

DOUBLE STOREY SEMI-DETACHED HOUSE

Prepared by: Chong Kin Soon @ Andrew

ABSTRACT

The purpose for “Design the Double-Storey Semi-Detached Housing” is to design a structure that is safe, economical and durable to use during its lifetime.

In this project, the limit state design philosophy is used in designing the structure. British Standard code, BS8110 for concrete is used mostly in the design of the slabs, beams, columns, foundation, roof and stairs. Besides, BS6399 is used to determine the dead load and imposed load that are acting on the structure's element.

Before I start my design or calculation on the Double-storey house, first I prepare my plan and dimensions of the house. The house consists of 2 bedrooms, 1 master bedroom, 3 washrooms, 1 kitchen, 1 living room, 1 dining room and 1 utility.

For the design, firstly I design the slabs, the loads on the slabs is based on the BS6399 which is one-way spanning slabs. Secondly, the beams are design as simply supported beams; design is based on BS8110. The design the beams, I select the beam that sustains the heaviest loads ends design it.

Then I design stair for the house with spanning longitudinally. After that follow by column design. 2 column are selected which are external and internal columns.

Finally, is foundation design for the house. The foundation is designed as pad footing.