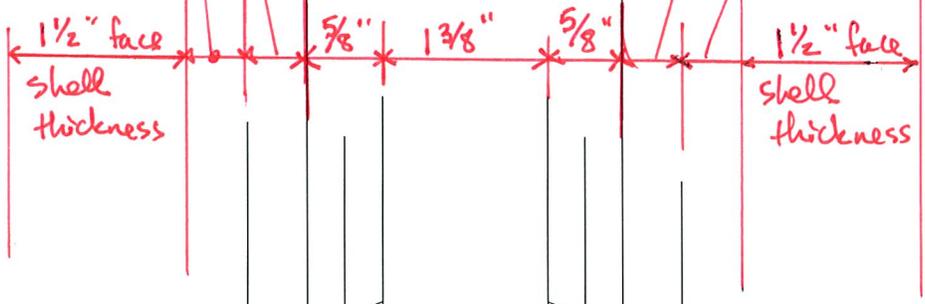


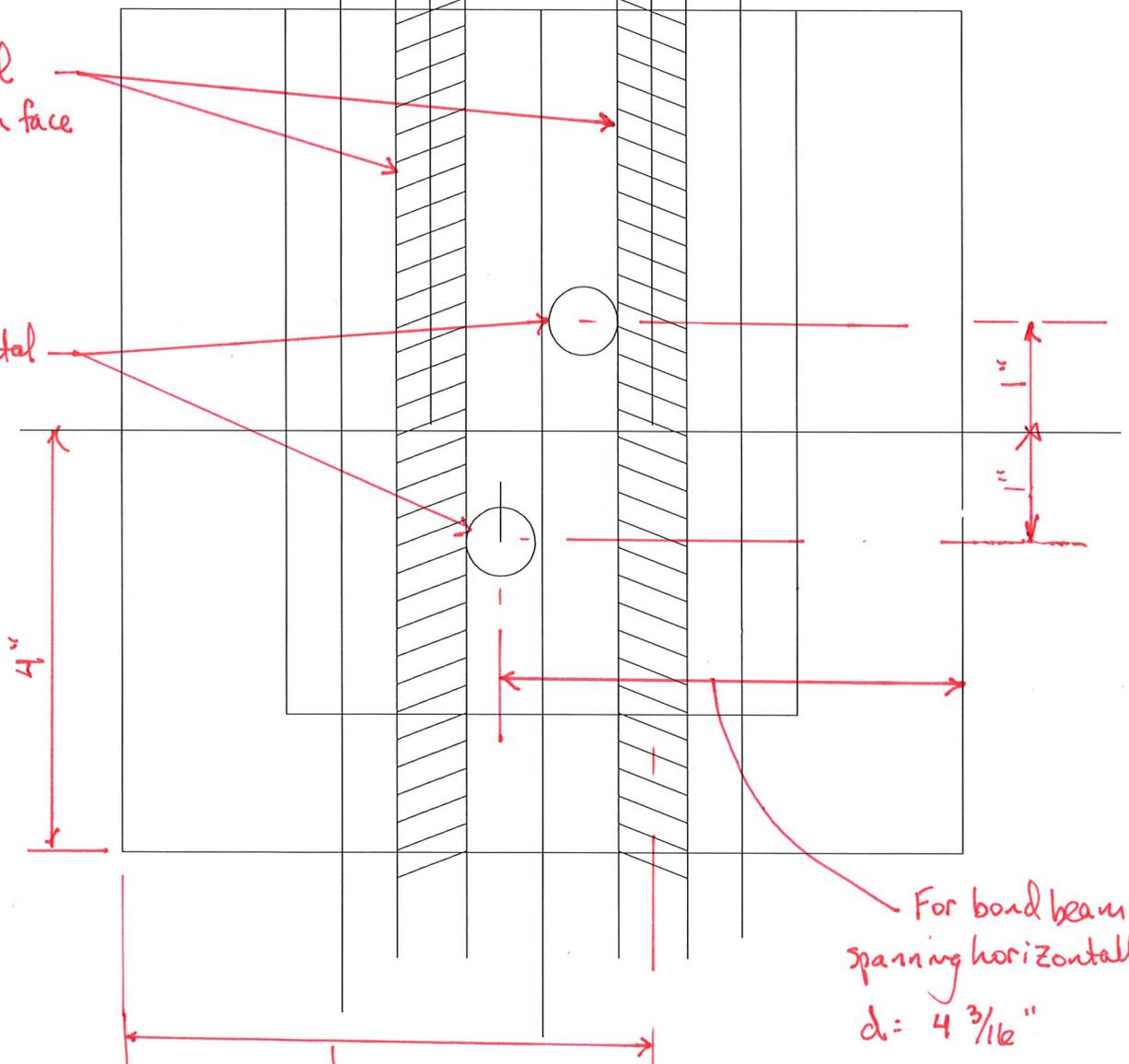
1/2" allowable tolerance for placement  
1/2" clear cover for grout

1/2" allowable tolerance for placement  
1/2" clear cover for grout



#5 vertical bars @ each face

#5 horizontal bars



For bond beam spanning horizontally  
 $d = 4 \frac{3}{16}$ "

