DIPLOMA THESIS

LI ZIYING

2023

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES
INSTITUTE OF LANDSCAPE ARCHITECTURE, URBAN PLANNING AND GARDEN ART
BUDAPEST

MASTER OF ARTS IN LANDSCAPE ARCHITECTURE AND GARDEN ART

Urban Park Reconstruction Design

——Zhengzhou People's Park

AUTHOR: Li Ziying

ADVISOR: Dr. Sárospataki Máté

Budapest, *2023*

I INTRODUCTION

City Parks have a history of 180 years and has become an important part of modern cities (INT-01). In 1949, at the beginning of the founding of the People's Republic of China, many cities in China began to build people's parks in response to the socialist system of the New China (Wang nannan, 2016). Such parks themselves have the political functions of education, publicity and strengthening national awareness. However, due to the lack of funds, the urban parks built in this period gradually appeared the phenomenon of insufficient functionality, inadequate maintenance, loss of space vitality, and decline. Due to the widespread attention paid to the construction of ecological environment and the urban land tension, it is easier to update and optimize the old park than the new city parks, and it has more practical significance.

This thesis summarizes the reconstruction design strategies of urban old parks from the perspective of improving the openness of urban park boundary space. Firstly, study the concept and history of urban parks, summary the differences between different kind of urban parks[1], as well as the special meaning of "People's Park" in Chinese city parks. Secondly, analyze the relevant old city park reconstruction cases, and draw the rules and inspiration. Thirdly, through the analysis of the large and small scale of the site, the conflicts and values existing in the outside and inside of the site are summarized, and the subsequent reconstruction design is carried out based on this. Finally, based on the principles of practicality, aesthetics and ecology, a set of planning and design strategies is proposed to improve the attractiveness and utilization of the whole park. By improving the openness of the boundary space of the park, the mutual integration of the green park and the urban public space will be realized. Hopefully, it will provide new ideas and inspiration for the reconstruction of the old urban parks in the future.

1.1 Background

With the development of social economy, politics, culture and other aspects, the country has put forward new requirements and directions for the development of city parks. In February 2018, the Chinese General Secretary pointed out during his visit to Tianfu New Area in Sichuan Province that: "*We should highlight the characteristics of the park city and take into account the ecological value.*" The 20th National Congress of the Communist Party of China proposed that we must firmly establish and implement the concept that 'lucid waters and lush mountains are invaluable assets', and plan for development at the height of harmonious coexistence between human and nature(INT-02). The word "Park city" is a concept that corresponds to city parks. Park city is a large system that covers the entire city. A city is a group of buildings that grow out of parks, forming a systematic green space, rather than an island like park.

At the beginning of 2023, the People's Daily of China published an article with <High Quality Promotion of Park City Construction> title (INT-02), which mentioned the protection of urban ecological texture, the construction of blue-green spatial pattern. The article promoted green building technology, apply clean and renewable energy, futher more it was said that efforts

[1] In my thesis I use city park term as an alternative to urban park.

should be made to try first explore park city construction policies such as park city standardization construction experience. These policies have had a positive impact on the development of city parks. The transformation from "city park" to "park city" is inseparable from the construction of every urban park. It is an important carrier, scene and medium for the transformation of ecological value to human value, economic value and life value. It actively explores the value realization mechanism of the new model of urban construction, and constantly improves the competitiveness of the city.

In the 1950s, at the beginning of the founding of the People's Republic of China, many cities have built their own 'People's Parks'. However, due to the limited national funds during this period, the park only had simple infrastructure at the initial stage of construction. Over time, the aging phenomenon of the park was serious, and contradictions and problems gradually emerged (He chenyu, 2021). Among other problems, the space is too closed, the functional layout is confusion, there is lack of regional characteristics, the existing infrastructure is aging, the logic hierarchy of inner pathway system is missing. Therefore it is needed to speed up the reconstruction and optimization of the park, restore the vitality to meet people's high requirements for urban parks, and improve the park utilization rate. This is not only the demand of social green ecology and sustainable development, but also the inevitable requirement of protecting urban history and culture, protecting ecological environment and improving urban image.

1.2 Significance and goal

In recent years, urban parks have made great progress, which depends on the development of social economy, people's aesthetic quality and people's demand for quality of life. The livability of big cities depends to a large extent on the availability and proportion of green spaces of the city structures. More and more people are finding it important to spend time in quality urban green spaces.

The city park is used to call as the "*lung of the city*". It provides a place for people in the city who feel tired because of intense work to relax their body and mind. With the development of the city, urban parks have been constantly updated and changed, and they have not been static since their establishment. Due to various internal and external reasons the development of urban parks has been seriously hindered, and the renovation of old urban parks is not only an objective requirement. Due to the importance of the ecological environment and the pursuit of healthy living activities, urban residents have an urgent need to renovate the park and improve the overall sightseeing and viewing environment. The pursuit of a better and better living environment by residents has become the biggest driving force for the improvement of urban functions. This is not only a theoretical problem, but also a social problem related to the life of citizens.

Goal: Zhengzhou People's Park is the largest contiguous park in Zhengzhou. It has a superior geographical location and compact design, providing a good place for people to relax and enjoy themselves. There is an article called <Construction Style, Design Defects and Rectification Scheme of Zhengzhou People's Park> said that "*However, according to the investigation of the*

development status of the People's Park in Zhengzhou, it is found that its design defects are increasingly exposed due to its long disrepair and need to be improved." (Liu ping, 2013). Based on the theoretical study of the history of Zhengzhou City and Zhengzhou People's Park, this paper summarizes and studies the planning and design strategies of the old park. It can be summarized into three research purposes:

1. On the premise of keeping a part of the functional areas unchanged, put forward new design schemes to improve the attraction of the park to users of all ages and improve the utilization rate of the park.
2. Based on the study of the historical and cultural background of Zhengzhou, the capital city of Henan Province, add historical and cultural elements to the park to highlight the regional style.
3. At present, the park is surrounded by brick walls, resulting isolated green landscape in the city center. On the basis of observing the aesthetic principles, ecological principles and practical principles, this paper re-designs the opening of the boundary space of the park. It was said by an article that "*The opening design of the boundary space can improve the utilization rate of the urban park as a public green space and the participation of citizens*". (Zhang Yue, et al, 2019).

In the end, a dynamic comprehensive park is designed to better provide positive feedback space for the city.

1.3 Introduction of the site

1.3.1Definition and history of City Park

The City park is a specially planned green space located within the city for city dwellers to enjoy, rest, health care and entertainment. It is open to the public and has the main function of recreation (INT-01). It also plays a role in improving the urban ecological quality, beautifying the urban environment, urban disaster prevention and mitigation. City parks help residents and tourists feel the charm of nature, stay away from the hustle and bustle of the city and the fast-paced lifestyle, and temporarily escape from crowded streets, noisy traffic and crowded buildings, so as to get a natural relaxation and meet the leisure needs of urban residents.

It is generally believed that the city has a history of at least 5000 years. However, the city park is a "new thing" with a history of only 180 years.

In the Middle Ages and before, there was no urban garden in the city. At that time, the most important function of the city was defense. Alberti, an Italian in the Renaissance, first proposed that the construction of urban public space should create gardens for entertainment and leisure(INT-01). Since then, the importance of gardens to improve the quality of cities and living has been recognized. As a product of the industrial age, city parks have two sources:

One is the publicity of the noble private garden, namely the so-called public garden, which makes the park still have the characteristics of a garden. In the middle of the 17th century, the bourgeois revolution broke out in Britain, overthrew the feudal dynasty, established the

constitutional monarchy of the land aristocracy and the big bourgeoisie alliance, and announced the birth of the capitalist social system. Soon after, the bourgeois revolution broke out in France, and then the wave of revolution swept across Europe. Under the slogan of "freedom, equality and fraternity", the emerging bourgeoisie confiscated the property of the feudal lords and the royal family, and opened all the palaces and private gardens, large and small, to the public, collectively known as parks. In 1843, the British city of Liverpool used taxes to build the public's free use of Hyde Park, marking the official birth of the first urban park.

Another source of city parks comes from the public places in communities or towns, especially the open grassland in front of churches. As early as 1643, British colonists bought 18.225km² of land for public use in Boston. Since the establishment of the Central Park in New York in 1858, many cities in the United States have established their own central parks, forming a park construction movement.

City parks in the modern sense originated in the United States. Frederick Law Olmsted, the founder of American landscape design, put forward the great idea of building parks in cities. As early as 100 years ago, he and Walker jointly designed the Central Park. This event not only pioneered modern landscape design, but more importantly, it marked the arrival of urban public life landscape. The park is no longer a luxury enjoyed by a few people, but a space for physical and mental pleasure of the general public (Zhuang Chenhui 2009).

1.3.2 Introduction of Zhengzhou city

Zhengzhou City, or "Zheng" for short, was called as the Capital of the Shang Dynasty in ancient times, and is now called the Green City. The prefecture-level city, provincial capital, supercity under the jurisdiction of Henan Province. And is the National Central City which is clearly supported to construction by the <To promote the rise of central China "13th Five-Year" plan> (INT-03).

Zhengzhou is the national transportation hub, located in the north-central part of Henan Province, at the boundary between the middle and lower reaches of the Yellow River, China's mother river, with a total area of 7567 km^2 . The general trend of the terrain in Zhengzhou is high in the southwest and low in the northeast, belonging to the Monsoon Climate of Medium Latitudes. There are 124 rivers in Zhengzhou, spanning the Yellow River and Huaihe River. By the end of 2021, Zhengzhou has a permanent resident population of 12.742 million.

In October 1948, after the liberation of Zhengzhou by the Central Plains field army of PLA, Zhengzhou was established in the urban area of Zheng County, directly under the leadership of Henan Province. On October 30, 1954, the Henan Provincial Government moved from Kaifeng to Zhengzhou, which became the capital of Henan Province.

Zhengzhou is an important birthplace of Chinese civilization, a state-list famous historical and culture city, one of the six major sites supported by China, and a member of the League of Historical Cities. By the end of 2021, Zhengzhou has 83 major historical and cultural sites

protected at the national level, 97 provincial cultural relics protection units, 208 municipal cultural relics protection units, and 6 national intangible cultural heritage lists.

		
National Transportation Center	Capital of the Shang Dynasty	The Yellow river

Fig. 1-1. Introduce of Zhengzhou city, INT 01.

1.3.3 Introduction of Zhengzhou People's Park

Zhengzhou People's Park is located in Zhengzhou City, Henan province, China. The park is composed of 11 scenic spots and is the largest comprehensive park in Zhengzhou. It is the first comprehensive city park built in Zhengzhou after the founding of the New China in 1949. And according to Chinese <Classification standard of park green space>, Zhengzhou People's Park belongs to G111 citywide park, G11 Comprehensive park.

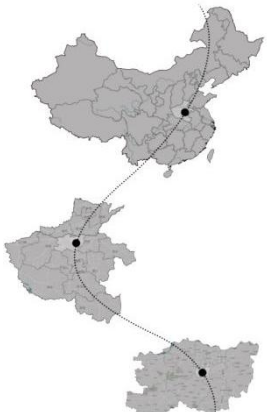


Fig. 1-2. The park location, Author's figure.

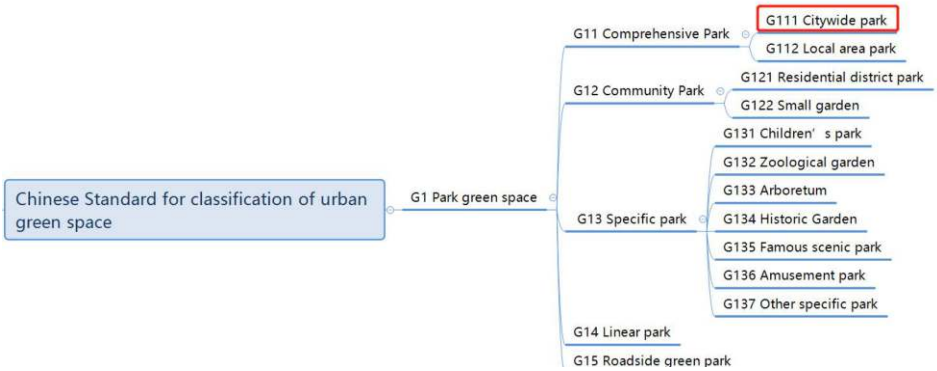


Fig.1-3. Chinese classification standard of park green space, Author's figure.

The park covers an area of 27.98 hectares. Among them, the water area is 3.96 hectares, the green area is 19.64 hectares, accounting for 70.19% of the total area. For now, the park is divided into five different function areas: viewing and leisure area ,children's entertainment area, office management area, cultural activity area, comprehensive supporting facilities area. It is located in the central of the city and is regarded as the most valuable "green pearl" in the densely built city.

Urban context: Zhengzhou People's Park is located in the center of Zhengzhou City. The other city park nearest to the park is Zijingshan Park, with an area of 19.2 hectares and 2.5 kilometers away from Zhengzhou People's Park. Other city parks close to Zhengzhou People's Park include the Shang Dynasty Relics Park, which is 3.4 kilometers away and covers an area of 40 hectares; Bishagang Park with a distance of 4.2 kilometers and an area of 27 hectares; Zhengzhou Zoo with

a distance of 5.4 kilometers and an area of 28.7 hectares; Dong Fengqu Riverside Park with a distance of 6.2 kilometers and an area of 138.7 hectares; the Forest of Zhengzhou with a distance of 6.5 kilometers and an area of 28.87 hectares; Xi Liuhu Park with a distance of 9.2 kilometers and an area of 320 hectares (INT-05).

		
The Zijingshan park	The Xi Liuhu park	The Bishagang park
		
The Zhengzhou Zoo	The Forest of Zhengzhou	The Shang Dynasty Relics Park

Fig. 1-4. Pictures of other city parks around the Zhengzhou People's park, INT 01.

These parks are popular and loved by the citizens of Zhengzhou, but they are all far away from Zhengzhou People's Park. Therefore, residents within 2.5 kilometers around Zhengzhou People's Park have the need to use the park, which has an important geographical position in the city. Not only that, there are also famous commercial blocks and tourist attractions in Zhengzhou near Zhengzhou People's Park. Therefore, in addition to the residents of the city, there are also tourists who will use the park. Therefore, we should make better use of its geographical advantages and attract more people to use the park through reconstruction and design.

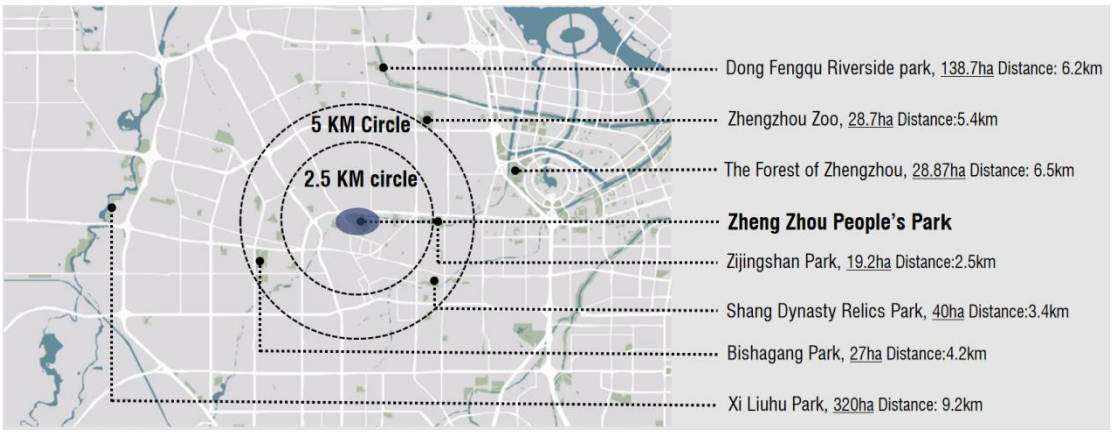


Fig. 1-5 The area and distance of the other city parks, Author's figure.

Other design solution related to the site:

The first design solution is included in the article which is titled by "Renovation Planning and Design of Zhengzhou People's Park under the Concept of Child Friendship". Firstly, based on

collecting, reading, and summarizing relevant domestic and international materials, the article explains the necessity of building a children friendly park. Secondly, basic concepts and related theoretical research were conducted. Introduce the relevant concepts of children friendly parks and research on children's behavioral psychology, summarize the design principles of children friendly parks and the design points of various elements of garden landscape, and provide theoretical preparation for the design of children friendly parks. Through the research and reference of relevant cases at home and abroad, it serves as a reference for analyzing and renovating the People's Park in Zhengzhou City. Finally, on-site research and analysis were conducted on the People's Park in Zhengzhou, as well as landscape renovation. Identify the main problems in the park through research, and carry out renovation design for Zhengzhou People's Park from a "child friendly" perspective (Shi Jiaxing, 2019).

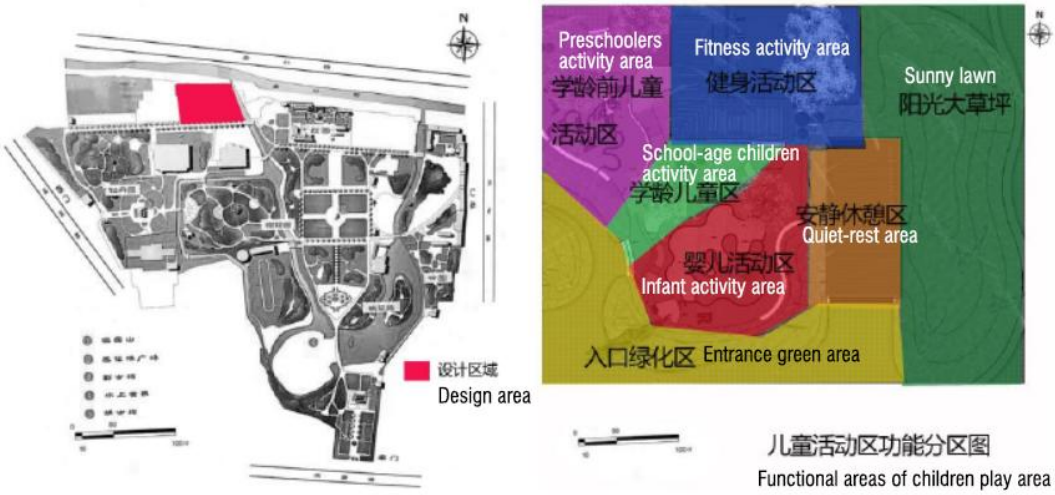


Fig. 1-6 Function areas of children play area, (Shi Jiaxing, 2019)

Fig. 1-7 Plan of the children play area, (Shi Jiaxing, 2019)

The second design solution is included in the article which is titled by “Expressions of Regional Culture in Urban Park Landscape Design--Take the Renovation Design of Zhengzhou People's Park as an Example”. The research content of the article is how to transform the landscape of people's parks in Zhengzhou into a city park with rich regional cultural connotations, and how to sublimate an ordinary people's park into a unique cultural window and city card that showcases the city. By renovating the dilapidated old park, we aim to reinvigorate it with new vitality, enhance its regional characteristics, effectively utilize resources, and create a comprehensive leisure park with strong regional characteristics to reduce living pressure for residents in the Central Plains region. The article has undergone relevant modifications from three aspects:

1. Culture: Extract and reconstruct the cultural elements of the Central Plains to transform and design the landscape and buildings within the park, making the People's Park more culturally distinctive. Allow various elements to be rhythmically and rhythmically interspersed in the design of the park.

2. Function: Further improvement will be made on the basis of the original functional zoning of the park, to enrich the level of the park, make the planning and design more reasonable, and increase the construction of infrastructure. Make minimal changes and preserve the original classic design.

