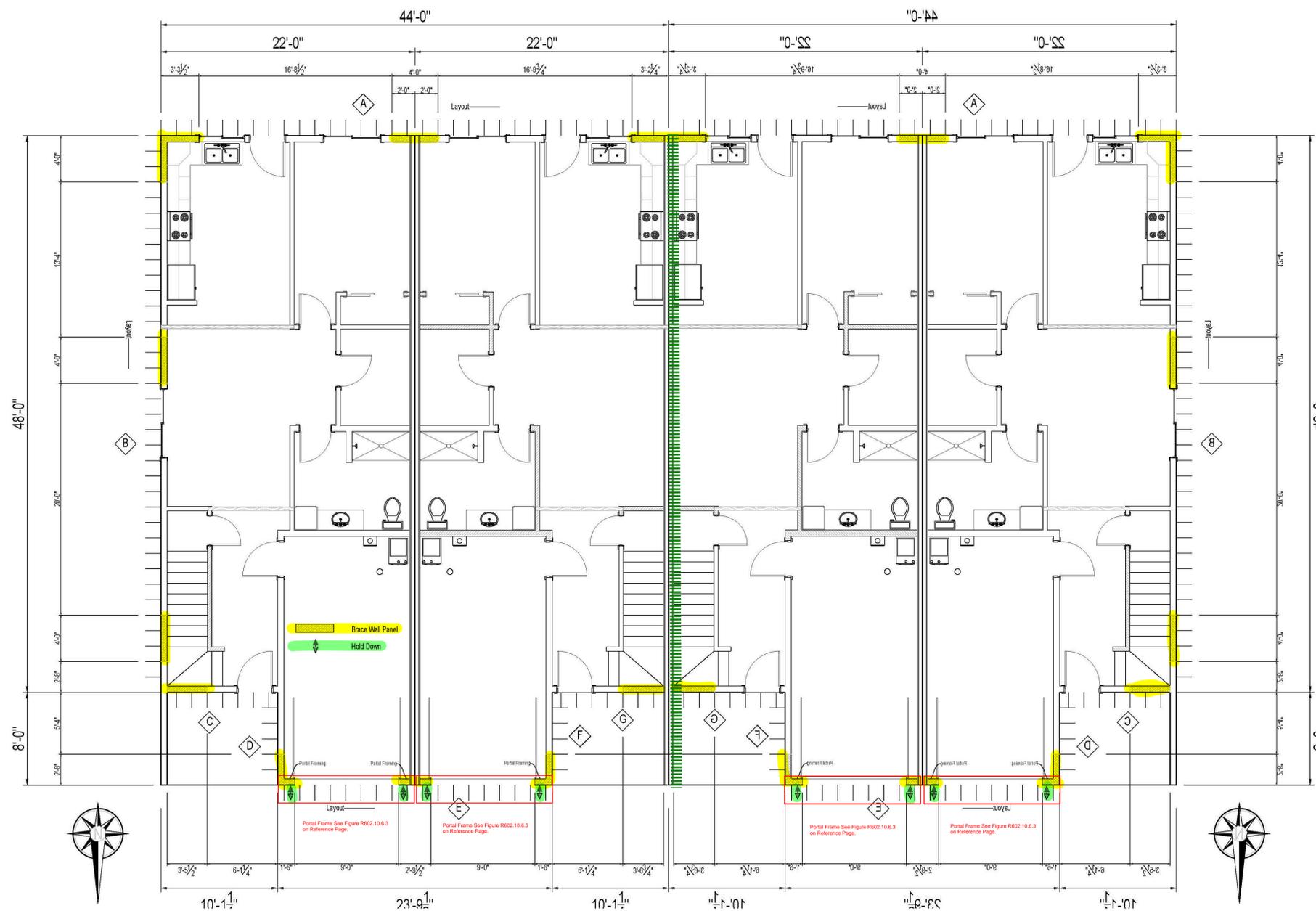
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Sheet Title:  
Brace Wall Plan

D3.2



Brace Wall Schedule													
Location	Method	Braced Wall Line	Bracing Story	Bracing Minimum	Total Required Bracing	Hold Down Factor	Brace Wall Line	Exposure Factor	Wall Ht. Factor	Ridge Hgt. Min. Bracing Required Per	Bracing Provided	Sheathing Type and Fastening Schedule	
A	CS-WSP	44	1st Story	32	6.5	1	1	1	0.95	1.3	8,825	10,375	7/16" OSB Sheathing Fastened 8d x 2-1/2" nwg shank, 6" on edges and 12" in field. Hot dipped at Pressure Treated areas
B	CS-WSP	48	1st Story	32	6.5	1	1	1	0.95	1.3	6,825	12	7/16" OSB Sheathing Fastened 8d x 2-1/2" nwg shank, 6" on edges and 12" in field. Hot dipped at Pressure Treated areas
C	CS-WSP	10.1	1st Story	32	3	1	1	1	0.95	1.3	3,15	3.48	7/16" OSB Sheathing Fastened 8d x 2-1/2" nwg shank, 6" on edges and 12" in field. Hot dipped at Pressure Treated areas
D	CS-WSP	8	1st Story	24	1.5	1	1	1	0.95	1.3	1,575	2.67	7/16" OSB Sheathing Fastened 8d x 2-1/2" nwg shank, 6" on edges and 12" in field. Hot dipped at Pressure Treated areas
E	CS-WSP	23.79	1st Story	32	4.5	1	1	1	0.95	1.3	4,725	5.79	7/16" OSB Sheathing Fastened 8d x 2-1/2" nwg shank, 6" on edges and 12" in field. Hot dipped at Pressure Treated areas
F	CS-WSP	8	1st Story	24	1.5	1	1	1	0.95	1.3	1,575	2.67	7/16" OSB Sheathing Fastened 8d x 2-1/2" nwg shank, 6" on edges and 12" in field. Hot dipped at Pressure Treated areas
G	CS-WSP	10.1	1st Story	32	3	1	1	1	0.95	1.3	3,15	3.56	7/16" OSB Sheathing Fastened 8d x 2-1/2" nwg shank, 6" on edges and 12" in field. Hot dipped at Pressure Treated areas
H	CS-WSP		1st Story								0		7/16" OSB Sheathing Fastened 8d x 2-1/2" nwg shank, 6" on edges and 12" in field. Hot dipped at Pressure Treated areas

CS-WSP Continuously sheathed wood structural panel	3/4"		Exterior sheathing per Table R602.3(3)	6" edges 12" field
PFC Portal frame at garage	1/4"		See Section R602.10.6.3	See Section R602.10.6.3
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

Required only on one side of wall.

Fastening Schedule per CRISC R602.3 (1), CRISC R602.10.4  
Bracing Method per CRISC R602.10.4  
Minimum Length of Braced Wall Panels CRISC R602.10.5  
Brace Wall Line Spacing per CRISC R602.10.3 (1) 105 wind speed, Exposure B  
Panel Joints CRISC R602.10.10

DEFERRED SUBMITTAL: Truss Engineering Documents are required to be submitted prior to inspection.

N1104.8.2.1 Top plate sealing. At all walls in contact with vented attics, the wall covering (gypsum board or other) shall be sealed to the top plate with caulk, sealant, gasket or other approved material. Seal all layers from sill to top plate.

\*Radon mitigation vent, terminating above roof is required for all new construction. See #150 of Plan Review Document.



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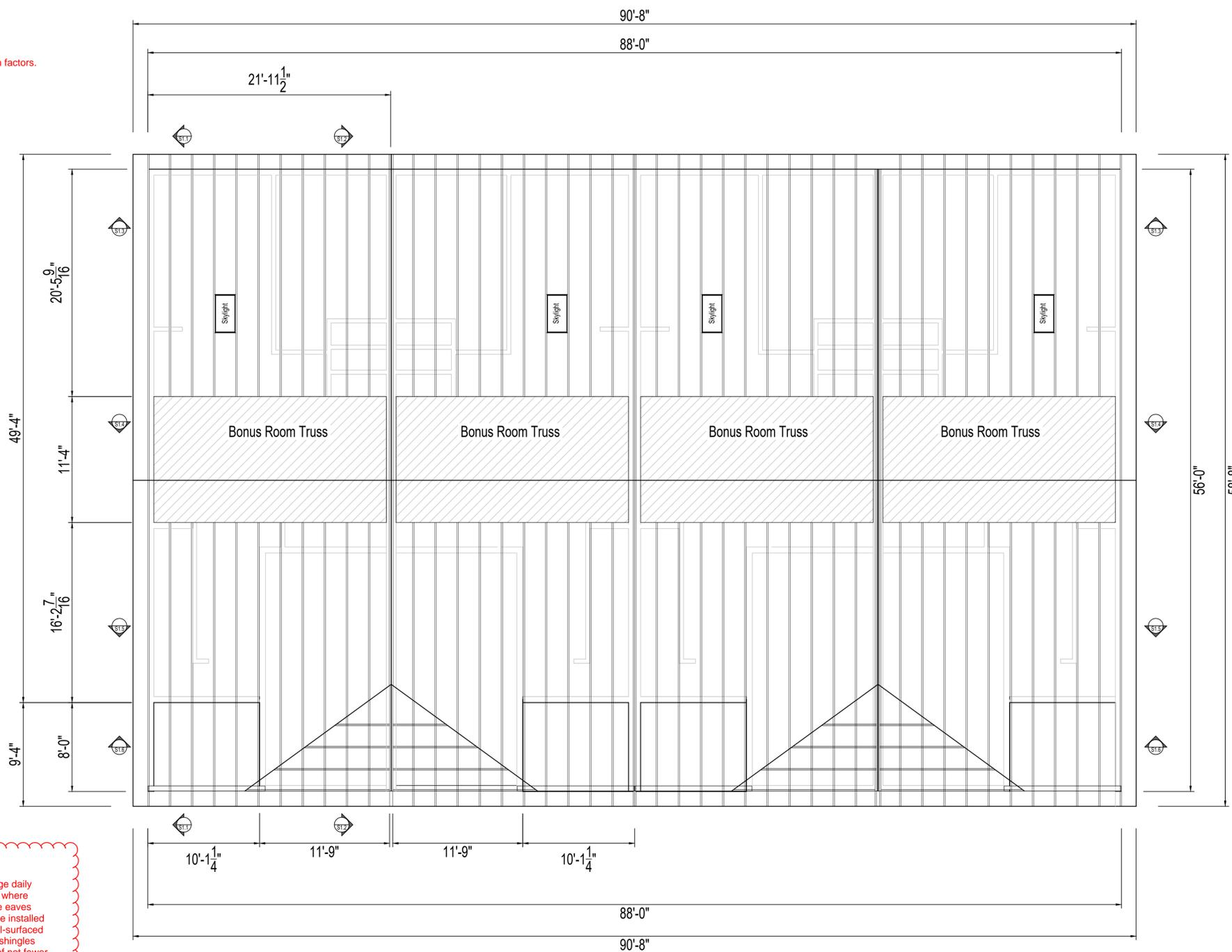
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Truss Plan

D6.1

\*See Table N1101.1(1) for required insulation factors.



