

### HIP/VALLEY CONVERSION

IF COMMON RAFTER ROOF PITCH IS		THEN HIP/VALLEY RAFTER ROOF PITCH BECOMES	
RISE/RUN	SLOPE	RISE/RUN	SLOPE
1/12	5°	1/11	5°
2/12	10°	2/11	7°
3/12	14°	3/11	10°
4/12	18°	4/11	13°
5/12	23°	5/11	16°
6/12	27°	6/11	19°
7/12	30°	7/11	22°
8/12	34°	8/11	25°
9/12	37°	9/11	28°
10/12	40°	10/11	30°
11/12	42°	11/11	33°
12/12	45°	12/11	35°

CONVERSION CHART FOR SIMPLE ROOFS ONLY. CHART DOES NOT APPLY FOR DUAL PITCH ROOFS.

### CEILING JOIST SPANS

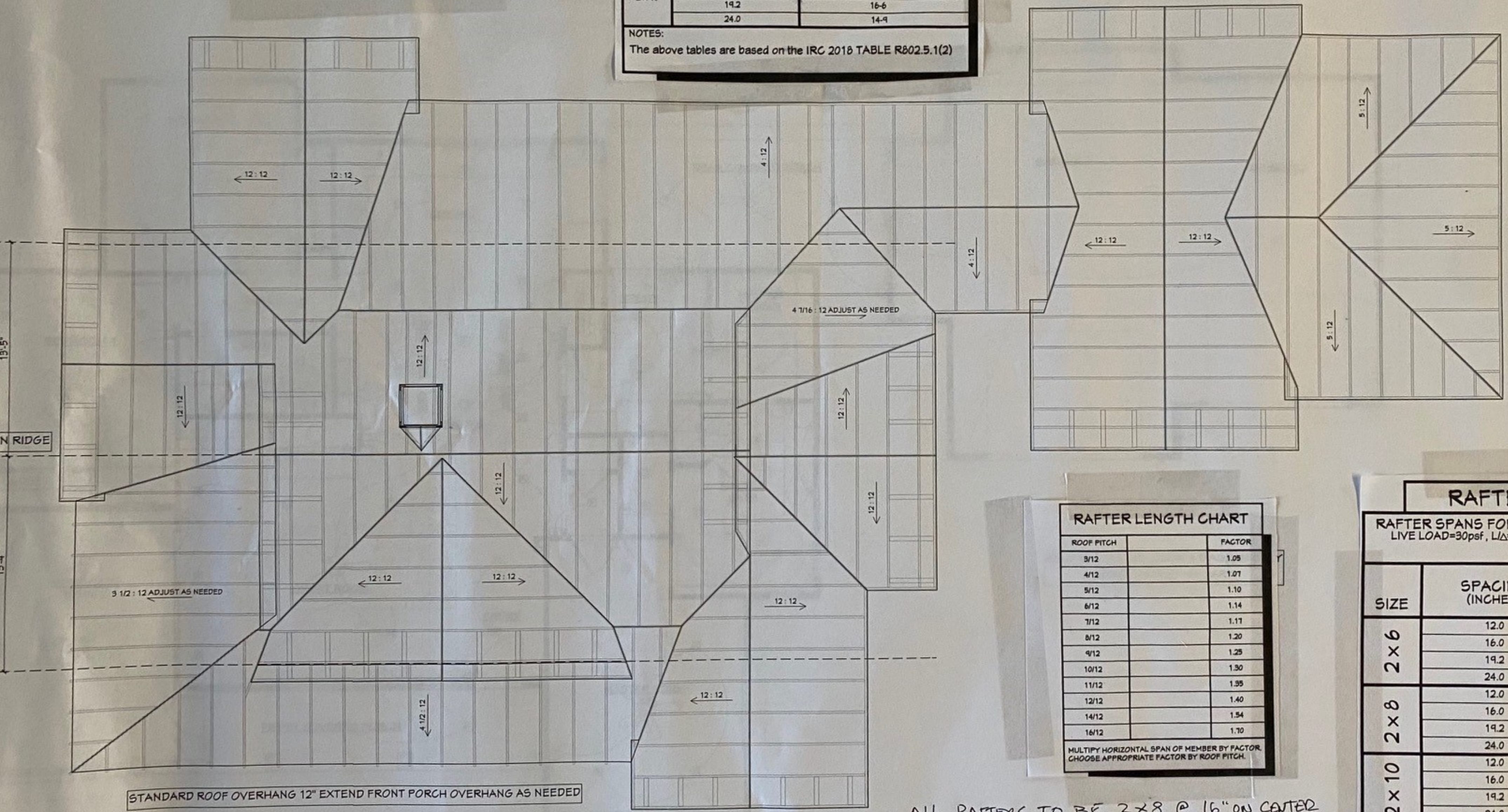
CEILING JOIST SPANS FOR SOUTHERN PINE SPECIES  
(UNINHABITABLE ATTICS WITH LIMITED STORAGE, LIVE LOAD = 20psf, L<sub>LD</sub>=240) DEAD LOAD = 10psf)

