



## Hydraulic behaviour of a gully under surcharge conditions

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### ABSTRACT

This paper presents a study of the hydraulic behaviour of a gully under surcharge conditions using both numerical and experimental models. These results can be useful for the validation of the linking elements in Dual Drainage (DD) models, recently created. The final numerical results for the gully were obtained using the grid generator SALOME Platform and the Computational Fluid Dynamics (CFD) model OpenFOAM<sup>TM</sup>. Experiments were carried out in a 8 m long and 0.5 m wide channel, fitted with a 600 x 300 x 300 [mm] gully and a gully outlet with a 80 mm diameter pipe that works as inlet in this study. The selected solver, mesh size and contraction at the bottom inlet allowed for an adequate modelling of the gully under surcharge conditions. The experimental and numerical results are in good agreement.

### KEYWORDS

CFD, experimental data, gully, surcharge flow, urban drainage.