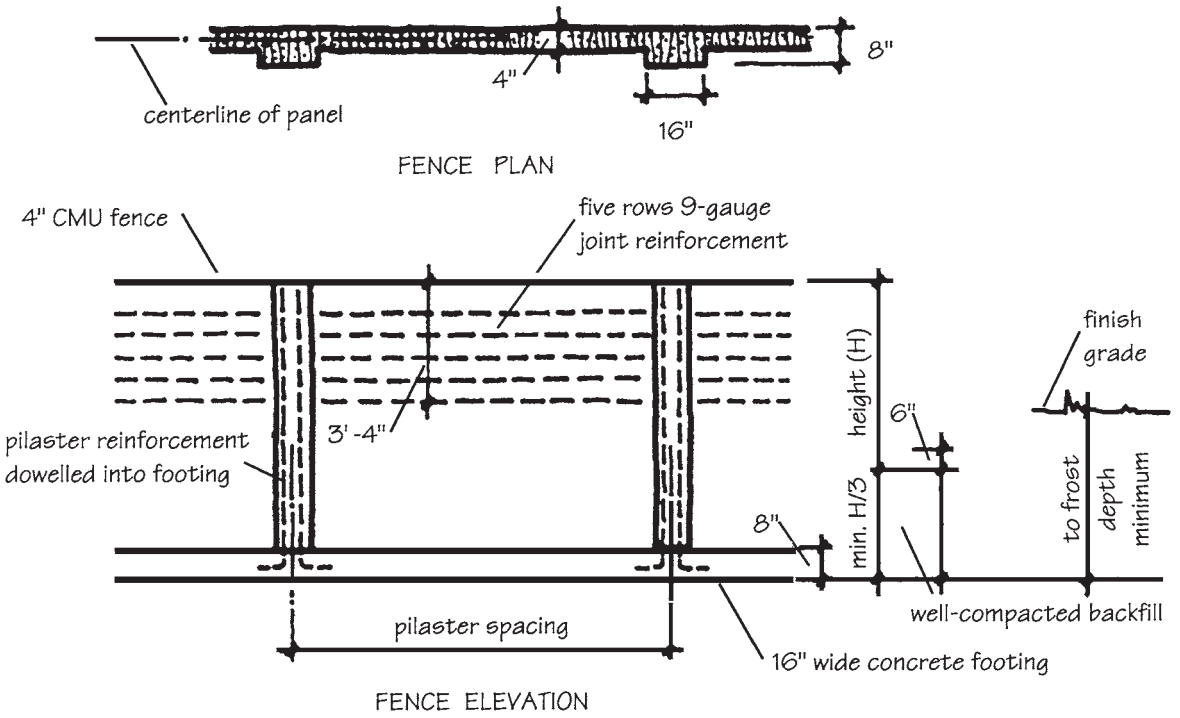


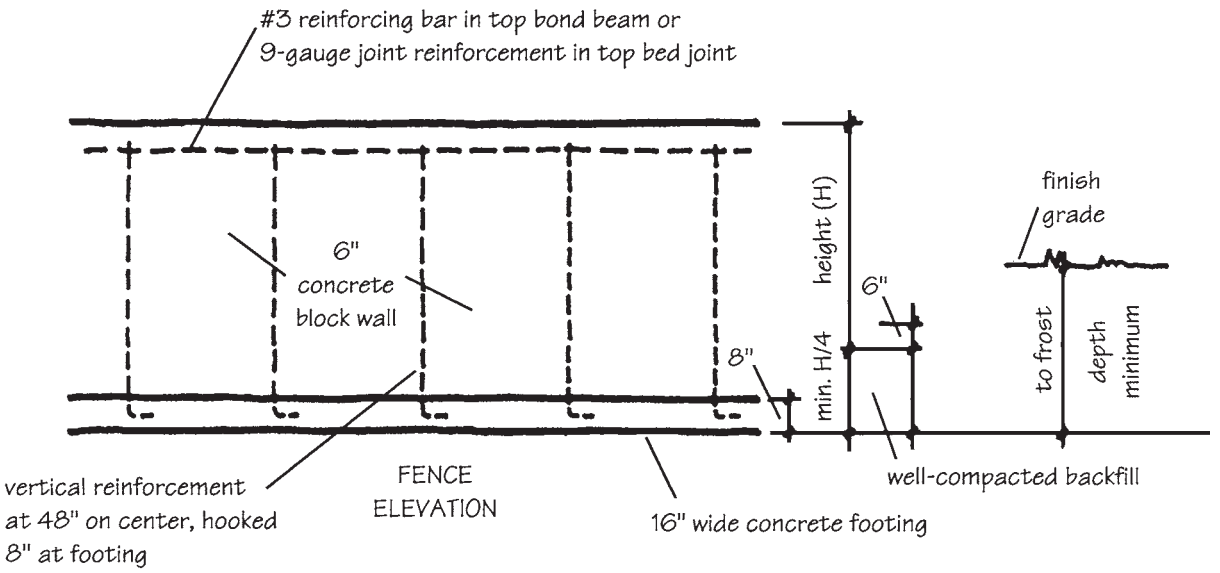
Pilaster Spacing for Wind Pressure					Pilaster Reinforcement for Wind Pressure			
5 psf	10 psf	15 psf	20 psf	H	5 psf	10 psf	15 psf	20 psf
19′–4″	14′–0″	11′–4″	10′–0″	4′–0″	1—No. 3	1—No. 4	1—No. 5	2—No. 4
18′–0″	12′–8″	10′–8″	9′–4″	5′–0″	1—No. 3	1—No. 5	2—No. 4	2—No. 5
15′–4″	10′–8″	8′–8″	8′–0″	6′–0″	1—No. 4	1—No. 5	2—No. 5	2—No. 5

