

Attention Framers:
This guide is a supplement to an engineered Floor Framing Plan created for a specific job. Details included in the Floor Framing Plan take precedence over any other general Open Joist framing details contained in this guide.

Important: Deviation from the engineered Floor Framing Plan supplied for a specific job will result in material shortages, job delays and possible unsafe installations! Do not deviate from the plan without contacting your Open Joist representative.



Code Approvals and Certifications


Model Building Code Acceptance
For U.S. building codes, IAPMO Uniform Evaluation Service has issued report number ER-501, certifying Open Joist for use under the International Building Code and International Residential Code versions for 2009, 2012 and 2015. In Canada, National Research Council Canada has certified Open Joist in Report #CCMC 12118-5.

Fire Protection Exception Certification
IAPMO Uniform Evaluation Service has issued report number ER-480, certifying equivalent fire performance to 2X10 dimension lumber in accordance with Exception 4 of Section R302.13 of the 2015 International Residential Code and Section R501.3 of the 2012 International Residential Code.



Open Joist Floor Trusses
INSTALLATION GUIDE

A product of Allegheny Structural Components



www.openjoist.com

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HANDLING • STORAGE • SAFETY

- Handle Open Joist trusses upright and by the bottom chord. Handle trusses carefully to avoid damaging them.
- Store trusses out of mud and water.
- Open Joist floor trusses stored outdoors should be covered for protection from weather.
- In the interest of safety, bundles of Open Joist should remain banded until ready for use. Care should be exercised when cutting bands on bundles.
- Avoid excessive flat-wise bending of Open Joist trusses. Only use Open Joist floor trusses for their intended purposes. Do not use trusses for ramps, ladders, etc.
- Open Joist trusses are designed for floor framing and may only be used for roof framing if the roof pitch is 1/2 on 12 or less and trusses have been adequately sized.
- Distribute piles of building materials (gypsum board, plywood, concrete blocks, etc.) in small bundles and over bearing supports.
- Do not overload Open Joist members.
- Do not stack materials on trusses that have not been properly supported, braced or sheathed to provide lateral support.
- Do not walk on floor trusses that have not been properly supported and braced.

TEMPORARY BRACING

No one should be allowed on the Open Joist floor system until all hangers, blocking, rim board and temporary bracing are completely installed.

Open Joist trusses must be held straight and plumb at their design-specified spacing while all blocking, rim board and bracing are installed.

Temporary bracing is required at all supports and at the interval shown on the drawing until permanent bracing elements and/or sheathing are installed.

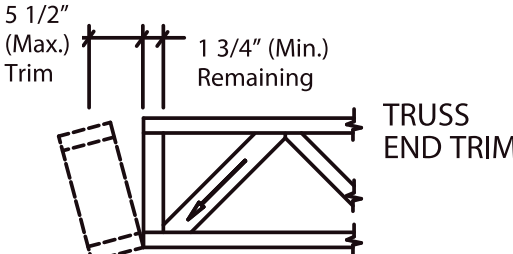
Cantilevered trusses require lateral bracing at ends.

Installation of permanent "strongback" bridging for the purposes of load sharing and vibration dampening is recommended.

See Framing Details #5 and #5A. Permanent bracing to transmit lateral forces or to provide stability in some applications may be required and should be specified by the building designer.

TRIMMING AND ALTERING

Open Joist floor trusses are manufactured in one-foot incremental lengths and may be trimmed by a maximum of 11 inches for precision fitting.

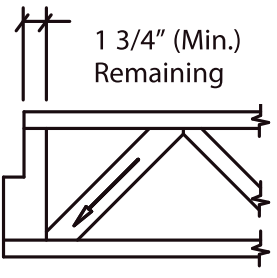


5 1/2" (Max.) Trim

1 3/4" (Min.) Remaining

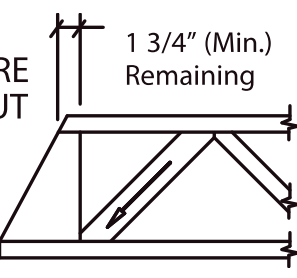
TRUSS END TRIM

A maximum trim of 5-1/2" may be made on each end of an Open Joist truss, leaving a minimum of 1-3/4" of the solid end block remaining. Do not leave less than 1-3/4" of remaining end block.



