Chapter 51: Sidewall Overhang(s) Only - Enclosed

Most Common Mistakes:

1. Placing beveled edge purlin below truss tails.
2. Beveled fascia purlin top edges bevel cut other than to match roof slope.
3. Failure to verify “tails” are correct length.
4. End tails other than 1-1/2” longer than interior tails.
5. Neglecting to trim truss tails off even with beveled fascia purlin bottom.
6. Failure to install beveled fascia purlins with “crown” up.
7. Beveled fascia purlins installed other than behind end truss tails.
8. Neglecting to set beveled fascia purlins to stringline prior to roof steel installation.
9. Improper roof steel overhang past beveled fascia purlin.
10. Inside closures omitted from on top of beveled fascia purlin.
11. Fascia purlin trims overlapped or caulking omitted behind splices.
12. Soffit panels installed other than perpendicular to sidewalls.

Fully recessed purlin layout still begins with eave strut location. **See Figure 51-1**

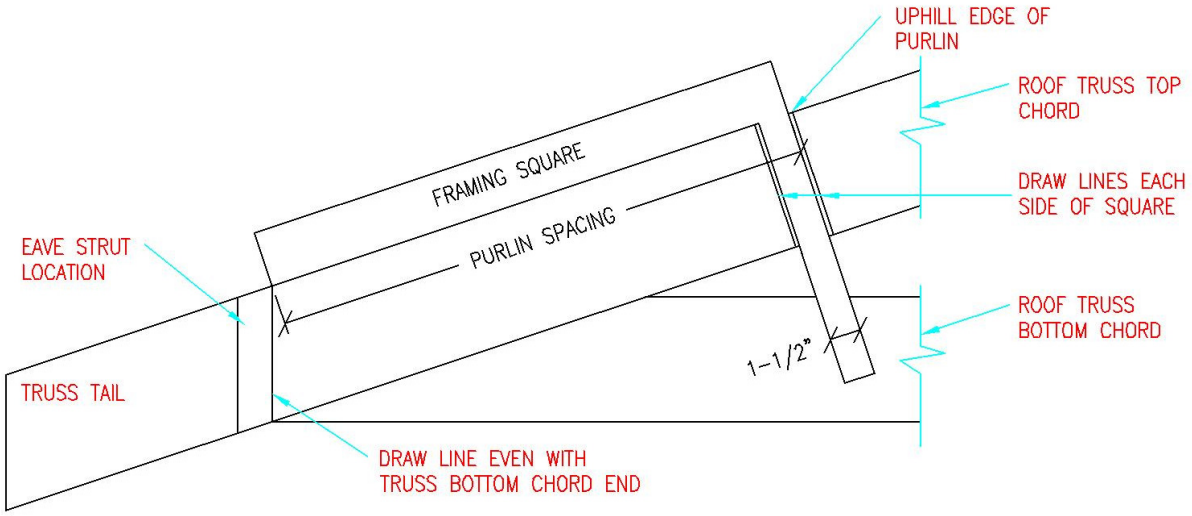

Figure 51-1: Beveled Edge Purlin Location

If a choice exists between several boards to use for beveled fascia purlins, select ones as straight as possible.

Fascia purlins are to have upper edge bevel cut at an angle to follow roof slope (same as eave struts). This is easiest done with a table saw. Make sure to cut off from “crowned up” edge of beveled fascia purlins. **See Figure 51-2**

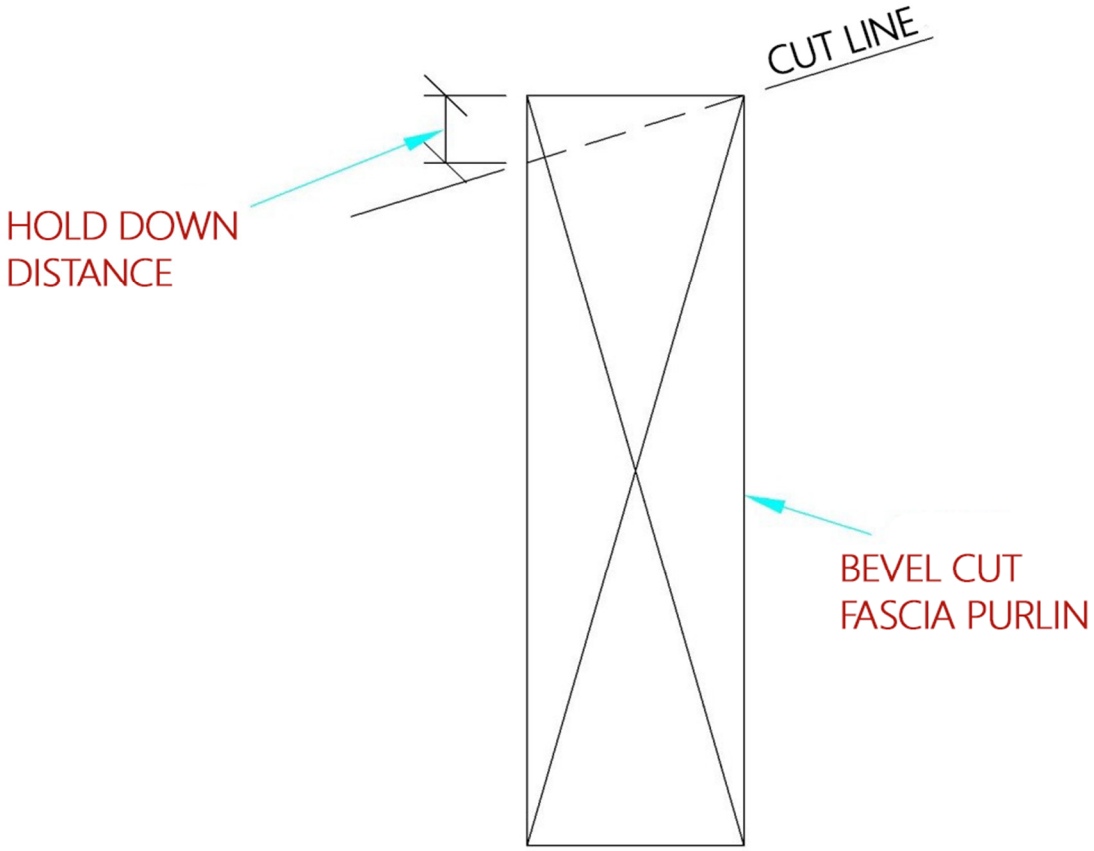

Figure 51-2: Bevel Cut on Beveled Fascia Purlin

“Hold Down” measurements are based upon 2x6 at 5-1/2”, 2x8 at 7-1/4”, 2x10 at 9-1/4”, 2x12 at 11-1/4”. If your lumber happens to be under these dimensions, subtract any under dimension amount from hold down listed in Table below.

