

Numerical Analysis of Bearing Capacity of Strip Footing Adjacent to Cohesionless Soil Slope

Abstract—Nepal being a mountainous country with varying topography and slope, the foundation on slopes is inevitable. Thus bearing capacity of the foundation near slope is the primary concern and provide baseline for any structural design. This paper presents the analysis of the strip foundation problem near slope with consideration of various parameter like slope angle, footing distance from the crest and depth width ratio. Finite element method is used to evaluate the bearing capacity using Plaxis 2D. The results obtain from this research project includes determination of the bearing capacity under different parametric condition and established the relation of it with different geometrical as well as strength parameters in the form of graphs.

Index Terms—Bearing capacity, Strip Footing, Finite Cohesion-less slope soil, Numerical Analysis.