DIPLOMA THESIS

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BUDAPEST

MASTER OF ARTS IN LANDSCAPE ARCHITECTURE AND GARDEN ART

Blossoms in the Clouds

Luogang Technology theme Park renovation and upgrade

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Abstract

This thesis presents a comprehensive exploration of landscape design innovation through the case study of the "Blossoms in the Clouds" park project in Guangzhou. The study examines the integration of technology and nature, aiming to create a multifunctional park that serves as a hub for science education, leisure activities, and ecological preservation. Through an analysis of the site's current conditions and the development of a design strategy, the thesis outlines a four-stage conceptual framework: Integration of Technology and Nature, Reflection and Contemplation, Balance and Connection, and Awakening and Reshaping. The design focuses on spatial structure, road design, interactive landscapes, and planting details to create an aesthetically pleasing and functional park space. The envisioned park aims to foster a deeper connection between visitors and nature while promoting ecological conservation and public science education.

Keywords: Landscape design, Technology integration, Nature conservation, Science education, Park plannin

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1. INTRODUCTION

1.1 Project Background

In today's era of rapid technological advancement and artificial intelligence, technology has permeated every aspect of people's lives, especially among the younger generation. Networks and cloud platforms have become the primary means of communication. However, in such a context, people's understanding of and reverence for nature seem to be diminishing, and even disregarded. Despite enriching people's lives and entertainment, the development of technology has also led to longer indoor stays, thereby weakening the connection between individuals and between humans and nature. While we will continue to advance technologically, we must not overlook the interaction and connection between humans and nature. Technology should not be a source of alienation from nature; rather, it should serve as a bridge to strengthen their connection.

1.2 Design Objectives and Principles

The design objective is to upgrade the park to incorporate standard park functions while integrating intelligent interactive landscapes and sculptures that reflect the conflicts and harmony between technology and nature. This aims to provide not only recreational value but also educational opportunities in scientific knowledge while visiting the park. The design principles include, but are not limited to: adhering to ecological principles by preserving existing vegetation as much as possible and planting native plants to reflect the beauty of nature; prioritizing human-centered design and respecting culture, considering the needs and cultural backgrounds of park users and local historical traditions; promoting sustainable development by implementing sustainable design and management measures to minimize environmental impact and foster long-term park development; and promoting green and healthy living by providing spaces and environments conducive to outdoor activities and leisure, thereby enhancing physical and mental well-being.

2. Preliminary Analysis

2.1 Location

Located in the Guangzhou Science City area **(Figure 1-1)**, Luogang Entrepreneurial Park enjoys a prime geographical location, adjacent to the eastern part of Guangzhou city and just a few kilometers away from the city center. This area serves as the core hub for technological innovation in Guangzhou, with the park playing a vital role in facilitating the transformation of scientific achievements and supporting innovative entrepreneurship. Its proximity to government buildings and the International Convention Center makes it a significant venue for government policy-making and international exchanges. With convenient transportation and a pleasant surrounding environment characterized by natural landscapes and greenery, the park provides a tranquil and comfortable working environment for technology entrepreneurs. The ongoing development of this area will further enhance the park's status and influence, injecting new vitality and momentum into technological innovation and economic development in Guangzhou.
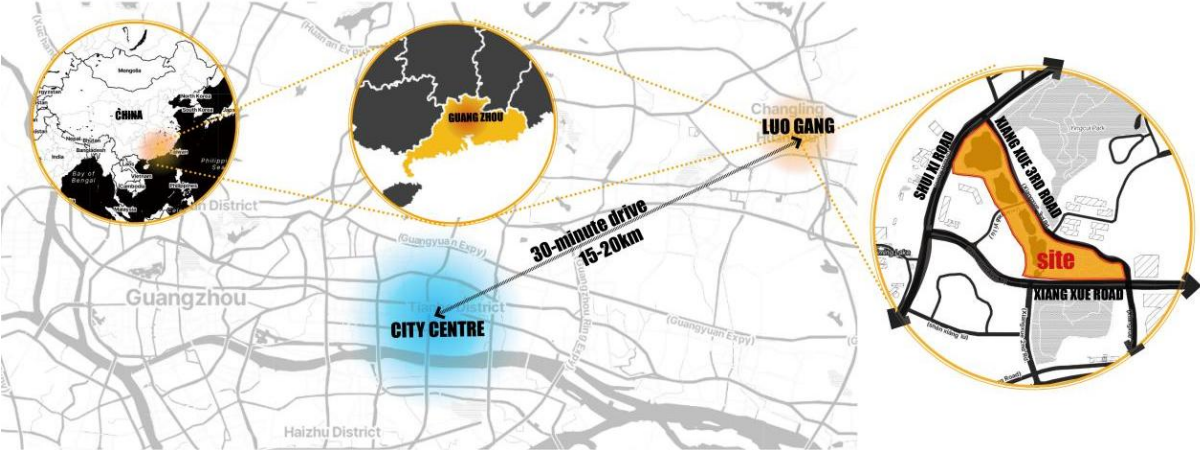
(Figure 1-1) Location analysis

2.2 Surrounding Traffic Analysis

The area surrounding the site boasts convenient transportation, with a travel time to downtown Guangzhou of less than 30 minutes by car. Public transportation is also readily available, with subway entrances located not far from both the northern and southern ends of the park. Additionally, the park is encircled by roads, providing easy access from all directions **(Figure 2-1)**. Several bus stations are scattered around the perimeter of the park, enhancing its accessibility. However, it's worth noting that a bridge divides the site into two sections, which may pose some safety concerns for visitors traversing the park.
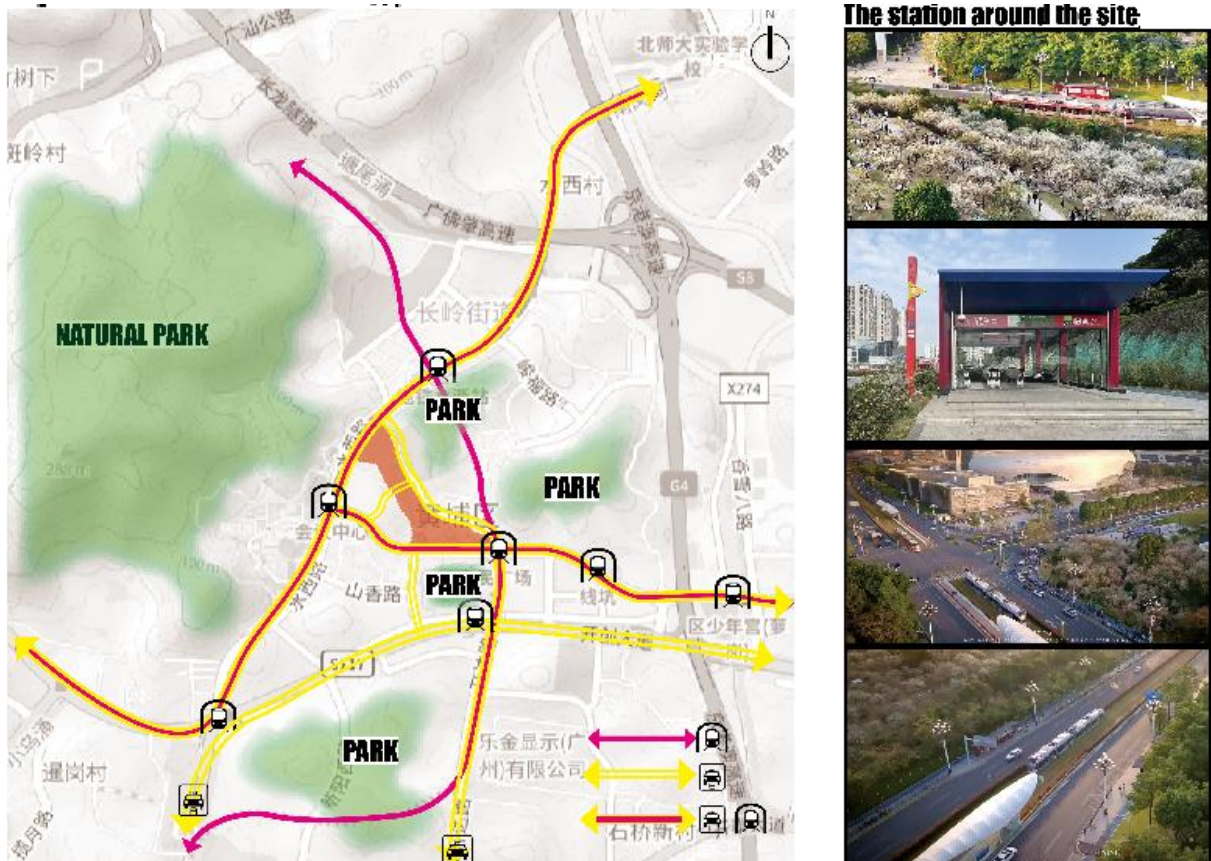
(Figure 2-1) Surrounding Traffic Analysis

2.3 Analysis of Natural Environment

The vicinity of the site not only offers convenient transportation but also boasts abundant natural resources, particularly in terms of botanical diversity. Adjacent to natural parks, sports facilities, and botanical gardens, the site benefits from its proximity to these green spaces, enhancing its overall appeal and recreational opportunities. Situated at the heart of a basin, the area enjoys a relatively high natural green coverage, fostering a lush and verdant environment. This abundance of greenery not only contributes to the aesthetic charm of the surroundings but also provides a tranquil retreat for visitors to enjoy nature amidst the bustling urban landscape.

2.4 Historical introduction

Guangzhou, as one of China's historically significant cities, is rich in cultural heritage **(Figure 2-2)**. Dating back to ancient times, Guangzhou has served as a pivotal trading port and was one of the key starting points of the ancient Maritime Silk Road. Within Guangzhou's extensive historical narrative, the eastern region, where our site is located, holds its own

unique historical significance. Once a vital hub for ancient commerce, this area witnessed the flourishing of Guangzhou's trade culture. With the passage of time, it has gradually evolved into a modern commercial district, continuing to embody Guangzhou's spirit of innovation and vitality.

Today, this area inherits Guangzhou's rich trading legacy and carries the mission of innovation and development. Adjacent to government buildings and the International Convention Center, it enjoys a strategic geographical location and convenient transportation links. The development of this area will provide our project with vast opportunities for growth and abundant resource support. It will also benefit from the unique charm and development potential of Guangzhou, a city steeped in rich historical heritage and vibrant energy.

(Figure 2-2) Surrounding Traffic Analysis

2.5 Analysis of Community and Cultural Context

The site is situated within a modern urban hub dedicated to technological innovation. It not only adjoins government buildings, the International Convention Center, and sports facilities but is also surrounded by numerous schools, modern residential areas, and office buildings housing tech companies. Culturally, this area not only embraces Guangzhou's rich traditional heritage but also spearheads future development. Consequently, the park, serving as a public space within this locale, plays a crucial role in catering to the diverse demographics of the surrounding population. Its significance lies not only in its provision of recreational opportunities but also in its reflection of the cultural fabric of the entire region. In today's era of rapid technological advancement, it's paramount for the site to integrate with the community environment and reflect upon this zeitgeist. Such integration is crucial as it directly impacts the demographic that utilizes the surrounding amenities.

2.6 Users analysis

Given the complex and diverse surrounding environment, the park's user base is expected to encompass residents, government employees, business professionals, tourists, students, tech company staff, and enthusiasts seeking photo opportunities **(Figure 2-3)**. Residents from nearby modern neighborhoods are likely to constitute a significant portion of the park's users, while government office workers and business professionals may utilize the park for relaxation and outdoor meetings. Convenient transportation and proximity to various attractions may attract tourists and travelers, while students and faculty from nearby schools may use the park for extracurricular activities and club events. Additionally, employees of tech companies may choose to unwind or engage in team-building activities in the park. Moreover, the presence of popular photo spots may draw enthusiasts seeking to capture memorable moments. Therefore, in park planning and management, catering to the diverse needs of these groups is crucial to ensuring the provision of varied services and activities for the community.
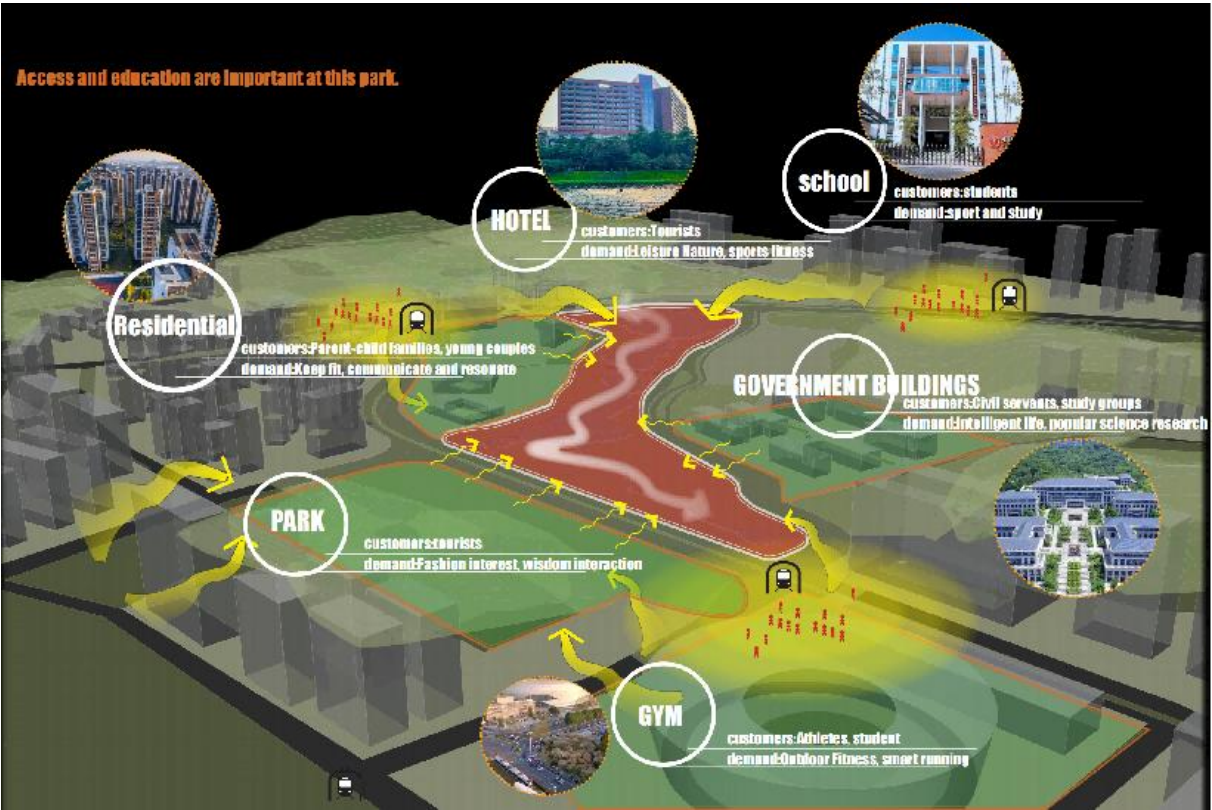
(Figure 2-3) User and Site Analysis

3. Case Studies and Research

3.1 Analysis of Similar Landscape Park Projects

Disneyland, as a highly renowned theme park, is distinguished by its unique narrative theme and cohesive design **(Figure 3-1)**. The entire park revolves around the themes of Disney animated movies and characters, immersing visitors into a world of magic and fantasy.

