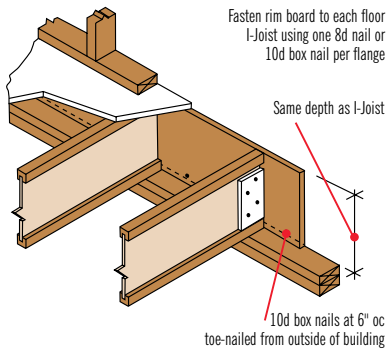
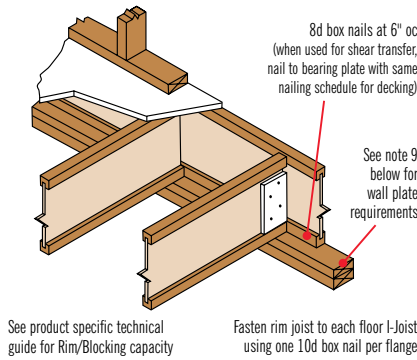


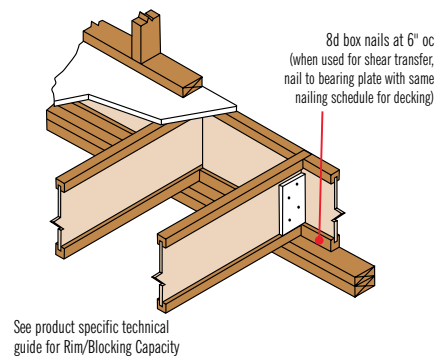
LP RIM BOARD



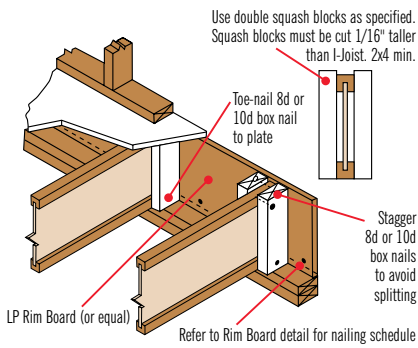
LPI RIM JOIST



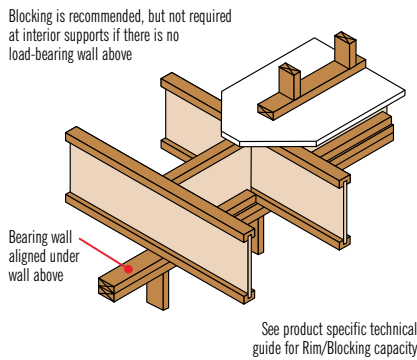
LPI BLOCKING AT EXTERIOR WALL



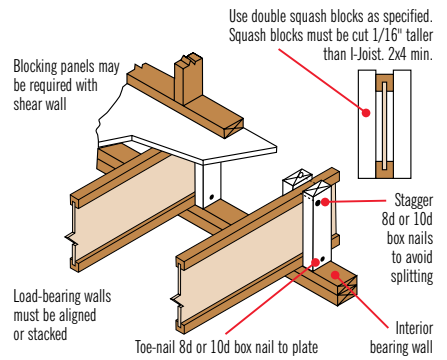
LP RIM BOARD WITH SQUASH BLOCKS



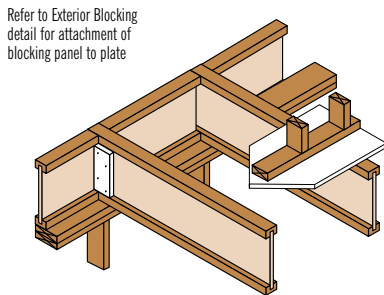
LPI BLOCKING AT INTERIOR SUPPORT



SQUASH BLOCKS AT INTERIOR SUPPORTS

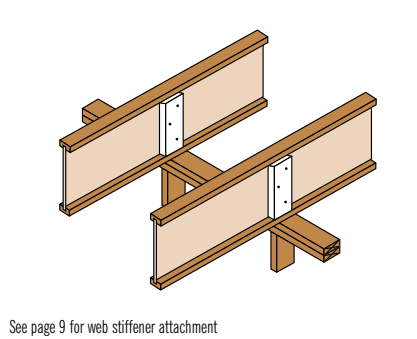


NON-STACKING WALLS

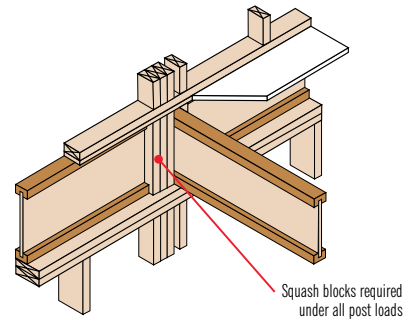


NOTE: LPI floor I-joists must be designed to carry wall above when not stacked over wall below