Table 51-1 **HOLD DOWN DISTANCE**

Roof Slope	Hold Down
2/12	1/4"
3/12	**3/8"**
4/12	1/2"
5/12	**5/8"**
6/12	3/4"
7/12	**7/8"**
8/12	1"
9/12	**1-1/8”**
10/12	1-1/4”
11/12	**1-3/8”**
12/12	1-1/2”

Beveled fascia purlin and beveled eave struts are installed perpendicular to ground, avoid rotating to be perpendicular to roof angle.

Beveled fascia purlins and beveled eave struts are installed with top edge in same plane as roof fully recessed purlins, they do NOT install below trusses. Beveled fascia purlins are only on eave sidewalls, and should be placed only after trusses or rafters are attached to columns.

At corners, beveled eave struts screw to corner column, with eave strut (purlin) end flush to corner column outside edge. At sidewall columns, eave struts screwnail to remaining (unnotched) column portion and are joist hung to side of roof truss.

CAUTION ***If this step is not followed carefully, roof steel will not lie properly and may "kink" at eave.***

Any sidewall overhang "width" is measured parallel to ground, not with "roof run". Overhang distance will be horizontal measure from sidewall column face to truss (or rafter) tail outside edge. **See Figure 51-3.**

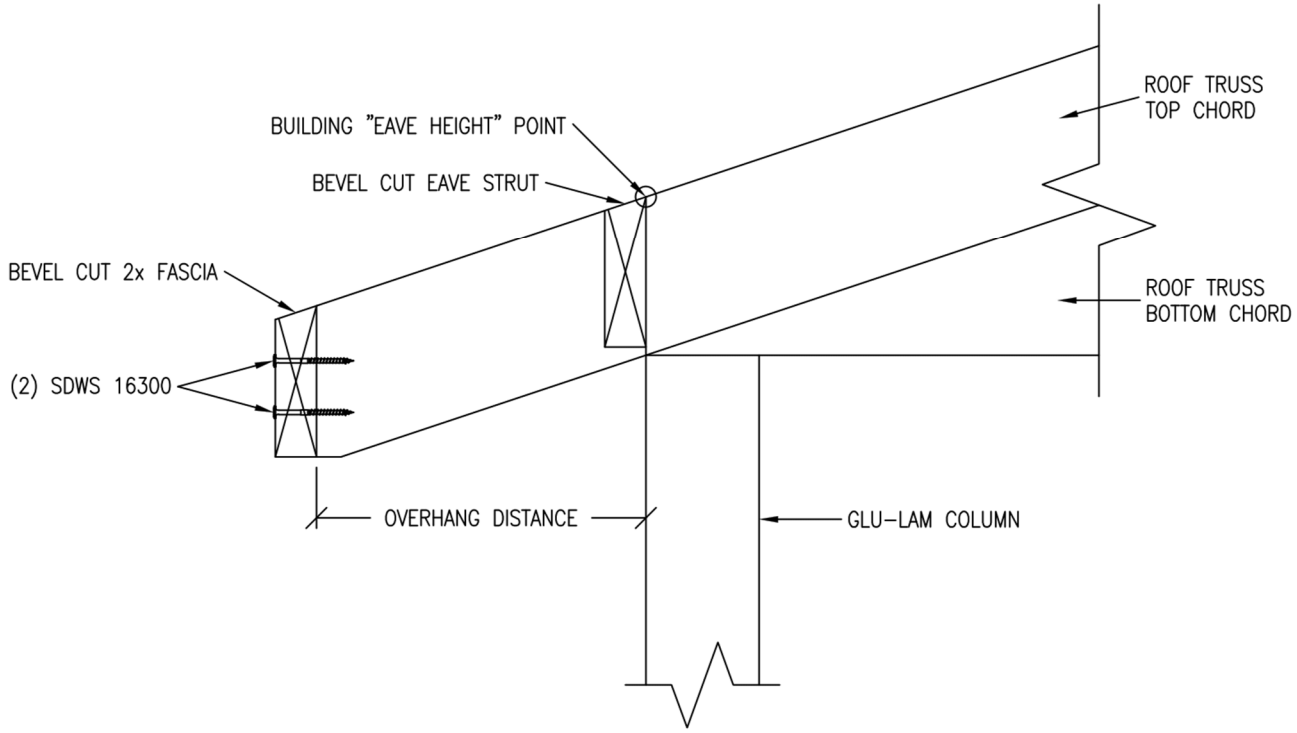

Figure 51-3: Measuring Overhang Distance

If necessary, trim truss "tails" off at correct overhang distance measure.

Add 1-1/2" to Overhang Distance for end trusses ONLY.

Cut off bottom edge of interior truss tails to match beveled fascia purlin inside height.
See Figure 51-4

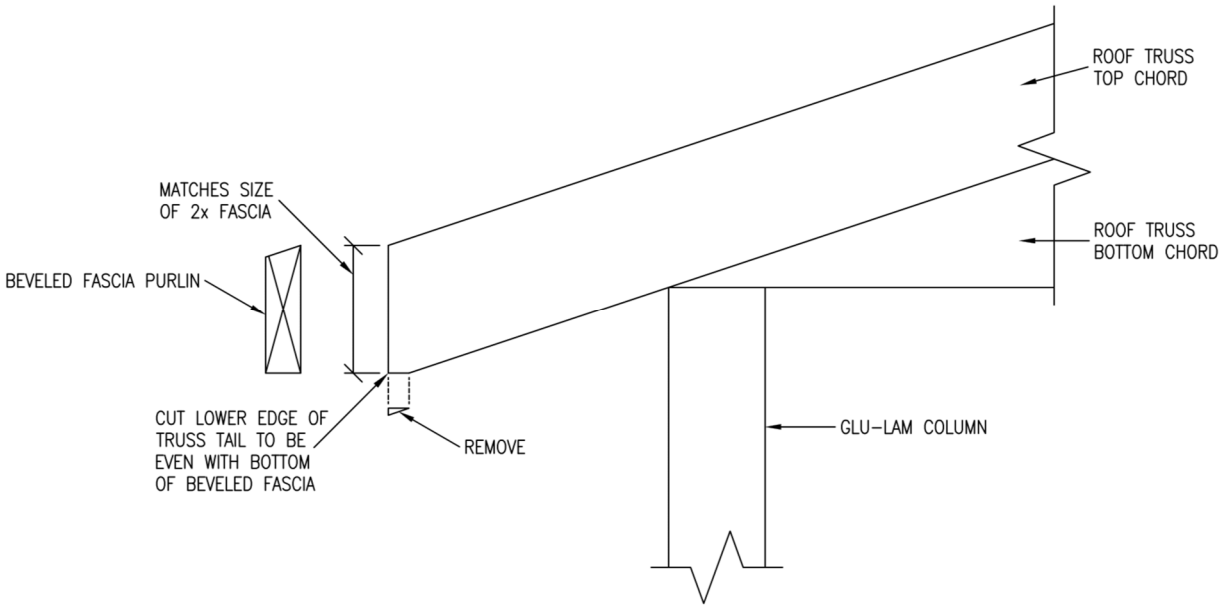

Figure 51-4: Ripping Truss Tails to Match Fascia Purlin

Cut off bottom edge of end truss tail to match bottom of fascia purlin. **See Figure 51-5**