3. Ecology: Utilizing methods such as terrain, ground paving, flowing water features, and sunken green spaces to collect rainwater, improve water quality, and save water resources, effectively alleviating the drought and lack of rain caused by seasonal changes in the north (Li Yalin, 2019).

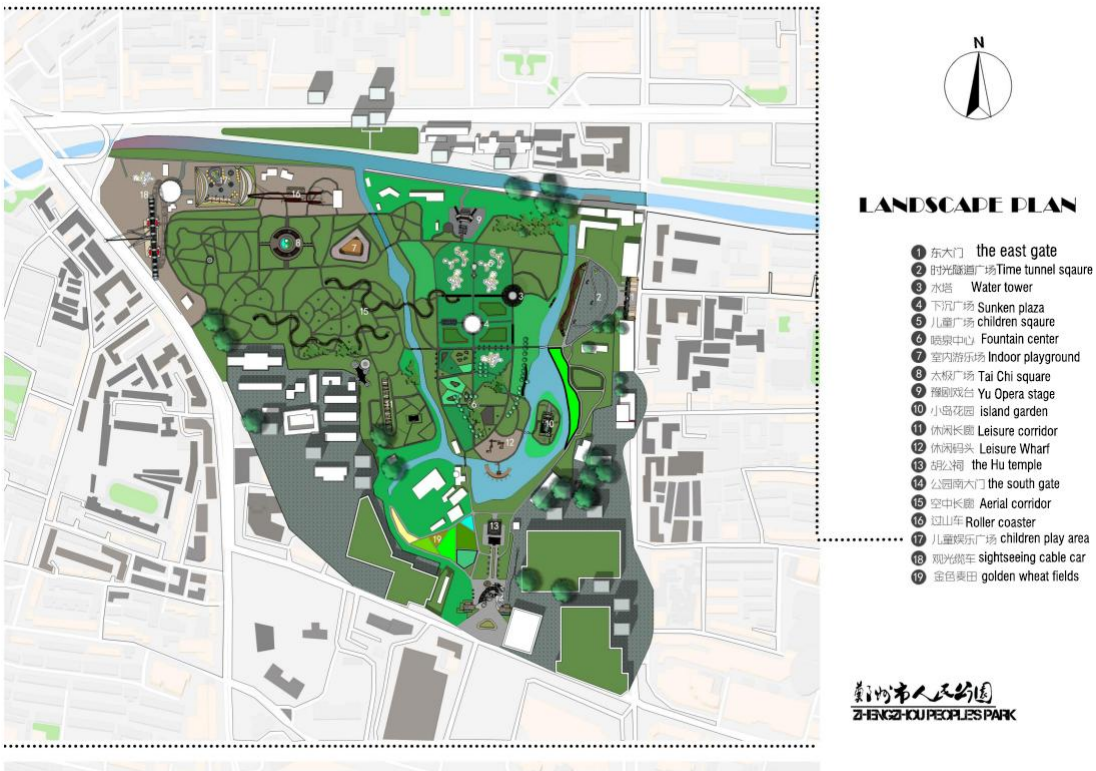


Fig. 1-8 Master plan of expressions of regional culture in Zhengzhou eople’s park,(Li Yalin, 2019)

II Methodology

This paper will summarize the design strategies based on the theoretical frontier and relevant practical cases, and guide the planning and design of the park on the basis of summarizing the results of the questionnaire.

1.Literature research and data sources

In view of the wide range of subject research and complex background involved in this topic, it is necessary to have a comprehensive understanding of the theoretical research progress, and conduct in-depth exploration of the research direction. Through comprehensive research on various journals, documents, policy and regulatory documents and opinion reviews, it is necessary to have a deeper understanding of its essential connotation and find its basic regularity for practical application.I obtained the map CAD files of the site from the municipal government and relevant departments, and assigned friends to take videos and photos on the site as the original data for site analysis.

2. Graph analysis method

Use the form of diagrams to present the complex concepts and incomprehensible logic, the form of illustrations with texts can show the rules and differences more intuitively and concisely, thus making up for the defects of pure text description.

3. Case analysis method

For the characteristics of city central park, collecting, sorting out and analyzing relevant design practices can, on the one hand, avoid the unrealistic situation of theory, and verify, examine and find out whether the relevant theoretical research has practical guiding significance. On the other hand, by analyzing the advantages and disadvantages of the examples, we can make the layout design of the park more reasonable and avoid unnecessary waste of resources.

4. Questionnaire survey

I carried out detailed questionnaire survey for people of different ages who have been to Zhengzhou People's Park to understand the current situation of the park site and the residents' suggestions for the improvement of the park. Only when we understand the real needs of people can we better transform and design the park.

III CASE STUDIES

3.1 Guixi Ecological park

Guixi ecological park is located in Chengdu city, Sichuan Province, China. There many similarities between Zhengzhou people’s park and Guixi ecological park :

1. Both of them are city parks located in the center of the city.

2.Guixi ecological park has an open park boundary space, which is the main design direction of my reconstruction project.

3. Both of them have water elements and waterfront space.

Fig. 3-1 The Guixi Ecological park, (Xuan Li, 2018).

The overall spatial layout of Guixi Ecological Park can be summarized as ‘one axis, two belts, six zones, and multiple nodes’ to form a central park that can be used for people to breathe with the city and regulate the rhythm of the city. The 'one axis' refers to the core ecological green axis that runs in an east-west direction. The "two belts" refer to the ecological buffer zone around the northern city and the open vitality zone of the southern city. The "six zones" refer to six theme zones:

① The Dream Theme Area is divided into functional areas from north to south, including rivers, squares, sports venues, parking lots, and lunch gardens.

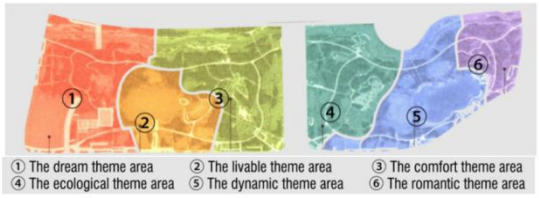
② The livable theme area mainly features the "Central Lawn" as the core attraction.

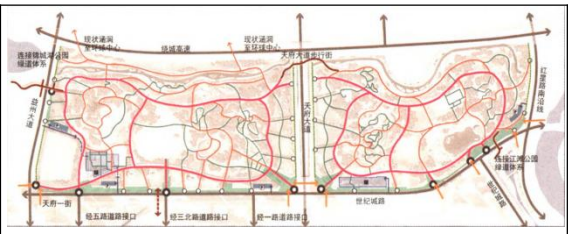
③ The comfort themed area emphasizes a multi-level landscape experience, from riverbank landscapes to mountainous dense forests, from flower paths to lawn tree formations.

④ The ecological theme area is an urban ecological garden and children's amusement science popularization area for rainwater collection demonstration.

⑤ The dynamic theme area is characterized by grassy beaches, lighting landscapes, and rich vegetation forms.

⑥ The romantic theme area is based on multi-level and high canopy tree configuration, forming an ecological dense forest effect (Xuan Li, 2018).





Overall space layout	Developed and perfect greenway system in the park

Fig. 3-2 Structure of the Guixi ecological park, (Xuan Li, 2018).

3.2 Tang Paradise

The Tang Paradise is located in Xi'an, Shaanxi Province, China. The similarities between Zhengzhou people’s park and the Tang paradise are as follows: 1. Both are city parks located in the center of the city. 2. Both are located in cities with rich historical and cultural heritage and need to highlight cultural expression in the park.

Fig. 3-3 The Tang Paradise, (Chang Xinru, 2020).

The Tang Paradise covering an area of 66 hectares, including 20 hectares of water area, was built in imitation of the imperial garden style of the Tang Dynasty in China. It is the first large-scale imperial garden cultural theme park in China to display the style of the prosperous Tang Dynasty in an all-round way. In the layout of landscape space, The Tang Paradise includes 12 theme cultural garden from the perspective of nature and social humanities, which together display the culture and art of the Tang Dynasty. The whole park adopts the landscape pattern of the south mountain and the north lake. The south side is dominated by mountains, so the layout of buildings is relatively compact. The large area of buildings along the lake in the north is relatively scattered. The Tang Paradise, which fully and meticulously displays the essence of the Tang culture.is the first theme park in China to comprehensively cover the culture of the Tang Dynasty (Chang Xinru, 2020).

Characteristic sculpture to show the culture of the Tang Dynasty.

Tree pool and square pattern.

Characteristic furnitures.

Fig. 3-4 Cultural elements in Tang Paradise, (Chang Xinru, 2020).

Ⅳ ANALYSIS

This chapter summarizes the survey and analysis results of the park from large scale to small scale, and proposes the overall planning and design strategy on this basis.

4.1 Large scale analysis

4.1.1 History

Zhengzhou People's Park was started construction in 1951 and was completed and opened in 1952. In 1951, it was determined to establish a city park on the basis of Hu Temple and Peng Temple in the middle zone of Zhengzhou city. The gardening style of Zhengzhou People's Park continues the existing traditional Chinese style in the park. The scene of the initial construction of the park is described in an article: "*drainage and planting trees and flowers, building pavilions and bridges, digging lakes and piling mountains, and adding various recreational facilities*" (Wei Shumin, 2013).

At the beginning time of the construction, due to the fact that the country is in the period of recovery, the funds provided for the park construction are limited, and the park build is only in the construction of some infrastructure, without very sophisticated landscape facilities. However, in terms of function, the park is no longer a simple sightseeing function, but a multi-functional public space integrating leisure, sports, culture and education, compared with the previous parks in China.

After the founding of the New China, the gardening elements in the People's Parks are still dominated by the traditional Chinese gardening elements, such as mountains, water, stones, plants, and garden roads, the whole park is mostly covered with traditional Chinese forms of garden buildings such as pavilions, platforms, buildings, towers, and corridors. However, unlike the traditional Chinese gardens in the past, the park is no longer a space integrating residence and sightseeing, but an open space for a large number of visitors to rest and activities, so the garden architecture cannot take a large proportion. With the diversification of park functions, a single traditional Chinese horticultural element can no longer meet the functional requirements of the park. Therefore, the People's Park has incorporated some Western horticultural elements and evolved into a mixed Chinese and Western horticultural style. The proportion of buildings in the park has been reduced, and instead of western architectural sketches such as fountains, flower racks, colonnades, towers, and pavilions, which are randomly placed everywhere in the park, such as the lotus fountain in the Park.

In the Gorky Park built in Moscow in 1928, the practice of functional zoning first appeared, and provided a scientific and rational functional zoning design method for the later parks. Generally, it

includes five zones: cultural education and public facilities area, sports facilities area, children's activity area, rest area, operation and management area.

		
The founding of New China in 1949	The Gorky Park in Moscow	The Lotus fountain in the park

Fig. 4-1. History background pictures, INT 01.

The construction of parks in China in the early 1950s began to be influenced by the Gorky Park, and phenomenon of dividing the parks' layout into different areas according to their functions appeared. For example, Zhengzhou People's Park is divided into quiet recreation area, central viewing area, cultural and sports activity area, children's recreation area, science education area and production management area.

From 1951 to 1952, Zhengzhou People's Park mobilized people to dig artificial lakes, build cement arch bridges, rockery, thatched pavilions (for tourists to rest), old pagoda tree, and simple flower houses. At this time, there are landscape facilities such as Hu Temple, arch, brick arch bridge, and goldfish pond in the park. In addition, the function of animal viewing has been added to the scope of park, and the animal viewing area has been set up. In 1952, Zhengzhou People's Park specially built a children's play area for children. The increase of activity venues can not only enrich the functionality of the park, but also attract more tourists of different ages and hobbies to play in the park.

In 1955, a concert hall was built in the Park to serve as an open-air assembly and dramatic.In 1956, Zhengzhou People's Park repaired the five glazed tile pavilions of the Peng Temple and the main hall of the Hu Temple, and built a lotus type fountain in the center of the park, surrounded by a circular pool, and built a garden road for tourists to watch the fountain. The fountain is open on Sundays and holidays, with a water column of more than 10 meters high. It's the gardening technician Zhang Hongruo specially went to Guangzhou Province to get the fountain's plan drawing. The drawing was the fountain style of Shanghai Fuxing Park at that time. The park also added some new facilities, including a wooden bridge, a large thatched pavilion and four small thatched pavilions.

In the spring of 1956, the Youth League Municipal Committee of Zhengzhou City launched the voluntary labor of the whole city's youth to dig the lake and pile up mountains on the west side of the artificial lake behind the Hu Temple. The lake water was connected with the old lake. The new island appeared in the lake, the south and north banks were piled up into a mountain. It was named "Youth Lake" by Shi Longfu, deputy mayor of Zhengzhou City at that time, which means that it was the hard work of the youth of the whole city. The soil mountain on both sides is called "Friendship Mountain" to symbolize the friendship between Soviet and China. At this time, the park construction was combined with the political and social background. The people, as the masters of the new China, participated in the park construction and became the inheritors of

traditional gardening techniques such as digging lakes and piling mountains, and the traditional gardening elements such as "mountains" and "lakes" became the witness of the new political background such as the friendly development of Sino-Soviet relations.

In terms of service facilities, in 1960, Zhengzhou People's Park officially accepted the tea house and canteen under the influence of Guangzhou Restaurant in Guangzhou province and the photo club under the influence of the service company. In 1961, a tea house was built on the west bank of the artificial lake, named "Lakeside Tea House", and the photo club was located in the Lakeside Tea House. In 1961, a canteen was set up in the east of the convenient shop to operate stir-fry food and various snacks. When it was initially opened, it was very popular with tourists. From 1963 to 1965, Zhengzhou People's Park built ornamental flower houses (i.e. flower exhibition halls).

The Great Proletarian Cultural Revolution, which took place in China from May 1966 to October 1976, was a civil unrest that was wrongly launched by leaders and exploited by counter-revolutionary groups, bringing serious disasters to the Party, the country and the people of all ethnic groups, leaving a very painful lesson. Affected by this, in August 1966, the Zhengzhou People's Park destroyed 13 distorting mirrors, as well as the handicraft mahogany palace lanterns bought from Suzhou and Shanghai during the lantern exhibition, the Flower-and-bird porcelain, the poetry flowerpots and the bonsai pots bought from Jiangxi are wrongly recognized as the products of feudalism, capitalism and revisionism. The white marble tablet in Peng Temple was destroyed. In addition, all cultural and recreational activities in the park were forced to stop and the old plays were stopped.

In 1972, Zhengzhou People's Park restored the facilities in the park, built 20 new flower beds in the park, and built a slide in the children's park. In 1975, a new boating pavilion and boating dock were built. In 1976, the original concert hall was expanded into an open-air stage, and a new botanical garden for Chinese herbal medicine was built.

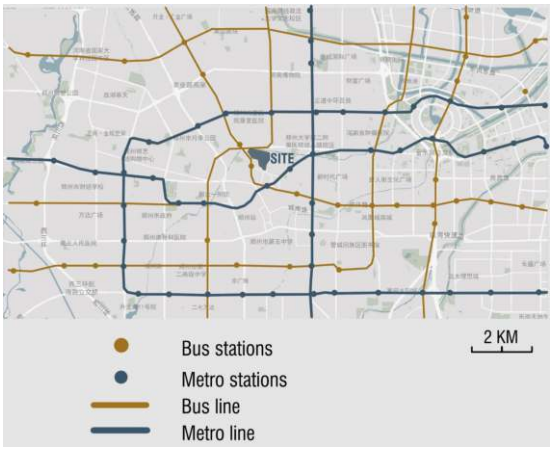
			
The children's playground in 1960s	The Youth lake	The ornamental flower house	Pleasure-boat on the lake

Fig. 4-2. History pictures of Zhengzhou People's Park, INT 01.

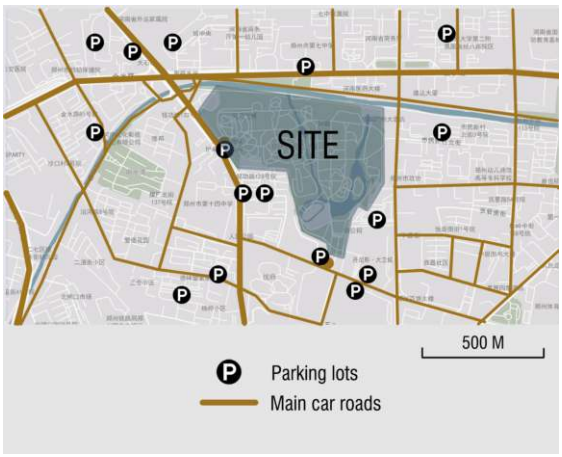
4.1.2 Traffic analysis

Because it is located in the center of the city, the traffic around Zhengzhou People's Park is very convenient. There are three subway lines and five bus lines close to it (INT-06). Residents can easily get to the park by public transport. The two main urban roads nearest to the park are

Nanyang Road in the north-south direction and Jinshui Road in the east-west direction, both of which are urban trunk roads with heavy traffic in normal times. There is a parking lot dedicated to the park at the west and south gates of the park. In addition, there are also sufficient parking areas in the business district and residential area near the park. Therefore, residents can also easily reach the park by driving.



The bus and metro lines around the park



The car roads and parking lots around the park

Fig. 4-3 External traffic analysis, Author's figure.

The Park Service Radius is the service scope determined according to the scale, type, service function，service object and other factors of the park green space. According to different types of parks. The selection of service radius values is quite different. For example, the service radius of comprehensive parks is 1000 to 3000 meters, and that of community parks and amusement parks is usually 500 meters.

The service radius of Zhengzhou People's Park is about 2000 meters, which is a 30-minute walk distance. There are no other comprehensive urban parks within two thousand meters of the park. It takes more than half an hour to walk from Zhengzhou People's Park to the nearest Zijingshan Park. Therefore, residents within two kilometers around Zhengzhou People's Park have the need to use the park, and there are nine bus stops within this range, which means the traffic is convenient.

