



## Bottomless Culvert Scour Study: Phase II Laboratory Report

By U S Department of Transportation, Federal Highway Administration

Createspace, United States, 2015. Paperback. Book Condition: New. 279 x 216 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Bottomless culverts are three-sided structures that use the natural channel for the bottom. These structures could be used to convey flows from one side of a highway to the other. As such, they are an environmentally attractive alternative to box, pipe, and pipe arch culvert designs. Bottomless culverts range in size from less than a meter (1.5 feet) to more than 10 meters (35 feet) in width. The failure of such a structure could have severe consequences similar to the failure of a bridge. On the other hand, since the cost of the foundation and scour countermeasures represents a significant portion of the cost of this type of structure, overdesign of these elements can add significantly to the cost of the project. Several dozen physical modeling configurations of bottomless culverts were tested, and the resulting scour at the entrance along the foundation and outlet was measured. Predictive equations for estimating scour depth were developed and compared to MDSHA methodology. These equations will provide guidance for the design of footing depths for bottomless culverts. The study was conducted in...



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