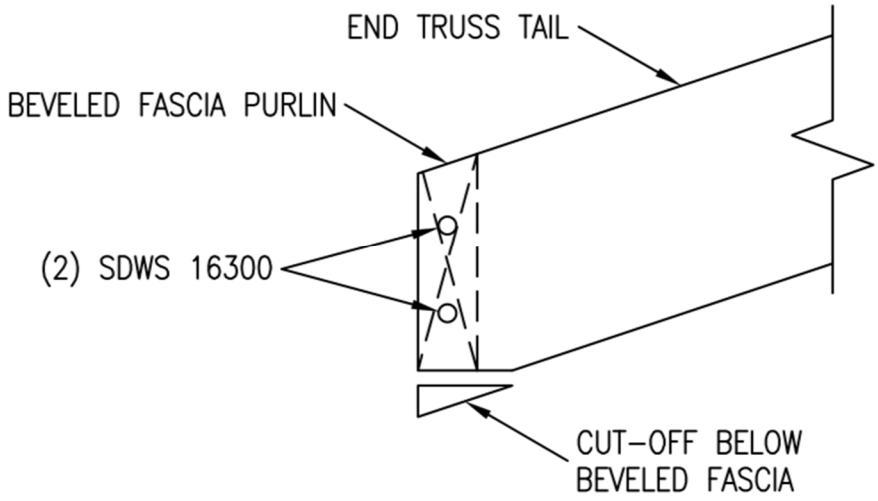

Figure 51-5: Trimming Bottom Edge of End Truss Tail

Install beveled fascia purlin (crowned up) from first overhanging truss tail to fit behind end truss tail and screw through end truss tail into fascia purlin end with SDWS16300.
See Figure 51-6

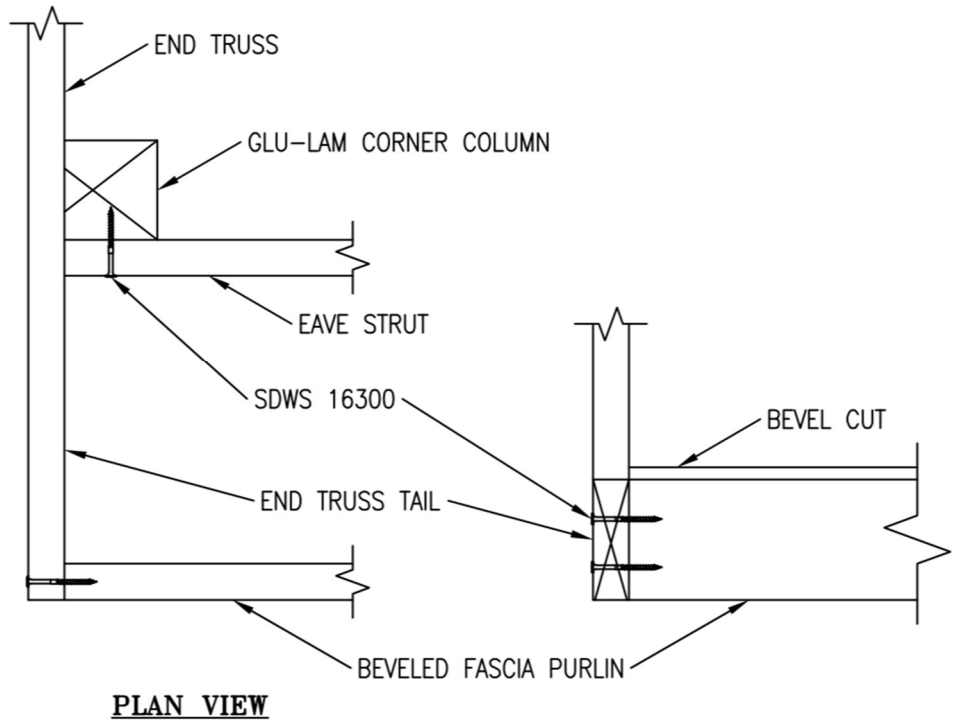

Figure 51-6: Installing Beveled Fascia Purlin

Install beveled edge (fascia) purlin (crowned up) from first overhanging truss tail to fit behind end truss tail and fasten with SDWS16300. **See Figure 51-7**

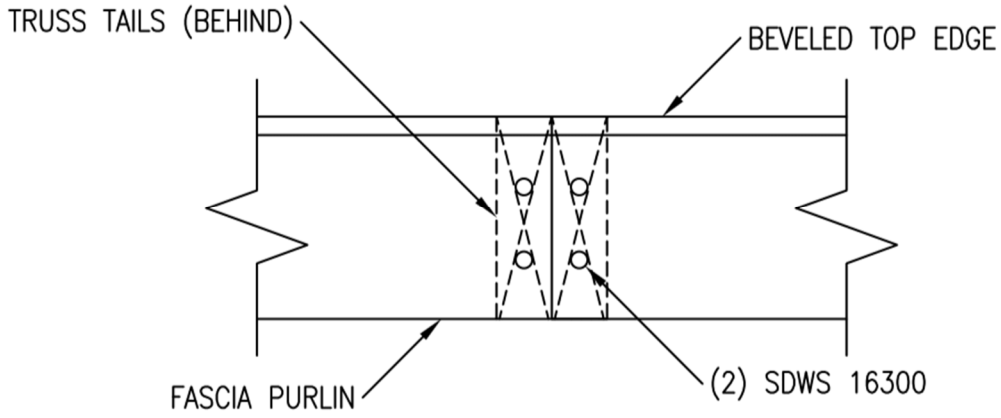

Figure 51-7: Screwing Beveled Fascia Purlins to Interior Truss Tail Ends

2x3 top chord siding backing will extend to end truss tail end. A 2x3 backing block installs from truss tail outside edge, back to corner column face. **See Figure 51-8**

