



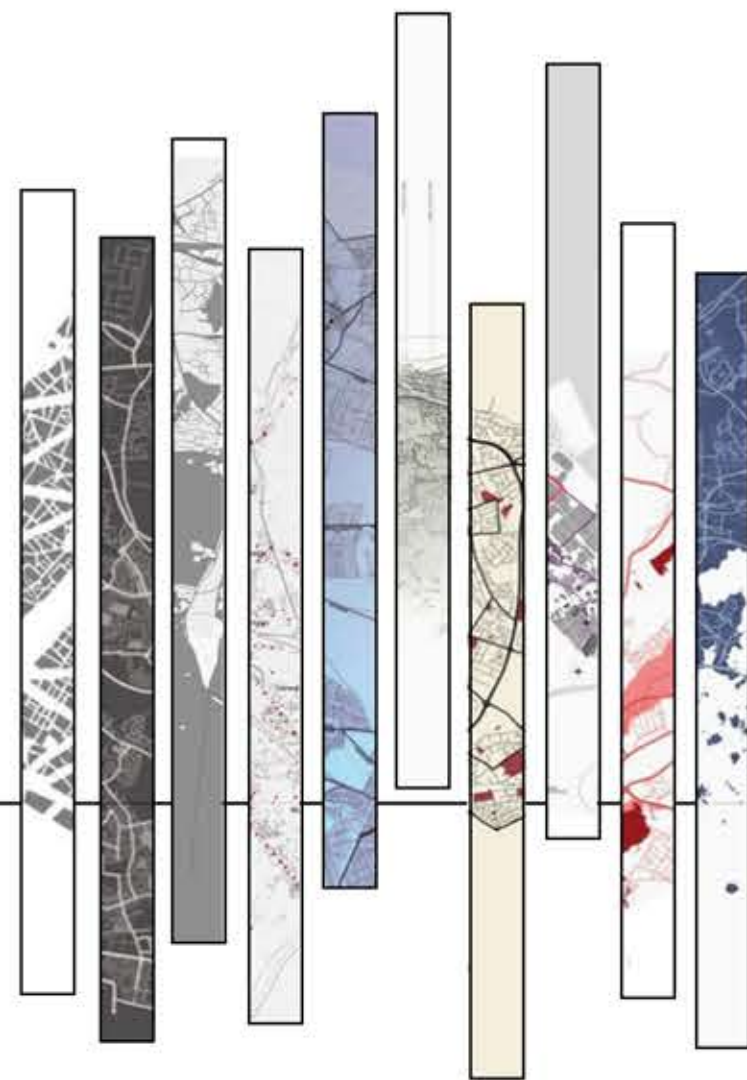
URBAN PLANNING

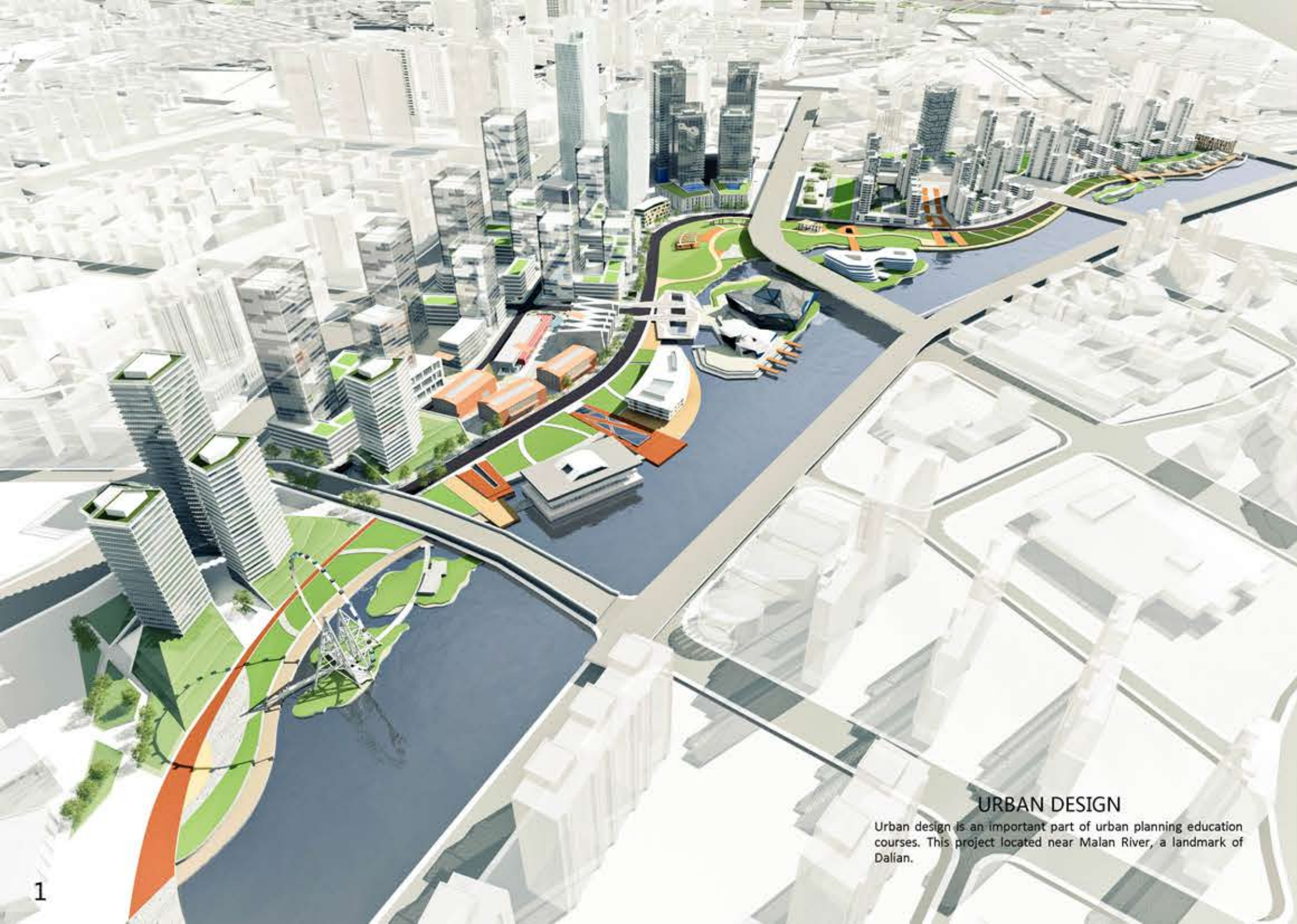
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URBAN DESIGN
ARCHITECTURE
LANDSCAPE ARCHITECTURE
COMPREHENSIVE PLANNING
REGULATORY PLAN
URBAN RENEWAL

孙佩锦 个人作品集

PORTFOLIO OF SUN PEIJIN



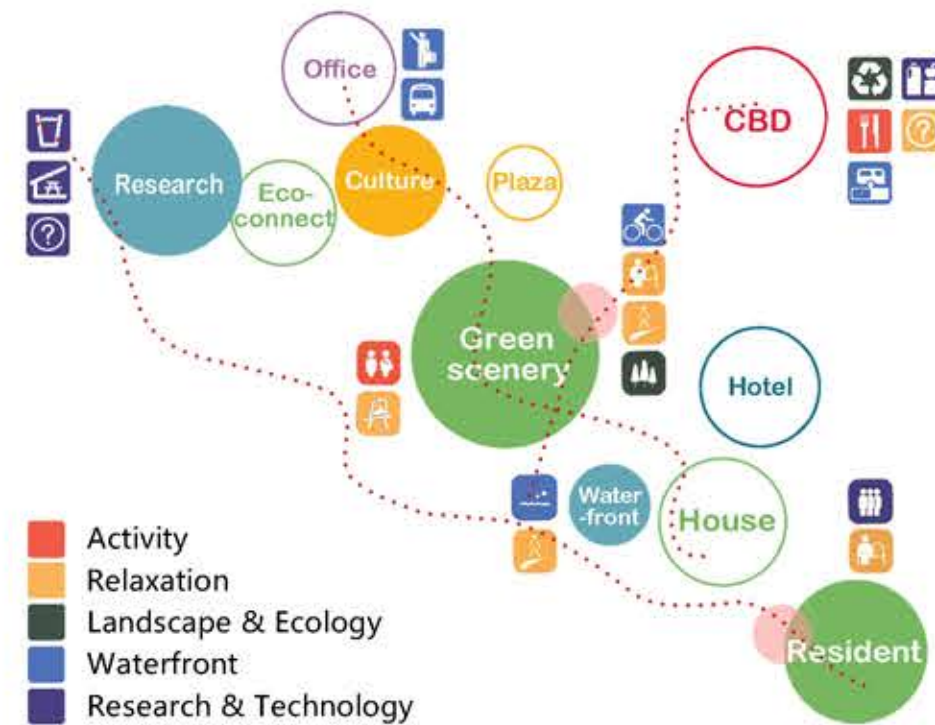
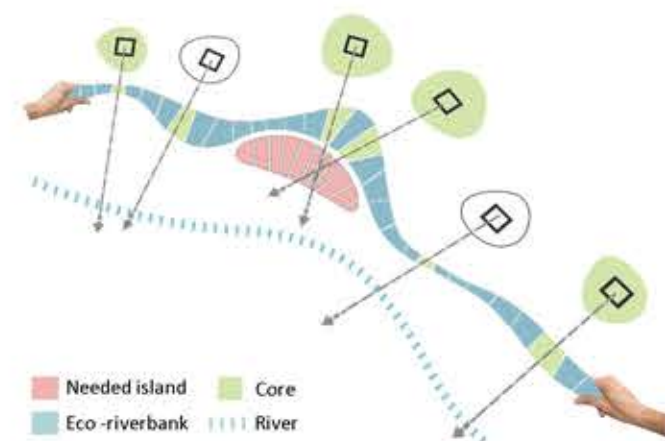


MODEL PLAN

Before we begin urban design, we build up model and system first.

We decided to add an island to integrate the site. Then the model plan is completed with river, banks and island connection together.

Here is our preliminary plan and the further.



URBAN DESIGN

Urban design is an important part of urban planning education courses. This project located near Malan River, a landmark of Dalian.

