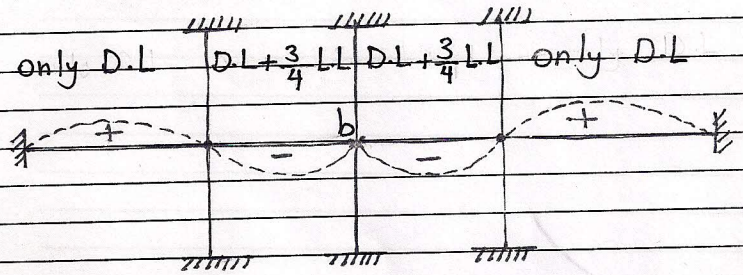
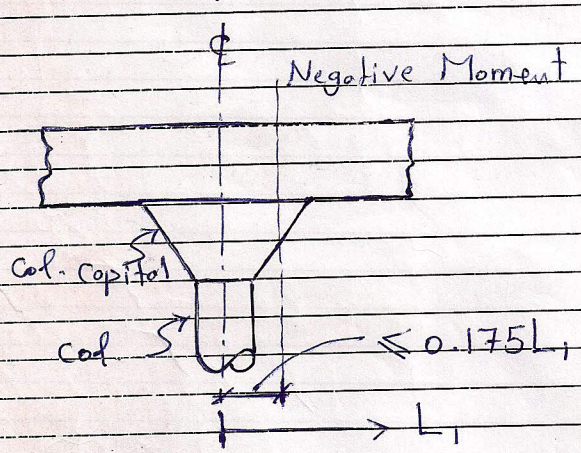
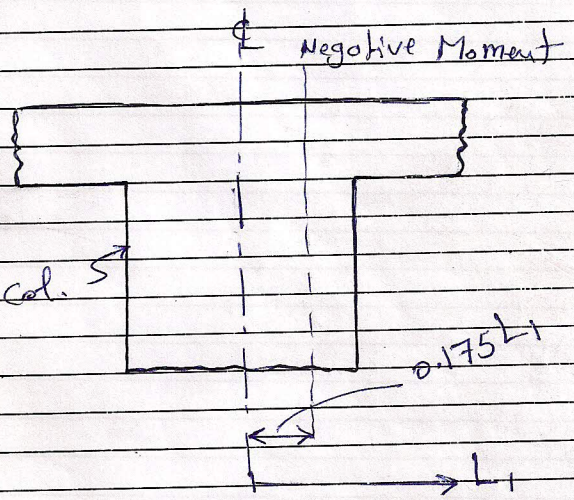


* for M_b^-

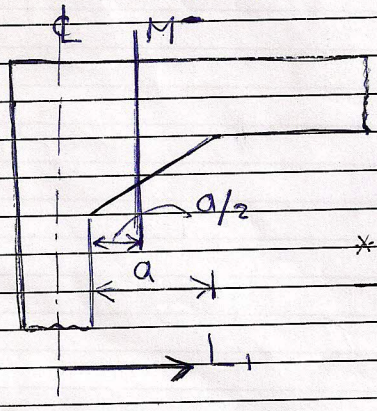
14- Apply "Moment Distribution Method" to find the required Bending Moments for design.

15- At interior Supports, the critical section for (M^-) is at face of support, Column Capital but not greater than ($0.175 L_1$) from centerline of Column (ACI 13.7.7.1)





16- At Exterior Supports with brackets or Capital, the critical section for (M^-) is as shown (ACI 13.7.7.4)