Figure 10-9 Concrete masonry pier and panel fences. (*From Randall and Panarese,* Concrete Masonry Handbook, *5th ed., Portland Cement Association, Skokie, IL, 1991.*)

reinforcing steel or other lateral support. For non-loadbearing walls of relatively low height, rule-of-thumb design based on empirically derived geometric relationships is used.

Since the wall depends on its shape for lateral strength, it is important that the degree of curvature be sufficient. Recommendations for brick and CMU walls are illustrated in *Fig. 10-18.* The brick wall is based on a radius of curvature not exceeding twice the height of the wall above finished grade, and a depth of curvature from front to back no less than one-half of the height. A maximum height of 15 times the thickness is recommended for the CMU wall, and depth-to-curvature ratios are slightly different. Free ends of a serpentine wall should be supported by a pilaster or short-radius return for added stability. Thicker sections and taller walls may be built if proper design principles are applied to resist lateral wind loads.

Masonry screen walls and fences must be supported by an adequately designed concrete footing to prevent uneven settlement or rotation. *Figure 10-19* shows rule-of-thumb sizes and proportions for both panel and pilaster sections. Where the ground under a screen wall or fence slopes slightly, the



	Vertical Reinforcement for Wind Pressure			
H	*5 psf*	*10 psf*	*15 psf*	*20 psf*
4′-0″	1—No. 3	1—No. 3	1—No. 4	1—No. 4
5′-0″	1—No. 3	1—No. 4	1—No. 5	1—No. 5
6′-0″	1—No. 3	1—No. 4	1—No. 5	2—No. 4

Figure 10-10 Reinforced concrete masonry fences without pilasters. (*From Randall and Panarese,* Concrete Masonry Handbook, *5th ed., Portland Cement Association, Skokie, IL, 1991.*)

footing should be placed deeper in the ground at one end so that its entire length is level and below the frost line (*see Fig. 10-20A*). Where the ground slopes more steeply, both the footing and the fence must be stepped in a series of level sections, always keeping the bottom of the footing below the frost line (*see Fig. 10-20B*).

All free-standing masonry walls and fences, regardless of thickness, must be properly capped to prevent excessive moisture infiltration from the top. The appearance and character of a wall are substantially affected by the type of cap or coping selected, including natural stone, cast stone, metal, brick, or concrete masonry (*see Fig. 10-21*). The thermal and moisture expansion characteristics of the wall and coping materials should be similar. Control and expansion joint locations should be calculated (refer to Chapter 9), and joints should be tooled concave to compress the mortar against the face of the units, and decrease porosity at the joint surface. Copings should slope to shed water and should project beyond the face of the wall a minimum of $^1/_2$ in. on both sides to provide a positive drip and prevent water from flowing back under the coping. Through-wall flashing should be installed immediately below the coping to prevent excessive water penetration, and the coping then secured with metal anchors. Grouting of hollow