

Study of Bored Pile Retaining Wall Using Physical Modeling

Authors : Amin Eslami, Jafar Bolouri Bazaz

Abstract : Excavation and retaining walls are of challenging issues in civil engineering. In this study, the behavior of one the important type of supporting systems called Contiguous Bored Pile (CBP) retaining wall is investigated using a physical model. Besides, a comparison is made between two modes of free end piles (soft bed) and fixed end piles (stiff bed). Also a back calculation of effective length (the real free length of pile) is done by measuring lateral deflection of piles in different stages of excavation in both a forementioned cases. Based on observed results, for the fixed end mode, the effective length to free length ratio (L_{eff}/L_0) is equal to unity in initial stages of excavation and less than 1 in its final stages in a decreasing manner. While this ratio for free end mode, remains constant during all stages of excavation and is always less than unity.

Keywords : contiguous bored pile wall, effective length, fixed end, free end, free length

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