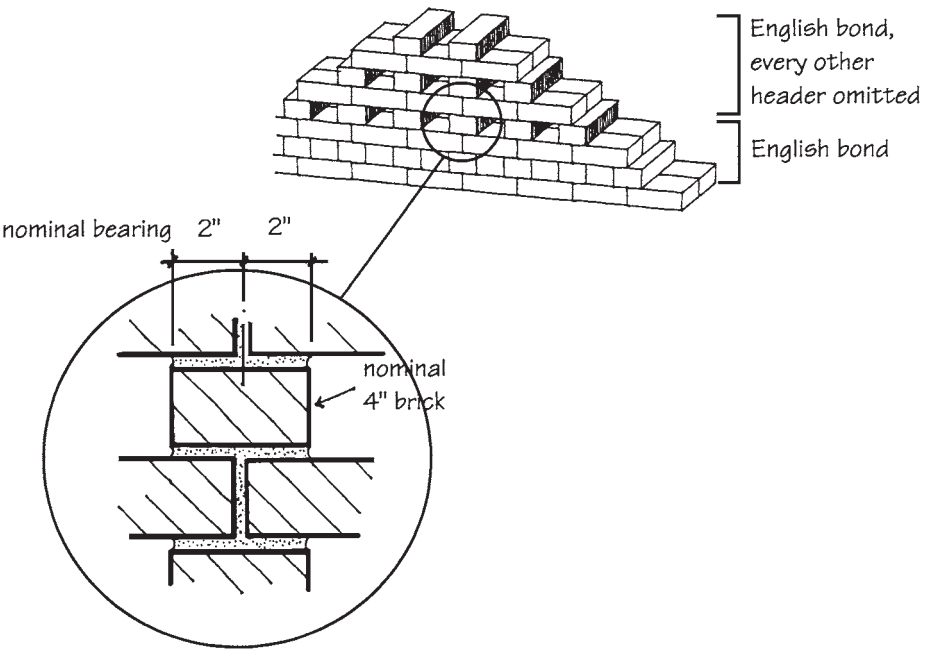


Figure 10-7 Minimum nominal unit bearing length for pierced brick screen walls.

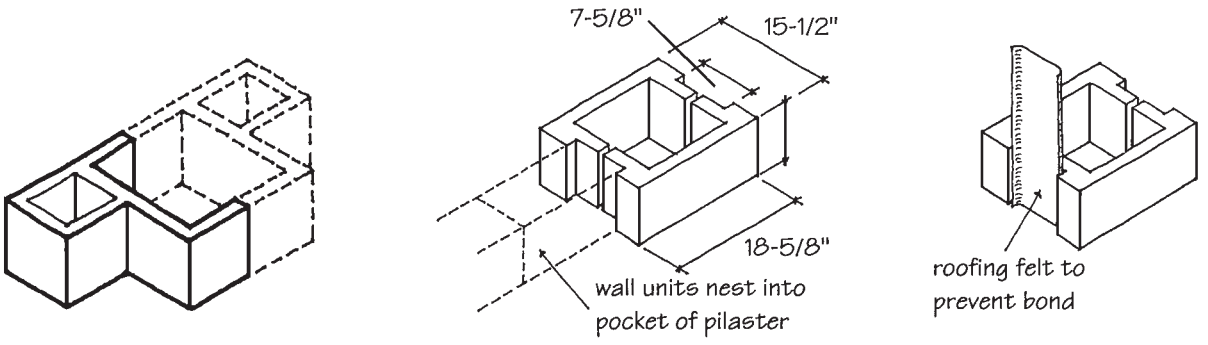
shrinkage crack control (*see Fig. 10-11*). Stucco may be applied directly to concrete masonry unit fences, with control joints in the same locations as the CMU control joints (*see Fig. 10-12*).

Brick fences may take a number of different forms. A straight wall without pilasters must be designed with sufficient thickness to provide lateral stability against wind and impact loads. A rule of thumb is that for a 10-lb/sq ft wind load, the height above grade should not exceed three-fourths of the square of the wall thickness ($h \leq {}^{3}/_{4}\, t^2$). If lateral loads exceed 10 lb/sq ft, the wall should be designed with reinforcing steel. Traditional brick fences are multi-wythe and bonded with brick headers laid in a variety of patterns (*see Fig. 10-13*). Fences laid in running bond pattern more commonly use metal ties to connect the two wythes (*see Fig. 10-14*). Heavier ties can be spaced farther apart than light-gauge wire or corrugated sheet metal ties. Several sizes and shapes of masonry-bonded and metal-tied pilasters are shown in *Fig. 10-15*.

