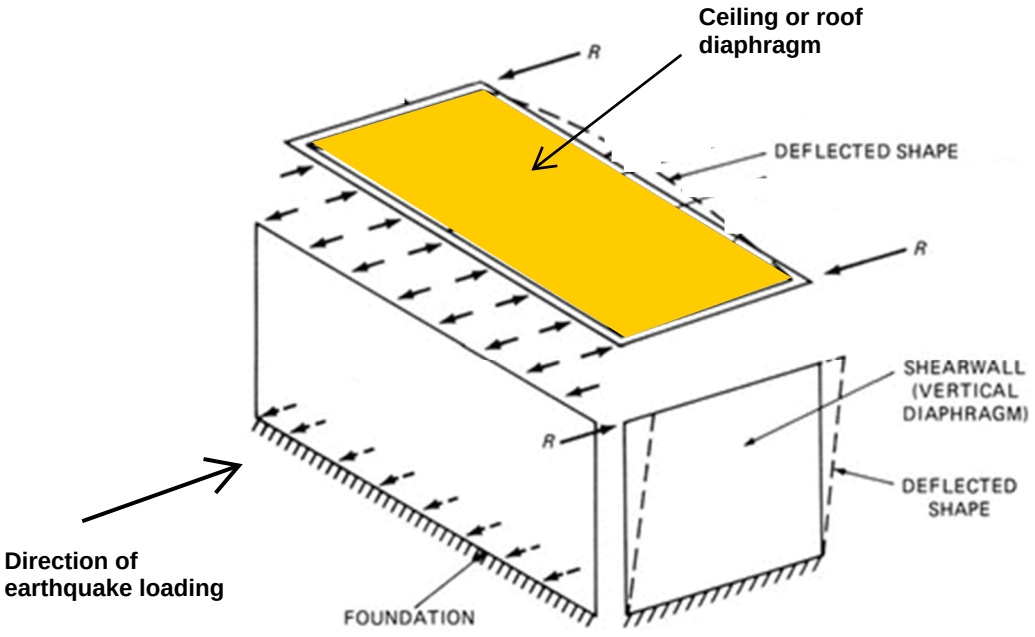
St Alban's - Summary of Structural Issues

A ceiling or roof diaphragm stiffens a building in the same way as the lid of a box.

The church building does not have an effective ceiling diaphragm, because it has a high pitch and open ceiling space. Because of this, the side walls have to carry the roof under lateral earthquake loading. The side walls are of camerated concrete construction (void cells between concrete skin walls) with very poor wire reinforcing only.

The hall building could have a ceiling diaphragm if the ceiling materials and fixings were much better than they are at present. Also, the side walls are of double skin brick construction. The "buttresses" are hollow and have very poor foundations….ie. they are decorative only.



Lateral loading of a rectangular building.