

Research on Network Construction Technologies for Sewage System

Whole term

2003. 6 ~ 2006. 3

(Purpose)

It is becoming more and more important to set rational business plans considering the existing problems of the sewage business and changes in the social and economical situation. So three joint researches about planning, construction technology and maintenance control of networks are being carried out to study specific methods of ① increasing efficiency of existing systems of independent sewage plants and ② increasing efficiency of sewage networks (network expansion, joint management).

The purpose of the joint research about network construction technology (hereinafter called “NW construction technology”) is to propose a technical skill manual to lead to accurate and effective study results in order to judge the difficulty of construction work or to select the most suitable construction method during planning, investigation, or basic design stage.

(Policy to Create Manual)

In studying the policy for making the manual, we have selected the most suitable plans for three cities in Japan on a trial bases, using problems of operations of existing sewage plants in the future as case study.

As a result of the studying, it proved to be effective to use a “ key words group” in choosing and classifying problems, and selecting suitable construction technologies for solving problems.

Table of “Combined Key Words Group”

- * Condition of ground water level, * Condition of Structures (Size, Depth), * Narrow Work Yard, * Overhead Limit, * Neighboring Construction, * Buried Objects·Obstacles,
- * Limited Construction Time (Shortening Time Schedule)
- * Utilization of existing facilities (Temporary, Reconstruction, Repair, Demolition) , * Others

(Plan for Contents of Manual)

The contents (plan) of the “NW construction technology manual” based on the above-mentioned trial and gained knowledge, are shown below:

1. Introduction

* Purpose, * Application, * Definitions of Words

2. Making a specific plans for building a construction and selecting the best plan in Network Construction

* Study Procedure
* Making Construction Plan
* Selection of the best plan considering life cycle cost

3. Explanation of Network Construction Technology

* Construction technology on construction and maintenance of sewage plants
* Construction technology on building and maintenance of sewage connecting pipes

4. Model Case

☆ specific explanation of study procedure is made by showing examples

☆ explanations of classification method of problems applying the “Key Words Group” and selection method of technology for solving problems

☆ various data from overall inter-relation including table of construction method, technical feature, suitability, and record lists

(Study schedule)

Following the above plan, we are planning to complete this joint research by the end of the 2005 fiscal year, mainly proposing “the importance of business plans” with the view to ideas of network methods, and effective and accurate “study methods using the “Key Words Group” .

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key words

Network, Area Widening・Joint Management, Study of Construction Technology, Selection of Construction Method