Building Equipments Laboratory

●Overview of Laboratory

Building Equipments Laboratory(1995 completion, RC2-story, total area 1,236 m²) is built for

- Performance evaluation and verification of Building Equipments (Sanitation, Plumbing system, JOKASO System, etc.).
- Research on relaxation effect of Heat Island.

●Introduction of experimental equipment

1. Performance evaluation equipment for JOKASO System(Figure 1.)

Sequence of this evaluation equipment is

(1) Suction sewage from main research building of BRI into 24m³ TANK by vacuum sewage system .

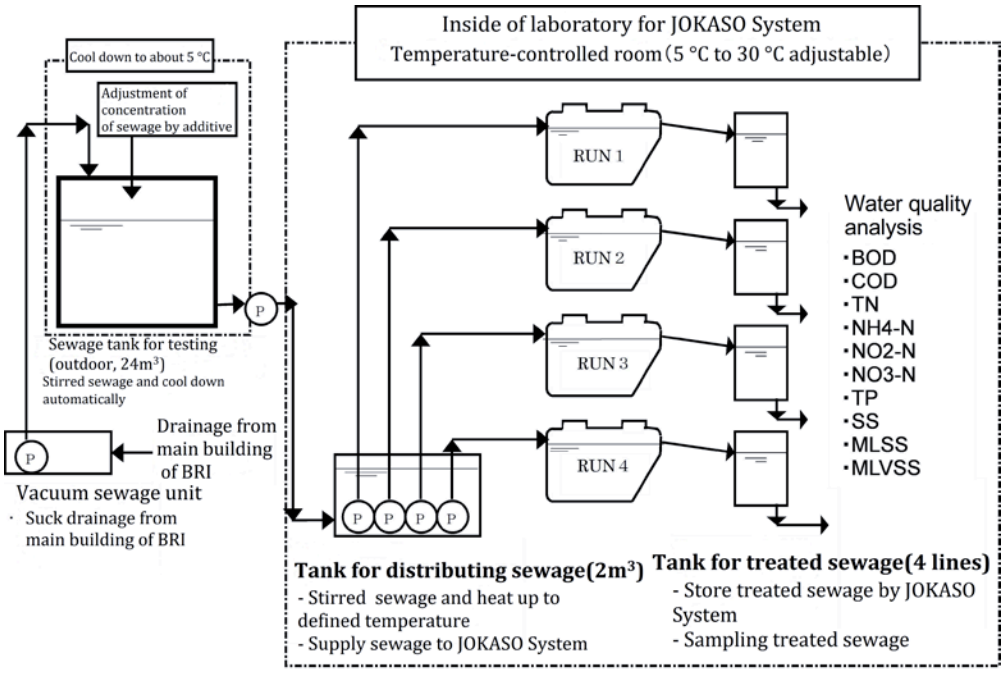
(2) Cool sewage in 24m³ tank down to 5℃.

(3) Adjust concentration and temperature of sewage in 24m³ TANK to provision value

(4) Supply sewage in 24m³ TANK to Testing JOKASO by programmed flow distribution and temperature.

(5) Treat supplied sewage by Testing JOKASO.

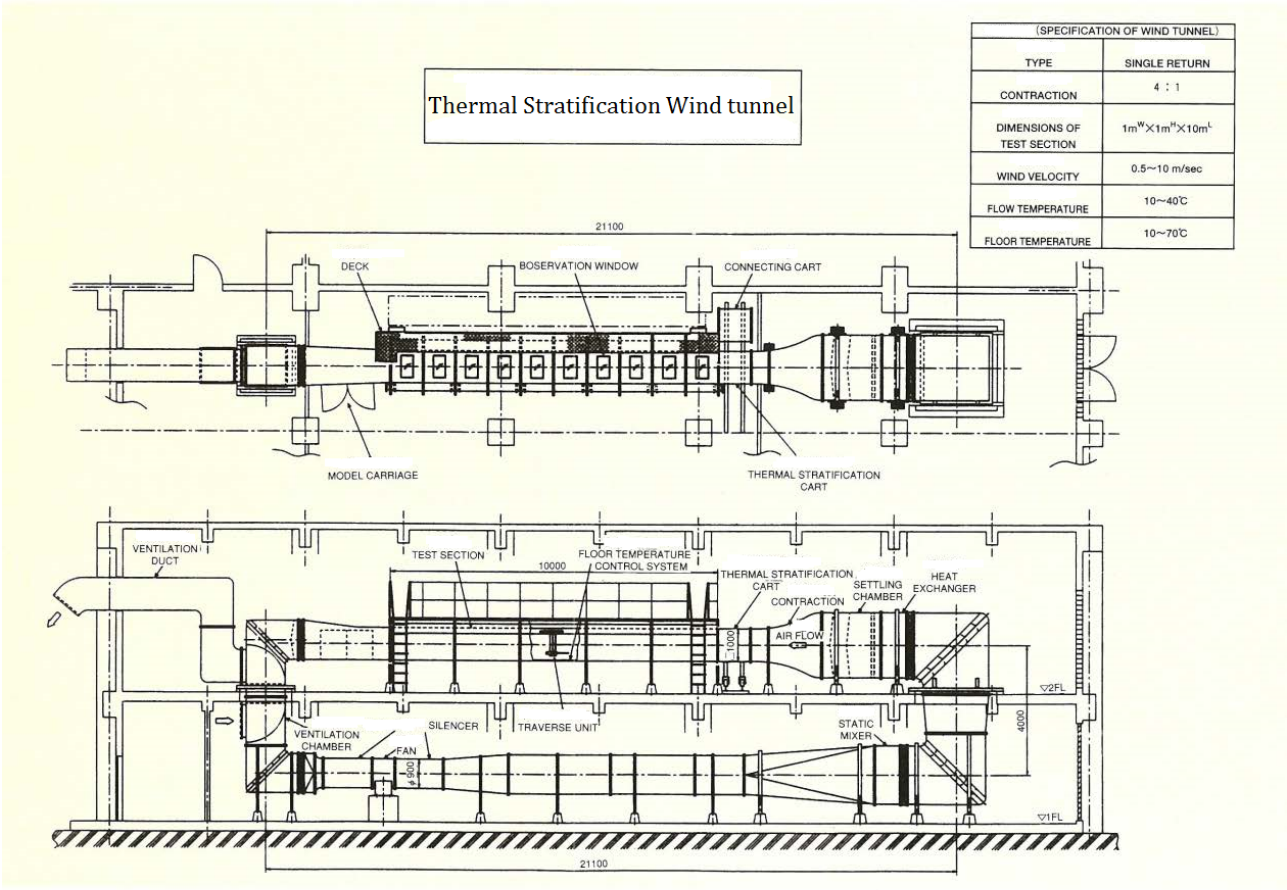
- Collect treated sewage and measure water quality.



Performance evaluation equipment for JOKASO System

2. Thermal Stratification Wind tunnel

Thermal stratification wind tunnel simulates thermally distributed airflows around buildings and urban districts with heating floor system and multi-layered inlet air heating device.
Various applications to study urban heat island countermeasures are tested by using this wind tunnel: thermal effect of anthropogenic heat, mitigation effect of vegetation.



3. Multipurpose room for experiment

The specifications of this multipurpose room is as follows.

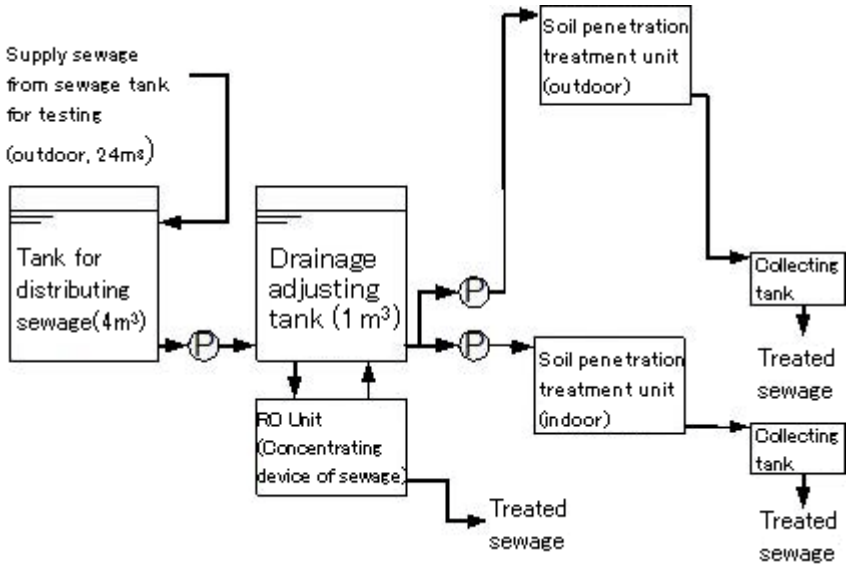
(1) Design load of floor : 3 ton/m^2

(2) Height of the ceiling : 12m

(3) Supply system for experiment : electric power, hot and cold water, clean water, sewage

Figure 2. shows the construction of experimental device for soil penetration treatment.

In this device, sewage is concentrated up to very high concentration necessary for soil penetration treatment experiment.



Soil penetration treatment unit