

## **ABSTRACT**

*The most important part of a bridge structure is the foundation. As a supporter of the upper structure, the selection of the type of foundation and analysis of its bearing capacity must be carried out carefully. The purpose of writing this thesis is to calculate the bearing capacity of piles from the results of the Cone Penetration Test (CPT), Standard Penetration Test (SPT). In the calculation of the bearing capacity of a single pile, the Meyerhoff method is used, with a variation of dimensions of 20cm and 25cm based on CPT data and dimensions of 25cm based on SPT data, and calculating the permissible bearing capacity of piles of dimensions of 20cm based on CPT data and 25cm based on SPT data using the Converse-Labarre method. The results and discussion of the calculation analysis concluded that for the permissible bearing capacity ( $Q_i$ ) on a single pile foundation from CPT S-1 data with a depth of 17.60 meters using the Meyerhoff method obtained for dimensions of 20cm = 36.39 Tons, 25cm = 53.82 Tons and from SPT BH-1 data to a depth of 75.45 meters for dimensions of 25cm = 158.632 Tons, the results of the calculation analysis of the permissible bearing capacity ( $Q_i$ ) for pile foundations of the 20cm dimension group from CPT data using the Converse - Labarre method = 145.414 Tons with the number of piles = 4 piles and the results of the analysis of the permissible bearing capacity ( $Q_i$ ) of pile foundations of the 25cm dimension group from SPT data = 505.084 Tons with the number of piles = 4 piles.*

Keywords: Foundation, Efficiency Methodology, Pile Group, N-SPT, Bearing Capacity.