CHAPTER IV

CONCLUSION

The analysis and test results of infilled frames in this study can be concluded as follows

(1) The composite behaviour of a brick infilled concrete frame gives a lateral stiffness which is dependent not only on the individual properties of the frame and infill, but also on their relative stiffnesses. For example, an increase in the stiffness of the columns produces the increase in the lateral stiffness.

(2) The equivalent diagonal strut method can be used for reasonable estimate of the lateral stiffness of brick infilled concrete frame when span-length to height ratio in the range between 1.0 and 2.0

(3) The effective width of an infill acting as a diagonal strut is influenced by the following factors

(i) The relative stiffness of the column and infill. This relation can be used as a characteristic of the infilled frame (λ).

$$\lambda = \sqrt[4]{(E_w t_w \sin 2\theta)/(4E_c I_c h')}$$

For an increase in the characteristic value, the effective width will decrease.

(ii) The span-length to height ratio of the infill. For square infill, the effective width will greater than rectangular infill. The larger the panel, the smaller effective width will occur.

(4) The proposed method for estimating lateral stiffness shows more conservative values than the other methods.

(5) For primary consideration affect of brick panel to restain lateral sway. The minimum thickness must be larger than h'/29 for sqare infill, h'/21 for rectangular with L'/h' ratio 1.5 and h'/18 for long rectangular with length to height ratio equal 2.0.