PRE-ANALYSIS

ECOLOGICAL RENEWAL

How can our work on the Malan River addresses the environmental imperatives of our generation? Specially, what can we do on the riverfront and in the surrounding communities to rebuild a healthy ecosystem for its productive potential? How can we discover a new aesthetic that interact, interknit and interpenetrate the contract between human, urban and natural environment?

SOCIAL EQUITY

The communities, especially between the Upper Riverfront and West hill Reservoir, are dramatically underserved in terms of access to ecosystem of urban natural environment. How can the landscape resource that belongs to the communities become a destination for the whole city to achieve the social equity?

IMPROVING VALUE

The Malan River connects the Xian Road CBD and the Peace Square, which are two of the most valuable economy districts; there is the largest square in Asia—Xinghai Square. How can we foster new tourist and economies in a resurgent river corridor? How can investments over River catalyze broader economic activity and attract the businesses of the future?

CULTURAL IDENTITY

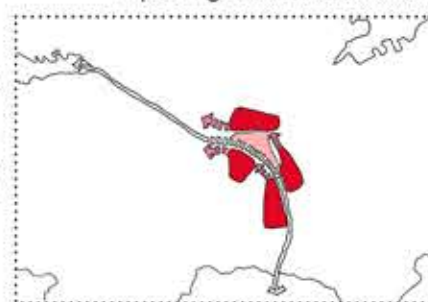
As an important cultural and economic metropolis in the Northeast of China, Dalian will become the leading role holding most international exhibitions of the northeast of China in the near future. Malan River will be a main City River. How can it provide the residents a kind of cultural atmosphere? How can it become the authentic "City of the River"? These sociocultural questions together with others in three topics above, may be the four main entry points throughout.



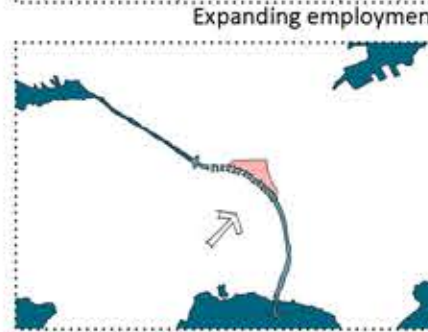
Restoring connectivity



Improving access to waterfront



Expanding employment



Making a landmark

MASTER PLAN



Distribution of Tourist Attractions



Distribution of Apartments



Distribution of Research Facilities



Distribution of Workforce



Distribution of Hotels

ELEVATION



SITE ANALYSIS



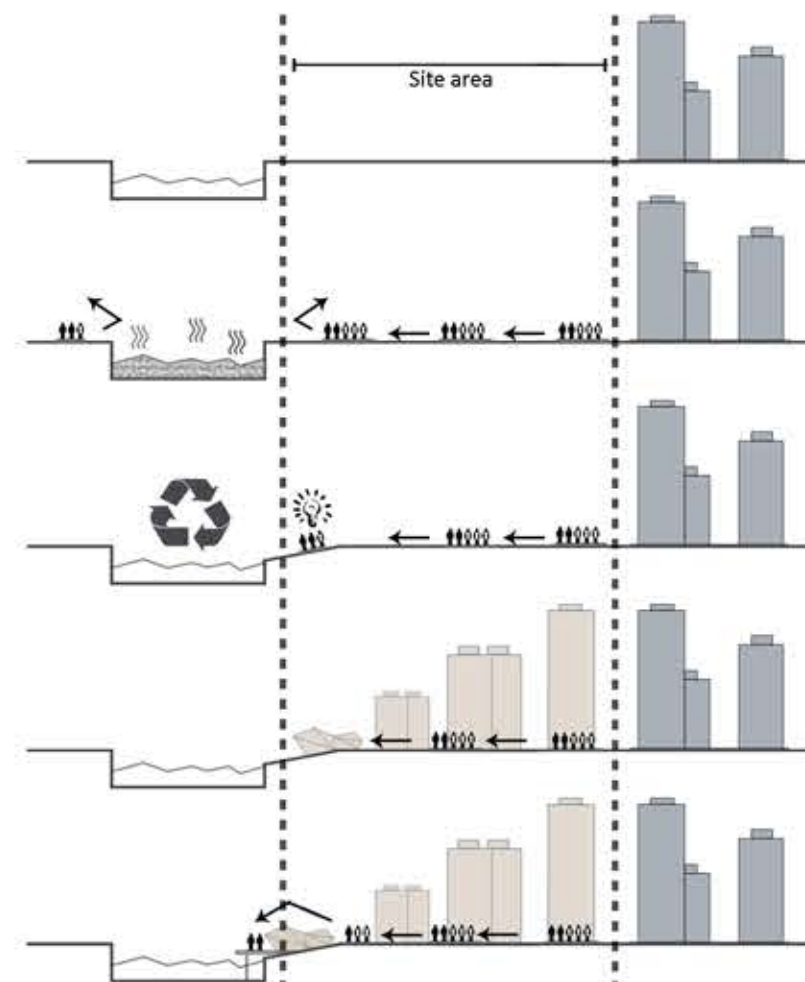
The site is near the turning point of the northeast railway network.



The mountains provide Dalian with a unique landscape.



The site lies in a plain that far from mountains and hills.



Originally, the Malan River serves as a landmark in the city. It is a natural river that was renovated in 1990s.

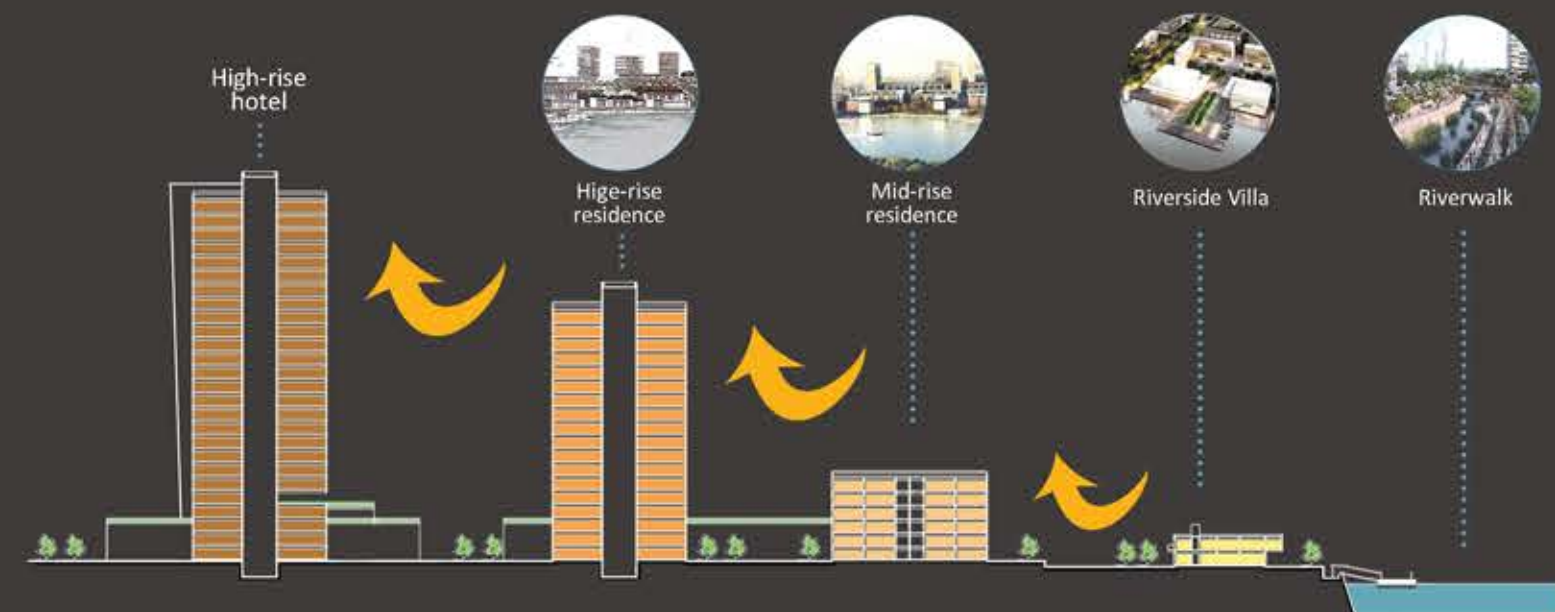
Unfortunately, after renovation, Malan River had concrete bank and lost all self-purification ability. Then only a few years later, the river became no-life backwater. The bad smell keeps residents and visitors away.

Therefore, before construction, we should address the riverbank first. The first step is to design the riverbank.

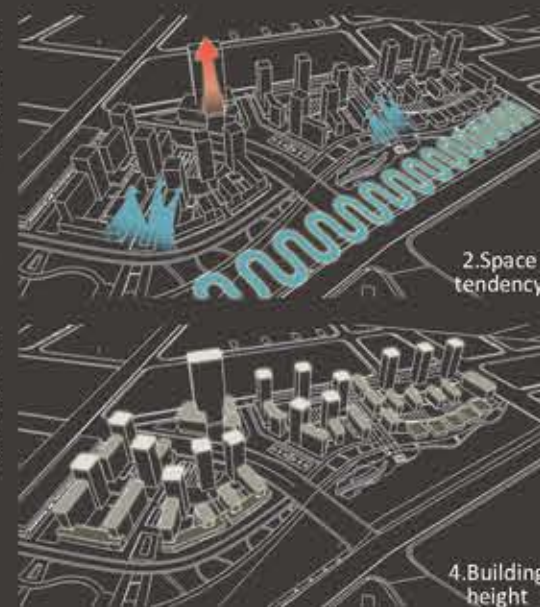
According to the skyline of existing buildings, new cultural buildings are built in a terrace-like structure.

In addition, on the edge of the culture area we design platforms, which can play a role in attracting tourists and enriching the lives of residents.

RESIDENT AREA



1. Approach system



2. Space tendency

3. Open direction

4. Building height

1. The approach system of the residential area is centering on the light railway crossing over the site, then forms the inner ring.

2. The riverbank is penetrating to the residential area with high-rise hotel as the center.

3. The axis of the landscape of residential area is pointing to the landscape of river-bank.

4. The building height is increasing gradually as farther away from the river bank. High-rise hotel is the highest point and the center.





