




Problems

With ongoing population growth, we have been relying on the support of mass production. Often those single-lined production systems are aimed at the infinite increase of demands, and therefore profit. However, consistent increases in population and human needs are less likely in many parts of the world. The same trend can be seen explicitly in infrastructures and our basic living needs. This situation has created many risks in the environment which leads to possible serious damage.

Design Intent

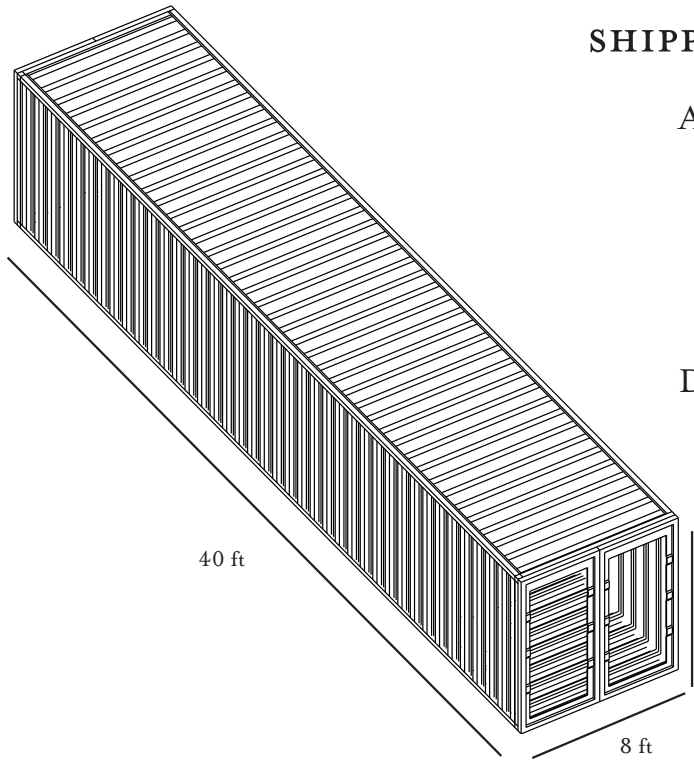
This project focuses on the way infrastructure is laid in residential buildings. It is part of our living needs now to have water, electricity, and design comfort. But they are cut away from our action. Knowing where the resource comes from helps us visualize what our lives consist of. There are so many labels these days but actual intent tends to be hidden from our eyes.



This concept of flexible housing seeks out a way to redistribute such burdens from huge facilities and localize the production near the living environment. Creating a circle of resources within the living area will not only allow us to find unique ways to reuse the exhausted waste but also cut the transportation costs between processing factories and the location of consumption.

This housing with shipping containers also involves another aspect of conflicts which revolves around buildings as a form of investment. Real estate is a heavy investment for both renters and owners. Often when construction is complete, renters must fight with mortgage and maintenance, but by utilizing shipping containers as residential units and having the apartment be a platform for those containers, there will be fewer responsibilities in each party. Owners focus more on investments in the living units, while renters are less responsible for efforts to attract new settlers, since customizations of interior qualities are all in the shipping containers, which they carry with them every time they move.

SHIPPING CONTAINER



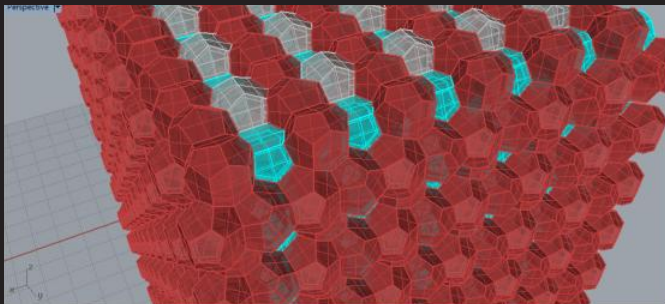
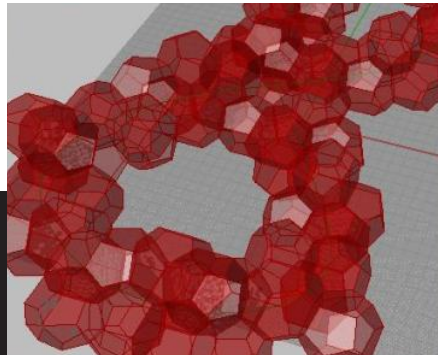
Advantages

- Easy unitization
- High compatibility and mobility
- Big room for customization
- Many applications

