This information bulletin describes the items how to prepare a typical framing section for single-story residential construction. One or more framing sections will be required as part of plans submitted for approval prior to permit issuance. Additional information on the preparation of plans for a single dwelling unit can be found in “California Building Code”.

1. What is a Framing Section?
The California Building Code specifies that, for single-family residential construction, all framing members shall be “anchored, tied and braced so as to develop the strength and rigidity necessary for the purposes for which they are to be used”. A framing section is a cutaway view of the proposed construction that is used to show how these requirements are met. Depending on the design of your project, you may need to include more than one framing section. You must clearly show deviations in your sections wherever they occur.

Included in this bulletin are illustrations showing several typical framing sections and details. The illustrations depict conventional wood construction. All framing sections should be cross-referenced on the building plans using the floor, foundation and/or roof framing views. See Figure 1.

All framing sections should include enlarged views that detail roof and floor connections as well as lumber and footing sizes.

2. Typical Framing Sections
Included in this bulletin are the following typical cross section views:
Figure 2 illustrates a framing section, slab floor with ceiling joist
Figure 3 illustrates a framing section, slab floor with vaulted ceiling
Figure 4 illustrates a framing section, raised floor with ceiling joists
Figure 5 illustrates a framing section, slab floor with shed roof

3. Typical Details
Included in this bulletin are the following typical details:
Detail A illustrates a typical roof ridge connection when using rafters and ceiling joists (from Figure 4)
Detail B illustrates a typical ridge beam connection when rafters are load bearing and ceiling joists will not be used (from Figure 3)
Detail C illustrates a typical roof connection showing rafters and ceiling joists attached to bearing walls (from Figures 2 and 4)
Detail D illustrates a typical roof connection showing a vaulted ceiling without ceiling joists attached to bearing walls (from Figure 3)
Detail E illustrates a typical shed roof connection attached to bearing walls (from Figure 5)
Detail F illustrates a typical bearing wall connection to a continuous footing with slab floor construction (from Figures 2, 3 and 5)
Detail G illustrates a typical bearing wall connection to a continuous footing with raised floor construction (from Figure 4)
Detail H illustrates a typical girder construction to an interior pad footing for raised floor construction (from Figure 4)
### TABLE 2308.10.3 (2)
**RAFTER SPANS FOR COMMON LUMBER SPECIES**
*(Roof Live Load = 20 pounds per square foot, ceiling not attached to rafters, \( L/\Delta = 240 \))*

<table>
<thead>
<tr>
<th>RAFTER SPACING (inches)</th>
<th>SPECIES AND GRADE</th>
<th>Maximum rafter spans</th>
<th>DEAD LOAD = 10 pounds per square foot</th>
<th>DEAD LOAD = 20 pounds per square foot</th>
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### TABLE 2308.10.2 (2)
**CEILING JOIST SPANS FOR COMMON LUMBER SPECIES**
*(Uninhabitable Attics with Limited Storage, Live Load = 20 pounds per square foot, \( L/\Delta = 240 \))*

<table>
<thead>
<tr>
<th>CEILING JOIST SPACING (inches)</th>
<th>SPECIES AND GRADE</th>
<th>Maximum ceiling joist spans</th>
<th>DEAD LOAD = 10 pounds per square foot</th>
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5. Completing Your Framing Section

Items such as the size of all framing members, interior and exterior finishes, as well as the roof and floor covering must be specified on the plan.

The framing sections and details shown in this bulletin are the most commonly used for single story room additions. You may include any illustration shown that relates to your project by completing the blank portions and attaching them to your plans. These illustrations do not reflect all additions or designs and cannot be used in every case.

<table>
<thead>
<tr>
<th>JOIST SPACING (inches)</th>
<th>SPECIES AND GRADE</th>
<th>DEAD LOAD = 10 psf</th>
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</table>

TABLE 2308.8 (2)
FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES
(Residential Living Areas, Live Load = 40psf, L/Δ = 360)
Figure 1/ Floor Plan with Cross Referenced Section Views

(x 25.4 for mm)

See Figure 5

8 ft 6 in Sliding Glass Door
Dual Glazed

See Figures 2, 3 & 4

Proposed Family Room

Existing Dining Room

Existing Kitchen

See Figure 5

See Figures 2, 3 & 4
Figure 2: Typical Cross Section View, Slab Floor with Ceiling Joist
(x 25.4 for mm)

---

See Detail 'A'

See Detail 'C'

See Detail 'F'

over _______ CDX Plywood
(Roof Covering and Sheathing)

Pitch ______ 12
(Rise : Run)

2" x 4" @ 16°
O.C. with 7/8" Stucco Over Wire Mesh and Paper

2" x _____ Ceiling Joist
@ _____" O.C.

