

**FIGURE 5.46** Attachment of girts to full frame column at corners: (a) bypass sidewall girts; (b) semiflush sidewall girts; (c) flush sidewall girts. Bypass endwall girts are shown for all cases. (Steelox Systems Inc.)

in all probability not strong enough for that function, unless laterally braced, and hot-rolled beams may be required.

Positioning girts vertically should be approached with caution when the building eave height exceeds 30 ft, a practical span limit for cold-formed framing, above which some intermediate horizontal framing is probably needed. Another issue to think about is how the column flange

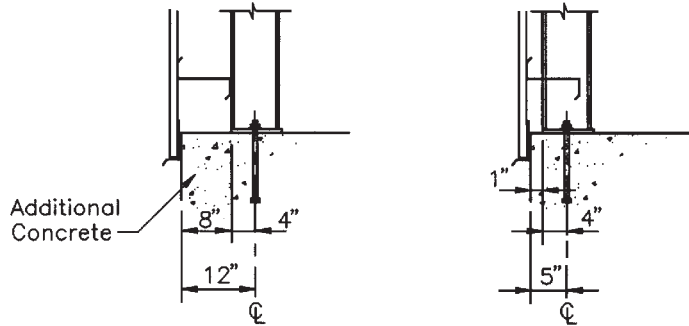


FIGURE 5.47 Some building space is lost with bypass girts.

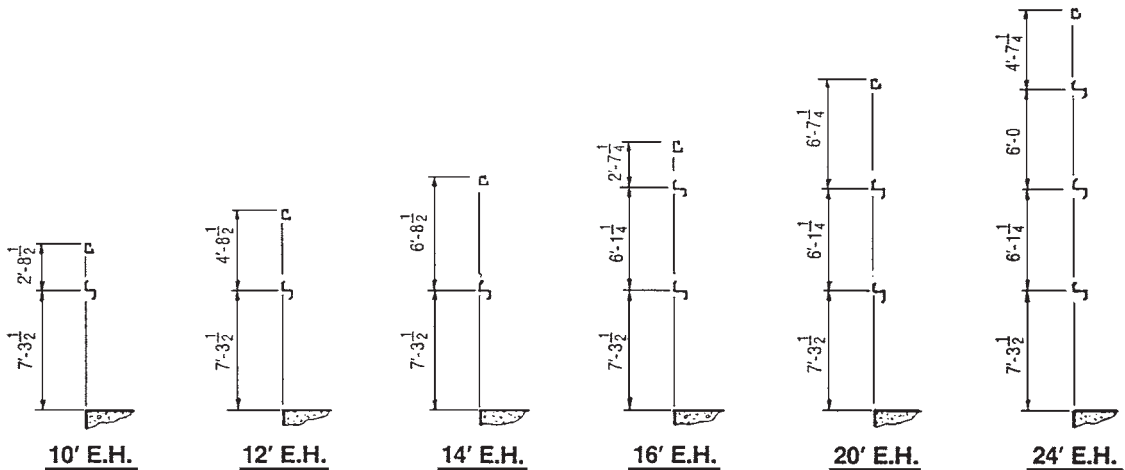


FIGURE 5.48 Typical horizontal girt spacing for various eave heights. (Star Building Systems.)

bracing will be handled since the traditional flange angles (see Chap. 4, Fig. 4.20) cannot be used with vertical girts. It is possible, of course, to design the main frames to be heavy enough not to need any flange bracing at all, but another solution is frequently more economical. The girts remain in a horizontal position, with a system of subgirts spanning between them vertically and supporting the horizontal siding. The subgirts can be made of cold-formed hat channels, steel studs, or similar sections.

### 5.7.3 Wind Columns

When the primary frame columns are spaced farther apart than about 30 ft, *wind columns* may be provided to reduce the girt span. Wind columns are essentially intermediate vertical girts spanning from the foundation to the eave. (These elements should not be confused with wind posts, discussed in Chap. 3. Wind posts are fixed at the bottom and are used to provide lateral stability for buildings.) Wind columns are usually specified in buildings with purlins made of open-web steel joists, so that the joists can span, say, 50 ft, while the cold-formed girts need span only one-half that distance (Fig. 5.49).

The main question regarding wind columns concerns their lateral connection at the eave. Obviously, there are no building frames at that point, and the typical eave strut is generally not capable