Retrofitting of Bridge Piers against the Scour Damages: Case Study of the Marand-Soofian Route Bridge

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Abstract : Bridge piers which are constructed in the track of high water rivers cause some variations in the flow patterns. This variation mostly is a result of the changes in river sections. Decreasing the river section, bridge piers significantly impress the flow patterns. Once the flow approaches the piers, the stream lines change their order, causing the appearance of different flow patterns around the bridge piers. New flow patterns are created following the geometry and the other technical characteristics of the piers. One of the most significant consequences of this event is the scour generated around the bridge piers which threatens the safety of the structure. In order to determine the properties of scour holes, to find maximum depth of the scour is an important factor. In this manuscript a numerical simulation of the scour around Marand-Soofian route bridge piers has been carried out via SSIIM 2.0 Software and the amount of maximum scour has been achieved subsequently. Eventually the methods for retrofitting of bridge piers against scours and also the methods for decreasing the amount of scour have been offered.