LANDSCAPE MODEL

Landscape Timeline



Riverside pedestrian area



Open square



Wooden footway



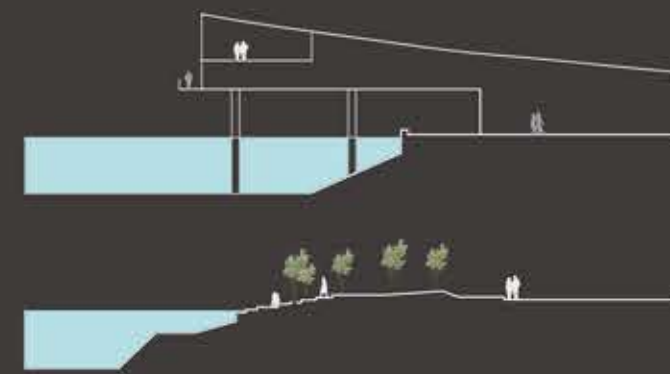
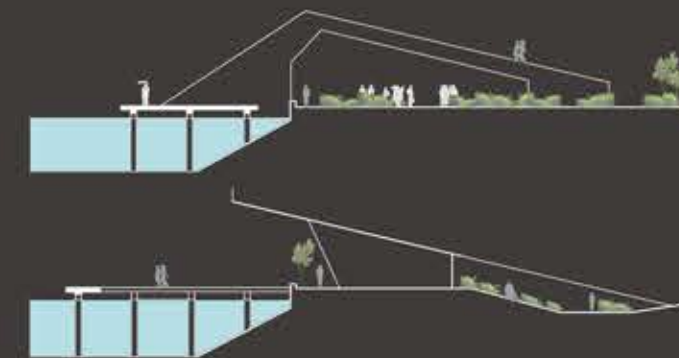
Riverside fishing platform



Riverside square



Recreational greening



In this program, the height of the buildings are becoming shorter and shorter, and meantime, more and more green space, thus at the end of the site, forming a littoral park. In this park, there are a lot of green space, and the decks for closing water. We also design a flyer here, it not only will satisfy the longings of visitors to know about the whole city, but also rich the skyline.

Continuous north to south riverside landscape with the formation of a combination of natural and urban public space, riverside landscape in the form of scattered high and low active at the same time makes the whole base, to a greater extent to enhance the value.

There will be a new community that will integrate nature along with city living to form a better balance.

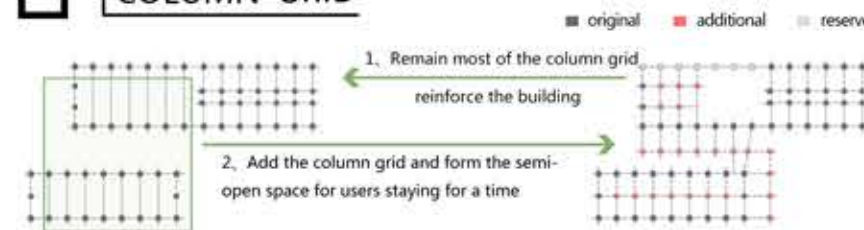


LOCATIONAL ANALYSIS

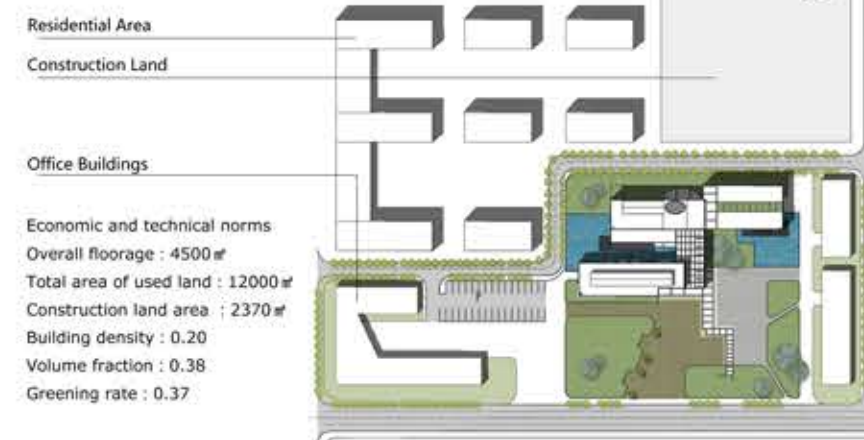


The base is situated at the famous manufacturing district—Shenyang Tiexi District. The new Shenyang Tiexi District consists of Shenyang Tiexi District and Shenyang Technology development zone. It faces Huanggu District to the north, YuHong District to the west and HePing District to the east. The district is well traffic developed strong industry culture and beautiful environment. The design comes from culture and greens environmental protection in order to recovery plant vigor for creating a ecological exhibition center.

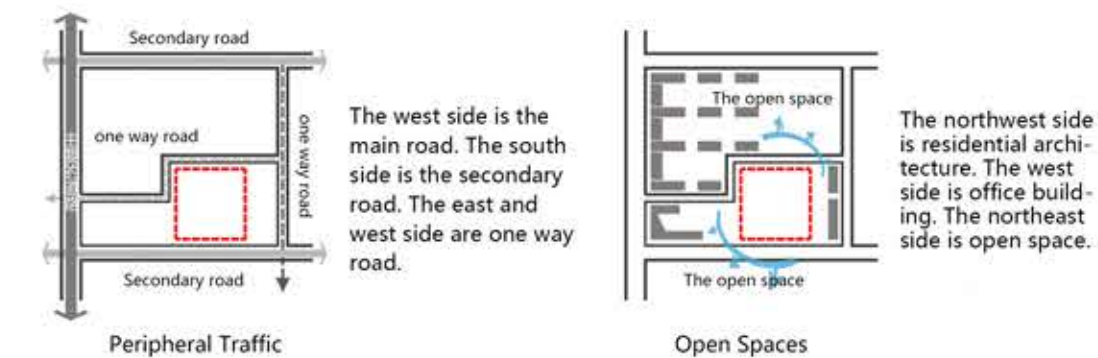
COLUMN GRID



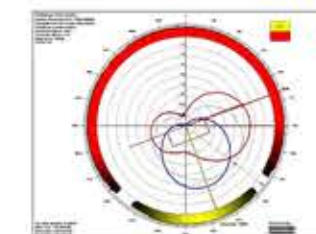
SITE PLANNING



SURROUNDING ANALYSIS

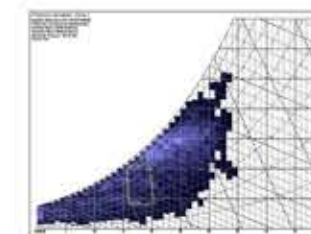


CLIMATE ANALYSIS



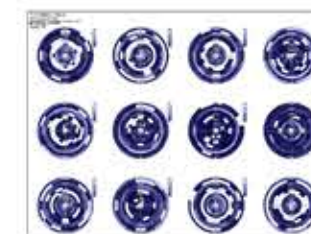
The best towards analysis

The best is south and 20 degrees east in Shenyang. This little deflection can be ignored. So the project is adopted the due south for the original plant.



The comfort analysis

The rain capacity is 600-800mm in Shenyang. The water shortage is this city is affected by the monsoon climate. Rainfall concentrates in hot summer, dry winter. The effective temperature adjustment will increase the comfort experience.

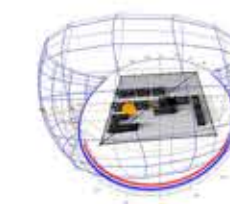


The wind analysis

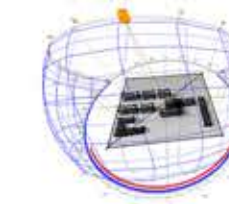
Monsoon changes significantly in Shenyang, southeast wind in summer and northwest wind in winter. So, we put the effective use of ventilation and cooling into consideration for the heat loss of winter monsoon wind.