(Figure 3-1) Disneyland

(Source: https://bkimg.cdn.bcebos.com/pic)

Throughout Disneyland, the narrative theme permeates every functional space, beginning from the entrance. Visitors are welcomed into a new story world where the architecture, decor, and attractions are intricately intertwined with the depicted storylines.

Within the park, visitors can explore many iconic Disney scenes such as Cinderella's Castle, Aladdin's mysterious city, and Peter Pan's Neverland. Each attraction vividly portrays the plot and characters from the animated movies through meticulously designed sets and special effects.

Additionally, the park features a variety of performances and entertainment shows, including captivating parades, elaborately staged performances, and interactive experiences, providing visitors with a rich and diverse entertainment experience.

Overall, Disneyland, with its unique narrative theme and cohesive design, creates a magical and fantastical world for visitors, making it one of the exemplars of theme parks worldwide.

3.2 Insights and Applications from Case Studies

Drawing inspiration from exemplary theme park designs, we envision leveraging similar narrative elements to create a park experience that intertwines with the theme of technology. Our goal is to reflect a lifestyle enriched by technology while also prompting contemplation on our relationship with the natural world. Through the design process, we aim to gradually disconnect visitors from their devices and encourage them to immerse themselves in the surrounding natural environment.

This concept will be manifested through interactive smart landscapes and thought-provoking sculptures that showcase the harmonious coexistence or potential conflicts between technology and nature. By creating diverse experiential spaces throughout the park, we hope to foster an environment of exploration, discovery, and introspection, ultimately inspiring visitors to reflect on their reliance on technology and reconnect with the beauty of the natural world.

4. Site Analysis

4.1 Internal traffic analysis

Currently, the internal transportation within the park consists of two main components. Firstly, there is the lakeside tour route, which follows a single circular path around the lake, adorned with greenery on either side to create a basic landscape layout. However, this route's design has limitations due to the lack of pathways along the lake shore, resulting in repetitive and monotonous lakeside scenery. The other component comprises scattered pathways in densely planted areas. In these regions, the road system lacks hierarchical organization, with no clear distinction between primary and secondary routes, thus failing to effectively guide visitors through various functional zones **(Figure 4-1)**.
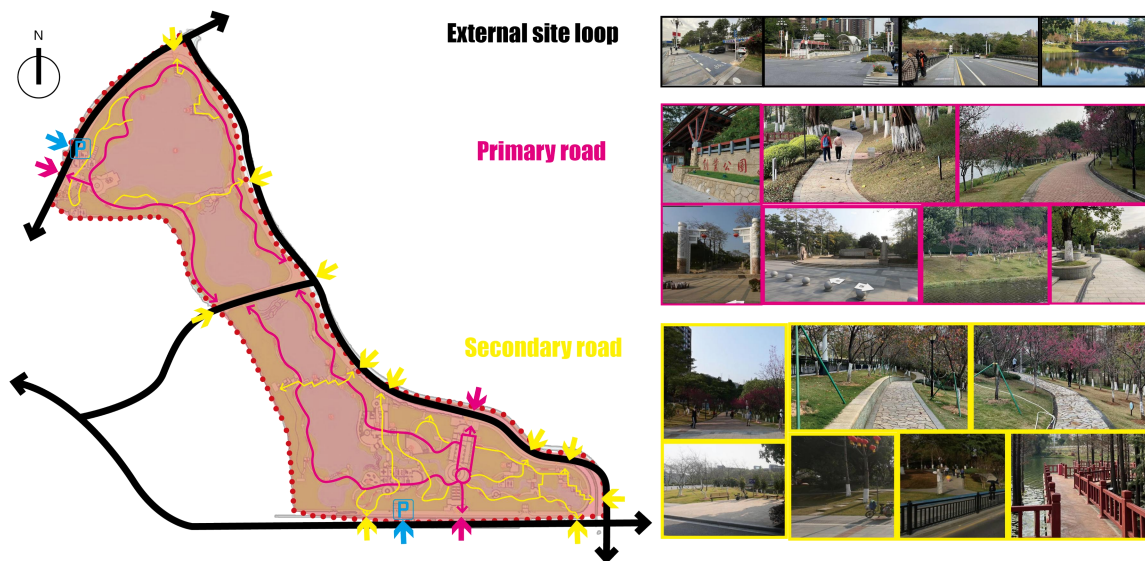
(Figure 4-1) Existing Road Analysis

Furthermore, despite the park's extensive size and numerous entrances and exits, many of these access points lack guidance and directly connect to surrounding roads without sufficient buffer space. This design approach results in a lack of clear direction for visitors entering or exiting the park, potentially leading to confusion and congestion. Additionally, the central bridges in the park divide the roadways into two sections, diminishing the park's coherence and posing safety hazards, particularly during peak hours or periods of high pedestrian traffic.

Hence, there is a need to reassess and optimize the layout of entrances, exits, and roadways within the park to enhance the overall visitor experience and safety.

4.2 Internal functions analysis

The current state of the site presents a scarcity of functional spaces. The lakeside area primarily serves as a tour route, with the unique botanical appreciation zones lacking designated stopping areas. Consequently, visitors tend to congregate on pathways for photo opportunities, leading to congestion. Through on-site surveys, it was observed that due to the expansive lake vistas, people prefer to linger along the shore. However, the current lakeside spaces lack proximity to water and specific amenities like waterfront promenades,

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yet individuals still venture close to the lake's edge. Furthermore, the park lacks assembly plazas, and areas near transportation arteries lack expansive square footage **(Figure 4-2)**. Existing spaces also lack clearly defined functionalities.
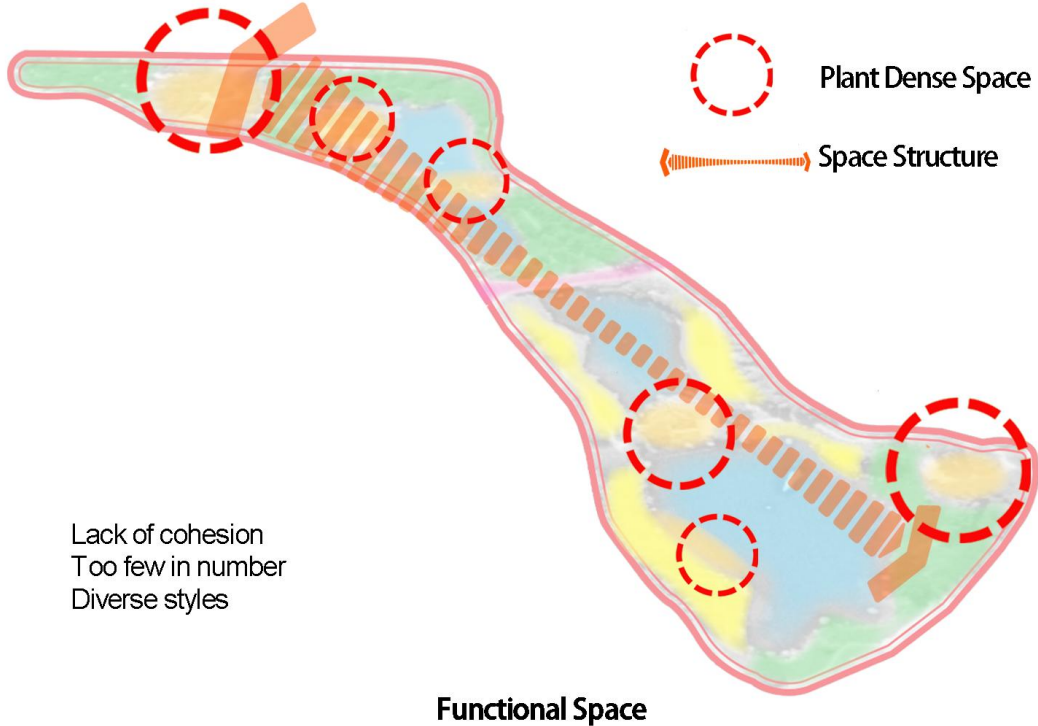
(Figure 4-2) Functions Analysis

4.3 Internal water resources analysis

The current state of the lake area spans approximately 7 hectares and is divided into three distinct sections, each comprising independent bodies of still water. These sections are interconnected solely through the use of water pumps for circulation.

Consequently, the lakes lack a cohesive visual connection, and the vast expanses of water present a monotonous landscape. Moreover, there is a notable absence of integration between the topography and the vegetation along the shoreline, resulting in a lack of diversity in landscape design. This disconnect between the water features and surrounding

elements diminishes the overall aesthetic appeal and ecological coherence of the site**(Figure 4-3)**.

Water space

Coastal Space

Lack of coastal space
Monotonous landscape
Isolated water bodies without connection

Water Space
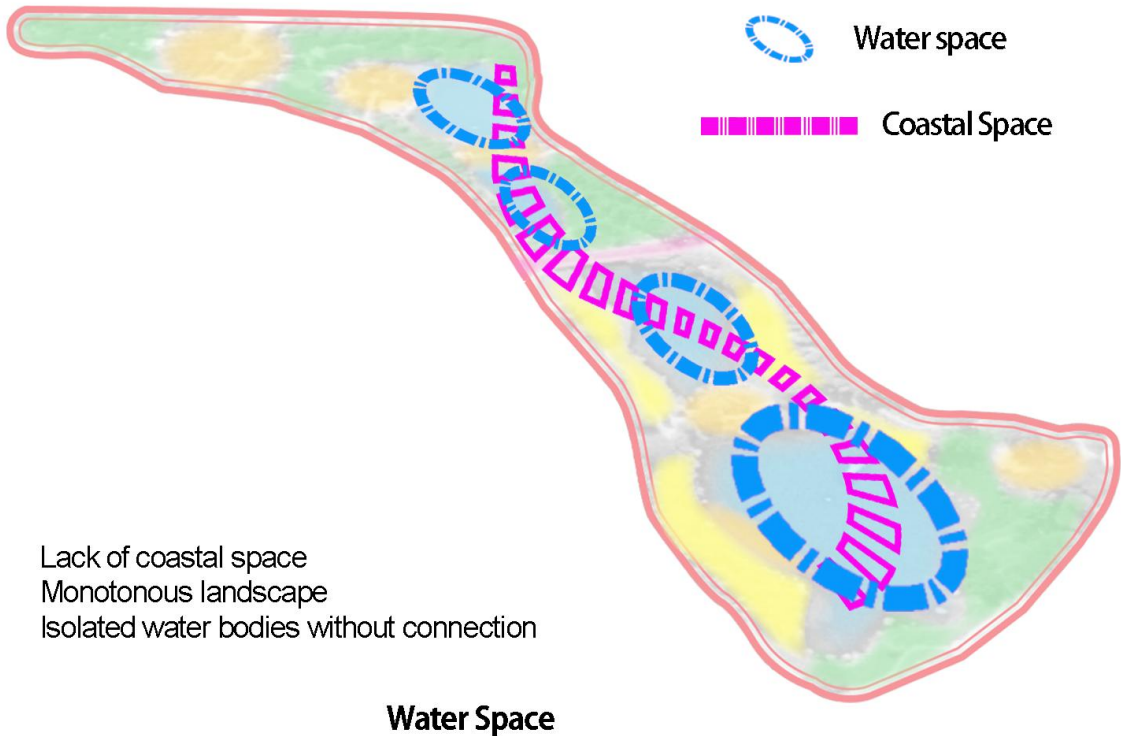
(Figure 4-3) Water Analysis

4.4 Internal spatial structure analysis

The current spatial structure of the site is primarily characterized by two axes and a circular layout. The main axis spans between the government building and the station, traversing several connecting bridge spaces across the central portion of the lake area, forming a linear alignment. Additionally, the lakeside area adopts a circular layout, encircling the water body. Moreover, the main entrances are strategically positioned at corner locations, with visual connections established through landscaping on the opposite bank or within the lake's center.

However, beyond the lake area, the spatial arrangement is less defined, with scattered spaces dispersed within the woodland. While the main axis plaza space is evident, other areas lack cohesion, both among themselves and with the main roads, leading to a lack of

spatial continuity. This fragmented spatial organization detracts from the overall coherence and functionality of the site **(Figure 4-4)**.

Lack of unified axis in landscape structure
Dispersion of functional spaces
Lack of cohesion
Insufficient space along the lake area

Main Space
Small Space
Landscape Axis

Landscape Structure
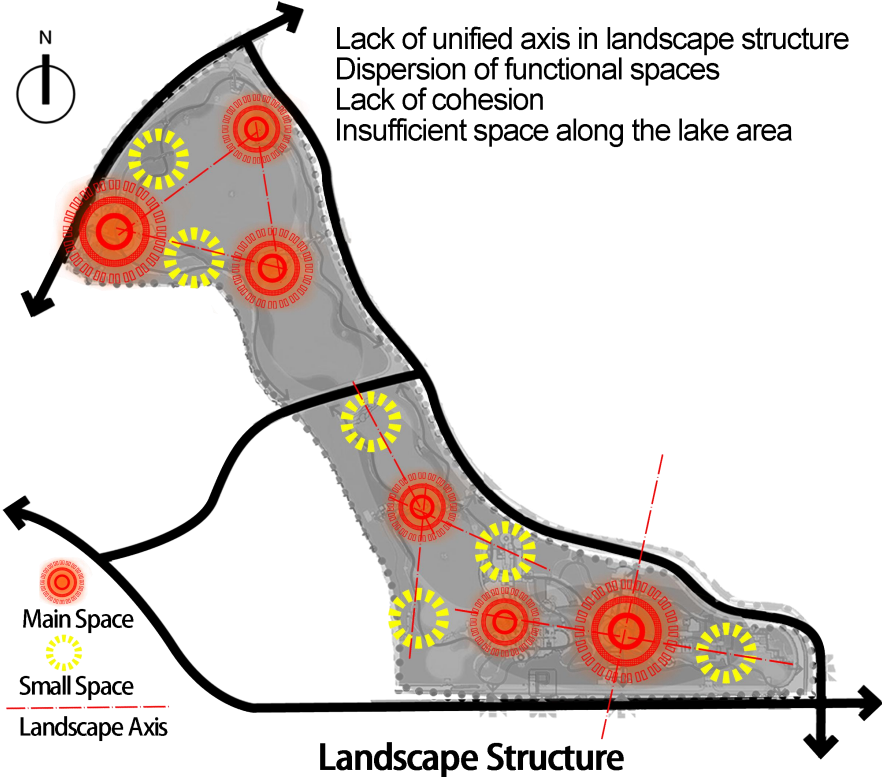
(Figure 4-4) Structure Analysis

