

## **ABSTRACT**

Reka Mauliza, 15317035

*Development Project for Underpass Senen Extension*

*“Implementation Method on Capping Beam and Calculation Formwork and Reinforcement”*

*Department of Civil Engineering. Faculty of Civil Engineering and Planning.  
Gunadarma University*

(XIV+61+ Attachments)

*The Senen Extension Underpass construction project is located on Jl. Lt. Gen. Suprpto, Senen, Central Jakarta by PT. Wahana Widya Technical. The DKI Jakarta Bina Marga Agency is the owner of this project. The Senen Extension underpass was built with a span length of  $\pm 518\text{m}$  which aims to reduce congestion at the 5 Senen intersection towards Senen Raya. The type of contract used was Lump Sump and the nature of the contract used was Design and Build with a contract value of Rp. 169,623,757,238.39. This project has an implementation period of 14 calendar months and a maintenance period of 2 calendar years. The discussion of specific problems in this report concerning the method of implementation capping beam and calculation formwork and reinforcement material requirements on capping beam. The capping beam work includes cleaning the capping beam area, breaking the secant pile head, reinforcing the capping beam, installing formwork, casting, dismantling formwork, and treating concrete. Calculation of capping beam reinforcement material requirements in the Senen Extension Underpass Development Project requires reinforcement 4D16 for the longitudinal direction of the main reinforcement, 4D22 for the main reinforcement in the transverse direction, D13-200 for reinforcement bars, and D13-300 for anchor reinforcement.*

*Keywords: Formwork, Capping Beam, Reinforcement, Implementation Methods*