

Frequently Asked Questions

Proper Bracing of Valley Framing by Richard Zimmermann

In addition to the question of nailing and support for valley frames covered in [last month's FAQ column \(April 2003\)](#), there is also an issue regarding how to properly brace the roof trusses that support valley frames. It is critical that permanent top chord bracing is supplied by proper nailing of the valley truss bottom chords to the carrying truss top chords, through purlins, or properly installed rated roof sheathing. If the sheathing is not carried through under the valley framing, then the permanent top chord bracing must be supplied in another manner.

There are actually a number of different conditions where a similar issue arises: where the over framing runs perpendicular to the trusses supporting it (like valley framing and some truss-on-truss framing) and where the over framing runs parallel to the trusses supporting it (like multi-piece trusses or piggyback trusses).

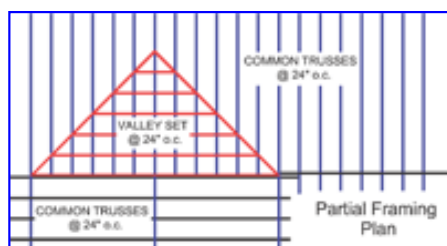
The design of the permanent structural bracing system to transfer both vertical and lateral loads within the roof system and between the roof system and the structure is the responsibility of the Building Designer. John Meeks, P.E, discusses most of these conditions in detail in the Commentary for Permanent Bracing of Metal Plate Connected Wood Trusses. However, he does not specifically address the condition where the valley framing is carried out with valley truss frames (not actually trusses, but traditionally called so).

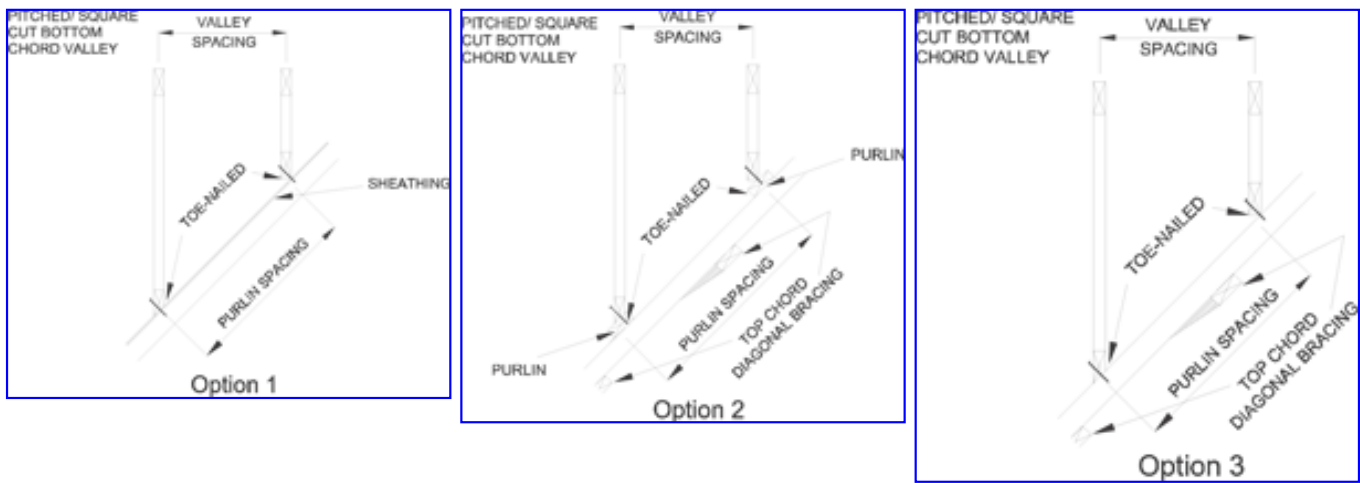
QUESTION:

Must the roof sheathing be carried through underneath valley trusses?

ANSWER:

When there are large valleys, the area under valley framing can be considerable. Installers might feel that continuing the sheathing under the valley framing is not advisable because it is a waste of material. Another consideration might be to leave the roof sheathing off under the valley framing to allow the free flow of air between roof areas. Regardless, the top chord of the supporting trusses beneath the valley set must be properly braced. Valley trusses are non-structural elements that are merely transferring loads onto carrying trusses below them due to a change in the roof line/configuration. They require continuous bearing, usually by sitting on sheathing or by sitting on the top chords of the carrying trusses below them if carrying trusses are spaced 24" on center or less. Continuous bracing of the top chord of the carrying trusses may be accomplished by one of three methods as shown on the accompanying drawing:





CLICK ON IMAGE FOR LARGER VIEW

1. Properly installed rated sheathing applied before the valley trusses are installed. Sheathing supplies both the required lateral and diagonal bracing requirements.
2. Purlins properly spaced and fastened as specified on the Truss Design Drawing for both the carrying truss and the valley truss and as well as required diagonal bracing.
3. Valley trusses used in place of purlins spaced and fastened per the Truss Design Drawing and as well as required diagonal bracing.

One must also follow proper temporary bracing procedures, including diagonal bracing, for the carrying trusses and the valley trusses.

To pose a question for this column, email us at faq@woodtruss.com. To view other questions visit the [WTCA website](#).

[SBC HOME PAGE](#)

Copyright © 2003 by Truss Publications, Inc. All rights reserved. For permission to reprint materials from SBC Magazine, call 608/310-6706 or email editor@sbcmag.info.

The mission of Structural Building Components Magazine (SBC) is to increase the knowledge of and to promote the common interests of those engaged in manufacturing and distributing of structural building components to ensure growth and continuity, and to be the information conduit by staying abreast of leading-edge issues. SBC will take a leadership role on behalf of the component industry in disseminating technical and marketplace information, and will maintain advisory committees consisting of the most knowledgeable professionals in the industry. The opinions expressed in SBC are those of the authors and those quoted solely, and are not necessarily the opinions of any of the affiliated associations (SBCC, WTCA, SCDA & STCA).