1 3/4" (Min.) Remaining

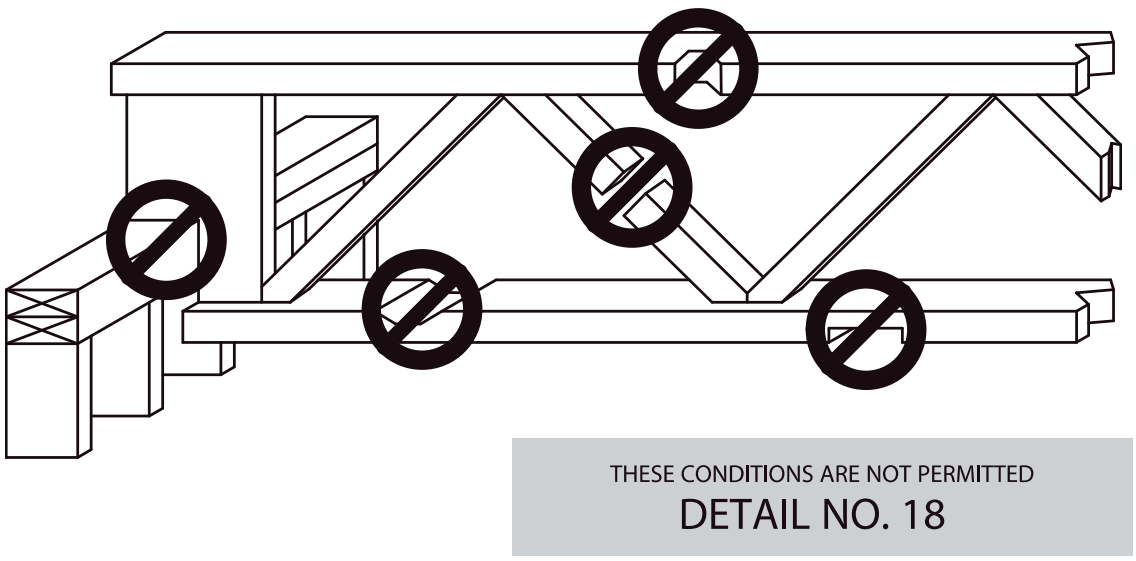
RIBBON NOTCH



1 3/4" (Min.) Remaining

FIRE CUT

Only the end blocks of Open Joist trusses may be cut according to the guidelines stated. Top and bottom truss chords and truss webs may not be cut, drilled or notched. Altering these elements will alter the trusses' structural integrity and may result in dangerous conditions. Cutting, drilling or notching chords and webs (other than normal end block trims as previously stated) without prior approval from Open Joist Engineering will result in the assumption of liability for floor system defects and responsibility for repair of such defects by the mechanic who performs unauthorized cutting or altering. Care should be taken during truss layout to allow for adequate mechanical clearances so that there will be no need to cut or notch trusses. Mechanicals subcontractors should be made aware of these cautions.



