

عنوان مقاله:

EFFECT OF COLLAR ON TIME DEVELOPMENT AND EXTENT OF SCOUR HOLE AROUND CYLANDRICAL BRIDGE PIERS

محل انتشار:

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خلاصه مقاله:

An experimental approach was carried out to study the time development and extension of scouring around a circular pier protected by collars. The experiments included the study of scouring around an unprotected pier as well as the pier protected with collars located at different levels. Width of collars was 3 times the pier diameter. It was found that with collars, though the scour depth and the rate of scouring decrease, extent of the scour hole increases. Number of collars and their levels are effective factors on the equilibrium depth and extension of scouring. Different collar arrangements were tested for an optimum result. Best results were found with one collar at the bed level and another one at one pier diameter below the bed level. In this arrangement, scouring did not penetrate below the lower collar even after 200 hours. Therefore, with the lower collar at 1D below the bed level scour depth reduced by more than 50% whereas, the area of scouring increased by 30% compared with an unprotected pier

کلمات کلیدی:

Local scour; Application of collars; Time development of scour depth; Extent of scour hole

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