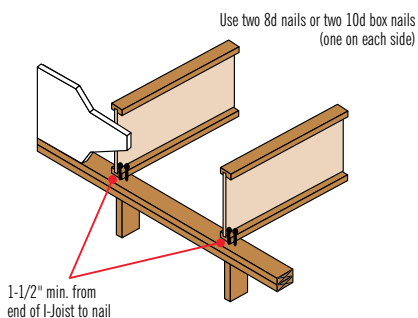
WEB STIFFENERS AT INTERIOR SUPPORT (when required)



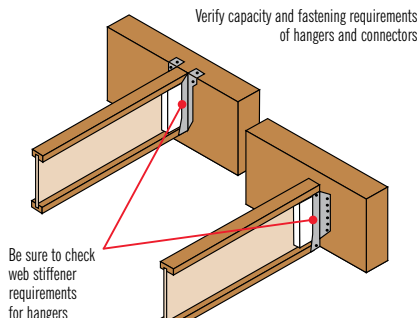
POST LOADS



JOIST END NAILING

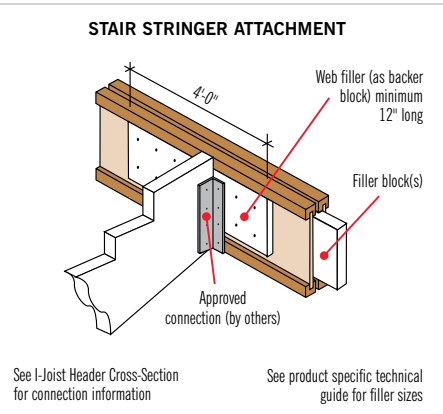
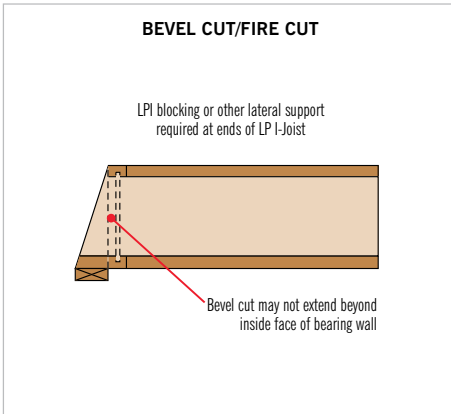
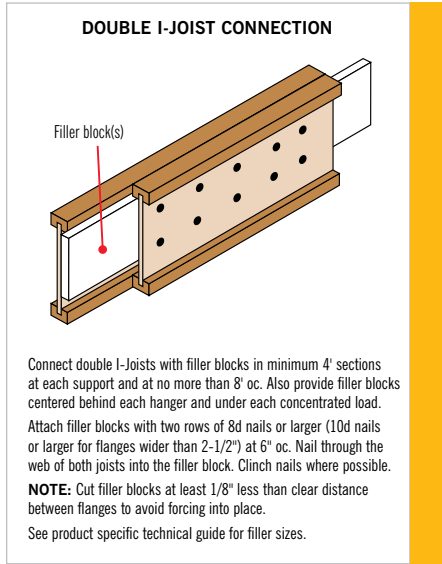
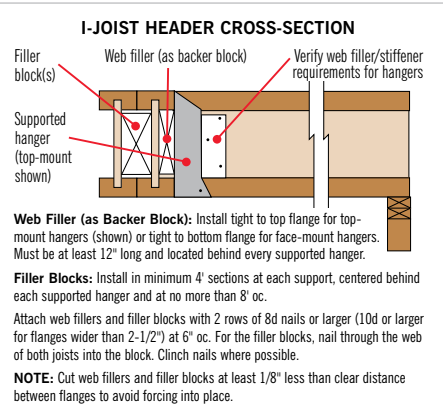
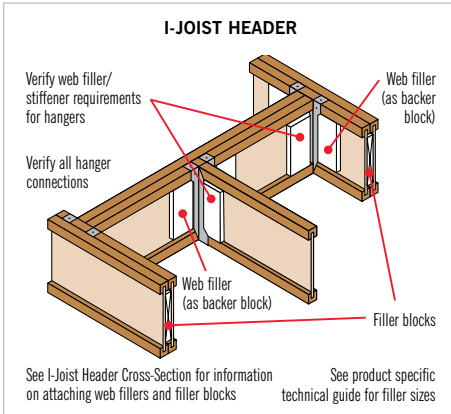


