

ELMORE COUNTY IDAHO

POLE BARN/POST AND BEAM STANDARDS

FOR 30LB SNOW LOAD AREA ONLY

120LB SNOW LOAD AREA REQUIRES ENGINEERING

Approved
7-19-2021
Elmore County

This standard is intended to speed up the permitting process by providing details for issuance of a building permit within the ***Elmore County Jurisdiction only***. It has been Adopted and reviewed by All Elmore County Commissioners and the Building Official.

This standard is not meant to be substituted for, or be contrary to, provisions of the State of Idaho or Elmore County adopted building codes.

Due to code requirements for habitation; using this pole building guidance for home construction or for habitation rooms inside pole buildings will not be authorized. Health and Safety are one of many items we strive to ensure in Elmore County. In order to have habitation inside a pole building it must be Engineered no matter what the size. ½ Baths are OK (toilet/sink). Lofts are allowed and must comply with rail and Stair requirements per the current adopted code and not to be used as additional rooms, lofts must remain open.

Governing codes for Elmore County: 2018 International Residential Code and the 2018 International Building Code.

If the proposed structure exceeds an exterior side wall height of 14 ft, engineering is required. The structure height at the peak may not exceed 27 ft in total height. An alternate design prepared and stamped by a State of Idaho design professional may be considered by the Building Official.

FOOTINGS:

Shall bear on virgin soil, depth depends on size of building, see sheet #5, must also have a minimum width of 18 inches.

SPLASH BOARDS:

Shall be 2 x 6 inches and decay resistant (treated). Shall be installed from the base of the slab, or gravel base, no less than 6 inches above finished grade.

CONCRETE SLABS:

Shall not be placed in direct contact with load-bearing poles. Poles shall be separated from the concrete slabs with expansion joint filler or 15 lb felt.

POLES:

Minimum pole size shall be 6 x 6 inches nominal (or (3) 2x6 secured together). Pole spacing shall not exceed 10 feet CENTER TO CENTER. All poles shall be pressure treated.

1. These drawings are to assist the applicant in the design process only. These drawings are not intended for, nor shall they be used as part of the submittal process. But may be included to ensure items are up to the standards within the codes.
2. These drawings depict what is required as part of the submittal process. Deviations from the standard method of construction will not be accepted and will require drawings from a Registered Design Professional, as defined in ***Elmore County Building Codes***.
3. Drawings submitted with permit shall depict any additional rooms or spaces that require construction of walls, ceilings, etc..these do not include bedrooms/or ***full*** bathrooms, however 1/2 baths are allowed for sanitary purposes only.
4. Windows and doors including sizes and headers; if needed shall be shown on the floor plan.
5. Electrical shall show panel boxes, lighting, and receptacles.
6. Any heating or cooling shall show type of heating and unit type and location.
7. Any heating will require adherence to the International Energy Conservation Code, or appropriate data showing exemption from such energy code.



Building Guide

Colorado Chapter of the International Code Council

Pole Barn Construction

How to Use this Guide

Check with your jurisdiction regarding type of submittal (paper or electronic) and additional requirements.

- 1. Complete this Building Guide** by filling in the blanks on all pages, and indicating which construction details will be used.
- 2. Provide Plot Plans** (site plan) showing dimensions of your project or addition and its relationship to existing buildings or structures on the property and the distance to existing property lines drawn to scale.
- 3. Fill out a Building Permit Application.**

The majority of permit applications are processed with little delay. The submitted documents will help determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.

The Colorado Chapter of the International Code Council is a professional organization seeking to promote the public health, safety and welfare to building construction. We appreciate your feedback and suggestions. To obtain a master copy of this building guide, please write to the Colorado Chapter of the International Code Council, P.O. Box 961, Arvada, CO 80001.

<http://www.coloradochaptericc.org>



THIS DOCUMENT IS ONLY PROVIDED AS A CONVENIENT
SOURCE FOR BASIC INFORMATION AND DOES NOT
ADDRESS ALL THE CODES

Pole Barn Construction



Plan Requirements

Provide all of the details listed below on your plans. Complete sets of plans and site plan must be submitted at time of application.

Floor Plan

1. Provide plan view of pole location, spacing, dimensions of the building.
2. Framing plan should show direction, size, and spacing of roof system, purlins, girts, beams and header sizes.
3. Indicate the size & locations of all window and door openings.
4. Indicate the size & locations of the poles, and provide dimensions between the poles.
5. Maximum width is 50', max length 80', maintaining at least a 5:3 length to width ratio.

Section Elevation

1. Front, rear and both side views to scale (identify scale).
2. Finished grade line at building.
3. Label the depths to the bottom of the poles. Note that piers must be IAW the depth chart, **or the plan must be engineered. SEE SHEET #5 FOR DEPTHS. Building location is assumed level and prepared ground unless noted otherwise. Plans must show if tubes are used in leu of holes for pole footing placement.**
4. Label the pole size and type of material. Wood poles embedded in earth must be treated wood, labeled for ground contact.
5. Label the sidewall girt size, type of material, and spacing. Note that the bottom girt must be treated wood if located within 6 inches of grade.
6. Label the beam size and type of material above the poles. Detail the method of fastening the beam to the poles.
7. Label the rafter size and spacing.(if engineered trusses are to be used, you may indicate this instead).
8. Label the rafter tie (or ceiling joist) size and spacing. (Not required for engineered trusses).
9. Label the roof purlin size and spacing, if applicable.
10. Label exterior wall finish material.
11. Label the roof covering material.

Inspections Required

1. Plans, permit and inspection cards need to be on-site at time of all inspections.
2. Setback, Hole Inspection and Hold down cleats are attached to posts: After holes are dug but before concrete pads are poured.
3. Framing Inspection: Requested after building is up and before any insulation or interior covering is installed. May be final inspection if no further work is being done.
4. Final Inspection: Requested after all work is completed, such as insulation, concrete slab, electrical, plumbing, heating, and/or sheetrock.
All state required inspections must be completed and signed off/documented prior.