MECHANICAL SYSTEMS INSTALLATION

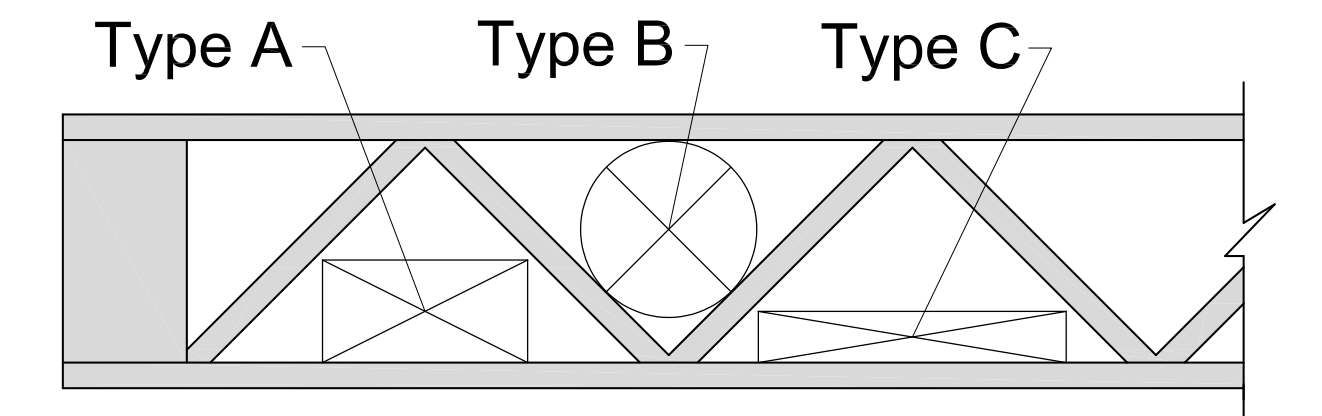


Plumbing, electrical and HVAC systems can be installed around and through the open web area of Open Joist floor trusses as long as the truss chords and webs are not cut, notched or altered. Cutting or notching chords and webs (other than normal end block trims) without prior approval from Open Joist Engineering will result in the assumption of liability for floor system defects and responsibility for the repair of such defects by the mechanic who performs the unauthorized cutting or altering. Care should be taken during truss layout to allow for adequate mechanical clearances so there will be no need to cut or notch trusses. Mechanicals sub-contractors should be made aware of these cautions.

The illustration and table at right show typical through-web clearances for mechanical systems. In addition, Open Joist floor trusses feature a rectangular chase opening (size varies by truss size) located at the center of the truss.

THROUGH-TRUSS CLEARANCES
FOR MEP INSTALLATION

Truss Depth	Type A	Type B	Type C
9-1/4"	3" x 9"	5" Diameter	N/A
11-7/8"	5-1/2" x 5-1/2"	6-1/2" Diameter	3" x 10"
14"	6-1/2" x 6-1/2"	8" Diameter	4" x 12"
16"	6" x 12"	10" Diameter	3" x 18"
18"	8" x 12"	11-1/2" Diameter	5" x 18"
20"	10" x 12"	13-1/2" Diameter	7" x 18"



TRUSS CLEAR SPAN CAPABILITIES

Examples at 40 lb Live Load / 15 lb Dead Load								
Truss Depth	12" o.c.		16" o.c.		19.2" o.c.		24" o.c.	
	L/360	L/480	L/360	L/480	L/360	L/480	L/360	L/480
9-1/4"	19'-9"	19'-5"	19'-1"	17'-3"	17'-11"	16'-6"	16'-11"	12'-10"
11-7/8"	22'-9"	22'-9"	22'-9"	21'-0"	21'-5"	19'-10"	19'-3"	17'-2"
14"	24'-9"	24'-9"	24'-8"	22'-9"	23'-5"	21'-2"	20'-10"	18'-5"
16"	29'-9"	29'-8"	29'-9"	27'-7"	28'-5"	25'-6"	26'-10"	22'-5"
18"	30'-9"	30'-9"	30'-9"	30'-2"	30'-3"	28'-5"	28'-3"	26'-1"
20"	31'-9"	31'-9"	31'-9"	31'-4"	31'-2"	30'-1"	29'-6"	28'-1"

NOTE: Clear spans shown on this chart are presented under the following conditions:
(1) Bearing of 1-1/2" each end
(2) Effect of "strongback" bracing not considered
(3) Assumes single layer of 5/8" APA-rated wood sheathing nailed or screwed
(4) Spans are clear distance between supports for uniformly loaded trusses and Include allowable increases for repetitive use members



STANDARD TRUSS CONFIGURATIONS		
Truss Depth	Truss Length	Chord Size & Grade
9-1/4"	3' thru 16'	3x2 #2
9-1/4"	17' thru 20'	4x2 MSR 2100
11-7/8"	3' thru 17'	3x2 #2
11-7/8"	18' thru 19'	4x2 #2
11-7/8"	20' thru 23'	4x2 MSR 2100
14"	3' thru 18'	3x2 #2
14"	19' thru 21'	4x2 #2
14"	22' thru 25'	4x2 MSR 2100
16"	3' thru 22'	4x2 #2
16"	23' thru 26'	4x2 MSR 2100
16"	27' thru 30'	4x2 MSR 2400
18"	3' thru 22'	4x2 #2
18"	23' thru 27'	4x2 MSR 2100
18"	28' thru 31'	4x2 MSR 2400
20"	3' thru 22'	4x2 #2
20"	23' thru 28'	4x2 MSR 2100
20"	29' thru 32'	4x2 MSR 2400