* Brackets

17- Transverse distribution of longitudinal Moment is same as D.D.M

End of Equivelent Frame Method

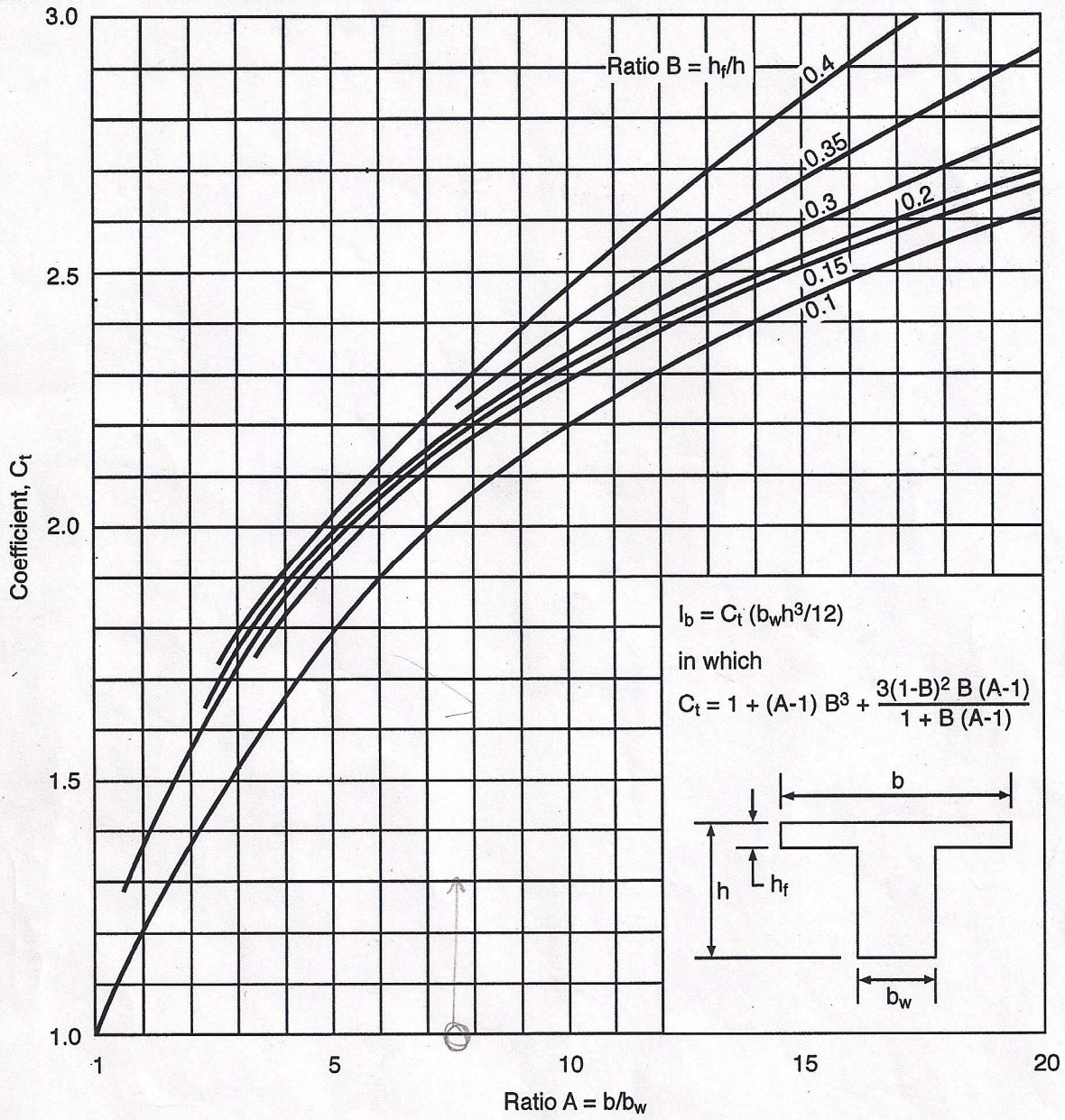
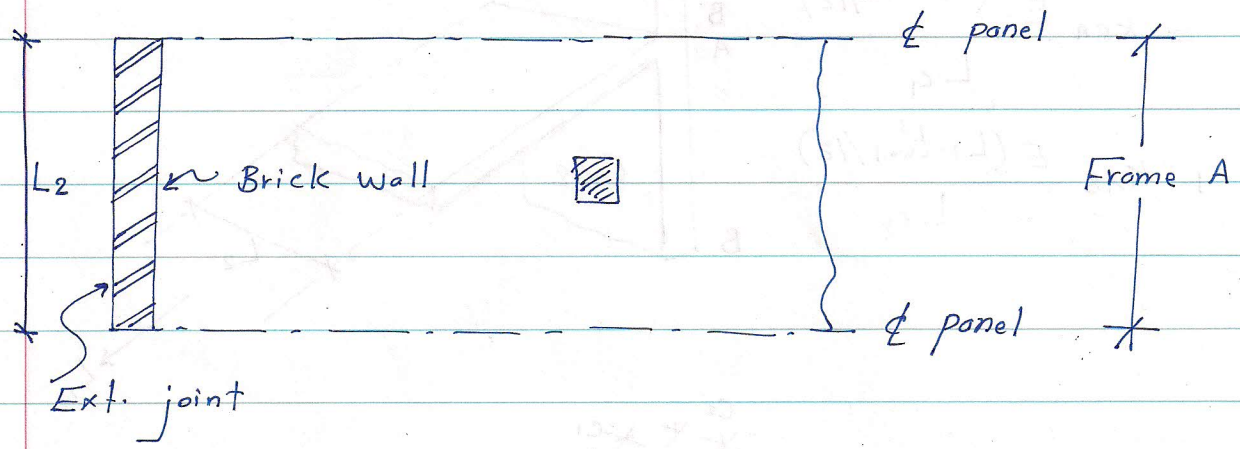