Disadvantages

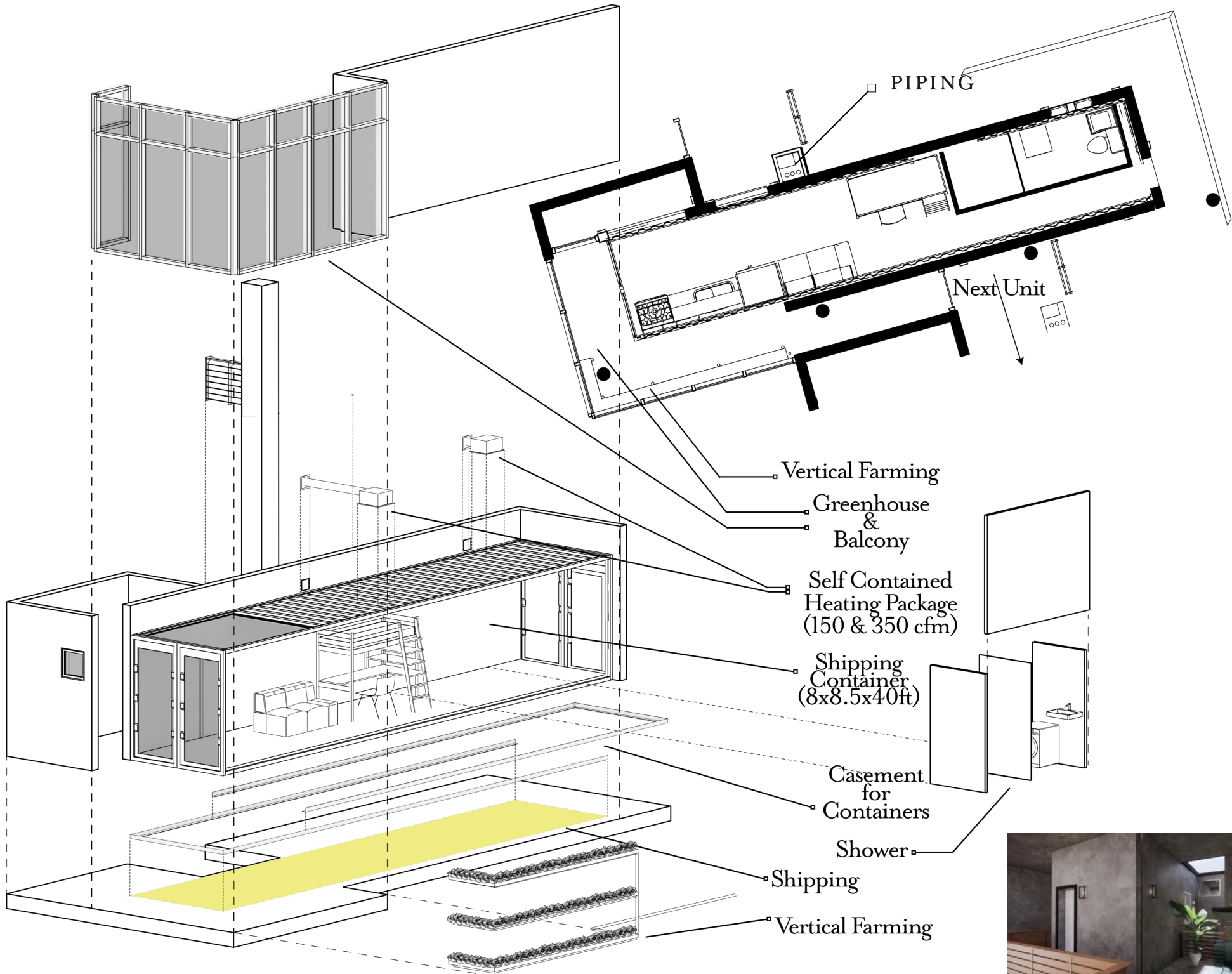
- Low R value
- limitation on the size and space

Application for a retail store