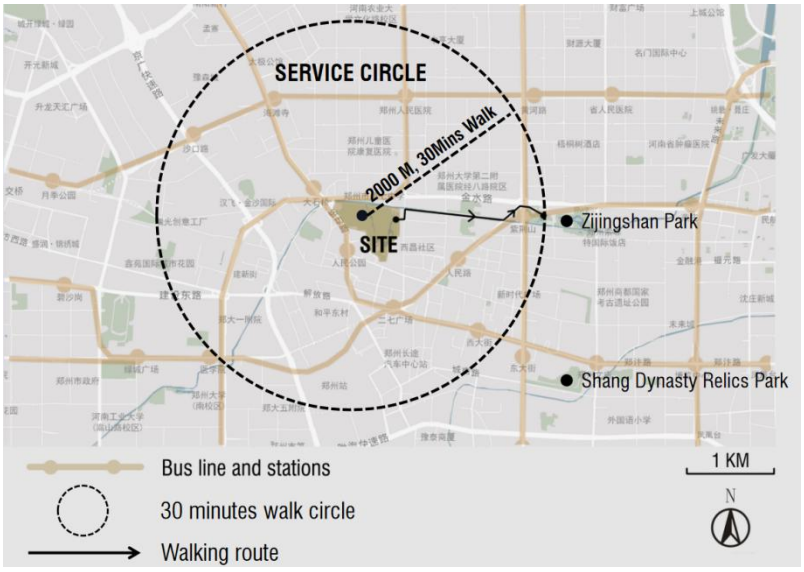
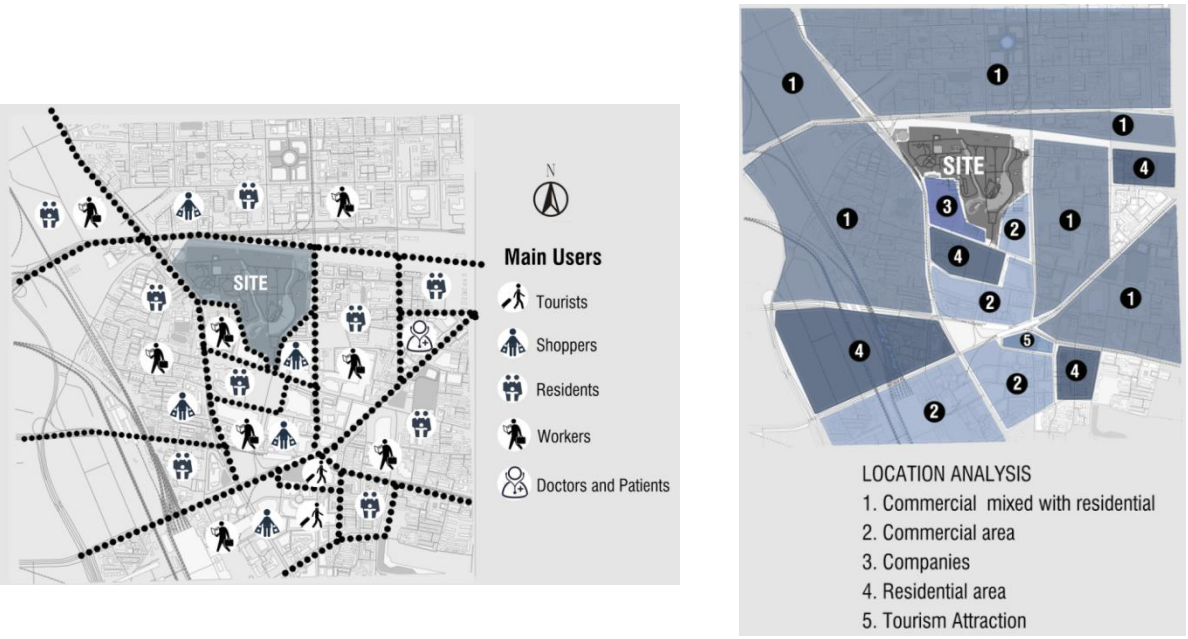


Fig. 4-4 The service circle of the park, Author's figure.

4.1.3 Users analysis

Zhengzhou People's Park is surrounded by density buildings with different functions. The north and east of the park are mainly residential mixed with commercial areas, while the west of the park is also residential mixed with commercial areas but with many companies, and the south of the park is mainly commercial and tourist areas, including the famous Centennium Moralization Customs Shopping Park with more than 100 years of history, the Zhengzhou Erqi Memorial Hall with more than 70 years of history, and the most popular shopping mall Dennis David, which is popular with young people in Zhengzhou. In addition, there are two hospitals within a distance of less than one kilometer from the park (INT-05). So the users of the park mainly include residents, tourists, shopping people, nearby staff, medical staff working in hospitals, etc.



Main users of the park

Building functions around the park

Fig. 4-5 Users analysis, Author's figure.

4.2 Small scale analysis

4.2.1 Function analysis

Currently, Zhengzhou People's Park is divided into five parts according to different functions, they are: children's play area, viewing and leisure area, cultural activity area, activity area for elders and office management area. Many scenic spots are contained within each functional area.

There are eight scenic spots within the viewing and leisure area: peony Garden, European style garden, chrysanthemum garden, autumn garden, cherry garden, yingbin mountain, peach orchard and rose garden. There are nine scenic spots within the children's play area: begonia garden, skating rink, garbage transfer station, kindergarten, bungee jumping, roller coaster, happy castle, racing track, water park. And in the cultural activity area, there are seven scenic spots:

Peng temple, flower house, bird ecological park, central square, south hill, Hu temple and fitness park. In office management area, there two different function areas: office area and warehouse. And in activity area for elders, there are four scenic spots: yiqing garden, tea house, bamboo garden, central island.In addition, there is a cruise terminal on the edge of the lake.

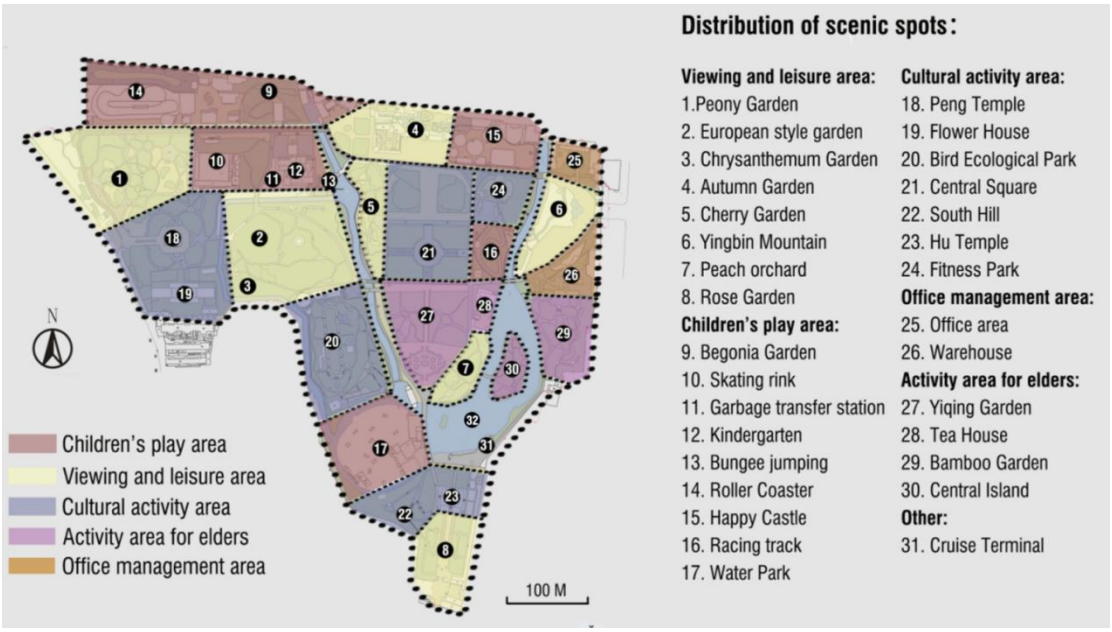


Fig. 4-6 Internal scenic spots distribution, Author's figure.

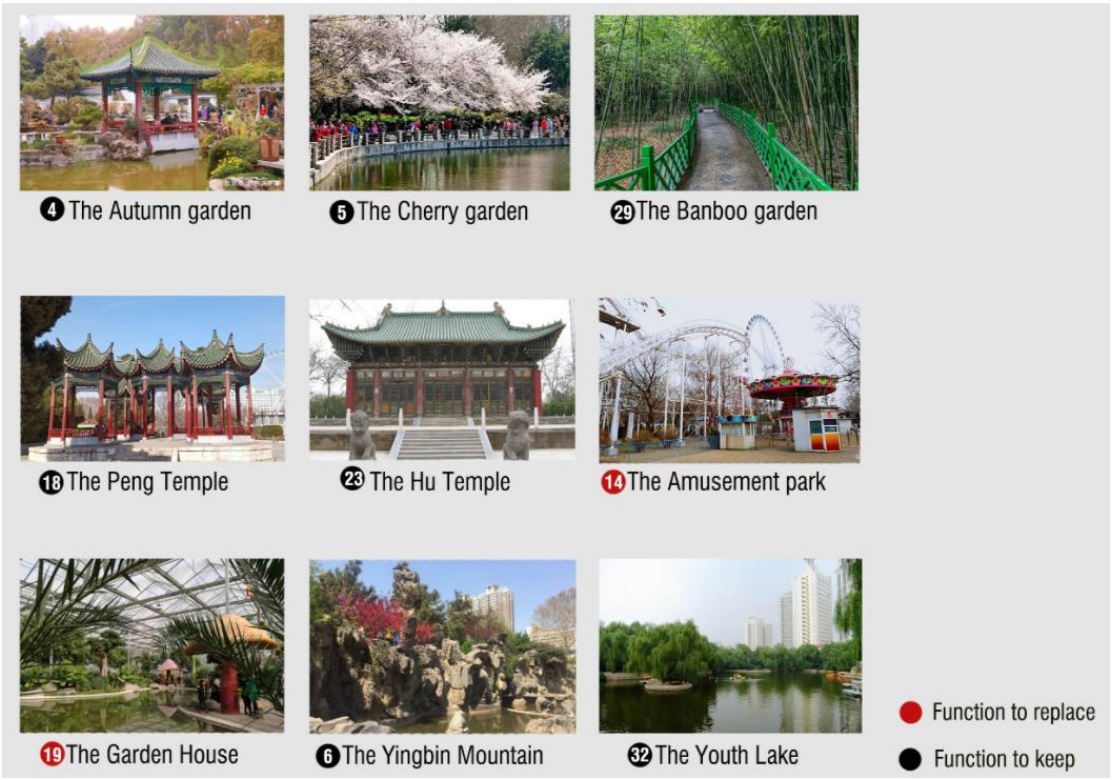


Fig. 4-7 Photos of different buildings and functions, INT 01.

4.2.2 Circulation analysis

For now, Zhengzhou People's Park has three gates: the south gate, the east gate and the west gate. The rest of the border areas are all surrounded by walls. Bicycles and cars are not allowed to enter the park. There are totally five toilets in the whole park. The roads in the whole park can be roughly divided into three grades: main roads, secondary roads and pedestrian paths. However, there are problems such as road system disorder, main roads not forming a ring, and road grades are not clear.

Fig. 4-8 The internal traffic analysis, Author's Figure.

4.2.3 Material analysis

Currently,there are three different kinds of pavement material inside the park: Cement and asphalt pavement mainly for the main road, brick and gravel pavement mainly for the playground and square.

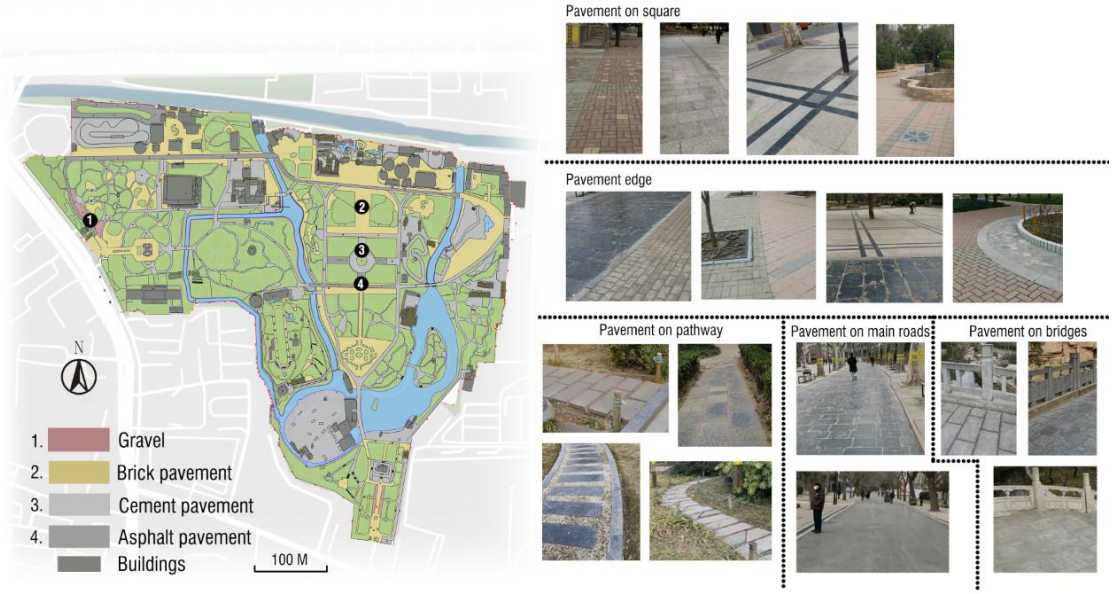


Fig. 4-9 The different kinds of material in the park, Author's figure.

4.2.4 Topography analysis

I have selected some locations inside the park with terrain elevation differences to create cross-sectional diagrams to better showcase the terrain changes of the entire park. Currently, the height different between the highest point and the lowest point is 8m, in this case we can found that that whole park is almost flat, there is no highest point for people to overlook the whole park.

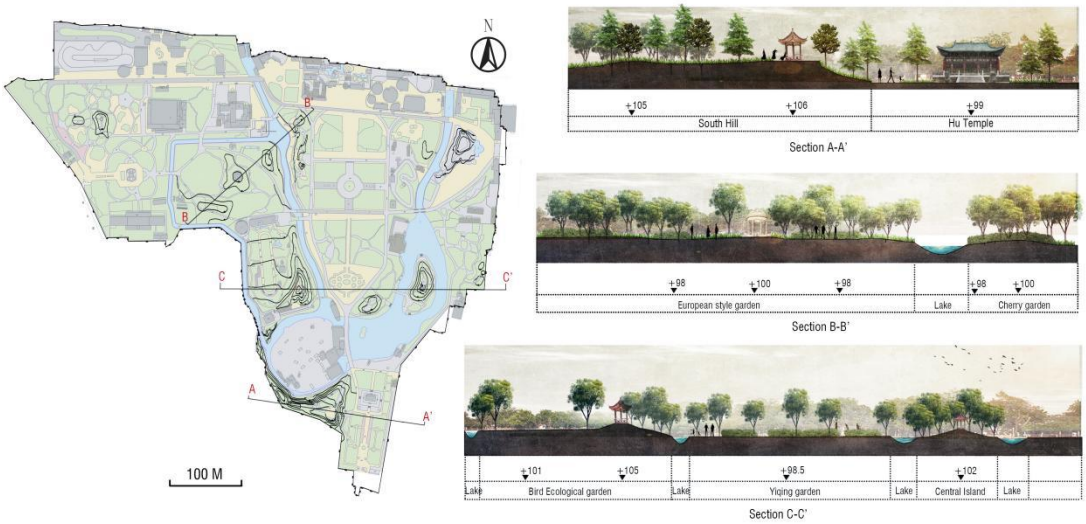


Fig. 4-10 Sections of the park, Author's figure.

4.2.5 Water management

The water system in the park is connected with one of the city river-the Jinshui River. Currently, there are five water elements in the whole park: Water surface inside the Autumn Garden, pond in front of the Yingbin Mountain, fountain in the middle square, water surface inside the bird ecological park and the biggest one- the Youth Lake. The area of the water surface in the park is 3.96 hectares, accounts for 14% of the total park area.

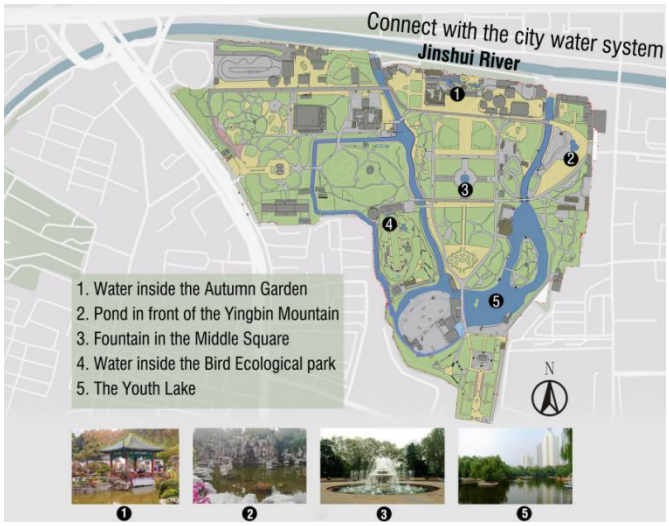


Fig. 4-11 Distribution of the water elements in the park, Author's figure.

Fig. 4-12 Different forms of river bank in the park, Photos taken by author.

Fig. 4-13 Currently water problems, Photos taken by author.

4.2.6 Vegetation analysis

Zhengzhou people's Park is a fully functional comprehensive cultural leisure park, and the overall plant landscape is natural, use large trees as fundamental tree species, paired with small trees, shrubs, ground cover species, etc (Jiao xuehui, et al, 2016). The plant configuration of the park is scientifically configured and hierarchical based on the biological characteristics of the plants; has many kinds of plants such as herbs, shrubs and vines; deciduous and evergreen plants were reasonably paired, and flowers expose from spring to winter. There are also several botanical gardens such as the bonsai garden, bamboo garden, cherry garden, European style garden and peony garden in the park. The proportion of green spaces in the entire park is 45.3%, and the proportion of water area is 14.15% while the proportion of built-in area is 40.55%.

1. Bonsai garden: established in 1983, also called "Autumn garden", which is located on the north

side of the park and covers 4200 ㎡. With over 1300 pieces of bonsai work that breed and exhibit with its unique style, participating in Chinese large-scale exhibition and winning over 300 awards, it usually takes part of the time to be open to the outside.

2. Bamboo garden: located in the quiet area on the eastern side of the park, it takes 10000 ㎡, modern garden design style, there has seven different bamboo species and the number of bamboo is more than 8000, which are planted in group.

3. Cherry garden: established in 1983, in the central area of the park, which covers 5000 ㎡, It symbolizes the friendship between the Urawa city in Japan and Zhengzhou city. On March 11, 1985, the Urawa city give 300 cherry trees to Zhengzhou City as a gift, and after successive years of plant replenishment and construction, whenever the cherry tees bloom in mid April, it's full of fragrance and beautiful scenery, always attract many tourists to watch.

4. European style garden: located in the south-west of the park, it covers 33000 ㎡ and is designed in an overall European style. The tulip flower that is exhibited at each annual tulip flower show is colorful and rich in varieties, and the park has become the pioneer of annual flower events in Zhengzhou city.

5. Peony Garden: located in the west of the park, takes 20000 square meters, 96 varieties of peony flowers in the garden more than 7000 plants, configuration of other flower species and trees and stones, the spring view is the most beautiful, and many citizens come to watch the flower every April (Liu Hongqi, et al, 2010).

In addition, there is an article titled by <Zhengzhou City Park Green Space Plant Diversity and Landscape Research> made the survey: within the entire park use 20 m × 20 m as the basic survey unit, and the diversity of trees, shrubs, and herbs inside the park was investigated. The size of the quadrat was determined based on the characteristics of the plant, with larger trees requiring larger quadrat, whereas for small herbaceous plants, the quadrats were smaller and measured at 20m × 20 m, 2 m × 2m, 1 m × 1 m for the quadrat standards of tree, shrubs, and grassy. Thirty quadrats were selected for investigation in Zhengzhou people's Park, and after statistics, there were 54 species of trees in the quadrat, with a total of 632 plants in total; 36 different species of shrubs with 6177 plants in total; 9 different species of hedges and ground cover plants, with a total area of 565 m2 plants in total (Zhang Nana, 2013).

The entire green space of the park was mainly planted by using evergreen trees as the fundamental species paired with flowers, grass and construct a large area of groves, grass garden landscape. The alee-tree inside the park was dominated by Platanus, which was shade in summer and guaranteed adequate sunlight in winter. But the park lacked the colorful spot of herbaceous flowers and could not meet the curiosity of children picking (Shi Jiaxing, 2019). In summary, there are the following problems with the plants landscape in the park:

1. Plants were not combined with the infrastructure or did not work well, there was lack of big shade in rest areas.
2. There has land bare in the park and poor landscape effect.
3. Plants are not configured hierarchically enough and lack of ecological significance.

Fig. 4-14 the green surface proportion of the park and individual trees, Author's figure.

4.3 Questionnaire

4.3.1 Summary of questionnaire results

A total of 100 questionnaires were distributed to people who have been to Zhengzhou People's Park, including people of all ages, local and foreign people in Zhengzhou, in view of the structure of tourists, the way of sightseeing and satisfaction. The results of the questionnaire are summarized.

