



اَوْنَبُورْ سَيِّتِي تِيكُونُ لَوِي كِي مَارَا
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MARA

**ECS 358
CIVIL ENGINEERING DESIGN PROJECT**

**REINFORCED CONCRETE BUILDING
DESIGN PROJECT
&
PROJECT BASED LEARNING
(CASE STUDY)**

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Acknowledgement

Assalamualaikum W.B.T and have good day ahead. In the present time, technology and economy has evolved gradually that lead the change of how nowadays industry and construction project works. A computer can solve a certain equation with the help of software. Nowadays, project is like a bridge between theoretical and practical working. With this project that was given to me, I have studied both manual and software calculation, thus finished the project within the time given. And for this opportunity, I would like to thanks to the Almighty that obviously the one that has guided me to the right path of life and give me strength and health so that I can finish this final year project. Without His grace, this project could not become a reality.

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First and foremost, it is a nature for us to have law in this world. Everything we do have their own law for example, when driving on a road, there is a speed limit which is compulsory to follow for the driver's safety and others. Thus, same goes to any building that we live in. All structure elements have the requirement provided by the Uniform Building by Law 1984(UBBL). The main reason we use this law is to make sure the public safety and environmental and standardized all work for buildings. Hence will make work progression at site much easier.

Therefore, this reinforced concrete double storey bungalow house design project that designed must follow the UBBL and fire safety regulations so that the people who live in any buildings feel safe and comfortable. Hence, based on the standard value that has been stated in the UBBL, the characteristics of this house project are, first, the width of every habitable room in residential house must not less than 2 metres (UBBL, Section 42 paragraph 2). Another relatable section is the area and width of the kitchen less than 4.5 square metres and 1.5 metres respectively.

Besides, in Section 43(d), UBBL stated that bathroom with closet fittings must not less than 2 metres with a width of not less than 0.75 metres. In every double storey house, there must be a party wall that is a dividing partition between two adjoining buildings that is shared by the occupants of each residence. UUBL stated in Section 86(3), all party walls should be carried above the upper surface of roof to not less than 200 millimetres at right angles to such upper surface.

Furthermore, for fire safety regulation, in section 165(3) stated that, the provided of travel distance from any point in the room to the room door does not exceed 15 metres. Then, Section 227, portable extinguishers shall be provided in each building in accordance with the code of practice. This are some of the examples took from UBBL 1984 where engineers need to comply the law to construct a standardized building.

For the summary of design works, civil engineering works rely on Standards and Codes of Practice to serve as a guide in the execution of the design and workmanship obligations. Besides, Standards or Codes of Practice, in effect, act as a codified version of the cumulative knowledge and technical expertise within the building and construction industry. In designing reinforced concrete is not easy as we expected, we need to have a solid knowledge about concrete. As well as know that concrete is the most material used in any construction compared to steel.

Then, designing reinforced concrete with the Code of Practice is crucial. In addition, all construction purposes must comply with the Malaysia Standard. Besides, we also need to follow the law by Uniform Building by Law (UBBL). If we did not comply with the law, our project might be affected in terms of cost, delayed and others. Thus, we must be careful because we want to construct a building that will be use by client.

In other words, we as a designer need to design properly to avoid damages and accident towards client. It is our responsible as civil engineers to design all elements that can withstand any hazardous situation such as earthquake, flash flood, strong wind, and many more. As for diploma level, we just need to design static building where the wind action is not applied in this design works.

Finally, this is a fundamental knowledge that we need to have as a civil engineering student. By using the standard Code of Practice, it will make all the construction are standardised. Denying the Code of Practice will indicate us as non-ethics engineers.