



# Elegant Eaves for a Truss Roof

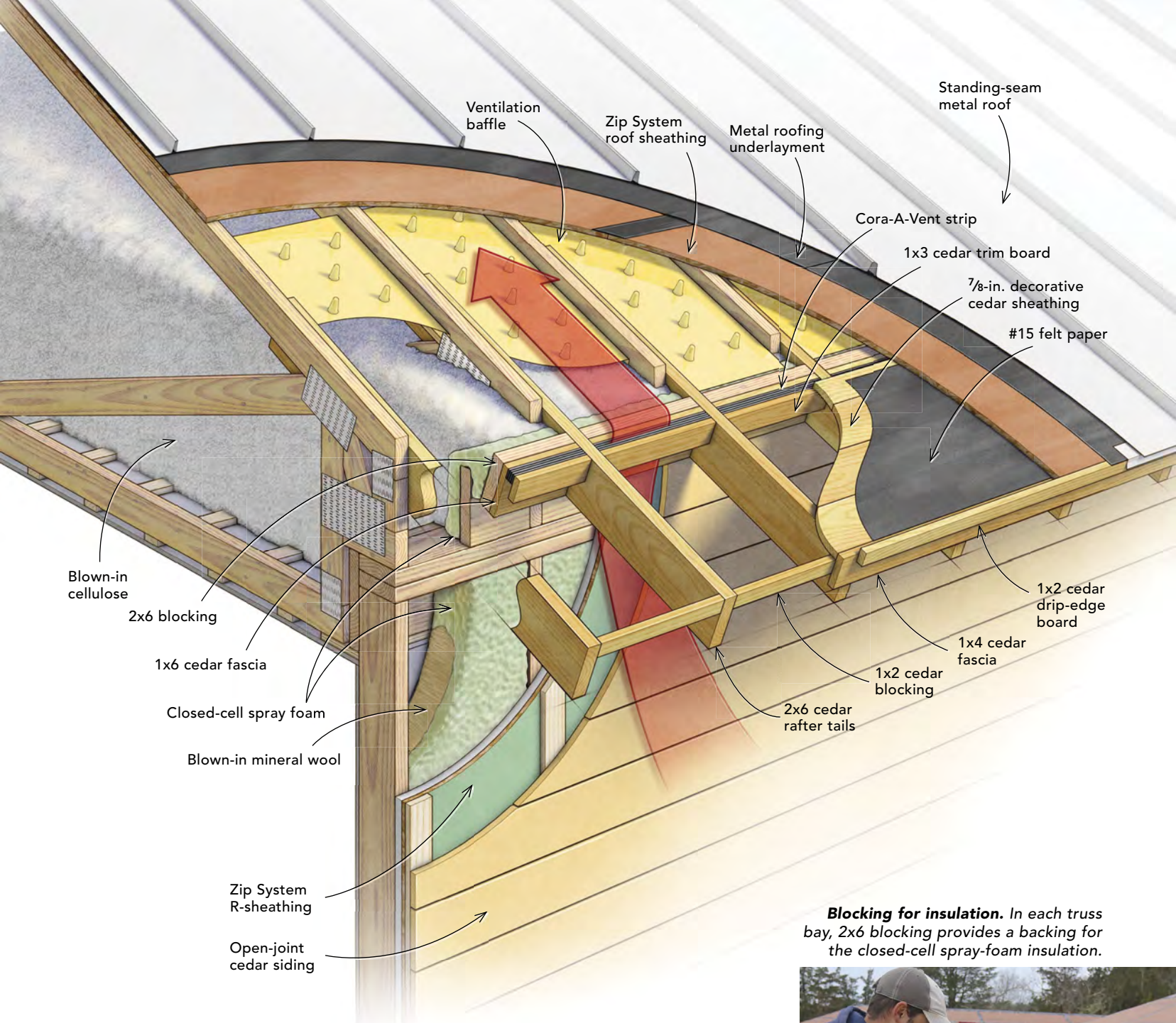
Cedar rafter tails and trim add a handsome touch to this roofline

BY STEVE BACZEK AND JIM WOLFFER

**E**ven as we develop more and more standard assemblies for tight, well-insulated building envelopes, there are always some details that require extra thought and ingenuity. Roof overhangs tend to be one of these details. Not only can continuous rafter tails cause a thermal bridge, but they can create a difficult area to air-seal as well. Of course, this all depends on where you locate your air and thermal barriers.