Figure 20-21 Coefficient C_t for Gross Moment of Inertia of Flanged Sections (Flange on One or Two Sides)

Notes/

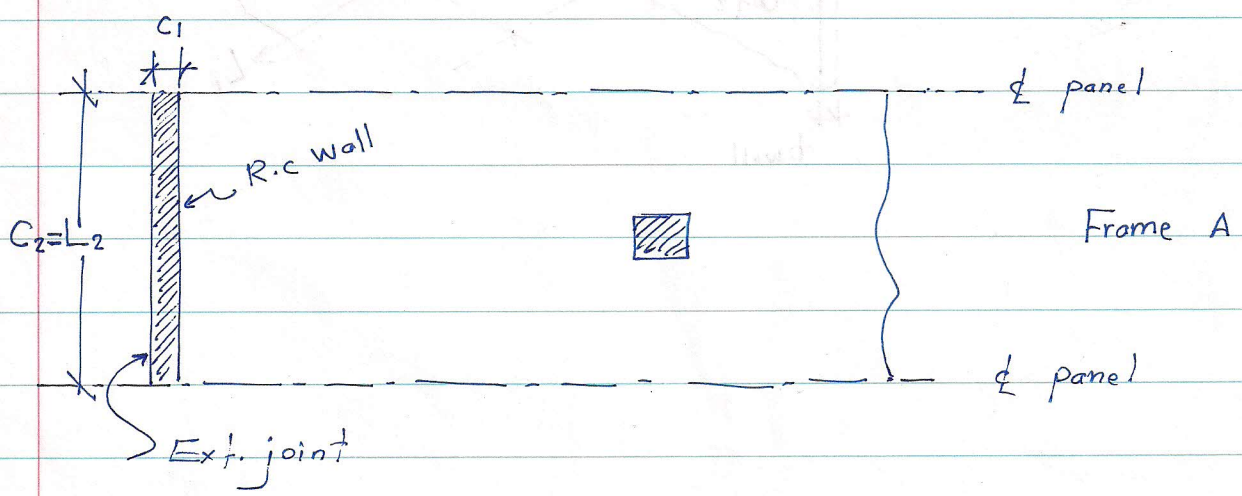
1- IF there is brick Wall at Ext. joint.



$$\frac{1}{K_{ec}} = \frac{1}{\sum K_c} + \frac{1}{K_t} = \frac{1}{\sum K_c} + \frac{1}{0} \Rightarrow \frac{1}{K_{ec}} = \frac{1}{\sum K_c} + \infty = \infty$$

