下水道系統流況之數值模式

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A numerical simulation for urban storm drainage system is presented in this study. The model includes the simulation of open channel flow, pressurized flow and surge transient flow. Theoretical approach for the simulation of the surge front velocity is proposed which is described by the pressure drifted group velocity. The initial condition is calculated by the step method. Two types of boundary conditions (hydrograph and free fall) are considered. Manholes are recognized as the interior boundaries that have either the same water stage or the free falls as its condition. The trend of the simulation result are reasonably accepted. For further study, the experimental studies and the field data collection are recommended.