Age	10-20	13%	20-40	61%	40-60	23%	Over 60	3%
Place of residence	Live in Zhengzhou	80%	Other city	20%				
Way of the visit	Visit alone	28%	Visit with friends	59%	Visit in group	13%		
Visit time	6am-9am	9%	9am-12noon	38%	12noon-6pm	45%	6pm-9pm	8%
Visit season	spring	31%	summer	38%	autumn	23%	winter	8%
How much time	In one hour	9%	1-2 hour	48%	2-4hours	33%	Over 4 hours	10%
Number of visits in two years	once	11%	2-5 times	25%	5-10 times	41%	Over 10 times	23%
Means of transportation	By walk	14%	By bike	25%	By public transportation	47%	By car	14%
Visit content	Take a walk	43%	Do exercise	47%	Other activities	10%		
Reason of visit	Come for the	26%	Because of the park	40%	Near to home	34%		

	reputation		scenic					

Form. 4-1. Summary table of random questionnaire survey on park tourists' visit mode, Author's figure.

Satisfaction (Full score of 10)	0-4	4-6	6-8	8-10
Parking lots adequacy	0	19%	0	79%
Facilities for elders	0	24%	42%	34%
Facilities for children	1%	22%	43%	34%
Road facilities	0	17%	52%	31%
Trash can adequacy	1%	51%	0	48%
Seating facilities	0	23%	53%	24%
Lighting facilities	0	18%	54%	28%
Entrance landscape	0	18%	45%	37%
Toilet number and quality	0	25%	38%	37%
Popular science board	1%	20%	49%	30%
Guiding Sign System	1%	21%	47%	31%
Overall cleanliness	2%	18%	53%	27%
General impression	0	9%	45%	46%

Form. 4-2.Summary of tourist satisfaction survey, Author's figure.

4.3.2 Analysis of questionnaire results

The results collected through the questionnaire survey summarized people's favorite activity locations and some specific improvement suggestions. Other activities which are collected by the survey questionnaire are as follows: picnics, go sightseeing, or taking children to play. People's favorite activity sites are as follows: Cherry Garden, Ferris wheel, Magnolia Garden, Plum Garden, Begonia Garden, sports and fitness equipment, elderly activity center, Youth Lake and Autumn Garden. Specific improvement suggestions are as follows : 1. Some people hope to build some other amusement facilities. 2. Some people hope more and more people will come to the park to play. 3. Some people hope the music playing in the park can be more fashionable. 4. Some people said it is recommended to do better in greening.

Most of the users come to the park to visit with friends, and few come alone or in groups to visit; The visit time is mostly concentrated between 9am and 6pm. Most of the tourists come to visit the park in spring and summer, and fewer tourists are coming in autumn and winter. Most of the tourists visit the park for about 2 hours. The purpose of most of the users visiting the park is just to take a walk or do exercises.

There are some public dissatisfaction and existing issues are summarized after collected the results of the questionnaire. Firstly, the design of the park and the facilities within it are not attractive enough. Secondly, the greening of the park needs to be improved. Also some advantages are summarized after collected the results of the questionnaire:

1. There are sufficient parking spaces.
2. The public satisfaction with elderly and children's activity facilities is high.
3. The infrastructure in the park basically meets the needs of people.

4. The public is highly satisfied with the park entrance landscape.
5. The public's satisfaction with the science popularization bars and directional signs in the park is good.

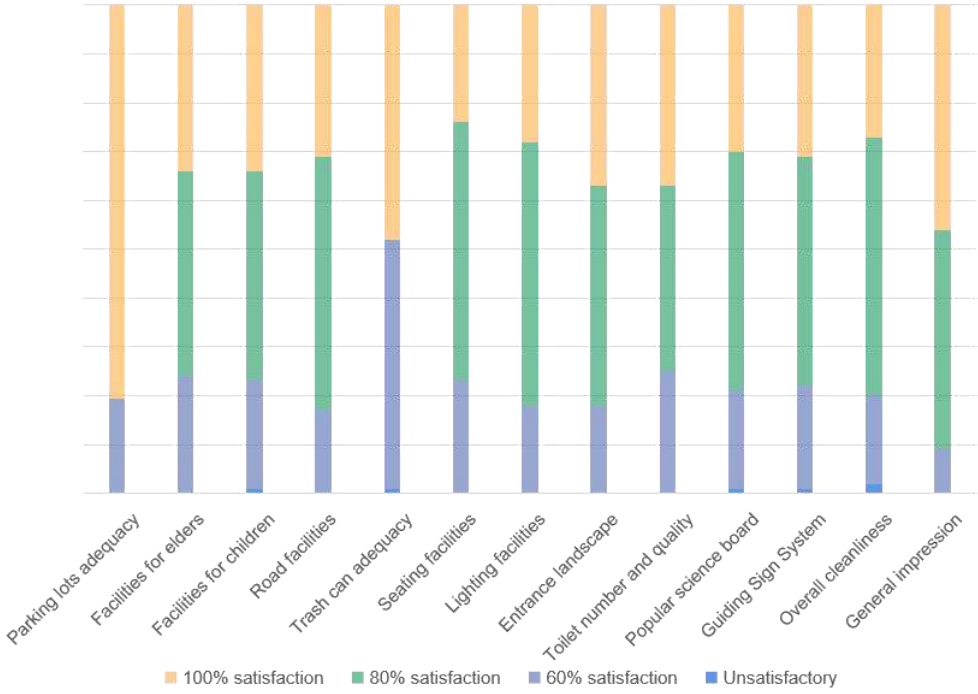


Fig. 4-15 Summary of tourist satisfaction survey, Author's figure.

4.4 Summary of the analysis

With the acceleration of urbanization and the scarcity of urban land, the park reconstruction is different from the new park planning. It is no longer the simple repair, maintenance and replacement of infrastructure, nor the leveling and reconstruction, and the disorderly development and construction. In today's era of focusing on ecological, social and cultural benefits, how to make the best use of the current landscape resources, better preserve and continue the regional context of the site, and highlight the social value of urban parks are the key issues to be solved in the renovation design.

4.4.1 Value and Conflict analysis

After the large scale analysis and the small scale analysis, there are many values of Zhengzhou People's park are summarized. The park is surrounded by good traffic condition and connected with the city water system. There is a large water surface in the park which make the scenery more interesting. There are different area with different functions in the park to serve different ages of users. There are two temples in the park which have certain cultural values. The green coverage of the park is taking a large proportion. Different kind of users will come to visit the park because of the different functions of buildings around the park. The park is near to one big shopping centre and also there are sufficient parking lots around the park.

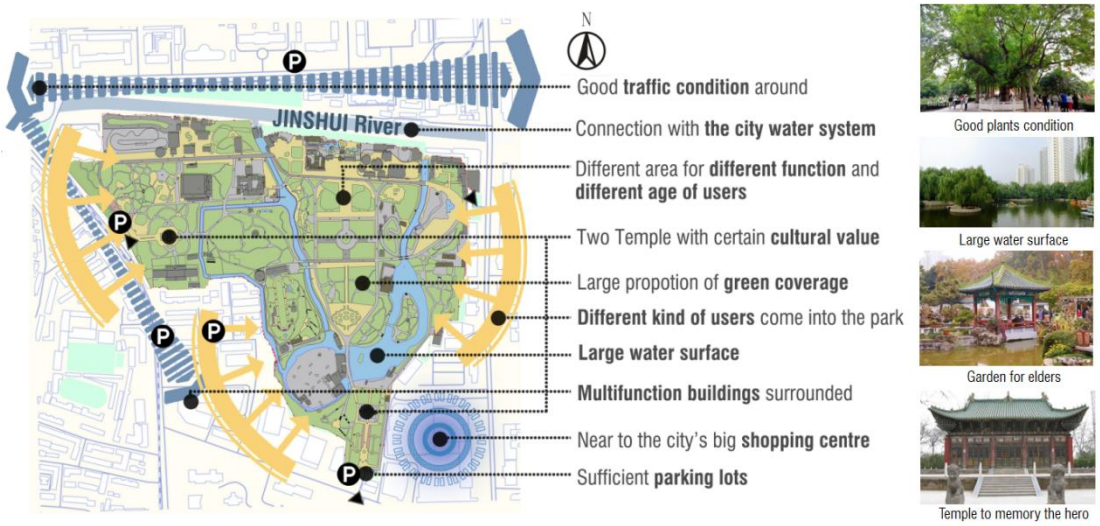


Fig. 4-16 Value analysis of the park, Author's figure.

Although there are many advantages of the park, some conflicts are founded. Firstly, The design of the park has no new idea, and many scenes are very similar and lack characteristics. Secondly, most of the facilities in the park are old, also many site are closed. Thirdly, the terrine of the park is boring. The whole park is almost flat and there is no highest point to overlooking the whole park. Fourthly, The park located in a city with rich historical and cultural heritage, the cultural expression in the landscape is insufficient (Li Yalin, 2019). Finally, The park is surrounded by walls and buildings, cannot be well integrated into the urban green space system.

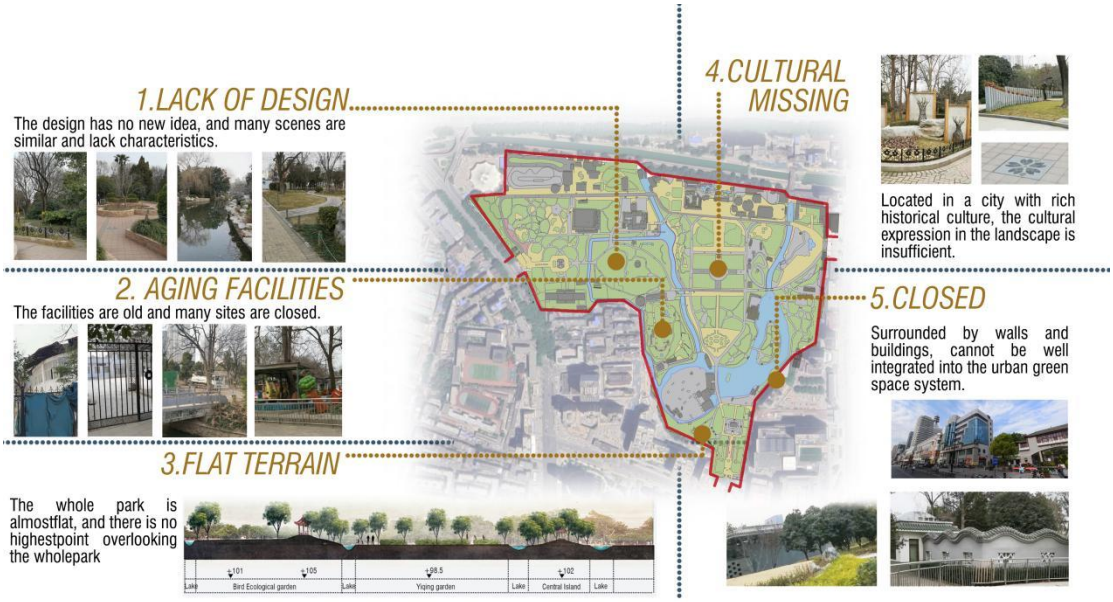


Fig. 4-17 Conflict map of the park, Author's figure.

4.4.2 SWOT analysis

Strength	Weakness
1. Different functional areas for different age groups.	1. Less and old infrastructure. 2. The lake water has poor fluidity and low

2. Large green surface and varieties plant species. 3. The landscape in the park has certain historical and cultural value. 4. Large water surface connected with the city water system.	water quality. 3. Lack of attractive, waste its popularity. 4. Amusement park and kindergarten destroy the landscape harmony.
Opportunities	**Threats**
1. Located in the city centre, occupies an important position in the city park system. 2. It has a long history and is famous in the city. 3. The traffic around the park is good and there are enough parking lots around. 4. Surrounded by multi-functional buildings which can bring different types of users.	1. Lack of funds during the Initial construction period and has not been reconstruction for many years 2. Surrounded by walls, not open enough. 3. The surrounding traffic network is complex and the road planning is disordered.

Form. 4-3 SWOT analysis, Author's figure.

V SITE DESIGN

5.1 Design strategy

In order to solve the conflicts of the park, the deign strategies are summarized as follows.

For the boundary space, firstly is to open the northern boundary, and change the amusement park into a waterfront Park, secondly is to enrich and open the west boundary space, and add service facilities for passengers. For users, add open entrance to the south of the park to facilitate the access of nearby staff and residents. For the inside design, firstly, add more functional areas with different characteristics to increase the attraction, secondly, enhance the expression of historical culture and promote regional culture, thirdly, reorder the road system. Finally, for the topography, build a small mountain in the park to create a highest point for people to overlook the whole park and also to make the terrine more interesting.

5.2 Bubble diagram

After design, the different function areas are as follows: historical review area, waterfront viewing area, children play area, central ecological area, park management area, elders activity area, ecological forest area, entrance square area.

Some new scenery spots are created to improve the attraction of the park and also to solve the existing problems of the park: waterside pavilion, memorial tower, central lawn, fitness area, circular terrace square, viewing tower, lakeside tea house. There are also many scenery spots which have special historical meaning or with important function are remained: peony garden,

Peng temple, cherry garden, park management area, Yibin mountain, bamboo garden, Hu temple and rose garden.

Fig. 5-1 Bubble diagram, Author's figure.

5.3 Master Plan

In the master plan, I create a waterfront pavilion and a cultural museum to improve the cultural expression of the park. And the layout of the garden in front of the cultural museum is to continue the axis of the Peng temple. A children play area are created on the site which is used to be the kindergarten, for the users who visit the park with their children. A fitness area is created to service for the teenagers or the people who love sports. There are two badminton courts, one basketball court, one skateboard area and one synthetic surface track on the fitness area. One circular terrace theater is created in the centre area of the park for people to gathering or performing here. One small hill is created on the southwest of the park, on the area where is used to be closed for now, for people to do exercises by climbing the hill and also for the tourists to overlook the whole park by standing on the top of the hill. A big lawn in the center area of the park is created as an ecological green area to collect the rain water and also can be used as a picnic area. The water area has decreased from 3.96ha to 2.24ha, since currently there is no water left in the channel of the southwest direction of the park. Currently, the water system in the park is an artificial lake which is lack of liquidity, after design the water system will be connected to the Jinshui river on the north side of the park, which has no flood problems.

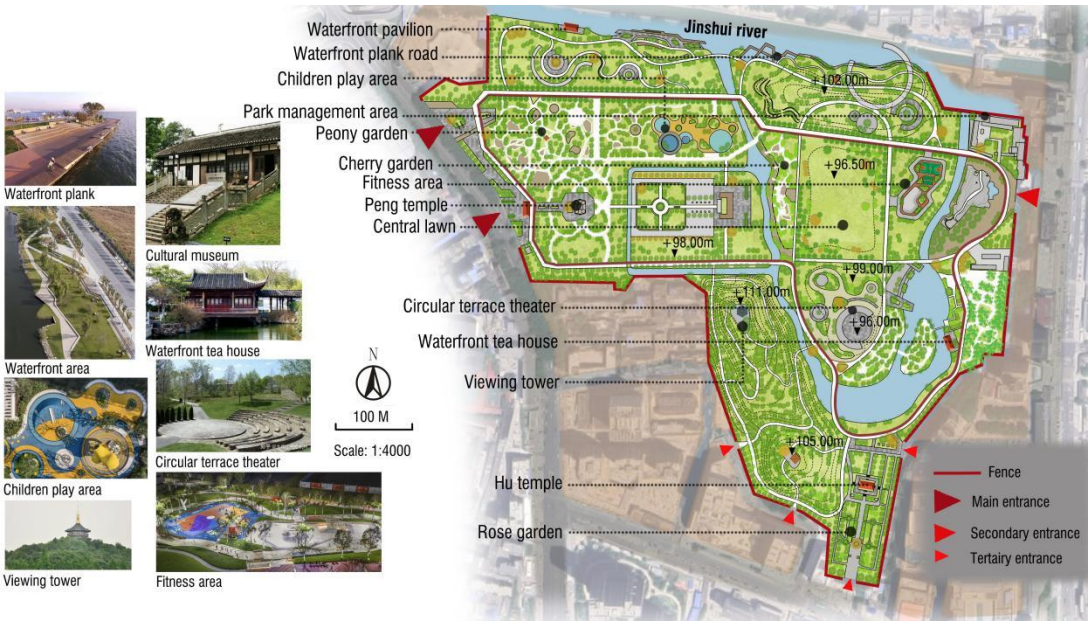


Fig. 5-2 Master plan. Author's figure.

5.4 Road System

There are three different hierarchies of the road system after design. The wide of the main road is 8m, 6m for people to walk and 2m for people to run. The length of the running road is 2200m. And the material of the main road is concrete. The wide of the secondary road is 3m, and the material is brick. The wide of the tertiary road is 1.5-2m, for three or two people to pass. There are four new entrances are created after design. Other materials of the park are rubber, gravel and wood, etc.

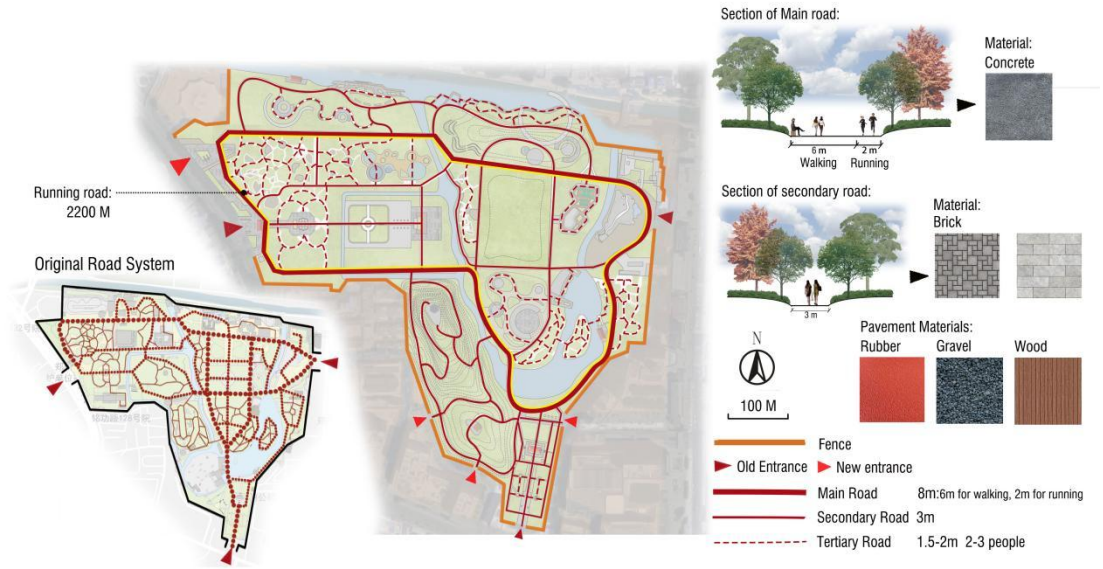


Fig. 5-3 Road system design, Author's figure.

5.5 Vegetation Design

The proportion of the green area after design is 61.6%, which is much higher than the current situation. And the proportion of built-in area is reduce to 30.4%. In the tree felling map, although I tried to keep most of the trees in the park, there are still some trees I need to remove because of the design. I will cut the trees which are old or diseased, and for the young and healthy trees I would like to transplant them to other places.