Shadow

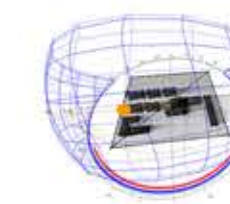
Spring Equinox Shadow



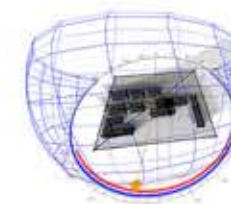
Summer Solstice Shadow



Autumnal Equinox Shadow shadowshad-

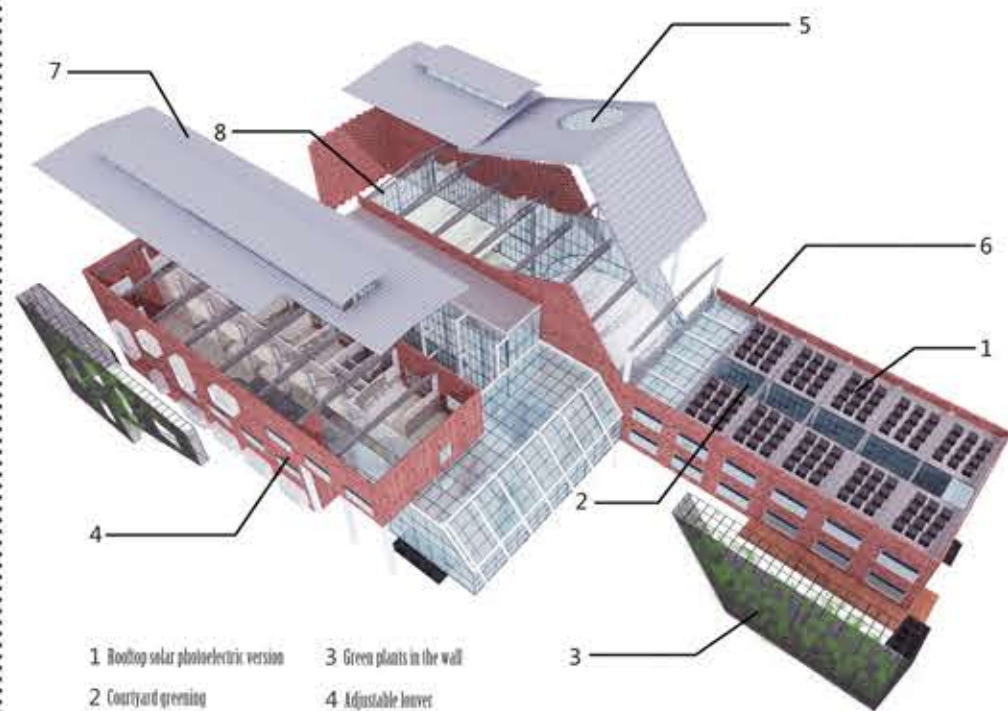


Winter Solstice Shadow

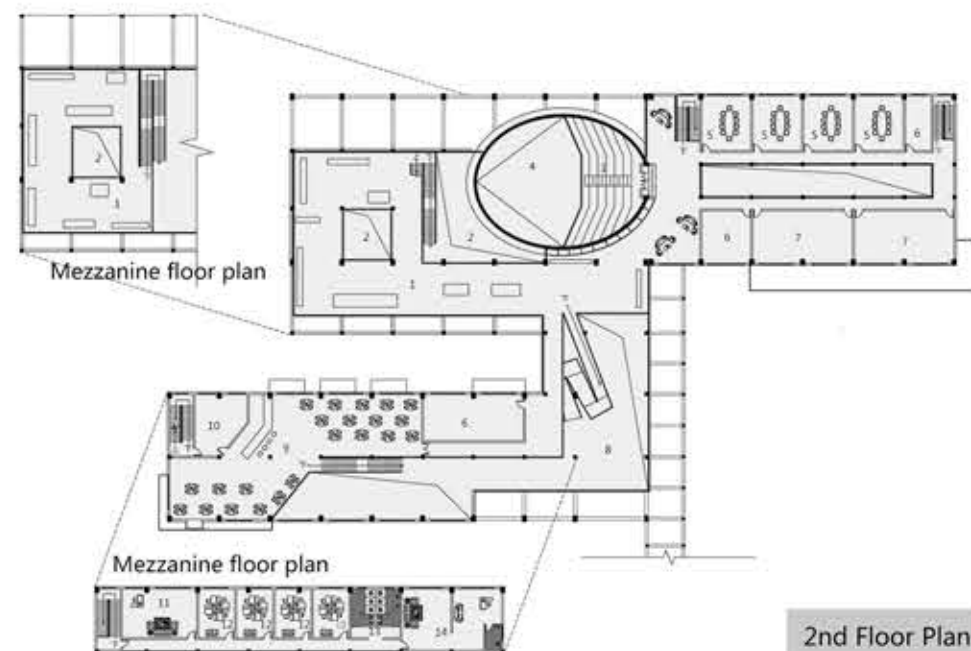
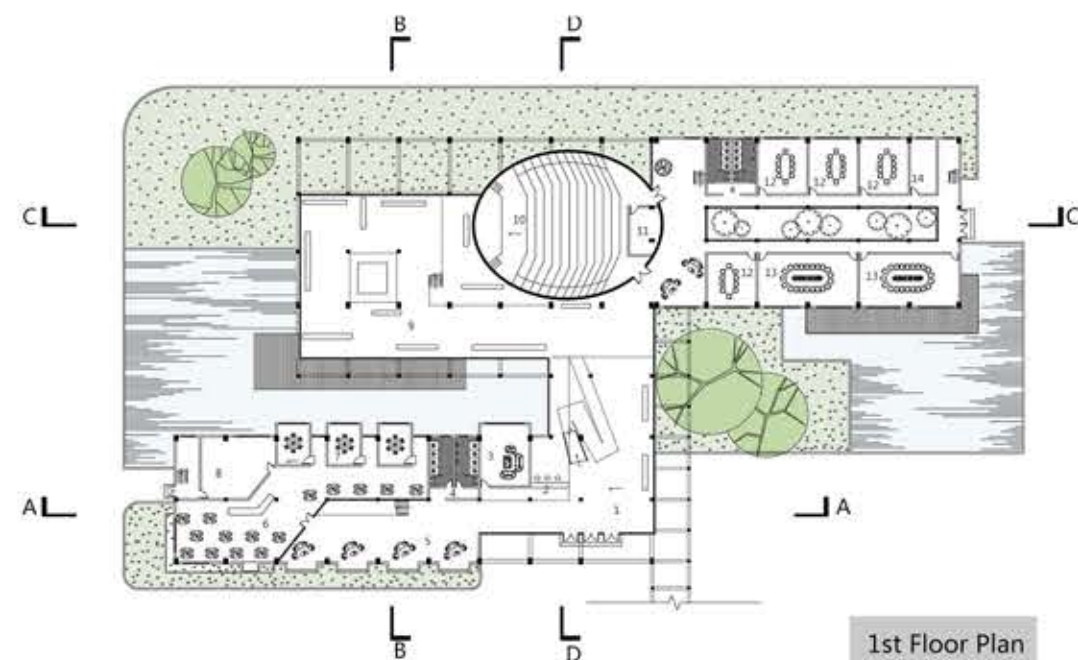


Wake Up Factory Culture In An Environmental Way

ANALYSIS OF GREEN DESIGN



- 1 Roofing solar photoelectric version
- 2 Courtyard greening
- 3 Green plants in the wall
- 4 Adjustable louvers
- 5 Sun roof for light and ventilation
- 6 Energy saving brick wall
- 7 Rainwater collection
- 8 Double deck glass



WALL PLANTING

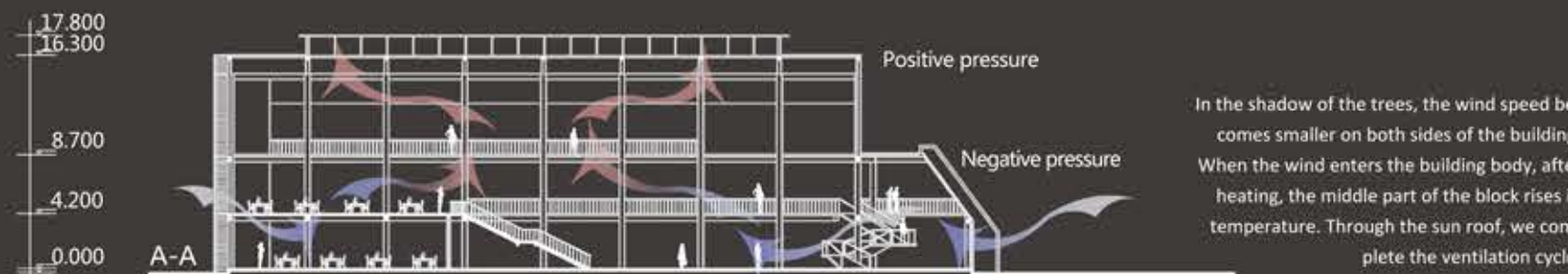


These kinds of planting are suitable for the climate of Shenyang.

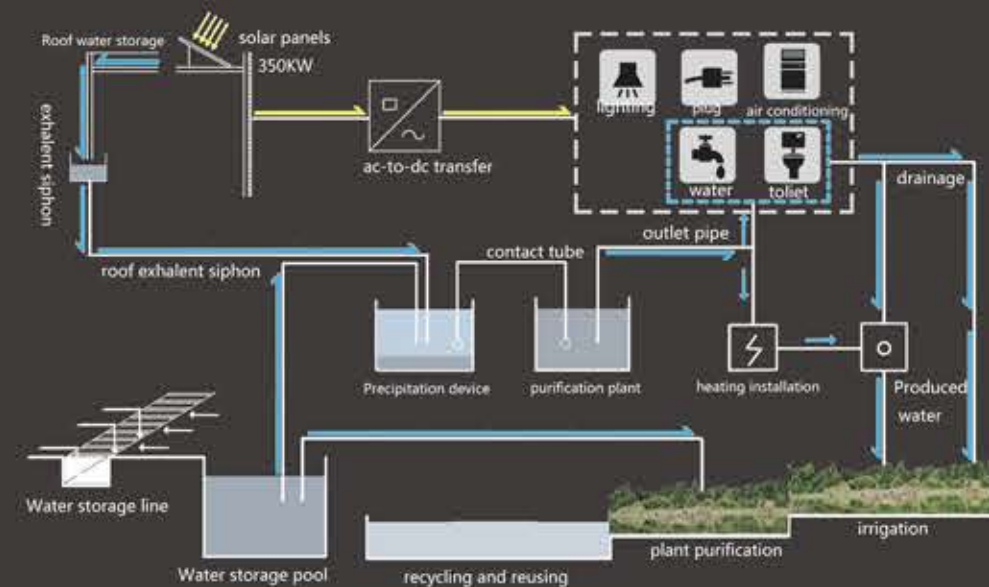
We put vertical greening into consideration. We can plant climbing plant for environmental purposes and overshadow, such as, lilac clematis, honey suckle, celastus orbiculatus, and boston ivy etc.

VENTILATION

Separate air circulation is formed between each layer. The cold air enters from the side window and the hot air discharges from the side window. In the exhibition hall, the cold air enters from the side window and discharges from the sun roof. We would like to meet the requirements of different function spaces on the wind and to reduce building energy consumption for energy conservation.



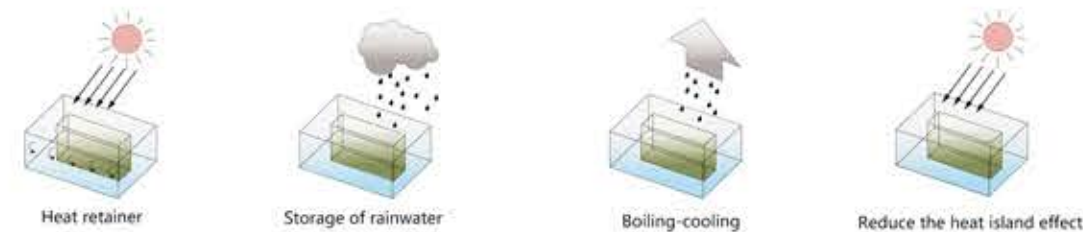
In the shadow of the trees, the wind speed becomes smaller on both sides of the building. When the wind enters the building body, after heating, the middle part of the block rises in temperature. Through the sun roof, we complete the ventilation cycle.