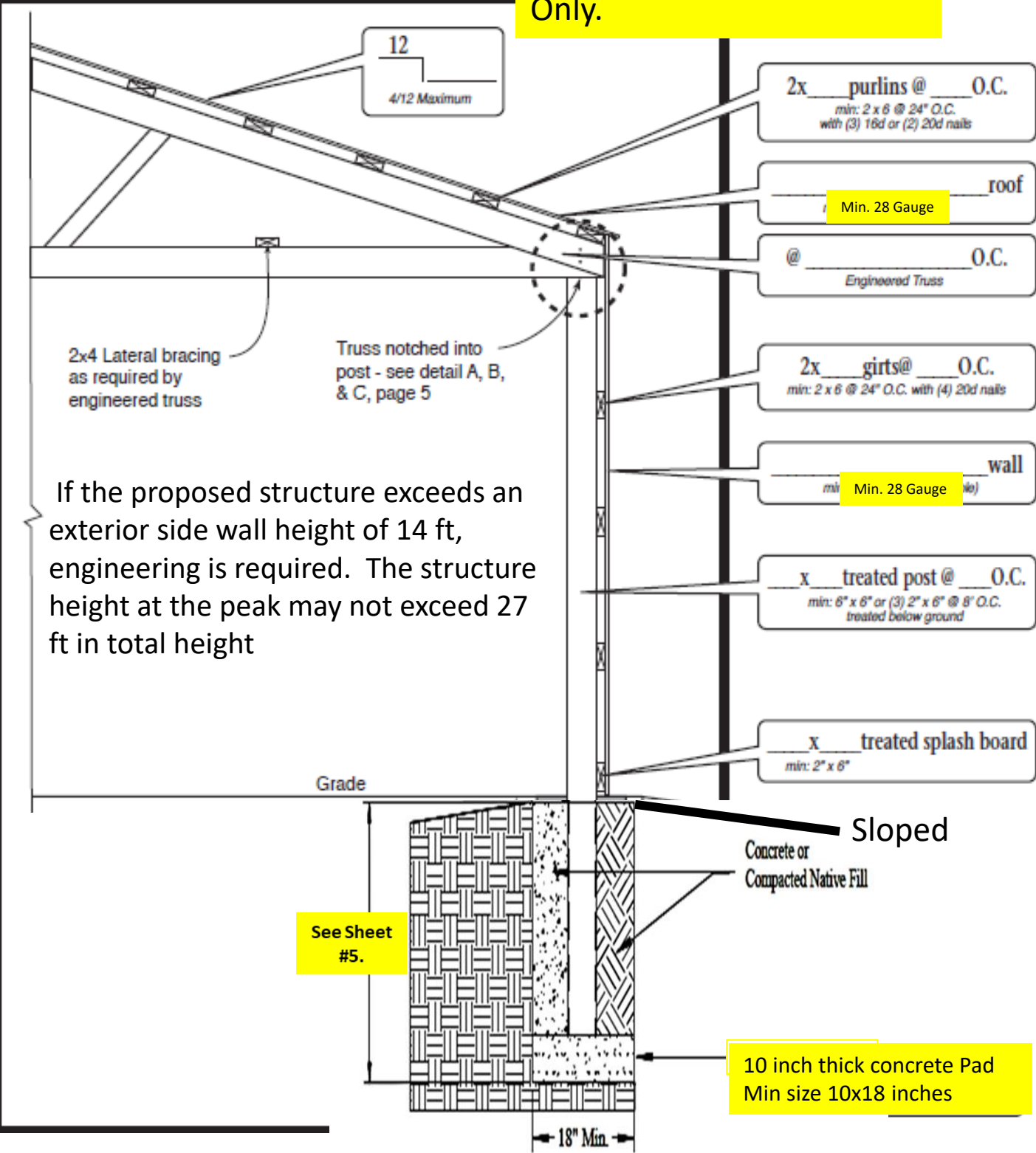


Where allowed by the Jurisdiction, this pole barn guide may be used without the need for any additional engineering, where all of the following comply:

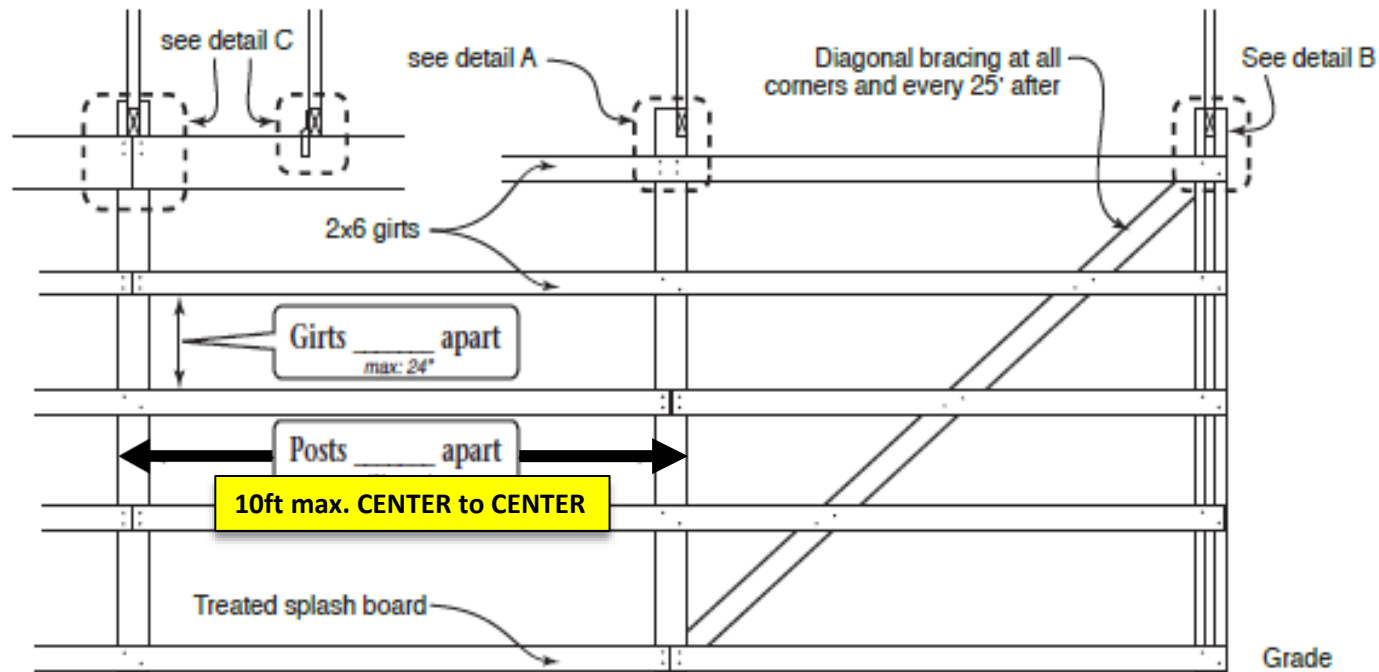
- The barn is no larger than 80' L x 50' W x 14' H side walls, 27' max peak.
- Rectangular shaped barns must maintain a minimum 5:3 ratio
- The Jurisdictional requirements and barn location do not exceed the pole barn guides 30 PSF (snow) live load or 115 MPH wind speed.

Other methods of roof
Installation are available
That shown is for reference
Only.