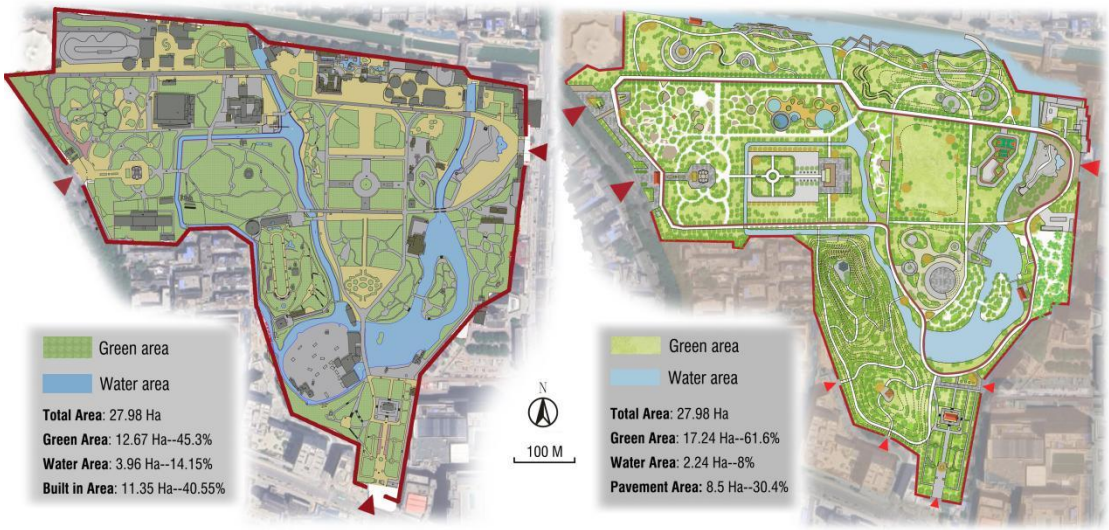


Fig. 5-4 Green space proportion, Author's figure.

Fig. 5-5 Tree felling map, Author's figure.

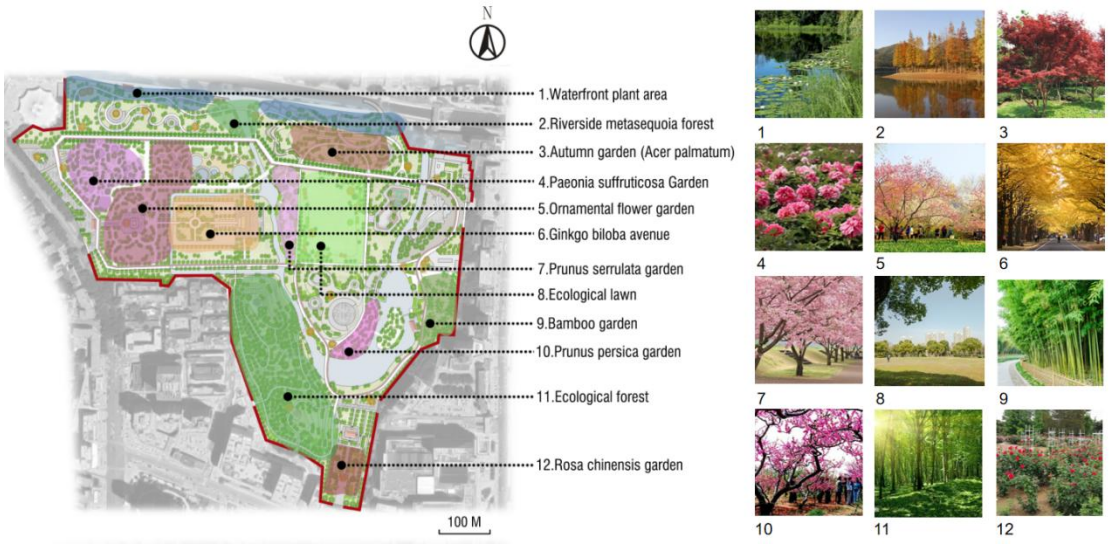


Fig. 5-6 Vegetation characteristics strategy, Author's figure.

5.6 Grading

There are some change of the topography after design, two hills are created on the area where is used to be a closed entertainment facility and a smaller scale hill. The height of the higher hill is 13m while the height of the lower hill is 7m. People can overlook the scenery of the entire park from the mountaintop. The lowest point of the whole park is 96.00m, in the middle of the circular terrace theater. There is an another hill on the waterfront area, with a elevation differece of 4m. The central area of the lawn is one meter lower than the edge area, in this situation the rain water can be collected into the meadow.

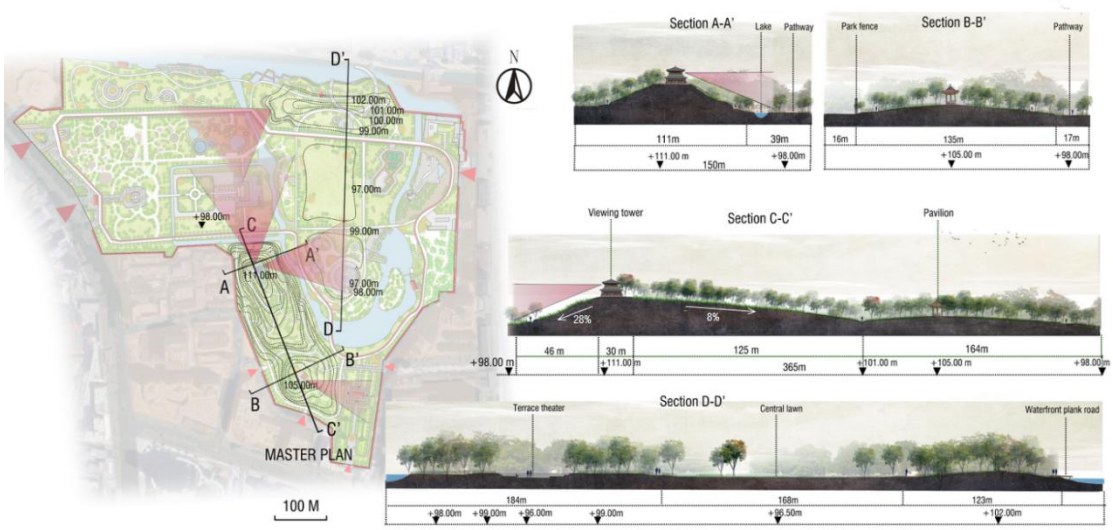


Fig. 5-7 Sections after design, Author's figure.

5.7 Overall comparison

Before design, there are huge paved area without any functions in the park, and the green space proportion is low. The road system of the park is lack of hierarchy, no possibility to link all the main points of the park. The whole park is almost closed by fence.

After design, the utilization of the land is increased by decreasing the paved area. The green space coverage has increased. The hierarchy of the road system is clear, there is a link between different functional areas of the park. New entrances are created, there is a closer relation with the city after design.

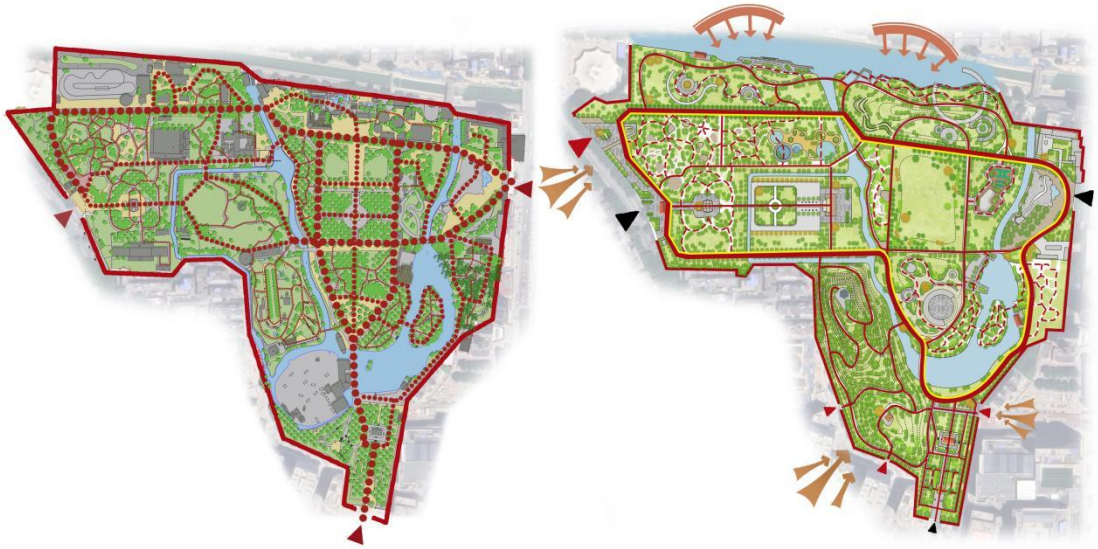


Fig. 5-8 Overall comparison, Author's figure.

5.8 Visualizations

Fig. 5-9 Visualizations of the metasequoia forest and the circular terrace theatre, Author's figure.

In order to better showcase the design effect, some visualizations have been created for important scenic spots in the park. The waterfront metasequoia forest on the north side of the park, the circular terrace theatre of the central area of the park, and also the visualizations of the children play area. And two visualizations to show the scale and effect of both the main road and

the secondary road.

Fig. 5-10 Visualizations of the children play area, Author's figure.

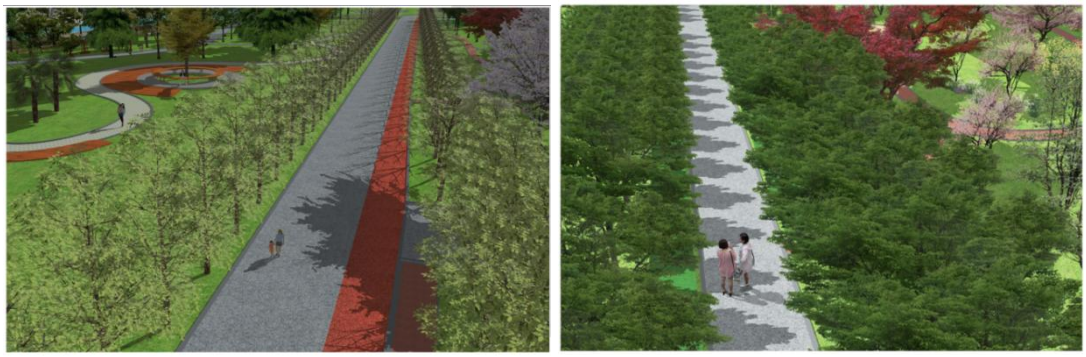


Fig. 5-11 Visualizations of the main road and the secondary road, Author's figure.

5.9 Detail plan

I choose the part which including waterfront area, ecological vegetation area and the children play area to show the more detailed plan, including material design, water management, vegetation design and the technical detail.

5.9.1 Detail master plan

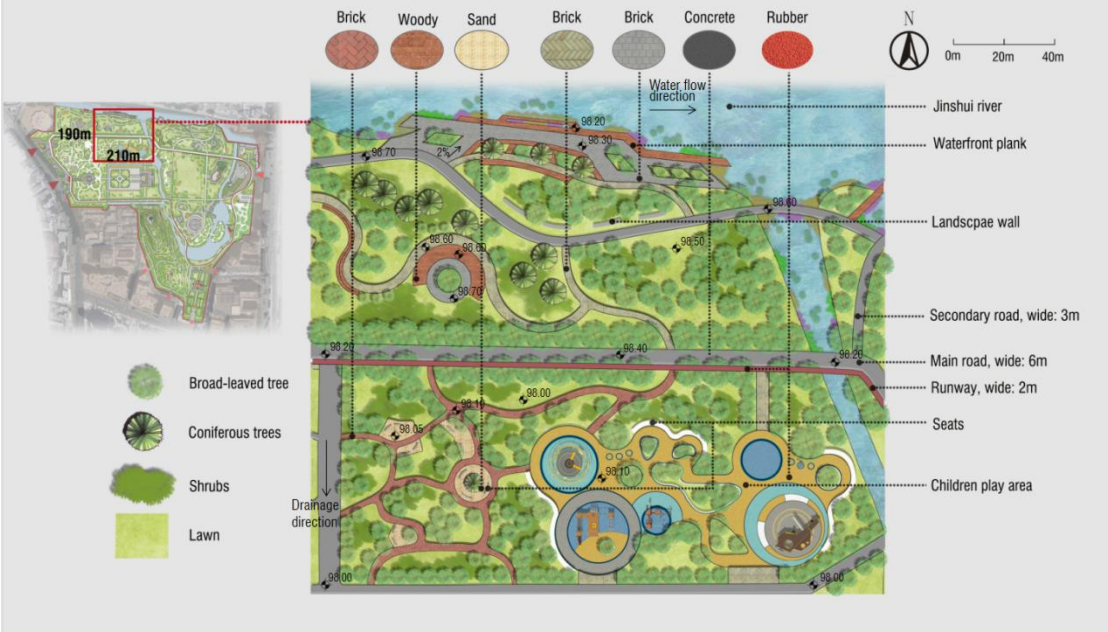


Fig. 5-12 Detail master plan, Author's figure.

A detailed master plan is created to show the materials, distribution of vegetation, water management, terrine elevation and the road system. For the material design, I would like to use concrete for the main road, brick for the secondary road, rubber for the children play area, sand for the rest area of the ecological vegetation area, wood for the waterfront plank. The wide and length of the children play area is 52m and 123m. There are seats around the children play area for parents to use.

5.9.2 Vegetation design

For the vegetation design, most of the plant species that I chose are native species. I chose sycamore as the alley-tree for the main road and camphor as the alley-tree for the secondary road. In order to enrich the seasonal color, I chose autumn leaf tree species such as ginkgo and *Acer palmatum*. In the ecological garden area, tree species such as *Cercis chinensis*, *Prunus cerasifera*, plum tree, and begonia were selected to create a beautiful garden landscape in spring. The part along the river has chosen metasequoia as the basic tree species, with ginkgo interspersed to make the plant landscape more colorful.

The plant species are as follows: *Magnolia grandiflora, Podocarpus macrophyllus, Cinnamomum camphor, Salix alba, Ginkgo biloba, Metasequoia glyptostroboides, Trachycarpus fortunei, Cercis chinensis bunge, Cedrus deodara, Platanus x acerifolia, Osmanthus, Prunus cerasifera 'Atropurpurea', Acer palmatum, Chimonanthus praecox and Malus halliana Koehne*.

To protect the riverbank embankment from rainwater and river erosion, Improving ornamental value and aesthetics, as well as to purify water quality and improve water clarity, I chose some

aquatic species to plant on the river bank. I chose different colors of aquatic plants to enrich the seasonal colors. The aquatic plant species are as follows: *Nymphaea alba, Phragmites australis, Pontederia cordata and Acorus calamus*. Otherwise, I chose fatsia japonica, euonymus fortunei, rosa chinensis and hosta plantaginea as the ground cover species to enrich the plant landscape hierarchy.

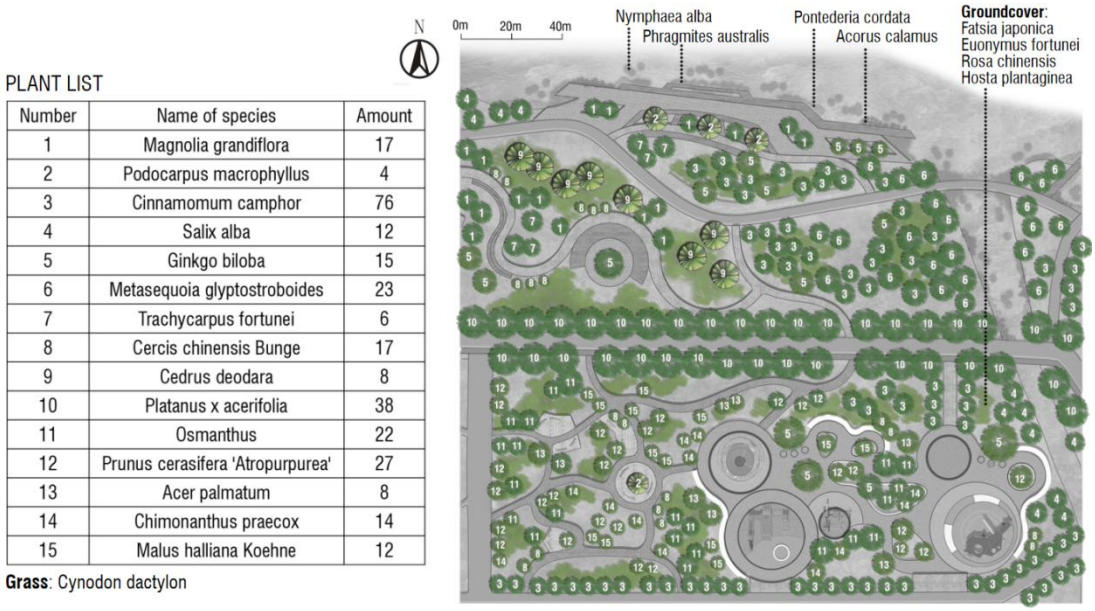


Fig. 5-13 Detail vegetation design, Author's figure.

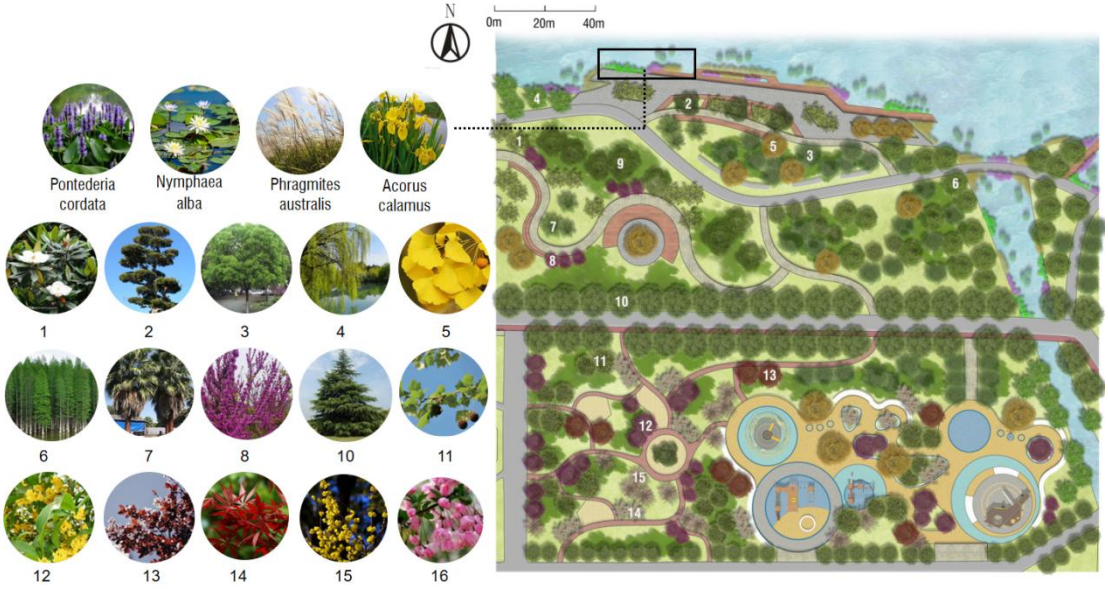


Fig. 5-14 Detail vegetation characteristic strategy, Author's figure.

Otherwise, a more detailed vegetation plan was created to show the shrubs including perennials and annuals species, the name of the species are as follows: *Ligustrum ovalifolium 'Argenteum', Spiraea japonica, Aster novae-angliae, Juniperus squamata 'blue carpet', Yucca filamentosa, Rudbeckia laciniata, Hakonechloa macro 'Aureola', Stachys byzantina, Miscanthus sinensis 'Morning Light', Zinnia angustifolia, Lavandula angustifolia, Helictotrichon sempervirens, Fatsia japonica, Rosa chinensis* and *Oxalis corymbosa*. The color, position and amount of the plants are

shown on the diagram.