C-C SECTION GREEN ENERGY-SAVING

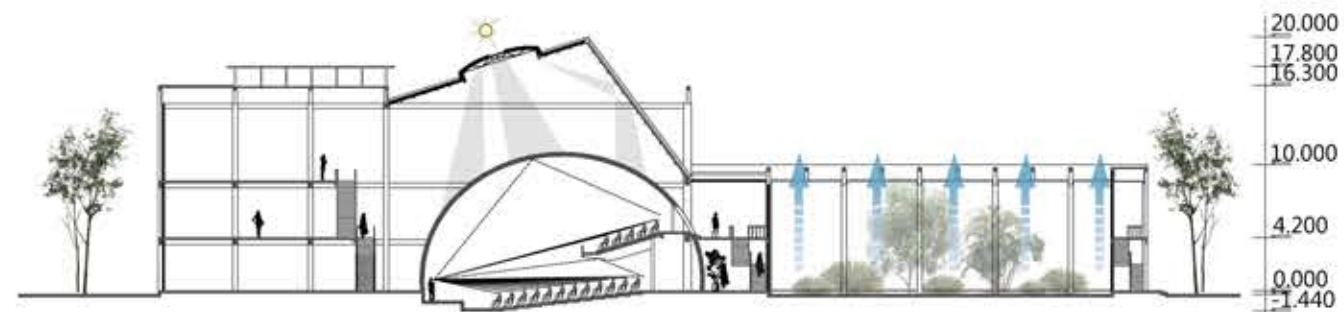
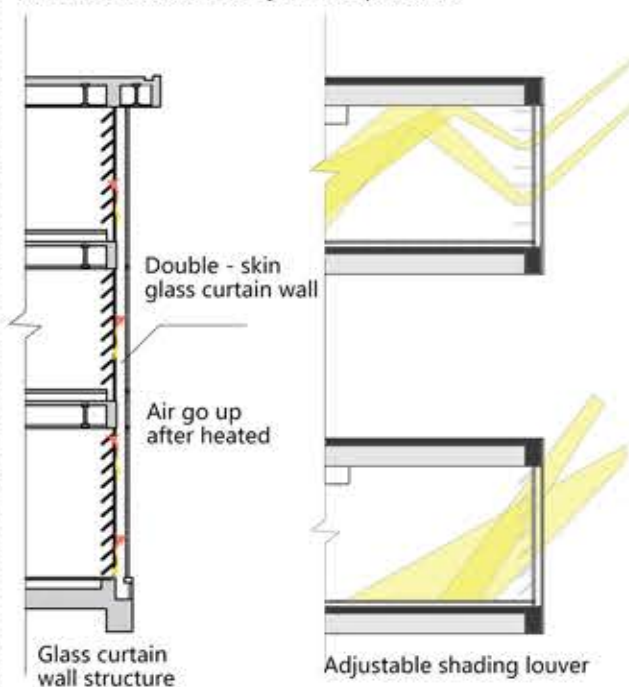
Courtyard greening and energy saving analysis

Design a skylight in the profile. According to the sunlight intensity and angle, it can adjust by itself. When the light comes into inside from the baffle plate, light becomes softness. In addition, the method of interior design of plants can adjust room temperature and clean the air.

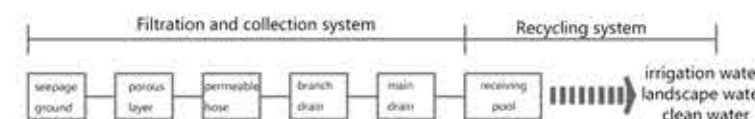


GLASS CURTAIN WALL

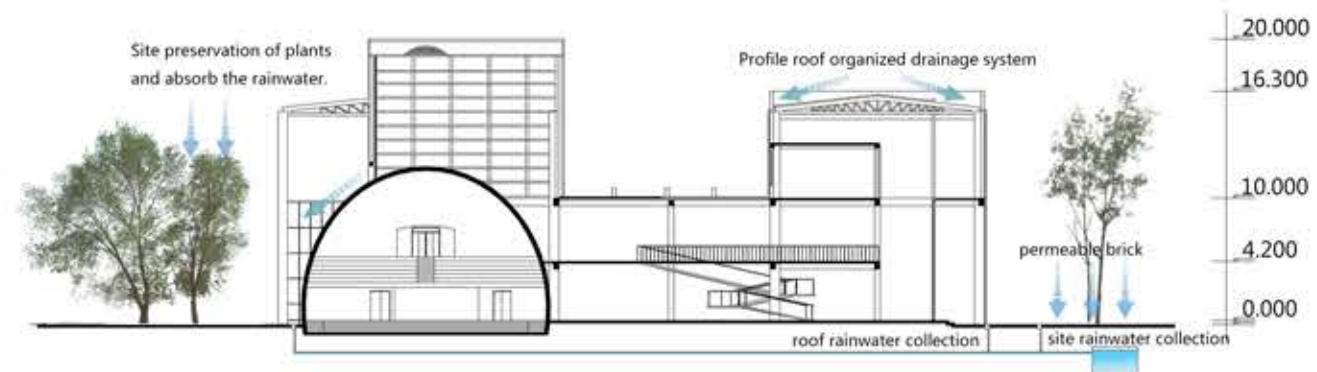
We install controlled blinds on the form to adjust light. At the same time, through the refraction principle, it can influence the effect of light. The blinds can automatic control by the temperature.



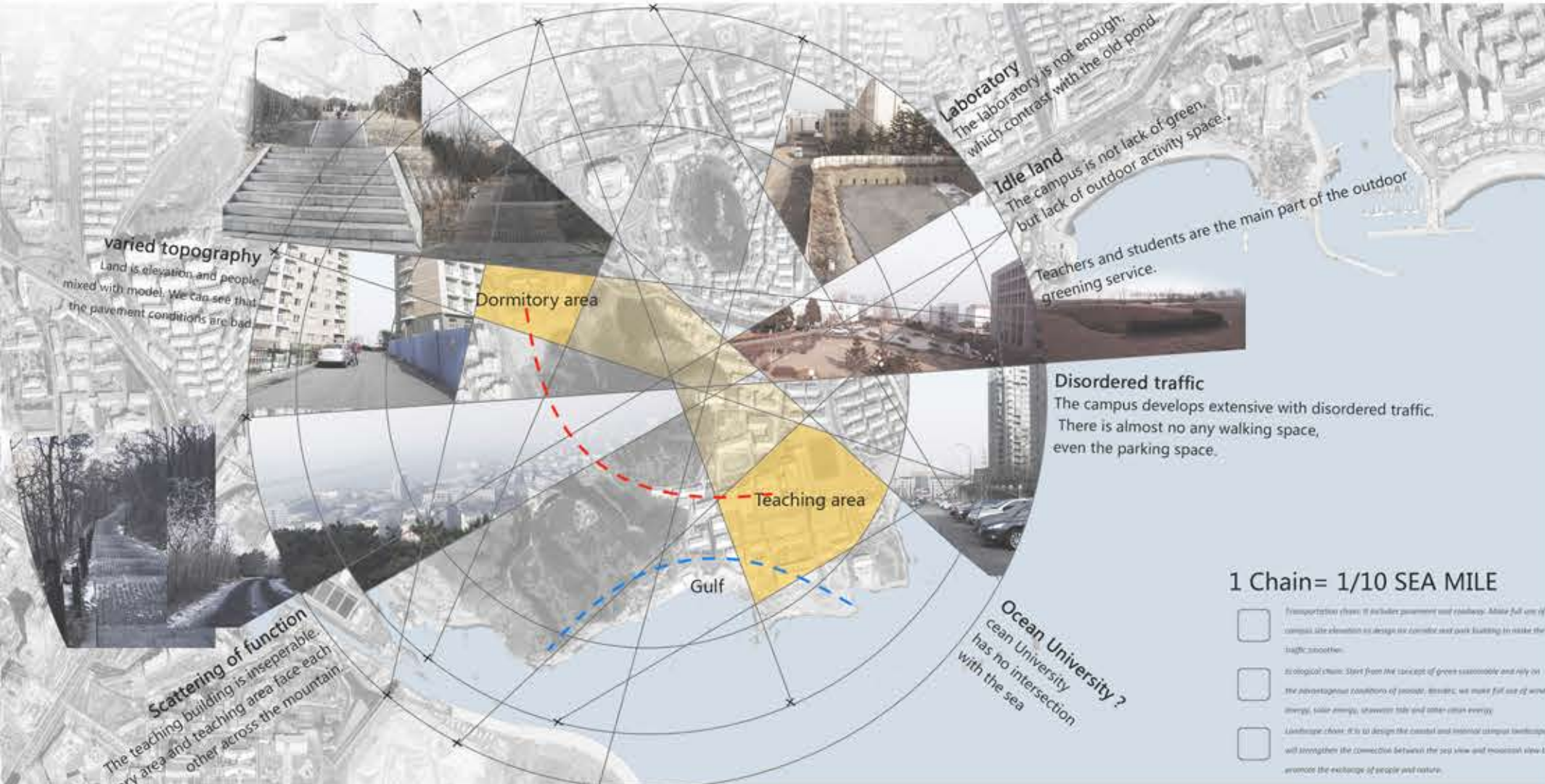
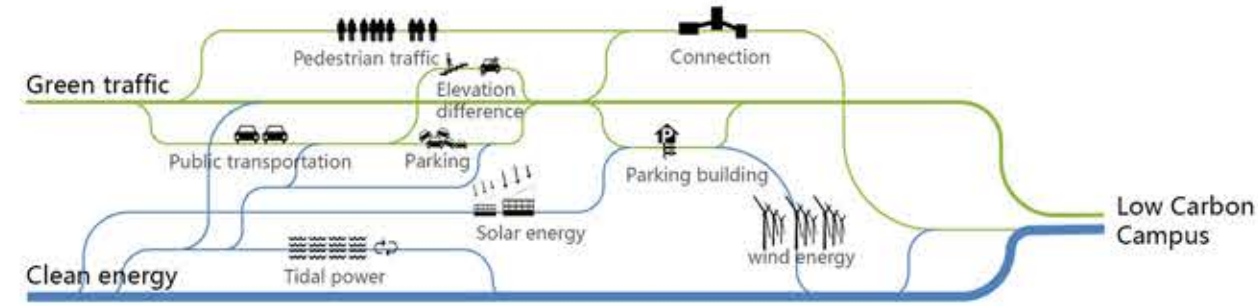
D-D Section Rainwater Collection



Field permeability structure material can be classified into permeable bricks and explicit pervious concrete. The cushion materials are sand-gravel material and non-fine concrete. The rainfall will finally come down from the main collecting ditch to the water gathering tank.



