

FIGURE 14.14 Roof plan for the Case Study.

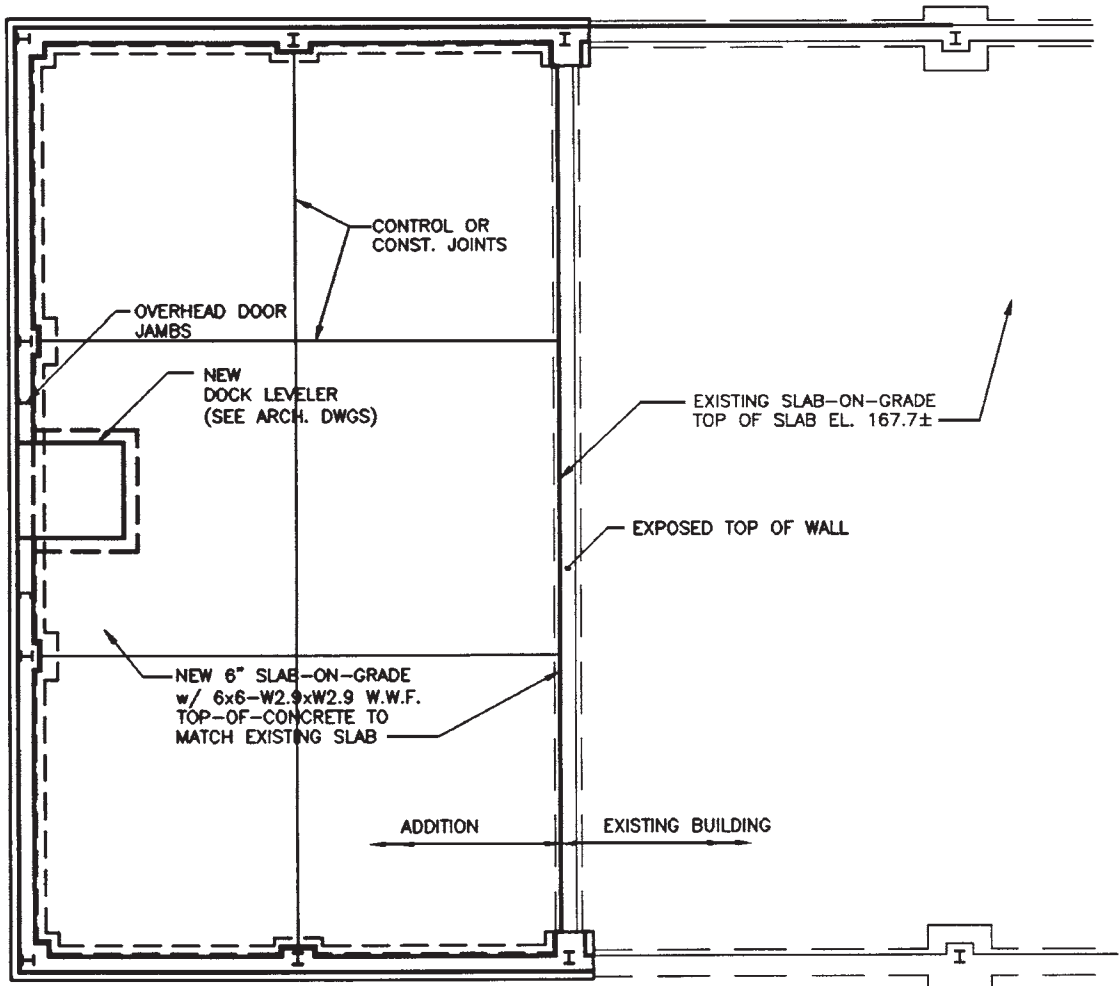


FIGURE 14.15 Foundation plan for the addition in the Case Study.

#### 14.6.4 Roof Design

The open-web steel joists were spaced 5 ft o.c.—the typical purlin spacing. The total unit design load (dead, collateral, and snow), assuming a 5-psf dead load, was

$$30 + 5 + 5 = 40 \text{ psf}$$

The total load per linear foot of joist was

$$40 \text{ psf} \times 5 \text{ ft} = 200 \text{ lb/ft}$$

The live load per linear foot of joist was

$$30 \text{ psf} \times 5 \text{ ft} = 150 \text{ lb/ft}$$