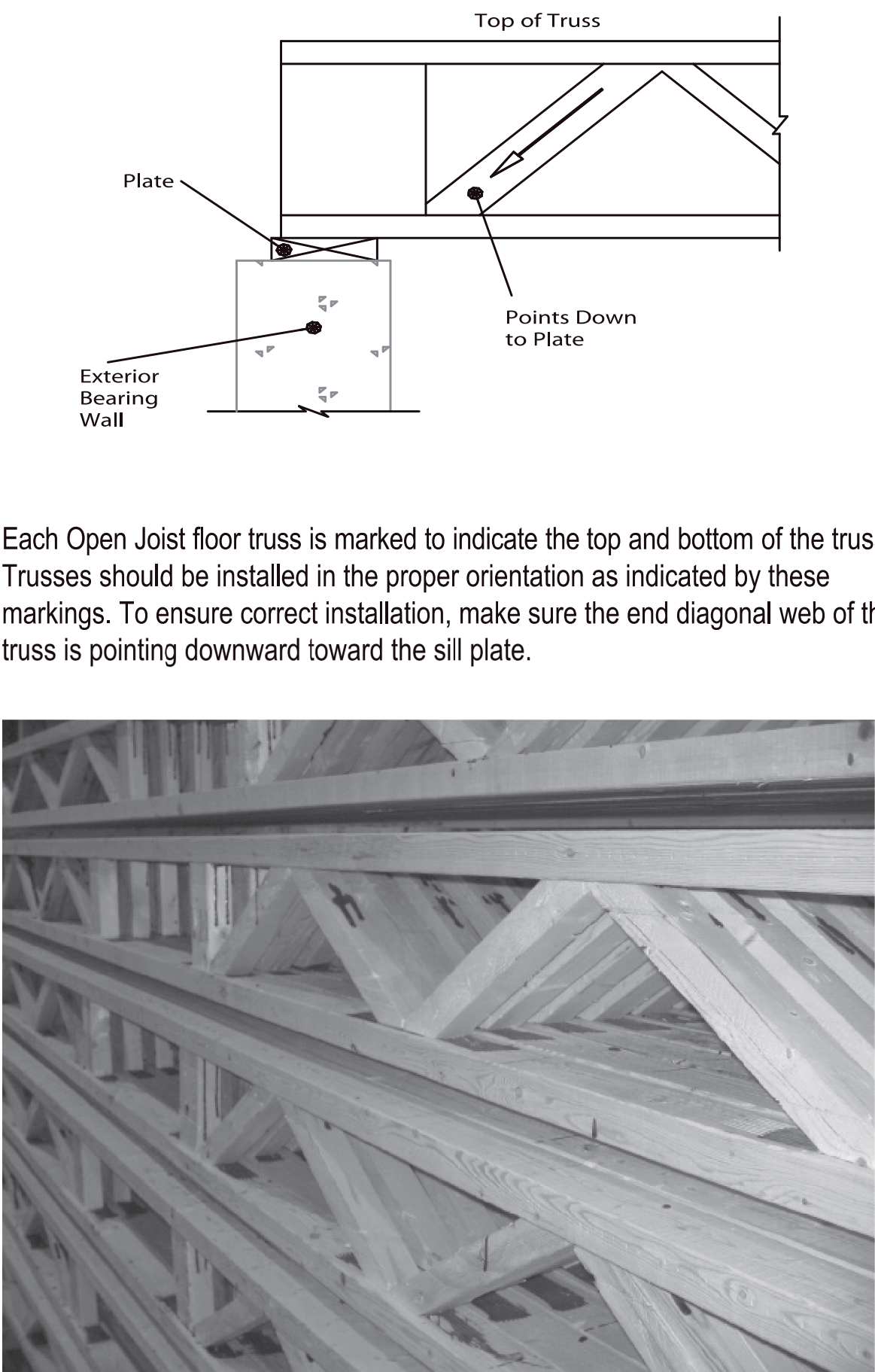
Note: Special order trusses may be constructed with chord sizes and grades greater than those shown above.