End Elevation

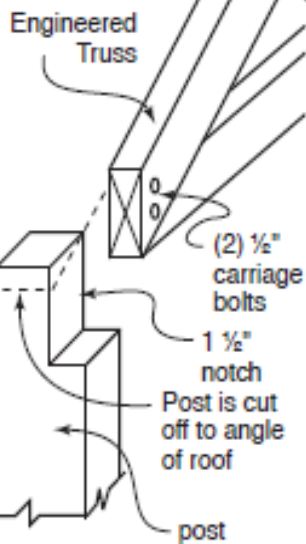


Side Elevation

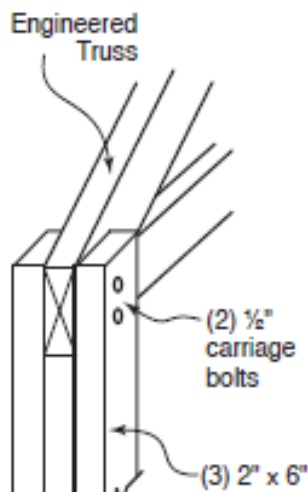


Alternate Truss Option 1 See next sheet for Option 2

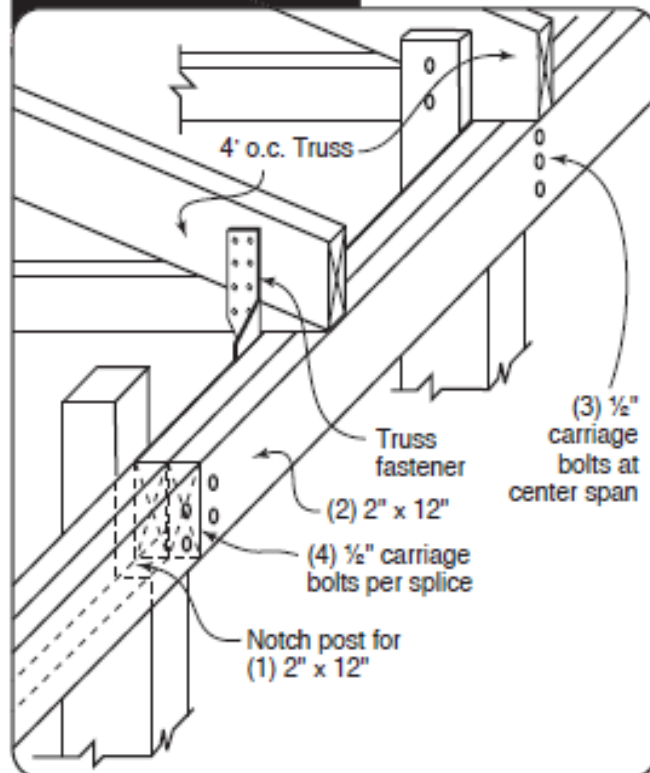
Detail A



Detail B



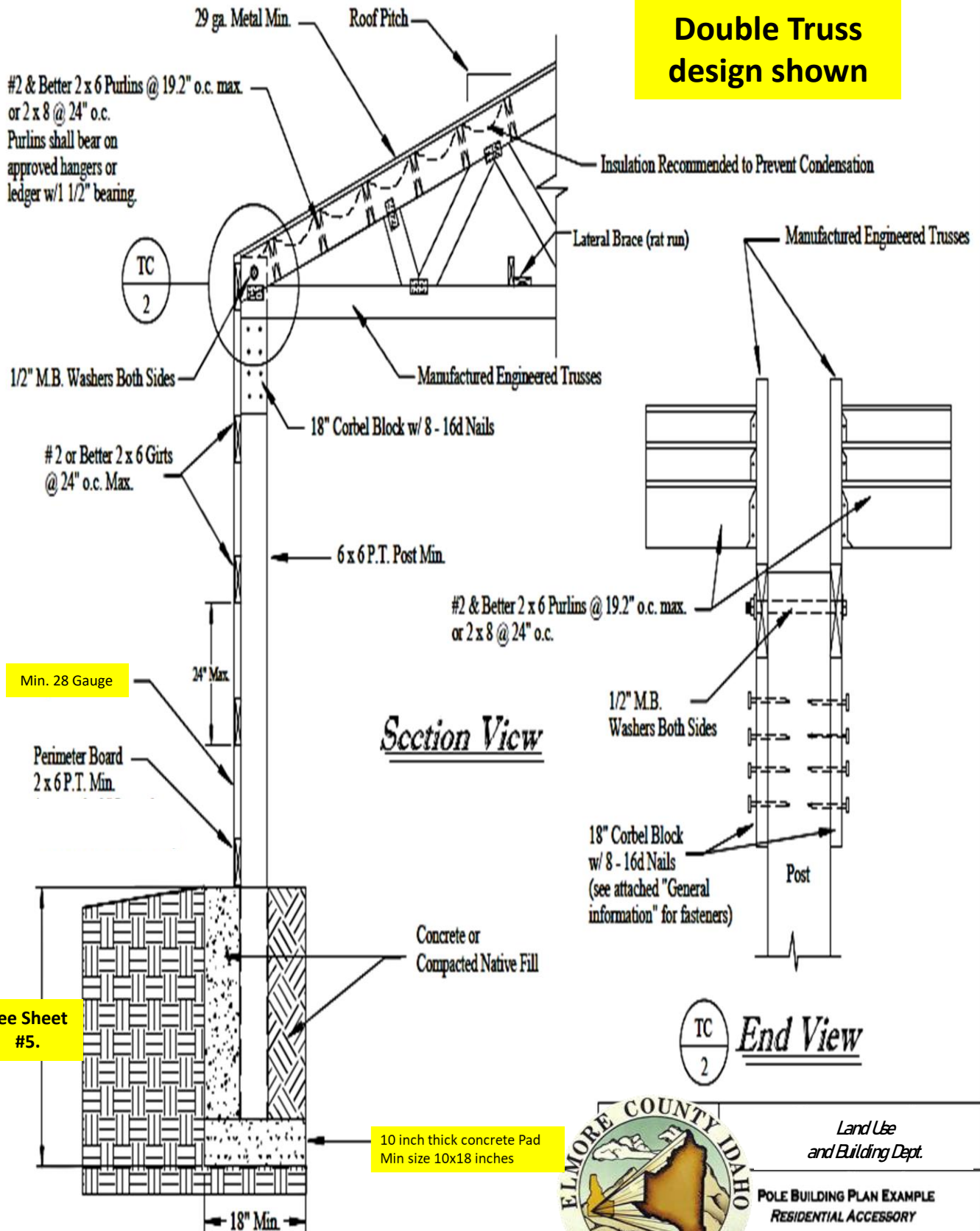
Detail C



Alternate Truss Option 2

SHEET #3

**Double Truss
design shown**



See Sheet
#5.