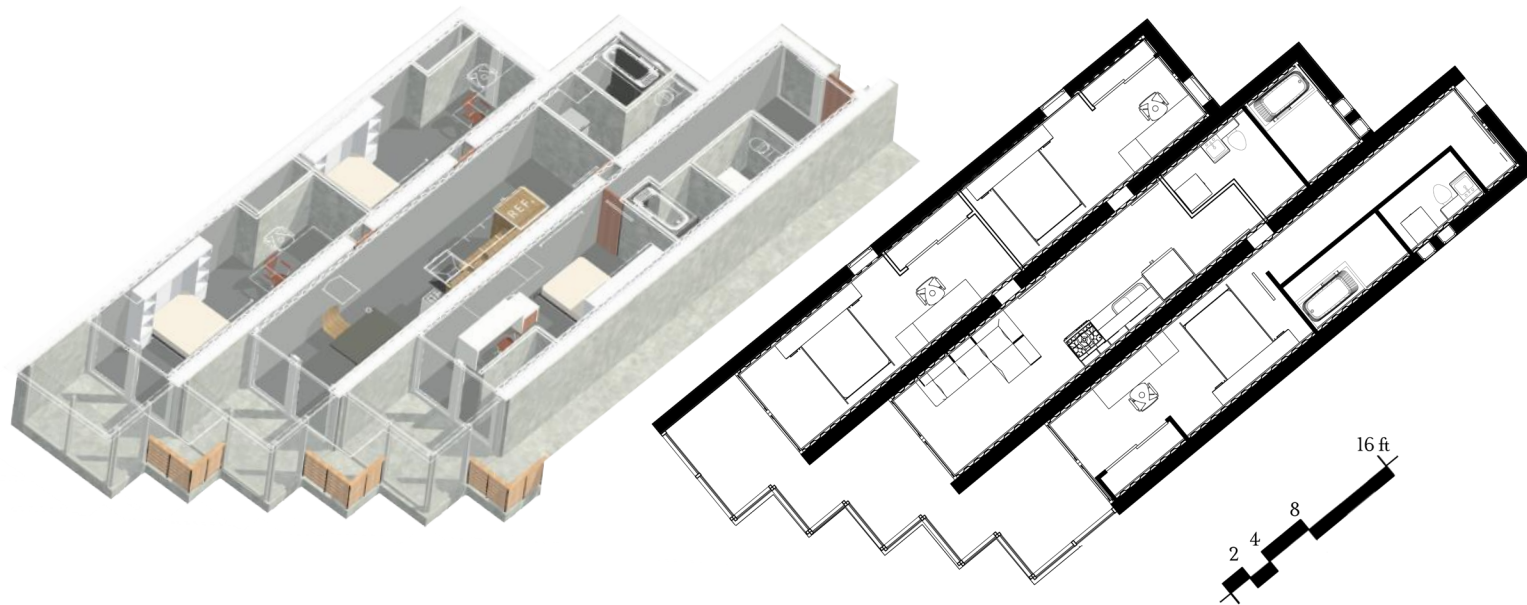
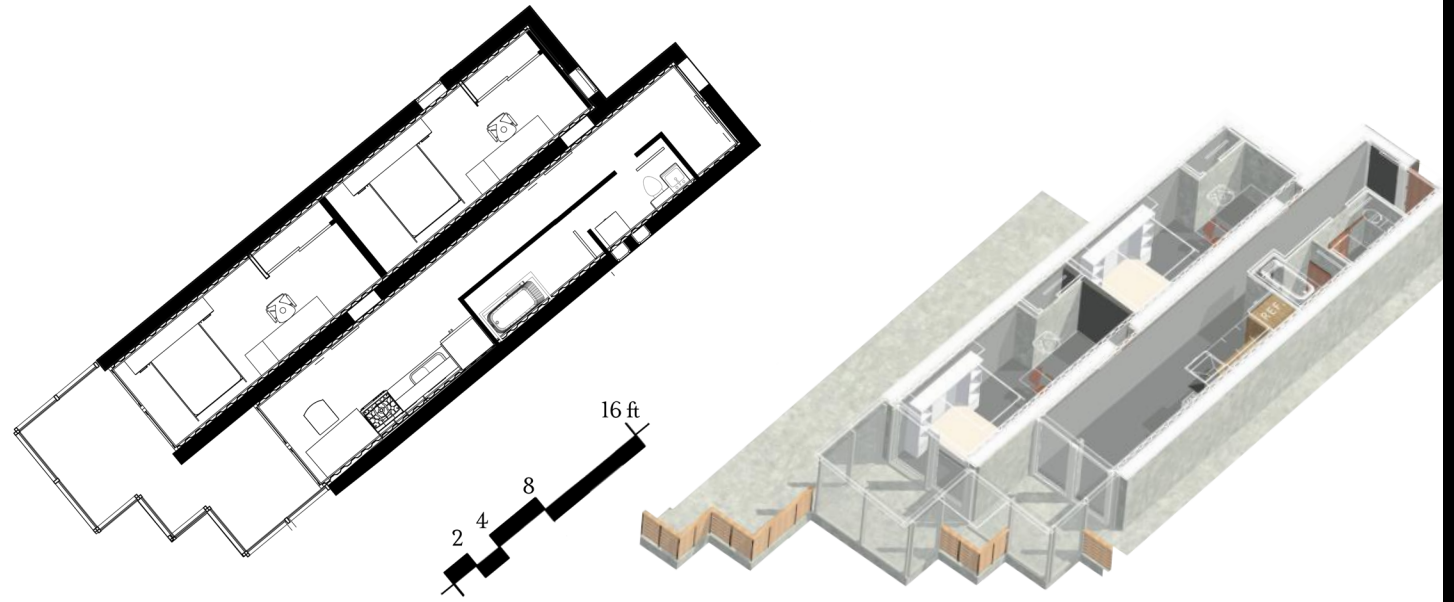
← Some other ideas on unitization