On this single-story, hip-roofed house on Cape Cod, we decided to use the eaves to add some character with exposed cedar rafter tails. Here in New England, eaves are more commonly boxed in with a fascia and soffit. So not only did we have to figure out how not to have this detail be a weak link in the building envelope, we had to figure out how to finish the overhang so the homeowners would be looking up at something more pleasing than the underside of the OSB roof sheathing. □

Architect Steve Baczek and Jim Wolffer of Shoreline Builders have been collaborating on energy-smart, custom homes for over a decade. Photos by Brian Pontolilo.



**Blocking for insulation.** In each truss bay, 2x6 blocking provides a backing for the closed-cell spray-foam insulation.



## AN ENERGY-SMART OVERHANG

With the ability to span long distances, roof trusses are an affordable way to create an open floor plan, but they aren't the best option for an exposed eave detail. In this case, clipped heel trusses are used and the rafter tails are applied. Because the rafter tails are sistered to the trusses, the truss designer had to be aware of the plan in order to offset the layout. The trusses are designed to drop below the wall's top plate inside the house to make room for 24 in. of blown cellulose (R-90) in the ceiling and 12 in. (R-45) at the truss heel above the top plate, and for a vent channel below the roof deck. The Zip System R-sheathing is the primary air barrier on the walls and the dry-wall ceiling is the primary air barrier inside, along the ceiling. The two are connected by the top plates and blocking, which are air-sealed with Tremco Acoustical Sealant. The size, length, and nailing pattern of the rafter tails was determined by a structural engineer to resist uplift in this high-wind zone.

# DETAILS FOR A CEDAR EAVE

The home is T-shaped with two separate 5-pitch hip roofs separated by a 12-ft. section of flat roof. The building has 380 linear ft. of roof eave with one long, 64-ft. stretch. The trick is to install the rafter tails 24 in. apart and end up with a perfectly straight fascia board and eave line. The rafter tails are held down  $\frac{7}{8}$  in. from the top of the trusses so that cedar boards can be installed as the first layer of sheathing, exposing decorative cedar sheathing boards from below. With the top of the cedar boards now in plane with the top of the trusses, the bottom course of Zip System roof sheathing ties the 24-in. overhang and the roof trusses together.



**Nail 'em on.** Fasten the first rafter tails near each corner of the roof and run a stringline between them. Use a piece of the cedar sheathing board as a gauge to set the top of each rafter tail  $\frac{7}{8}$  in. below the top of the truss and align the end of each rafter tail with the stringline.



**Shim to plumb.** Use a level to check each rafter tail to make sure it's installed plumb. If any need to be adjusted, use a pry bar and hammer to wedge shims between the truss and the rafter tail.



**The first course.** Align the first course of cedar sheathing with the end of the rafter tails and fasten with two 8d stainless-steel ring-shank nails at each rafter.

**Add the fascia.** Use a 1x4 cedar fascia board installed flush with the top of the cedar sheathing boards, leaving the bottom of the rafter-tail face exposed.



**Start tight.** Even though they are kiln-dried, the cedar sheathing boards may move with changes in seasonal moisture. It's best to start with them tight to each other. A chisel is useful to pry the boards together before nailing.



**Cheap insurance.** Install a layer of #15 felt paper on top of the cedar sheathing boards so that if they do move and gaps open between them, the underside of the sheathing will not be visible from below.



**Tie it all together.** A full piece of Zip System sheathing ties the eaves to the trusses, adding plenty of strength to resist racking and uplift.

# SHADOWLINES WITH PURPOSE

Both the ventilation channel under the eaves and the boards to hold the metal drip edge away from the fascia provide opportunities to dress up the eave with even more shadowlines.



**Hidden ventilation.** Install a black Cor-A-Vent strip to provide venting to the roof system and use stainless-steel finish nails to install the final pieces of cedar trim.

**A protective drip edge.** Add a 1x2 cedar board in plane with the roof sheathing to extend the drip edge away from the fascia, protecting it from excessive weathering.

## Cutting corners

The hip-rafter tail catches both the back side and the bottom edges of the fascia boards to support the miter. With all the compound bevels, it takes some trial and error to cut the first piece. Start with all of the rafter tails installed along the length of the adjacent eaves and run the fascia boards to the miter at the corner. Then cut the first hip-rafter-tail profile with a coping saw and slide it into place beneath the fascia to test the fit. Once you have the first one fit, you can use it to make a template for the others.