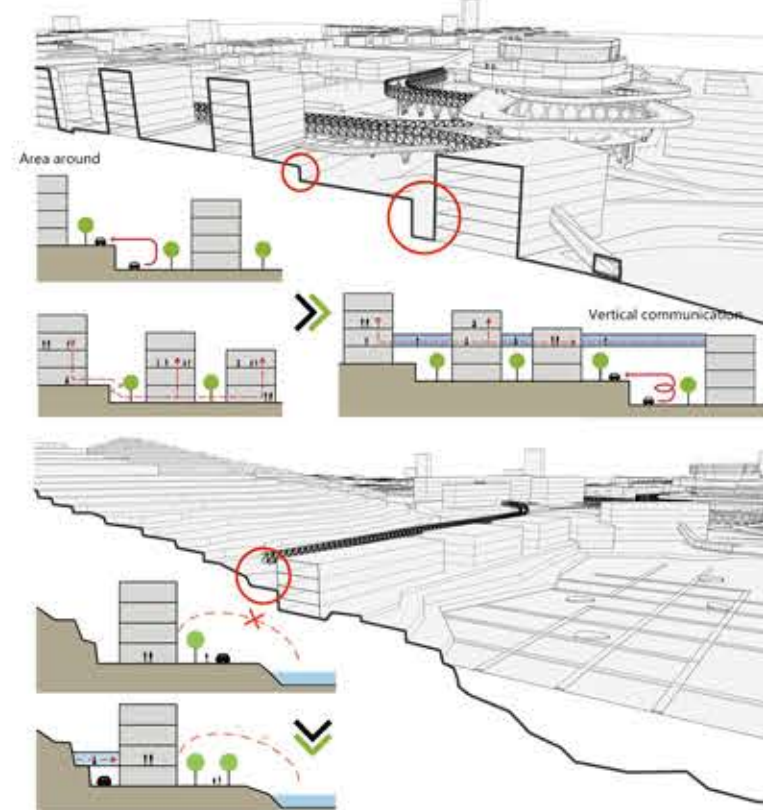
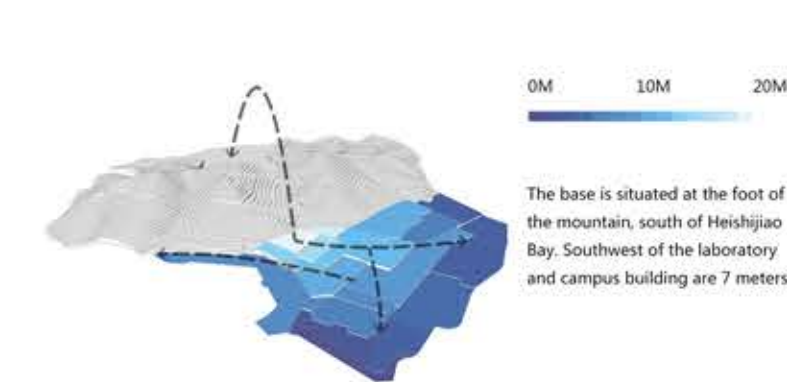
GREEN TRANSFORMATION OF CAMPUS PARKING



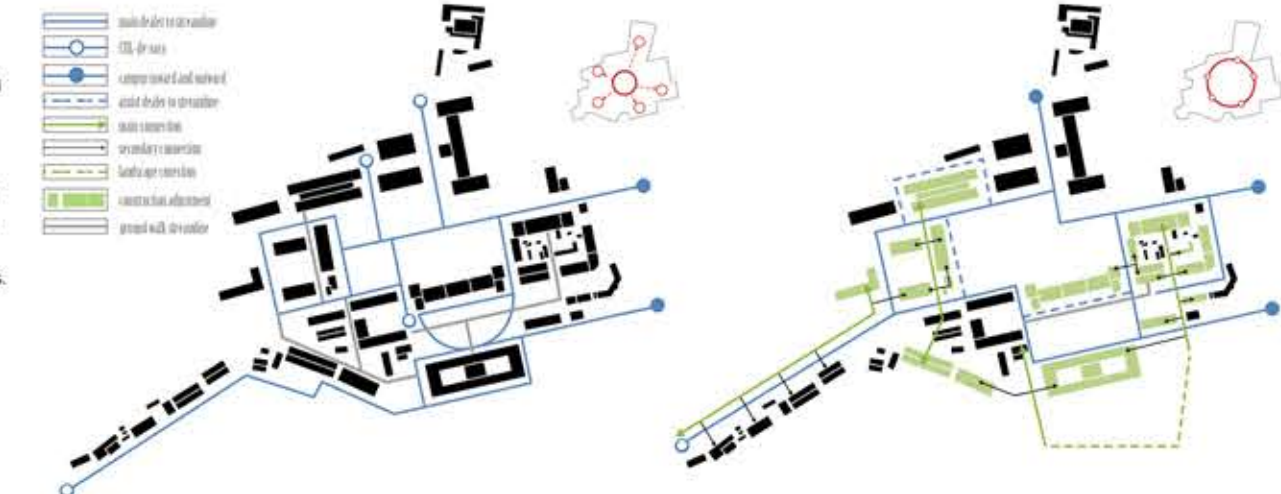
1 Chain= 1/10 SEA MILE

- ☐ Transportation shows: It includes pavement and roadway. Advise full use of campus site elevation to design the corridor and park building to make the traffic smoother.
- ☐ Ecological chain: Start from the concept of green sustainable and rely on the advantageous conditions of people, services, we make full use of wind energy, solar energy, seawater tide and other clean energy.
- ☐ Landscape chain: It is to design the coastal and inland campus landscape will strengthen the connection between the sea view and mountain view to promote the exchange of people and nature.

TERRAIN ANALYSIS



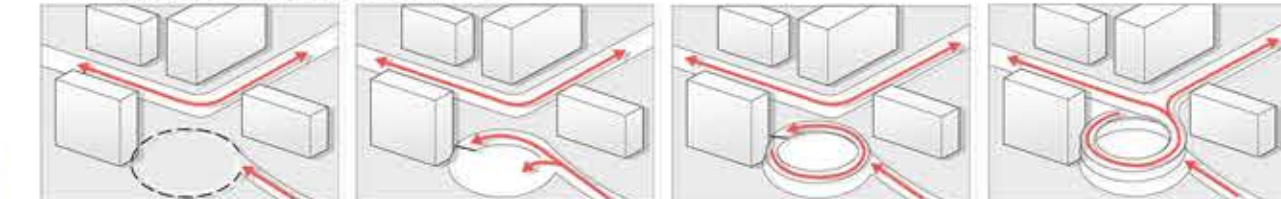
CAMPUS TRAFFIC



Due to space height difference, the campus roads are located at different heights. Some of the regional have fault scarp, with extension transport mode, showing coexistence of people and vehicles.

After the upgrading, we expand the inner ring through reducing the site traffic area. We should use the campus building height effectively by the connection of air corridor for separation of pedestrian and vehicles.

