DESIGN MODIFICATIONS USING PRECAST WITH BUILDING FRAME SYSTEM IN SKYLOFT SOHO CIPUTRA WORLD SURABAYA APARTMENT

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Abstract

Precast concrete method is the method used in the design of the building in addition to the conventional method by means of cast in place. Along with its development, precast concrete methods are more and more applied in the construction of buildings such as buildings, bridges, and other construction. The use of precast concrete method is based on some of its good think than conventional methods (cast in place). In precast concrete implementation method has advantages in processing speed and quality control of concrete itself.

Planning Skyloft SOHO apartment building Ciputra World Surabaya on actual conditions designed using conventional methods (cast in place). This building has twenty-nine floors including roof and floor functioned as an apartment building. In this thesis, the building will be re-design using precast concrete method. The selection method is based on the speed of execution of precast, quality control high quality, environmentally friendly, as well as reducing the amount of labor employed here .. Planning includes planning of the floor slabs, stairs, concrete roofing, joists, beam, columns and foundations. Components of the planned use of precast concrete method is in the planning plate, joist and beam. As for columns and other components are planned with conventional methods (cast in
place). The conventional method is also applied to the connection, i.e., the connection between the plates of the beam, the beam with the column, and the other connection is planned to use a wet connection with the cast in place.

The apartment building is also planned to use the System Frame Building (Building Frame System). With the use of the building frame system, gravity loads will be accepted by the order while the lateral load in the form of wind loads and seismic loads received by the shear wall (Shearwall).

The purpose of this final project is to produce structural design of precast building with the correct method to meet the security requirements of the structure by SNI 03-2847-2013, SNI 03-1727 - 201x, ISO 03, 1726-2012, and PPIUG 1983. With reference to the expected building which is planned to receive the force of gravity and lateral forces so that the building can function as it should and can also disseminate to the general public related to procedures for the use of the new regulations.

Keywords: precast, the conventional method, wet connections, Frame Building Systems.