For additional information, go to:
www.openjoist.com

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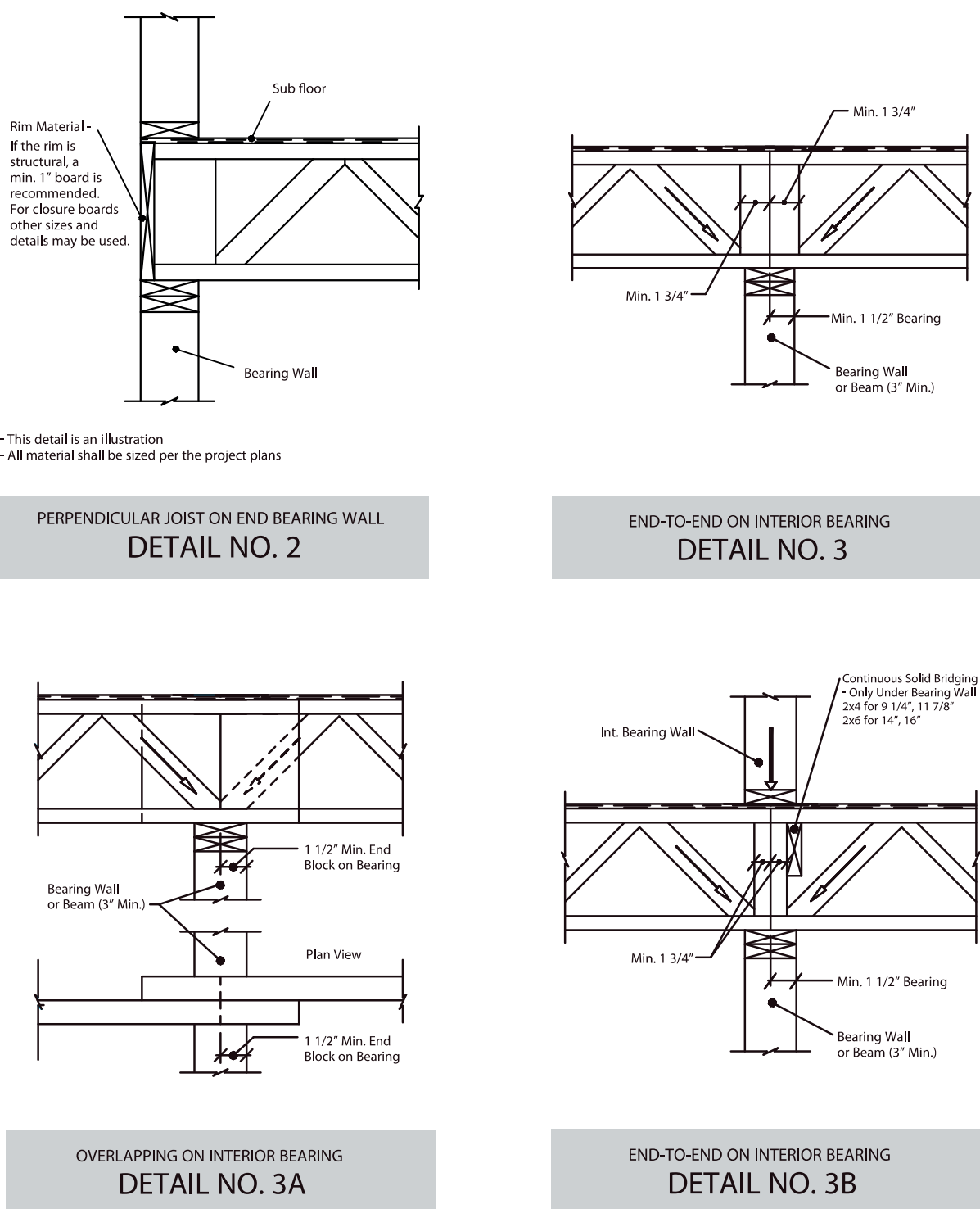
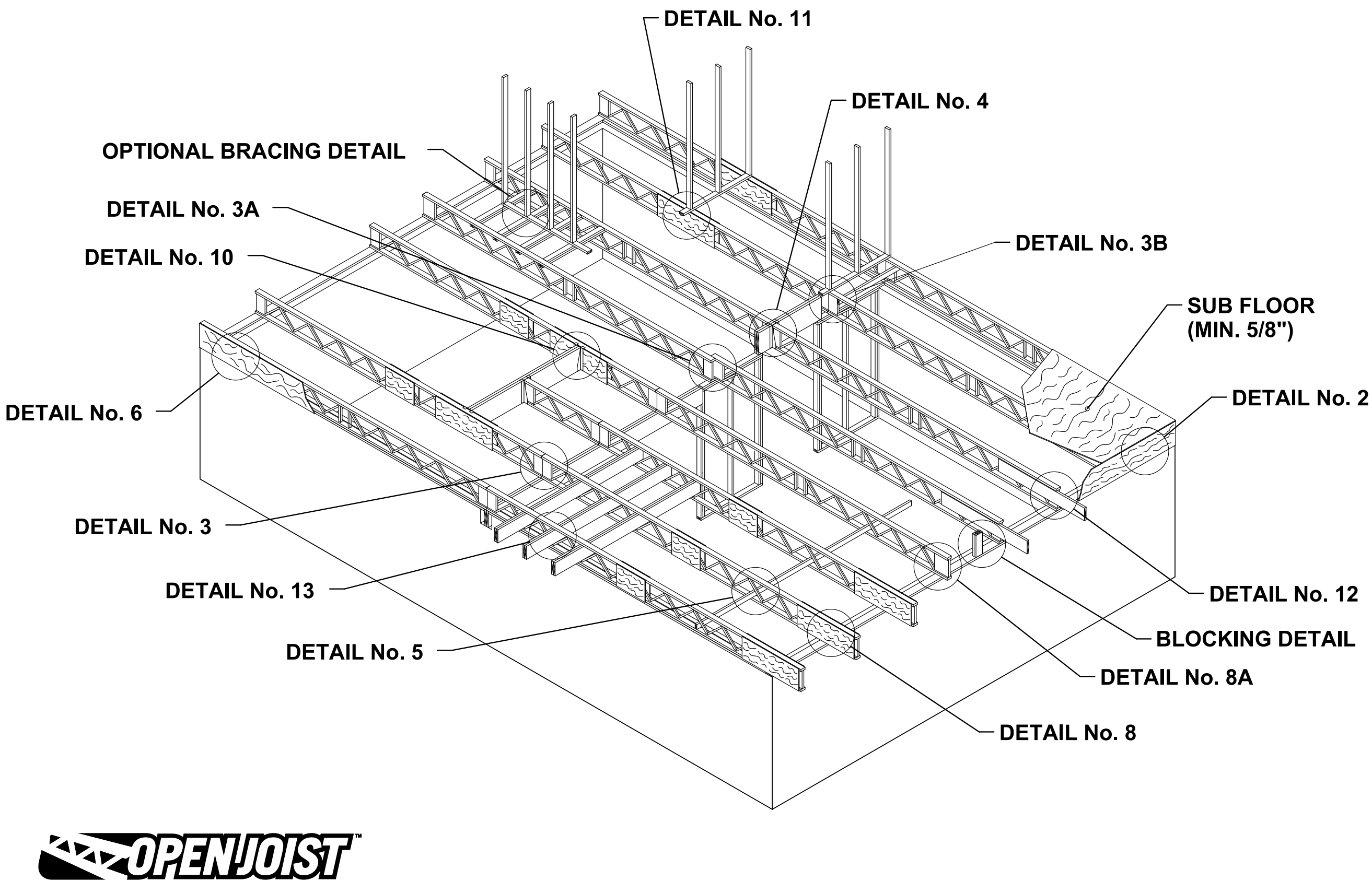


