

UNIVERSITI TEKNOLOGI MARA



ECS 358

CIVIL ENGINEERING DESIGN PROJECT

**REINFORCED CONCRETE BUILDING
DESIGN PROJECT**

&

**PROJECT BASED LEARNING
(CASE STUDY)**

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1.1 Introduction

The first project involves reinforced concrete building design. This chapter elaborates further on the legal aspect from the requirements for constructing building in Malaysia. Some of the requirements is under the Uniform Building By Law (UBBL) and Fire Safety Regulations. These requirements are the main references for an engineer in designing a building. The standard acquired is based from the specification that include in the requirement involved. UBBL is the standard reference explained the following minimum and maximum limits of occupant's comfort and has been implemented since 1984 while Fire Safety Regulations established under Fire Services Act 1988 (Act 341).

1.1.1 Requirements of Building-By-Law and Fire Safety Regulations

The requirements of UBBL and Fire Safety Regulations is described as below:

1.1.1.1 Uniform Building By Law (UBBL)

As the Law of Malaysia which under Act 133, Uniform Building By Laws, the regulations is provided under the Street, Drainage and Building Act 1974 which is the arrangement of By Laws. This can define as the instrument stability which followed by all the building design in Malaysia. It is some of a standard specification that allow the process of the building construction to be operate. It mainly focused towards the arrangements made from the beginning.

The submission of plans for approval. Every plans of a building project need to be submitted to the local authorities in term of the license. It can be somehow the consideration needed as an endorsement to get the confirmation. Each information provided is important where all the plans must be submitted by a qualify person only. The results will depend on the authority requirements and either approve or disapproval.

Other than that, the supervision of the work is necessary where it is important to have an inspection towards the building structure. This is to make sure all the design obtained is following the requirement and get the approval from a qualify person that is responsible to check overall design requirement.

3.1 Summary of design works

This chapter presents the conclusion of the projects by summarizing the design works involve in these projects. The summary is focused in this chapter which involved for overall design project progress. Before the beginning of the construction activity must get the license or the permit to construct a building. The local authority will provided the legal permit in order to perform the construction and have for an insurance if there are any accident occur. The construction also may followed the standard of a building construction which under of Uniform Building By Law. This is one of law in Malaysia that must follow to ensure the building is safe, efficient and to prevent any failure occur. This also to make sure the comfortness and safety of the users regarding to the suitability that based from the design calculation made. Other than that, the fire safety regulations also is one of the standard specification in designing a building. It can give the guidance designing a building which must have the alarm, emergency door or window and others.

Throughout the progress, starting from the beginning of the construction project, the design of the building must produce a structural of key plans drawing for each floor of the building. From the drawing, the design process can begin as the drawing tend to show the beam layout of the building. This can ease the design process with identifying all of the structural elements. On top of that, the design process will be provided with a list of materials used and the load that had been calculated. The list of materials consists of the weight of the materials and the value for permanent and variable load. This can be as guidance or references in designing the structural elements. On top of that, the design parameters value also shows the parameter needed which is the known data that can be applied in the design calculation process.