

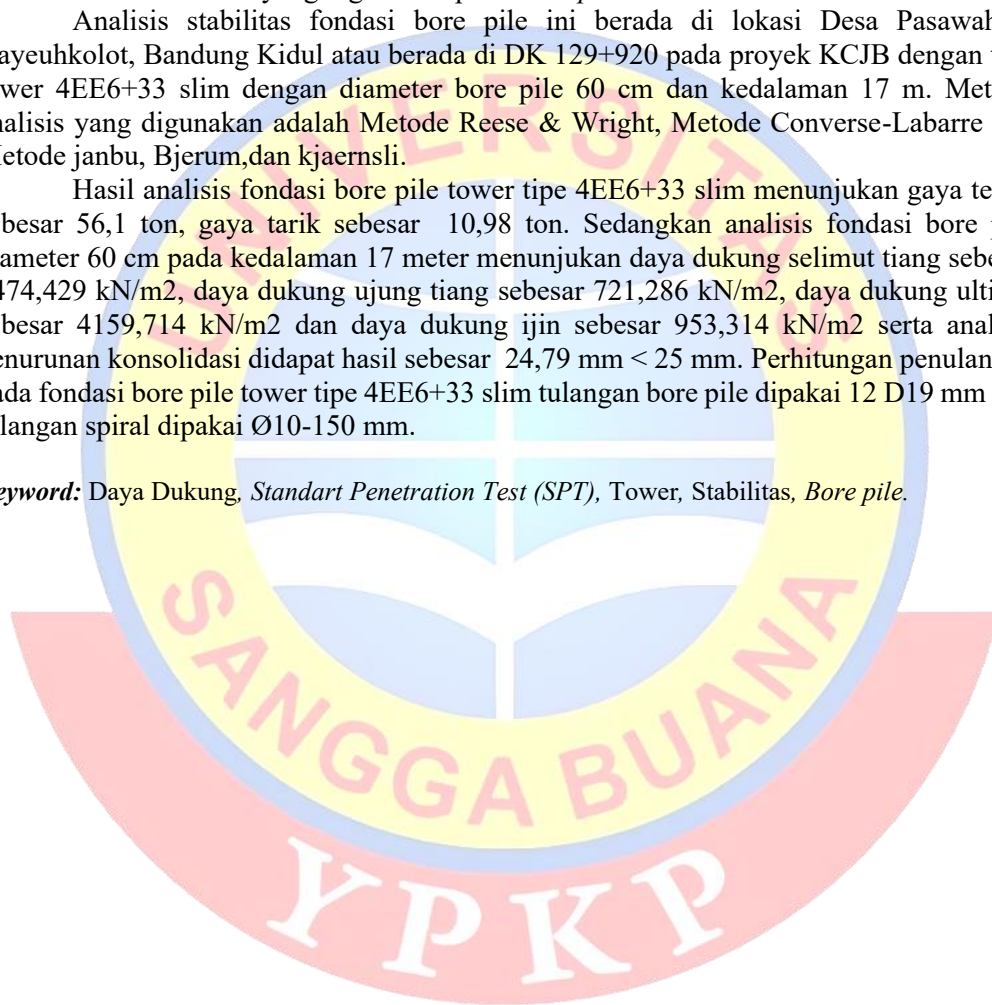
ABSTRAK

Tower transmisi listrik membutuhkan fondasi yang kokoh untuk menopang beban struktur, satu jalur tower transmisi listrik sering kali berada di berbagai kondisi tanah yang beragam, seperti sawah, hutan, perkebunan, dan lahan dekat pemukiman. Dewasa ini dimana lokasi tower yang sudah berdekatan dengan lahan pemukiman sehingga lahan untuk tower yang tersedia juga semakin terbatas, atau bisa memanfaatkan kembali lahan eksisting namun perlu peningkatan tinggi tower maka tower transmisi tipe *slim* yang memiliki bentang kaki tower minimal menjadi salah satu pilihan. Tujuan dari penelitian ini adalah untuk mengetahui kapasitas daya dukung tanah, gaya tarik, gaya tekan, penurunan tanah dan diameter besi yang digunakan pada *bore pile*.

Analisis stabilitas fondasi bore pile ini berada di lokasi Desa Pasawahan, Dayeuhkolot, Bandung Kidul atau berada di DK 129+920 pada proyek KCJB dengan tipe tower 4EE6+33 slim dengan diameter bore pile 60 cm dan kedalaman 17 m. Metode analisis yang digunakan adalah Metode Reese & Wright, Metode Converse-Labarre dan Metode Janbu, Bjerum, dan Kjaernli.

Hasil analisis fondasi bore pile tower tipe 4EE6+33 slim menunjukkan gaya tekan sebesar 56,1 ton, gaya tarik sebesar 10,98 ton. Sedangkan analisis fondasi bore pile diameter 60 cm pada kedalaman 17 meter menunjukkan daya dukung selimut tiang sebesar 3474,429 kN/m², daya dukung ujung tiang sebesar 721,286 kN/m², daya dukung ultimit sebesar 4159,714 kN/m² dan daya dukung ijin sebesar 953,314 kN/m² serta analisis penurunan konsolidasi didapat hasil sebesar 24,79 mm < 25 mm. Perhitungan penulangan pada fondasi bore pile tower tipe 4EE6+33 slim tulangan bore pile dipakai 12 D19 mm dan tulangan spiral dipakai Ø10-150 mm.

Keyword: Daya Dukung, *Standart Penetration Test (SPT)*, Tower, Stabilitas, *Bore pile*.



ABSTRACT

Electric transmission towers require a solid foundation to support the load of the structure in a variety of soil conditions, which are as diverse as rice fields, forests, plantations, and near residential areas. Nowadays, where the location of the tower is already close to residential land so that the available land is also increasingly limited, or reusing existing land but needing to increase the height of the tower, a slim-type transmission tower that has a minimum tower footspan is one of the options. The purpose of this study is to determine the bearing capacity of the soil, tensile force, compressive force, soil subtraction, and iron diameter used in the bore pile.

The stability analysis of the bore pile foundation is located in Pasawahan Village, Dayeuhkolot, Bandung Kidul, or at DK 129 + 920 in the KCJB project with a tower type of 4EE6 + 33 slim with a bore pile diameter of 60 cm and a depth of 17 m. The analysis methods used are the Reese & Wright Method, the Converse-Labarre Method, and the Janbu, Bjerum, and Kjaernsli Methods.

The results of the analysis of the bore pile tower foundation of type 4EE6+33 slim showed a compressive force of 56.1 tons and a tensile force of 10.98 tons. Meanwhile, the analysis of the bore pile foundation with a diameter of 60 cm at a depth of 17 meters showed that the bearing capacity of the pile blanket was 3474.429 kN/m², the bearing capacity of the pile end was 721.286 kN/m², the ultimate bearing capacity was 4159.714 kN/m², and the permit bearing capacity was 953.314 kN/m², and the analysis of the consolidation decrease was obtained by 24.79 mm < 25 mm. Calculation of repetition on the foundation of bore pile tower type 4EE6+33 slim: bore pile reinforcement is used at 12 D19 mm, and spiral reinforcement is used at Ø10-150 mm.

Keyword: *Bearing capacity, Standart Penetration Test (SPT), Tower, Stability, Bore pile.*