4.5 Internal plant analysis

The current state of vegetation on the site is characterized by richness and diversity, encompassing a wide array of aquatic plants, shrubs, trees, and flowering species. Through on-site research, it was observed that maintaining clean water quality and ecological balance is crucial, especially since the lake area is a man-made landscape **(Figure 4-5)**. Therefore, the purification function of aquatic plants is essential.
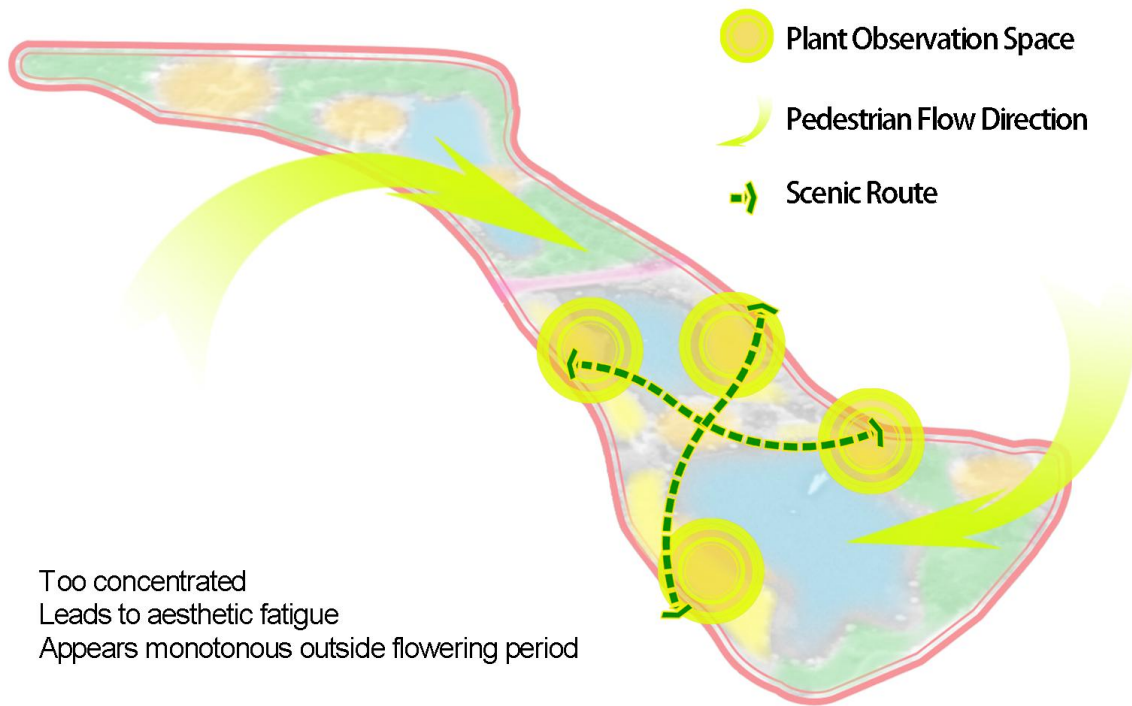
Plant Observation Space

Pedestrian Flow Direction

Scenic Route

Too concentrated
Leads to aesthetic fatigue
Appears monotonous outside flowering period

Distinctive Plant Space

(Figure 4-5) Plant Spatial Analysis

Given the proximity of the park to surrounding roads, the impact of noise pollution cannot be underestimated **(Figure 4-6)**. Vegetation serves as an effective sound barrier, yet the lack of low-to-medium height shrubbery along the northern roadside area fails to mitigate noise pollution adequately. Moreover, the absence of this protective layer between the park and the road allows noise to penetrate directly, disrupting the park's tranquility. Additionally, visitors' sightlines are exposed to the road, detracting from the immersive park experience.

Plant Dense Space — Plant Dense Space

Scenic Structure — Scenic Structure

Noise Direction — Noise Direction

Some areas have overly dense vegetation.
Resulting in darkness.
Limited variety in tour routes.
Abundant vegetation but lacks color.
Excessive openness in other areas

Plant Dense Area
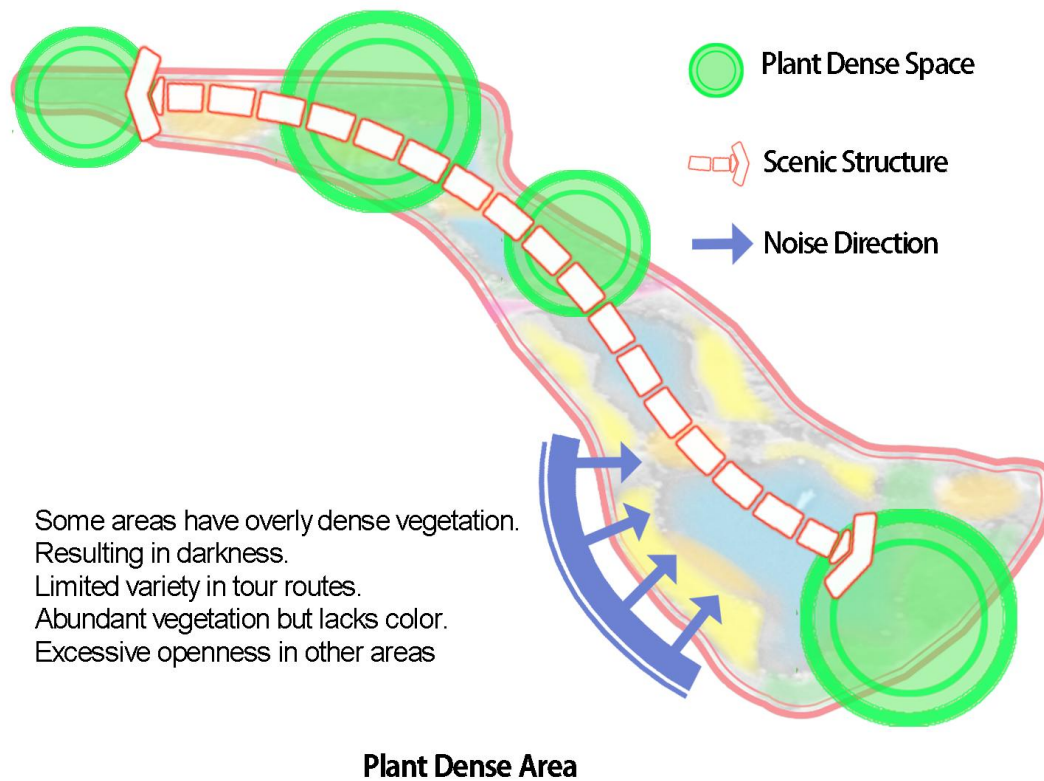
(Figure 4-6) Noise Analysis

The lakeside area features extensive stands of sequoia and peach blossom trees, creating picturesque scenery. However, the large area devoted to peach blossoms, coupled with the monoculture planting approach, may lead to aesthetic fatigue and ecological imbalance. It is essential to introduce multi-level variations in planting and respect indigenous plant growth, avoiding extensive monoculture planting.

Furthermore, the issue of bareness after the flowering period requires attention.

In contrast, the vegetation density on the main axis plaza outside the lakeside area is excessive, detracting from the prominence of the central axis. Overall, while the site boasts abundant vegetation with numerous large trees and a high green coverage ratio, certain areas are dominated by artificial plant landscapes. This dominance not only overlooks the consideration of seasonal changes in the landscape but also poses a threat to the ecological balance of the lake area.

4.6 Building analysis

The architectural style within the site blends elements of tradition and modernity. Traditional wooden structures are utilized in some areas, serving as pavilions or landscape features. However, as visitors explore the park, the presence of surrounding modern high-rise buildings inevitably enters their field of view. This juxtaposition of architectural styles creates a sense of discordance within the overall landscape space. Moreover, it fails to resonate or integrate with the region's innovative technological advancements.

This architectural amalgamation presents a challenge in achieving visual harmony and coherence within the park environment. The coexistence of traditional and modern architectural elements without a cohesive design strategy may disrupt the overall aesthetic experience for visitors. Furthermore, the lack of integration with the area's innovative technology detracts from the park's potential as a reflection of its surroundings and a catalyst for further innovation and development.

To enhance the architectural coherence and synergy with the surrounding context, it is crucial to explore design approaches that effectively integrate traditional and modern elements. This may involve reimagining traditional structures with modern materials or incorporating technological features into traditional designs. By doing so, the park can achieve a more harmonious and contextually relevant architectural expression that aligns with its identity as a hub for innovation and technology.

4.7 SWOT analysis

• Strengths:

Rich vegetation and diverse plant species contribute to a lush environment.

Convenient transportation accessibility due to the park's proximity to government buildings, schools, and modern residential areas.Varied user base, including residents, government employees, business professionals, tourists, students, tech company staff, and photo enthusiasts.Proximity to popular attractions and photo spots enhances the park's

appeal.Presence of traditional and modern architectural elements adds character to the park's design.

• Weaknesses:

Lack of coherence in architectural styles may detract from the overall aesthetic harmony.Insufficient connectivity and clarity in the park's spatial layout, especially in non-lakeside areas.Limited amenities and designated resting areas, leading to potential overcrowding and congestion.Inadequate noise insulation from surrounding roads affects the park's tranquility and ambiance.Monotonous landscape design in certain areas, such as extensive planting of single-species flora, may lead to aesthetic fatigue.

• Opportunities:

Potential for incorporating innovative design elements that integrate with the surrounding technological advancements.Enhancement of ecological sustainability through the introduction of native plant species and habitat restoration initiatives.
Expansion of recreational and leisure facilities to cater to diverse user preferences.
Collaboration with nearby institutions and businesses to offer educational and cultural programs within the park.Implementation of sound management strategies to improve visitor experience and safety.

• Threats:

Competition from nearby parks and attractions may impact visitor numbers and usage patterns.Environmental factors, such as pollution and climate change, could affect the park's ecosystem and landscape quality.Urban development and infrastructure projects may encroach upon or disrupt the park's surroundings.
Inadequate funding or budget constraints may hinder maintenance and development efforts.Negative publicity or social media backlash related to park management issues or user experiences could damage the park's reputation.

4.8 Summary of current issues

Architectural Inconsistency: The mixture of traditional and modern architectural styles within the park creates a lack of visual harmony and coherence, detracting from the overall aesthetic appeal. This inconsistency needs to be addressed to create a cohesive and unified design language throughout the park.

- Monotonous Landscape Design: Certain areas exhibit a monotonous landscape design, such as extensive planting of single-species flora, leading to aesthetic fatigue and diminished visual interest. Introducing more diversity in plant species and landscape elements will enhance the visual appeal and create a more dynamic and engaging environment.

- Spatial Layout Complexity: The spatial organization lacks clarity and connectivity, especially in non-lakeside areas, hindering efficient navigation and compromising visitor experience. Simplifying the spatial layout and improving signage and wayfinding elements will help visitors navigate the park more easily and enjoy a seamless and intuitive experience.

- Environmental Sustainability: Environmental factors, including pollution and climate change, may impact the park's ecosystem and landscape quality. Implementing sustainable landscape design practices, such as water conservation, native plantings, and habitat restoration, will enhance the park's resilience and contribute to its long-term sustainability.

- Overcrowding and Congestion: Limited amenities and resting areas result in overcrowding, particularly in high-traffic zones, exacerbating congestion and compromising visitor comfort. Enhancing the distribution of amenities and creating more gathering spaces throughout the park will help alleviate congestion and improve the overall visitor experience.

Addressing these landscape design issues will be crucial for enhancing the park's aesthetic appeal, functionality, and sustainability. Implementing strategic design interventions and management practices will ensure that the park provides an engaging and enjoyable environment for visitors while preserving its ecological integrity.

5. Design Concept And Strategy

5.1 Design Inspiration and Concept

The concept of "Blossoms in the Clouds" originated from reflecting on the relationship between modern technology and nature. We realized that while modern society increasingly relies on technology, the connection between humans and nature is gradually diminishing. Therefore, we aimed to reconnect humans and nature through park design, using technology as a medium for achieving harmonious coexistence.

The concept of "Blossoms in the Clouds" embodies a dual understanding of clouds—not only as natural phenomena in the sky but also as representations of the interconnectedness of our digital world. "Blossoming" symbolizes the beauty and wonder of nature's creations. Real-world clouds, formed from water on the earth's surface, inspire this concept.

The underlying message emphasizes the essential connection between human experiences, whether in the physical or virtual realm, and the natural world. While we may immerse ourselves in the richness of the virtual realm facilitated by cloud technology, it's crucial to acknowledge and respect the fundamental role of the natural environment. Just as we marvel at virtual blossoms, we must remember that their existence is rooted in the intricate workings of the natural world.

In essence, "Blossoms in the Clouds" urges us to find harmony between our digital lives and the environment, encouraging a deep appreciation for nature's beauty and a sense of awe and reverence for its magnificence **(Figure 5-1)**.
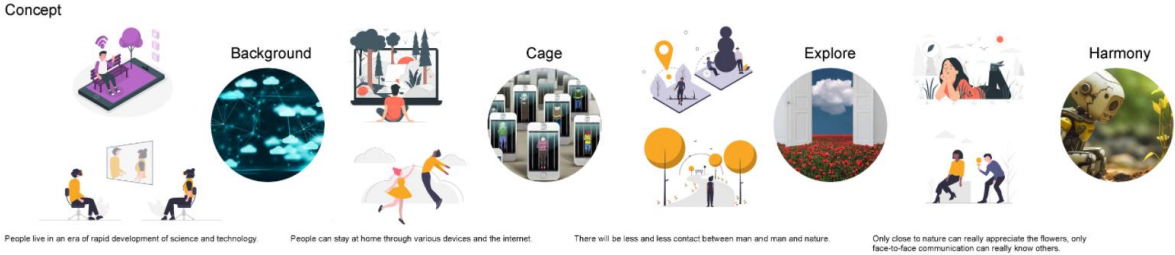
(Figure 5-1) Concept Analysis

5.2 Design Strategies

5.2.1 Overall Strategy

• Phase One: Integration of Technology and Nature

The initial design concept focused on the integration of technology and nature. We explored the use of virtual reality and augmented reality technology to create an interactive space in the park, allowing visitors to experience the beauty of nature guided by technology **(Figure 5-2)**.
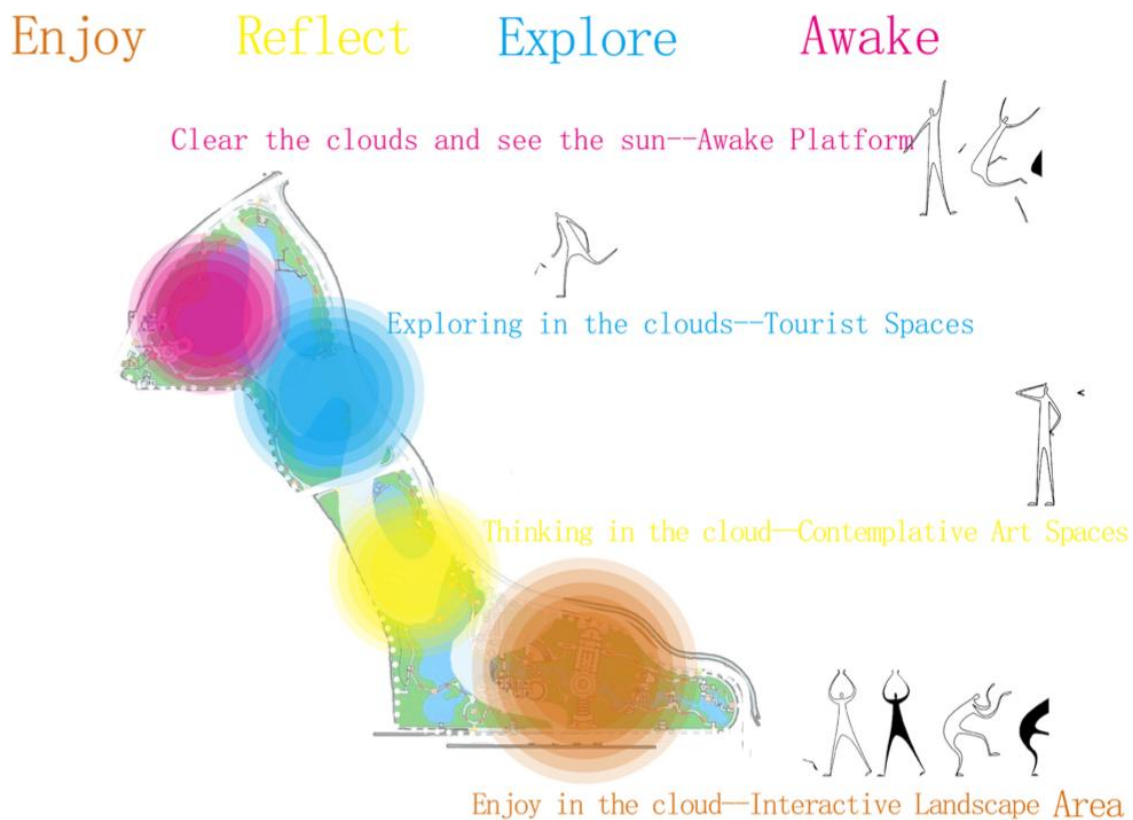
(Figure 5-2) Overall Strategy

• Phase Two: Reflection and Contemplation

As the design progressed, we became aware of the negative impacts of technology alongside its conveniences and pleasures. Consequently, we introduced contemplative spaces with reflective sculptures, providing visitors with a tranquil environment for contemplation and introspection on the effects of technology on nature and the relationship between humans and nature.

