# Provision of Slope Stability with Barette Piles: A Case Analysis

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**Abstract :** From past to present, there is a constant need for engineering structures such as high-rise buildings, wide-span bridges, airports and stadiums, business towers due to technological developments and increasing population. Because of the large loads transferred from the superstructure to the ground layers in these types of structures, the bearing strength and seating problems usually occur on the floors. In order to solve these problems, piled foundations are used by passing the weak soil layers and transferring the loads from the superstructure to the solid soil layers. Considering the factors such as the characteristics of the building to be constructed, the purpose and location of the building, the basic cost of the pile should be at normal levels. When these requirements are taken into consideration, a new basic system called 'Barette Foundation' has been developed. In this thesis, an application made to provide slope stability with 'Baret Piles' was investigated. In addition, the ground parameters obtained from the field and laboratory experiments were numerically modeled using a PLAXİS 2D finite element software and barette piles. The effects of barette piles on slope stability were investigated by numerical analysis, and the results of inclinometer measurements in the field were compared with numerical analysis results.

**Keywords :** barette pile, PLAXİS 2D, slope, soil

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