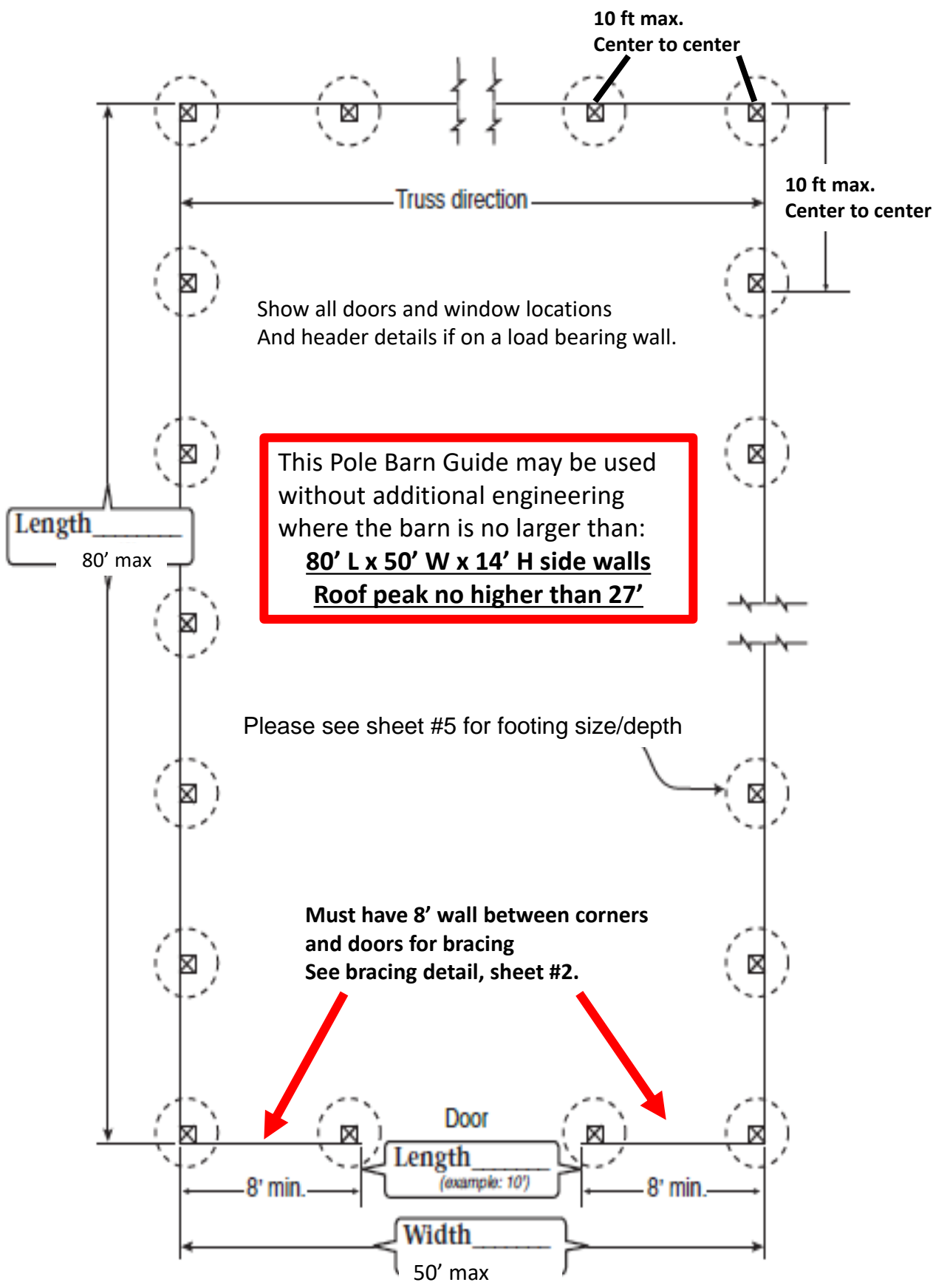


Land Use
and Building Dept.

POLE BUILDING PLAN EXAMPLE
RESIDENTIAL ACCESSORY

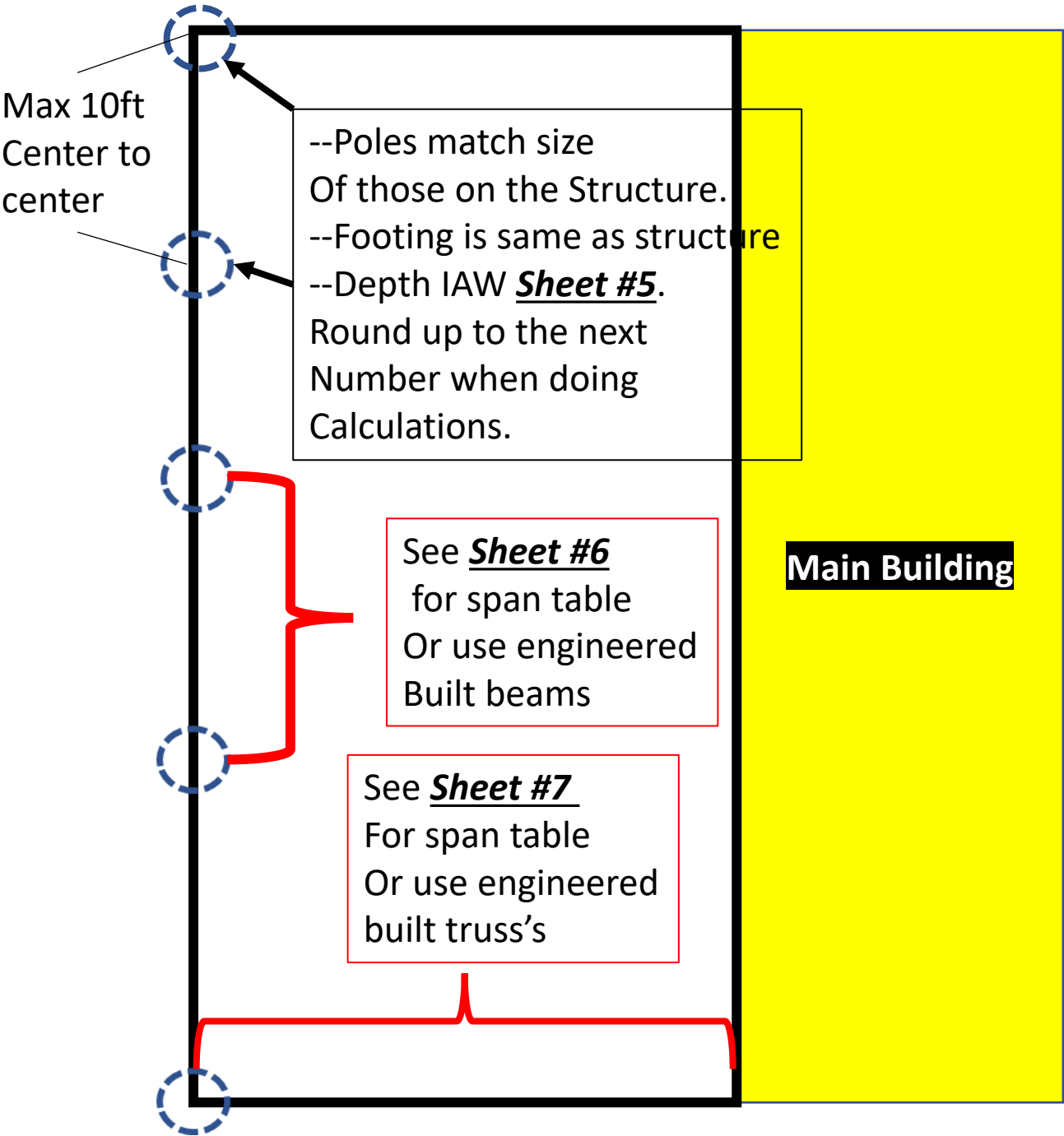
DATE CODE	OWNERS	12-15	REV
1889			
SCALE	NTS	SHEET	2 of 2

Floor plan



Lean-To Structures added to Pole Barns

Lean-To's are open on at lease two sides
and can be located on any wall or multiple walls.



POLES ARE REQUIRED TO BE A MINIMUM 6"X6"
TREATED POST

ALL HOLE DIAMETERS ARE 18 INCH MIN.

POLES SPACED 8 FEET ON CENTER

Foundation holes are measured from ground level or Top of Tubes if used.

