



The Use of Natural Geological Formations to Decrease Storm Runoff

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ABSTRACT

Occasional pluvial floods in the catchment area of Lake Palic in Subotica (Serbia) are the consequences of specific morphological conditions, as well as insufficient drainage capacity. Possible locations for detention of the runoff water are natural valleys with impermeable bottom on the catchment territory covered by sand. The shape of the impermeable material containing lime mostly follows the shape of the valley. Water having higher level than the non-horizontal edge of the impermeable material flows over the edge either to the valley or from the valley. The aim of this study is to explore the possibility of using the revitalised valleys as runoff detention basins. As the first step, the physical modelling of the valley infiltration hydrograph is conducted in the hydraulic lab. Measured quantities are compared with the results obtained by numerical modelling of filtration process in unsaturated environment.

KEYWORDS

Drainage, geological formations, modelling