

ANALISIS VALUE ENGINEERING PADA TAHAP PERENCANAAN KONSTRUKSI BANGUNAN TINGGI DENGAN BASEMENT DI TANAH LUNAK MENGUNAKAN PERBAIKAN TANAH VACUUM

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Indonesia is an area that is dominated with soft soils. Soft soils is the type of soil that is less supportive for a construction work. Soft soils will have a big settlement in a long term condition because of the high shrinkage properties, low permeability, and great compressibility. Failures of construction on soft soils actually have often occurred in Indonesia and in other countries. Therefore, construction planning on soft soils must be considered both In terms of design and implementation so that the work can be carried out properly. Moreover, cost, time, and safety aspect must also be considered. In order to get the result which has appropriate performance, cost, and time, Value Engineering (VE) method can be applied in the initial design stage. This study is intended to find a better alternative method for construction on soft soil. Results of the study shown that direct construction without vacuum has a lower cost with the difference of Rp. 2.605,156,860.00. Moreover, the bored plies work completion time is 11 months faster using direct construction. The vacuum method gives advantages that the soil condition becomes more stable and also gives an opportunity to cut the bored pile length for cost efficiency. However, the soil stability after improvement is not significantly different. Moreover, the cost efficiency from cutting the bored pile length is smaller than the cost of vacuum works. Based on the comparison information above, the coefficient of function, cost coefficient, and value coefficient are calculated. The calculation result shows that the coefficient value for the direct construction alternative is 1.0649, so it can be concluded that the direct construction alternative is better than performing the soil improvement first with vacuum method.

Keywords Soil Soils, Value Engineering, Vacuum, Bored Pile