

XENOPHONTOS LIMIT STATE DESIGN AND ANALYSIS OF RETAINING WALLS

Project Report Submitted by

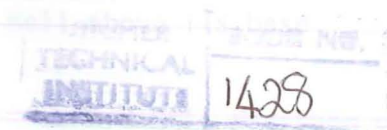
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in part satisfaction of the award of
Diploma of Technician Engineer in
Civil Engineering of the Higher
Technical Institute, Cyprus.

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SYNOPSIS

Whenever it is required to maintain a difference in elevation on the ground, soil must be retained by a rigid structure to hold back the earth and prevent it from sliding under the effect of active earth pressures.

Retaining walls can be of various types such as cantilever walls, propped cantilever walls, the choice of which depends on a number of factors including those of aesthetics and economy.

Earth pressure is the pressure exerted by the soil against the retaining wall and is the result of the weight of the soil and the dead and live loads supported by the soil.

The soil on the back of the wall is known as backfill and usually includes natural soil. In all the theories for computation of earth pressures the properties of the backfill, thus, its unit weight, its angle of shearing resistance and its cohesion are highly considered.

Additionally, there is a number of factors which affect the magnitude and direction of active pressure. This may be the height of the retained soil, a surcharge on the top of the backfill, the shape of the surface of the backfill, the friction between the soil and the wall and others.

The object of this project is to analyse the theories for computation of earth pressures for each particular case and cover all the theory and design considerations concerning the retaining walls.

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