• Phase Three: Balance and Connection

Through continuous exploration and reflection, we realized that the relationship between humans and nature is not one of opposition but one that requires seeking balance and connection. Therefore, we designed touring spaces, encouraging visitors to explore and seek their own balance with nature while re-evaluating their position within the natural world.

• Phase Four: Awakening and Return

Ultimately, our goal is for the park design to awaken visitors' respect and awareness of nature, recognizing the close connection between humans and the natural world. We aim to inspire visitors to step out of the virtual realm created by technology and engage in meaningful interactions with nature.

• Final Vision:

The ultimate vision for "Blossoms in the Clouds" park is to become a vibrant urban oasis, guiding visitors to re-examine their relationship with nature, fostering harmonious coexistence between humans and nature, and creating a sustainable future **(Figure 5-3)**.

Enhancing road network   **Adding functional spaces**   **Science education**   **Relaxation and leisure**
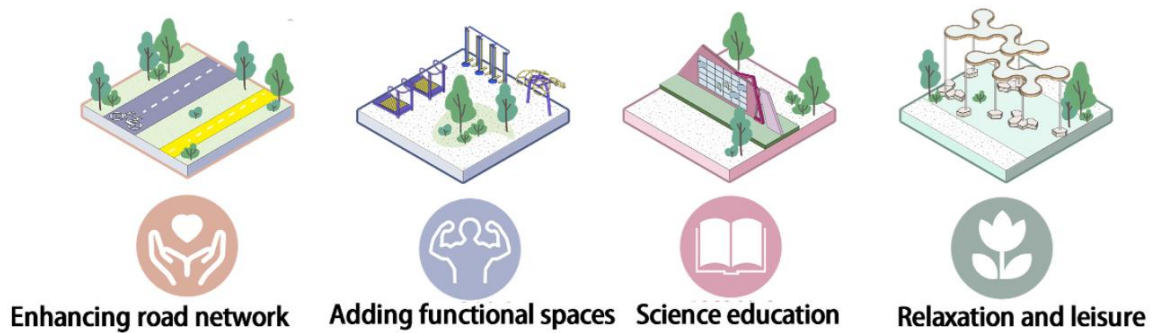
(Figure 5-3) Vision

5.2.2 Spatial Design Strategy

Integration with Transportation Arteries: Given the park's proximity to major transportation arteries, we will strategically integrate the park's spatial layout with these routes. Designated entrances and pathways will provide seamless connectivity between the park and surrounding areas, enhancing accessibility for visitors arriving via various modes of transportation.

Enhanced Lakeside Experience: Recognizing the importance of the lakeside area as a focal point of attraction, we will prioritize the creation of additional gathering spaces and functional zones along the shoreline. These areas will offer opportunities for relaxation, recreation, and socialization, enhancing the overall visitor experience and promoting longer stays within the park.

Spatial Zoning for Activities: To address the issue of overcrowding and congestion, we will implement spatial zoning strategies to distribute visitor activities more evenly throughout the park. By delineating specific zones for recreational, leisure, and contemplative activities, we aim to mitigate congestion in high-traffic areas and create a more balanced utilization of space **(Figure 5-4)**.
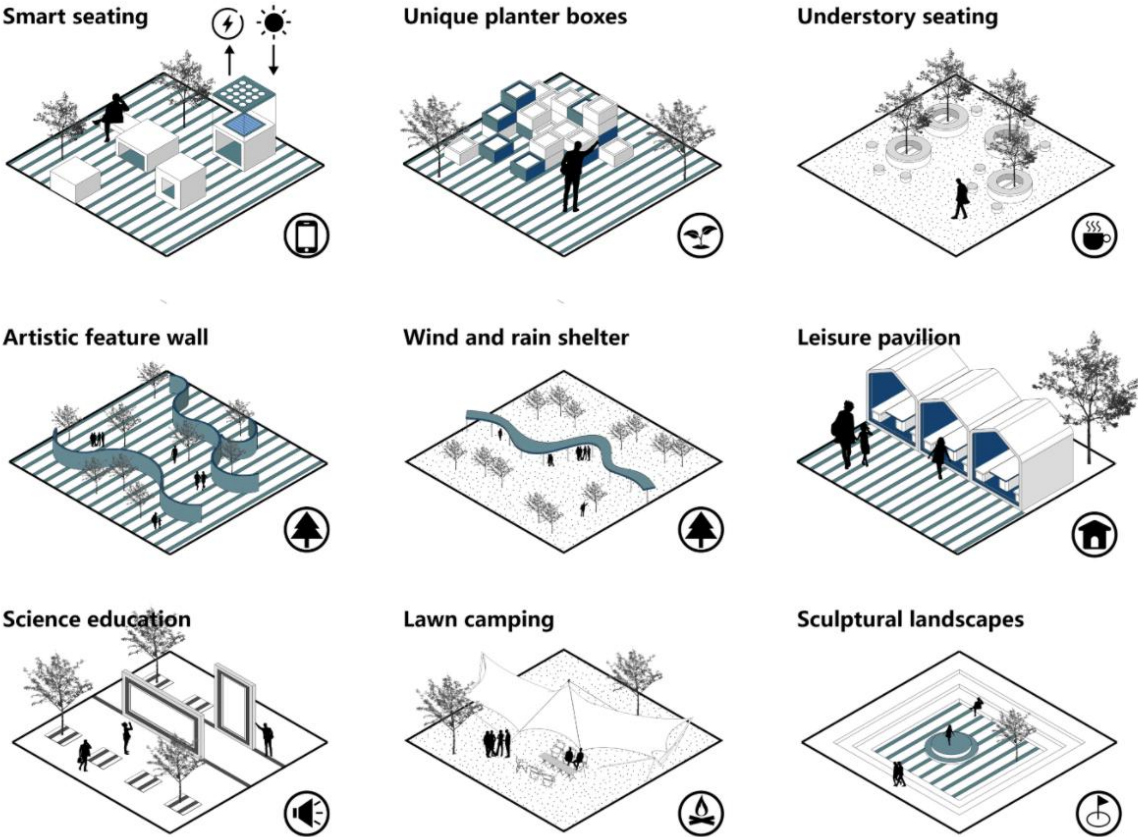
(Figure 5-4) Functional Space Strategy

Enhanced Wayfinding and Signage: Improving signage and wayfinding elements will be a priority to enhance spatial clarity and navigation within the park. Clear signage will guide

visitors to key attractions, amenities, and points of interest, facilitating efficient movement and exploration throughout the park.

Ecological Integration: Our design approach will prioritize the integration of ecological elements within the park's spatial layout. Incorporating native plantings, green infrastructure, and sustainable design features will not only enhance the park's ecological resilience but also contribute to its aesthetic appeal and biodiversity.

By implementing these spatial design strategies, we aim to create an inviting, accessible, and engaging park environment that fosters meaningful connections between visitors and the natural world, while addressing the specific spatial challenges identified in the park's current condition.

5.2.3 Road Design Strategy

In line with the overall design concept of "Blossoms in the Clouds" park, our road design strategy aims to enhance connectivity, safety, and visitor experience **(Figure 5-5)**. Building upon the existing road infrastructure, we will implement a hierarchical road system and integrate new road features to maximize the utilization of park resources.

Adding road classification   Incorporating functional spaces   Bridge construction to link sites
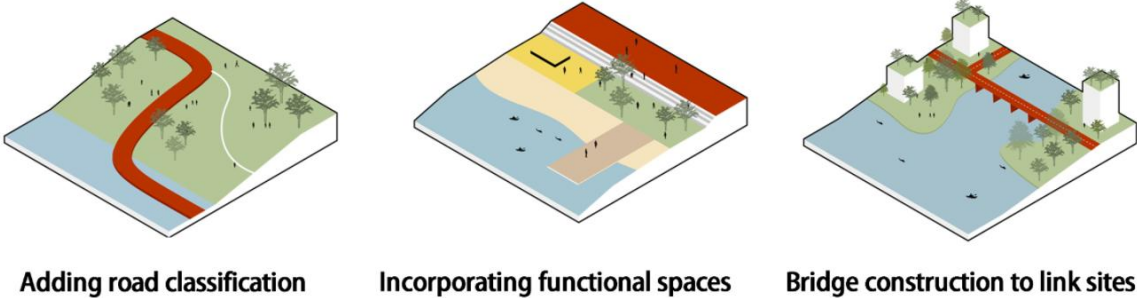
(Figure 5-5) Road Design Strategy

Firstly, we will introduce a hierarchical road system, delineating primary and secondary roadways within the park. Primary roads will serve as main arteries, providing efficient access to key destinations such as entrances, parking areas, and major attractions.

Secondary roads will complement these primary routes, offering more scenic and leisurely routes for visitors to explore the park's diverse landscapes and attractions.

To capitalize on the park's scenic lakeside setting, we will enhance the lakeside experience by introducing a lakeside boardwalk. This elevated pathway will meander along the water's edge, offering panoramic views of the lake and surrounding greenery. The boardwalk will serve as a designated pedestrian route, providing a tranquil and immersive experience for visitors to enjoy the natural beauty of the park's waterfront.

Furthermore, we will establish designated touring routes within the botanical appreciation areas, guiding visitors on a journey through the park's diverse plantings and landscapes. These curated routes will showcase the park's botanical richness while providing educational opportunities for visitors to learn about native flora and ecological conservation.

To seamlessly connect the park's two sections and enhance overall accessibility, we will introduce elevated pedestrian bridges spanning across the park's central lake. These aerial walkways will not only provide convenient access between different areas of the park but also serve as iconic landmarks, offering elevated vantage points for visitors to admire the park's scenic beauty from above.

By implementing these road design strategies, we aim to create a cohesive and well-integrated transportation network within "Blossoms in the Clouds" park, enhancing visitor mobility, safety, and enjoyment while maximizing the park's natural and cultural assets.

5.2.4 Interactive Landscape Strategy

Incorporating interactive landscape strategies into "Blossoms in the Clouds" park involves leveraging smart technologies such as light and fountain sensors to create engaging and immersive experiences for visitors. Additionally, the integration of standalone VR immersion

spaces provides opportunities for individuals to physically experience the outdoor environment while simultaneously enjoying the pleasures of a virtual world.

Beyond the use of smart devices, interactive experiences can also be enhanced through sculptural elements that evoke sensory stimulation. For example, a sculpture depicting a dilapidated robot overtaken by climbing plants creates a post-apocalyptic scene that prompts visitors to contemplate and reflect. This type of interactive landscape stimulates visitors' senses and encourages meaningful engagement with the environment.

Furthermore, the park can incorporate dynamic elements such as kinetic sculptures or interactive installations that respond to visitors' movements or gestures. For instance, a series of interactive light sculptures that change color or pattern in response to nearby movement create an immersive and playful atmosphere, inviting visitors to actively participate in shaping their surroundings.

By integrating these interactive landscape strategies, "Blossoms in the Clouds" park transforms into a dynamic and engaging environment that stimulates visitors' senses, fosters reflection, and encourages active participation. These interactive elements enhance the overall visitor experience and contribute to the park's identity as a vibrant and innovative urban oasis.

5.2.5 Ecological Revetment Strategy

Incorporating the existing shoreline conditions into the revetment design for "Blossoms in the Clouds" park involves a combination of approaches to address erosion control and enhance ecological resilience. Here are the proposed revetment design strategies:

Natural In-water Features: Where feasible, creating natural in-water features such as submerged logs, boulders, and aquatic vegetation to provide habitat for aquatic species and stabilize the shoreline. These features mimic natural riparian habitats and help dissipate wave energy, reducing erosion along the shoreline.

Vegetated Transition Zones: Establishing vegetated transition zones along the shoreline with native plantings that can tolerate periodic inundation. These transitional areas serve as buffers between the water and the land, stabilizing the soil, improving water quality, and providing habitat for wildlife.

Hard Revetments: Implementing hard revetments where necessary to provide structural support and erosion protection along vulnerable sections of the shoreline. Hard revetments may include materials such as riprap, concrete, or gabions, which offer long-term stability and durability in high-energy environments.

Boardwalk Revetments: Introducing boardwalk revetments along the shoreline to provide both structural support and recreational access for park visitors. These elevated walkways not only protect the shoreline but also offer opportunities for scenic views and wildlife observation, enhancing the visitor experience.

Ecological Monitoring and Adaptive Management: Establishing a monitoring program to assess the effectiveness of the revetment design over time and make adjustments as needed. Monitoring parameters may include vegetation establishment, erosion rates, water quality, and wildlife presence. Adaptive management ensures that the revetment design remains responsive to changing environmental conditions and achieves its ecological objectives.

By integrating these revetment design strategies, "Blossoms in the Clouds" park can effectively manage erosion, enhance habitat diversity, and create a resilient shoreline that contributes to the overall ecological health and aesthetic appeal of the park.

5.2.6 Planting Strategies

The planting strategies for "Blossoms in the Clouds" park prioritize the preservation and enhancement of existing vegetation while incorporating diverse plant communities to promote biodiversity and create visually appealing landscapes **(Figure 5-6)**.