DEPTH OF FOUNDATION HOLES

Maximum Clear Truss Span	Soil Backfill			Concrete Backfill		
	Eave Height From Finish Grade			Eave Height From Finish Grade		
	8 ft.	10 ft.	14 ft.	8 ft.	10 ft.	14 ft.
20 ft.	29"	37"	52"	28"	29"	40"
30 ft.	32"	40"	54"	28"	31"	41"
40 ft.	34"	42"	55"	28"	32"	42"
50 ft.	36"	44"	56"	30"	32"	43"

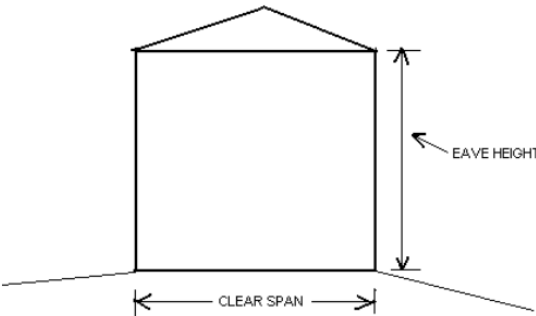
POLES SPACED 10 FEET ON CENTER

Foundation holes are measured from ground level or Top of Tubes if used.

DEPTH OF FOUNDATION HOLES

Maximum Clear Truss Span	Soil Backfill			Concrete Backfill		
	Eave Height From Finish Grade			Eave Height From Finish Grade		
	8 ft.	10 ft.	14 ft.	8 ft.	10 ft.	14 ft.
20 ft.	34"	43"	60"	28"	33"	46"
30 ft.	37"	46"	62"	29"	35"	48"
40 ft.	40"	49"	64"	31"	37"	49"
50 ft.	42"	50"	70"	32"	37"	49"

Shallower pole depths must be engineered



If you hit SOLID
ROCK or LAVA
then STOP
Then call an Engineer
for approval, once approved
then update plans in
our office prior to proceeding.

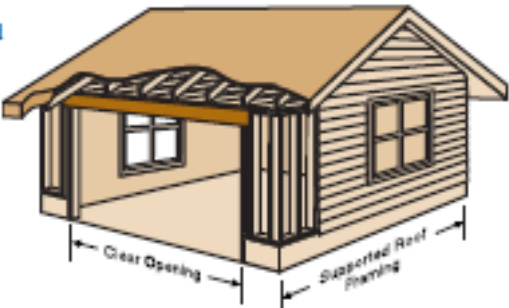
SOUTHERN PINE Size Selection Tables Window, Door & Garage Door Headers – Supporting Roof Loads Only

Key

Southern Pine lumber sizes for No.1, No.2 and No.3 grades are shown in regular type with the required number of plies in parentheses. Southern Pine glued laminated timber sizes for a 24F-1.7E (V4) stress class are provided in italics when (3) 2x12s no longer meet design parameters. A 3.0" bearing length is assumed. For other bearing lengths, use the appropriate Allowable Roof Load Table (Tables 27-38).

Steps for Using Tables 1-6:

- 1. Select the table with loading conditions and load duration factor satisfying the intended application.
- 2. Find the span of supported roof framing (i.e. span of trusses or rafters that frame into the header) that equals or exceeds the intended application.
- 3. Find the clear opening that equals or exceeds the intended application.
- 4. Select product size for the appropriate grade, clear opening and span of supported roof framing.



Header size is based on the load transferred from 1/2 the span of the supported roof framing, plus a 24" overhang.

Table 1 – 30 psf Ground Snow Load **, 10 psf Dead Load, 1.15 Load Duration Factor								
**Equivalent to a 21 psf Design Roof Snow Load								
Grade	Clear Opening	Span of Supported Roof Framing						
		16'	20'	24'	28'	32'	36'	40'
No. 1	4'	(1) 2 x 6	(1) 2 x 6	(1) 2 x 8	(1) 2 x 8	(1) 2 x 8	(1) 2 x 8	(1) 2 x 8
	6'	(1) 2 x 8	(1) 2 x 10	(1) 2 x 10	(1) 2 x 12	(1) 2 x 12	(1) 2 x 12	(2) 2 x 10s
	8'	(1) 2 x 12	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s
	9'	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s	(3) 2 x 10s	(3) 2 x 10s
	10'	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s	(3) 2 x 10s	(3) 2 x 10s	(3) 2 x 12s	(3) 2 x 12s
	12'	(2) 2 x 12s	(3) 2 x 10s	(3) 2 x 12s	(3) 2 x 12s	3-1/2 x 9-1/4	3-1/2 x 9-1/2	3-1/2 x 11-1/4
	16'	(3) 2 x 12s	3-1/2 x 11-1/4	3-1/2 x 11-1/4	3-1/2 x 11-7/8	3-1/2 x 11-7/8	3-1/2 x 14	3-1/2 x 14
	18'	3-1/2 x 11-1/4	3-1/2 x 11-7/8	3-1/2 x 14	3-1/2 x 14	3-1/2 x 14	3-1/2 x 14	3-1/2 x 16
No. 2	4'	(1) 2 x 6	(1) 2 x 8	(1) 2 x 8	(1) 2 x 8	(1) 2 x 10	(1) 2 x 10	(1) 2 x 10
	6'	(1) 2 x 10	(1) 2 x 12	(1) 2 x 12	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s
	8'	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s	(3) 2 x 10s	(3) 2 x 10s	(3) 2 x 12s
	9'	(2) 2 x 12s	(2) 2 x 12s	(3) 2 x 10s	(3) 2 x 10s	(3) 2 x 12s	(3) 2 x 12s	(3) 2 x 12s
	10'	(2) 2 x 12s	(3) 2 x 10s	(3) 2 x 12s	(3) 2 x 12s	(3) 2 x 12s	3-1/2 x 9-1/4	3-1/2 x 9-1/4
	12'	(3) 2 x 12s	(3) 2 x 12s	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/2	3-1/2 x 11-1/4
	16'	3-1/2 x 11-1/4	3-1/2 x 11-1/4	3-1/2 x 11-1/4	3-1/2 x 11-7/8	3-1/2 x 11-7/8	3-1/2 x 14	3-1/2 x 14
	18'	3-1/2 x 11-1/4	3-1/2 x 11-7/8	3-1/2 x 14	3-1/2 x 14	3-1/2 x 14	3-1/2 x 14	3-1/2 x 16
No. 3	4'	(1) 2 x 10	(1) 2 x 10	(1) 2 x 12	(1) 2 x 12	(1) 2 x 12	(2) 2 x 10s	(2) 2 x 10s
	6'	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s	(3) 2 x 10s	(3) 2 x 10s
	8'	(2) 2 x 12s	(3) 2 x 10s	(3) 2 x 12s	(3) 2 x 12s	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4
	9'	(3) 2 x 10s	(3) 2 x 12s	(3) 2 x 12s	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4
	10'	(3) 2 x 12s	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4
	12'	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/4	3-1/2 x 9-1/2	3-1/2 x 11-1/4
	16'	3-1/2 x 11-1/4	3-1/2 x 11-1/4	3-1/2 x 11-1/4	3-1/2 x 11-7/8	3-1/2 x 11-7/8	3-1/2 x 14	3-1/2 x 14
	18'	3-1/2 x 11-1/4	3-1/2 x 11-7/8	3-1/2 x 14	3-1/2 x 14	3-1/2 x 14	3-1/2 x 14	3-1/2 x 16

