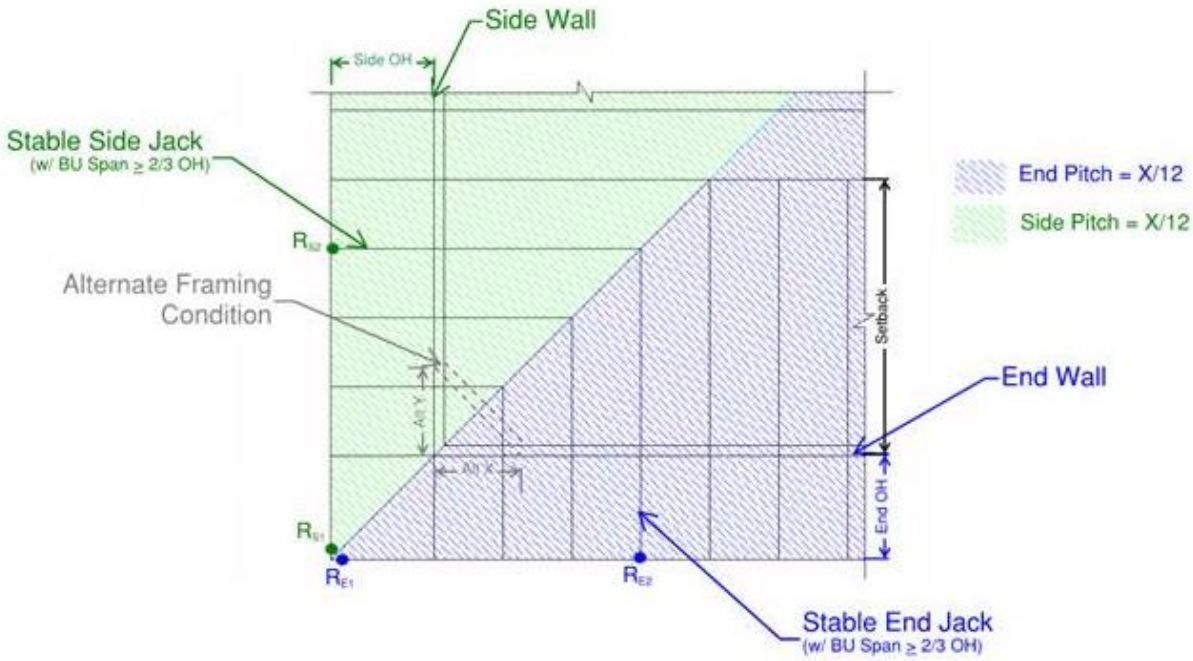
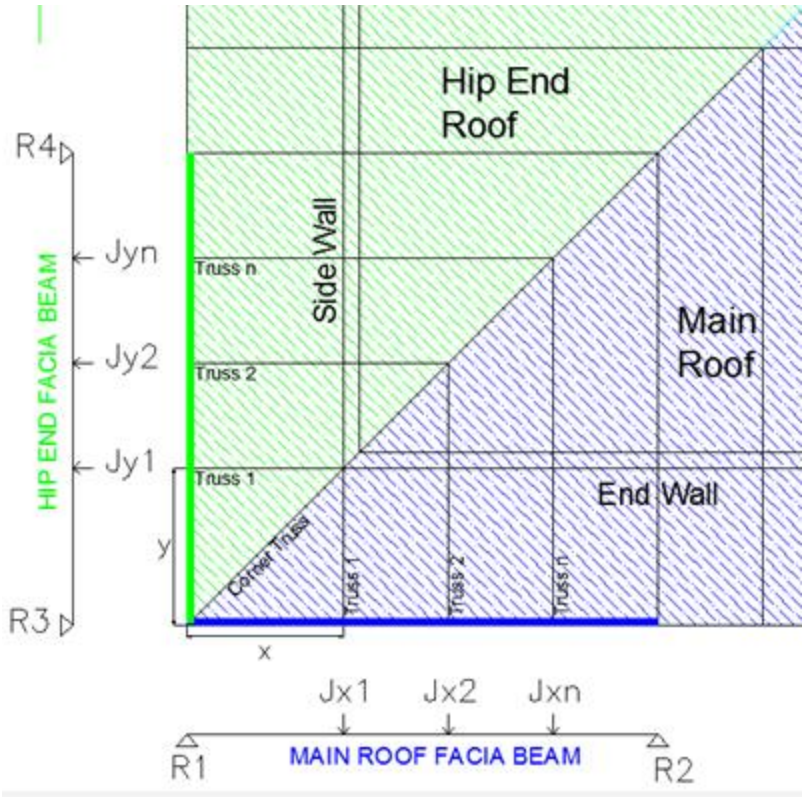
QoD - Structural Fascia article.

Question of the day…The only way I can make my roof corner framing work is by specifying a ‘structural fascia’. How does this work anyway? What is this ‘structural fascia’ and how is it supported? What are the typical connections at each end? How are they executed?

Whoa there! I think this qualifies as more that one question, but being that they are all related, let’s take a stab at answering them.

Structural fascia comes into play when: a) there is only one bearing for truss, typically on a corner jack of a hip set with a long overhang or cantilever; b) where the existing bearings are so close together they can’t resist the overturning (unstable truss); or c) where the designer is trying to limit overhang deflection issues (see the graphic below).





The structural fascia is actually just another beam supporting a triangular load. The only tricky part is making the beam fit into the allotted space, and making sure that adequate connections can be made on either end. Often times, the beam needs to be moved in off the actual overhang edge to allow for hanger flanges and fastener end distance requirements. As seen in the graphics above, the connection at the first 'stable end jack' is typically a straight 90 degree hanger. Many of these can have the outer flange turned-in to help get the hanger closer to the overhang edge. Hangers that connect with 10d common nails would have an end distance (closest nail to the end of the member) of 1 1/2" if we follow the NDS recommendation of those nails not being closer than 10 diameters from the end. This works out nicely to inset the beam by 1 ½" and then fill the gap with 2x blocking once the beam is installed. The hanger connection on the skewed hip member needs all the same considerations. If the hips are symmetrical (main roof and hip-end roof are the same pitch) the hanger would be a standard 45 degree. If the hips are different then we would be looking for a specific skew or field-adjustable solution. Once again watch those hanger flange widths and be sure that the hanger will fit with adequate nail end distances.