TABLE R502.5(1)
GIRDER SPANS[a] AND HEADER SPANS[a] FOR EXTERIOR BEARING WALLS
(Maximum spans for Douglas fir-larch, hem-fir,southern pine and spruce-pine-fir[b] and required number of jack studs)

GIRDERS AND HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf)[e] 70					
		Building Width[c] (feet)					
		20		28		36	
		Span	NJ[d]	Span	NJ[d]	Span	NJ[d]
Roof and ceiling	2-2x4	2-10	1	2-6	1	2-3	1
	2-2x6	4-2	1	3-8	2	3-3	2
	2-2x8	5-4	2	4-7	2	4-1	2
	2-2x10	6-6	2	5-7	2	5-0	2
	2-2x12	7-6	2	6-6	2	5-10	3
	3-2x8	6-8	1	5-9	2	5-2	2
	3-2x10	8-2	2	7-0	2	6-4	2
	3-2x12	9-5	2	8-2	2	7-4	2
	4-2x8	7-8	1	6-8	1	5-11	2
	4-2x10	9-5	2	8-2	2	7-3	2
	4-2x12	10-11	2	9-5	2	8-5	2
Roof, ceiling and over center-bearing floor	2-2x4	2-7	1	2-3	1	2-0	1
	2-2x6	3-9	2	3-3	2	2-11	2
	2-2x8	4-9	2	4-2	2	3-9	2
	2-2x10	5-9	2	5-1	2	4-7	3
	2-2x12	6-8	2	5-10	3	5-3	3
	3-2x8	5-11	2	5-2	2	4-8	2
	3-2x10	7-3	2	6-4	2	5-8	2
	3-2x12	8-5	2	7-4	2	6-7	2
	4-2x8	6-10	1	6-0	2	5-5	2
	4-2x10	8-4	2	7-4	2	6-7	2
	4-2x12	9-8	2	8-6	2	7-7	2
Roof, ceiling and one clear span floor	2-2x4	2-5	1	2-1	1	1-10	1
	2-2x6	3-6	2	3-1	2	2-9	2
	2-2x8	4-6	2	3-11	2	3-6	2
	2-2x10	5-6	2	4-9	2	4-3	3
	2-2x12	6-4	2	5-6	3	5-0	3
	3-2x8	5-7	2	4-11	2	4-5	2
	3-2x10	6-10	2	6-0	2	5-4	2
	3-2x12	7-11	2	6-11	2	6-3	2
	4-2x8	6-6	1	5-8	2	5-1	2
	4-2x10	7-11	2	6-11	2	6-2	2
	4-2x12	9-2	2	8-0	2	7-2	2
Roof, ceiling and two center-bearing floor	2-2x4	2-4	1	2-0	1	1-9	1
	2-2x6	3-5	2	3-0	2	2-8	2
	2-2x8	4-4	2	3-9	2	3-5	2
	2-2x10	5-3	2	4-7	3	4-2	3
	2-2x12	6-1	3	5-4	3	4-10	3
	3-2x8	5-5	2	4-9	2	4-3	2
	3-2x10	6-7	2	5-9	2	5-3	2
	3-2x12	7-8	2	6-9	2	6-1	3
	4-2x8	6-3	2	5-6	2	4-11	2
	4-2x10	7-7	2	6-8	2	6-0	2
	4-2x12	8-10	2	7-9	2	7-0	2
Roof, ceiling and two clear span floor	2-2x4	2-0	1	1-8	1	1-5	2
	2-2x6	2-11	2	2-7	2	2-3	2
	2-2x8	3-9	2	3-3	2	2-11	3
	2-2x10	4-7	3	4-0	3	3-6	3
	2-2x12	5-4	3	4-7	3	4-1	4
	3-2x8	4-8	2	4-1	2	3-8	2
	3-2x10	5-9	2	4-11	2	4-5	3
	3-2x12	6-8	2	5-9	3	5-2	3
	4-2x8	5-5	2	4-8	2	4-2	2
	4-2x10	6-7	2	5-9	2	5-1	2
	4-2x12	7-8	2	6-8	2	5-11	3

For SI: 1 inch=25.4mm, 1 pound per square foot=0.0479kN/m²

a. Spans are given in feet and inches.

b. Tabulated values assume #2 grade lumber.

c. Building width is measured perpendicular to the ridge. For widths between those shown, spans are permitted to be interpolated.

d. NJ-Number of jack studs required to support each end. Where the number of required jack studs equals one, the header is permitted to be supported by an approved framing anchor attached to the full-height wall stud and to the header.

e. Use 30psf ground snow load for cases in which ground snow load is less than 30psf and the roof live load is equal to or less. than 20psf

