

Axial Load Capacity of Drilled Shafts from In-Situ Test Data at Semani Site, in Albania

Authors : Neritan Shkodrani, Klearta Rrushi, Anxhela Shaha

Abstract : Generally, the design of axial load capacity of deep foundations is based on the data provided from field tests, such as SPT (Standard Penetration Test) and CPT (Cone Penetration Test) tests. This paper reports the results of axial load capacity analysis of drilled shafts at a construction site at Semani, in Fier county, Fier prefecture in Albania. In this case, the axial load capacity analyses are based on the data of 416 SPT tests and 12 CPTU tests, which are carried out in this site construction using 12 boreholes (10 borings of a depth 30.0 m and 2 borings of a depth of 80.0m). The considered foundation widths range from 0.5m to 2.5 m and foundation embedment lengths is fixed at a value of 25m. SPT - based analytical methods from the Japanese practice of design (Building Standard Law of Japan) and CPT - based analytical Eslami and Fellenius methods are used for obtaining axial ultimate load capacity of drilled shafts. The considered drilled shaft (25m long and 0.5m - 2.5m in diameter) is analyzed for the soil conditions of each borehole. The values obtained from sets of calculations are shown in different charts. Then the reported axial load capacity values acquired from SPT and CPTU data are compared and some conclusions are found related to the mentioned methods of calculations.

Keywords : deep foundations, drilled shafts, axial load capacity, ultimate load capacity, allowable load capacity, SPT test, CPTU test

Conference Title : ICSMGE 2022 : International Conference on Soil Mechanics and Geotechnical Engineering

Conference Location : Paris, France

Conference Dates : June 23-24, 2022