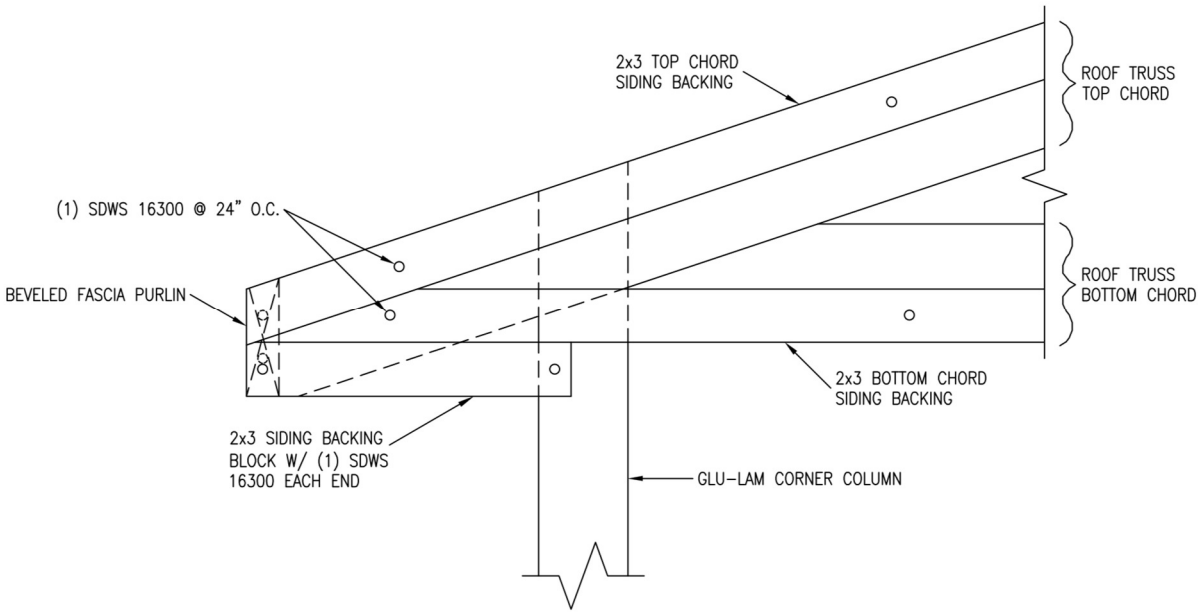

Figure 51-8: Top Chord 2x3 Siding Backing

Roof steel MUST extend past beveled fascia purlin ONLY by 1-1/2" to 1-3/4".
See Figure 51-9

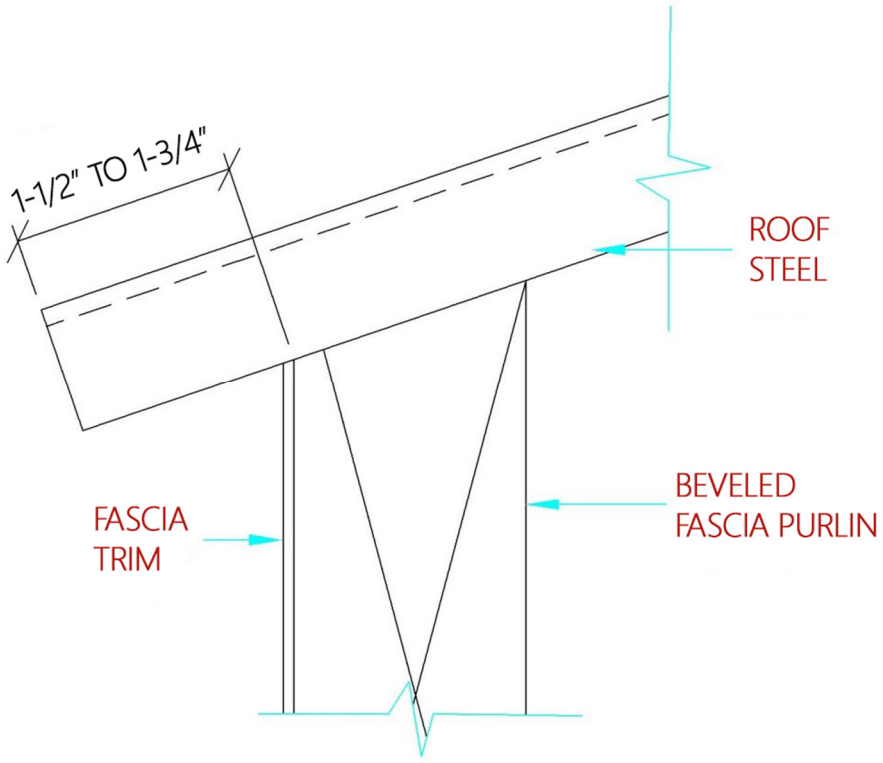

Figure 51-9: Roof Steel Overhang Measurement

Failure to adhere to these dimensions *will* cause a plethora of problems, including one or more as follows: water to either flow behind or to shoot over any future gutter tops and/or ridge cap will not properly fit.

For helpful installation tips read APPENDIX IX, Straight Roof Steel Overhangs

Place Inside (skinny) closure strips on beveled edge (fascia) purlin tops below roof steel panels. Peel paper backing strips off adhesive and work closure strips into place. Strip ends will interlock at a major roof steel rib. Do this prior to installing any screw fasteners.

Roof steel is installed PRIOR to placing any trims on fascia purlin.

Install 2x4/2x3 inverted “L” soffit supports to sidewall columns. **See Figure 51-10**