R905.1.2 Ice barriers. In areas where the average daily temperature in January is 25°F (-4°C) or less or where there has been a history of ice forming along the eaves causing a backup of water, an ice barrier shall be installed for asphalt shingles, metal roof shingles, mineral-surfaced roll roofing, slate and slate-type shingles, wood shingles and wood shakes. The ice barrier shall consist of not fewer than two layers of underlayment cemented together, or a self-adhering polymer-modified bitumen sheet shall be used in place of normal underlayment and extend from the lowest edges of all roof surfaces to a point not less than 24 inches (610 mm) inside the exterior wall line of the building. On roofs with slope equal to or greater than 8 units vertical in 12 units horizontal (67-percent slope), the ice barrier shall also be applied not less than 36 inches (914 mm) measured along the roof slope from the eave edge of the building.

R806.2 Minimum vent area. The minimum net free ventilating area shall be 1/150 of the area of the vented space.



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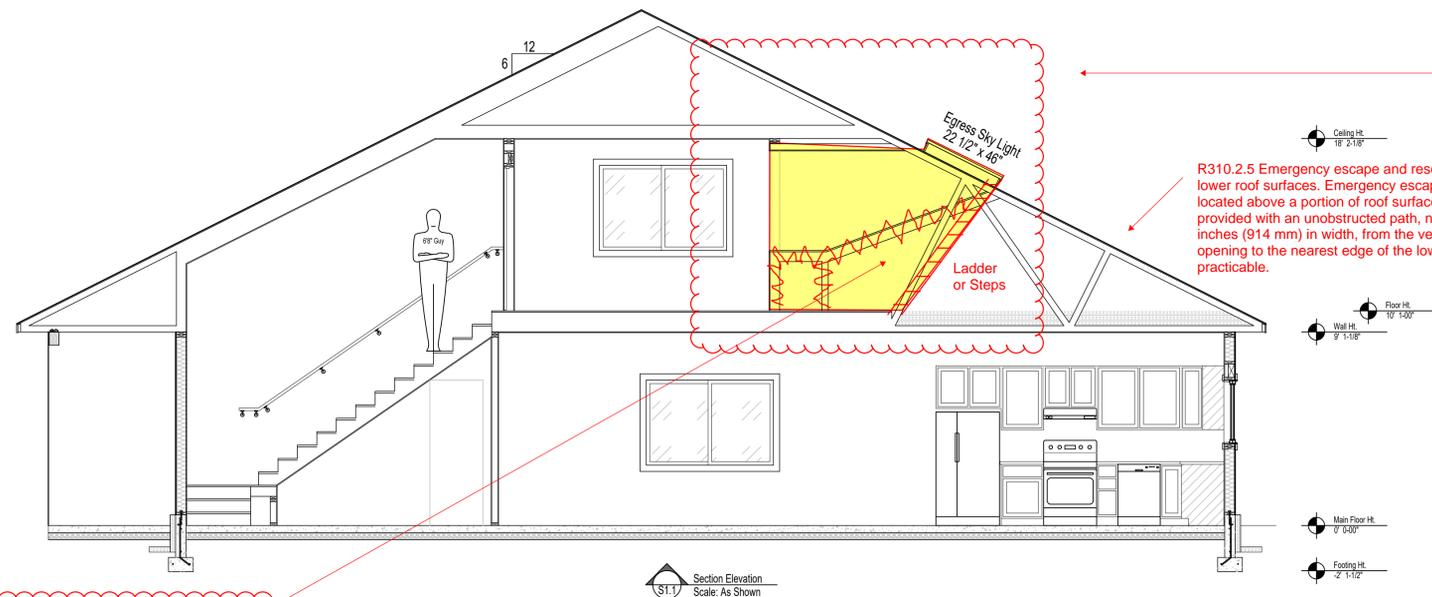
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Section Elevations

S1.1-2



R310.2.5 Emergency escape and rescue openings above lower roof surfaces. Emergency escape and rescue openings located above a portion of roof surface below shall be provided with an unobstructed path, not less than 36 inches (914 mm) in width, from the vertical plane of the opening to the nearest edge of the lower roof, as practicable.

R310.1 Emergency escape and rescue opening required. Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court having a minimum width of 36 inches (914 mm) that opens to a public way.

R310.1.1 Operational constraints and opening control devices. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening and shall be not more than 70 inches (178 cm) above the finished floor.

R310.2 Emergency escape and rescue openings. Emergency escape and rescue openings shall have minimum dimensions in accordance with Sections R310.2.1 through R310.2.5.

R310.2.1 Minimum size. Emergency escape and rescue openings shall have a net clear opening of not less than 5.7 square feet (0.530 m2).

R310.2.2 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

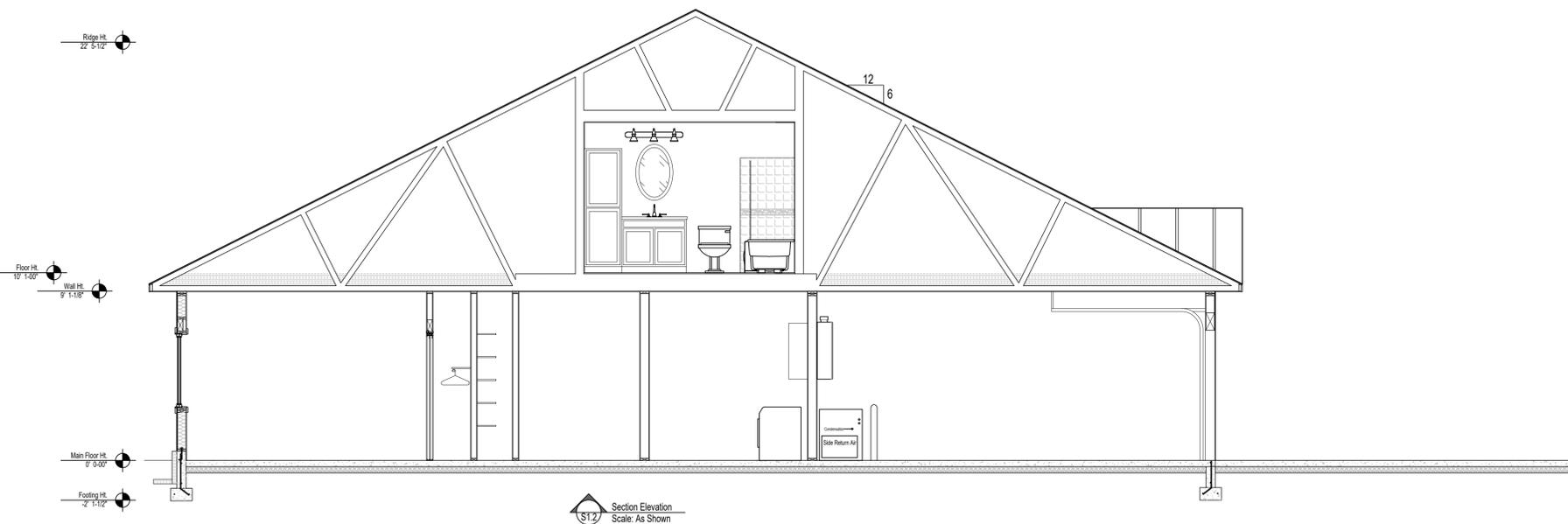
R310.2.3 Maximum height from floor. Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (1118 mm) above the finished floor.

Alternative Method Approved by Building Official: Use Area well code to meet emergency escape opening requirements.

R310.4 Area wells. An emergency escape and rescue opening where the bottom of the clear opening is below the adjacent grade shall be provided with an area well in accordance with Sections R310.4.1 through R310.4.4.

R310.4.1 Minimum size. The horizontal area of the area well shall be not less than 9 square feet (0.9 m2), with a horizontal projection and width of not less than 36 inches (914 mm). The size of the area well shall allow the emergency escape and rescue opening to be fully opened. Exception: The ladder or steps required by Section R310.4.2 shall be permitted to encroach not more than 6 inches (152 mm) into the required dimensions of the area well.

R310.4.2 Ladder and steps. Area wells with a vertical depth greater than 44 inches (1118 mm) shall be equipped with an approved, permanently affixed ladder or steps. The ladder or steps shall not be obstructed by the emergency escape and rescue opening where the window or door is in the open position. Ladders or steps required by this section shall not be required to comply with Section R311.7.  
R310.4.2.1 Ladders. Ladders and rungs shall have an inside width of not less than 12 inches (305 mm), shall project not less than 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center vertically for the full height of the area well.  
R310.4.2.2 Steps. Steps shall have an inside width of not less than 12 inches (305 mm), a minimum tread depth of 5 inches (127 mm) and a maximum riser height of 18 inches (457 mm) for the full height of the area well.





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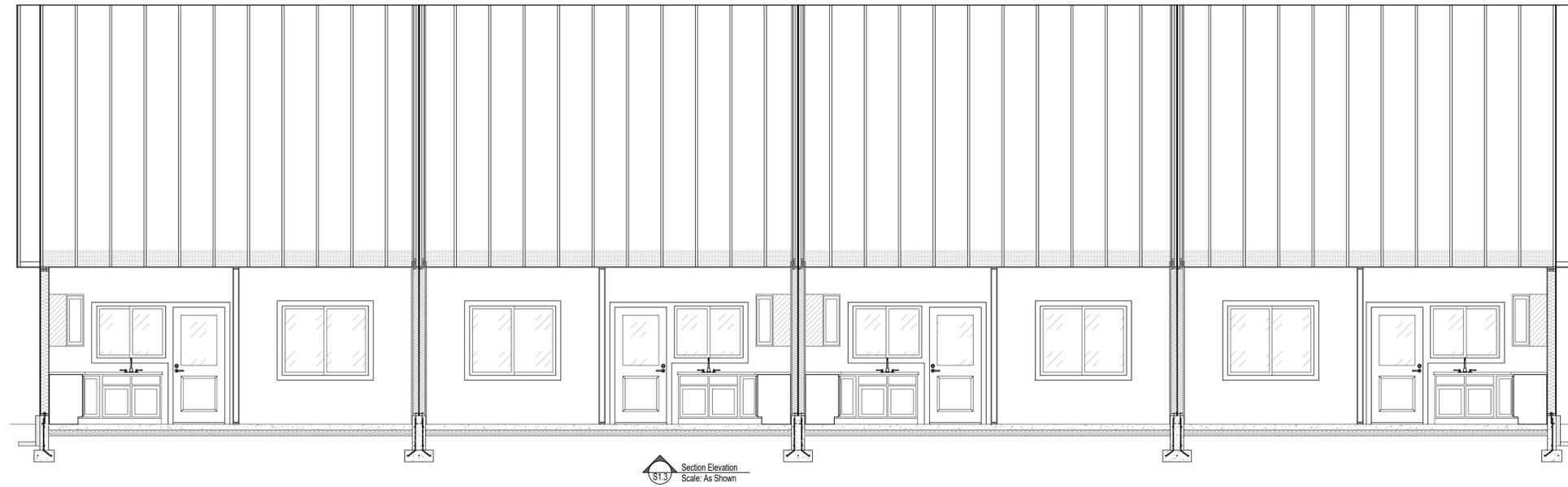
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Section Elevations