\*\*\*IF HABITABLE ATTIC SPACE IS DESIRED, REFER TO THE INTERNATIONAL RESIDENTIAL CODE, SPAN TABLES.\*\*\*

SIZE	SPACING (INCHES)	VISUALLY GRADED #2 SOUTHERN PINE (MAXIMUM CEILING JOIST SPANS) (FT. - IN.)
2x4	12.0	9-3
	16.0	8-0
	19.2	7-4
	24.0	6-7
2x6	12.0	15-11
	16.0	12-0
	19.2	11-0
	24.0	9-10
2x8	12.0	17-7
	16.0	15-3
	19.2	13-11
	24.0	12-6
2x10	12.0	20-11
	16.0	18-1
	19.2	16-6
	24.0	14-9

NOTES:  
The above tables are based on the IRC 2018 TABLE R802.5.1(2)

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1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AT SITE.
  2. ALL RIDGE BEAMS, HIP RAFTERS, & VALLEY RAFTERS TO BE 2" X 10", No.2 S.Y.P. OR AS REQ'D BY ENGINEER.
  3. ALL RAFTERS TO BE SIZED AS PER SPAN CHART.
  4. CONTRACTOR TO WATERPROOF ALL ROOF INTERSECTIONS AS PER CODE.
  5. CONTRACTOR TO VERIFY ALL ROOF PITCHES WITH EXTERIOR ELEVATIONS PRIOR TO CONSTRUCTION.
  6. CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION AS REQ'D BY CURRENT CODES.



### RAFTER LENGTH CHART

ROOF PITCH	FACTOR
3/12	1.05
4/12	1.07
5/12	1.10
6/12	1.14
7/12	1.17
8/12	1.20
9/12	1.25
10/12	1.30
11/12	1.35
12/12	1.40
14/12	1.54
16/12	1.70

MULTIPLY HORIZONTAL SPAN OF MEMBER BY FACTOR. CHOOSE APPROPRIATE FACTOR BY ROOF PITCH.

### RAFTER SPANS

RAFTER SPANS FOR SOUTHERN PINE SPECIES  
LIVE LOAD=30psf, L<sub>LD</sub>=180 DEAD LOAD = 10psf

SIZE	SPACING (INCHES)	SPANS (MAXIMUM RAFTER SPANS BETWEEN BRACING) (FT. - IN.)
2x6	12.0	12-11
	16.0	11-2
	19.2	10-2
	24.0	9-2
2x8	12.0	16-4
	16.0	14-2
	19.2	12-11
	24.0	11-7
2x10	12.0	19-5
	16.0	16-10
	19.2	15-4
	24.0	13-9
2x12	12.0	22-10
	16.0	19-10
	19.2	18-1
	24.0	16-2

NOTES:  
The above tables are based on the IRC 2018 TABLE R802.4.1(3)

ALL RAFTERS TO BE 2x8 @ 16" ON CENTER

STANDARD ROOF OVERHANG 12" EXTEND FRONT PORCH OVERHANG AS NEEDED