

DESIGN A DOUBLE STORY DETACHED HOUSE

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ABSTRACT

In this project, I have to design double storey detached house. It consists of ground floor and first floor where the dimension of each floor is 50'x60' (1530mm x 1836mm). In ground floor, it consists of 2 bedrooms, living area, 2 toilets, kitchen, dining and a store room where located below the stair.

The main designs for this building are the structural members of slabs, beams, columns, foundations and staircase. The forces are first transmitted from roof or slab to beams, next from beam to column, then to foundation and finally all the forces are transfers to the ground.

The grade of concrete used in this building is $f_{cu} = 30\text{N/mm}^2$ with mild exposure condition, the cover for all reinforcement structural member is 25mm except the foundation where $f_{cu} = 35\text{N/mm}^2$ and cover = 35mm (clause 3.3.1.4. British Standard 8110). The characteristic strength for main reinforcement is $f_y = 460\text{ N/mm}^2$ and the links is $f_{yv} = 250\text{N/mm}^2$.