

Our lab takes two major approaches to attain sustainability of human living space with studies of:

- 1) the urban energy system and the environmental control system to promote energy conservation to achieve the efficient architectural environment,
- 2) the urban spatial formation system and development management with the character to generate the safe and comfortable living space.

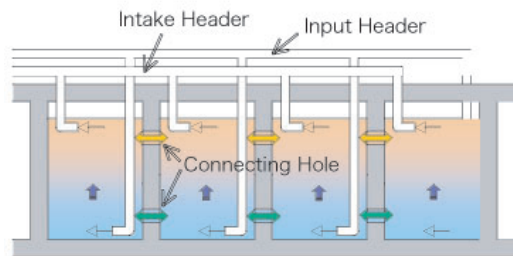
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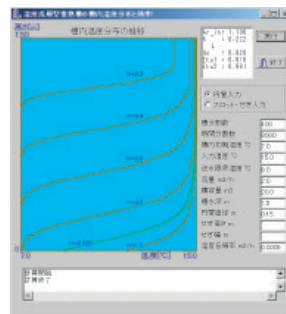
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### Energy Conservation of Architectural Environment Control System

Buildings have various control systems for human environment, and energy conservation of air-conditioning system is very important for the balance of human environment and global environment. An air-conditioning system with thermal energy storage has the advantage of energy saving as well as cost saving, and the design and operation optimization of this system is studied and various simulation tools for designer are developed in our lab.



Water thermal energy storage tank installed under basement



Analysis result of temperature profile in water tank

### Urban Design and Planning based on urban context analysis Spatial planning and Development management for sustainability

The Local environment is formed by interaction of the place and human activities. The landscape is the visual recognition of the living space and reflects the local character.

The spatial formation system of urban and rural areas is major subject studied in this lab. It is analyzed with the field survey to understand practical conditions as well as comprehensive researches to attain the holistic understanding of local landscape as the spatial composition of street, buildings, greens and others in the local geographical features. Besides the basic studies on spatial planning, the scheme for development management is examined from the practical viewpoint.