S1.3-4



S1.3 Section Elevation  
Scale: As Shown



S1.4 Section Elevation  
Scale: As Shown



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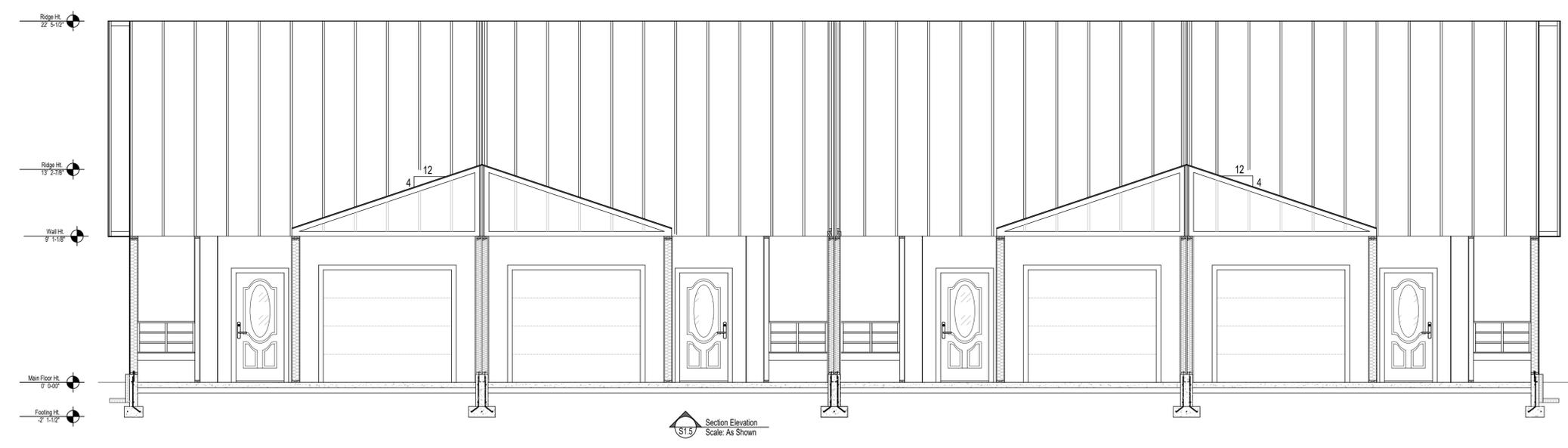
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Section Elevations

S1.5





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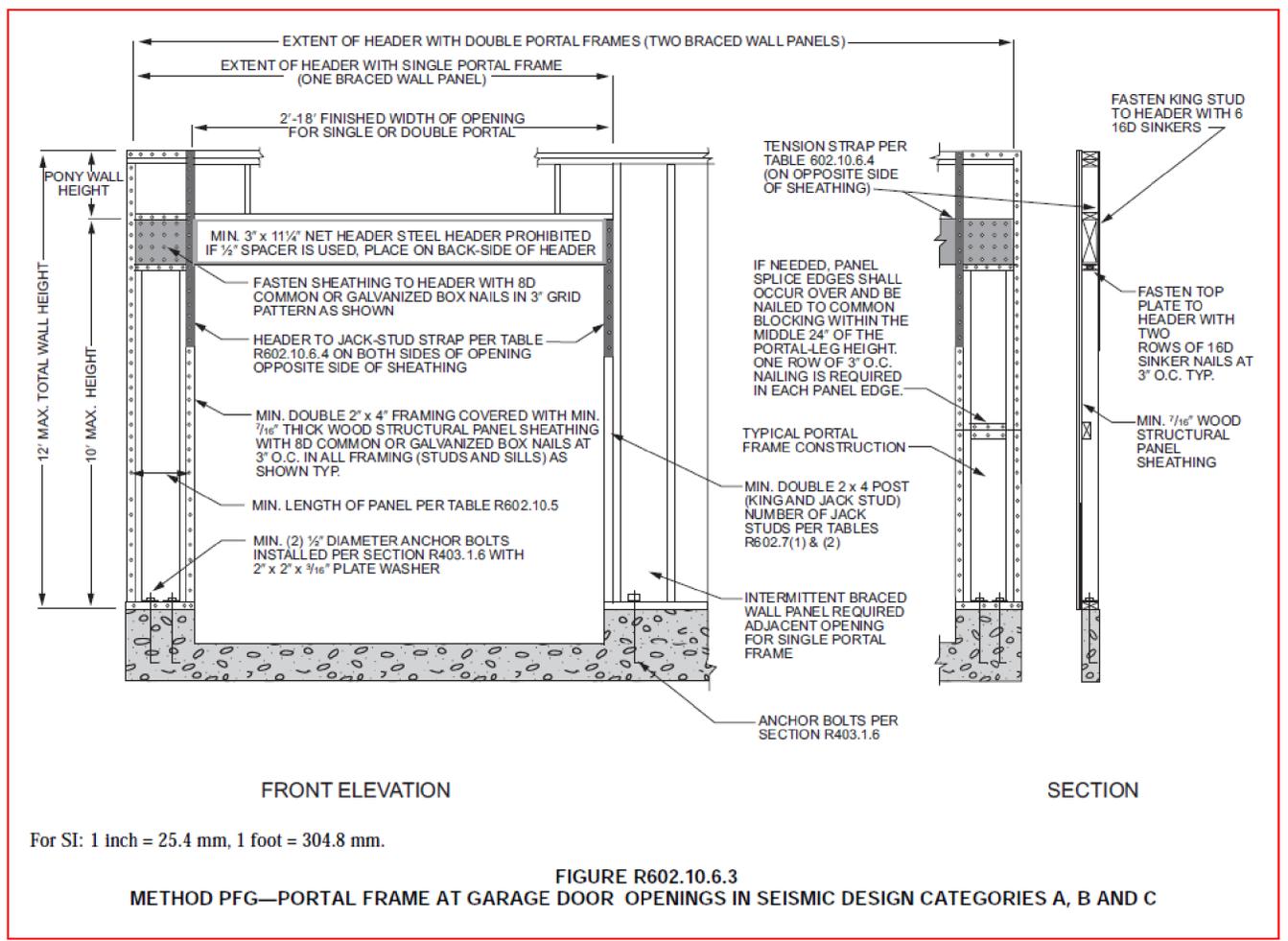
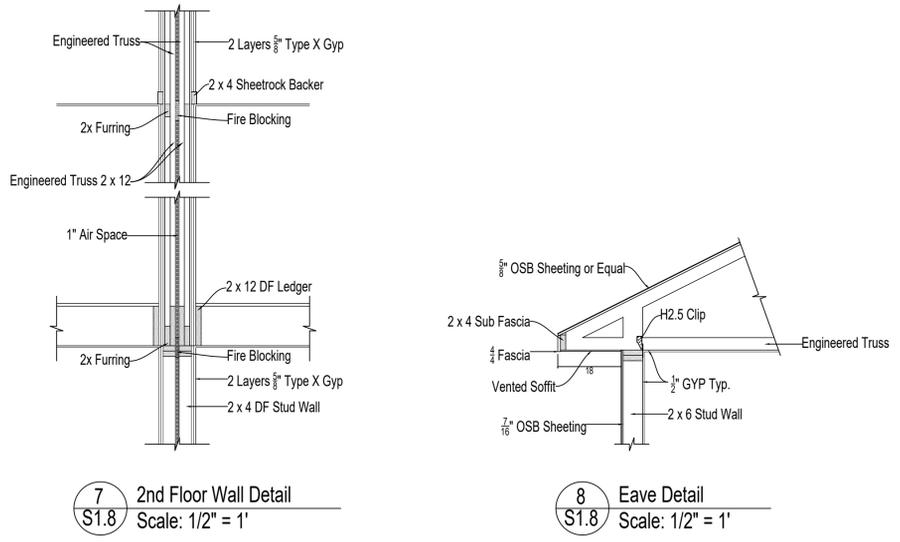
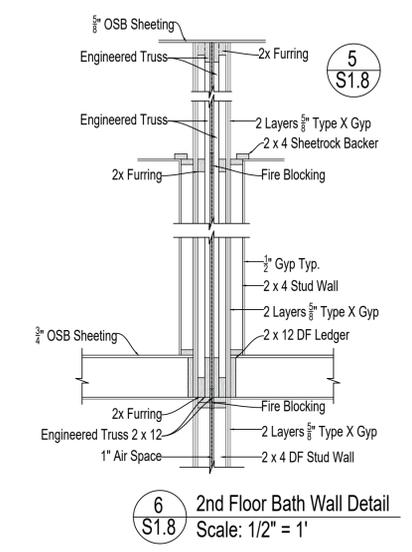
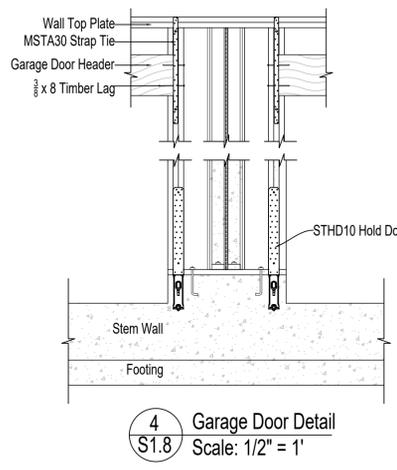
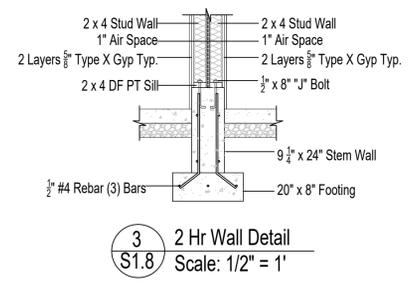
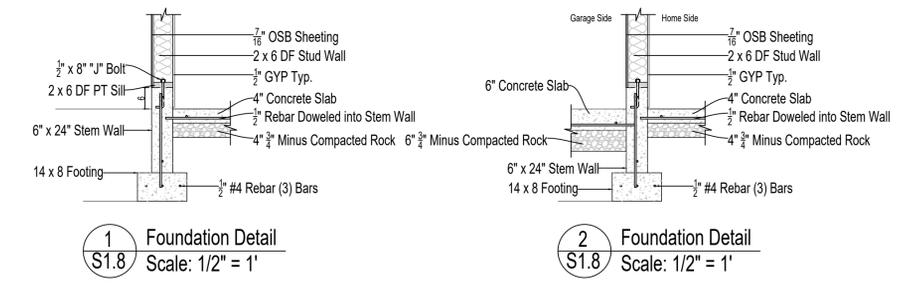
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Drawn By: RD  
Scale: 1/2" = 1'

Sheet Title:  
Detail Drawings

S1.8

\*See foundation plan page for comments.



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

FIGURE R602.10.6.3  
METHOD PFG—PORTAL FRAME AT GARAGE DOOR OPENINGS IN SEISMIC DESIGN CATEGORIES A, B AND C

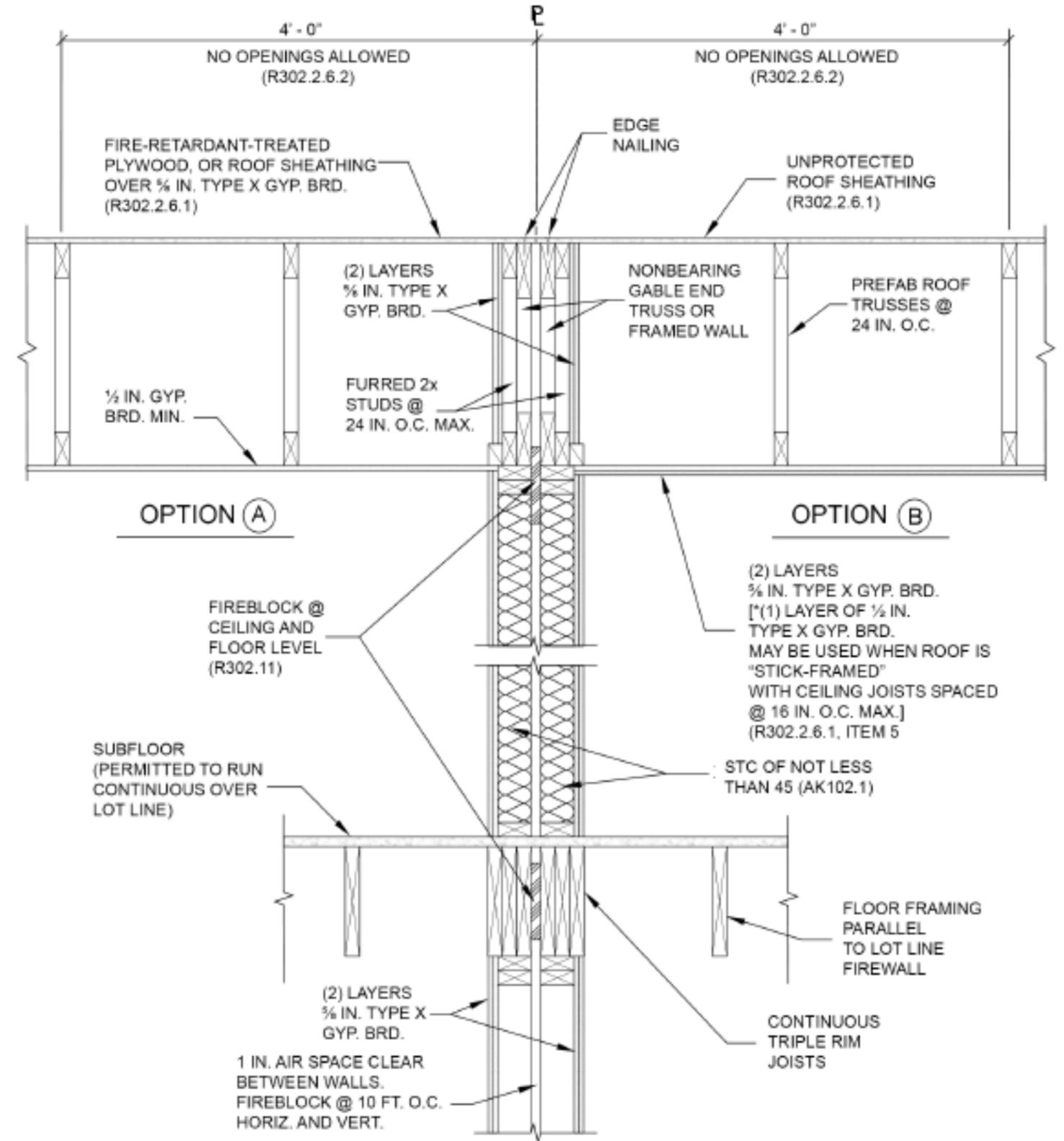
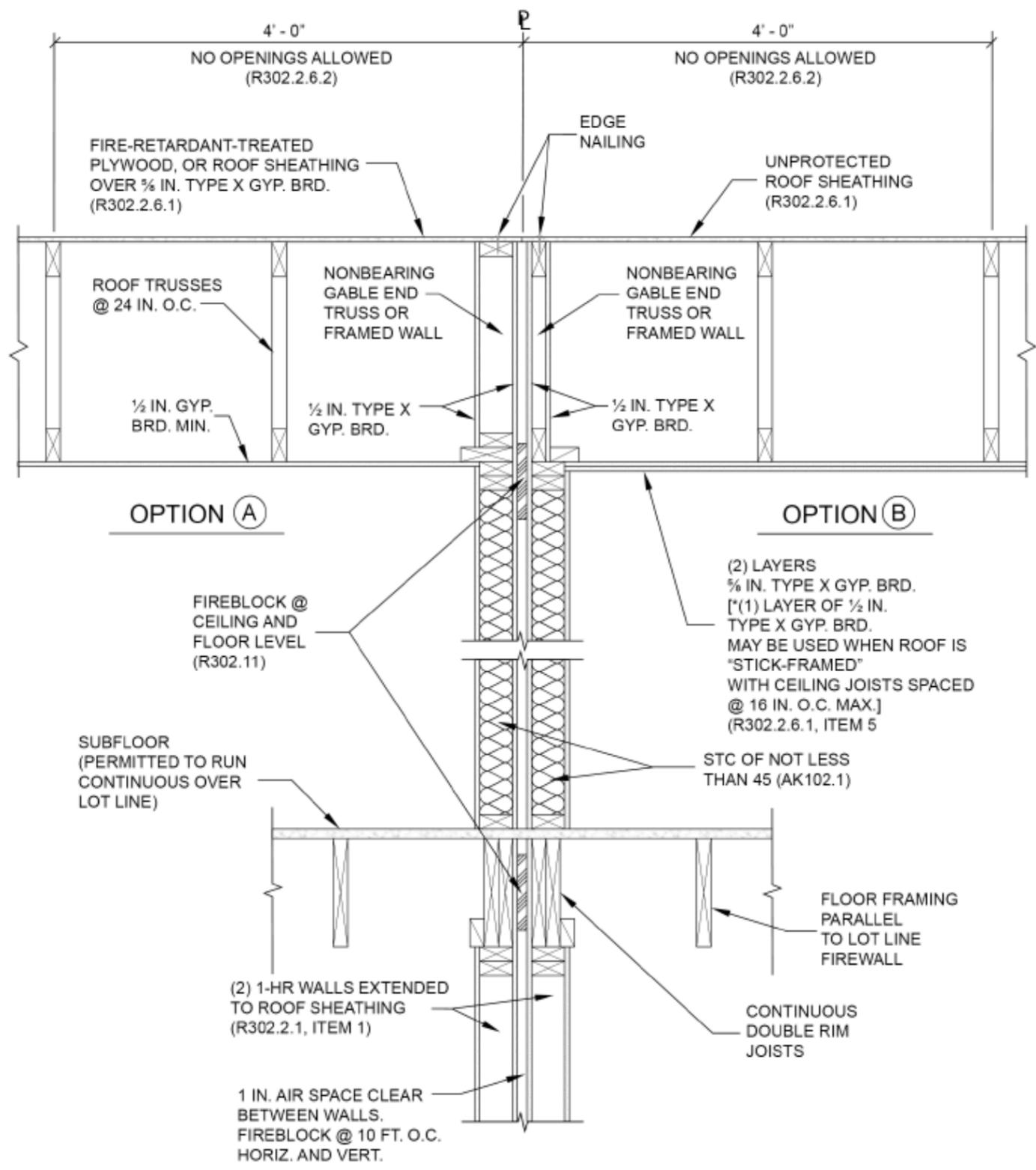


FIGURE R302.2.1(2)  
TWO 1-HOUR FIREWALLS PARALLEL TO COMMON LOT LINE<sup>a</sup>

FIGURE R302.2.1(4)  
"MODIFIED" 2-HOUR FIREWALL PARALLEL TO COMMON LOT LINE<sup>a</sup>

For SI: 1 inch = 25.4 mm.  
a. Where not otherwise indicated, wall assembly details shall be in accordance with ASTM E119, UL 263 or Section 703 of the *Building Code*.

For SI: 1 inch = 25.4 mm.  
a. Where not otherwise indicated, wall assembly details shall be in accordance with ASTM E119, UL 263 or Section 703 of the *Building Code*.

TABLE R302.6  
DWELLING-GARAGE SEPARATION

SEPARATION	MATERIAL
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From habitable rooms above the garage	Not less than 5/8-inch Type X gypsum board or equivalent
Walls and other structural elements supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

R307.1 Space required. Fixtures shall be spaced in accordance with Figure R307.1, and in accordance with the requirements of the *Plumbing Code*.

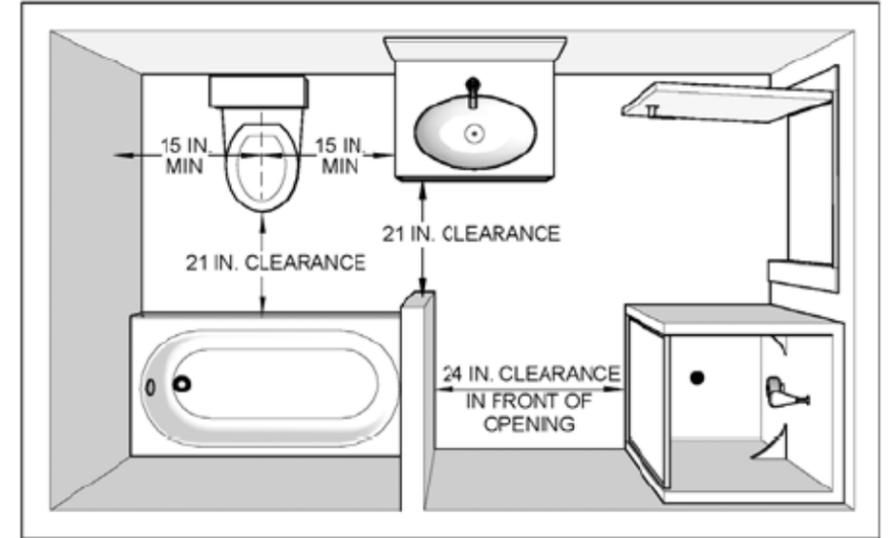
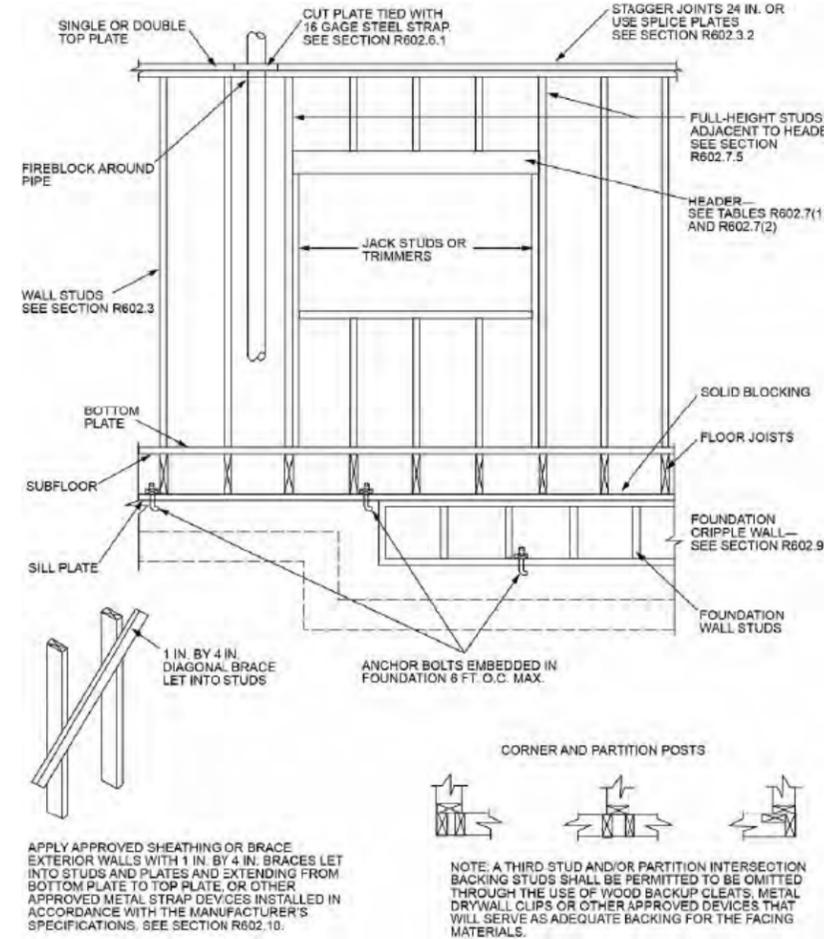


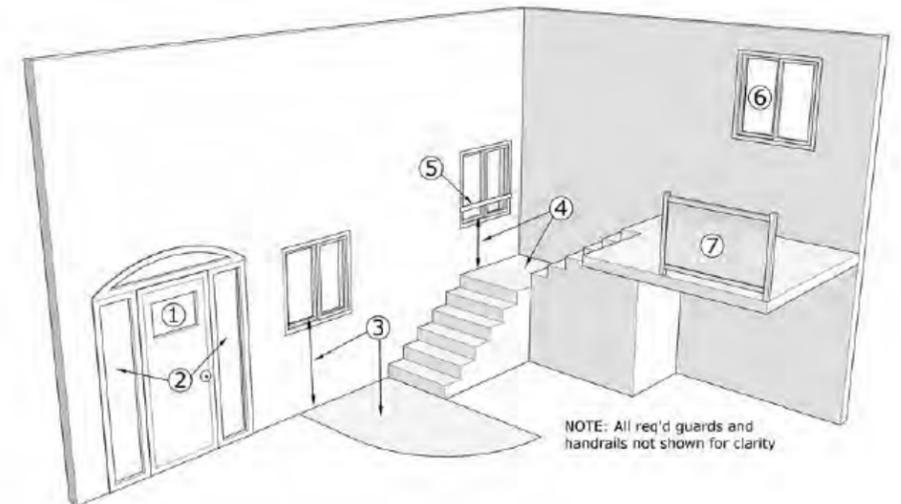
TABLE R602.7(1)  
GIRDER SPANS<sup>a</sup> AND HEADER SPANS<sup>a</sup> FOR EXTERIOR BEARING WALLS

GIRDERS AND HEADERS SUPPORTING	SIZE	Snow Load					
		30					
		Building Width (Feet)					
		12		24		36	
		Span <sup>f</sup>	NJ <sup>d</sup>	Span <sup>f</sup>	NJ <sup>d</sup>	Span <sup>f</sup>	NJ <sup>d</sup>
Roof and ceiling	1-2 x 6	4-0	1	3-1	2	2-7	2
	1-2 x 8	5-1	2	3-11	2	3-3	2
	1-2 x 10	6-0	2	4-8	2	3-11	2
	1-2 x 12	7-1	2	5-5	2	4-7	3
	2-2 x 4	4-0	1	3-1	1	2-7	1
	2-2 x 6	6-0	1	4-7	1	3-10	1
	2-2 x 8	7-7	1	5-9	1	4-10	2
	2-2 x 10	9-0	1	6-10	2	5-9	2
	2-2 x 12	10-7	2	8-1	2	6-10	2
	3-2 x 8	9-5	1	7-3	1	6-1	1
3-2 x 10	11-3	1	8-7	1	7-3	2	
3-2 x 12	13-2	1	10-1	2	8-6	2	
4-2 x 8	10-11	1	8-4	1	7-0	1	
4-2 x 10	12-11	1	9-11	1	8-4	1	
4-2 x 12	15-3	1	11-8	1	9-10	2	



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

FIGURE R602.3(2)  
FRAMING DETAILS



For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m<sup>2</sup>.

Notes:

1. Glazing in fixed and operable panels of swinging, sliding and bifold doors shall be considered to be a hazardous location. (R308.4.1)
2. Glazing in an individual fixed or operable panel adjacent to a door shall be considered to be a hazardous location where the bottom exposed edge of the glazing is less than 60 inches above the floor or walking surface and where the glazing is within 24 inches of either side of the door in the plane of the door in a closed position. (R308.4.2)
3. Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within a 60-inch horizontal arc less than 180 degrees from the bottom tread nosing shall be considered to be a hazardous location. (R308.4.7)
4. Glazing where the bottom exposed edge of the glazing is less than 36 inches above the plane of the adjacent walking surface of stairways, landings between flights of stairs and ramps shall be considered to be a hazardous location. (R308.4.6)
5. Where a rail is installed on the accessible side(s) of the glazing 34 to 38 inches above the walking surface, safety glazing is not required. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot without contacting the glass and have a cross-sectional height of not less than 1 1/2 inches. (R308.4.6, Exception 1)
6. Glazing in an individual fixed or operable panel that meets all of the following conditions shall be considered to be a hazardous location:
  - a. The exposed area of an individual pane is larger than 9 square feet.
  - b. The bottom edge of the glazing is less than 18 inches above the floor.
  - c. The top edge of the glazing is more than 36 inches above the floor.
  - d. One or more walking surfaces are within 36 inches, measured horizontally and in a straight line, of the glazing. (R308.4.3) (ORSC R308.4.6, Exception 1 as noted in item 5 also applies to this condition)
7. Glazing in guards and railings, including structural baluster panels and nonstructural in-fill panels, regardless of area or height above a walking surface, shall be considered to be a hazardous location. (R308.4.4)

FIGURE R308.4.7  
HAZARDOUS GLAZING LOCATIONS AT BOTTOM STAIR LANDINGS

## One and Two Family Residential Dwellings

### Information related to permit and inspection requirements

This brochure describes the code requirements for new residential stairs. Each situation has unique conditions, so please call or visit the Development Services Center with any questions.

Project	Requirement
Existing stairway that leads to existing finished living space that was created with a building permit (Verify prior permits at the Development Services Center)	Is grandfathered in – no changes are required
Existing stairway that leads to existing unfinished space (basement, attic or garage) that you plan to convert to living space	May be allowed to remain without changes if it meets the alternative requirements in our brochure <i>Converting Attics, Basements or Garages to Living Space</i>
Build a new stairway	Building permit and inspections to current Code

### Stair width

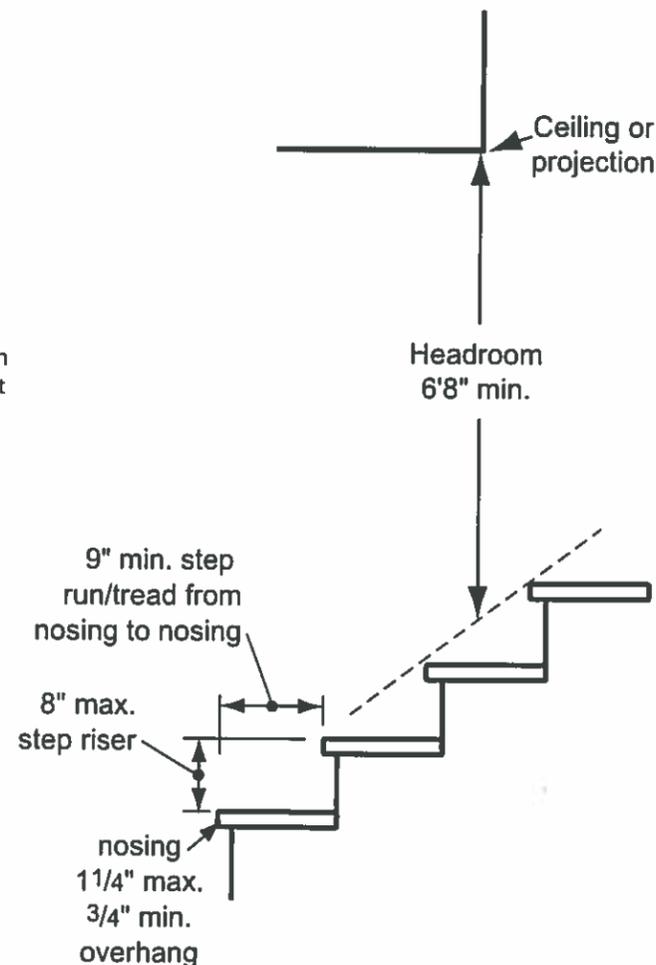
- New stairways must be at least 36 inches wide from wall to wall above the handrail (except spiral stairs which must be at least 26 inches wide from center post to outside edge of tread).

