

## **ABSTRACT**

*The construction of the Swiss-Bell Hotel Solo Building is planned to use a bored pile foundation measuring 1 m in diameter with a 2.5D distance between pile. Bored pile foundation is a type of deep foundation which functions to support the load on it and deliver it to the soil in accordance with the criteria of safe and economical. Base bearing capacity analysis is carried out by observing soil investigation data, load borne by foundation, pole dimensions, distance between pile, concrete quality and foundation depth. One important factor that influences the carrying capacity of bored pile pole groups is the distance between piles.*

*In this study, the bearing capacity of the pile group will be calculated based on the distance between the piles (s) using variations in the distance of the pile (s) 2.5D, 4D, and 5D. The analysis was carried out using two different methods, namely numerical analysis and analysis methods using the finite element method. The numerical method analysis used in this study is the method of Reese & O'neil, Brom and Poulus & Davis. While the finite element method analysis was carried out using PLAXIS 2D V8.6 software to find out the amount of bearing capacity of the bearing capacity of group bore pile and compare the results of analysis with numerical methods in accordance with the formulation of the problem of this research.*

*Based on the results of the analysis has done, it shows that if greater of distance between piles(s) the greater the bearing capacity of group pile. The amount of bearing capacity of group bore pile with the Reese & O'neil method in the variation of distance between piles (s) respectively were 7888.922 kN, 8787.164 kN, and 9102.53 kN. From the results of the analysis of the bearing capacity of group bore pile with the Brom method on variations of distance between piles (s) respectively 13930,197 kN, 15516.30 kN, and 16073,375 kN. From the results of the analysis of the bearing capacity of group bore pile with the Poulus & Davis method on variations of distance between piles (s) respectively 11384,94 kN, 12681,250 kN, and 13136,37 kN. Then based on the results of finite element analysis using PLAXIS 2D V8.6 software, the bearing capacity of the group bore pile on the variation of distance between piles (s) respectively were 10916.49 kN, 13085,184 kN and 14399.54 kN.*

**Key Words:** *Reese & O'neil, brom, Poulus & Davis, PLAXIS, distance between piles*