(Figure 5-6) Plant Spatial Strategy

Here's an expanded version integrating the provided content:

Preservation of Existing Vegetation: The park aims to retain the integrity of its original plant communities, particularly mature trees, which serve as valuable habitat and contribute to the park's aesthetic appeal. The majestic trees, including those in the cypress grove along the lake, are essential ecological and scenic features that will be carefully preserved.

Enhancement of Shoreline Vegetation: In conjunction with the revetment design, efforts will be made to enrich the aquatic and shoreline plant communities. Native aquatic plants and riparian species will be selected to stabilize the shoreline, provide habitat for aquatic life, and enhance the park's ecological diversity.

Promotion of Native Species: Native plant species will be prioritized throughout the park to support local biodiversity and ecosystem resilience. These species are well-suited to the local climate and soil conditions, requiring minimal maintenance while providing essential habitat and food sources for wildlife.

Integration with Plaza Design: Areas designated for plaza development will be carefully integrated with existing vegetation, with a focus on preserving mature trees and incorporating them into the plaza design. This approach not only maintains the park's greenery but also provides shade, habitat, and aesthetic value to the gathering spaces.

Seasonal Variation and Edible Landscaping: Plant selections will consider seasonal variation to ensure year-round interest and beauty in the park. Additionally, edible landscaping elements will be incorporated, featuring fruit-bearing trees and shrubs, as well as culinary

herbs, to provide both visual interest and opportunities for community engagement and education.

Water-wise Practices and Sustainability: Water-wise landscaping practices will be employed to minimize water consumption and promote sustainability. This includes the use of drought-tolerant species, efficient irrigation systems, and rainwater harvesting techniques to reduce the park's environmental footprint and support long-term ecological health.

By implementing these planting strategies, "Blossoms in the Clouds" park will not only preserve its natural heritage but also create a biodiverse, sustainable, and visually stunning environment for visitors to enjoy and appreciate.

5.3 Bubble Diagram

Building upon the aforementioned strategic analysis, optimizing the site's structure, expanding its road classification system, and adding more functional spaces, while leveraging existing vegetation resources, ensures ecological integrity while creating a more engaging park. This allows visitors to gradually comprehend and reflect upon the impact of science and technology on human life during their exploration, ultimately fostering a deeper connection with nature **(Figure 5-7)**.
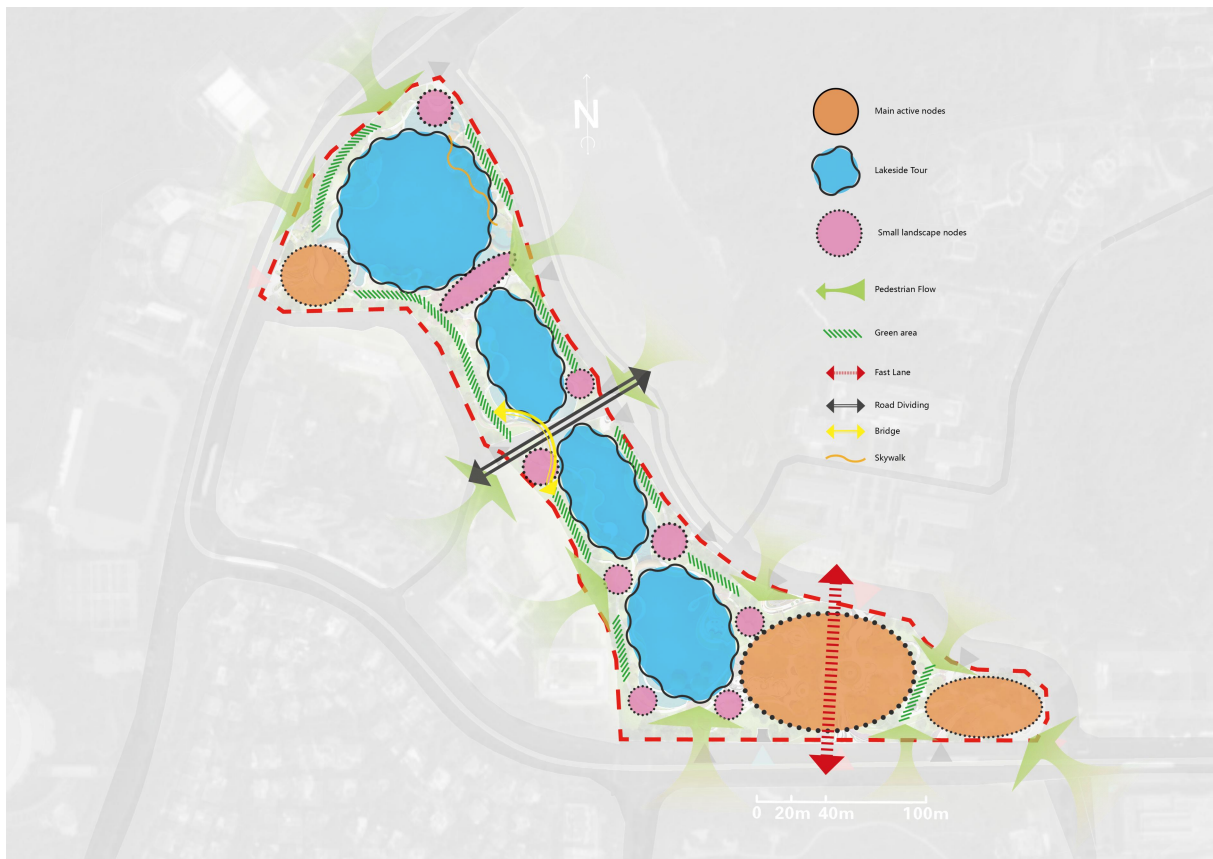
(Figure 5-7) Bubble Diagram

6. Planing Design

6.1 Master Plan

In the overall master plan **(Figure 6-1)**, efforts were made to preserve the original terrain and vegetation of the site as much as possible, while adjusting the landscape structure to better integrate the surrounding area with the interior. The road system was planned and graded, with a focus on adding secondary lakeside tour routes in the lakeside area, connecting different viewpoint platforms at different elevations. In response to the positioning of the surrounding population, functional spaces were added and improved, with a major gathering square added in the southeast corner as the main entrance to the park. Positioned at the junction of major transportation routes, it experiences a high volume of pedestrian traffic as it serves as the interchange between the subway station and bus stops. Overall, these adjustments have made the touring routes of the site more fluid and diverse, increasing the space for visitors to linger.

(Figure 6-1) Master Plan

6.2 Road System Planning

Incorporating the park's overarching conceptual theme, the road design serves as a narrative thread connecting various thematic spaces imbued with storytelling elements. It guides visitors through an experiential journey where they not only engage in recreational activities but also gain knowledge through interactive learning experiences. The design concept emphasizes the integration of educational elements seamlessly into the park's landscape, providing opportunities for visitors to learn about science and nature as they explore. By intertwining scenic routes with educational content, the roads become conduits for both physical movement and intellectual engagement, enriching the overall visitor experience and fostering a deeper connection with the park's thematic concepts **(Figure 6-2)**.

Main Entrance
Secondary Entrance
Parking lot
Main road
Secondary road
Bridge
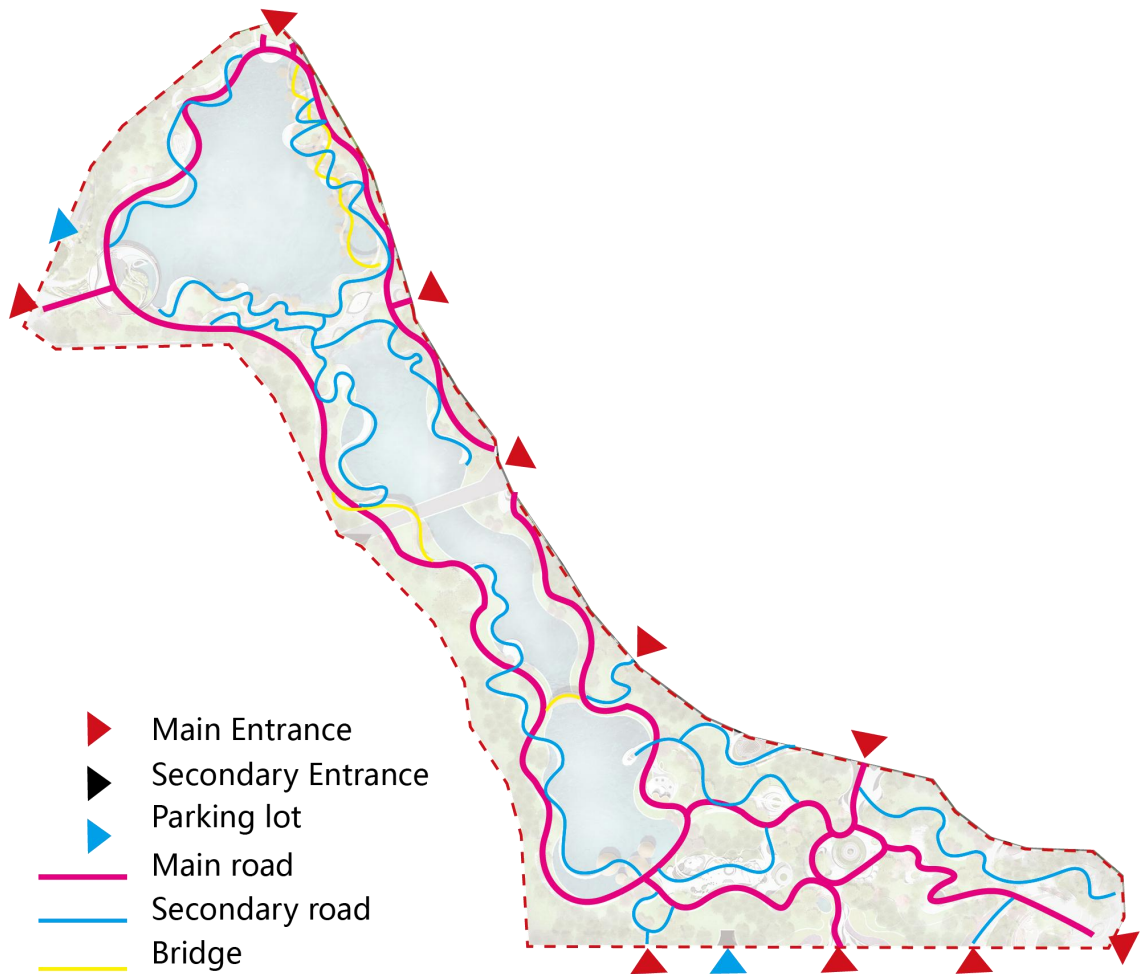
(Figure 6-2) Road System

6.3 Spatial Zoning

The overall space consists of lakeside areas, plaza areas, and forested areas, each interconnected through four narrative threads, comprising five thematic zones and over twenty landscape nodes. Thus, the spatial narrative is designed around "Interactive Experience Spaces," "Contemplative Sculpture Spaces," "Exploration Discovery Spaces," and "Awakening Reshaping Spaces." These include smart interactive areas, leisure contemplation zones, children's play areas, sports and fitness zones, and lakeside viewing areas, among others. The over twenty landscape spaces are distributed across various zones, with the lakeside viewing area featuring additional landscape spaces such as elevated walkways through the cypress forest, cascading waterfalls between lake areas, and platforms for water play. These designs not only enhance the park's functional spaces but also leverage the site's characteristics to enrich the playfulness and breadth of the viewing experience **(Figure 6-2)**.

(Figure 6-3) Functional Zoning

6.4 Landscape View Planning

The landscape structure is reimagined to embrace the site's attributes and accommodate the diverse user needs, transitioning into a tri-ring multi-axis landscape configuration. Building upon the existing framework, this new design approach emphasizes fluidity and connectivity, facilitating seamless movement and engagement throughout the park.

The tri-ring multi-axis structure introduces three concentric rings, each serving as a distinct layer of experience within the landscape. These rings intersect with multiple axes, creating dynamic pathways that traverse the park and connect its various amenities and attractions. By organizing the space into concentric rings, the design optimizes circulation patterns and enhances accessibility, allowing visitors to explore the park in a structured yet immersive manner.

Furthermore, the landscape structure is tailored to accommodate different user groups and activities, with designated zones for leisure, recreation, and contemplation strategically integrated within the rings. This thoughtful arrangement ensures that every corner of the park is utilized effectively, catering to the diverse preferences and interests of visitors

Overall, the transition to a tri-ring multi-axis landscape structure enhance organization and functionality of the park, offering an enriched experience that seamlessly, integrates with the site's natural features and user dynamics **(Figure 6-4)**.
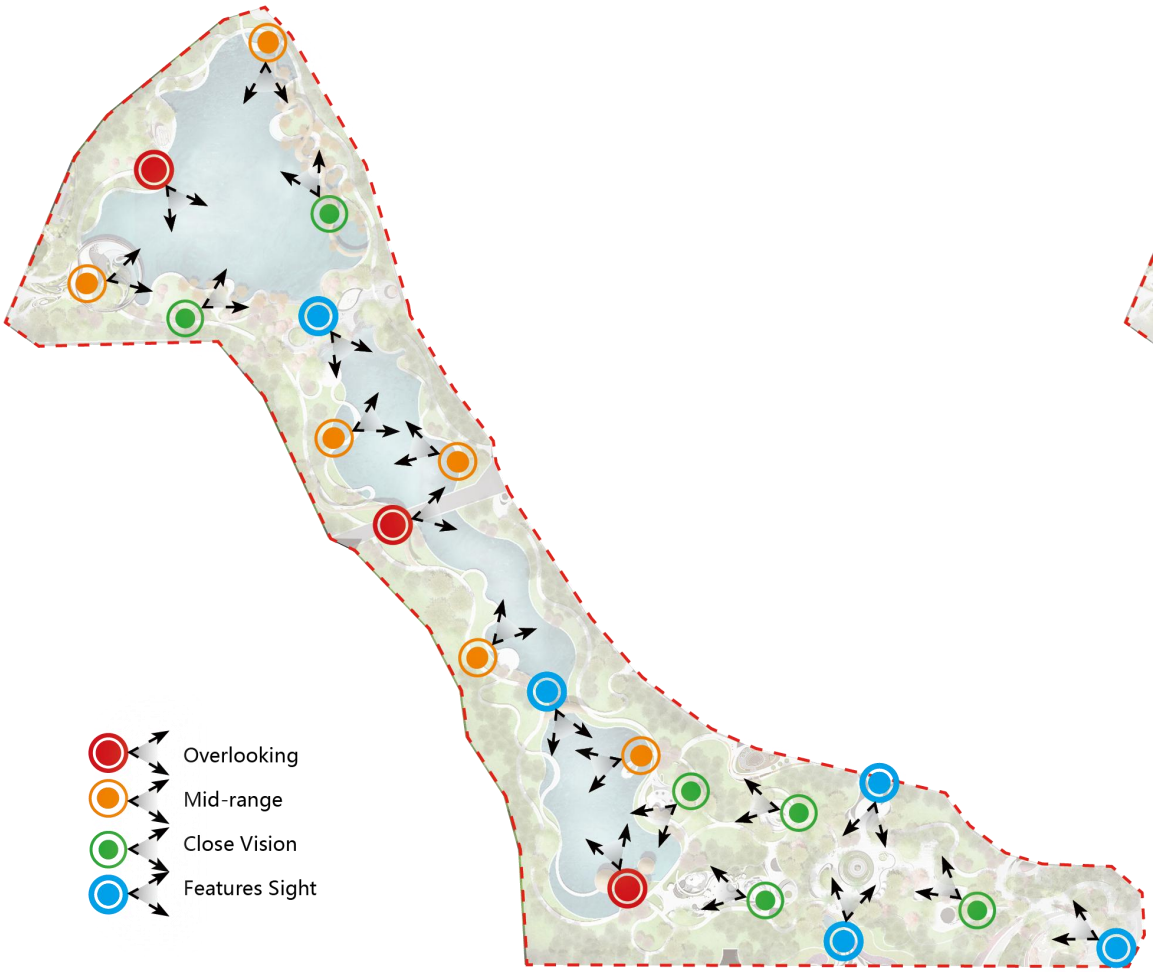
(Figure 6-4) View Planning

6.5 Planting Design

In the Guangzhou region, while there is a rich variety of plant species, parks with evergreen backgrounds are abundant. Therefore, incorporating the existing sequoia forests and peach blossom groves within the park's interior not only aligns with principles of ecological sustainability but also enriches the visitor experience. These features offer a diverse array of seasonal aesthetics, from the vibrant hues of red and yellow trees in autumn to the delicate pink blossoms in spring, providing visitors with unique and immersive encounters with nature throughout the year.