$\therefore K_{ec} = 0$

2- IF there is R.C Wall at Ext. joint



$K_t = \infty$

$$\frac{1}{K_{ec}} = \frac{1}{\sum K_c} + \frac{1}{K_t} \Rightarrow \frac{1}{K_{ec}} = \frac{1}{\sum K_c} + \frac{1}{\infty}$$

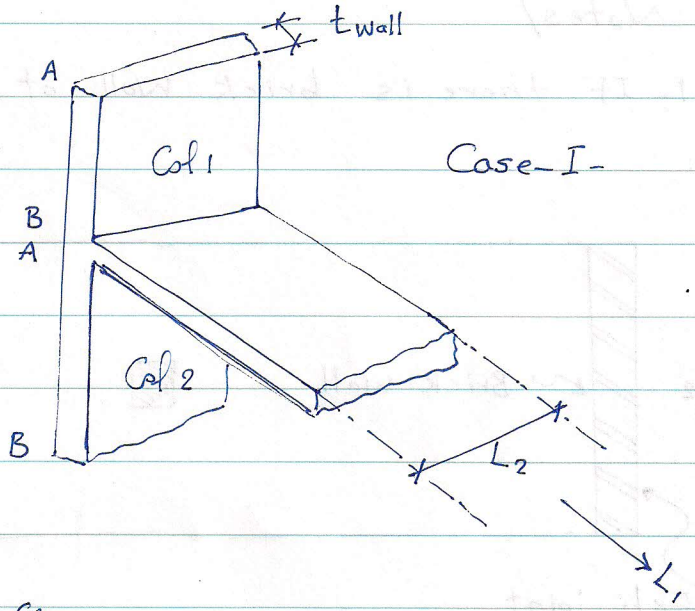
$$\frac{1}{K_{ec}} = \frac{1}{\sum K_c} + 0 = \frac{1}{\sum K_c}$$

$\therefore K_{cc} = \sum K_c$

but $\sum K_c = K_{col_1} + K_{col_2}$

$$= K_{BA} \frac{E \cdot (L_2 \cdot t_{wall}^3/12)}{L_{c_1}}$$

$$+ K_{AB} \frac{E (L_2 \cdot t_{wall}^3/12)}{L_{c_2}}$$

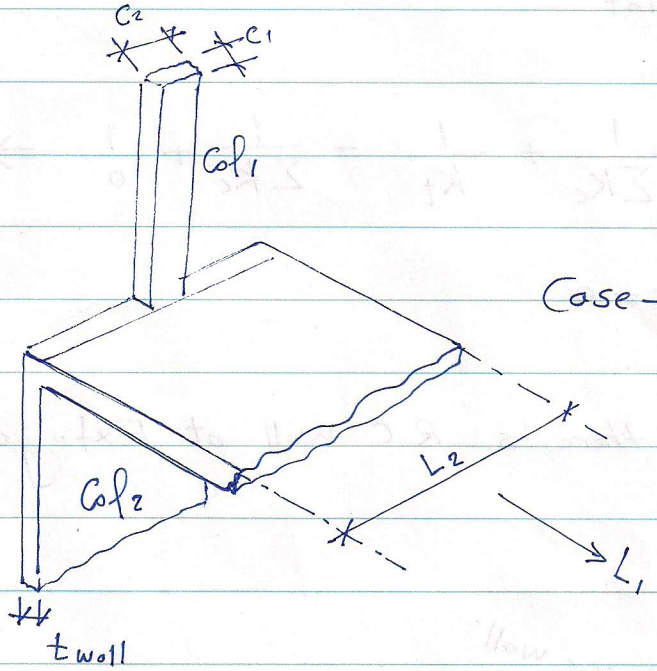


Case-I-

$$\sum K_c = K_{c1} + K_{c2}$$

$$= K_{BA} \cdot \frac{E (c_2 \cdot c_1^3/12)}{L_{c_1}}$$

$$+ K_{AB} \cdot \frac{E (L_2 \cdot t_{wall}^3)/12}{L_{c_2}}$$



Case-II-

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