HANGER DETAIL



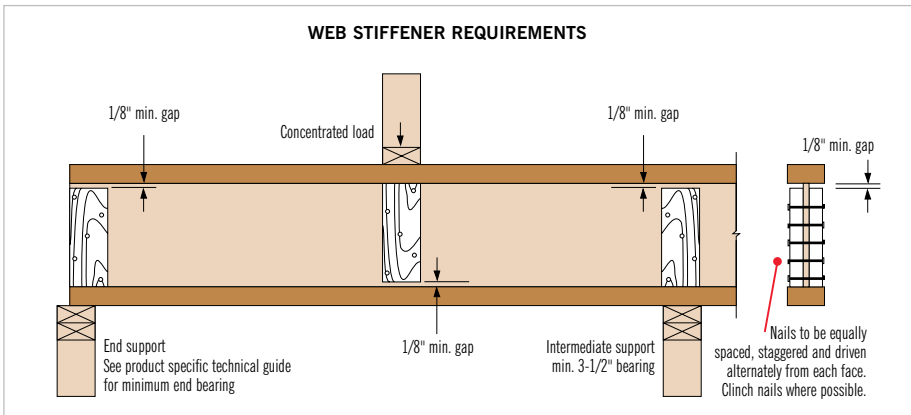
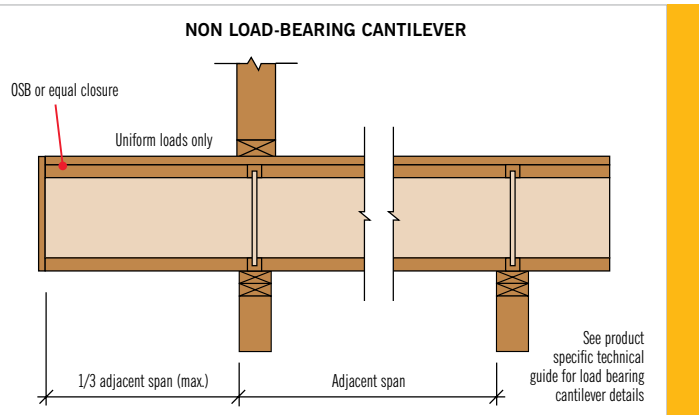
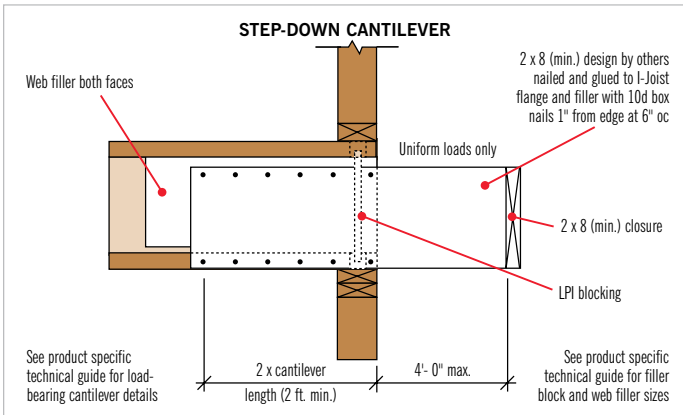
NOTES:

1. Some wind or seismic loads may require different or additional details and connections.
2. Verify building code requirements for suitability of details shown.
3. Refer to product specific technical guide for bearing length requirements.
4. Refer to product specific technical guide for nailing schedules for LPI rim joists and blocking panels.
5. Lateral support should be considered for bottom flange when there is no sheathing on underside.
6. Blocking is required when I-joists end at support: either butting or lapping.
7. Verify capacity and fastening requirements of hangers and connectors.
8. Squash block capacity designed by others.
9. Minimum 2x6 plate required for flanges wider than 1-3/4". Rim joists with 3-1/2" flanges require special design.

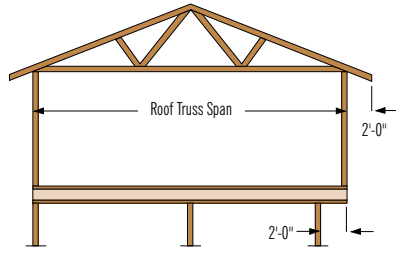


NAIL COMPARISON CHART

Length	U.S. Designation	Canadian Designation
2-1/2"	8d Box	Common Spiral
	10d Box	Common Wire
3"	10d Common	Common Spiral
	12d Box	Common Wire
3-1/4"	12d Common	Common Spiral
	16d Sinkers	Common Wire
3-1/2"	16d Box	Common Spiral
	16d Common	Common Wire