TABLE R502.5(2)
GIRDER SPANS[a] AND HEADER SPANS[a] FOR INTERIOR BEARING WALLS
(Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir[b] and required number of jack studs)

HEADERS AND GIRDERS SUPPORTING	SIZE	Building Width[c] (feet)					
		20		28		36	
		Span	NJ[d]	Span	NJ[d]	Span	NJ[d]
One floor only	2-2x4	3-1	1	2-8	1	2-5	1
	2-2x6	4-6	1	3-11	1	3-6	1
	2-2x8	5-9	1	5-0	2	4-5	2
	2-2x10	7-0	2	6-1	2	5-5	2
	2-2x12	8-1	2	7-0	2	6-3	2
	3-2x8	7-2	1	6-3	1	5-7	2
	3-2x10	8-9	1	7-7	2	6-9	2
	3-2x12	10-2	2	8-10	2	7-10	2
	4-2x8	9-10	1	8-6	2	7-6	2
	4-2x10	11-5	2	9-11	2	8-10	2
	4-2x12	11-9	1	10-2	2	9-1	2
TWO floor only	2-2x4	2-2	1	1-10	1	1-7	1
	2-2x6	3-2	2	2-9	2	2-5	2
	2-2x8	4-1	2	3-6	2	3-2	2
	2-2x10	4-11	2	4-3	2	3-10	3
	2-2x12	5-9	2	5-0	3	4-5	3
	3-2x8	5-1	2	4-5	2	3-11	2
	3-2x10	6-2	2	5-4	2	4-10	2
	3-2x12	7-2	2	6-3	2	5-7	3
	4-2x8	6-11	2	5-7	2	5-2	2
	4-2x10	7-2	2	6-2	2	5-6	2
	4-2x12	8-4	2	7-2	2	6-5	2

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

DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER [b, c, e, g]	SPACING OF FASTENERS	
		Edges (inches) [i]	Intermediate support [c, e] (inches)
wood structural panels, subfloor, roof and wall sheathing to framing, and particleboard wall sheathing to framing			
5/16" - 1/2"	6d common nail (subfloor, wall) 8d common nail (roof) [f]	6	12 [g]
19/32" - 1"	8d common nail	6	12 [g]
1-1/8" - 1-1/4"	10d common nail or 8d deformed nail	6	12
Other wall sheathing [h]			
1/2" regular cellulosic fiberboard sheathing	1-1/2" galvanized roofing nail 6d common nail staple 16ga., 1-1/2" long	3	6
1/2" regular cellulosic fiberboard sheathing	1-3/4" galvanized roofing nail 8d common nail staple 16ga., 1-3/4" long	3	6
25/32" structural cellulosic fiberboard sheathing	1-1/2" galvanized roofing nail; 6d common nail; staple galvanized, 1-1/2" long 1-1/4" screws, type W or S	3	6
1/2" gypsum sheathing	1-1/2" galvanized roofing nail 6d common nail staple 16ga., 1-1/2" long	4	8
5/8" gypsum sheathing	1-1/2" galvanized roofing nail 6d common nail staple 16ga., 1-1/2" long	4	8
wood structural panels, combination subfloor underlayment to framing			
3/4" and less	6d deformed nail or 8d common nail	6	12
7/8" - 1"	8d common nail or 8d deformed nail	6	12
1-1/8" - 1-1/4"	10d common nail or 8d deformed nail	6	12

For SI: 1inch = 25.4mm, 1foot = 304.8mm, 1mile per hour = 1.609km/h.

a. All 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: 80ksi (551 MPa) for shank diameter of .192inch (20d common nail), 90ksi (620 MPa) for shank diameters larger than 0.142inch but not larger than 1.177inch, and 100ksi (689 MPa)for shank diameters of 0.142inch less.

b. Staples are 16 gage wire and have a minimum 7/16-inch on diameter crown width.

c. Nails shall be spaced at not more than 6inches on center at all supports where spans are 48inches 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 R6023(1).

f. For regions having basic wind speed of 110mph or greater, 8d deformed nails shall be used for attaching plywood and wood structural panel roof sheathing to
framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25feet, up to 35feet maximum.

g. For regions having basic wind speed of 100mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6inches on center. When basic wind speed is greater than 100mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6inches on center for minimum 48-inch distance from ridges, eves and gable end walls; and 4inches on center to gable end wall framing.

h. Gypsum sheathing shall conform to ASTM C79 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to either AHA 194.1 or ASTM C 208.

i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and at all roof plane perimeters. Blocking of roof or floor sheathing panel edges perpendicular to the framing members shall not be required except at intersection of adjacent roof planes. Floor and roof perimeter shall be supported by framing members or solid blocking.

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Span Tables & Schedules
Wilson Residence

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