**Supplementary Materials**

**A robust method to simultaneously place sensors and calibrate the model for urban drainage pipe system using Bayesian decision theory**

**Contents**

Datasets S1 to S11

**Descriptions (Files uploaded separately)**

Captions for Datasets S1 to S11:

* **Data Set S1:** Case1\_P1.inp
* **Data Set S2:** Case1\_P2.inp
* **Data Set S3:** Case1\_P3.inp
* **Data Set S4:** Case1\_P4.inp
* **Data Set S5:** Case1\_P5.inp
* **Data Set S6:** Case2\_P1.inp
* **Data Set S7:** Case2\_P2.inp
* **Data Set S8:** Case2\_P3.inp
* **Data Set S9:** Case2\_P4.inp
* **Data Set S10:** Case2\_P5.inp
* **Data Set S11:** rg5425\_rains.dat

The eleven datasets (inp and data files) are the urban drainage model (UDM) files for the two cases in this paper. They can be executed using the EPA SWMM5.2 software from <https://www.epa.gov/water-research/storm-water-management-model-swmm>. The former ten datasets are the models used to run the UDM simulations for Cases 1 and 2 under five different parameter scenarios P1~P5. The last dataset is the data file for rainfall events invoked by the SWMM software. UDM simulations for different rainfall events used in this paper can be conducted by changing the settings for the rainfall event (one can refer to the user manual of SWMM software for details).