(See Requirements for Use on page 7, Key and Notes on this page, and Example on page 11)

TABLE R802.5.1(3)
RAFTER SPANS FOR COMMON LUMBER SPECIES
 (Ground snow load=30 psf, ceiling not attached to rafters, L/A = 180)

RAFTER SPACING (inches)	SPECIES AND GRADE		DEAD LOAD = 10 psf					DEAD LOAD = 20 psf				
			2 x 4	2 x 6	2 x 8	2 x 10	2 x 12	2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
			Maximum rafter spans*									
			(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
12	Douglas fir-larch	SS	10-0	15-9	20-9	Note b	Note b	10-0	15-9	20-1	24-6	Note b
	Douglas fir-larch	#1	9-8	14-9	18-8	22-9	Note b	9-0	13-2	16-8	20-4	23-7
	Douglas fir-larch	#2	9-5	13-9	17-5	21-4	24-8	8-5	12-4	15-7	19-1	22-1
	Douglas fir-larch	#3	7-1	10-5	13-2	16-1	18-8	6-4	9-4	11-9	14-5	16-8
	Hem-fir	SS	9-6	14-10	19-7	25-0	Note b	9-6	14-10	19-7	24-1	Note b
	Hem-fir	#1	9-3	14-4	18-2	22-2	25-9	8-9	12-10	16-3	19-10	23-0
	Hem-fir	#2	8-10	13-7	17-2	21-0	24-4	8-4	12-2	15-4	18-9	21-9
	Hem-fir	#3	7-1	10-5	13-2	16-1	18-8	6-4	9-4	11-9	14-5	16-8
	Southern pine	SS	9-10	15-6	20-5	Note b	Note b	9-10	15-6	20-5	Note b	Note b
	Southern pine	#1	9-8	15-2	20-0	24-9	Note b	9-8	14-10	18-8	22-2	Note b
	Southern pine	#2	9-6	14-5	18-8	22-3	Note b	9-0	12-11	16-8	19-11	23-4
	Southern pine	#3	7-7	11-2	14-3	16-10	20-0	6-9	10-0	12-9	15-1	17-11
	Spruce-pine-fir	SS	9-3	14-7	19-2	24-6	Note b	9-3	14-7	18-8	22-9	Note b
	Spruce-pine-fir	#1	9-1	13-9	17-5	21-4	24-8	8-5	12-4	15-7	19-1	22-1
	Spruce-pine-fir	#2	9-1	13-9	17-5	21-4	24-8	8-5	12-4	15-7	19-1	22-1
	Spruce-pine-fir	#3	7-1	10-5	13-2	16-1	18-8	6-4	9-4	11-9	14-5	16-8
16	Douglas fir-larch	SS	9-1	14-4	18-10	23-9	Note b	9-1	13-9	17-5	21-3	24-8
	Douglas fir-larch	#1	8-9	12-9	16-2	19-9	22-10	7-10	11-5	14-5	17-8	20-5
	Douglas fir-larch	#2	8-2	11-11	15-1	18-5	21-5	7-3	10-8	13-6	16-6	19-2
	Douglas fir-larch	#3	6-2	9-0	11-5	13-11	16-2	5-6	8-1	10-3	12-6	14-6
	Hem-fir	SS	8-7	13-6	17-10	22-9	Note b	8-7	13-6	17-1	20-10	24-2
	Hem-fir	#1	8-5	12-5	15-9	19-3	22-3	7-7	11-1	14-1	17-2	19-11
	Hem-fir	#2	8-0	11-9	14-11	18-2	21-1	7-2	10-6	13-4	16-3	18-10
	Hem-fir	#3	6-2	9-0	11-5	13-11	16-2	5-6	8-1	10-3	12-6	14-6
	Southern pine	SS	8-11	14-1	18-6	23-8	Note b	8-11	14-1	18-6	23-8	Note b
	Southern pine	#1	8-9	13-9	18-1	21-5	25-7	8-8	12-10	16-2	19-2	22-10
	Southern pine	#2	8-7	12-6	16-2	19-3	22-7	7-10	11-2	14-5	17-3	20-2
	Southern pine	#3	6-7	9-8	12-4	14-7	17-4	5-10	8-8	11-0	13-0	15-6
	Spruce-pine-fir	SS	8-5	13-3	17-5	22-1	25-7	8-5	12-9	16-2	19-9	22-10
	Spruce-pine-fir	#1	8-2	11-11	15-1	18-5	21-5	7-3	10-8	13-6	16-6	19-2
	Spruce-pine-fir	#2	8-2	11-11	15-1	18-5	21-5	7-3	10-8	13-6	16-6	19-2
	Spruce-pine-fir	#3	6-2	9-0	11-5	13-11	16-2	5-6	8-1	10-3	12-6	14-6
19.2	Douglas fir-larch	SS	8-7	13-6	17-9	21-8	25-2	8-7	12-6	15-10	19-5	22-6
	Douglas fir-larch	#1	7-11	11-8	14-9	18-0	20-11	7-1	10-5	13-2	16-1	18-8
	Douglas fir-larch	#2	7-5	10-11	13-9	16-10	19-6	6-8	9-9	12-4	15-1	17-6
	Douglas fir-larch	#3	5-7	8-3	10-5	12-9	14-9	5-0	7-4	9-4	11-5	13-2
	Hem-fir	SS	8-1	12-9	16-9	21-4	24-8	8-1	12-4	15-7	19-1	22-1
	Hem-fir	#1	7-9	11-4	14-4	17-7	20-4	6-11	10-2	12-10	15-8	18-2
	Hem-fir	#2	7-4	10-9	13-7	16-7	19-3	6-7	9-7	12-2	14-10	17-3
	Hem-fir	#3	5-7	8-3	10-5	12-9	14-9	5-0	7-4	9-4	11-5	13-2

