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Answer

(Figure # 2)

This is a Soft Story building which the lower portion is less Stiffness & upper Portion is more Stiffness.
Now if earthquick come Then the lower Portion is less Stiffness & the upper portion is more Stiffness so when the upper Portion level come on the lower Portion. The lower Portion will not withstand the upper portion level & will collapse

Solution:- It should be ~~two~~ produce additonal columns & addtion beam.

(Step # 1)

This structure is a discontinous shear wall In case if earth quick come it will break at center.

Sol:- provide additional column or shear wall should be elimenated or fully.

Shear wall should be condition till the end.

St # This structure is discontinous.

(Figure # 3)

Figure #3 is a Re-entraind corner Building is L Shaped building

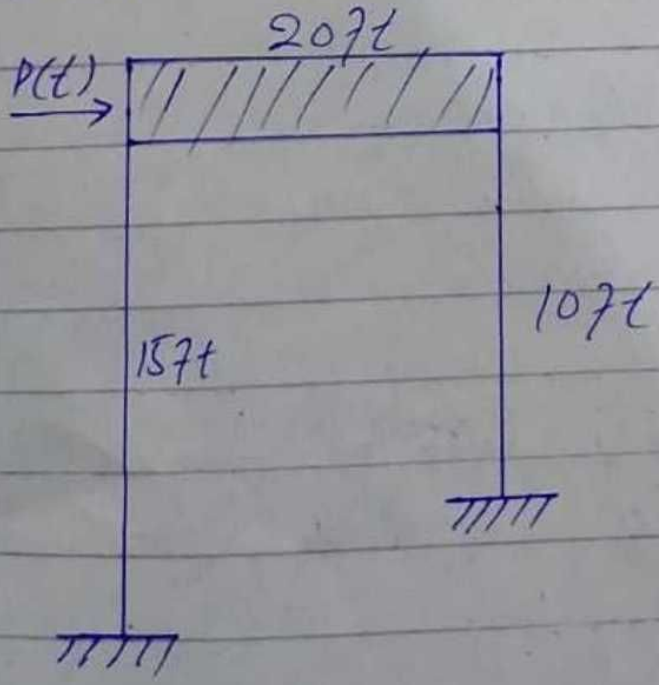
Prob There are two problem.

① These is problem in building wings & that problems is differential Portion if earth quick

The second problem which will occur is the torsion in this building b/c center of mass & centre of rigidity in this form can not geometrically coincide. for all possible direction.

Solg- there should be seprate in the two portion as it is a shape building. OR it should be embraced with stiff resist that elemente.

(Answer no 2)



Given.

$E = 2900\ KSi$

$I = 1200\ in^4$

$Load = 7750\ lb/ft^2$

Solution:- $k_{eq} = k_1 + k_2$

we know

$$K = 12EI \Big/ \frac{1}{(15\times 12)^2} + \frac{1}{(10\times 12)^3} \Big/$$

$K = 313.29\ k/in$

$K = 3759\ k/ft$

$m = w/g$

$$m = \frac{7.750 \times 20}{32.2\ ft/sec^2}$$

$m = 4.817\ k\,sec^2/ft$

$m = 4817\ lb\ sec^2/ft$

now $p(t) = ku + mu$

now put values.

$P(t) = 4817\ \ddot{u} + 3.359 \times 10^6$

So it is equation of motion.