R602.3 Design and Construction

of wood-frame construction shall be designed and constructed in accordance with the provisions of this chapter and Figures R602.3(1) and R602.3(2), or in accordance with AWC NDS. Components of shall be fastened in accordance with Tables R602.3(1) through R602.3(4). Wall sheathing shall be fastened directly to framing members and, where placed on the exterior side of an , shall be capable of resisting the wind pressures listed in adjusted for height and exposure using and shall conform to the requirements of Table R602.3(3). Wall sheathing used only for purposes shall comply with .

Studs shall be continuous from support at the sole plate to a support at the top plate to resist loads perpendicular to the wall. The support shall be a foundation or floor, ceiling or roof or shall be designed in accordance with accepted engineering practice.

Exception: Jack studs, trimmer studs and cripple studs at openings in that comply with and .

TABLE R602.3(1)
FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER[a, b, c]	SPACING AND LOCATION
	Roof		
1	Blocking between ceiling joists or rafters to top plate	4-8d box ($2^1/_2$" × 0.113") or 3-8d common ($2^1/_2$" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail
2	Ceiling joists to top plate	4-8d box ($2^1/_2$" × 0.113"); or 3-8d common ($2^1/_2$" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Per joist, toe nail
3	Ceiling joist not attached to parallel rafter, laps over partitions (see and)	4-10d box (3" × 0.128"); or 3-16d common ($3^1/_2$" × 0.162"); or 4-3" × 0.131" nails	Face nail
4	Ceiling joist attached to parallel rafter (heel joint) (see and)		Face nail

5	Collar tie to rafter, face nail or $1^1/_4$" × 20 ga. strap to rafter	4-10d box (3" × 0.128"); or 3-10d common (3" × 0.148"); or 4-3" × 0.131" nails	Face nail each rafter
6	Rafter or roof truss to plate	3-16d box nails ($3^1/_2$" × 0.135"); or 3-10d common nails (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss[i]
7	Roof rafters to , valley or hip rafters or roof rafter to minimum 2" beam	4-16d ($3^1/_2$" × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
		3-16d box $3^1/_2$" × 0.135"); or 2-16d common ($3^1/_2$" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail
	Wall		
8	Stud to stud (not at)	16d common ($3^1/_2$" × 0.162")	24" o.c. face nail
		10d box (3" × 0.128"); or 3" × 0.131" nails	16" o.c. face nail
9	Stud to stud and abutting studs at intersecting wall corners (at)	16d box ($3^1/_2$" × 0.135"); or 3" × 0.131" nails	12" o.c. face nail
		16d common ($3^1/_2$" × 0.162")	16" o.c. face nail
10	Built-up header (2" to 2" header with $^1/_2$" spacer)	16d common ($3^1/_2$" × 0.162")	16" o.c. each edge face nail
		16d box ($3^1/_2$" × 0.135")	12" o.c. each edge face nail
11	Continuous header to stud	5-8d box ($2^1/_2$" × 0.113"); or 4-8d common ($2^1/_2$" × 0.131"); or 4-10d box (3" × 0.128")	Toe nail

12	Top plate to top plate	16d common ($3^1/_2$" × 0.162")	16" o.c. face nail
		10d box (3" × 0.128"); or 3" × 0.131" nails	12" o.c. face nail
13	Double top plate splice	8-16d common ($3^1/_2$" × 0.162"); or 12-16d box ($3^1/_2$" × 0.135"); or 12-10d box (3" × 0.128"); or 12-3" × 0.131" nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)
14	Bottom plate to joist, rim joist, band joist or blocking (not at)	16d common ($3^1/_2$" × 0.162")	16" o.c. face nail
		16d box ($3^1/_2$" × 0.135"); or 3" × 0.131" nails	12" o.c. face nail
15	Bottom plate to joist, rim joist, band joist or blocking (at)	3-16d box ($3^1/_2$" × 0.135"); or 2-16d common ($3^1/_2$" × 0.162"); or 4-3" × 0.131" nails	3 each 16" o.c. face nail 2 each 16" o.c. face nail 4 each 16" o.c. face nail
16	Top or bottom plate to stud	4-8d box ($2^1/_2$" × 0.113"); or 3-16d box ($3^1/_2$" × 0.135"); or 4-8d common ($2^1/_2$" × 0.131"); or 4-10d box(3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
		3-16d box ($3^1/_2$" × 0.135"); or 2-16d common ($3^1/_2$" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail
17	Top plates, laps at corners and intersections	3-10d box (3" × 0.128"); or 2-16d common ($3^1/_2$" × 0.162"); or 3-3" × 0.131" nails	Face nail
18	1" brace to each stud and plate	3-8d box ($2^1/_2$" × 0.113"); or 2-8d common ($2^1/_2$" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples $1^3/_4$"	Face nail
		3-8d box ($2^1/_2$" × 0.113"); or	