(continued)

ROOF-CEILING CONSTRUCTION

TABLE R802.5.1(3)—continued
RAFTER SPANS FOR COMMON LUMBER SPECIES
 (Ground snow load=30 psf, ceiling not attached to rafters, L/Δ = 180)

RAFTER SPACING (inches)	SPECIES AND GRADE		DEAD LOAD = 10 psf					DEAD LOAD = 20 psf				
			2 × 4	2 × 6	2 × 8	2 × 10	2 × 12	2 × 4	2 × 6	2 × 8	2 × 10	2 × 12
			Maximum rafter spans*									
			(foot - inches)	(foot - inches)	(foot - inches)	(foot - inches)	(foot - inches)	(foot - inches)	(foot - inches)	(foot - inches)	(foot - inches)	(foot - inches)
19.2	Southern pine	SS	8-5	13-3	17-5	22-3	Note b	8-5	13-3	17-5	22-0	25-9
	Southern pine	#1	8-3	13-0	16-6	19-7	23-4	7-11	11-9	14-9	17-6	20-11
	Southern pine	#2	7-11	11-5	14-9	17-7	20-7	7-1	10-2	13-2	15-9	18-5
	Southern pine	#3	6-0	8-10	11-3	13-4	15-10	5-4	7-11	10-1	11-11	14-2
	Spruce-pine-fir	SS	7-11	12-5	16-5	20-2	23-4	7-11	11-8	14-9	18-0	20-11
	Spruce-pine-fir	#1	7-5	10-11	13-9	16-10	19-6	6-8	9-9	12-4	15-1	17-6
	Spruce-pine-fir	#2	7-5	10-11	13-9	16-10	19-6	6-8	9-9	12-4	15-1	17-6
	Spruce-pine-fir	#3	5-7	8-3	10-5	12-9	14-9	5-0	7-4	9-4	11-5	13-2
24	Douglas fir-larch	SS	7-11	12-6	15-10	19-5	22-6	7-8	11-3	14-2	17-4	20-1
	Douglas fir-larch	#1	7-1	10-5	13-2	16-1	18-8	6-4	9-4	11-9	14-5	16-8
	Douglas fir-larch	#2	6-8	9-9	12-4	15-1	17-6	5-11	8-8	11-0	13-6	15-7
	Douglas fir-larch	#3	5-0	7-4	9-4	11-5	13-2	4-6	6-7	8-4	10-2	11-10
	Hem-fir	SS	7-6	11-10	15-7	19-1	22-1	7-6	11-0	13-11	17-0	19-9
	Hem-fir	#1	6-11	10-2	12-10	15-8	18-2	6-2	9-1	11-6	14-0	16-3
	Hem-fir	#2	6-7	9-7	12-2	14-10	17-3	5-10	8-7	10-10	13-3	15-5
	Hem-fir	#3	5-0	7-4	9-4	11-5	13-2	4-6	6-7	8-4	10-2	11-10
	Southern pine	SS	7-10	12-3	16-2	20-8	25-1	7-10	12-3	16-2	19-8	23-0
	Southern pine	#1	7-8	11-9	14-9	17-6	20-11	7-1	10-6	13-2	15-8	18-8
	Southern pine	#2	7-1	10-2	13-2	15-9	18-5	6-4	9-2	11-9	14-1	16-6
	Southern pine	#3	5-4	7-11	10-1	11-11	14-2	4-9	7-1	9-0	10-8	12-8
	Spruce-pine-fir	SS	7-4	11-7	14-9	18-0	20-11	7-1	10-5	13-2	16-1	18-8
	Spruce-pine-fir	#1	6-8	9-9	12-4	15-1	17-6	5-11	8-8	11-0	13-6	15-7
	Spruce-pine-fir	#2	6-8	9-9	12-4	15-1	17-6	5-11	8-8	11-0	13-6	15-7
	Spruce-pine-fir	#3	5-0	7-4	9-4	11-5	13-2	4-6	6-7	8-4	10-2	11-10

Check sources for availability of lumber in lengths greater than 20 feet.

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

- a. The tabulated rafter spans assume that ceiling joists are located at the bottom of the attic space or that some other method of resisting the outward push of the rafters on the bearing walls, such as rafter ties, is provided at that location. When ceiling joists or rafter ties are located higher in the attic space, the rafter spans shall be multiplied by the factors given below: