

Surveillance study on Fukuoka City central treatment district restructuring basis plan decision works (the2)		
Whole term	2000.7 ~ 2002.3	
<p>(Purpose)</p> <p>35 years have passed since the Fukuoka City Chubu Water Treatment Center was founded in 1966, and it will reach its legal life in 15 years. In reconstructing this Water Treatment Center, it is necessary to coordinate the center to be reconstructed with relevant plans such as introduction of advanced treatment and consider the reconstruction of other water treatment centers. Thus, we had to study the actual life and construction method of civil engineering structures in detail and establish a basic plan of a future reconstruction business of the Chubu water treatment district.</p> <p>This study has been continued since 2000, and in 2000 we studied the relationship between the reconstruction business and the sewerage business, worked out an examination plan concerning the deterioration of civil engineering structures, made renewal procedures for renewing water-treatment facilities in the existing sewage treatment plants and layout drawings for the new facilities, and prepared necessary things related to environmental assessment, etc.</p> <p>In 2001 we carried out a deterioration examination of civil engineering structures, set a reconstruction schedule, clarified work contents such as a study method and work procedures, and made a basic plan (draft) based on the examination results of the previous year.</p>		
<p>(Result)</p> <p>What we did in 2001 is examining the deterioration of concrete, studying the facility reconstruction plan, analyzing life-cycle costs, setting a reconstruction schedule, arranging future tasks, and making a basic plan (draft).</p> <p>(1) Examining the deterioration of concrete</p> <p>In this examination we did a visual check of concrete and a physical test of concrete (a neutralization test, a uniaxial compression test, a hydrogen sulfide concentration test) and examined the remaining life of concrete. As a result, fragility and exposure of aggregate were made clear in the whole facilities. In particular, lowering of the concrete strength of a cake yard and damage of the B-system water treatment facility, shed and pipeline were noticeable.</p> <p>(2) Studying the facility reconstruction plan</p> <p>From the three points of view, i.e. dealing with the amount of in-coming sewage, a building site and a sludge treating method, we studied a renewal technique and set eleven cases. We further selected four cases from among these eleven cases in consideration of economical efficiency and the area of the building site.</p> <p>(3) Analyzing life-cycle costs</p> <p>We calculated life-cycle costs when a period of 50 years is used as the life of each facility based on the construction ledger of the Chubu Water Treatment Center. As a result, average repair expenses are larger than the expenses of depreciation per year in and after 2025, so that the time of renewal should be preferably set to the time in and after 2025.</p> <p>(4) Setting a reconstruction schedule</p> <p>In connection with the plan of reconstructing selected facilities, we set a reconstruction schedule. At that time we also studied the schedule for reconstructing the Chubu Water Treatment Center and for constructing a facility in which information disclosure as to the urgency of the reconstruction can be done for the citizens.</p> <p>(5) Arranging future tasks</p> <p>We clarified problems and study items arising in connection with the making of the facility reconstruction plan and the setting of the reconstruction schedule as well as tasks to be studied in the future.</p> <p>(6) Making a basic plan (draft) for reconstructing the Chubu water treatment district</p> <p>We gathered the results of the examinations we had carried out since 2000, and summarized problems to be solved and a basic direction in working out an enforcement plan. We also clarified the work contents of this study and made a basic plan (draft) so that they can be of help in working out an enforcement plan</p>		
<p>(Future tasks)</p> <p>We need to prepare ourselves for fulfilling the business in the future in consideration of the master plan of Fukuoka City such as advanced treatment, diversion of streams and collection of sludge, and the high-ranking plan such as an overall plan for sewerage establishment by basin.</p>		
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