



FIGURE 3.11 Typical bracing locations. (Star Building Systems.)

Building end walls must also be braced, unless a rigid frame is provided there for future expansion or other reasons. Standard endwall bracing locations are between the first and second interior columns (Fig. 3.12), although they could be located anywhere along the endwall as allowed by the specifier.⁷

3.3.5 Common Wall Bracing Details at the Bottom of Columns

The most common details of diagonal rod and cable bracing connection to the column are shown in Fig. 3.13. Essentially, the concentrated loads from the bracing are transferred via hillside washers directly into the column webs.

The hillside washer (Fig. 3.14) is a cast circular element with a vertically slotted hole that allows for variable angles of rod insertion. A matching vertically slotted hole is made in the column web. The better washer designs have a protrusion on the back that locks into a matching hole in the web and prevents the washer from sliding upward under load.

Despite their widespread use, these details could use some improvement. The thin unreinforced frame webs are rarely checked for local bending from the concentrated loads applied by bracing and may not survive the real load application. The author has seen this happen.

TABLE 3.1 Minimum Number of Braced Bays.

Wind speed	Building width																							
	≤16'			20'			24'			30'			>80' ≤160'			>160' ≤200'			>200' ≤240'					
Eave height	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70 mph, B or C	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
80 mph, B	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
90 mph, B	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
80 mph, C	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
100 mph, B	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
90 mph, C	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
100 mph, C	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Source: Nucor Building Systems.