The geometries support the volumetric village by its surface and complex interaction with surrounding environment



TWO UNIT HOUSEHOLD

ONE BATHROOM UNIT
TWO BEDROOM
ONE KITCHEN
ONE LIVING ROOM

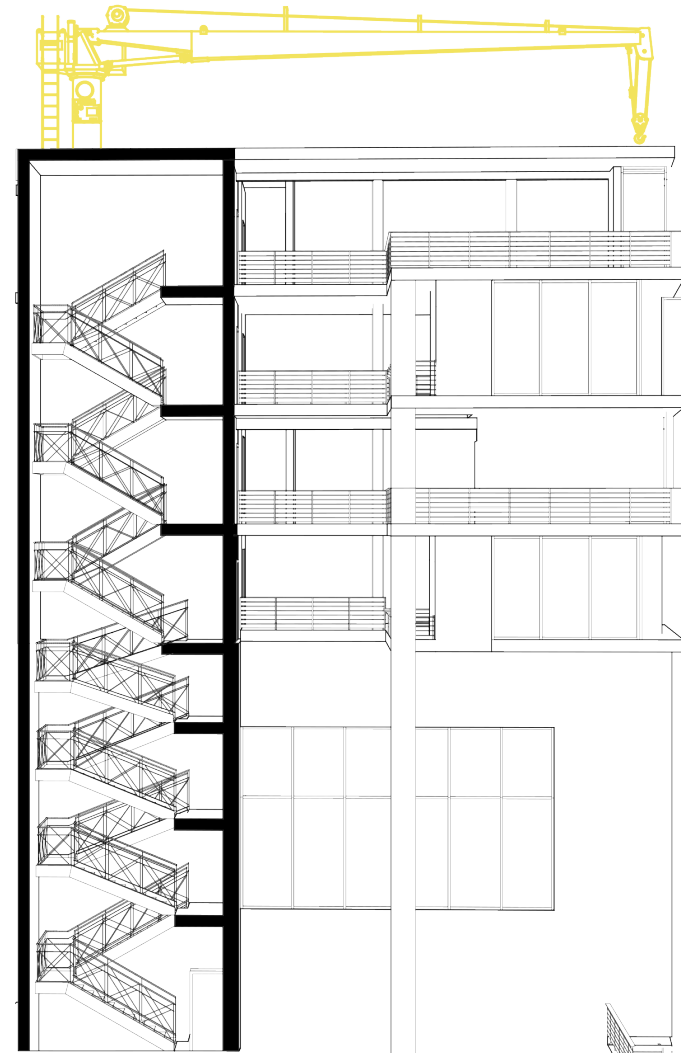
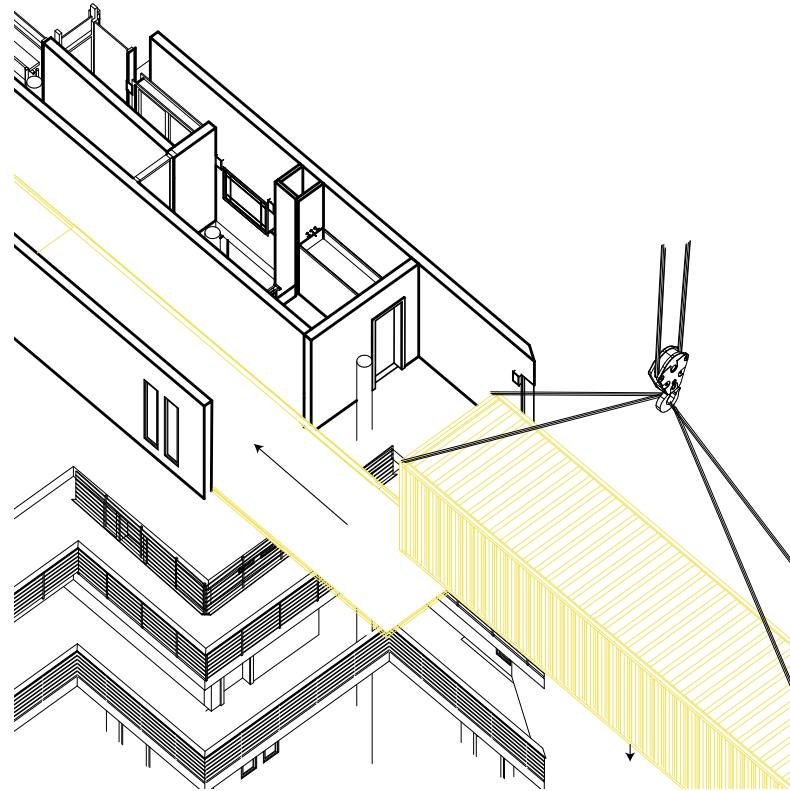
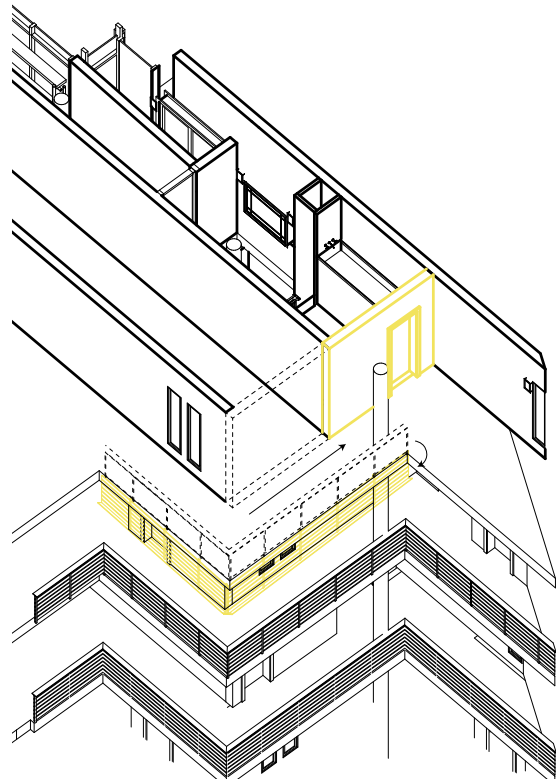


