

PREPARATION OF BAR BENDING SCHEDULE (BBS) IN THE INTEGRATED WORKSHOP BUILDING PROJECT

NAME : RONALD ALFREDO RUMAHORBO
STUDEN ID : 4103230001
SUPERVISOR : Ir. ARMADA, ST., MT

ABSTRACT

Bar Bending Schedule (BBS) is a detailed list of reinforcing steel requirements that includes information regarding bar diameter, number of bars, cutting length, bending shape, and total weight of reinforcement based on structural drawings. The preparation of a BBS plays an important role in material quantity control, steel cutting efficiency, and minimizing misinterpretation of structural drawings in construction projects.

This study aims to prepare a Bar Bending Schedule (BBS) for the substructure elements consisting of pile caps, tie beams, plinth beams, and ground floor slabs in the Integrated Workshop Building Project, to evaluate the conformity of reinforcement detailing with the provisions of SNI 2847:2019, and to analyze the level of reinforcing steel optimization in terms of cutting waste.

The research method includes literature study, collection of structural drawing data, identification of structural elements and reinforcement details, calculation of bar lengths and quantities, preparation of the BBS table, calculation of total

reinforcing steel weight, identification of conformity with SNI 2847:2019, as well as identification and optimization of reinforcement waste through the utilization of off-cut remnants across combinations of cutting lengths with the same diameter. The analysis is carried out quantitatively and descriptively to determine material requirements, the level of conformity with SNI, and the potential efficiency of steel cutting with a standard length of 12 meters.

The results show that the total reinforcing steel requirement for all substructure elements is 31,392.99 kg, or 2,657 bars of 12-meter length. The reinforcement detailing generally conforms to SNI 2847:2019, except for the development length aspect on the Tie Beam and Plinth Beam elements, which still requires revision. The application of the waste optimization scheme reduced total waste by 62.9% (from 6,409.74 m to 2,377.74 m), while saving 336 steel bars. This research is expected to serve as a reference for reinforcement work control in similar construction projects.

Keywords : *Bar Bending Schedule (BBS), reinforcing steel, substructure, waste optimization, SNI 2847:2019.*