



## Scale Model of a Non-Standard CSO (Combined Sewer Overflow)

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### ABSTRACT

The paper's aim is to point out the need of scale model use in the process of designing important sewerage structures. Due to complexity of sewerage flow, which could be followed by unpredictable hydraulic phenomena, it is considered that very important observations could be derived upon scale modelling analyses.

Existing trunk sewer in Belgrade is planned to be crossed by specific structure, which should direct wastewater with discharges up to 5 m<sup>3</sup>/s into new collector. Since this is combined sewerage system, which also collects storm water, during heavy rainfalls a part of wastewater would be delivered to the existing outlet into Sava River. The flow regulation is going to be done by using specific incorporated weir and the gate located at the downstream part of the structure. Considering the fact that such complex hydraulic conditions cannot be properly analysed in other way, the model scaled to 1:10 had been built. Scale model investigation was carried out in order to define object geometry and gate opening regime which insure the required flow conditions.

According to the observations and the obtained results, the initial structure design was corrected by proposing new object disposition, which has significantly improved flow conditions at the particular site.

### KEYWORDS

CSO, overflow, scale model, sewerage, weir