THREE UNIT HOUSEHOLD

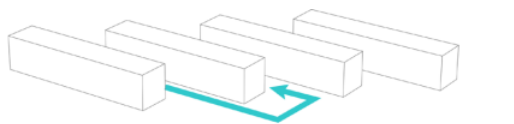
TWO BATHROOM UNIT
THREE BEDROOM
ONE KITCHEN
ONE LIVING ROOM

INSTALLATION

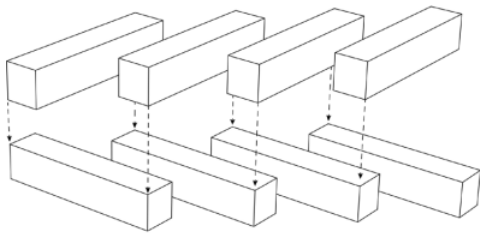
WALL AND FENCE REMOVAL & INSTALLATION



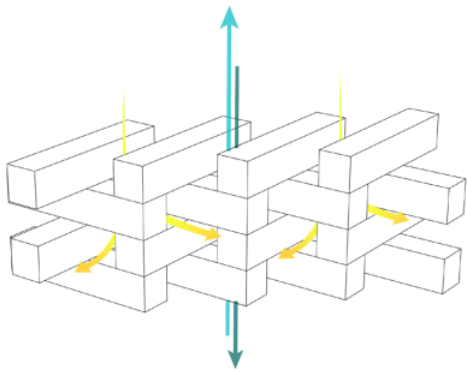
CRANE & VERTICAL CIRCULATION



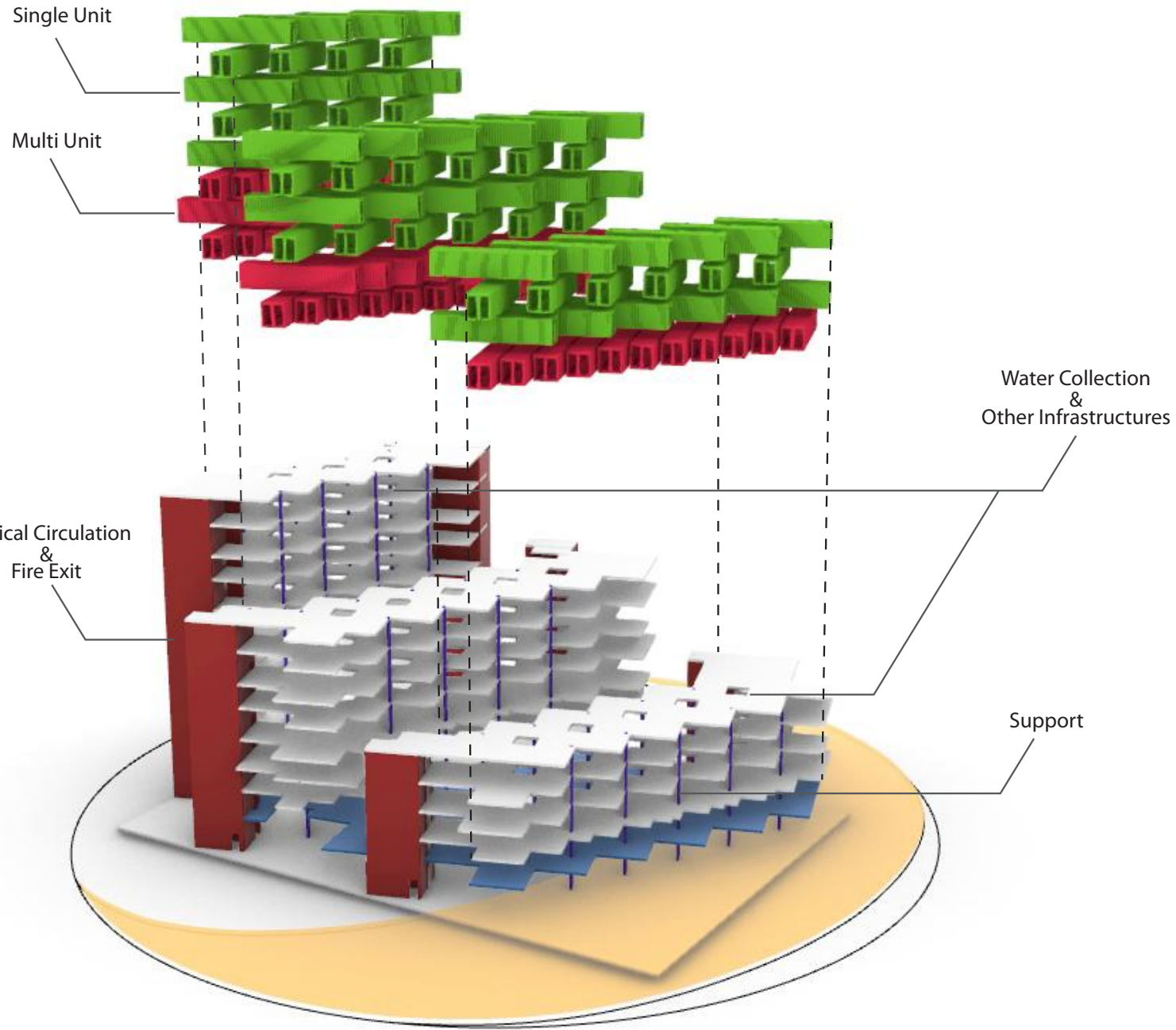
Horizontal Water Circulation



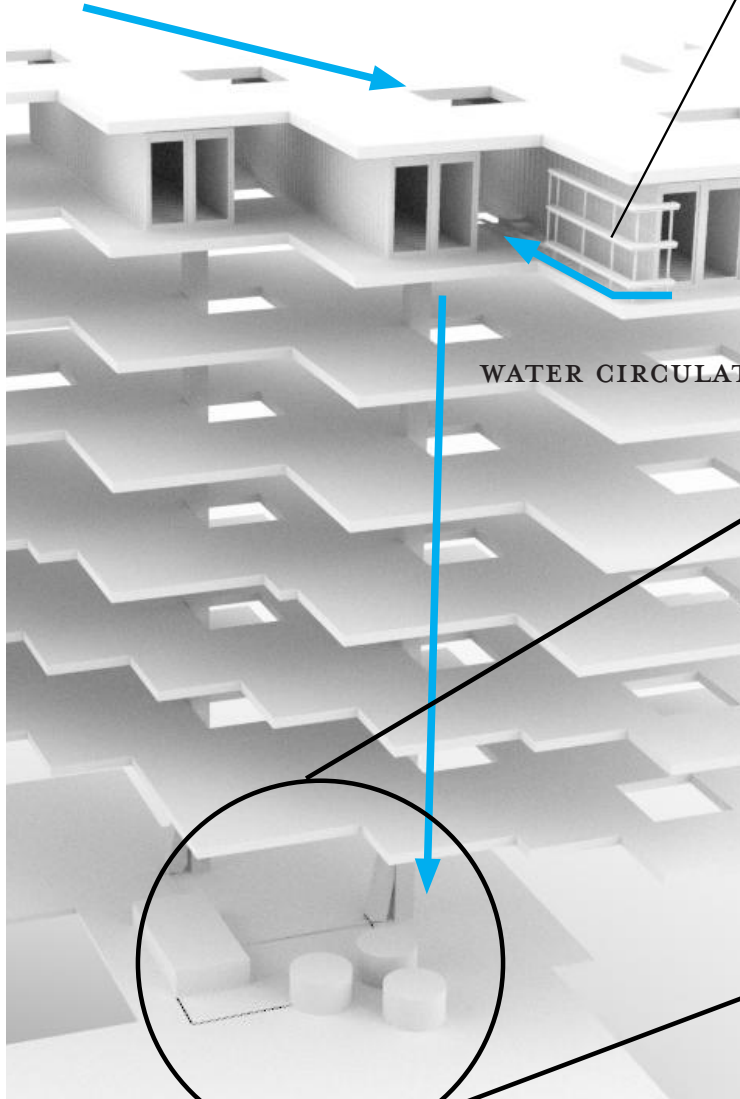
Vertical Circulation & Fire Exit



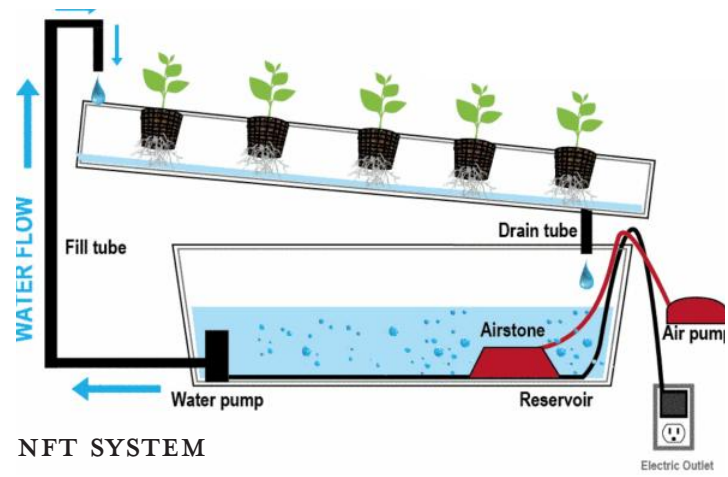
Vertical Water Circulation & Sun Light Diffusion