The planting design aims to create a harmonious and vibrant natural environment that complements the park's overall concept and enhances the visitor experience. It embraces the principles of biodiversity, sustainability, and aesthetic appeal to enrich the landscape with diverse vegetation.

• The approach to planting design involves:

Preservation of Existing Vegetation: Where feasible, existing vegetation, especially mature trees, is preserved to maintain the site's ecological balance and heritage. These trees serve as focal points and anchors within the landscape, providing shade, habitat, and visual interest.

• Native and Adaptive Species Selection:

Emphasis is placed on selecting native plant species adapted to the local climate and soil conditions. These species not only thrive with minimal maintenance but also support local ecosystems and wildlife. Additionally, adaptive species that can tolerate a range of environmental conditions are incorporated to ensure resilience and longevity.

• Variety and Composition:

A diverse palette of plant species is carefully curated to create visual interest and seasonal variation throughout the park. The planting composition considers factors such as color, texture, height, and bloom time to achieve a dynamic and ever-changing landscape.

Different plant communities, such as flowering meadows, woodland groves, and wetland habitats, are integrated to offer diverse habitats and sensory experiences.

• Ecological Functionality:

The planting design prioritizes ecological functionality by promoting soil health, water conservation, and biodiversity. Planting schemes incorporate techniques such as rain gardens, bioswales, and green roofs to manage stormwater runoff and improve water quality. Additionally, pollinator-friendly plants are included to support local insect populations and promote ecosystem resilience.

• Seasonal Interest and Maintenance:

The planting design is carefully curated to provide year-round interest, with seasonal blooms, foliage color changes, and fruiting periods. Maintenance considerations, such as irrigation requirements, pruning regimes, and pest management strategies, are incorporated into the design to ensure the long-term health and vitality of the planted landscape.

Overall, the planting design seeks to create a cohesive and sustainable green infrastructure that enhances the aesthetic, ecological, and experiential qualities of the park, fostering connections between visitors and the natural world.

6.6 Visualizations

From the renderings and aerial views, it's evident that after the renovation and upgrade, Luogang Park's overall landscape structure has become more coherent and refined. The redesigned pathways offer a richer and more interconnected network, enhancing accessibility and facilitating seamless movement throughout the park.

(Figure 6-5) Visualization

Moreover, the park now boasts a diverse range of functional spaces tailored to the needs of the surrounding community, catering to various recreational activities and leisure pursuits. The stylistic characteristics of sculptures and architectural elements have also been refined to better reflect the distinctive cultural and geographical attributes of the region, further enhancing the park's aesthetic appeal and cultural significance **(Figure 6-5)**.

7. Detail Design

7.1 Layout Design

The Smart Interactive Plaza serves as the primary entrance to the park, characterized by its curved design that follows the natural contours of the landscape. Featuring interactive fountains and sculptures as the main focal points, the plaza not only captivates visitors but also functions as a gathering and dispersal area. Additionally, leisure zones and promenade areas have been integrated into the plaza, providing visitors with opportunities for relaxation and strolling. Furthermore, due to the presence of elevation differences, steps and retaining slopes have been incorporated **(Figure 7-1)**.

7.2 Sections

The sectional elevation illustrates how the steps, sculptural fountain, and other elements are integrated within the plaza, while also showcasing the visual impact of the botanical skyline to the north of the plaza **(Figure 7-2)**.

A-A' Section 1:250

B-B' Section 1:200

(Figure 7-2) Section

7.3 Drainage Design

On one hand, the site features elevation differences, which can be effectively utilized for drainage purposes. Slopes can be leveraged to facilitate water flow, and drainage outlets can be strategically placed at pavement transitions and around water features such as fountains to prevent water accumulation on the plaza **(Figure 7-3)**.
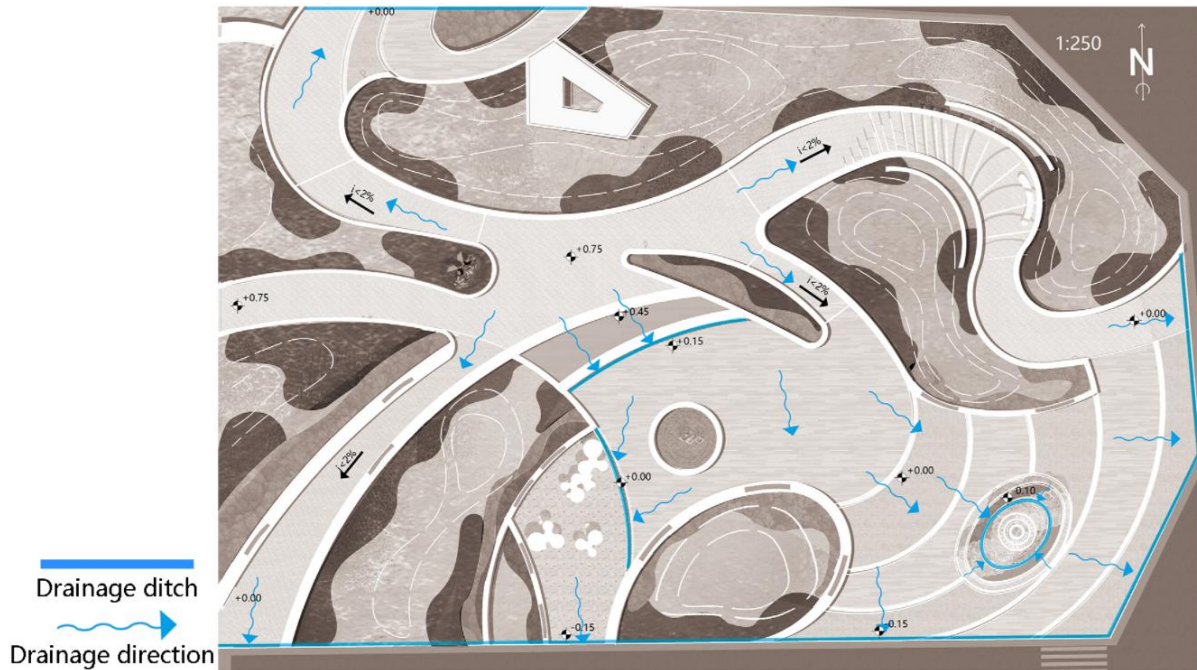
(Figure 7-3) Drainage Design

On the other hand, integrating permeable pavement into the design allows for eco-friendly drainage solutions **(Figure 7-4)**. Rainwater can be directed to permeable surfaces, where it permeates slowly into tree pits or underground reservoirs, replenishing groundwater and supporting the growth of vegetation. This dual approach to drainage design not only ensures effective water management but also promotes ecological sustainability within the site.
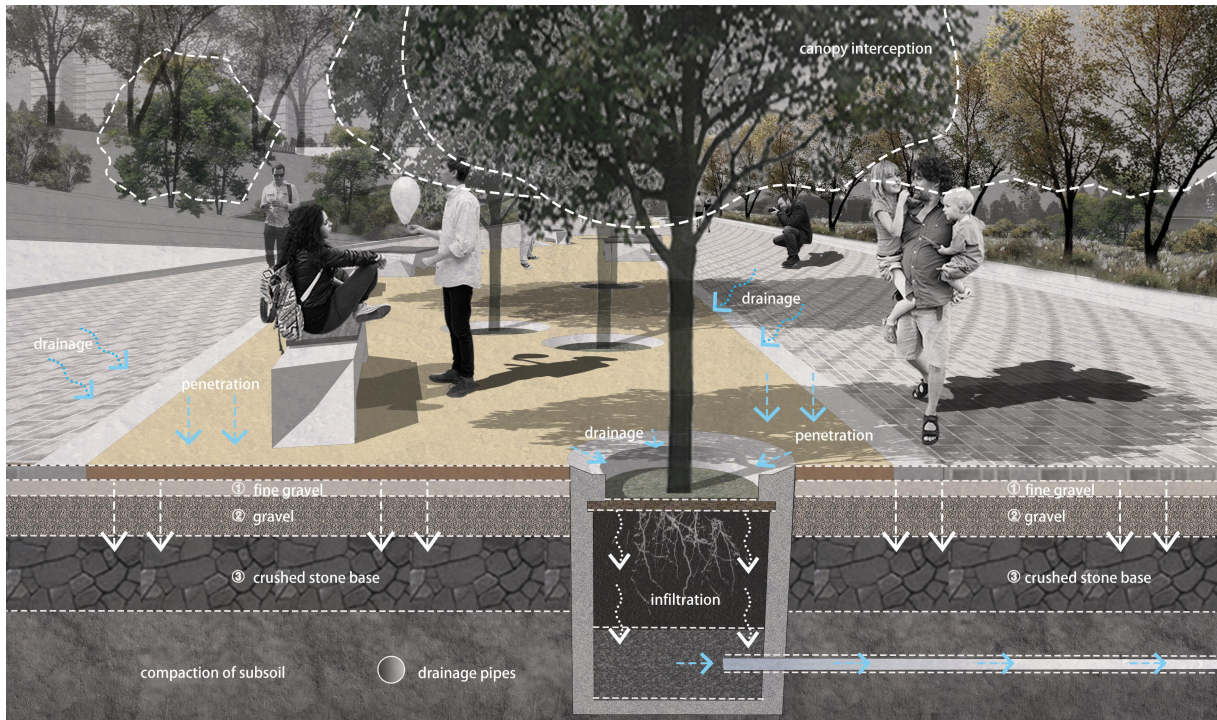
(Figure 7-4) Drainage Design

7.4 Planting Design

The planting design adheres to the principle of preserving mature trees, with only three trees obstructing the entrance being removed. The remaining mature trees are retained **(Figure 7-5)**. Additionally, three Royal Palms are newly planted in the spacious plaza area, complementing the landscape. The shrub layer is carefully arranged, with perennial flowering plants integrated into the terrain **(Figure 7-6)**. Near the mature trees and leisure areas, shrubs like Red Ixora and Fukien Tea are planted, while shade-tolerant plants like Nephrolepis are introduced in shaded areas. The main entrance plaza is adorned with flowering plants such as Roses, enhancing its aesthetic appeal **(Figure 7-7)**.

Before Design:

Vegetation is too dense

Site requirements:

Crowd gathering space

Planting plan

After design:

Suitable plaza

Existing plants

Planned plants

Plants to be cut down
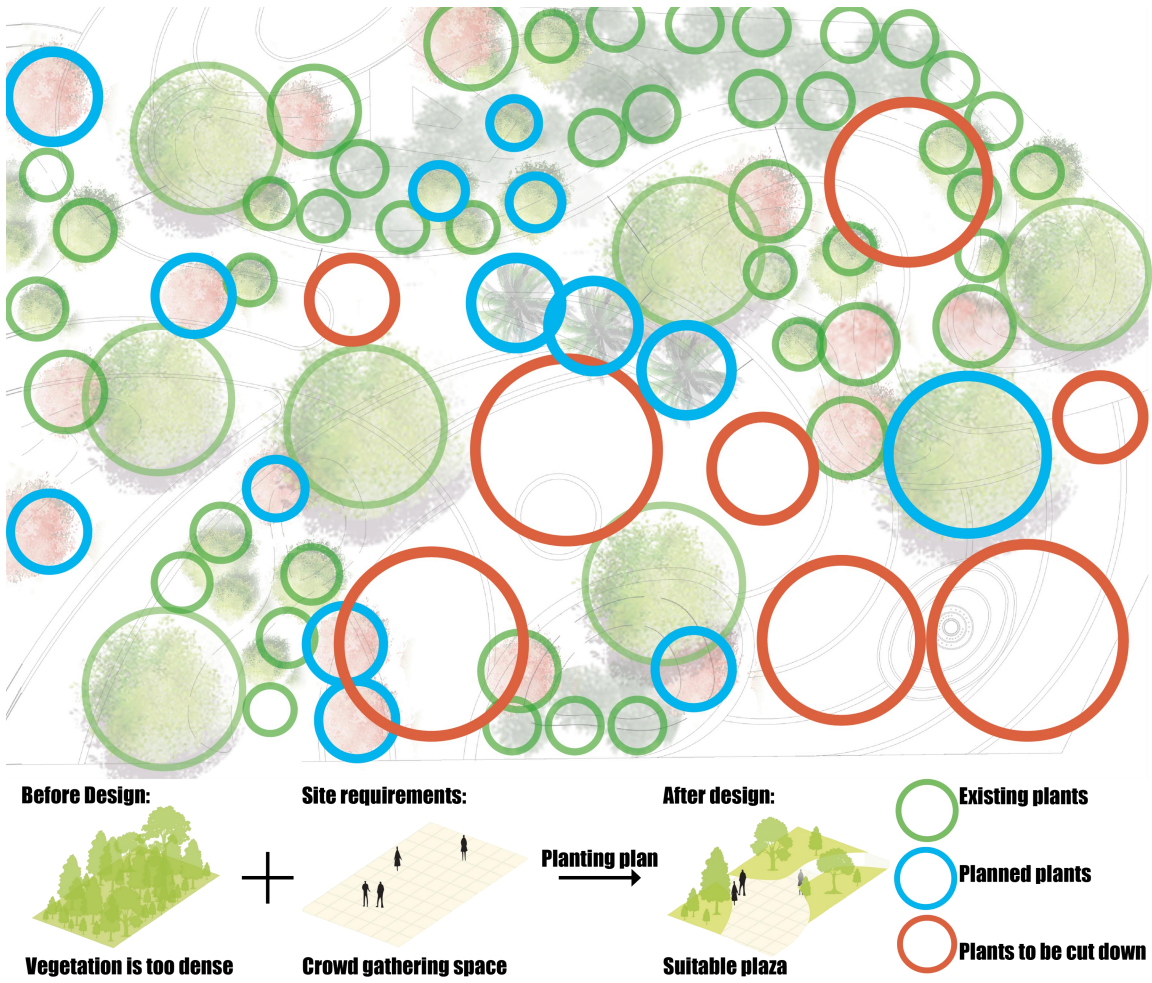
(Figure 7-5) Plant Design

