

Investigation of Bridge Pier Debris Scour

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Abstract. The National Cooperative Highway Research Program (NCHRP) has requested that an investigation of the effects of Bridge-Pier Debris Scour to better analyze scour critical criteria for highway bridge crossings. To quantify the effects of debris scour, an inventory from field reconnaissance and literature reviews of debris occurrences, sizes, and shapes was first performed. A physical model was then created with the installation of debris clusters of typical size and shape to support a comparative analysis of this phenomenon, which is currently under testing in the Hydraulics Laboratory at the Daryl B. Simons Engineering Research Center. Tests were performed with typical debris configurations in the physical model. A preliminary hydraulic analysis was performed, where the depth, shape, and lateral and longitudinal extent of scour at bridge piers resulting from debris accumulations in the physical model were examined.

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