### Risers and treads

- If you are building a new standard residential stairway (not a spiral), each step (or riser) can't be more than 8 inches high.
- Treads are the flat surfaces that you step onto. For new stairs, the treads have to be a minimum of 9 inches deep from front to back (not counting the part underneath the nosing of the tread above). The exposed edge of the tread is called the nosing, and the nosing must stick out at least 3/4 inches, but not more than 1 1/4 inches.
- The steps in a flight of stairs have to be even so that people don't trip. The code allows only 3/8 inch difference between the largest and the smallest rise, and only 3/8 inch difference between the largest and smallest tread measured from front to back.

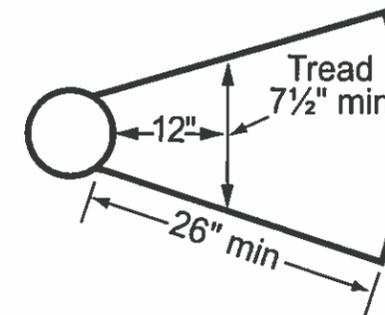
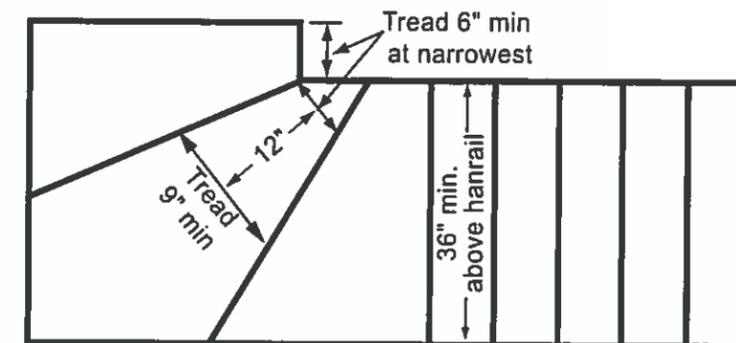
### Headroom

- Headroom is the distance, measured vertically (plumb, straight up and down), between the ceiling or any projection from the ceiling, such as a beam, and a sloped line formed by placing a straight-edge along the nose of the stair treads.
- New stairs must have headroom of at least 6 feet 8 inches (except spiral stairs which may have headroom of 6 feet 6 inches).



### Winder stairs

- Stairways that turn a corner, with treads that are narrow on one end and wider at the other, are called winder stairs. You may build winder stairs, but the treads must be at least 6 inches deep at their narrowest point. Also, all of your treads must be at least nine inches wide, measured 12 inches from where they are the narrowest.
- Although the tread size varies on winder stairs, there still may not be more than 3/8 inch variation between the largest and smallest rise.

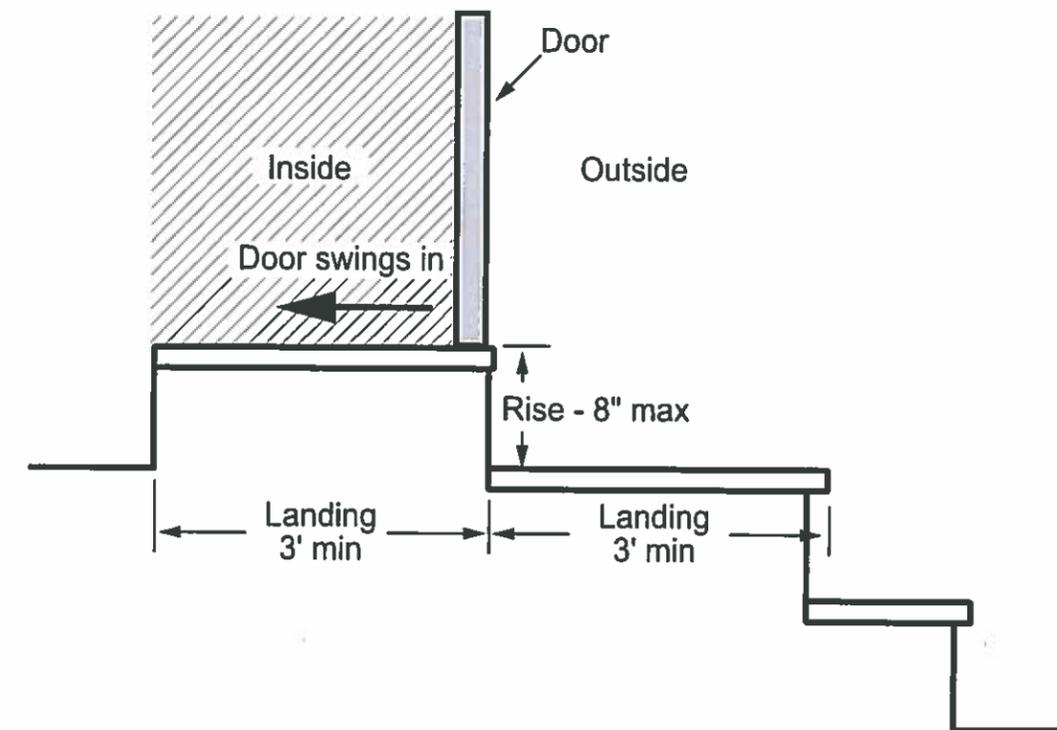


### Spiral stairs

- Spiral stairway treads must be at least 7 1/2 inches deep measured 12 inches out from where they are the narrowest. The risers can't be more than nine and one half inches high.
- The minimum width of a spiral stairway from the center pole to the outside edge of the tread is 26 inches.
- Each spiral stair tread must be identical.

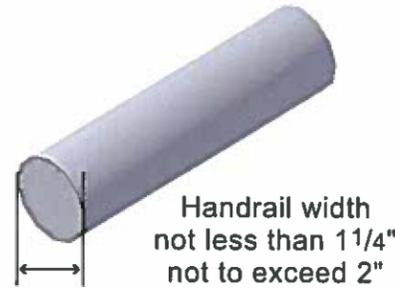
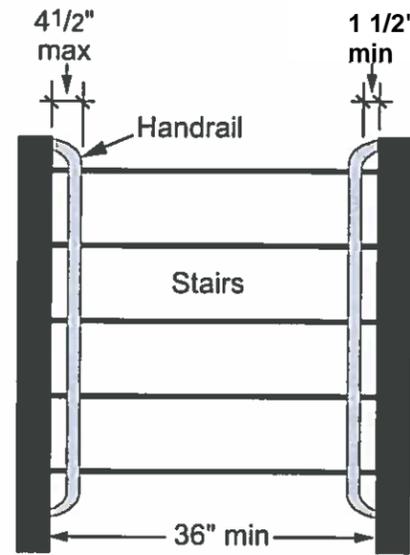
### Landings

- Any exterior entry/exit door must have a landing at least 3' x 3' inside the door before there can be a step. The interior landing must not be more than 1 1/2 inches lower than the top of the threshold. On the outside of the door, the step down may be eight inches before you need another 3' x 3' minimum landing, providing the door does not swing over the stairs. After the landing there may be additional steps.



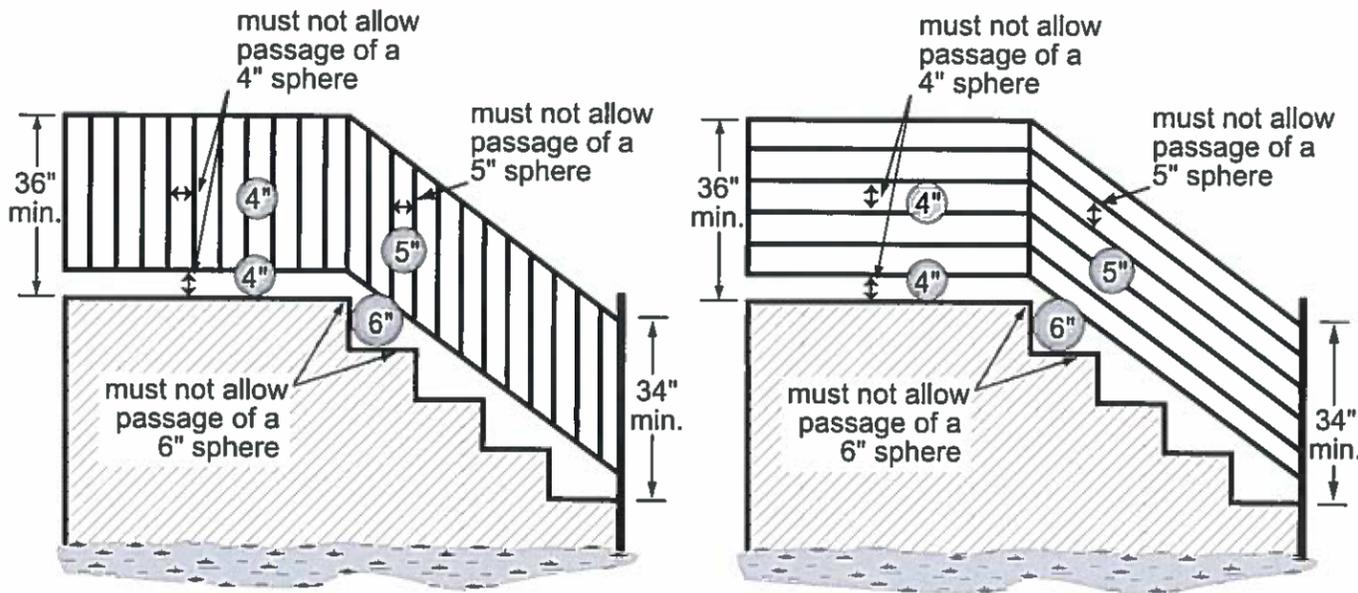
### Handrails

- Stairways must have a handrail if the stairway has more than three risers.
- Handrails may project over stairs by 4 1/2 inches maximum on each side of the stairway.
- Handrails must be continuous for the full length of the stairs. They must turn back into the wall or butt into a post so that purse straps and clothing won't get caught behind them and cause a fall.
- Handrails attached to the wall must have a space between the wall and the rail of at least 1 1/2 inches to provide a grippable surface.
- Handrails on the open side of a stairway must meet guardrail requirements.
- The height of handrails is measured straight up from the nosing of the treads to the top of the handrail. A handrail along a wall must be between 30 inches and 38 inches high.
- A round handrail must have a diameter no smaller than 1 1/4 inches and no larger than 2 inches, so that it can be easily and securely gripped. Other handrail shapes are allowed, if the perimeter dimension is at least 4 inches and not more than 6 1/4 inches, with a cross section dimension not more than 2 1/4 inches.



### Guardrails

- A guardrail is required to prevent someone falling from a balcony, deck, landing, etc. that is more than 30 inches above the floor or ground below. Guardrails must be at least 36 inches high, except that they may be 34 inches (measured straight up from the nosings) at the open sides of stairways.
- Guardrails on stairs must have some kind of a pattern, so that a 5 inch sphere can't pass through. However, all guardrails along raised floors, landings, porches, decks and balconies must have intermediate rails or ornamental closures that do not allow passage of a 4 inch sphere.
- At the bottom edge of a guardrail along a series of steps, the space between the tread, riser and the guardrail must be small enough to prevent a 6 inch sphere from getting through.



