

FIGURE 13.1 Eave-line canopy with exposed rafter. (Ceco Building Systems.)

although it is possible to reinforce a metal-panel structure for this purpose. The panels for the bull-nose should be curved, as discussed in the next section. The spacing of support frames is controlled by the flexural capacity of hat and channel sections. Structural properties of some representative hat and channel sections produced by MBCI are given in Fig. 13.4. The gage of MBCI sections is rather thin; similar sections made of thicker metal are available from other manufacturers.

13.1.2 Fascias and Mansards

Fascia and mansard panels look so natural on pre-engineered buildings that one might forget to specify and detail them separately. A vertical fascia and parapet panel, the most common kind, is commonly supported by its own moment-resisting frame rigidly attached to the primary building framing. The primary frame has to be designed for an additional loading from the fascia. Some common details of this solution are shown in Fig. 13.5.

Mansard-style fascia panels require only some modifications of the vertical panel details (Fig. 13.6), but a completely different type of framing is needed for a so-called double-curve eyebrow panel (Fig. 13.7).

A curved fascia in combination with contrasting wall panels has helped transform what could have been a basic pre-engineered building into a modern-looking office (Fig. 13.8).

For an even more adventurous design, a triple-step curved fascia (Fig. 13.9) can add spice to almost any building.

A note of caution: Mansards and parapets may look great on metal buildings, but they should be specified with a full understanding of the potential dangers involved. Unlike free-draining gable roofs, the interior gutters can, and do, get plugged up with ice or debris. It is imperative that such systems are supplemented with overflow scuppers or storm drains to remove any standing water that otherwise can overload the roof framing.

In cold climates, drifted snow can pile up against the parapets and overload the purlins in the exterior bays. As discussed in Chap. 10, failure in a single bay can propagate throughout the building and result in a total loss. The author has investigated a metal building with a parapet in which this scenario has in fact been played out, while none of the surrounding parapet-free buildings collapsed. In general, it is better to avoid using parapets in metal buildings located in snow regions.

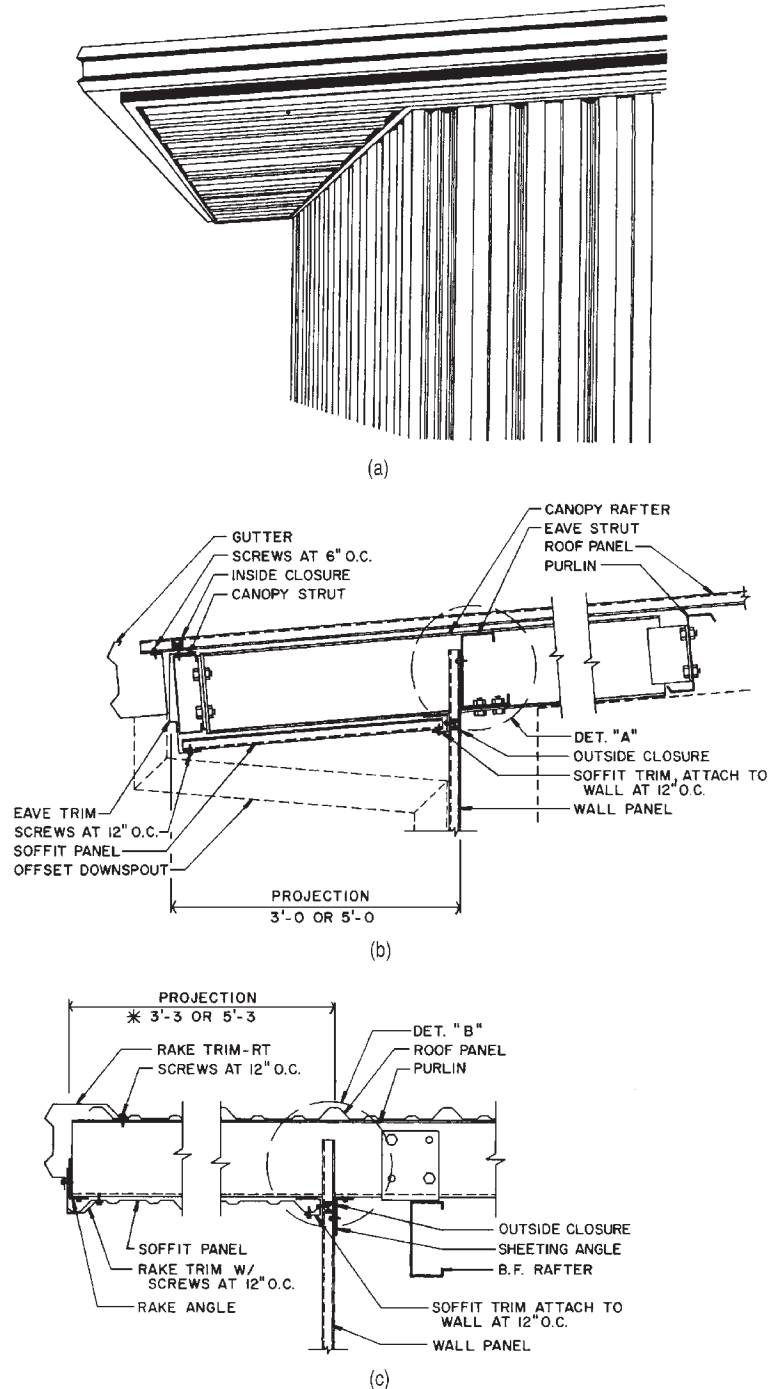


FIGURE 13.2 Flush-framing canopy with soffit panel: (a) overall appearance; (b) sidewall section; (c) endwall section. (*Metallic Building Systems.*)