

RE-DESIGN THE UPPER STRUCTURE OF LUKUT RIVER BRIDGE WITH COMPOSITE STRUCTURE USING SNI 1725:2016

(Case Study : Rumbai District, Pekanbaru City)

Name : Putri Nurliyana
Student Number : 4204171152
Supervisor : Indriyani Puluhulawa, M.Eng

ABSTRACT

The Lukut River Bridge otherwise Simpang Pramuka Bridge at Rumbai Subdistrict, Pekanbaru City connects with Perawang City, Tualang Subdistrict, Siak District. Where this bridge was originally reinforced concrete bridge with length 20 m and width 11 m. When this condition of the bridge is still fine and sturdy. However, there's no data or information on the bridge that has been planned using SNI 1725:2016.

In new bridge design using design lukut bridge at simpang pramuka street is composite of structure. In planning to do newer loaded analysis that is using SNI 1725:2016 of bridge design.

From results of analysis and design, planning slab obtained is negative and positive reinforcement consecutive main reinforcement D16-250 mm and for reinforcement D13-300 mm. Trotoar obtained is main reinforcement D16-200 mm and for reinforcement D10-250 mm. For Railing pile obtained flexible reinforcement $\phi 10$ and shear reinforcement $\phi 6-150$. Slab plate longitudinal direction and transverse direction reinforcement obtained is D16-200 mm. For girder using sizes profil WF 800x300x14x26 mm and dimension diafragma using sizes profil WF 450x200x9x14 mm with how Extended End-Plate. Elastomer bearing with sizes 250x450x12, with total of 4 layers. As result of budget plan to this bridge as big Rp. 3.709.197.000.

Keywords : SNI 1725:2016, The Upper Structure, Budget Plan, Composite Girder