

A research on countermeasures against combined sewer overflow (CSO) (vol.3)

Whole term

1997.11 ~ 1999.3

(Purpose)

The countermeasures against CSO (Combined Sewer Overflow) implemented in large cities, must also be introduced in small and medium cities in the near future. Not only improvement of facilities which will realize ' equivalent pollutant load to separate sewer level ' but also simple and effective countermeasures are needed to achieve reduction of pollutant load.

Against such a background, setting of stepwise goals, countermeasures suitable for the set goal levels, their effects, and the problem in weir at stormwater overflow chamber were evaluated through compilation of the plans of the past three years starting from 1996.

(Results)

1 Setting Goal level

The countermeasures and methods for improvement were summarized and categorized by setting stepwise goal levels in implementing CSO countermeasures

2 Listing and the evaluation of methods for improvement

The functions of the methods for improvement and measuring locations in accordance with the set goal levels were investigated.

3 The understanding of the effect of improvement

The effect of improvement was evaluated by simulating the pollutant load using runoff quality models.

(1) Frequency of overflow

The effect of the improved stormwater overflow chambers and the effect of installation of infiltration facilities and storage facilities were evaluated.

(2) Quantity of overflow loads

The effect of the improved stormwater overflow chambers and the effect of installation of infiltration facilities and storage facilities were evaluated.

4 Proposal of improvements of stormwater pump facilities

The methods for improvement of stormwater pump facilities in accordance with the stepwise goal levels were proposed.

5 The understanding of problems of hydraulic formulas in weir

It was found that the flow coefficient in weir in stormwater overflow chamber is not constant. Therefore, hydraulic experiments are needed to propose more practical formulas for overflow.

Independent research

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Keywords

Combined Sewer, CSO, goal level, simulation, hydraulic formula of stormwater overflow chamber