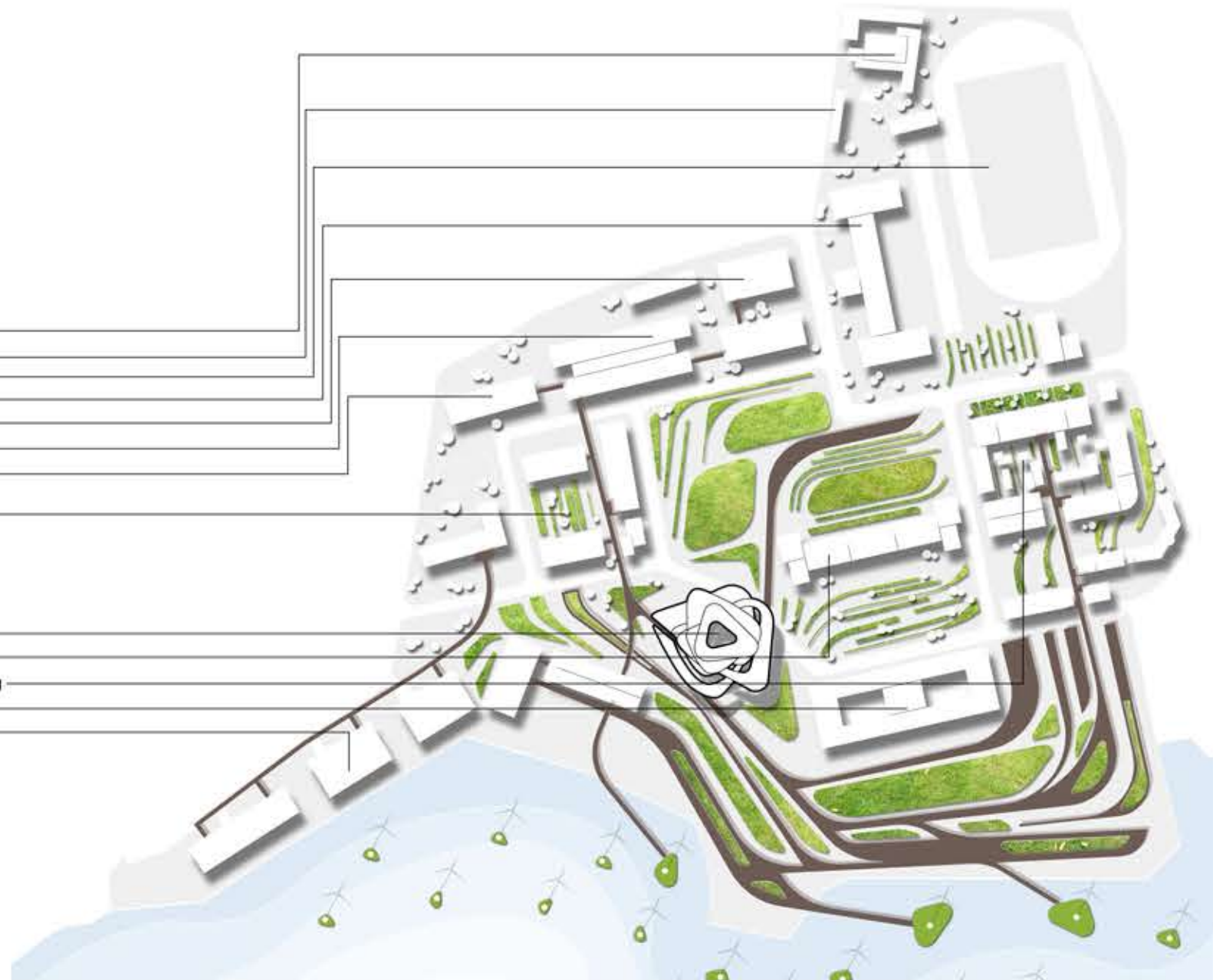
Transportation Streamline



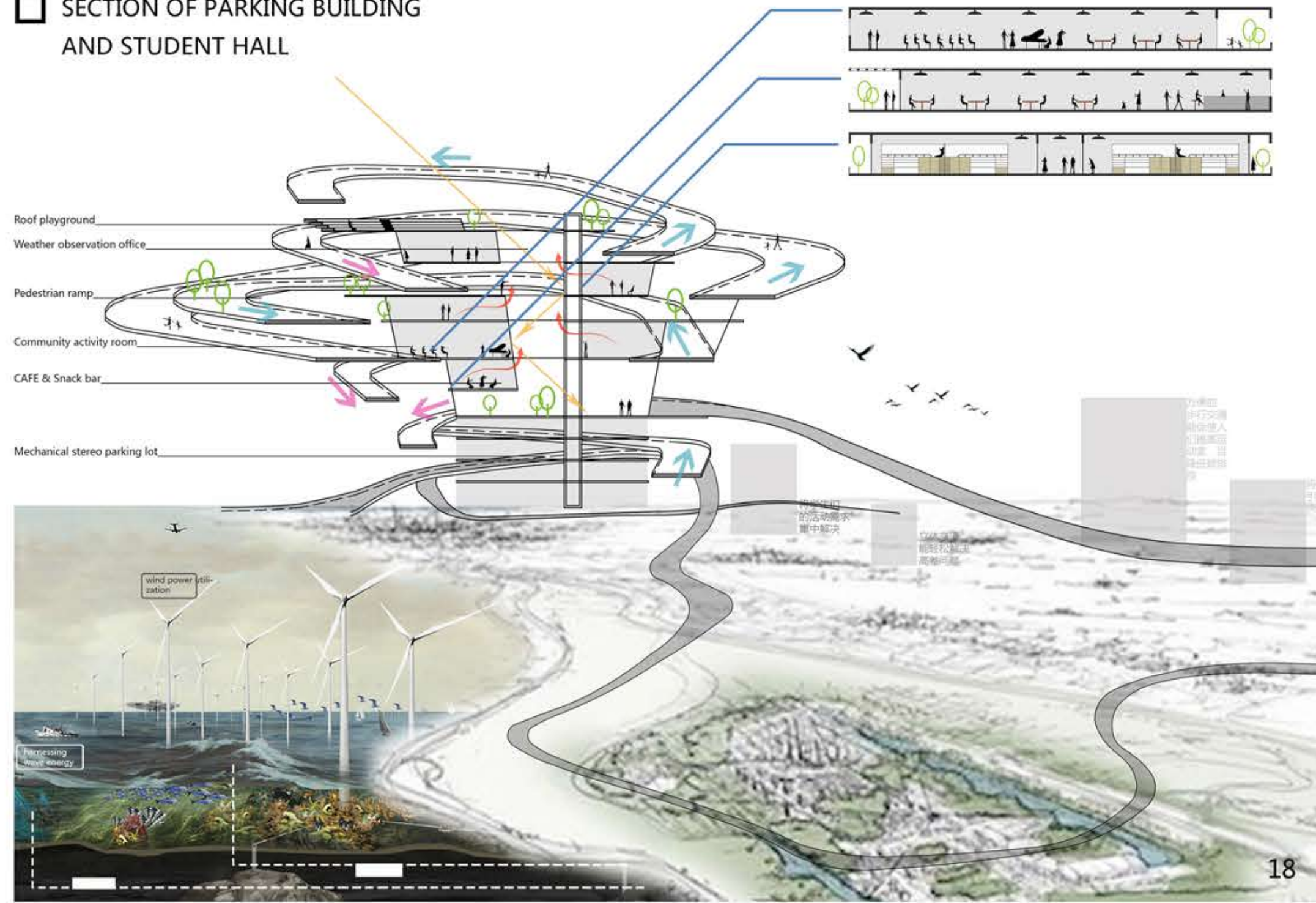
Public transportation node (Pictured above)
Through the campus traffic planning, in the large height traffic node, we solve the problem by vertical transportation design, which will make the vehicle go smoothly.

Pedestrian traffic frequency (picture On the left)
By analysis of campus building, pedestrian flow line and the frequency of use, we confirm the main road and the traffic is convenient through corridor design.

overall floorage : 118300m²
land Area : 167000m²
building area : 39900m²
building density : 0.238
the volume of construction : 0.708



SECTION OF PARKING BUILDING
AND STUDENT HALL



URBAN COMPREHENSIVE PLANNING



URBAN LAND USE EVALUATION

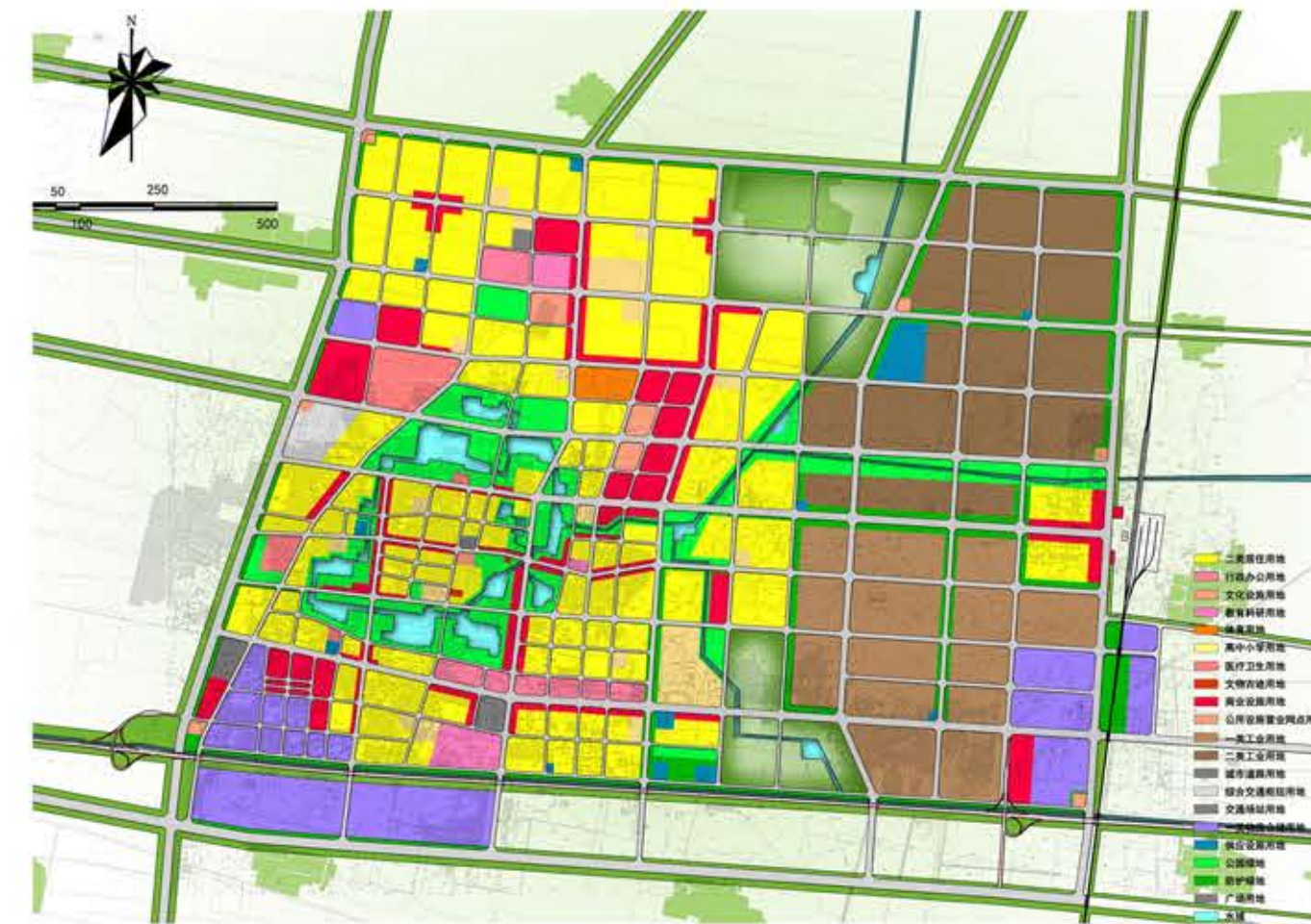


SPATIAL REGULATION



LAND RESERVATION

URBAN LAND USE



STAGE PLANNING



SHORT-TERM PLAN

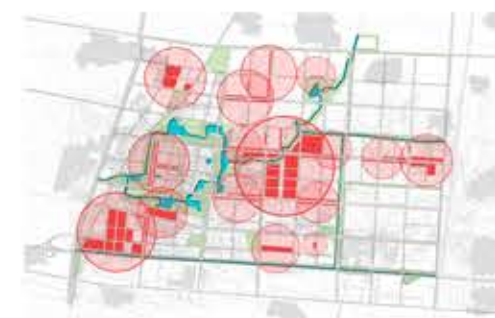


LONG-TERM PLAN

URBAN PUBLIC FACILITIES PLANNING



HEALTH SERVICE RADIUS



COMMERCE SERVICE RADIUS



PARK SERVICE RADIUS

URBAN INFRASTRUCTURE PLANNING



WATER SUPPLY



COMMUNICATION SYSTEM



SEWAGE ENGINEERING



HEATING SYSTEM



STORM-WATER ENGINEERING



GAS SUPPLY SYSTEM

COMPREHENSIVE DISASTER PREVENTION

In the present situation, we should increase the green area in residential land of old city. At the same time, we should also add green areas on both side of river to form a climate of landscape, which provides a casual and comfortable place as the main refuge in the way of integrating into other green areas and parking spaces.