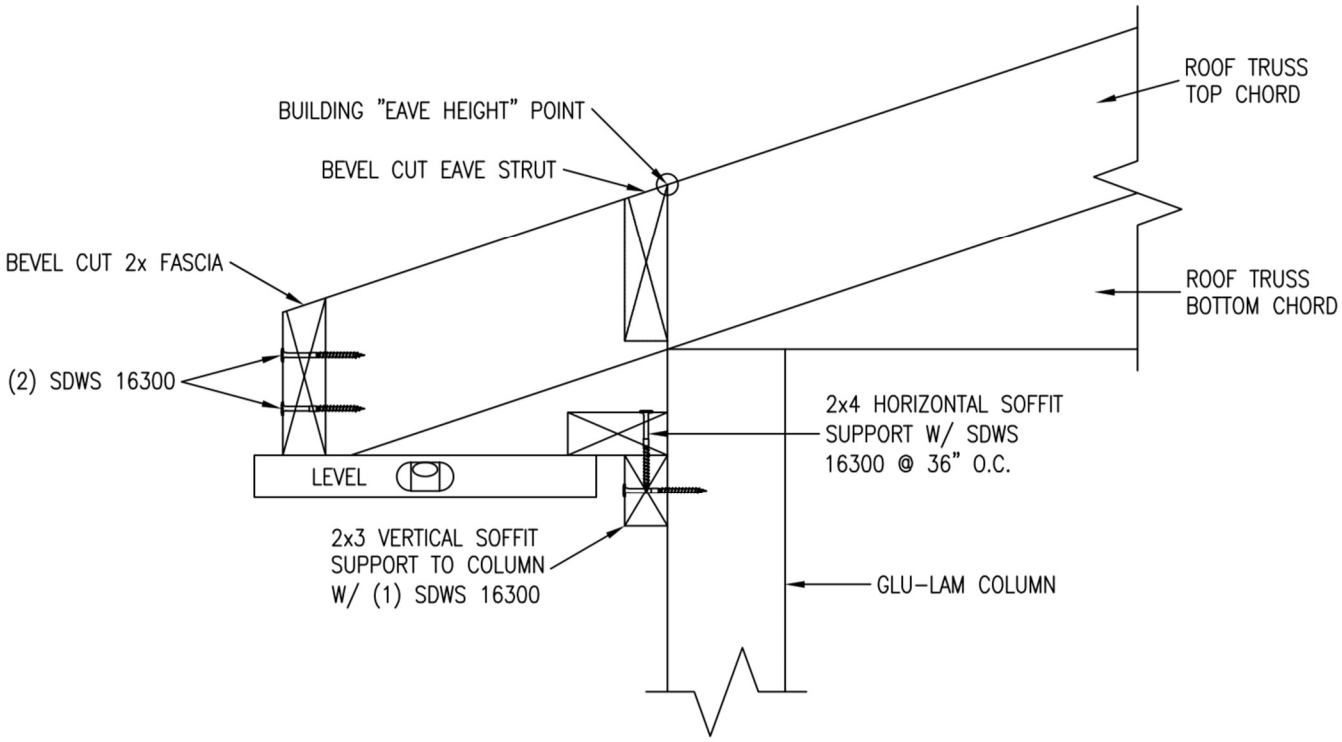

Figure 51-10: "L" Soffit Supports to Sidewall Columns

For best results, level beveled fascia purlin bottom edge and 2x4 inverted "L" soffit support "inside".

Before installing soffit panels straighten beveled fascia purlins and sidewall.

In any areas where beveled fascia purlin is either "in" or "out" from a straight line, remove roof screws. Push or pull beveled fascia purlin to straight, then reinstall screws.

Note: no framing is installed between beveled edge purlin and beveled fascia purlin.

Cut two soffit end trim pieces (one for each overhang end) sidewall overhang length plus ¾". Soffit end trim bottom will be below 2x3 siding backing bottom by thickness of soffit (usually ½"). Attach to 2x3 backing with 10d common x 1-1/2" galvanized joist hanger nails.

See Figure 51-11

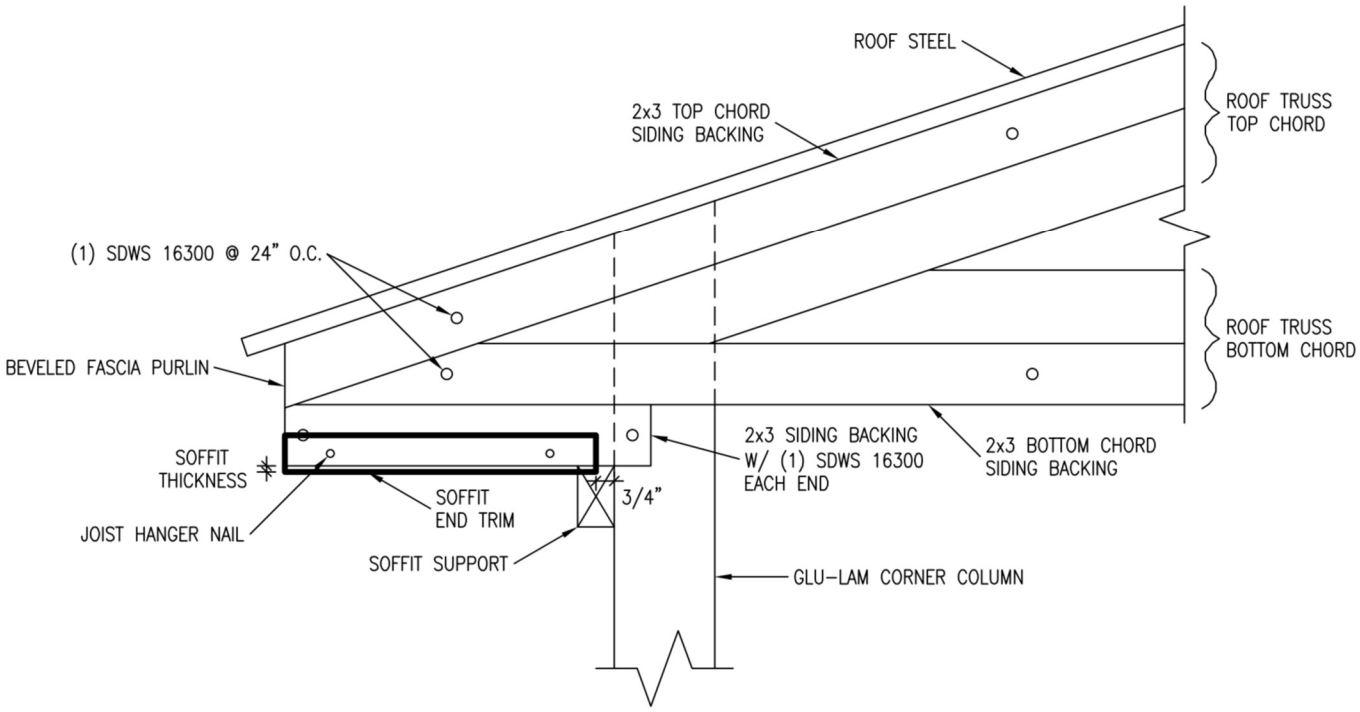

Figure 51-11: Soffit End Trim to Overhang Edges

IMPORTANT: Install all soffit material and all wall trim (other than wainscot, eave light or corner trims) before installing any wall steel!