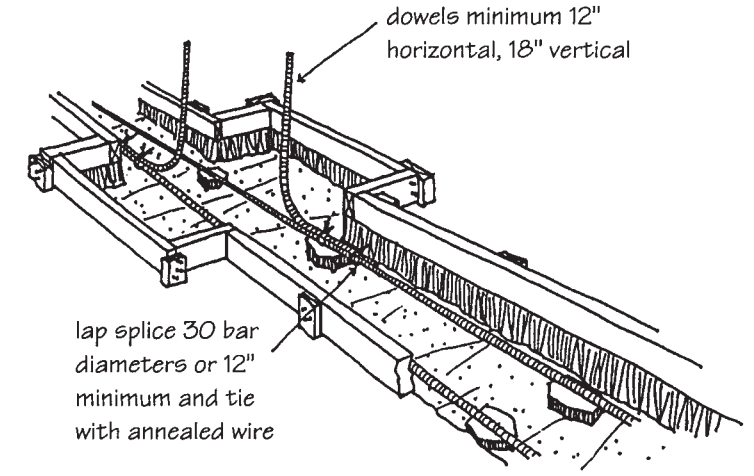
Brick "pier-and-panel" fences are composed of a series of thin panels (nominal 4 in.) braced intermittently by reinforced masonry piers (*see Fig. 10-16*). Reinforcing steel and foundation requirements are given in the tables in *Fig. 10-17*. Foundation diameter and embedment are based on a minimum soil bearing pressure of 3000 lb/sq ft. Reinforcing steel requirements vary with wind load, wall height, and span. Horizontal steel may be individual bars or wires, or may be prefabricated joint reinforcement, but must be continuous through the length of the wall with splices lapped 16 in.

Since the panel section is not supported on a continuous footing, it actually spans the clear distance between foundation supports, functioning as a deep wall beam (see Chapter 12). Masons build the sections on temporary 2 × 4 wood footings that can be removed after the wall has cured for at least 7 days.

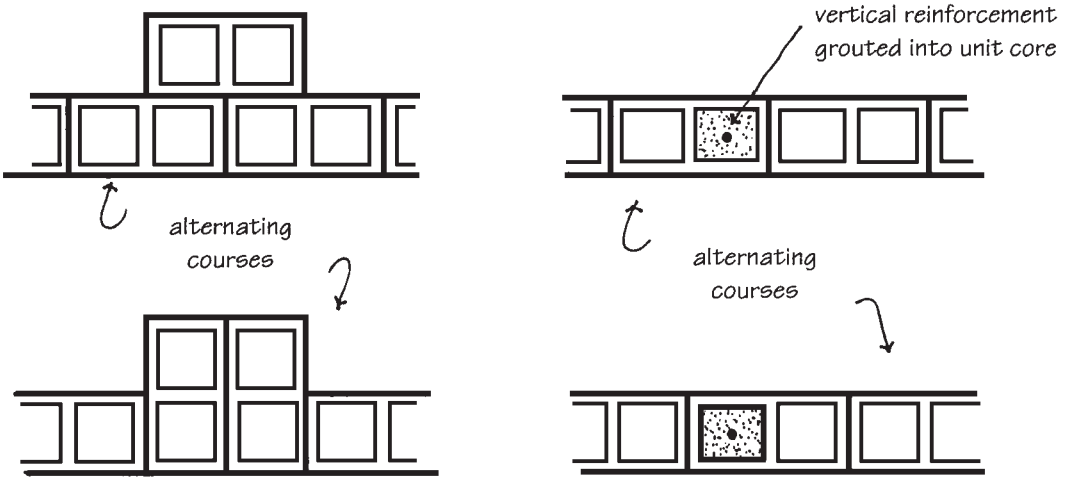
Serpentine walls and "folded plate" designs are laterally stable because of their shape. This permits the use of very thin sections without the need for



CMU PILASTER UNITS



PILASTER REINFORCING (IF ANY) DOWELED INTO FOOTING



PILASTER MADE OF STRETCHER UNITS IN PROJECTED, INTERLOCKING BOND PATTERN

IN-WALL COLUMN IN REINFORCED VERTICAL CORE

Figure 10-8 CMU garden wall pilasters and in-wall columns.