19	1" × 6" sheathing to each bearing	2-8d common ($2^1/_2$" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., $1^3/_4$" long	Face nail
20	1" × 8" and wider sheathing to each bearing	3-8d box ($2^1/_2$" × 0.113"); or 3-8d common ($2^1/_2$" × 0.131"); or 3-10d box (3" × 0.128"); or 3 staples, 1" crown, 16 ga., $1^3/_4$"long	Face nail
		Wider than 1" × 8" 4-8d box ($2^1/_2$" × 0.113"); or 3-8d common ($2^1/_2$" × 0.131"); or 3-10d box (3" × 0.128"); or 4 staples, 1" crown, 16 ga., $1^3/_4$" long	
	Floor		
21	Joist to sill, top plate or girder	4-8d box ($2^1/_2$" × 0.113"); or 3-8d common ($2^1/_2$" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail
22	Rim joist, band joist or blocking to sill or top plate (roof applications also)	8d box ($2^1/_2$" × 0.113")	4" o.c. toe nail
		8d common ($2^1/_2$" × 0.131"); or 10d box (3" × 0.128"); or 3" × 0.131" nails	6" o.c. toe nail
23	1" × 6" subfloor or less to each joist	3-8d box ($2^1/_2$" × 0.113"); or 2-8d common ($2^1/_2$" × 0.131"); or 3-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., $1^3/_4$" long	Face nail
	Floor		
		3-16d box ($3^1/_2$" × 0.135"); or	

24	2" subfloor to joist or girder	2-16d common ($3^1/_2$" × 0.162")		Blind and face nail
25	2" planks (plank & beam—floor & roof)	3-16d box ($3^1/_2$" × 0.135"); or 2-16d common ($3^1/_2$" × 0.162")		At each bearing, face nail
26	Band or rim joist to joist	3-16d common ($3^1/_2$" × 0.162") 4-10 box (3" × 0.128"); or 4-3" × 0.131" nails; or 4-3" × 14 ga. staples, $^7/_{16}$" crown		End nail
27	Built-up girders and beams, 2-inch lumber layers	20d common (4" × 0.192"); or		Nail each layer as follows: 32" o.c. at top and bottom and staggered.
		10d box (3" × 0.128"); or 3" × 0.131" nails		24" o.c. face nail at top and bottom staggered on opposite sides
		And: 2-20d common (4" × 0.192"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails		Face nail at ends and at each splice
28	Ledger strip supporting joists or rafters	4-16d box ($3^1/_2$" × 0.135"); or 3-16d common ($3^1/_2$" × 0.162"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails		At each joist or rafter, face nail
29	Bridging or blocking to joist	2-10d box (3" × 0.128"), or 2-8d common ($2^1/_2$" × 0.131"; or 2-3" × 0.131") nails		Each end, toe nail
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER[a, b, c]	SPACING OF FASTENERS	
			Edges (inches)[h]	Intermediate c, e (inches)

	, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing [see Table R602.3(3) for *sheathing to wall framing]*			
30	$^3/_8$" – $^1/_2$"	6d common (2" × 0.113") nail (subfloor, wall)[j] 8d common ($2^1/_2$" × 0.131") nail (roof); or RSRS-01 ($2^3/_8$" × 0.113") nail (roof)[j]	6	12[f]
31	$^{19}/_{32}$" – 1"	8d common nail ($2^1/_2$" × 0.131"); or RSRS-01; ($2^3/_8$" × 0.113") nail (roof)[j]	6	12[f]
32	$1^1/_8$" – $1^1/_4$"	10d common (3" × 0.148") nail; or 8d ($2^1/_2$" × 0.131") deformed nail	6	12
	Other wall sheathing[g]			
33	$^1/_2$" structural cellulosic fiberboard sheathing	$1^1/_2$" galvanized roofing nail, $^7/_{16}$" head , or $1^1/_4$" long 16 ga. staple with $^7/_{16}$" or 1" crown	3	6
34	$^{25}/_{32}$" structural cellulosic fiberboard sheathing	$1^3/_4$" galvanized roofing nail, $^7/_{16}$" head , or $1^1/_2$" long 16 ga. staple with $^7/_{16}$" or 1" crown	3	6
35	$^1/_2$" 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
36	$^5/_8$" 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
	, combination subfloor to framing			

37	$^3/_4$" and less	6d deformed (2" × 0.120") nail; or 8d common ($2^1/_2$" × 0.131") nail	6	12
38	$^7/_8$" – 1"	8d common ($2^1/_2$" × 0.131") nail; or 8d deformed ($2^1/_2$" × 0.120") nail	6	12
39	$1^1/_8$" – $1^1/_4$"	10d common (3" × 0.148") nail; or 8d deformed ($2^1/_2$" × 0.120") nail	6	12

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.

a. Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank of 0.192 inch (20d common nail), 90 ksi for shank larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank of 0.142 inch or less.

b. Staples are 16 gage wire and have a minimum $^7/_{16}$-inch on crown width.

c. Nails shall be spaced at not more than 6 inches on center at all where spans are 48 inches or greater.

d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.

e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).

f. For roof sheathing attached to gable end roof framing and to intermediate within 48 inches of roof edges and , nails shall be spaced at 6 inches on center where the ultimate design wind speed is less than 130 mph and shall be spaced 4 inches on center where the ultimate design wind speed is 130 mph or greater but less than 140 mph.

g. Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C208.

h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or blocking.

i. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with

FASTENING SCHEDULE - TABLE R602.3(1) CRC

OWNER: JOE SIMAS
2180 ALMADEN ROAD
SAN JOSE, CA. 95125

DESIGN BY:
PACIFIC BLUE DEVELOPMENTS
Michael S Radu
39 Colleen Way
Campbell, CA 95008
(408) 504-6826 Cell

PACIFIC BLUE DEVELOPMENTS

REVISION:
⚠ PER CITY COMMENTS DATED 12/10/2020
⚠ RESUBMITTED 12/10/2020

FASTENING SCHEDULE

DRAWN BY
Michael S. Radu

CHECKED BY
PBD

JOB NO.
18-23

DATE
11/23/2021

SCALE
AS SHOWN

SHEET
A-4.1