STOP Cut soffit panels to overhang length (measured horizontally from soffit support face to beveled fascia purlin outside edge) **less 1/2"**. Yes, this means every piece must be cut. Under no circumstance will soffit panels be run lengthwise.
Install soffit panels, perpendicular to wall, from one end to other, inserting leading edge into previously installed soffit end trim bottom channel. Provided temperatures are above freezing, an air-powered stapler may be used (set pressure low to avoid cracking soffit panels). Other acceptable fasteners are 10d common x 1-1/2" galvanized joist hanger nails or ½" drywall screws.

Position fasteners in nailing slot of underlap. Fully interlock each piece with previously installed soffit panel. **See Figure 51-12**

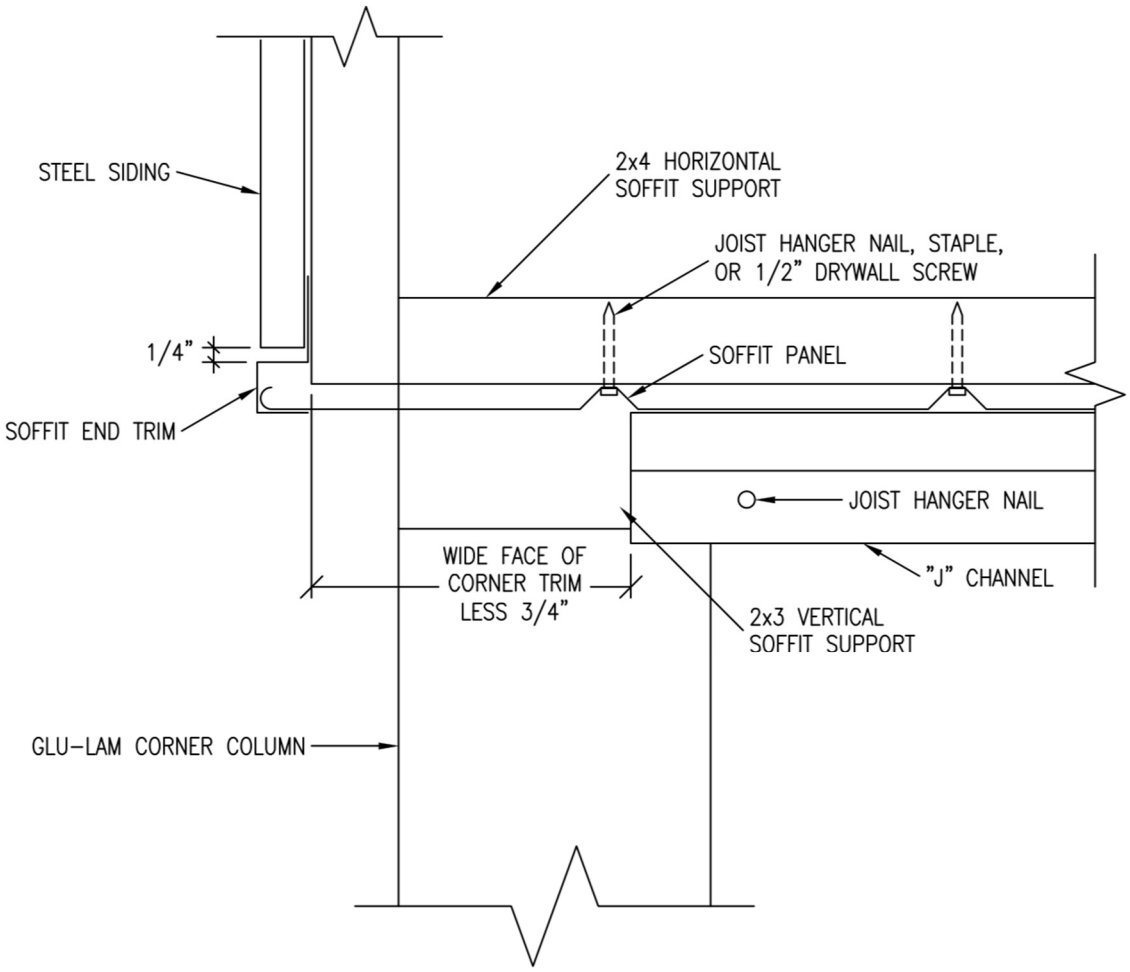

Figure 51-12: Fastening Soffit Panels

At sidewall far end, cut last soffit panel to slide fully into soffit end trim.

Using 10d common x 1-1/2" galvanized joist hanger nails, install inverted J Channel to soffit support 2x3 vertical, holding tight to underside of soffit panels.
See Figure 51-13

