

عنوان مقاله:

A Study on the Effect of Flow Rule on the Bearing Capacity of Strip Foundations by Method of Stress Characteristics

محل انتشار:

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خلاصه مقاله:

Several methods can be employed to estimate the bearing capacity of shallow footings, e.g. the finite element method, the zero extension lines method, application of limit theorems, the method of stress characteristics and some different approaches. It is traditionally accepted that the bearing capacity of foundations are those obtained by an associated flow rule assumption. However, the angle of dilation, ψ , in the soils is usually much lower than the soil friction angle, ϕ . In fact, the non-associated flow rule governs the soil's behavior in reality. Such property of soils has been considered in this study and the method of stress characteristics is used to compute the bearing capacity of strip foundations. The flow rule affects the size of the plastic zone beneath the foundations and leads lower values for the ultimate capacity. In this research a fully smooth contact for the footing-soil interface has been assumed. Results based on the method of stress characteristics have been compared to those available in the literature.

کلمات کلیدی:

Bearing Capacity, Strip Foundations, Stress Characteristics, Plasticity, Flow Rule

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