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Assessing the Flood Reduction Benefits of On-Road Structures

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Abstract

Conventional culverts are primarily designed to transport water underneath roadways with relatively low headwater buildup and therefore provide low to moderate peak flow attenuation. On-road structures (ORS) provide an alternative to conventional culverts. In essence, ORS use the roadway embankment as a dam and the flow through the culvert crossing is restricted to provide flood storage for large precipitation events. This project will use advanced hydrologic modeling and GIS-based analysis to quantify the flood reduction benefits of existing ORS and create a statewide database with candidate locations for construction of new ORS and estimate their flood storage potential. Furthermore, the project will build a web-based information system to create user-friendly visualizations of the project results and provide access to the project's products.