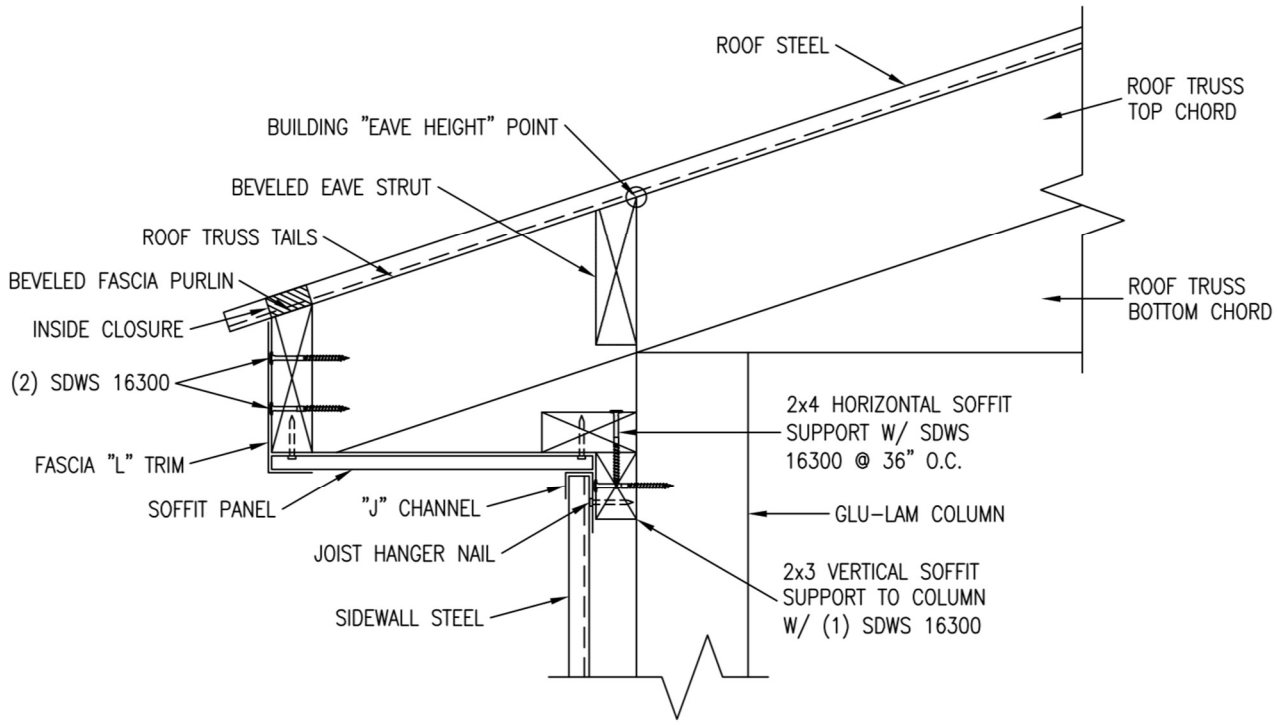

Figure 51-13: J Channel Trim to Soffit Support Vertical

Building Codes do not require a drip edge with steel roofing. Properly installed fascia trim and inside closures protect bevel cut fascia purlin from weather.

At endwall, cut 1-1/2" face of fascia trim at 1-1/2" from end and bend so trim 'wraps' around to cover steel siding triangle edge. **See Figure 51-14**

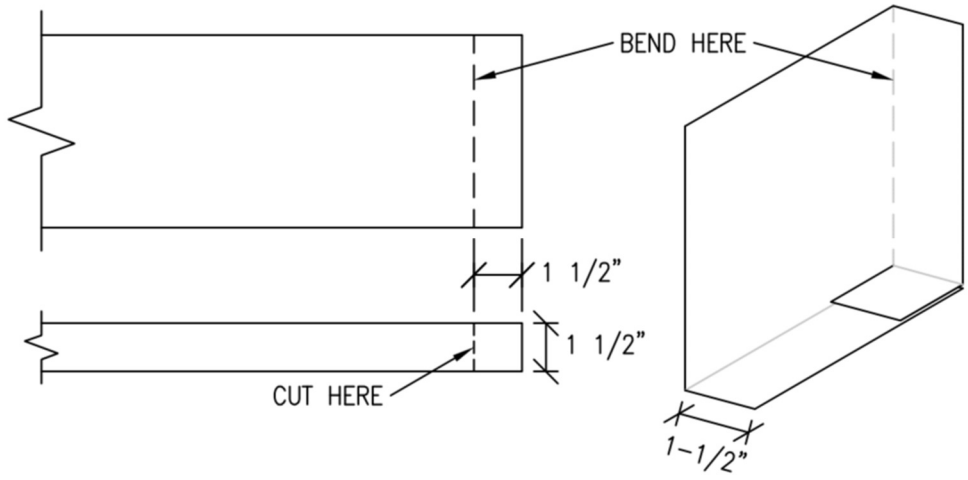

Figure 51-14: Cut & Bend Fascia Trim at Endwall

Install 1-1/2" x height of low side of fascia purlin plus ½" trims. First piece begins at outside edge of 2x3 end truss top chord siding backing. These trims are best installed with screws placed into wide face of fascia purlin trims, place close to top edge of trim and use as few as possible to minimize oil canning. **See Figure 51-15**

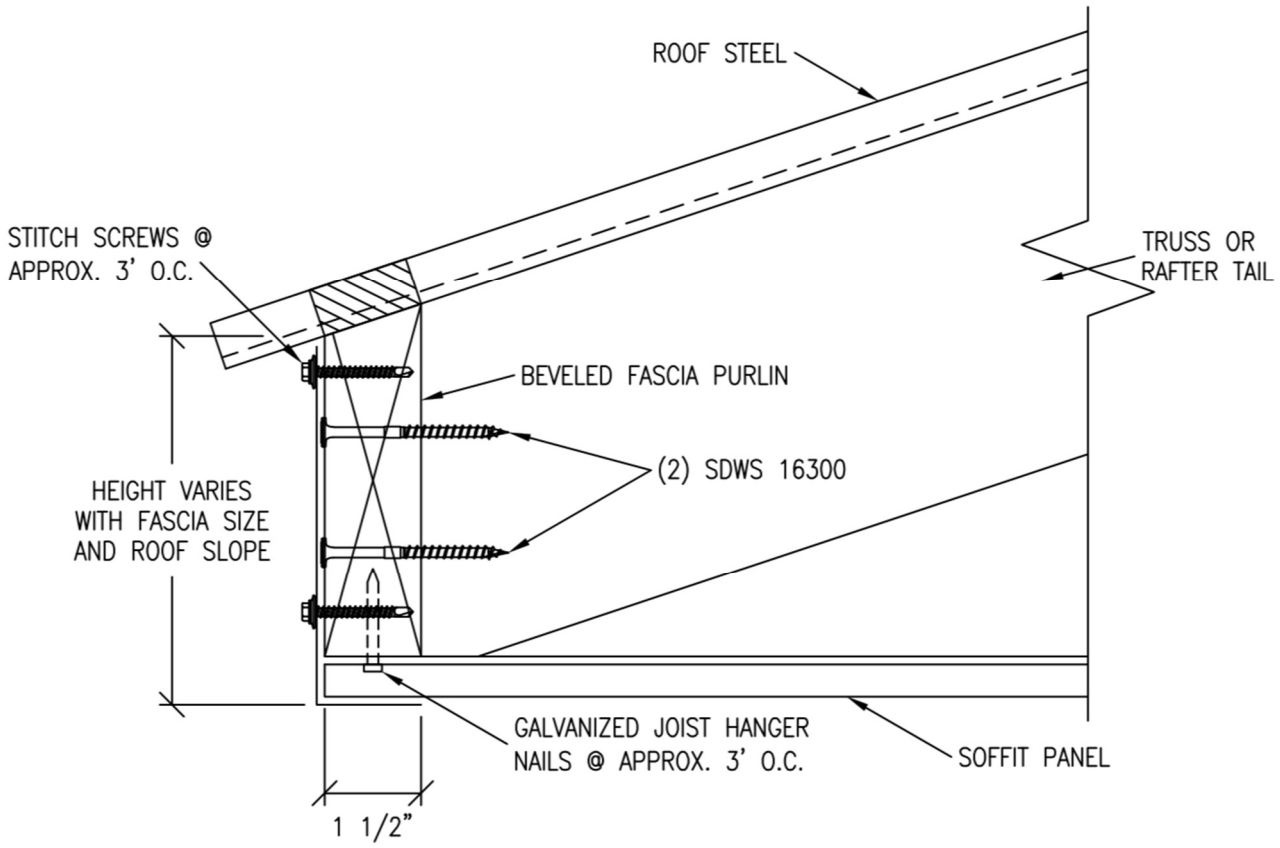

Figure 51-15: Installing Fascia purlin Trims

Fascia purlin trims do NOT overlap. Apply liberal amounts of caulking behind trims at butt splices.