Guardrail with vertical pattern

Guardrail with horizontal pattern

**R307.1 Space required.** Fixtures shall be spaced in accordance with Figure R307.1, and in accordance with the requirements of the *Plumbing Code*.

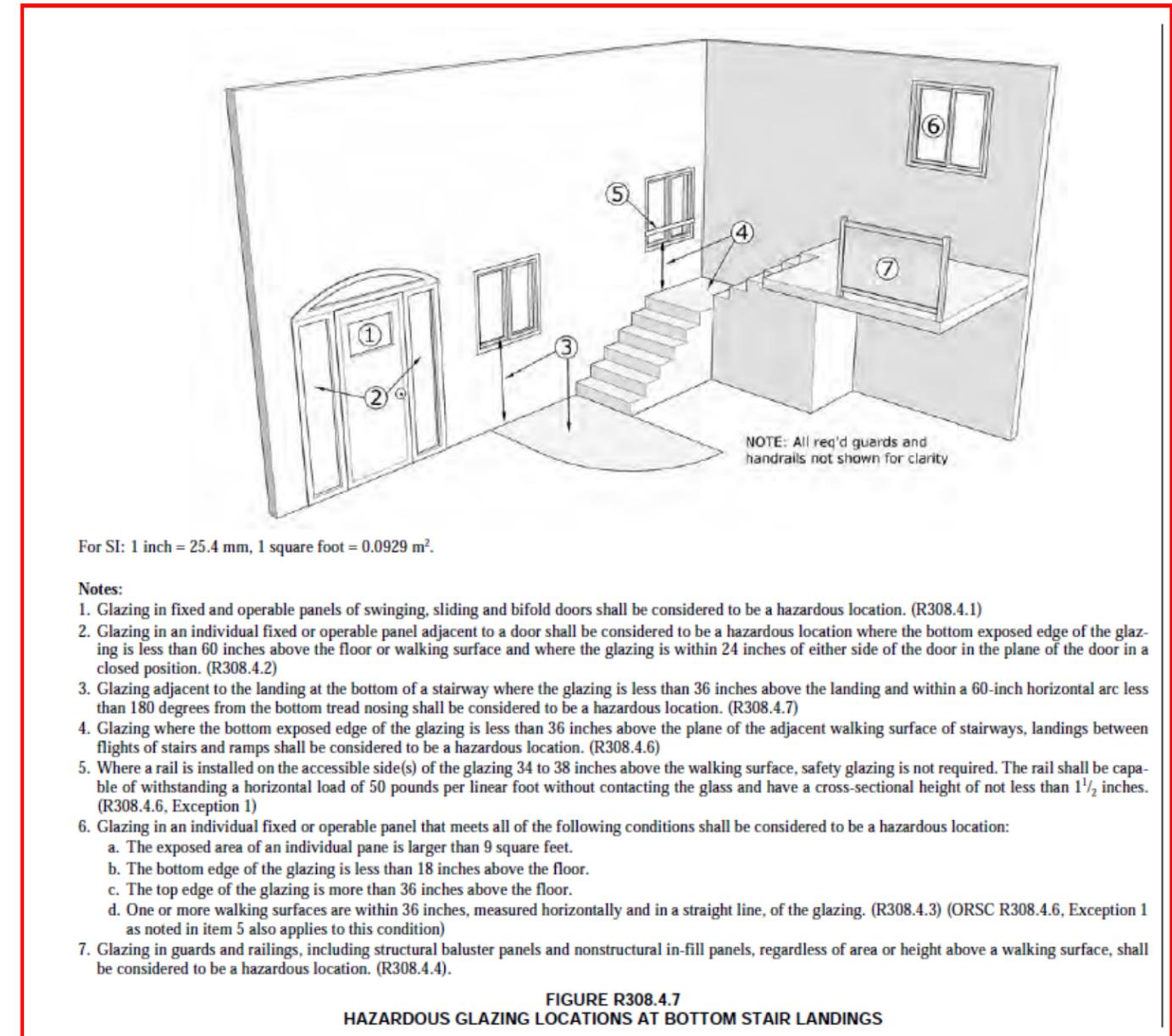
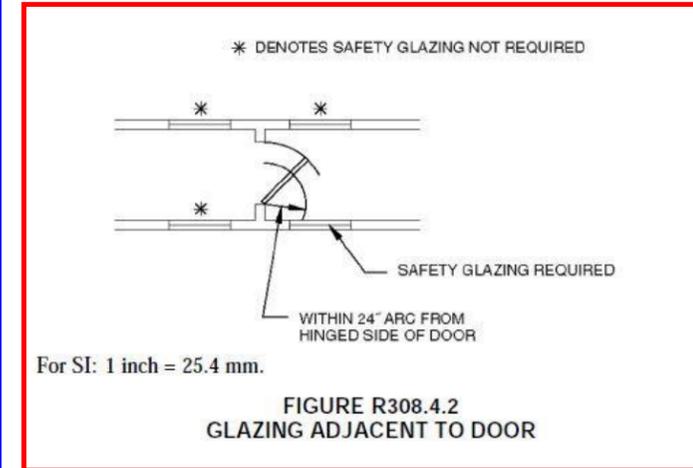
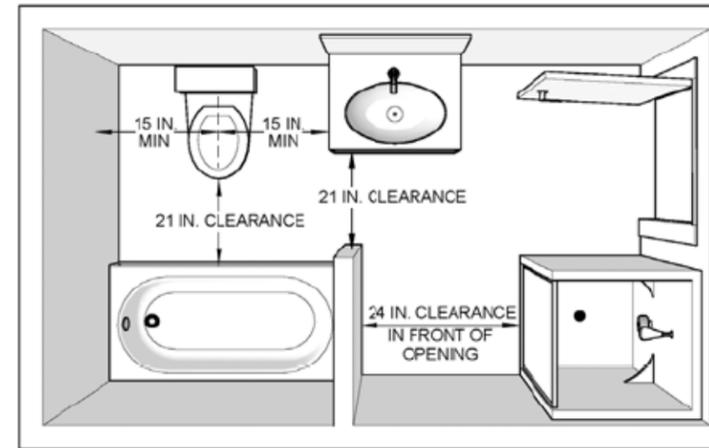


FIGURE R308.4.7 HAZARDOUS GLAZING LOCATIONS AT BOTTOM STAIR LANDINGS

**TABLE N1101.1(1)  
PRESCRIPTIVE ENVELOPE REQUIREMENTS<sup>a</sup>**

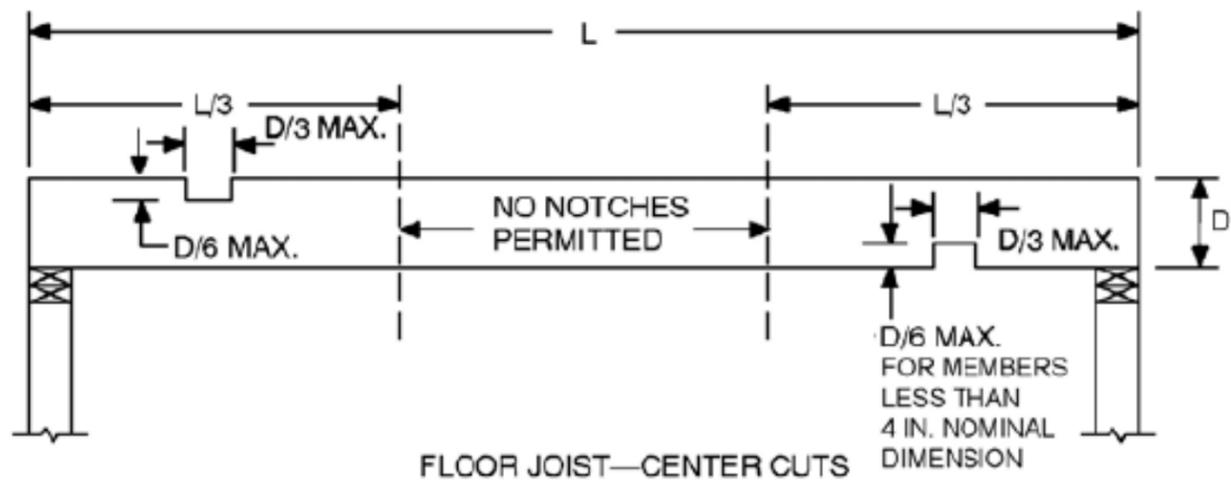
**REFERENCE**

BUILDING COMPONENT	STANDARD BASE CASE		LOG HOMES ONLY	
	Required Performance	Equivalent Value <sup>b</sup>	Required Performance	Equivalent Value <sup>b</sup>
Wall insulation—above grade	U-0.059 <sup>c</sup>	R-21 Intermediate <sup>c</sup>	Note d	Note d
Wall insulation—below grade <sup>e</sup>	C-0.063	R-15 c.i. / R-21	C-0.063	R-15/R-21
Flat ceilings <sup>f</sup>	U-0.021	R-49	U-0.020	R-49A <sup>h</sup>
Vaulted ceilings <sup>g</sup>	U-0.033	R-30 Rafter or R-30A <sup>g, h</sup> Scissor Truss	U-0.027	R-38A <sup>h</sup>
Underfloors	U-0.033	R-30	U-0.033	R-30
Slab-edge perimeter <sup>l</sup>	F-0.520	R-15	F-0.520	R-15
Heated slab interior <sup>i</sup>	N/A	R-10	N/A	R-10
Windows <sup>j</sup>	U-0.27	U-0.27	U-0.27	U-0.27
Skylights	U-0.50	U-0.50	U-0.50	U-0.50
Exterior doors <sup>k</sup>	U-0.20	U-0.20	U-0.54	U-0.54

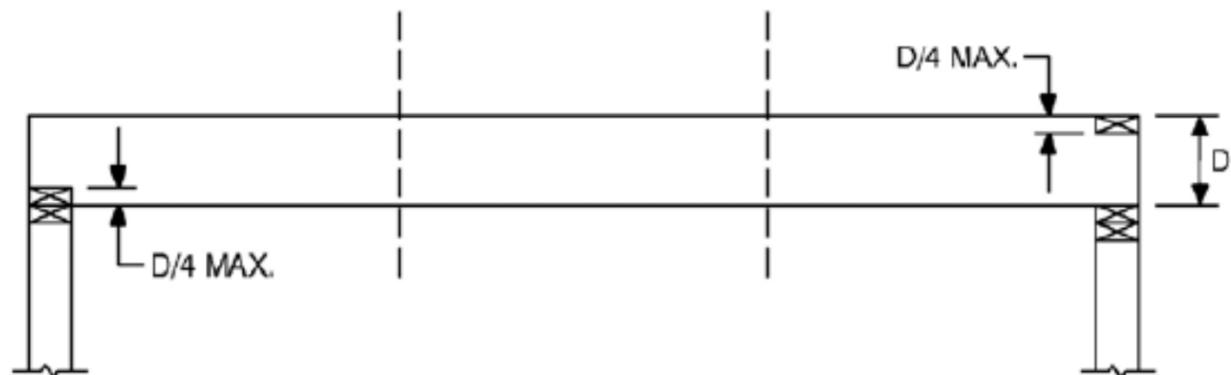
For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m<sup>2</sup>, 1 degree = 0.0175 rad,

N/A = Not Applicable.