RAIN WATER COLLECTION

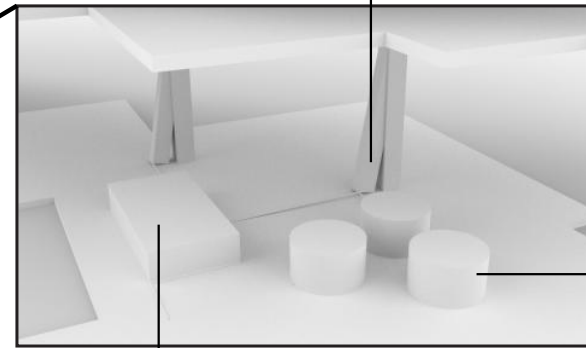


WATER CIRCULATIONS



NFT SYSTEM

WATER TURBINE ELECTRIC GENERATOR

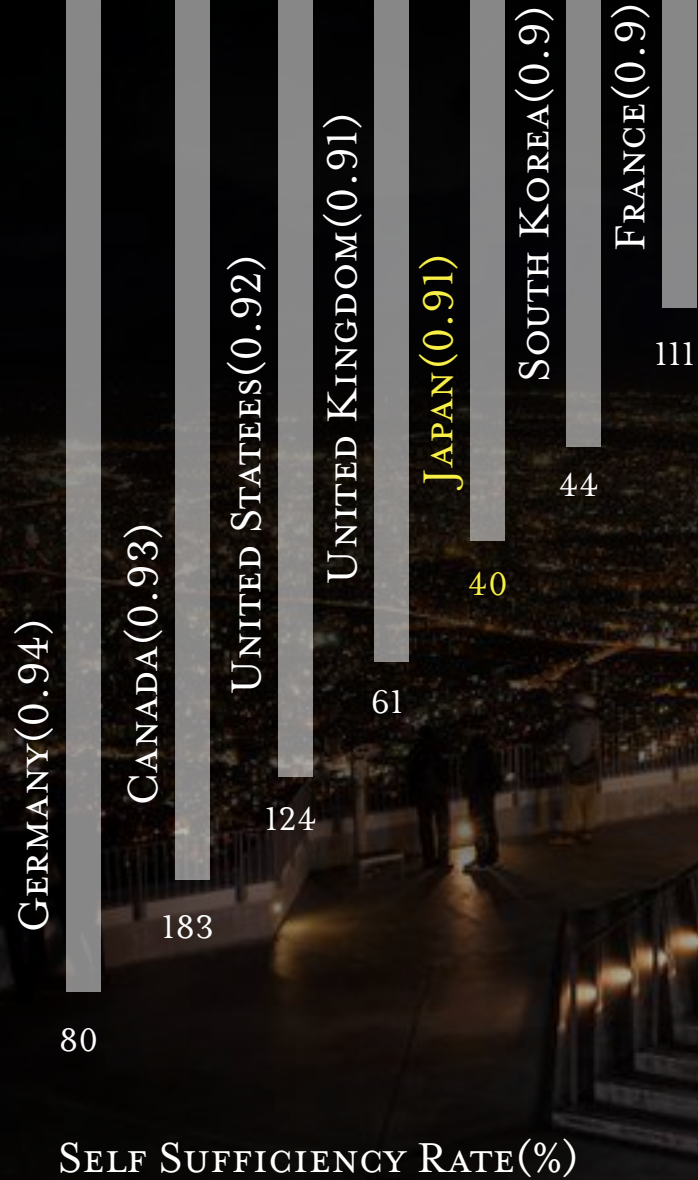


FILTERING SYSTEM & PURIFICATION SYSTEM

FISH TANK

THE SITE SELECTION

HUMAN DEVELOPMENT INDEX



When taking look at a list of developed countries by the Human Development Index, many countries with high GDP values can be recognized. Self-sufficiency does not necessarily follow the level of the Human Development Index. Japan was one of the first countries that are listed as top tier in its development and has a low self-sufficiency rate. This means that Japan is depending on the food sources of other countries, even with the fact that this country often faces a supply crisis by earthquake damage. This building concept will help stop relying on food supply sources in other countries.

Fig 4.05



TV TOWER

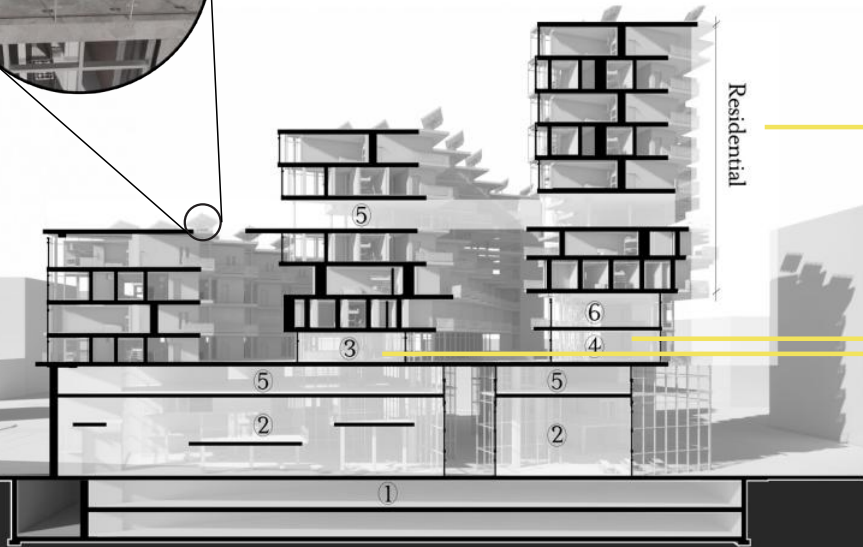
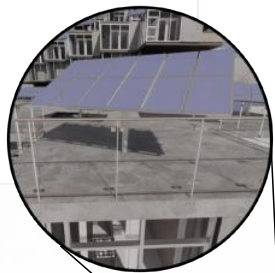


