

***ANALYSIS OF THE EFFECT OF VARIATIONS IN SLIDING WALL
PLACEMENT ON THE BEHAVIOR OF REINFORCED CONCRETE
STRUCTURES***

(Case Study: Bank Mandiri Building in Tasikmalaya City)

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ABSTRACT

The increase in high-rise building construction in earthquake-prone areas requires structural planning that can effectively withstand lateral loads, especially those caused by earthquakes. One structural element that plays an important role in increasing the rigidity and lateral stability of buildings is shear walls. This study aims to analyze the effect of varying shear wall placements on the behavior of reinforced concrete structures, including deflection response, internal forces, and overall building performance. The theoretical study covers the concepts of reinforced concrete structures, frame systems, wall systems, dual systems, loading, and planning provisions based on applicable Indonesian National Standards. The research method used is a numerical analysis method with the help of software through modeling three variations of shear wall placement configurations in the Bank Mandiri Building in Tasikmalaya City. The data used consists of primary data in the form of building plan drawings and secondary data in the form of material parameters, loads, and design regulations. The analysis was conducted on key parameters such as structural period, basic shear force, inter-floor deflection, structural stiffness, and forces within structural elements. The results of the study show that variations in the placement of shear walls have a significant effect on structural performance, where certain configurations are able to produce smaller deflections and distribute.

Keywords: *Structural analysis, shear wall, deviation, variations in shear wall placement, Inner style.*