Tree Distribution

1:250

N

Cinnamomum camphora (12)

Cassia fistula (14)

Delonix regia (2)

Lagerstroemia indica (10)

Acer rubrum (3)

Cocos nucifera 'Giant' (3)

Citrus reticulata (3)

Ficus microcarpa(5)

Paulownia fortunei(2)
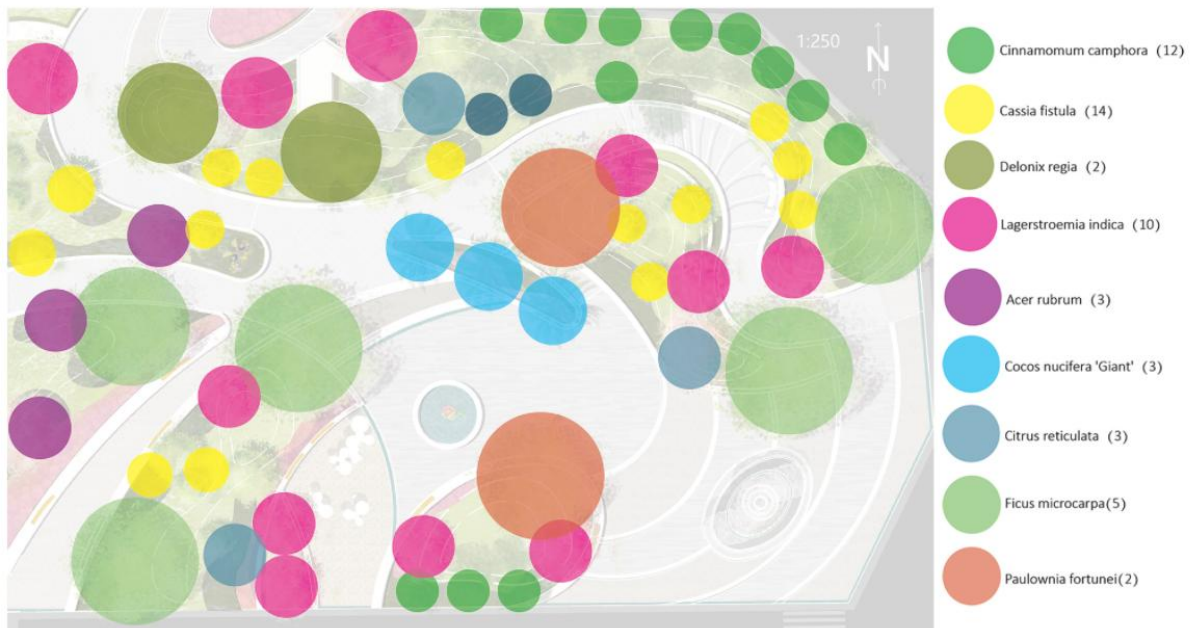
(Figure 7-6) Plant Design

Shrub and Flower Distribution

1:250

N

- Grass
- Shrub
- Perennial Flowers
- Perennial Flowers

(Figure 7-7) Shrub Design

Tree

Cinnamomum camphora Cassia fistula Delonix regia Lagerstroemia indica Acer rubrum Cocos nucifera 'Giant' Citrus reticulata Ficus microcarpa Paulownia fortunei

Shrub

Photinia serratifolia Rhododendron simsii Ligustrum lucidum Asplenium nidus Hibiscus rosa-sinensis

Perennial Flower

Camellia japonica Nerium oleander Chrysanthemum indicum Narcissus Lilium

Oenothera biennis Bauhinia variegata Dendrobium Rosa Rudbeckia fulgida

(Figure 7-8) Plant selection

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Plant selection should also consider the lighting conditions **(Figure 7-9)**. The paved areas of the plaza receive abundant sunlight throughout the day, making them suitable for sun-loving plants. In contrast, the pergola areas remain shaded for most of the day, making them ideal for leisurely strolls. Therefore, plant selection should fully consider the site's lighting characteristics.
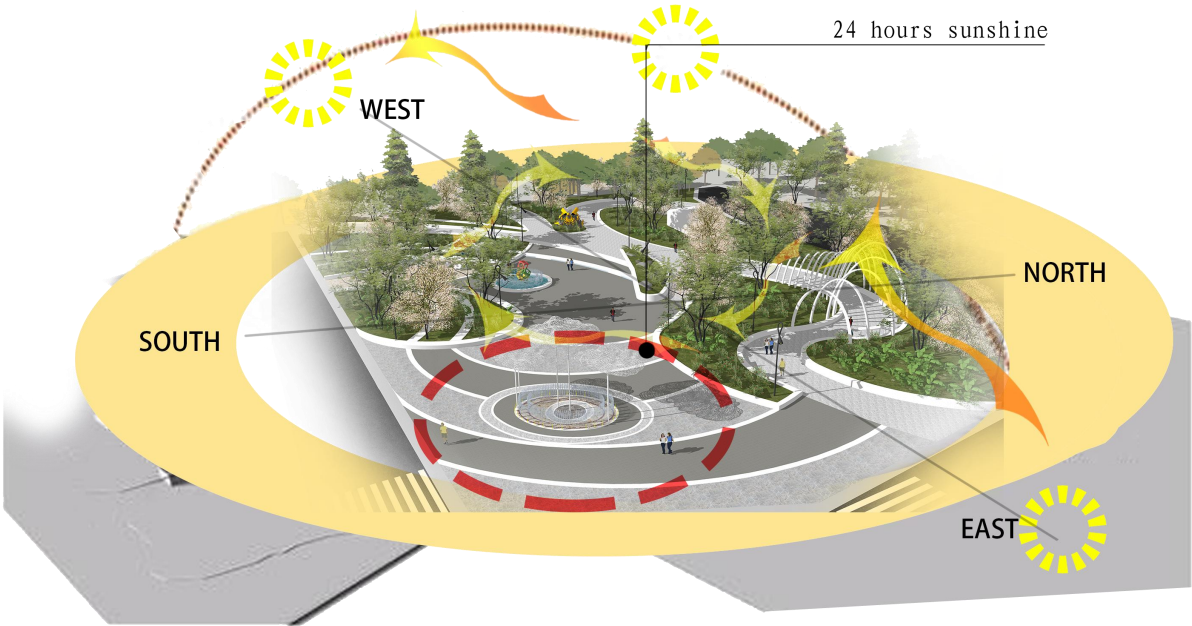
(Figure 7-9) Sunlight Analysis

		SPECIES	MAIN CHARACTER	USDA ZONES	HEIGHT OF THE PLANT(M)	NUMBER OF PIECES PER SQUARE METER	TOTAL SQUARE METER	TOTAL NUMBER
Tree	1	Delonix regia	Flamboyant red flowers during summer	10-12	5-12			2
	2	Ficus microcarpa	Dense foliage, aerial roots	7-11	2-30			5
	3	Paulownia fortunei	Fast-growing, large heart-shaped leaves	5-9	10-20			2
	4	Cocos nucifera	Palm with large coconuts	10-12	15-30			3
	5	Cinnamomum camphora	Evergreen tree, aromatic leaves	8-11	10-20			12
	6	Acer rubrum	Brilliant red autumn foliage	3-9	15-25			3
	7	Cassia fistula	Golden yellow flowers in spring	10-12	10-20			14
	8	Citrus reticulata	Evergreen tree, small orange fruits	8-11	2-5			3
	9	Lagerstroemia indica	Colorful flowers in summer, attractive bark	7-9	2-6			10
Shrub	1	Photinia serratifolia	Spring to summer, Red leaves	6-9	2-6	3-5	20	5
	2	Rhododendron simsii	Spring, Red flowers	8-10	1-3	1-3	6	3
	3	Ligustrum lucidum	Spring to summer, Golden leaves	7-10	2-6	2-4	6	2
	4	Asplenium nidus	-	9-11	0.3-0.6	10-15	72	6
	5	Hibiscus rosa-sinensis	Summer to autumn, Various (depends on cultivar)	9-11	1-3	1-2	6	6
Perennial Flowers	1	Camellia japonica	Late winter to early spring, Various (red, pink, white)	7-9	2-6	3-5	20	80
	2	Oenothera biennis	Summer to early autumn, Yellow	3-9	0.5-1	10-15	15	200
	3	Nerium oleander	Spring to summer, Various (pink, white, red)	8-10	1-3	1-3	25	50
	4	Bauhinia variegata	Spring, Purple/pink	9-11	5-12	1-2	20	25
	5	Chrysanthemum indicum	Late summer to autumn, Various (yellow, orange, red)	5-9	0.5-1	10-15	15	220
	6	Dendrobium	Varies depending on species, Various (varies depending on species)	10-12	0.2-1	15-20	20	300
	7	Narcissus	Spring, Yellow/white	4-9	0.2-0.5	20-30	10	200
	8	Rosa	Spring to autumn, Various (depends on species)	4-9	0.5-2	3-5	15	45
	9	Lilium	Summer, Various (depends on species)	3-9	0.5-2	5-10	30	160
	10	Rudbeckia fulgida	Yellow/orange，Summer to fall	3-9	0.5-1.5	5-10	20	150

(Figure 7-10) Plant Table of Main Plant Species

7.5 Pavement Design

The pavement design utilizes gray-black flamed granite and fragmented light-yellow ice-cracked stone, laid in curves to create a dynamic yet harmonious effect **(Figure 7-11)**. Grass steps are predominantly adorned with white paint, while white marble is used for wave lines between the two types of paving. Stone serves as road curbing, with light-colored

permeable bricks as the primary material. Fountain pools are primarily constructed using tiles and cobblestones.

plaza paving

garden path paving

sesame grey granite

sesame black granite

sesame white granite

imitation stone permeable brick

yellow rust stone granite
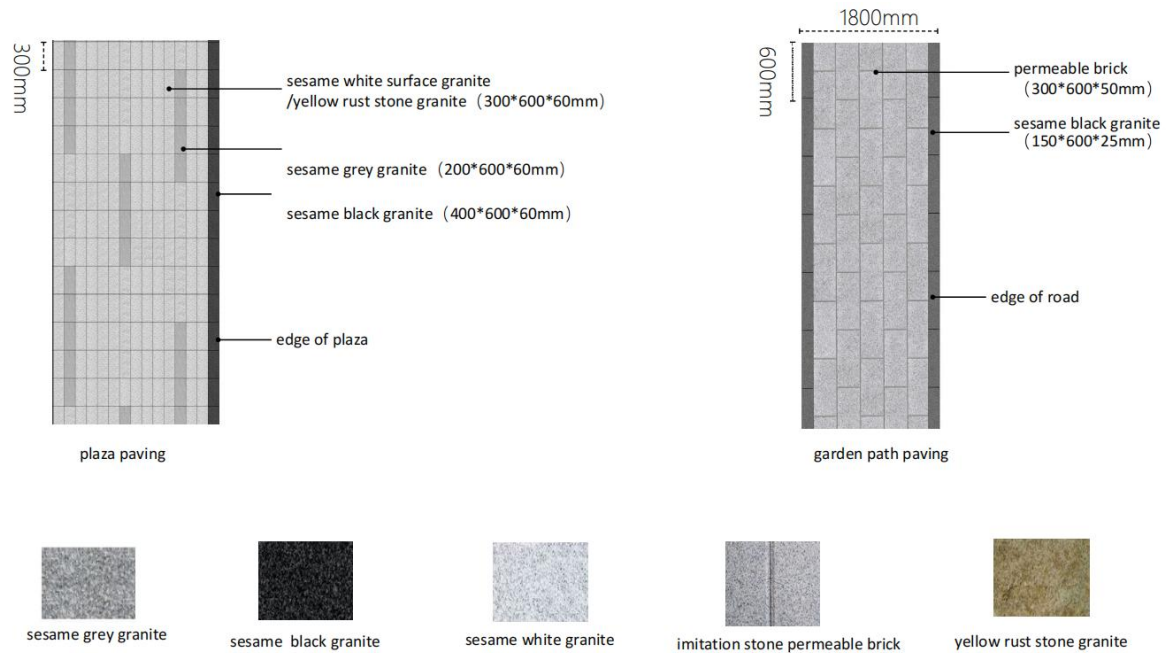
(Figure 7-11) Pavement Design

7.6 Technical Details

The sectional structure diagram of the fountain fully showcases the details of its dimensions and material composition **(Figure 7-12)**.

