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Hydraulic Mechanism for Bridge Operation

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Abstract: *This study discusses hydrologic and hydraulic bridge/culvert studies to estimate the 100-year water surface elevation at a given project site. Bridges (and sometimes very large culverts) are very expensive hydraulic structures that typically have a design life of 100 years. Most of the bridges are collapsing due to overflowing flood water. In Pakistan, this important study is usually neglected, resulting in bridges collapsing before the design deadline. In the present scenario, no one can deny the importance of this study, especially after the destruction of bridges due to the recent flood (July 2010) in Pakistan. This study focuses on various hydrologic and hydraulic procedures to calculate the 100-year flood discharge at the Long Branch culvert site located under Guinea Road in Virginia, USA. To do this, we used Anderson's method to estimate the discounts for different payback periods. The bridge engineer can then correct the road level for the culvert by taking into account the corresponding freeboard value. Such a structure will not block a flood with a periodicity of 100 years*

Keywords: Hyrological modeling, hydraulic bridge, bridge

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