SUBWAY
UNDERGROUND WALKWAY

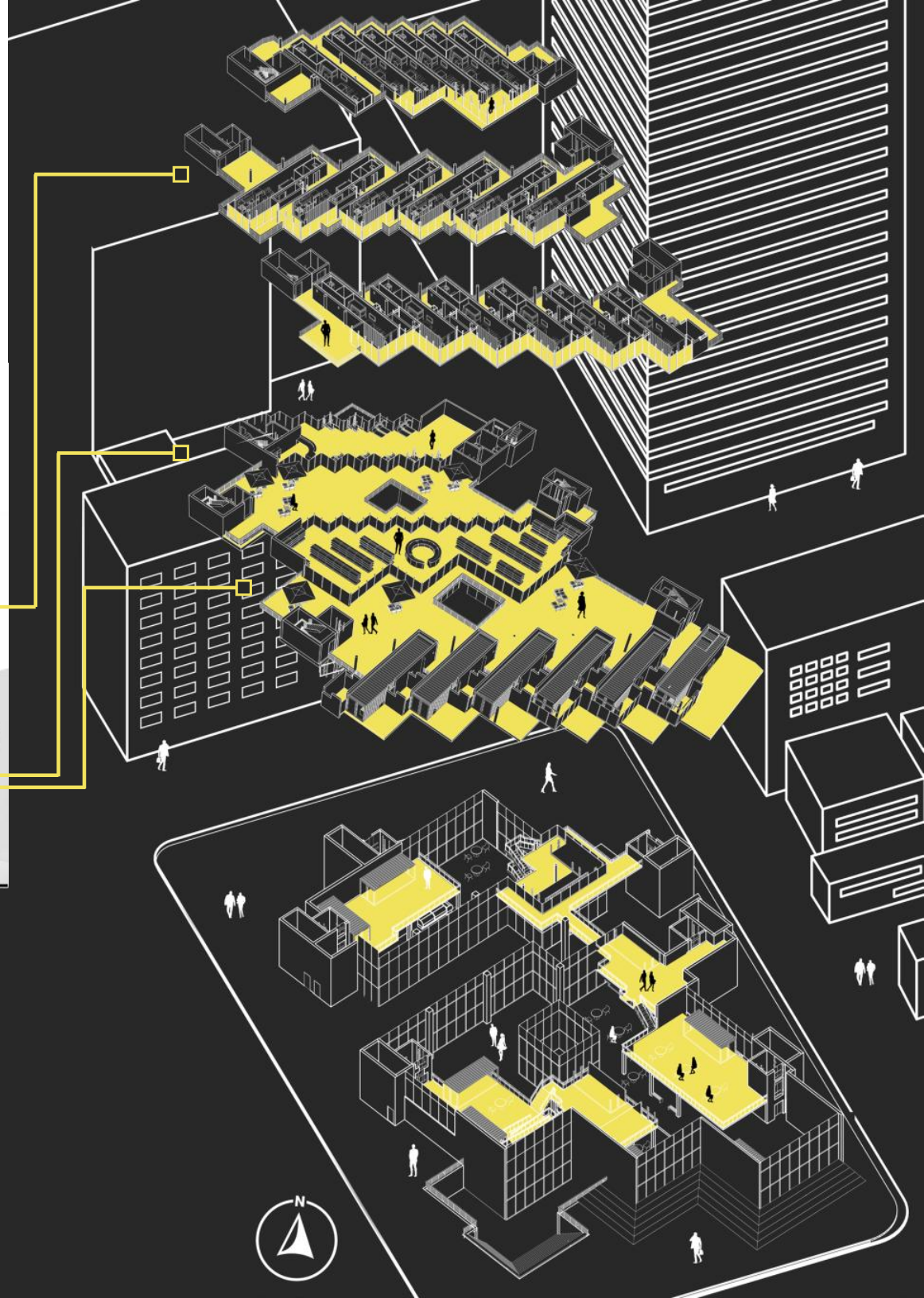


SAPPORO FACTORY
(MALL)