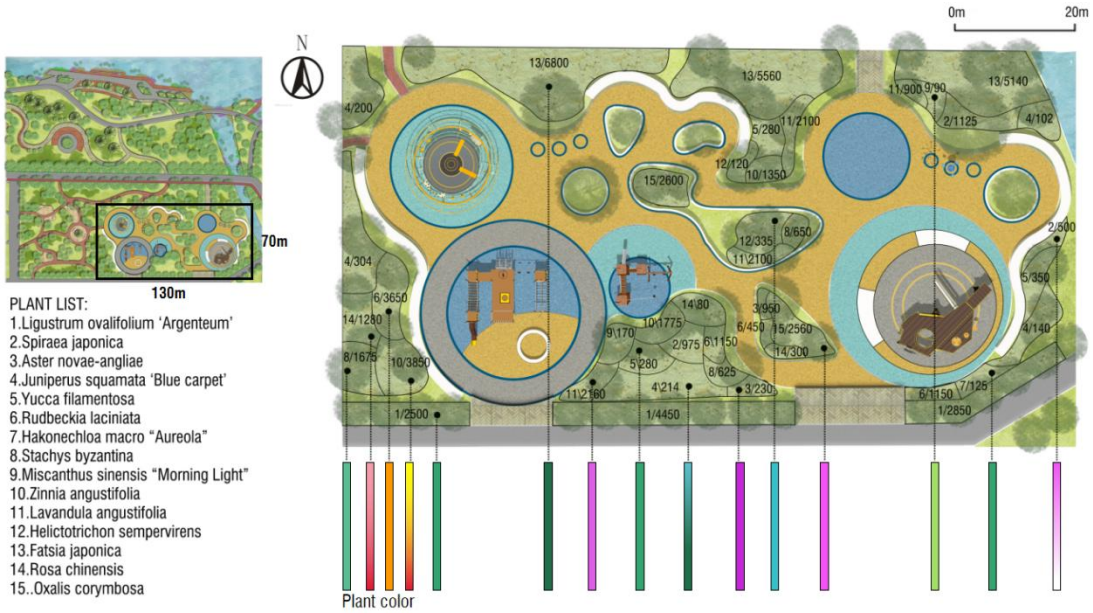


Fig. 5-15 Detail vegetation design of children play area, Author's figure.

5.9.3 Technical detail

For the technical detail, I choose the bench around the tree pool on the children play area, to show the material and the connection between the seat and the tree pool. The terrine elevation is shown on the map to show the water drainage direc

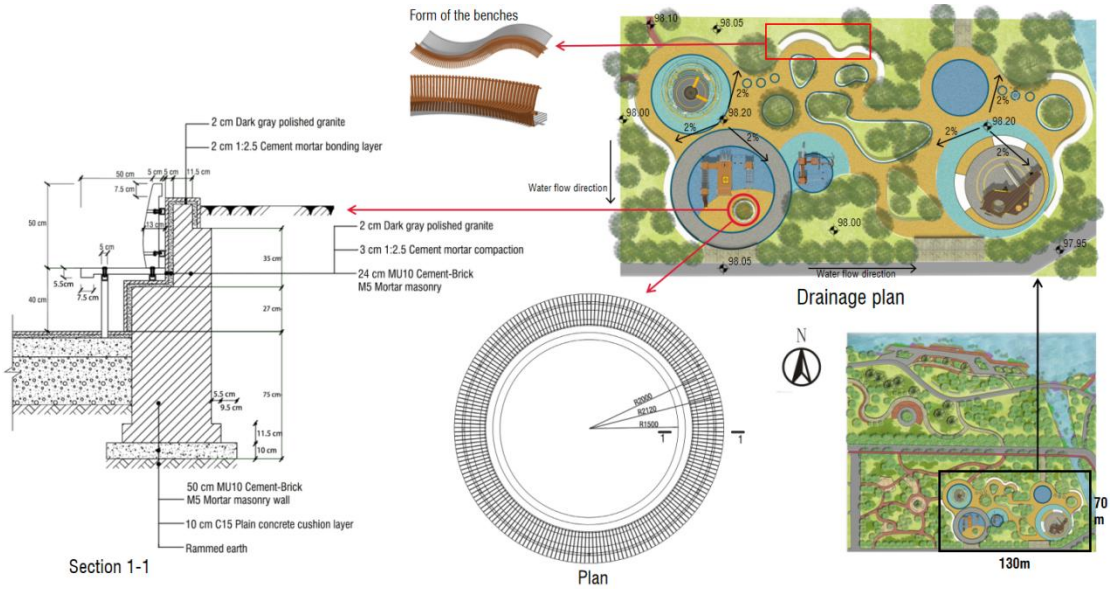


Fig 5-16 Technical detail, Author's figure.

5.9.4 Visualizations

Some visualization were created to show the size and the feeling of the children play area, as well as the ecological vegetation area.

Fig. 5-17 Detail visualizations of children play area, Author's figure.

Fig. 5-18 Visualizations of the ecological vegetation area, Author's figure.

VI SUMMARRY

The development of urban parks is a continuous metabolic process. Due to historical, natural, and human factors, the various components of urban parks themselves or each other cause functional imbalance, deterioration, overloaded operation, overall landscape deterioration, and even some outdated facilities to be destroyed. Designers and users need to constantly adjust, repair, improve, update, or transform them to restore their normal performance. At present, the planning and design of the renovation of old urban parks in China is a complex task, involving a wide range of content and coverage. The renovation of old parks is influenced by a certain period of time, and its renovation is not equivalent to the general construction of new parks. Therefore, it has the characteristics of complexity, periodicity, and comprehensiveness. The paper analyzes the current situation and takes the design methods of urban park renovation as the research topic to conduct practical research on park renovation design.

The paper sorts out the research scope, purpose, significance, methods, background, and relevant theoretical research status of the topic. Firstly, by analyzing and understanding the current situation of Zhengzhou People's Park, propose the problems that currently exist on the site:

1. The design of the park has no new idea, and many scenes are very similar and lack characteristics.
2. Most of the facilities in the park are old, also many site are closed.
3. The terrine of the park is boring. The whole park is almost flat and there is no highest point to overlooking the whole park.
4. The park located in a city with rich historical and cultural heritage, the cultural expression in the landscape is insufficient.
5. The park is surrounded by walls and buildings, cannot be well integrated into the urban green space system.

Secondly, by analyzing two classic schemes with similarities to the site, I learned the target direction and avoidance of misunderstandings in the process of urban park reconstruction design. Thirdly, I proposed design strategies were proposed to effectively solve the current problems of the park and enhance its attractiveness.

1. For the boundary space, firstly is to open the northern boundary, and change the amusement park into a waterfront Park, secondly is to enrich and open the west boundary space, and add service facilities for passengers.
2. For users, add open entrance to the south of the park to facilitate the access of nearby staff and residents.
3. For the inside design, firstly, add more functional areas with different characteristics to increase the attraction, secondly, enhance the expression of historical culture and promote regional culture, thirdly, reorder the road system.
4. For the topography, build a small mountain in the park to create a highest point for people to overlook the whole park and also to make the terrine more interesting.

However, during the process of the project, I could not get all the information and data which is needed for an in deep design. Despite of that I tried to give relevant directions and future imagination for the park.

Appendix

List of Figures

List of forms

Survey questionnaire questions

1. Your age: 15-30\ 30-45\ 45-60\ 60-80
2. Typical travel method: visit alone\ visit in group\ visit with friends
3. Typical play time: 6:00 am-9:00 am\ 9:00 am-12:00 am\ 12:00 am-18:00pm\ 18:00 pm-22:00 pm
4. The usual season for playing: spring\ summer\ autumn\ winter
5. Travel detention time: 1-2 hours\ 2-4 hours\ more than 4 hours\ within 1 hour
6. Visits in the past two years: once\ 2-5 times\ 5-10 times\ more than 10 times
7. Transportation to the park: driving\ walking\ cycling\ public transportation
8. Activity content: take a walk\ doing exercises\ other specific activities:
9. Reasons for visiting to the park: because of the popularity\ because of the attractive scenic spots\ near to home

Satisfaction with park facilities: 0-4\4-6\6-8\8-10

1. Elderly activity facilities
2. Children's activity facilities
3. Road system
4. Other infrastructure of the park (such as trash can, seats, etc.)
5. Park gates and entrance landscape
6. Toilet
7. Science popularization column
8. Guidance signs
9. Staff service attitude
10. Staff efficiency
11. Overall cleanliness status
12. Favorite activity area

Overall impression of the park: poor\ generally good\ very satisfied

Other specific suggestions:

References

Bibiliography

1. Chang Xinru, Tang Paradise: Cultural Expression of Landscape Space, Shaanxi Normal University, Xian 2020.

2. He Chenyu, Baoding Riverside Park Renovation Design, Jingdezhen Ceramic University, Jingdezhen 2021.

3. Jiao Xuehui, Sun Yining, Zhou Xiaojuan, Liu Jie, Investigation and analysis of plant allocation in parks in zhengzhou, Bulletin of Agricultural Science and Technology, (2016-02), pp 229-232.

4. Li Yalin, Expressions of Regional Culture in Urban Park Landscape Design--Take the Renovation Design of Zhengzhou People's Park as an Example, Jingdezhen Ceramic University, Jingdezhen 2019.

5. Liu Hongqi, Ji Yan, Green Pearl Shining Flower City——Record of the development of Zhengzhou People's Park, Policy Research & Exploration, (2010-12), pp 84-87.

6. Liu Ping, Construction Style, Design Defects and Rectification Scheme of Zhengzhou People's Park,Beauty & Times, (2013-06), pp 72-74.

7. Shi Jiaxing, Renovation Planning and Design of Zhengzhou People's Park under the Concept of Child Friendship, Henan Agricultural University, Zhengzhou 2019.

8. Wang Nannan, The Historical Development of People’s Parks in New China, Huazhong University of Science and Technology, Wuhan 2016.

9. Wei Shumin, Research Report on Zhengzhou People's Park, Henan Building Materials, (2013-03), pp 167-170.

10. Xuan Li, Xu Siwei, Central Park Design Of Gaoxin District, Chengdu, Planners, (2018-08), pp 138-145.

11. Zhang Nana, Zhengzhou City Park Green Space Plant Diversity and Landscape Research, Northwest A&F University, Xianyang 2013.

12. Zhang Yue, Hu Jianzhong, Tang Liying, Study on the Open Landscape of Urban Comprehensive Park Boundary Space, Art Education Research, (2019-14), pp 58-59.

13. Zhuang Chenhui, City park, China Forestry Publishing House, Beijing 2009.

Website

INT-01: Baidu Baike, 2023
Available:https://baike.baidu.com/item/%E5%9F%8E%E5%B8%82%E5%85%AC%E5%9B%AD/3098193?fr=aladdin (Last access on 24.02.2023)

INT-02: High Quality Promotion of Park City Construction, China Economic Net, 2023.
Available: http://www.ce.cn/ (Last accessed on 11.01.2023)

INT-03: Zhengzhou City, Baidu Baike, 2023.
Available:https://baike.baidu.com/item/%E9%83%91%E5%B7%9E%E5%B8%82/2439317?fr=aladdin (Last access on 08.11.2022)

INT-04: Zhengzhou People's park, Zhengzhou Municipal People's Government, 2023.
Available: www.zhengzhou.gov.cn (Last access on 28.11.2022)

DECLARATION

on authenticity and public assess of final essay/thesis/mater's thesis/portfolio[1]

Student's name: Li Ziying

Student's Neptun ID: MZGXL1

Title of the document: Urban Park Reconstruction Design——Zhengzhou People's Park

Year of publication: 2023

Department: Garden And Open Space Design

I declare that the submitted final ~~essay/thesis~~/master's thesis/~~portfolio~~[2] is my own, original individual creation. Any parts taken from an another author's work are clearly marked, and listed in the table of contents.

If the statements above are not true, I acknowledge that the Final examination board excludes me from participation in the final exam, and I am only allowed to take final exam if I submit another final ~~essay/thesis~~/master's thesis/~~portfolio~~.

Viewing and printing my submitted work in a PDF format is permitted. However, the modification of my submitted work shall not be permitted.

I acknowledge that the rules on Intellectual Property Management of Hungarian University of Agriculture and Life Sciences shall apply to my work as an intellectulal property.

I acknowledge that the electric version of my work is uploaded to the repository sytem of the Hungarian University of Agriculture and Life Sciences.

Place and date: 2023 year 05 month 09 day

Li Ziying.

Student's signature

[1]Please select the one that applies, and delete the other types.
[2]Please select the one that applies, and delete the other types.

STATEMENT ON CONSULTATION PRACTICES

As a supervisor of Li Ziying (Student's name) MZGXL1 (Student's NEPTUN ID), I here declare that the final master's thesis[1] has been reviewed by me, the student was informed about the requirements of literary sources management and its legal and ethical rules.

I recommend/don't recommend[2] the final essay/thesis/master's thesis/portfolio to be defended in a final exam.

The document contains state secrets or professional secrets: yes no*[3]

Place and date: 2023 year 05 month 02 day

Internal supervisor

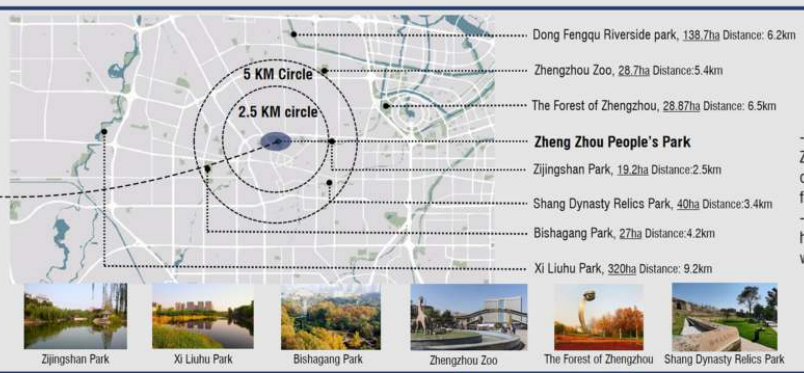
[1] Please select applicable and delete non-applicable.
[2] Please underline applicable.
[3] Please underline applicable.

URBAN PARK RECONSTRUCTION DESIGN
——ZHENGZHOU PEOPLE'S PARK

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES
MASTER OF ARTS IN LANDSCAPE ARCHITECTURE AND GARDEN ART
AUTHOR: LI ZIYING
ADVISOR: DR. SÁROSPATAKI MÁTÉ

01 ANALYSIS
Large scale analysis

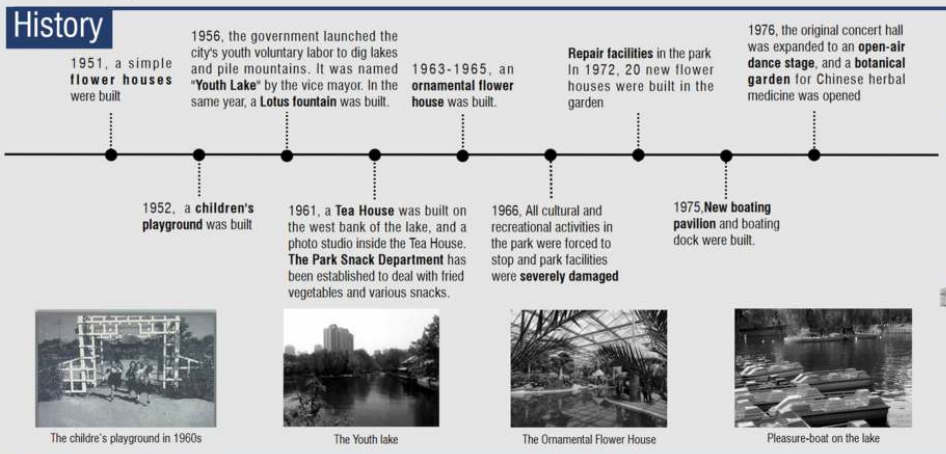
Location

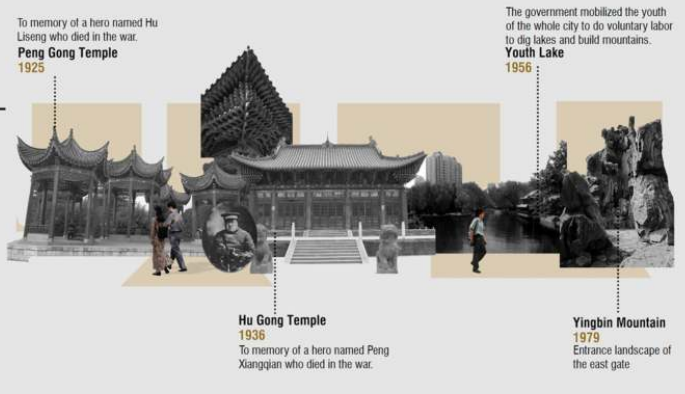


-Located in the middle of the Zhengzhou city, surrounded by density buildings with different functions.
-The park covers an area of 27.98 hectares. Among them, the waterarea is 3.96 hectares.

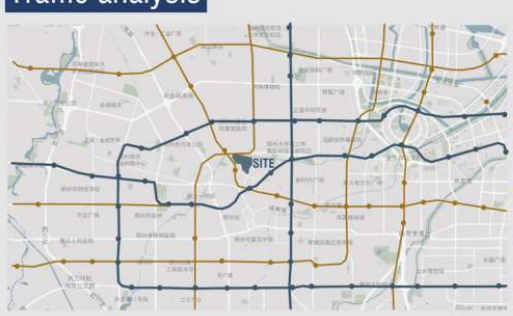
-The park is the largest comprehensive park in Zhengzhou and thefirst comprehensive urban park built in Zhengzhou after the founding of New China.
-Zhengzhou People's Park was started construction in 1951 andwas completed and opened in 1952

History





Traffic analysis



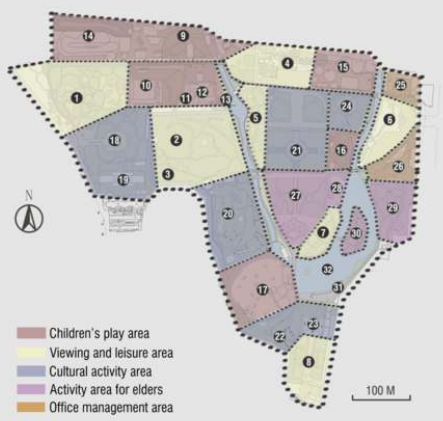
The Park Service Radius is the service scope determined according to the scale, type, service function, service object and other factors of the park green space.

According to different types of parks, the selection of service radius values is quite different. For example, the service radius of **comprehensive parks** is **1000~3000 meters**, and that of community parks and amusement parks is usually 500 meters.