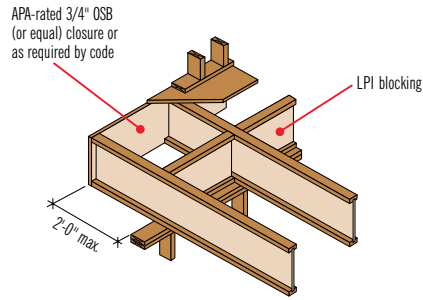


- NOTES:**
- Web stiffeners, when required, must be installed in pairs – one to each side of the web. Web stiffeners are always required for the "Bird's Mouth" roof bearing detail.
 - Web stiffeners should be cut to fit between the flanges of the I-Joist, leaving a minimum 1/8" gap (1" maximum). At bearing locations, the stiffeners should be installed tight to the bottom flange with the gap to the top flange. At locations of concentrated loads, the stiffeners should be installed tight to the top flange with the gap to the bottom flange.
 - Web stiffeners should be cut from APA-rated (or equal) OSB or plywood, or from 2x lumber. Do NOT use 1x lumber as it tends to split.
 - Web stiffeners should be the same width as the bearing surface, with a minimum of 3-1/2".
 - See product specific technical guide for minimum stiffener thickness, maximum stiffener height and required nailing.

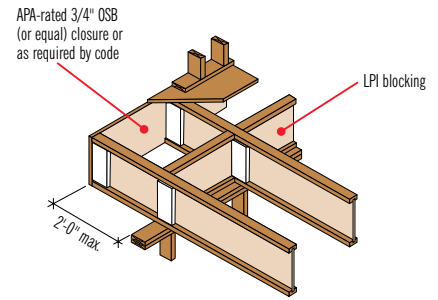


See product specific technical guide for cantilever detail specifications

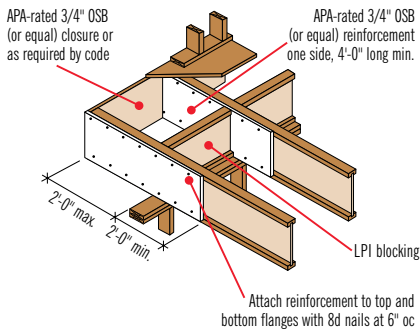
A: NO REINFORCEMENT REQUIRED



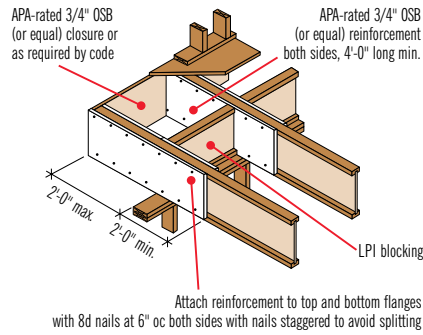
W: WEB STIFFENERS ONLY



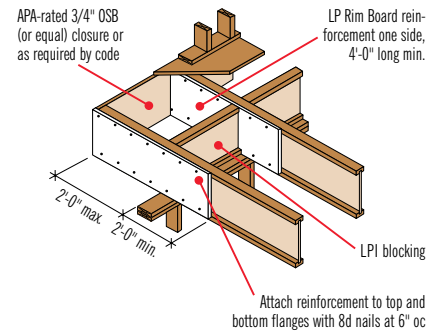
B: 3/4" OSB (OR EQUAL) REINFORCEMENT One Side Only



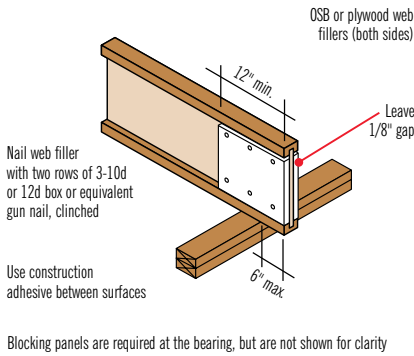
C: 3/4" OSB (OR EQUAL) REINFORCEMENT Both Sides