For vertical reinforcement  
 $d = 4 \frac{3}{16}$ "

### 7.2.4 CLEARANCES

#### 7.2.4.1 CLEARANCE BETWEEN REINFORCING STEEL AND MASONRY UNITS

TMS 402, Section 6.1.3.5 states that reinforcing steel must be surrounded by grout. Reinforcing steel bars must have a minimum of 1/4 in. of grout between reinforcing steel and masonry units when fine (sand) grout is used. When coarse (pea gravel) grout is used, the clearance between reinforcing steel and masonry units must be at least 1/2 inch. Required clearances are shown in Figure 7.5. This assures proper bond so that stresses are transferred between the reinforcement and masonry. The above clearances are not subject to placement tolerances, that is, after the reinforcing steel is placed, clearance must be present so that grout can completely surround the reinforcement.

TABLE 7.2 Tolerances for Placing Reinforcement

Distance, $d$ , from face of CMU to the center of reinforcement	Allowable tolerance (in.)
$d \leq 8$ in.	$\pm 1/2$
$8$ in. $< d \leq 24$ in.	$\pm 1$
$d > 24$ in.	$\pm 1 1/4$

Reinforcement must be detailed to accommodate coarse grout, unless the designer approves the use of fine grout. Reinforcement must also be detailed to allow for construction tolerances. Tolerances listed in Table 7.2 should be added to the minimum clearances listed above to provide a constructible condition.

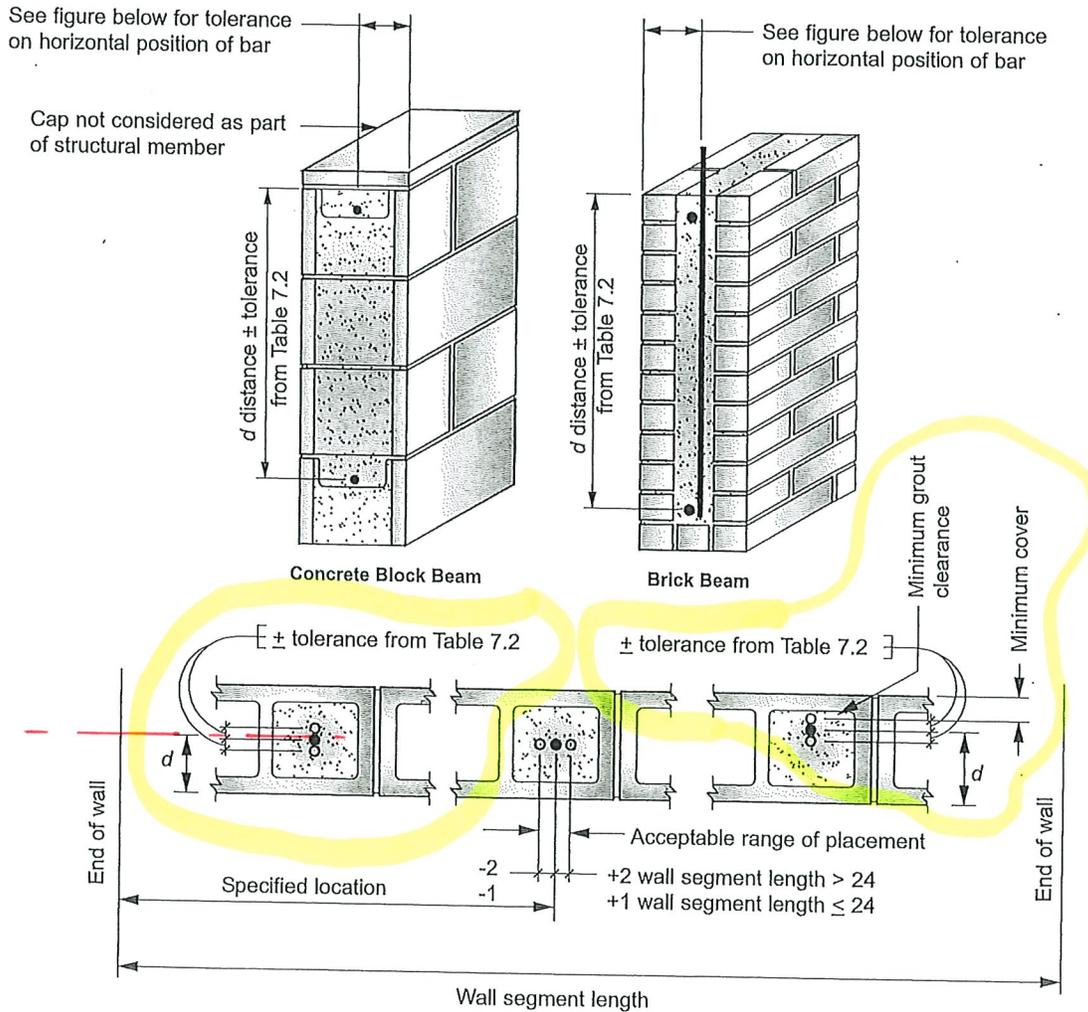


FIGURE 7.4 Illustration of tolerances for steel placement.