

MODELLING OF A COMBINED SEWER OVERFLOW USING HYDROWORKS AND MOUSE SOFTWARE PACKAGES

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ABSTRACT

A combined sewer overflow was responsible for the vast majority of spills in the Boldon Colliery Sewerage System in Gateshead, England. Two urban drainage software packages, namely Hydroworks and Mouse, were used to simulate the sewer network and then to assess the hydraulic performance of the combined sewer overflow. Calibration results showed that Hydroworks model simulates slightly better the rainfall-runoff process than the Mouse model because it uses an empirical regression equation for the calculation of rainfall losses based on observations in the United Kingdom. Simulations of the identified rainfall events during a five week flow survey identified that a pipe downstream of the CSO was the cause of the overflows and it was proposed to replace the upstream pipe of the CSO. Both models after the proposed modifications showed that the problem was alleviated.