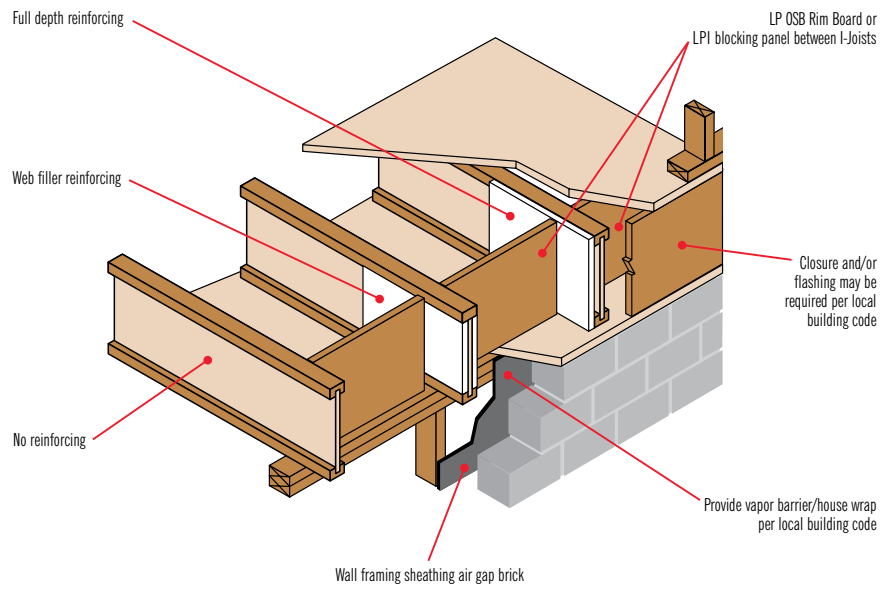
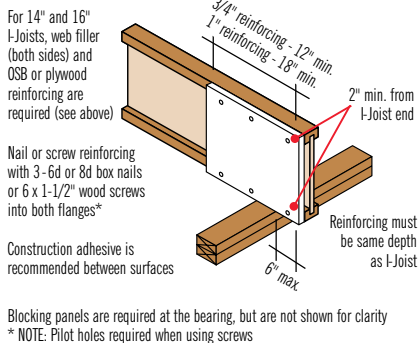
D: 1" OR 1-1/8" OSB RIM May be Substituted for Detail B