CORRECT TRUSS ORIENTATION

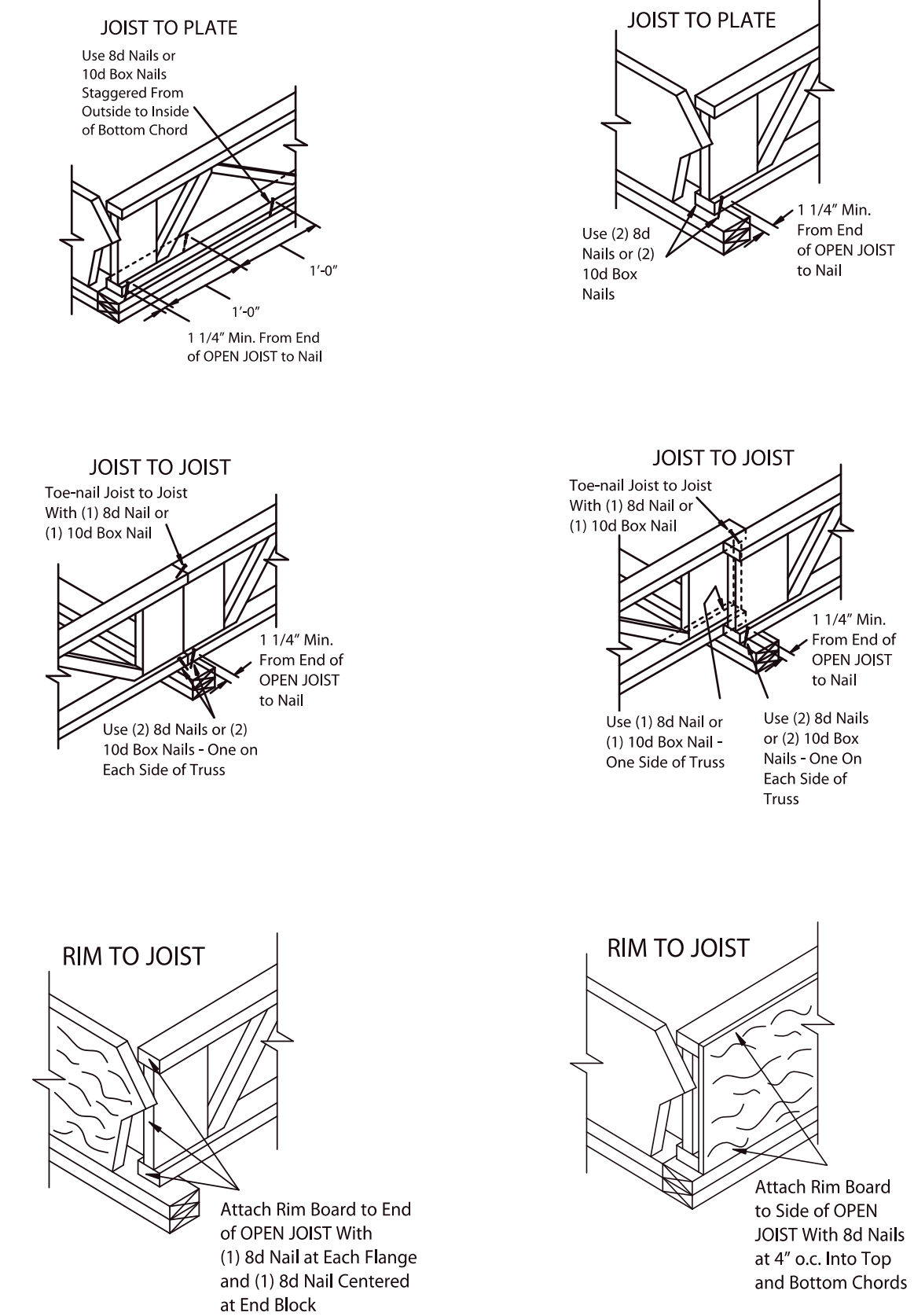


FRAMING DETAILS

(see individual details)



NAILING NOTES



Typical Nailing Conditions

Nailing Notes

Caution: When fastening Open Joist trusses, care should be taken to avoid splitting wooden truss members.

Hangers: Follow hanger manufacturers' nailing instructions when installing Open Joist trusses with hangers.

Gussets: Open Joist engineered drawings will specify nailing schedules for attachment of gussets to trusses for cantilever and point load situations.

Strongback Bracing: When fastening 2X bracing perpendicular to and through OPEN JOIST trusses, use the following attachments. When fastening to a vertical web or block, use (2) 3" nails fastened to the vertical member only. When fastening to a diagonal web, use (1) 3" nail into the web and (1) 3" nail into the bottom truss chord (see details 5 and 5A). Strongback bracing should be nailed in place before decking/sheathing is installed.

Decking/Sheathing: Follow APA recommendations for fastening sheathing to the top chord of Open Joist floor trusses and rim members.

Screws: Wood screws of sufficient strength may be substituted for nails when fastening Open Joist floor trusses.

Adhesives: Engineered drawings will specify adhesive requirements where needed for attachment of gussets, etc. Using adhesives in addition to fasteners when installing decking/sheathing will improve floor system performance.

Bearing Notes

Bearing is any part of a structure (wall, column, pier, etc.) that supports vertical loads and is itself supported by a footing (a concrete pad under a foundation wall or a thickened concrete slab that carries loads down to "undisturbed earth"). Walls, etc. that are not supported by footings are not considered bearing. Unless indicated otherwise by Open Joist Engineering, minimum bearing length of 1-1/2" is required to support each end of an Open Joist floor truss (see Framing Details 3, 3A and 3B).

Open Joist is a bottom-chord-bearing product that must be supported by the truss' bottom chord. To achieve the same framing results as "top-chord-bearing" or "mid-chord-bearing" trusses, hangers and/or blocking should be used. Open Joist is a simple-span product that must be butted or overlapped at any intermediate bearing such as a beam or wall. Open Joist is not designed for multiple-span applications.