- As allowed in Section N1104.1, thermal performance of a component may be adjusted, provided that overall heat loss does not exceed the total resulting from conformance to the required *U*-factor standards. Calculations to document equivalent heat loss shall be performed using the procedure and approved *U*-factors contained in Table N1104.1(1).
- R*-values used in this table are nominal for the insulation only in standard wood-framed construction and not for the entire assembly.
- Wall insulation requirements apply to all exterior wood-framed, concrete or masonry walls that are above grade. This includes cripple walls and rim joist areas. Nominal compliance with R-21 insulation and Intermediate Framing (Section N1104.5.2) with insulated headers.
- The wall component shall be a minimum solid log or timber wall thickness of 3½ inches.
- Below-grade wood, concrete or masonry walls include all walls that are below grade and do not include those portions of such wall that extend more than 24 inches above grade. R-21 for insulation in framed cavity; R-15 continuous insulation.
- Insulation levels for ceilings that have limited attic/rafter depth such as dormers, bay windows or similar architectural features totaling not more than 150 square feet in area may be reduced to not less than R-21. Where reduced, the cavity shall be filled (except for required ventilation spaces). R-49 insulation installed to minimum 6-inch depth at top plate at exterior of structure to achieve *U*-factor.
- Vaulted ceiling surface area exceeding 50 percent of the total heated space floor area shall have a *U*-factor not greater than U-0.026 (equivalent to R-38 rafter or scissor truss with R-38 advanced framing).
- A = Advanced frame construction. See Section N1104.6.
- Heated slab interior applies to concrete slab floors (both on and below grade) that incorporate a radiant heating system within the slab. Insulation shall be installed underneath the entire slab in addition to perimeter insulation.
- Glass doors shall comply with window performance requirements. Windows exempt from testing in accordance with Section N1104.4 shall comply with window performance requirements if constructed with aluminum with thermal break, wood, vinyl, reinforced vinyl aluminum-clad wood, or insulated fiberglass frames, and double-pane glazing with low-emissivity coatings of 0.10 or less. Buildings designed to incorporate passive solar elements may include glazing with a *U*-factor greater than 0.35 by using Table N1104.1(1) to demonstrate equivalence to building envelope requirements.
- A maximum of 28 square feet of exterior door area per dwelling unit can have a *U*-factor of 0.54 or less.
- Minimum 24-inch horizontal or vertical below grade. The minimum total distance of 24 inches may be a combination of the horizontal and vertical planes. If a horizontal plane is used on the exterior of the slab, it must be a minimum of 12 inches below finished grade.



FLOOR JOIST—CENTER CUTS



FLOOR JOIST—END CUTS

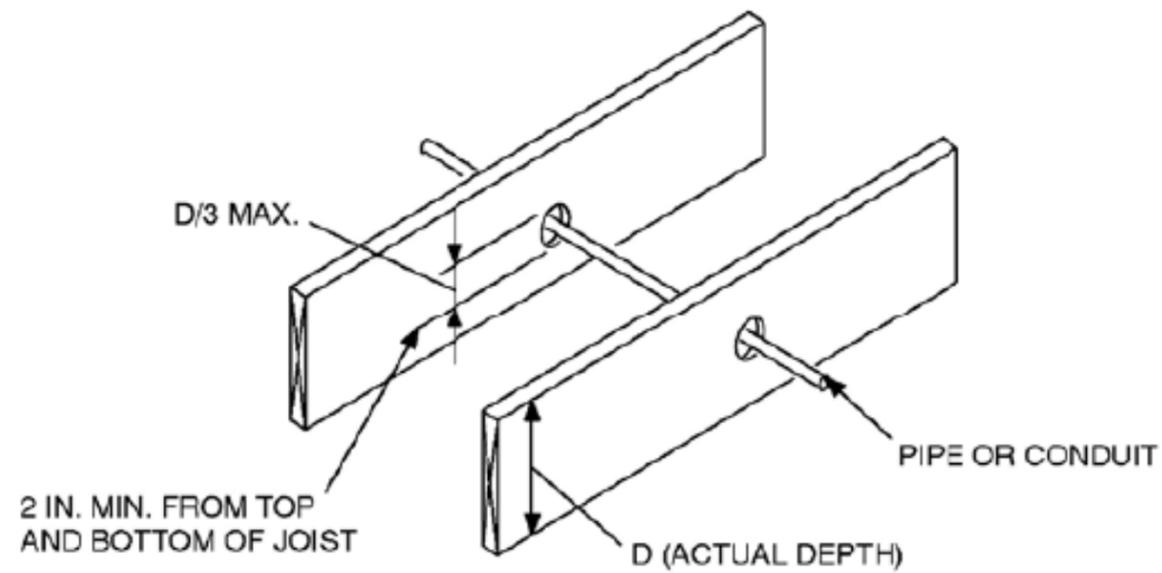
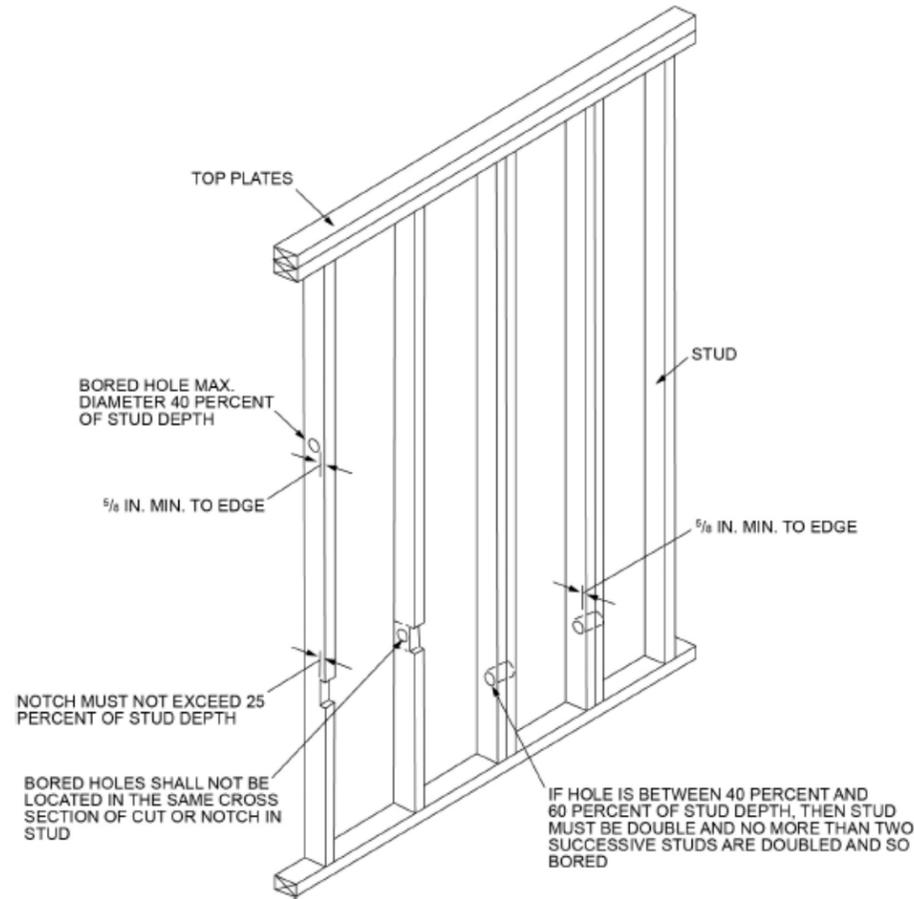


FIGURE R502.8  
CUTTING, NOTCHING AND DRILLING



For SI: 1 inch = 25.4 mm.  
Note: Condition for exterior and bearing walls.

FIGURE R602.6(1)  
NOTCHING AND BORED HOLE LIMITATIONS FOR EXTERIOR WALLS AND BEARING WALLS

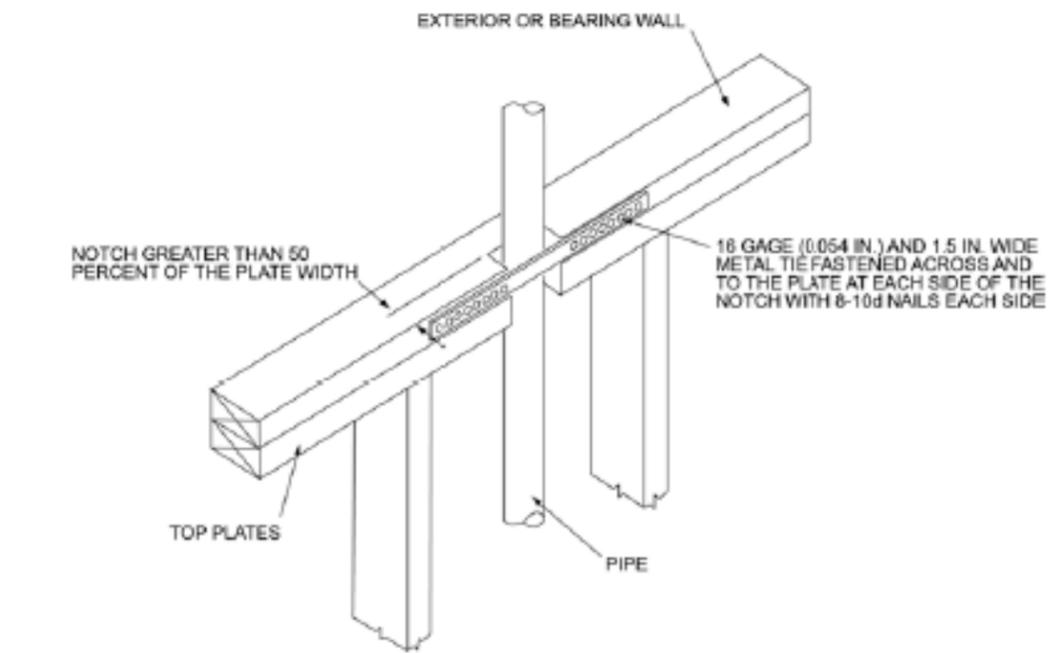


FIGURE R602.6.1  
TOP PLATE FRAMING TO ACCOMMODATE PIPING