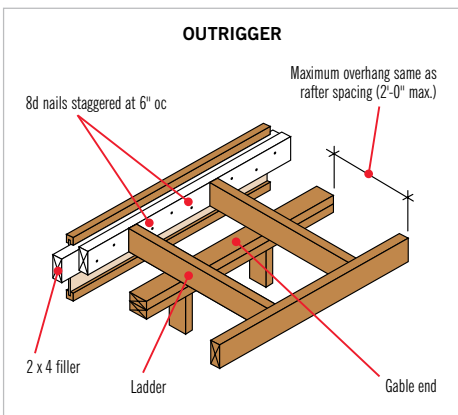
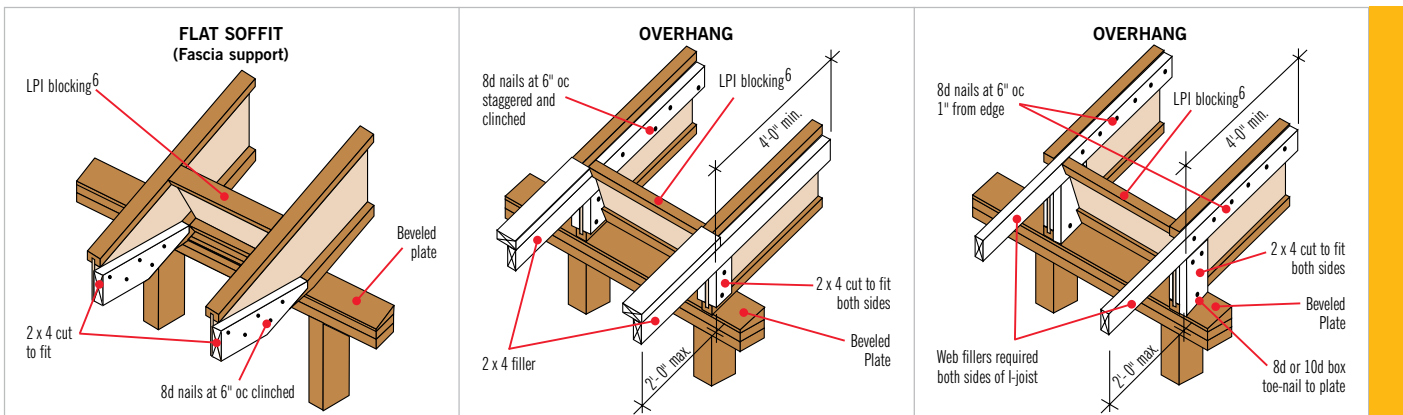
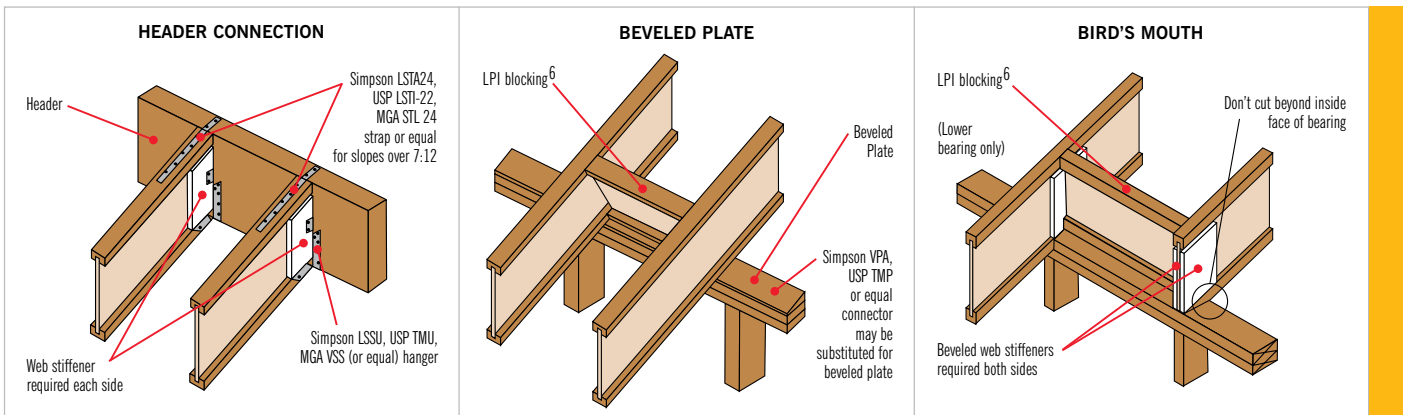
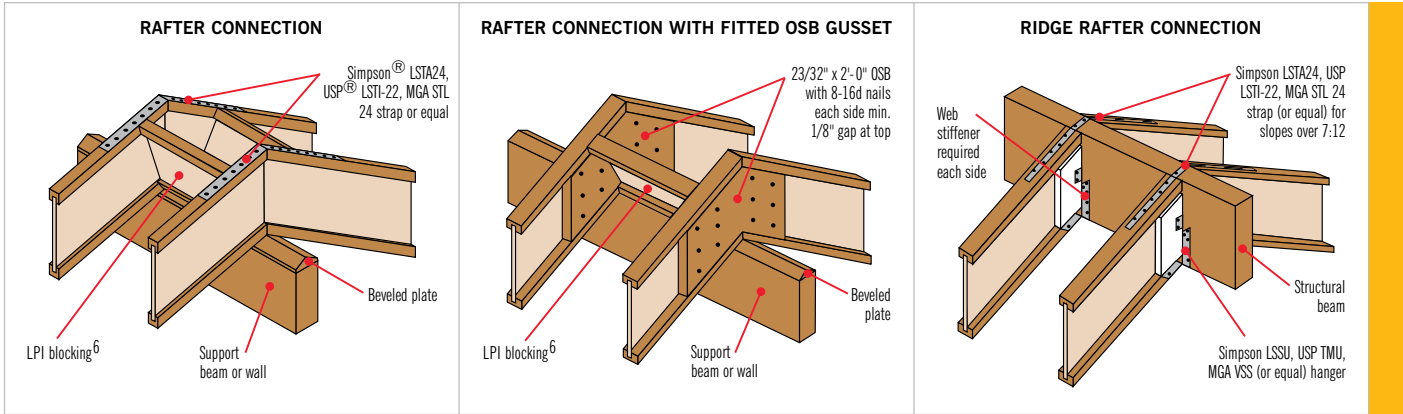


WEB FILLER REINFORCING



FULL-DEPTH REINFORCING One Side

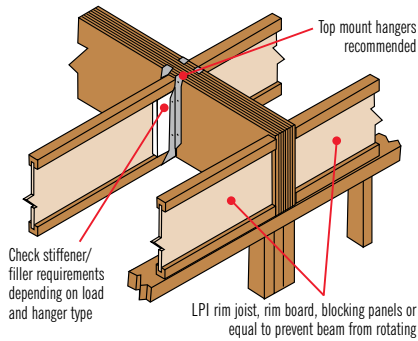




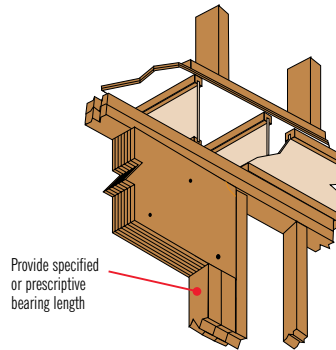
NOTES:

1. Maximum slope 12:12. Uplift anchors may be required.
2. Verify capacity and fastening requirements of hangers and connectors.
3. The LP I-Joist flange may be a bird's mouth cut only at the low end of the I-Joist. Bird's mouth cut must not overhang the inside face of bearing plate. The LP I-Joist must bear fully on plate.
4. Some wind or seismic loads may require different or additional details and connections.
5. 4" diameter hole(s) may be cut in blocking for ventilation.
6. Lateral restraint must be provided. Other methods of restraint, such as full depth LP OSB Rim Board and LP LVL, or metal x-bracing, may be substituted for the LP I-Joist blocking shown.