Small scale analysis

Function

Photos of different function of buildings and gardens

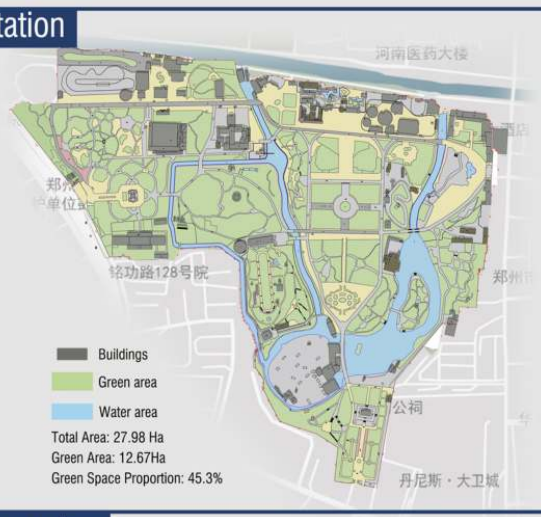


Distribution of scenic spots:

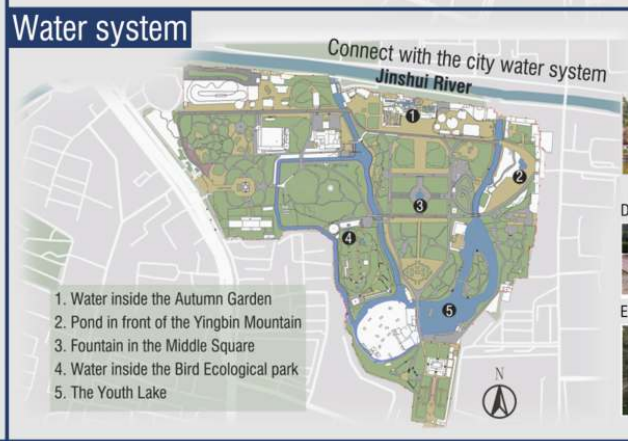
Viewing and leisure area:	**Cultural activity area:**
1.Peony Garden	18. Peng Temple
2. European style garden	19. Flower House
3. Chrysanthemum Garden	20. Bird Ecological Park
4. Autumn Garden	21. Central Square
5. Cherry Garden	22. South Hill
6. Yingbin Mountain	23. Hu Temple
7. Peach orchard	24. Fitness Park
8. Rose Garden	**Office management area:**
Children's play area:	25. Office area
9. Begonia Garden	26. Warehouse
10. Skating rink	**Activity area for elders:**
11. Garbage transfer station	27. Yiqing Garden
12. Kindergarten	28. Tea House
13. Bungee jumping	29. Bamboo Garden
14. Roller Coaster	30. Central Island
15. Happy Castle	**Other:**
16. Racing track	31. Cruise Terminal
17. Water Park	

Circulation

Vegetation



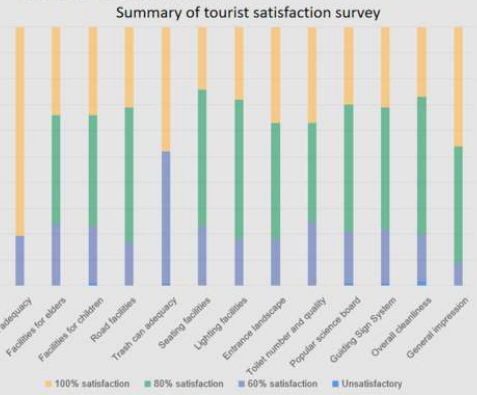
Water system



User analysis

A total of 100 questionnaires were distributed to people who have been to Zhengzhou People's Park, in view of the structure of tourists, the way of sightseeing and satisfaction. The results of the questionnaire are summarized.

Summary of tourist satisfaction survey



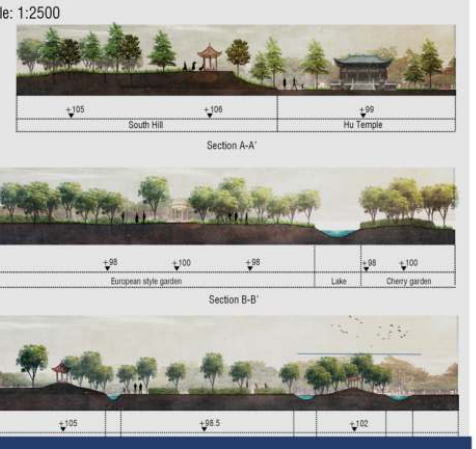
Types of tourists and ways of sightseeing

Age	10-20	13%	20-40	61%	40-60	23%	Over 60	3%
Place of residence	Live in Zhengzhou	80%	Other city	20%			
Way of the visit	Visit alone	28%	Visit with friends	59%	Visit in group	13%		
Visit time	6am-9am	9%	9am-12noon	38%	12noon-6pm	45%	6pm-9pm	8%
Visit season	spring	31%	summer	38%	autumn	23%	winter	8%
How much time	In one hour	9%	1-2 hour	48%	2-4hours	33%	Over 4 hours	10%
Number of visits in two years	once	11%	2-5 times	25%	5-10 times	41%	Over 10 times	23%
Means of transportation	By walk	14%	By bike	25%	By public transportation	47%	By car	14%
Visit content	Take a walk	43%	Do exercise	47%	Other activities	10%		
Reason of visit	Come for the reputation	26%	Because of the park scenic	40%	Near to home	34%		

LOCATION ANALYSIS
1. Commercial mixed with residential
2. Commercial area
3. Companies
4. Residential area
5. Tourism Attraction

Topography

Scetion scale: 1:2500

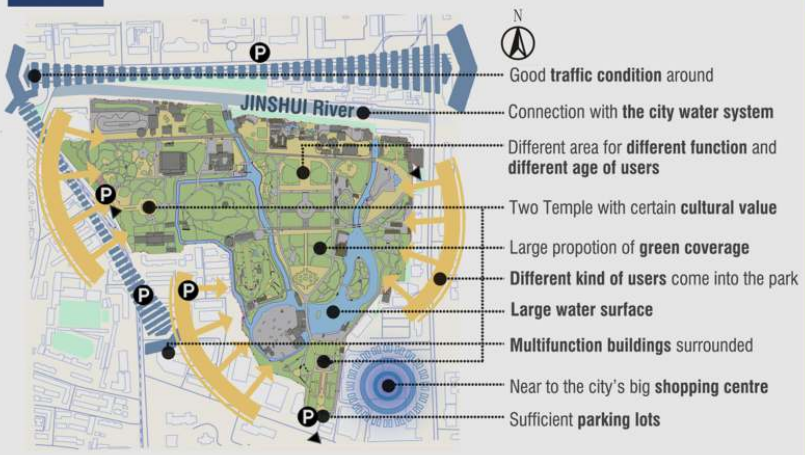


URBAN PARK RECONSTRUCTION DESIGN
——ZHENGZHOU PEOPLE'S PARK

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES
MASTER OF ARTS IN LANDSCAPE ARCHITECTURE AND GARDEN ART
AUTHOR: LI ZIYING
ADVISOR: DR. SÁROSPATAKI MÁTÉ

Summary of the analysis

Values




Good plants condition


Large water surface


Garden for elders


Temple to memory the hero

Conflicts

1.LACK OF DESIGN

The design has no new idea, and many scenes are similar and lack characteristics.

2. AGING FACILITIES

The facilities are old and many sites are closed.

3.FLAT TERRAIN

The whole park is almostflat, and there is no highestpoint overlooking the wholepark

4.CULTURAL MISSING

Located in a city with rich historical culture, the cultural expression in the landscape is insufficient.

5.CLOSED

Surrounded by walls and buildings, cannot be well integrated into the urban green space system.

SWOT Analysis

STRENGTHS:

1. **Different functional areas** for different age groups.
2. **Large green surface** and varieties plant species.
3. The landscape in the park has certain **historical and cultural value**.
4. **Large water surface** connected with the city water system.

WEAKNESS:

1. The design is **lack characteristics**, and many scenes are similar.
2. **Insufficient cultural expression**.
3. **Aging facilities** and many sites are closed.
4. The whole park is almost flat, and there is **no highest point** to overlooking the whole park.

OPPORTUNITIES:

1. Located in the **city centre**, occupies an important position in the city park system.
2. It has a **long history** and is **famous** in the city.
3. **Good traffic** condition and enough parking lots around.
4. Multi-functional buildings around can bring **different types of users**.

THREATS:

1. **Lack of funds** during the Initial construction period and **has not been reconstruction** for many years
2. Surrounded by walls and buildings, **not open enough.**
3. The **surrounding traffic network is complex** and the road planning is disordered.

Tree felling

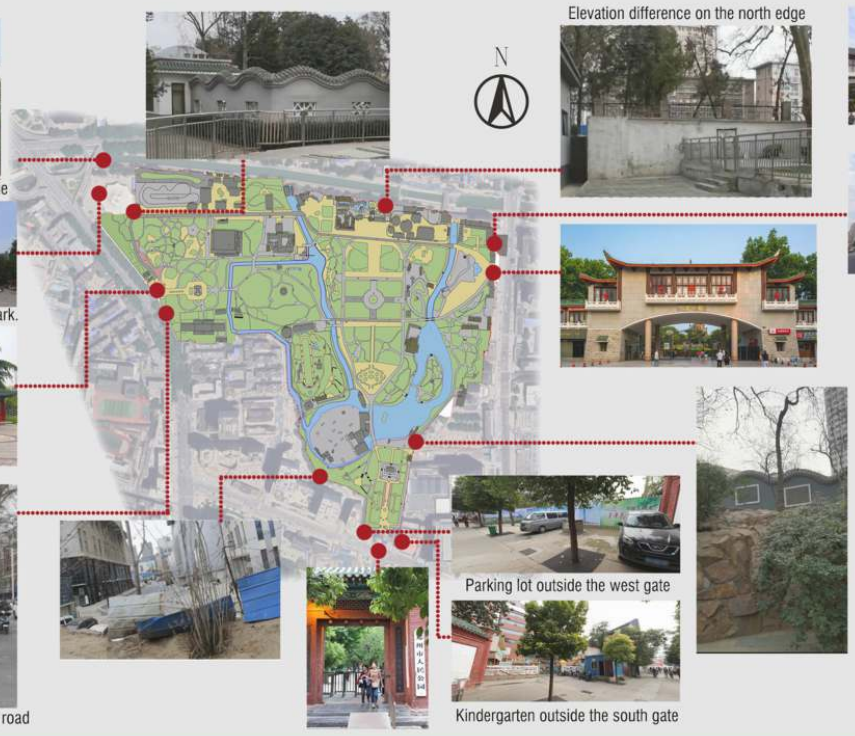
02 DESIGN STRATEGY

Open-up strategy


Scenery of the Jinshui river on both side


Other municipal institutions adjoin the park.


Space between park and city road



Elevation difference on the north edge


Buildings outside the east gate

Parking lot outside the west gate

Kindergarten outside the south gate

1.The park is almost completely surrounded by walls and fences,and the scenery in the park cannot be seen from the outside. The park is not well integrated into the urban green space system.

2.The landscape of the park boundary space is monotonous and does not play an excessive role from the city to the park.

3. The park is completely separated from the urban river in the north and has no connection.

4.On the north edge of the park, the outside is 4m higher than the inside.

Design strategy

--Open the northern boundary , change the amusement park into a ***Waterfront Park***.

--***Enrich and open the west boundary space***, add service facilities for passers-by.

BOUNDARY SPACE

--Add ***open entrance*** to the south of the park to facilitate the access of nearby staff and residents.

USERS

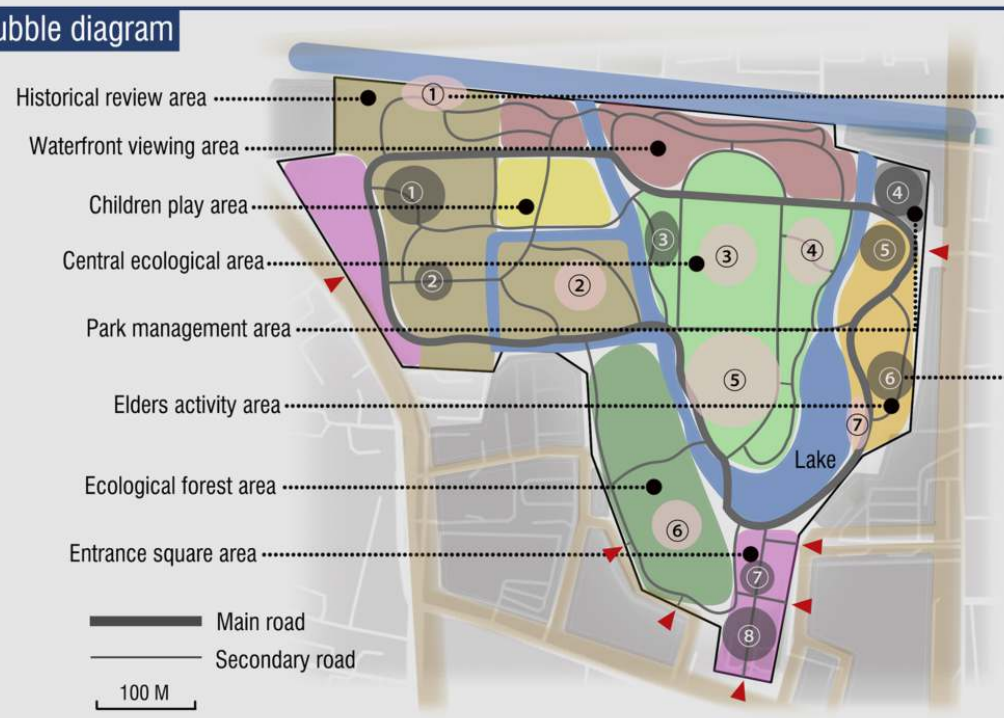
--Add ***functional areas*** with different characteristics to increase the attraction.
--Enhance the expression of ***historical culture*** and promote regional culture.
--Reorder the ***road system***.

INSIDE DESIGN

--***Build mountain*** in the park to enrich the terrain.

TOPOGRAPHY

Bubble diagram

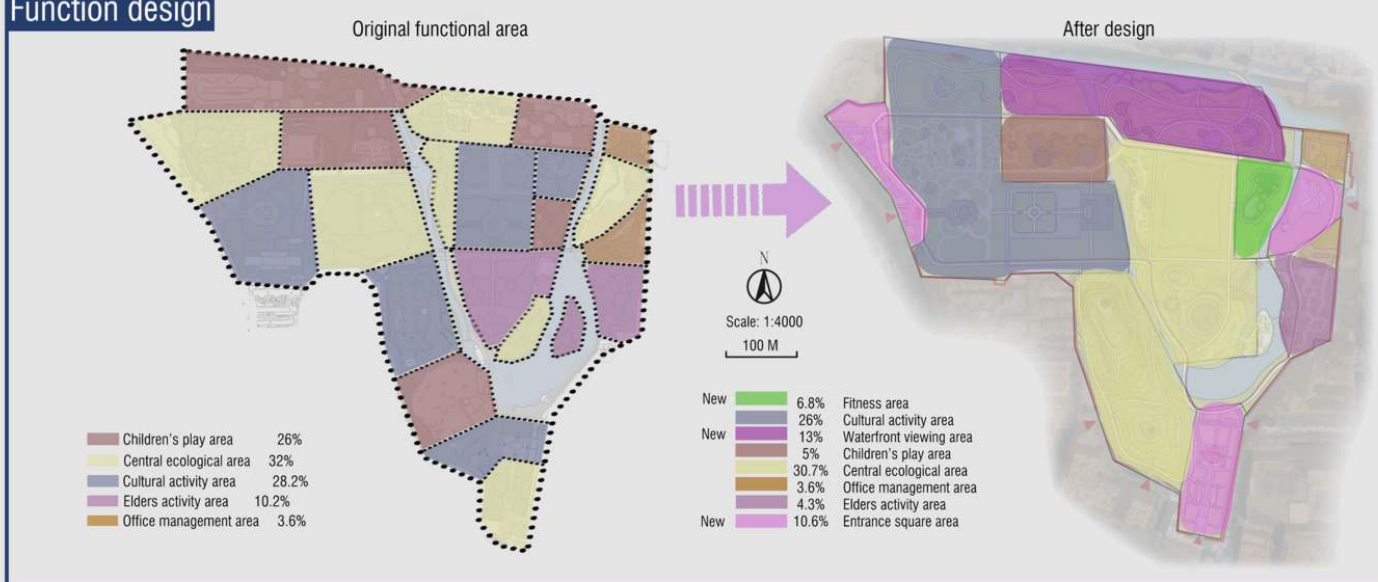


Scenery spots

New scanery spots:
1.Waterside pavilion
2.Memorial tower
3.Central lawn
4.Fitness area
5.Circular terrace square
6.Viewing tower
7.Lakeside tea house

Remain scenery spots:
1.Peony garden
2.Peng temple
3.Cherry garden
4.Park management area
5.Yibin mountain
6.Bamboo garden
7.Hu temple
8.Rose garden

Function design



URBAN PARK RECONSTRUCTION DESIGN
——ZHENGZHOU PEOPLE'S PARK

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES
MASTER OF ARTS IN LANDSCAPE ARCHITECTURE AND GARDEN ART
AUTHOR: LI ZIYING
ADVISOR: DR. SÁROSPATAKI MÁTÉ

02 DESIGN STRATEGY

MASTER PLAN

N

100 M

Scale: 1:1000

Design discription:
In the master plan, I create a waterfront pavilion and a cultural museum to improve the cultural expression of the park. And the layout of the garden in front of the cultural museum is to continue the axis of the Peng temple. A children play area are created on the site which is used to be the kindergarten, for the users who visit the park with their children. A fitness area is created to service for the teenagers or the people who love sports. There are two badminton courts, one basketball court, one skateboard area and one synthetic surface track on the fitness area. One circular terrace theater is created in the centre area of the park for people to gathering or performing here. One small hill is created on the southwest of the park, on the area where is used to be closed for now, for people to do exercises by climbing the hill and also for the tourists to overlook the whole park by standing on the top of the hill. A big lawn in the center area of the park is created as an ecological green area to collect the rain water and also can be used as a picnic area.

