

## Overtopping Protection Systems for Overflow Earth Dams

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**Abstract :** Overtopping is known as one the most important reasons for the failure of earth dams. In some cases, it has resulted in heavy damages and losses. Therefore, enhancing the safety of earth dams against overtopping has received much attention in the past four decades. In this paper, at first, the overtopping phenomena and its destructive consequences will be introduced. Then, overtopping failure mechanism of embankments will be described. Finally, different types of protection systems for stabilization of earth dams against overtopping will be presented. These include timber cribs, riprap and gabions, reinforced earth, roller compacted concrete, and the precast concrete blocks.

**Keywords :** embankment dam, overtopping, roller compacted concrete, wedge concrete block

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