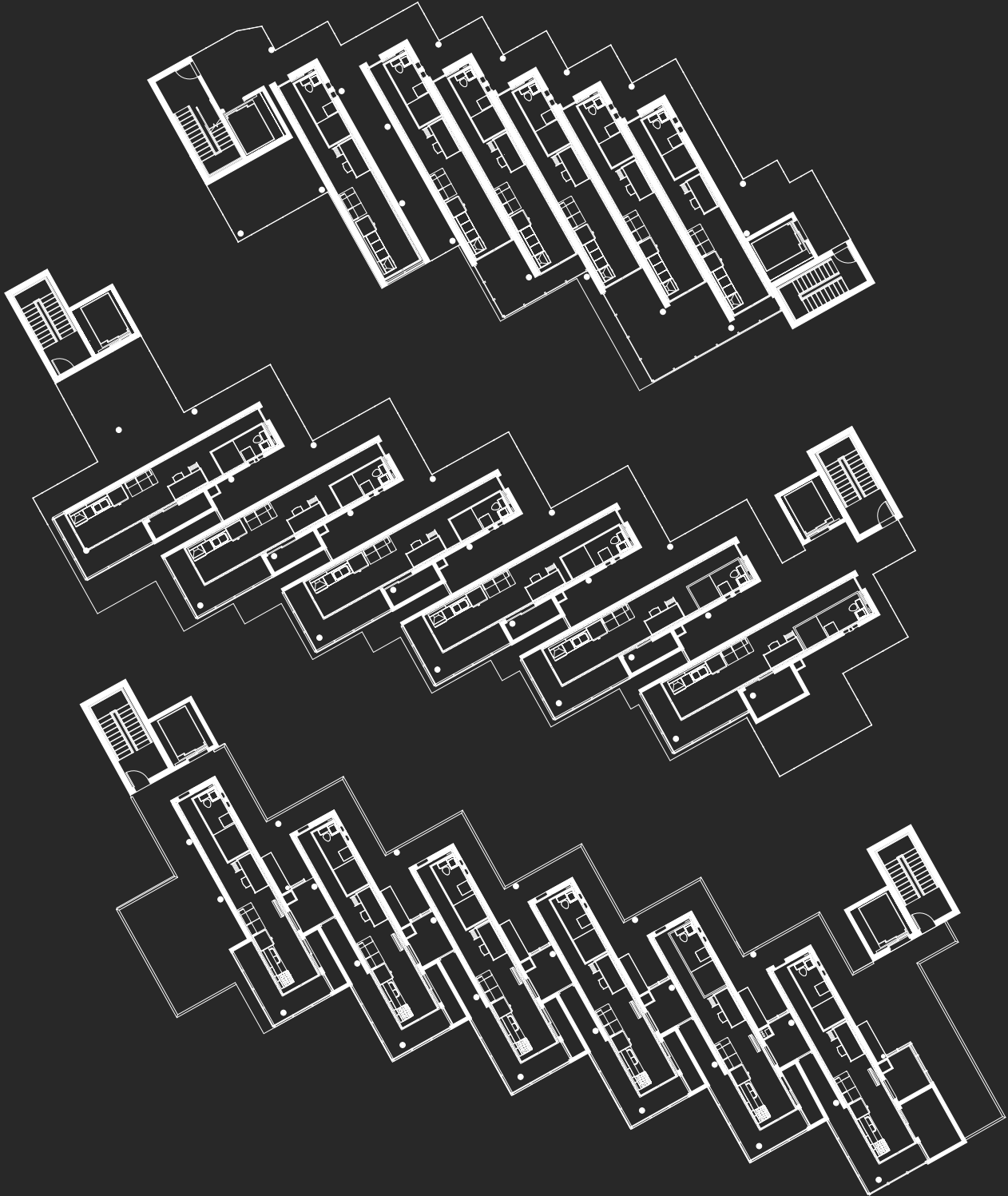




- ① Parking
- ② Exhibition & Retail
- ③ Convenience Store
- ④ Gym
- ⑤ Resource Processing Floor
- ⑥ Community Space

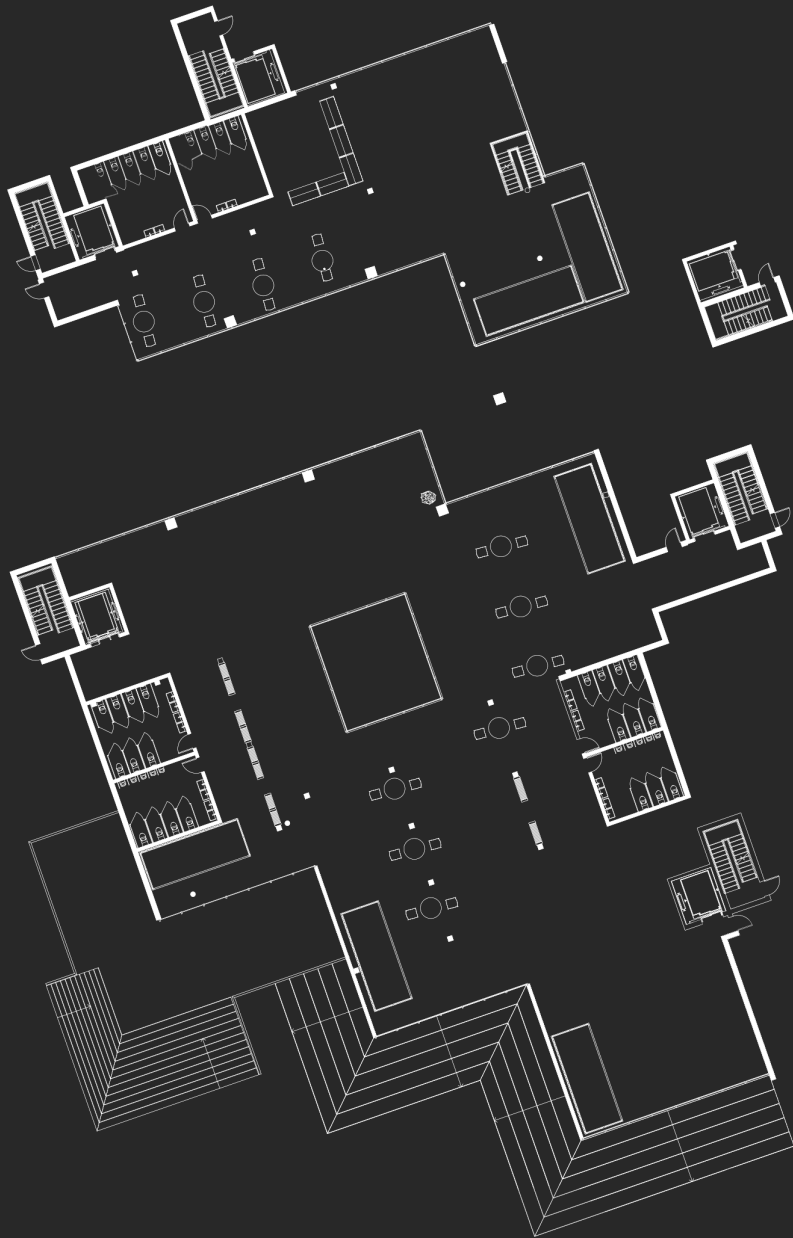


RESIDENTIAL FLOOR



FIRST FLOOR

(EXHIBITION & RETAIL AREA)







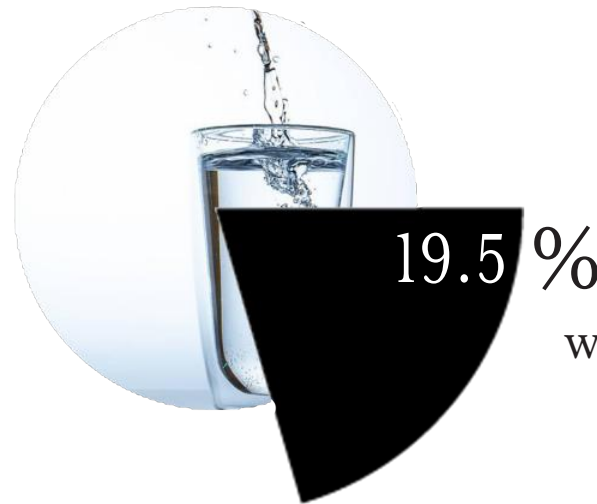
PERFORMANCE



Electricity Self Sufficiency

Covers 30% of needs for residents

Using Solarpanel and water



Water Recycled

Grey water and rain water used in

VF system



Food Produces

Lettuce and herbs other leaf based

plants are raised