PRIMARY AREA OF REFUGE



SECONDARY AREA OF REFUGE



RESCUE PATH



ESCAPE PATH

TRAFFIC PLANNING



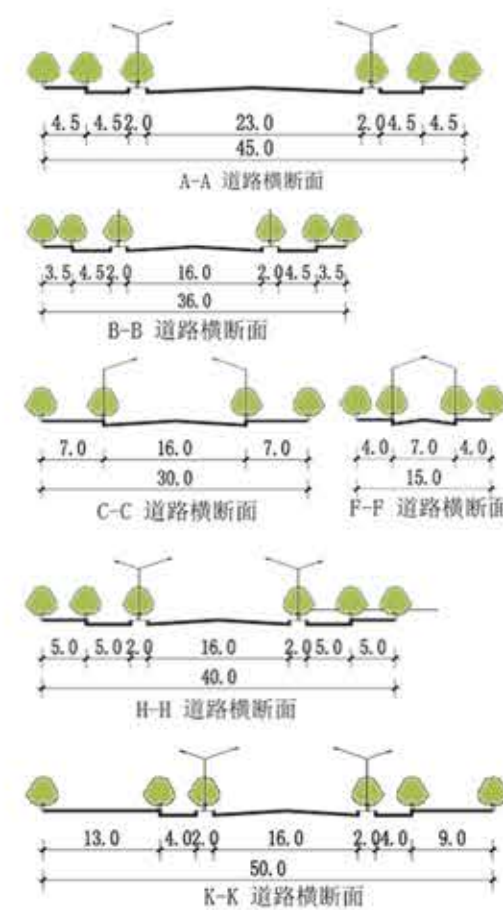
Processing scheme one:
The intersection is situated at roundabout in order to control the direction of the traffic effectively. It makes the pedestrians more convenient and safe.



Processing scheme two:
The roundabout can slow down the traffic and make them go to the same direction, which will cut down the accident.



Fracture solution:
The parking is set at the road separator. So, it can make the street has a better walking space. The city has become to a higher degree of hominization.



图例

- 国道
- 高速公路
- 省道
- 主干路
- 次干路
- 支路
- 铁路
- 火车站
- 客运站
- 停车场
- 广场

C4
C6

[illegible]

Wind energy

Diagram illustrating a wind power system. Wind turbines (风车) are connected to a control system (控制系统). The control system manages the flow of oil (油) through pressure (压力) sensors and valves. The system also includes a transformer (变压器) and a generator (发电机) connected to the grid (电网).

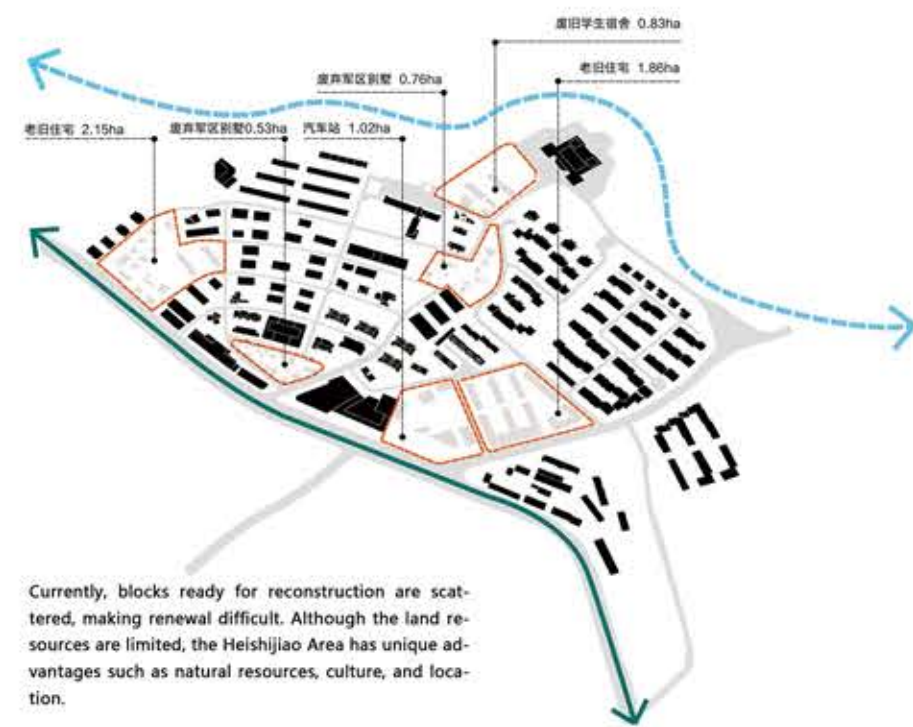
Solar energy

Diagram illustrating a solar power system. Solar panels (太阳能电池板) are connected to a control system (控制系统). The control system manages the flow of oil (油) through pressure (压力) sensors and valves. The system also includes a transformer (变压器) and a generator (发电机) connected to the grid (电网).

RESOURCES INTERPRETATION



OLD vs NEW ?



DEVELOPMENT DIRECTIONS

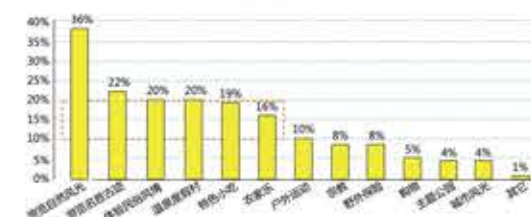
1. Public service, consumption, urban vitality



2. Culture creativity, competitiveness



3. Leisure, public space, facilities



4. Multi-element



IDEAS



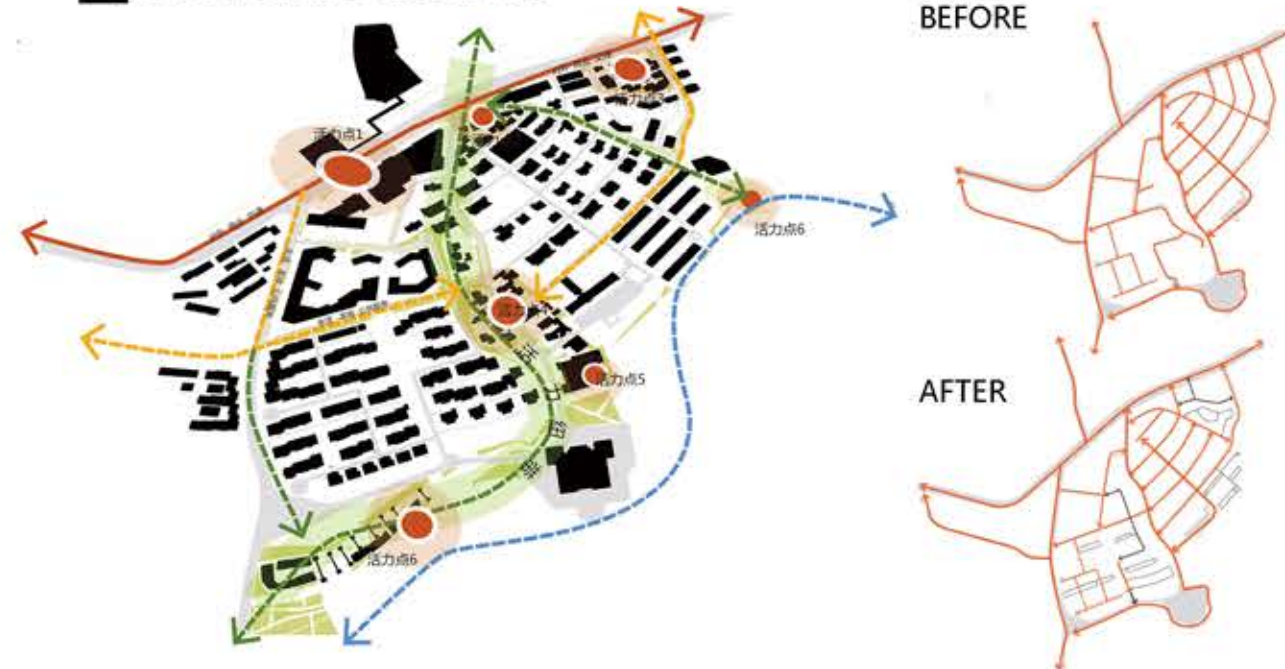
CHARACTERISTICS



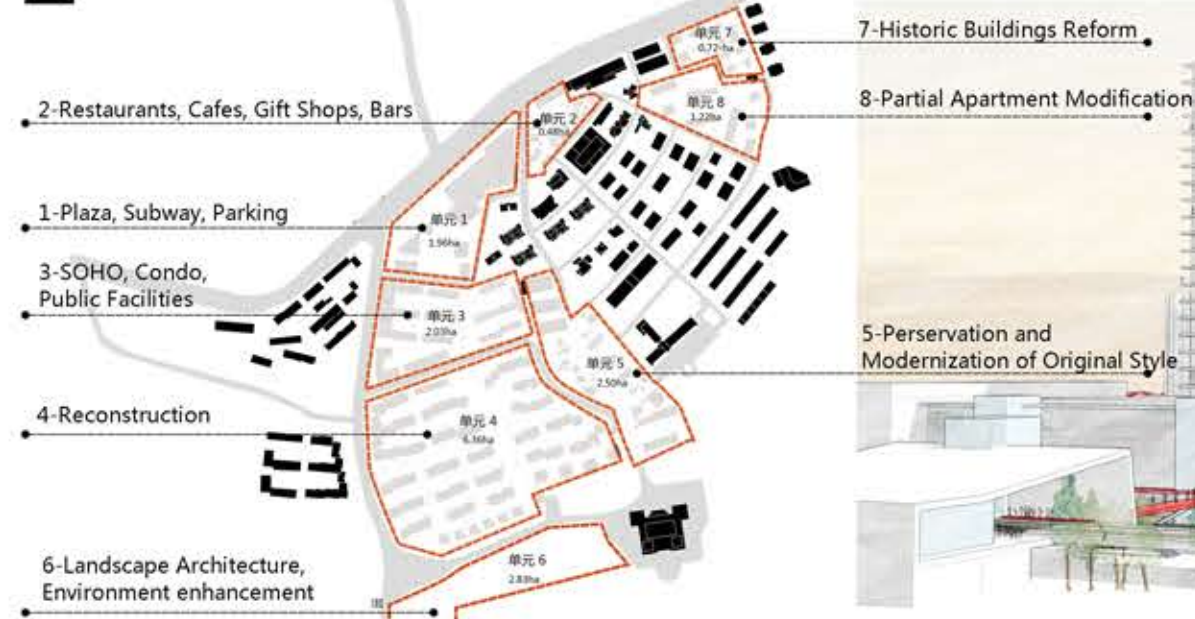
STRATEGIES



FUNCTIONAL STRUCTURE



PARTITIONING STRATEGIES



PLANNING SCHEME