Gutters can easily be attached to fascia purlin. For best results, use continuous seamless gutters.

Cover end of overhang with a piece of wall steel (good place to utilize a cutoff). Hold bottom up ¼" from base trim. **See Figure 51-16** (Steel ribs shown in blue)

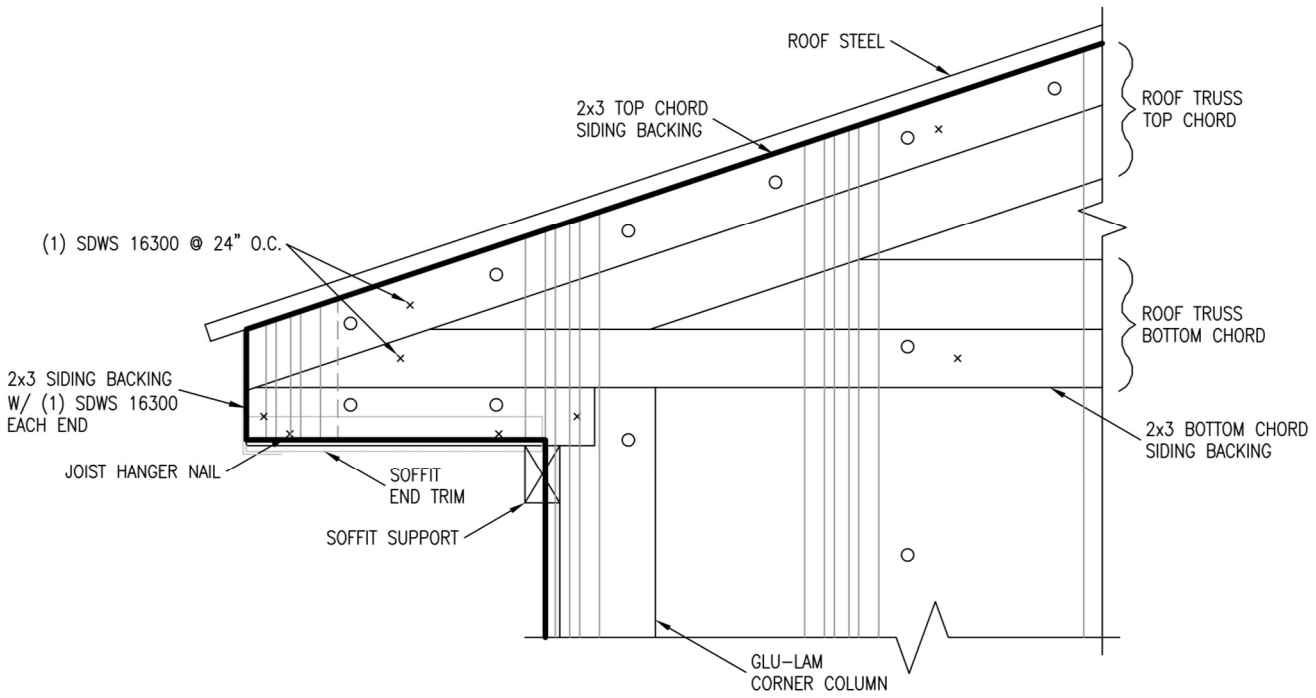

Figure 51-16: Covering End of Overhang with Steel

Using Chapter 22 as a guide, install rake trims.

In cases where an enclosed sidewall overhang is at an open bay, make adjustments shown below. **See Figure 51-17**

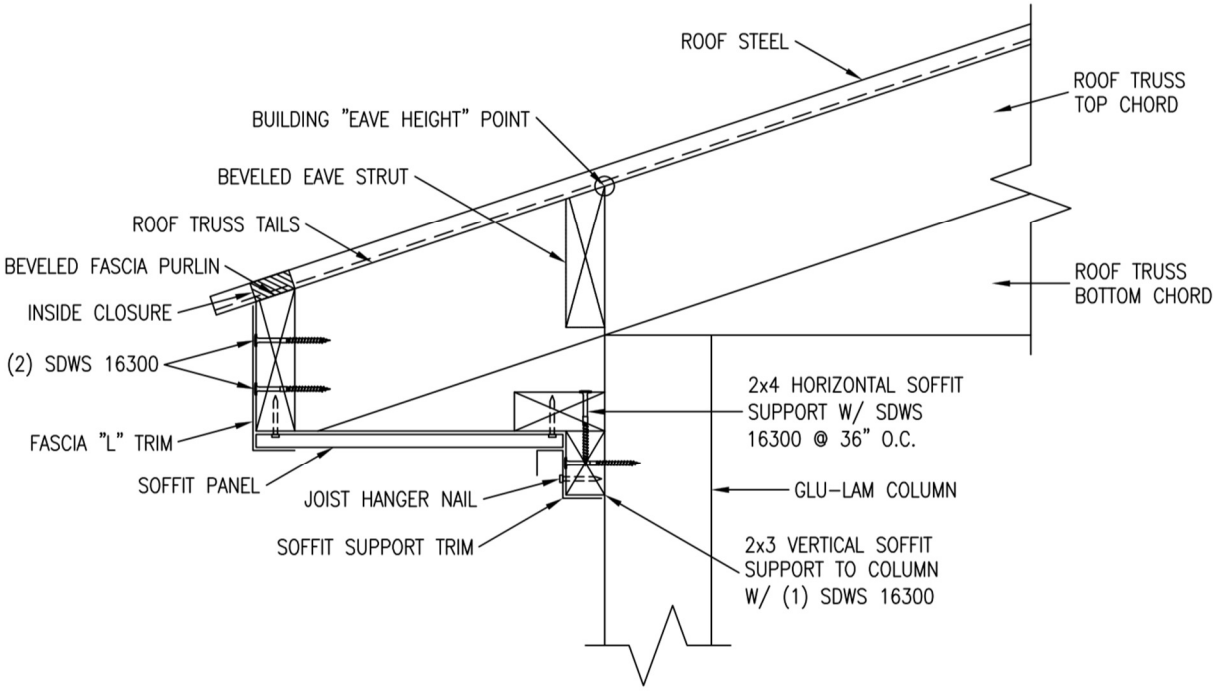

Figure 51-17: Enclosed Overhang at an Open Bay

It is recommended to place screen material between soffit support and beveled edge purlin, to prevent birds or wasps from nesting in overhang area.