

Study on measures for CSO in Europe

Whole term

1999.12-200.3

(Purpose)

Combined sewer has merit that it can take wastewater and rain water by one conduit. However, it has demerit that untreated water can be discharged in the public water area when the flow exceed certain level in the storm events. They have also difficulty in taking appropriate measures and setting goals in many cities for their improvement.

In this study, we aimed in setting goal for the improvement of combined sewer in Japan. We concluded that we need to research the situation in Europe which has a long history of combined sewer. Europe had also advanced in measures for CSO. We collected the data, in the viewpoint of “Why do we need measures for CSO?”

In 1999 fiscal year, we examined the treatment situation of CSO in Europe and the system for CSO in France from the viewpoint of importance of CSO problem. In 1998 fiscal year, we examined the watershed management, financial system, and RTC (Real Time Control) in France.

In this fiscal year, we investigated the procedure, capacity estimation , and monitoring about the storage tank adapted as major measures for CSO in France.

(Research contents)

1. The storage tank in France

(1) Purpose of installation

Although the three techniques of ①installation storage tanks, ②storage in conduit by RTC and ③ treatment discharge of CSO are mentioned as measures for CSO, it is considered that installation of storage tank is the most effective in France. Moreover, it is regarded that measures against penetration and pollution are problematic and requires positive construction of storage facilities.

(2) The number of installation and form

It was reported that about 3,000 storage tanks were installed according to statistical data in 1988. Although the storage tanks were tandem and parallel types, parallel type was the major. Moreover, most storage tanks are decided design and capacity as capture type, but some of them were used as pass type.

(3) The tendency of calculating capacity

The standard which defines the goal of discharge load reduction in the storm event has not been decided clearly. It is historically based on hydraulic standard such as peak outflow and capacity. Recently, although pollution load has been calculated based on numerical analysis of conduit system, first pollution load has not been normally considered.

2. The obligation of monitoring

In France, flow rates and discharged load of SS and COD has been obliged to monitor in the outfall of 1994.

Independent research

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Key words

Combined improvement, Storage pool, Monitoring