Insulation R - _____

Insulation R - _____

1/2" Drywall Typical

3-1/2" minimum Thickness

_____" Floor to Ceiling Height
(7' 6" minimum)

---

Page 5 of 12
Figure 3/ Typical Cross Section View, Slab Floor with Vaulted Ceiling

(x 25.4 for mm)

---

over _______ CDX Plywood
(Roof Covering and Sheathing)

Pitch: 12
(Rise: Run)

See Detail 'B'

See Detail 'D'

2" x 4" @ 16" O.C. with 7/8"
Stucco Over Wire Mesh and Paper

Insulation R: ______

1/2" Drywall Typical

See Detail 'F'

3-1/2" minimum Thickness

---

x Roof Rafter @ ______" O.C.

---

' Floor to Ceiling Height

---

3-1/2" minimum Thickness
Figure 4/ Typical Cross Section View, Raised Floor with Ceiling Joist
(x 25.4 for mm)
Figure 5: Typical Cross Section View, Slab Floor with Shed Roof

(x 25.4 for mm)

2" x ___ Roof Rafter/Ceiling Joist Combination @ ___" O.C.

_________________________

over __________ CDX Plywood

(Roof Covering and Sheathing)

Minimum Pitch 1/4":12"

2" x 4" @ 16"
O.C. with 7/8"
Stucco Over Wire Mesh and Paper

Insulation R - ___

Insulation R - ___

1/2" Drywall Typical

See Detail 'E'

Existing Residence

'Floor to Ceiling Height
(7' 6" minimum)

Detail 'F'

3-1/2" Minimum Thickness
Detail “A”/ Typical Roof Connection, Non-Load Bearing Ridge
(x 25.4 for mm)

2” x ___” Ridge Board
(1 size larger in depth than rafter)

Rafter Hanger

Detail “B”/ Typical Roof Connection, Load Bearing Ridge
(x 25.4 for mm)

___” x ___” Ridge Beam

32” Metal Strap
@ Each Rafter

2 x Blocking
**Detail “C”/ Typical Roof Connection With Ceiling Joist**

(x 25.4 for mm)

Show Connection and Note
Nailing Size & Spacing

Roof Rafter

Ceiling Joist

2” x 4” Double Top Plate

---

**Detail “D”/ Typical Roof Connection With Vaulted Ceiling**

(x 25.4 for mm)

Show Connection and Note
Nailing Size & Spacing

Roof Rafter/Ceiling Joist Combination

2” x 4” Double Top Plate
Detail "E"/ Typical Roof Connection, Shed Roof
(x 25.4 for mm)

26 Gauge Metal Flashing
Existing Roof Rafter
Existing Ceiling Joist
Combination Ceiling Joist/Roof Rafter
Cut Existing Eave Overhang

Detail "F"/ Typical Floor Connection, Continuous Footing
(x 25.4 for mm)

5/8" x 10" Anchor Bolt 6' O.C.
12" Maximum From Corners or less than 7 bolt diameters from ends (7" embedment in concrete)
3" x 3" x .229" washer @ each A.B.
2" x 4" Sill Plate (pressure treated)

Sluoco Screed
6" min.
Grade
24" min.

3" Sand Base
#5 top and bottom

3-1/2" min.
13" min.
12" min.
Detail "G"/ Typical Floor Connection, Foundation or Stem Wall

5/8" x 10" Anchor Bolt 6' O.C.
12" Maximum From Corners or less than 7 bolt diameters from ends
(7" embedment in concrete)

Floor Joist (pressure treated if less than 18" from grade)

Stucco Screed

 Blocking

Sill Plate (pressure treated)

3" x 3" x .229" washer @ each A.B.

Detail "H"/ Typical Floor Connection, Square Pad footing

Floor Joist (pressure treated if less than 18" from grade)

" x ___ " Beam
(pressure treated if less than 12" from grade)

Post Cap

4x4 Post (Pressure Treated)

Post Base

Grade

__" Square Pad Footing