- **Lay out and concrete dimension**

  $b = 25 \; cm$

  $t = 25 \; cm$

  $H_o = 2.75 \; m$

- **Load**

  $P_u = 55 \; ton$

- **Design**

  Column is braced column

  Upper case → fixed

  Lower case → fixed

  $\therefore \; K = .75 \qquad from \; ECP \; 202 \; table \; 6 - 9$

  $\lambda_b = \dfrac{2.75 * .75}{.25} = 8.25 \; < 10 \; safe \; buckling \quad short \; colume$

$$P_u = .35 * f_{cu} * A_c + .67 * A_s * f_y$$

$55 * 10^3 = .35 * 300 * 25 * 25 + .67 * A_s * 3600$

    Used $4\emptyset16$

$\emptyset_s = .8 \; cm$

$\emptyset_s = .25 * 1.6 = .4 \; cm$

$\emptyset_s = 8 \; mm$

$S = 20 \; cm$

$S = 15 * 1.6 = 24 \; cm$

$S = 20 \; cm$

Used Stirrup $5\emptyset \; 8/m$

قطاع في العمود

12 Ø 12

0.45

0.45

5 Ø 8/m