

ABSTRACT

OPTIMIZATION OF ASPHALT MIXING PLANT SITE LAYOUT USING MULTI-OBJECTIVES FUNCTION (Case Study: PT. Jaya Konstruksi Manggala, East Jakarta)

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Site layout optimization is a stage in planning project support facilities that aims to get an efficient and effective layout. The site layout that will be optimized uses the Multi Objectives Function method by finding the minimum value in the calculation of Traveling Distance (TD) and Savety Index (SI). Researchers chose a case study at AMP PT. Jaya Konstruksi Manggala to identify the ongoing site layout, as well as optimize and determine the most optimal site layout. The removal of the basic site layout resulted in 2 different alternatives with the minimum TD result being alternative 1 of 85082 m with a decrease of 2,19% from the basic alternative, while the minimum SI result was alternative 2 of 2814,85 m with a decrease of 2,60%. Therefore, the determination of the optimal site layout needs to be done with a percentage comparison of the value of traveling distance and safety index. The percentage is obtained from direct interviews with K3 AMP PT. Jaya Konstruksi Manggala with a percentage rate on traveling distance of 50 % and safety index of 50%. From the calculation results at that percentage, it was found that the AMP site layout PT. Jaya Konstruksi Manggala is the most optimal based on the minimum calculation value, namely alternative layout 1 with a value of 44001,57 m.

Keywords: Site Layout, Travelling Distance, Safety Index

Libraries : 16
Publication Years : 2003-2021