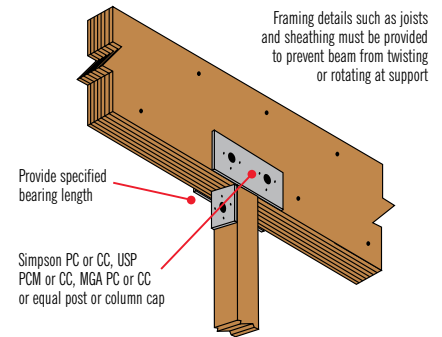
FLOOR BEAM (Flush ceiling)



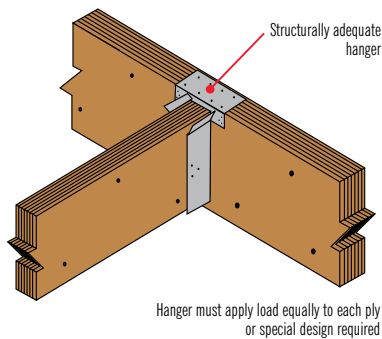
WINDOW/DOOR HEADER



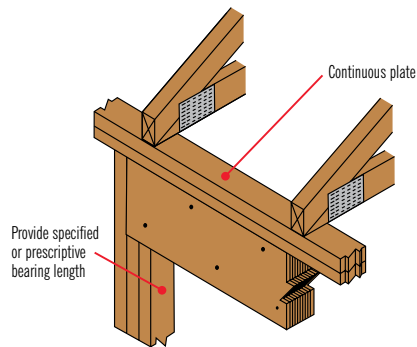
WOOD COLUMN



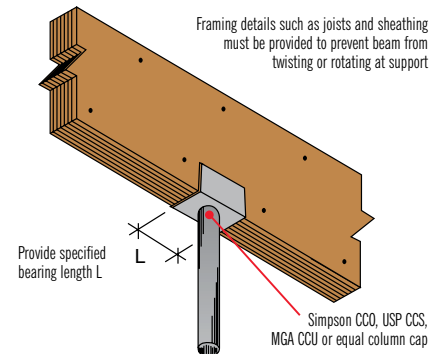
BEAM CONNECTION



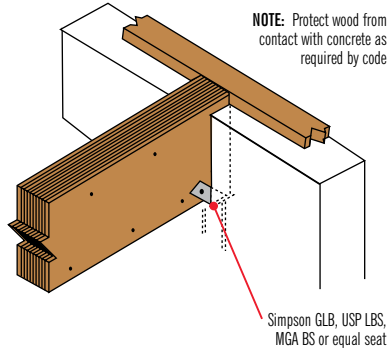
WINDOW/DOOR HEADER



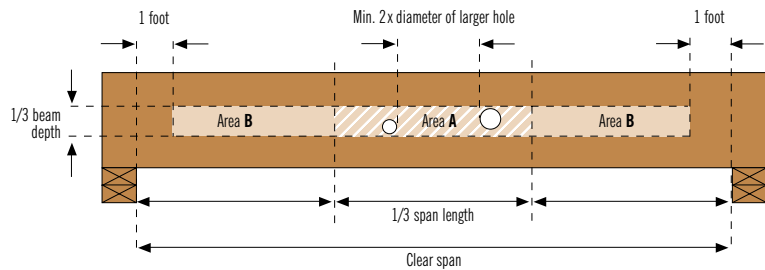
STEEL COLUMN



CONCRETE WALL



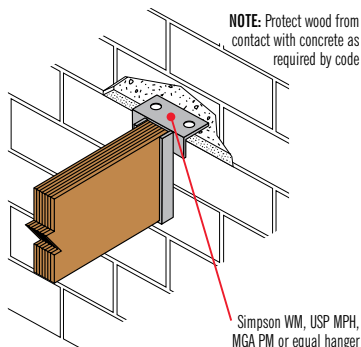
LVL HOLE DETAILS



NOTES:

1. These guidelines apply to uniformly loaded beams selected from the Quick Reference Tables or the Uniform Load Tables or designed with LP's design/specification software only. For all other applications, such as beams with concentrated loads, please contact your LP Engineered Wood Products distributor for assistance.
2. Round holes can be drilled anywhere in "Area A" provided that no more than four holes are cut, with the minimum spacing described in the diagram. The maximum hole size is 1-1/2" for depths up to 9-1/4", and 2" for depths greater than 9-1/4".
3. Rectangular holes are NOT allowed.
4. DO NOT drill holes in cantilevers without prior approval from the project engineer/architect.
5. Other hole sizes and configurations MAY be possible with further engineering analysis. For more information, contact your LP Engineered Wood Products distributor.
6. Up to three 3/4" holes may be drilled in "Area B" to accommodate wiring and/or water lines. These holes must be at least 12" apart. The holes should be located in the middle third of the depth, or a minimum of 3" from the bottom of the beam. For beams shallower than 9-1/4", locate holes at mid-depth.
7. Protect plumbing holes from moisture.

MASONRY HANGER



TOP LOADED BEAM – NAILED CONNECTION
(See Connection Assemblies for more details)

Framing is applied to top of the beam so that each ply carries an equal load

Standard nail sizes:
1-3/4" LVL: 16d (3-1/2") nails
1-1/2" LVL: 10d (3") nails

Two rows for depths up to 12"
Three rows for depths up to 18"
Four rows for depths up to 24"

TOP LOADED BEAM – BOLTED CONNECTION
(See Connection Assemblies for more details)

Framing is applied to top of the beam so that each ply carries an equal load

Nails are permissible but NOT required. See notes for Connection Assemblies.

ASTM grade A-307 (or better) 1/2" bolts. Use washers on both faces.

SIDE LOADED BEAM
(See Connection Assemblies for more details)

Framing is applied to sides of the beam

SIDE LOADS ARE NOT RECOMMENDED FOR 7" BEAMS UNLESS EQUALLY APPLIED TO BOTH FACES. Refer to Uniform Load for Side Loaded Beams for proper nail and/or bolt rows and spacing.

3-1/2" WIDE BEAMS

2 pieces 1-3/4"

DETAIL A*

5-1/4" WIDE BEAMS

3 pieces 1-3/4"

DETAIL B*

7" WIDE BEAMS

1 piece 1-3/4"
1 piece 3-1/2"

DETAIL C*

7" WIDE BEAMS

2 pieces 1-3/4"
1 piece 3-1/2"

DETAIL D*

7" WIDE BEAMS

1 piece 1-3/4"
1 piece 5-1/4"

DETAIL E*

7" WIDE BEAMS

4 pieces 1-3/4"

DETAIL F

7" WIDE BEAMS

2 pieces 3-1/2"

DETAIL G

CONNECTION ASSEMBLIES

MAXIMUM UNIFORM LOAD FOR SIDE LOADED BEAMS (LBS.)				
Connection Detail	2 Rows of Nails at 12" oc*	3 Rows of Nails at 12" oc*	2 Rows of Bolts at 24" oc	2 Rows of Bolts at 12" oc
A	388	582	506	1012
B	291	437	380	760
C	291	437	522	1044
D	259	388	464	928
E	259	388	464	928
F	na	na	337	674
G	na	na	858	1716

*3 rows of nails are required for depths greater than 12", up to 18". Four rows of nails are required for depths greater than 18", up to 24".

NAIL SCHEDULE				
Nail Length (in.)	Nail Diameter	Lateral Load/Nail .lbs	Nail Size Factor	Notes
	mm (in.)			
3.50	0.162	126	1.30	16d common
	0.131	97	1.00	
3.25	0.148	99	1.02	12d common
	0.131	92	0.95	
	0.120	81	0.84	
3.00	0.148	82	0.85	10d common
	0.131	77	0.79	
	0.120	70	0.72	

NOTES:

- Values are for normal duration (100%) and can be increased for shorter durations where applicable.
- Nailed values are based on 16d box (3-1/2" x 0.131") nails. For other sizes, multiply values by the Nail Size Factor from the Nail Schedule above.
- For nails at 8" oc, multiply values above by 1.5. For nails at 6" oc multiply values above by 2.
- For Details A and B, when attaching any two plies of 1-3/4" LVL together, half the nails may be driven from each face.
- For Detail A, when nails shorter than 3-1/2" are used, drive half the nails from each face.
- When driving nails from each face, alternate every other nail in a row.
- For Details C and E, the larger side load should be applied to larger ply when possible.
- For Detail F, it is permissible to nail plies together before bolting. Nail two plies together, then attach one additional ply to each side. Finally, bolt as shown.
- 7" beams should not be loaded from one side only unless approved by a professional engineer.
- Other nail and bolt configurations are possible. Contact your LP Engineered Wood Products distributor or a professional engineer.