Fence

Main entrance

Secondary entrance

Tertairy entrance

Visualizations

Metasequoia forest

Circularity terrace theater

Children play area

Main road

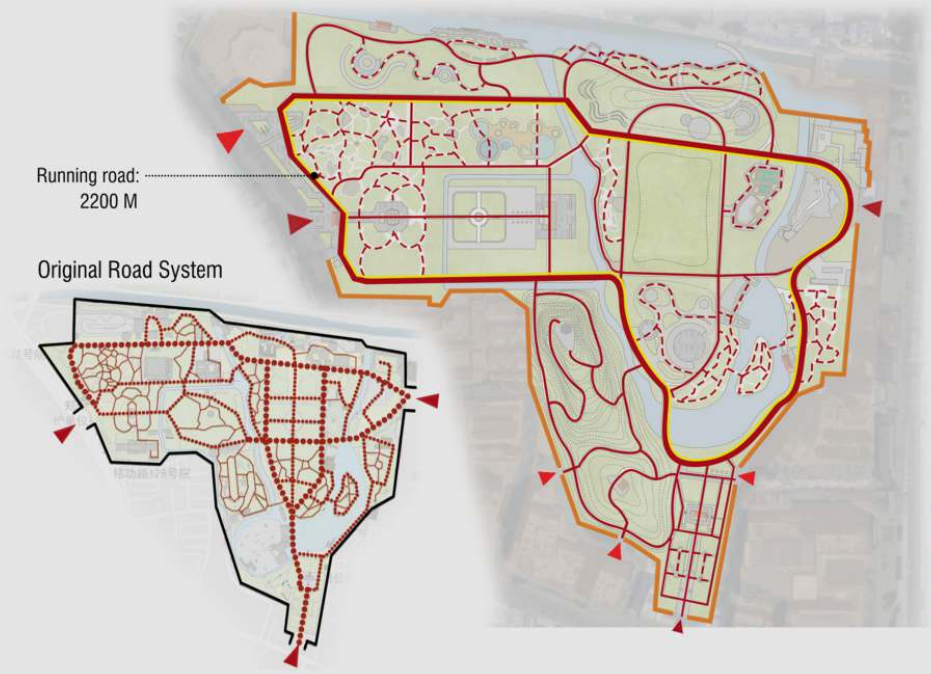
Secondary road

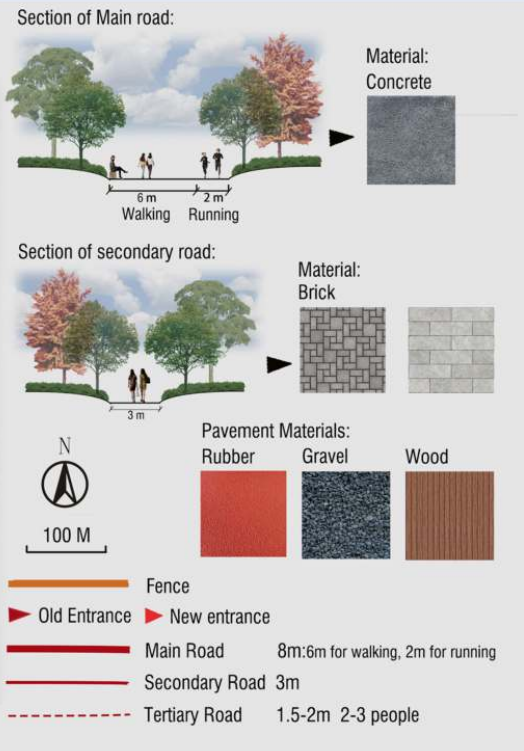
URBAN PARK RECONSTRUCTION DESIGN
——ZHENGZHOU PEOPLE'S PARK

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES
MASTER OF ARTS IN LANDSCAPE ARCHITECTURE AND GARDEN ART
AUTHOR: LI ZIYING
ADVISOR: DR. SÁROSPATAKI MÁTÉ

02 DESIGN STRATEGY

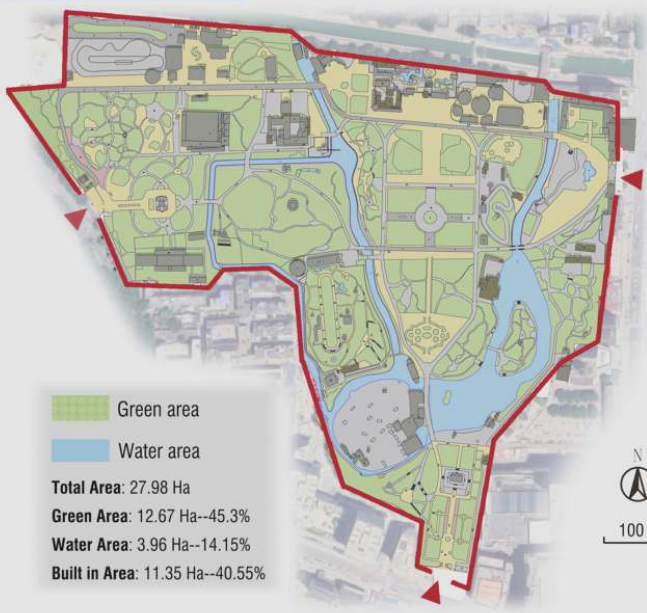
Road system

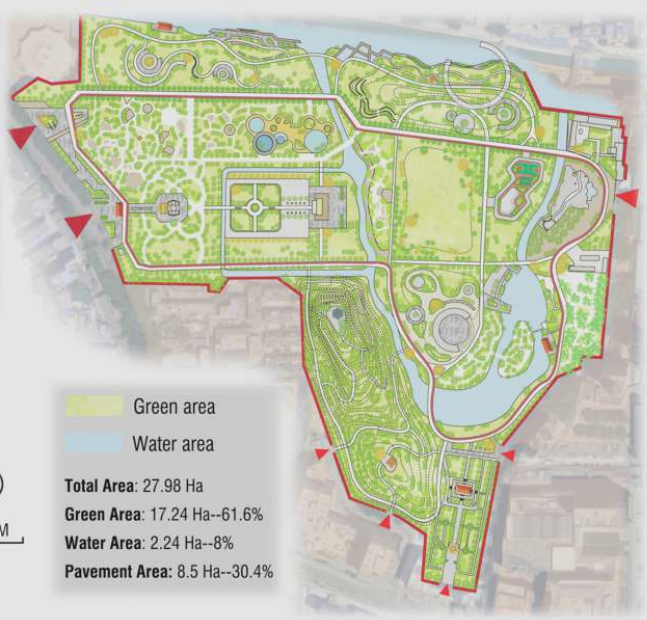


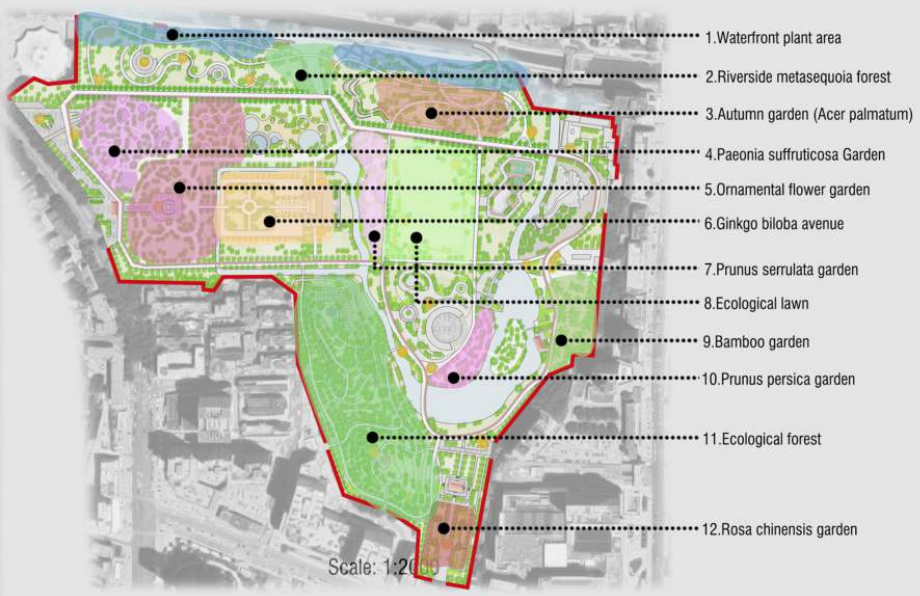


Pictures of vegetation characteristic

Vegetation design

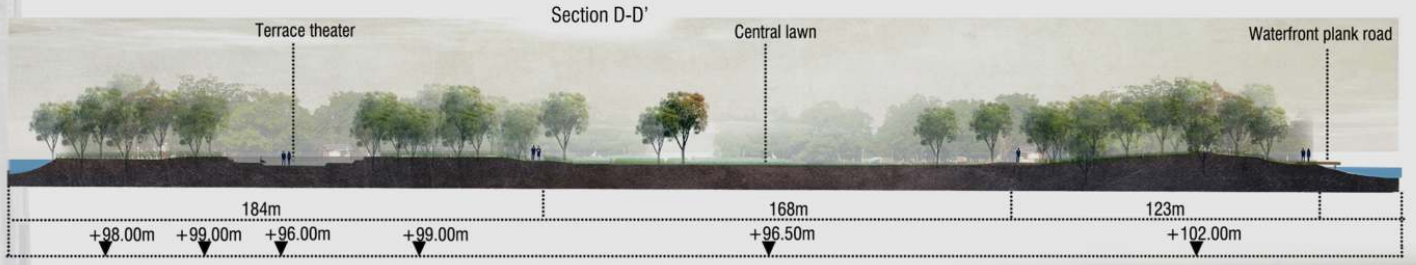






Grading

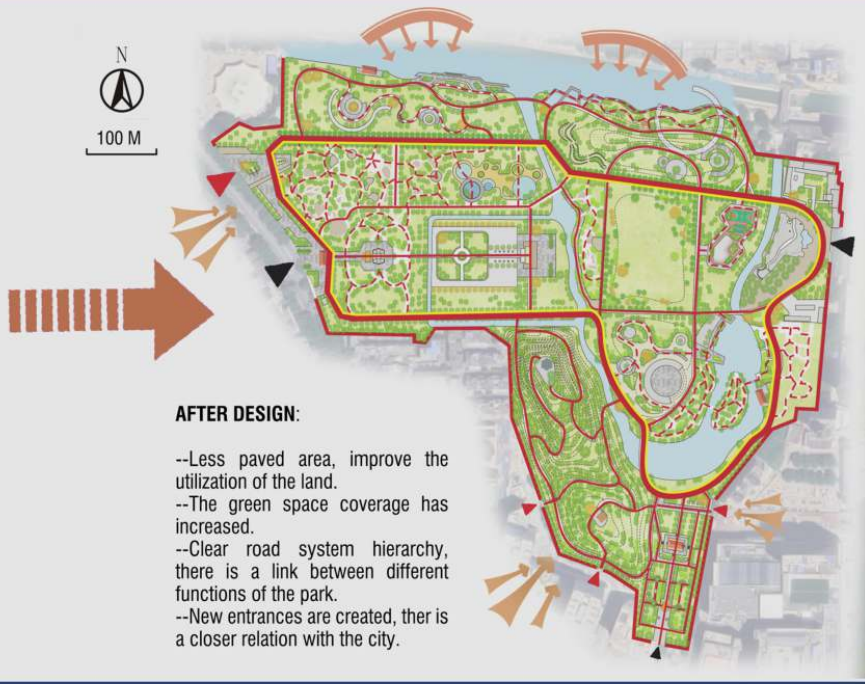
Scetion scale: 1:1000



Overall Comparison

BEFORE DESIGN:

--Huge paved area without any functions
--Low green space proportion
--Road system lack of hierarchy, no possibility to link all the main points of the park
--The whole park is almost closed by fence



AFTER DESIGN:

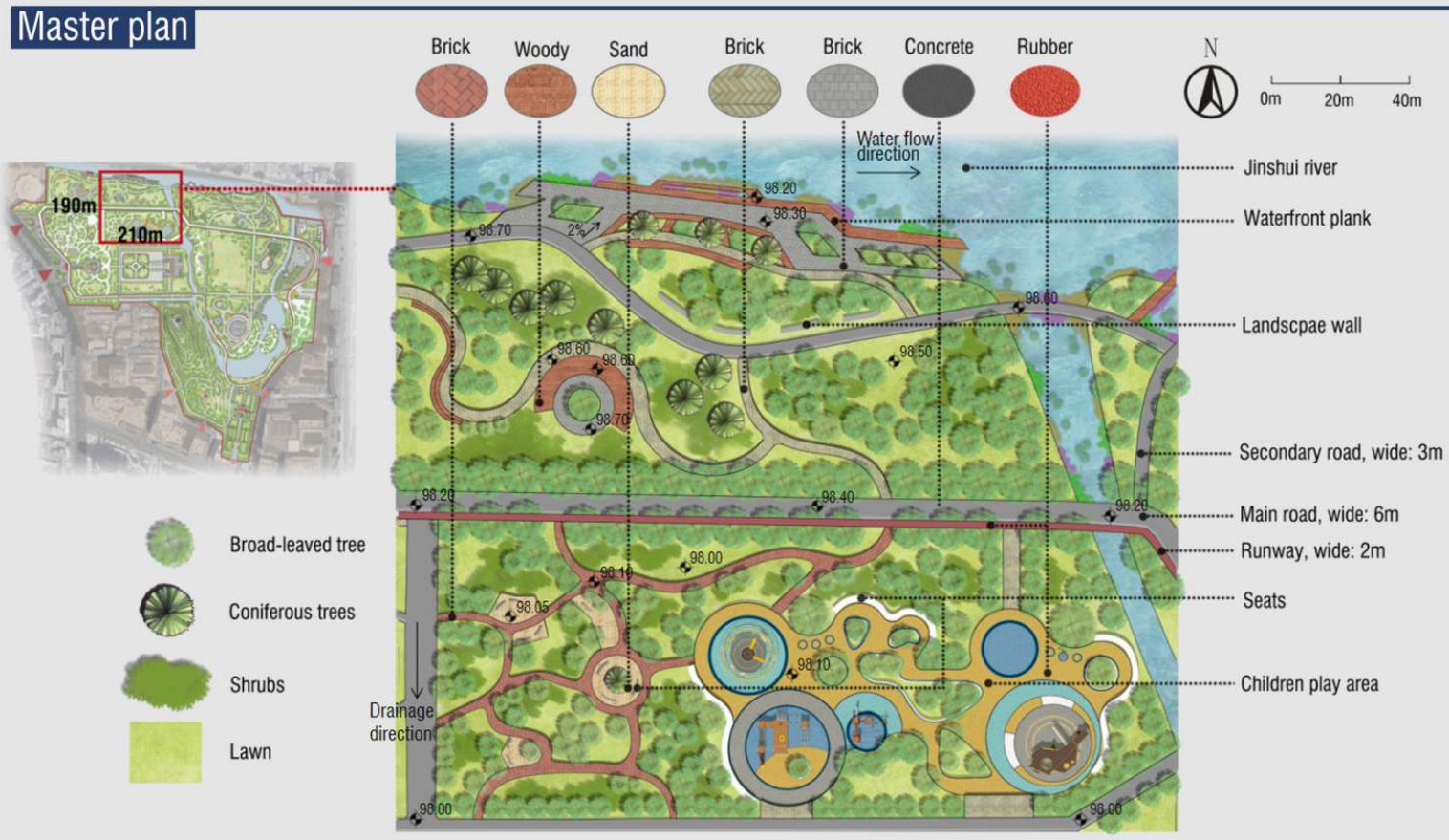
--Less paved area, improve the utilization of the land.
--The green space coverage has increased.
--Clear road system hierarchy, there is a link between different functions of the park.
--New entrances are created, ther is a closer relation with the city.

URBAN PARK RECONSTRUCTION DESIGN
——ZHENGZHOU PEOPLE'S PARK

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES
MASTER OF ARTS IN LANDSCAPE ARCHITECTURE AND GARDEN ART
AUTHOR: LI ZIYING
ADVISOR: DR. SÁROSPATAKI MÁTÉ

03 DETAIL DESIGN

Master plan



Visualizations

Detail of children play area 1

Detail of children play area 2

Ecological vegetation area

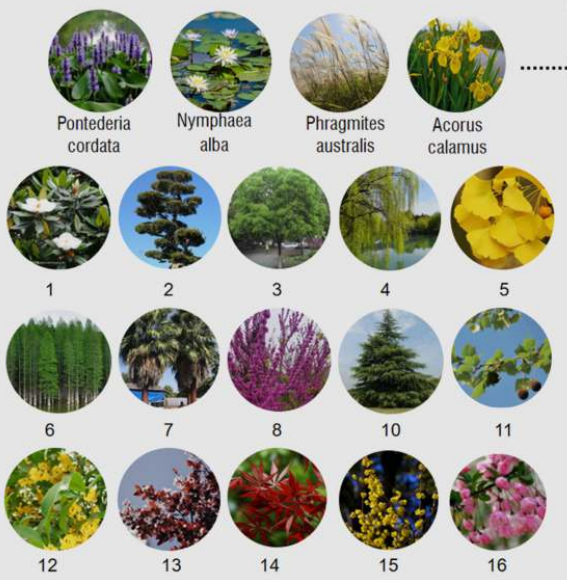
Vegetation design

PLANT LIST

Number	Name of species	Amount
1	Magnolia grandiflora	17
2	Podocarpus macrophyllus	4
3	Cinnamomum camphor	76
4	Salix alba	12
5	Ginkgo biloba	15
6	Metasequoia glyptostroboides	23
7	Trachycarpus fortunei	6
8	Cercis chinensis Bunge	17
9	Cedrus deodara	8
10	Platanus x acerifolia	38
11	Osmanthus	22
12	Prunus cerasifera 'Atropurpurea'	27
13	Acer palmatum	8
14	Chimonanthus praecox	14
15	Malus halliana Koehne	12

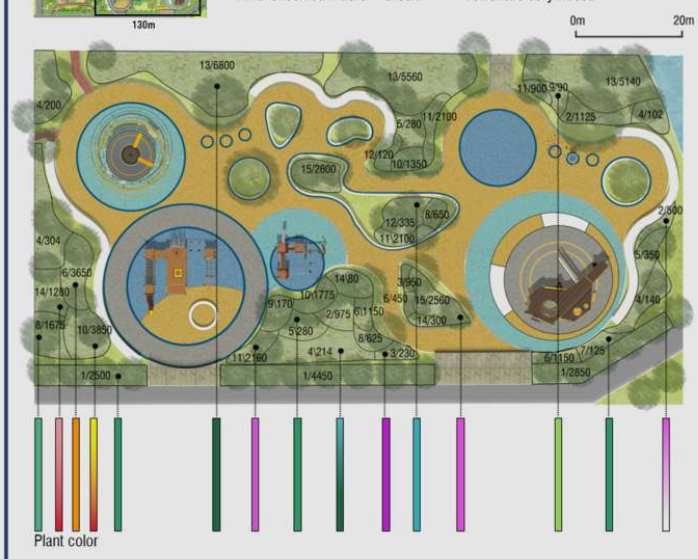
Grass: Cynodon dactylon

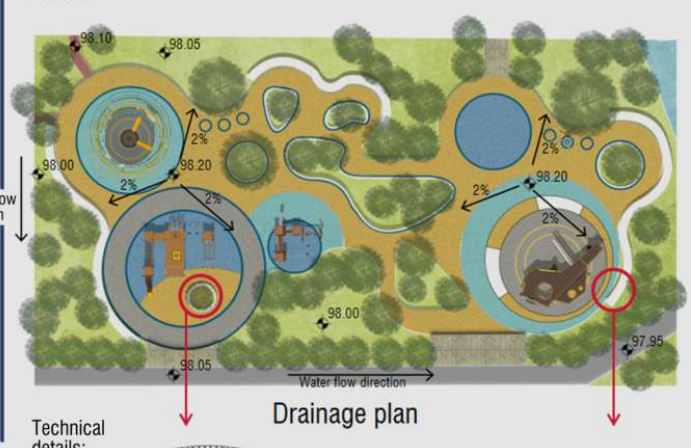
Pictures of vegetation characteristics



Vegetation design zoom-in

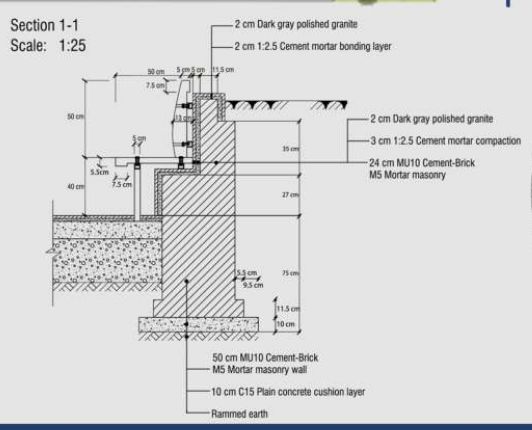
PLANT LIST:
1.Ligustrum ovalifolium 'Argenteum'
2.Spiraea japonica
3.Aster novae-angliae
4.Juniperus squamata 'Blue carpet'
5.Yucca filamentosa
6.Rudbeckia laciniata
7.Hakonechloa macro "Aureola"
8.Stachys byzantina
9.Miscanthus sinensis "Morning Light"
10.Zinnia angustifolia
11.Lavandula angustifolia
12.Helictotrichon sempervirens
13.Fatsia japonica
14.Rosa chinensis
15..Oxalis corymbosa



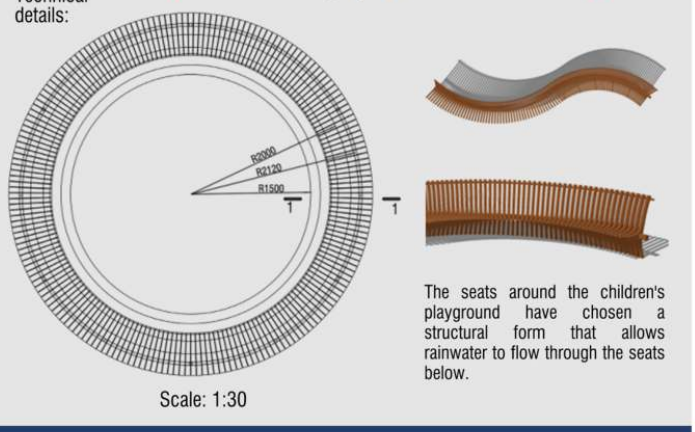


Drainage plan

Section 1-1
Scale: 1:25



Technical details:



Scale: 1:30

The seats around the children's playground have chosen a structural form that allows rainwater to flow through the seats below.