light yellow polished terrazzo

preservative-treated wood

(Figure 7-12) Bench Design

Top view

Side view

Bird's-eye view

Stone paving
Leveling layer

Cement mortar
Crushed stone
Concrete
Compacted earth

450mm

5500mm
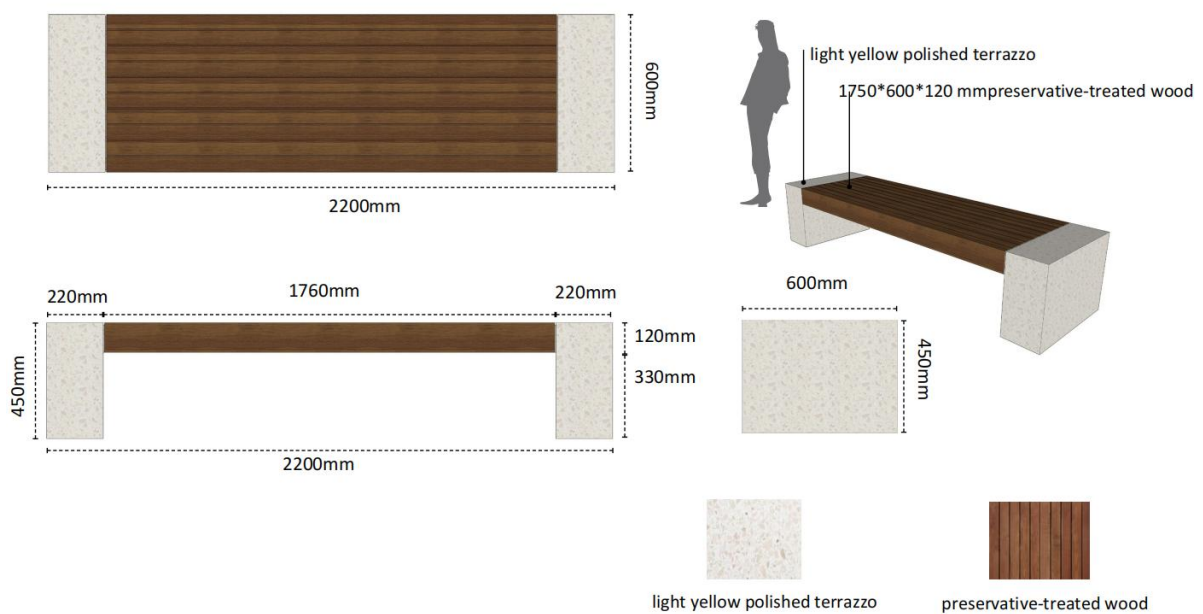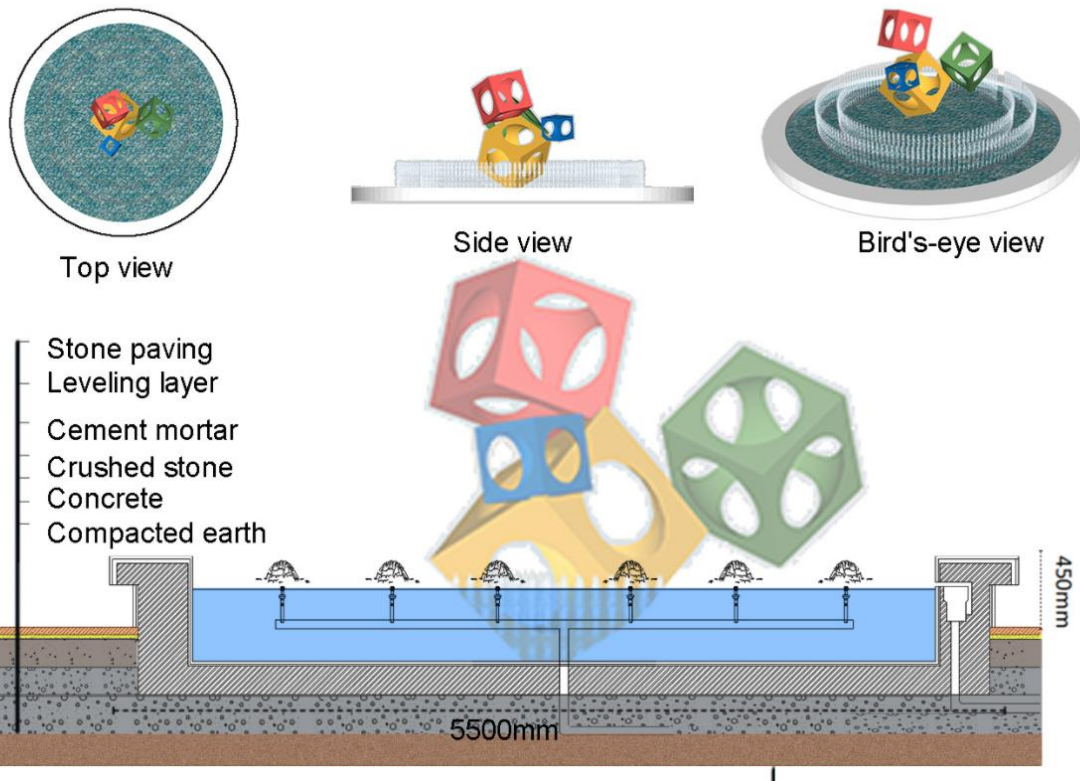
(Figure 7-13) Fountain Design

7.7 Visualizations

(Figure 7-14) Visualization

(Figure 7-15) Visualization

(Figure 7-16) Visualization

(Figure 7-17) Visualization

(Figure 7-18) Visualization

(Figure 7-19) Visualization

(Figure 7-20) Visualization

(Figure 7-21) Visualization

(Figure 7-22) Visualization

(Figure 7-23) Visualization

8. Conclusion

This thesis explores innovation and application in the landscape design of modern urban parks, using the "Blossoms in the Clouds" park project as a case study. The project integrates technology and nature, aiming to provide a multifunctional park that combines science education, leisure entertainment, and ecological conservation.

In this thesis, we first conducted a detailed analysis of the current situation of the site, covering issues such as the natural environment, user demographics, road structure, and plant resources. Through an in-depth analysis of the current situation, we identified the foundation and direction of the park design.

In the design strategy section, we proposed a concept consisting of four stages: Integration of Technology and Nature, Reflection and Contemplation, Balance and Connection, and Awakening and Reshaping. These stages gradually guide the development of the park, aiming to evoke visitors' respect and awareness of nature and promote harmonious coexistence between humans and nature.

In terms of specific design, we emphasized spatial structure, road design, interactive landscapes, and planting details. Through reasonable layout and material selection, we created a park space that is both aesthetically pleasing and practical, providing a diverse range of touring experiences and science education content.

Finally, through the presentation and summary of the design results, we envision that the "Blossoms in the Clouds" park will become an urban green lung, providing an ideal place for citizens to connect with nature and interact with technology. Additionally, it will contribute positively to ecological conservation and public science education.

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Appendix

diploma 2025

BLOSSOMS IN THE CLOUDS
--Luogang Technology Theme Park Renovation and Upgrade 01

Sponsors
nka Nemzeti Kulturális Alap
ORMOS IMRE ALAPÍTVÁNY

Regional Overview

CHINA
GUANG ZHOU
LUO GANG
Changling
Guangzhou
CITY CENTRE
30-minute drive 15-20km
SHU XI ROAD
XIANG XUE ZHO ROAD
site
XIANG XUE ROAD

The park is located in the central area of Luogang, Guangzhou City, surrounded by mountains, covering an area of about 13 hectares, mainly to green landscaping with water-based eco-leisure park. The park is generally divided into two areas, the eastern area for the Public Square, is the public fitness, exchange, leisure and other multi-functional, complex activities, the western region is mainly artificial water features, create a natural, simple promenade, leisure space.

Climate Analysis

Annual Rainfall Variation in Guangzhou City

In Guangzhou City, annual rainfall is abundant, especially during the summer months.

Annual Temperature Variation in Guangzhou City

Average Temperature/℃   Highest Temperature/℃   Lowest Temperature/℃

The average temperature in summer is around 30 degrees Celsius, while in winter it's around 15 degrees Celsius.

NORTH   WEST   EAST   SOUTH

Analysis of Historical and Cultural Heritage

As an important port city in southern China, Guangzhou played a crucial role in the trade along both the ancient Silk Road and the Maritime Silk Road. Over time, Guangzhou gradually developed into a vibrant commercial center as well as a hub for culture, art, and religion. Apart from its rich historical and cultural heritage, Guangzhou is also one of the representatives of modernized cities. Guangzhou possesses a thriving economy and advanced modern urban facilities. Therefore, the position of the modern scientific city in Guangzhou is very important.

Environment Analysis

Economic and Technological Advancement
The background of the era
The surrounding parks have well-equipped facilities.

The site is adjacent to government buildings.

Location is significant.
The site enjoys convenient transportation.

Educational significance
There are various schools and residential areas nearby.

Traffic Analysis

The site is adjacent to multiple stations and is centrally located in the area, providing convenient transportation access.

NATURAL PARK
PARK   PARK   PARK   PARK

User Demographic Analysis

Analysis chart of the usage status of different landscape functions across various age groups and time periods.

Children
Youth
Middle-aged
Elderly

6:00   8:00   10:00   12:00   14:00   16:00   18:00   20:00   22:00

Sports and fitness   Leisure and relaxation   Entertainment   Rest and socializing

Children — Safety, education, playfulness
Youth — Take Pictures, explore, sport
Middle age — Leisure, socializing, think
Elderly — Relax, work out, talk

Plant Status Analysis

Strelitzia reginae   Taxodium distichum   Nymphaea
Prunus serrulata   Rhododendron simsii

The overall vegetation is abundant, with some areas lacking shrubbery, while in other areas, the vegetation is overly dense.

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LANDSCAPE ARCHITECTURE AND GARDEN DESIGN MA PROGRAMME

BLOSSOMS IN THE CLOUDS
--Luogang Technology Theme Park Renovation and Upgrade 02

Spatial Analysis

- Plant Observation Space
- Pedestrian Flow Direction
- Scenic Route

Too concentrated
Leads to aesthetic fatigue
Appears monotonous outside flowering period

Distinctive Plant Space

- Plant Dense Space
- Scenic Structure
- Noise Direction

Some areas have overly dense vegetation.
Resulting in darkness.
Limited variety in tour routes.
Abundant vegetation but lacks color.
Excessive openness in other areas

Plant Dense Area

- Plant Dense Space
- Space Structure

Lack of cohesion
Too few in number
Diverse styles

Functional Space

- Water space
- Coastal Space

Lack of coastal space
Monotonous landscape
Isolated water bodies without connection

Water Space

Road system analysis

External site loop
Convenient transportation
The bridge divides the park into two sections

Primary road
Convenient but monotonous
Rich in landscape but lacking in roads

Secondary road

- Main entrance
- Secondary entrance
- Parking lot entrance
- External road
- Primary road
- Secondary road

Parking lot | Station | Main road | Bridge
Entrance | Pedestrian Walkway | Primary Walkway
Entrance | Entrance | Primary Walkway
Pedestrian Walkway | Pedestrian Walkway
Tideway | Wooden Boardwalk

1. The park's internal transportation has design limitations.
2. Access points lack clear guidance, leading to confusion and congestion.
3. Access points connect directly to surrounding roads without buffer space.
4. Central bridges disrupt roadways, reducing coherence and creating safety risks.
5. Reassessment and optimization of entrance, exit, and roadway layouts are necessary to enhance visitor experience and safety.

Spatial analysis

Lack of cohesion in waterfront area
Insufficient functionality in plaza area
Monotonous experience in touring area

- Tour Area
- Revetment Area
- Plaza Area

Spatial Division

Landscape Structure

Lack of unified axis in landscape structure
Dispersion of functional spaces
Lack of cohesion
Insufficient space along the lake area

- Main Space
- Small Space
- Landscape Axis

Landscape Structure

Sightline analysis

Open view at lake center
Monotonous view along lake shores
Plaza view blocked by vegetation

- Main Sightline
- Secondary Sightline

Sightline Analysis

Current Issues

Lack of cohesion in waterfront area

Insufficient functionality in plaza area

Monotonous experience in touring area

SWOT Analysis

strength
weakness
threat
opportunity

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DEPARTMENT OF GARDEN AND OPEN SPACE DESIGN

SUPERVISOR: ORSOLYA BAGDINÉ FEKETE

BLOSSOMS IN THE CLOUDS
--Luogang Technology Theme Park Renovation and Upgrade 03

Sponsors
nka Nemzeti Kulturális Alap
ORMOS IMRE ALAPÍTVÁNY

Concept

Background   Cage   Explore   Harmony

People live in an era of rapid development of science and technology.

People can stay at home through various devices and the internet.

There will be less and less contact between man and man and nature.

Only close to nature can really appreciate the flowers, only face-to-face communication can really know others.

Bubble Diagram

Main active nodes
Lakeside Tour
Small landscape nodes
Pedestrian Flow
Green area
Fast Lane
Road Dividing
Bridge
Skywalk

Considering surrounding area analysis, anticipated user demographics, and transportation environment, enhancing park landscape structure is necessary. Introducing diverse functional spaces and tour routes will enrich visitor experience.

Overall Strategy

Enjoy   Reflect   Explore   Awake

Clear the clouds and see the sun—Awake Platform

Exploring in the clouds—Tourist Spaces

Thinking in the cloud—Contemplative Art Spaces

Enjoy in the cloud—Interactive Landscape Area

Enhancing road network   Adding functional spaces   Science education   Relaxation and leisure

Phase One: Integration of Tech & Nature - Blending technology with nature through VR & AR experiences.
Phase Two: Reflection & Contemplation - Creating tranquil spaces with reflective sculptures.
Phase Three: Balance & Connection - Promoting harmony between humans and nature through touring spaces.
Phase Four: Awakening & Return - Inspiring respect for nature and meaningful interactions.
Final Vision: "Blossoms in the Clouds" - A vibrant urban oasis fostering harmony between humans and nature.

Road Design Strategy

Adding road classification   Incorporating functional spaces   Bridge construction to link sites

Transitioning from single roads to multi-tiered pathways, utilizing site topography and landscape resources, to introduce diverse tour routes. This enriches the visitor experience with more engaging and immersive opportunities.

Waterfront Strategy

Enriching lakeshore landscape   Ecological revetment   Natural revetment

To ensure the ecological nature of the waterfront while increasing interest, the use of native aquatic plants for protection, different heights and plant environment of the waterfront corresponding design.

Functional Space Strategy

Smart seating   Unique planter boxes   Understory seating

Artistic feature wall   Wind and rain shelter   Leisure pavilion

Science education   Lawn camping   Sculptural landscapes

Incorporating site characteristics to enrich functional spaces, express thematic concepts, and provide both recreational and educational experiences.

Plant Spatial Strategy

a   Creating expansive vistas.

b   Neat planting to enhance a sense of sequence.

c   Shrubbery for sightline control.

d   Enhancing spatial depth.

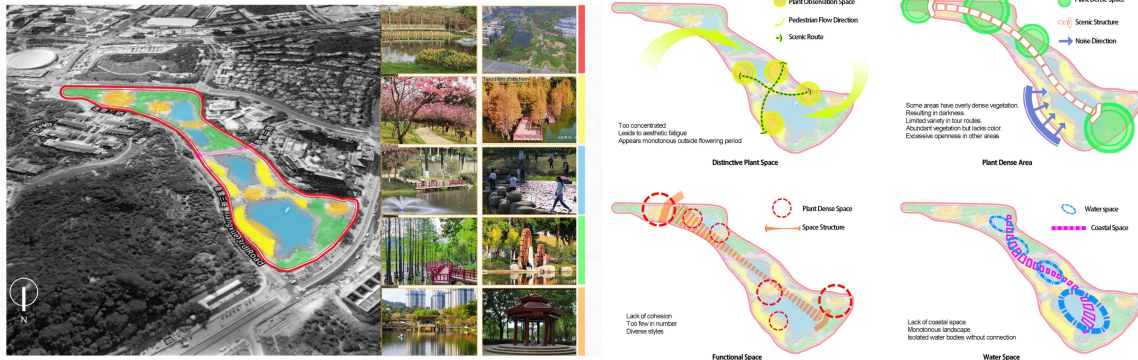e   Fostering a relaxed atmosphere through semi-private spaces.

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MATE

INSTITUTE OF LANDSCAPE ARCHITECTURE, URBAN PLANNING AND GARDEN ART
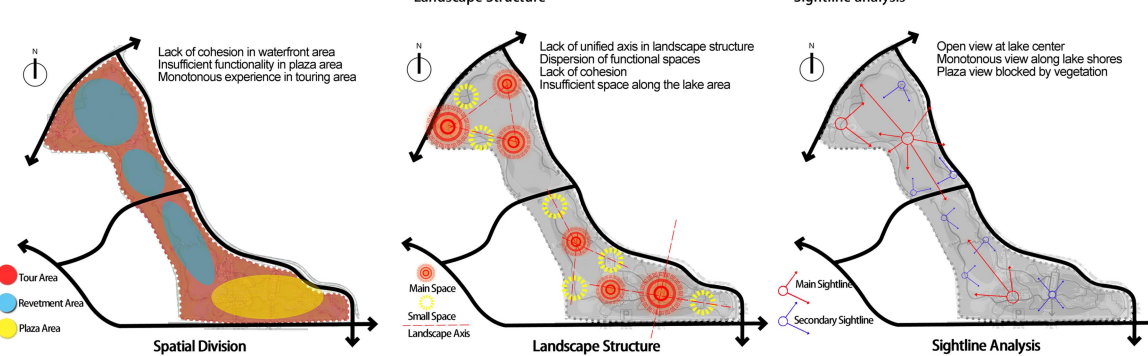LANDSCAPE ARCHITECTURE AND GARDEN DESIGN MA PROGRAMME

BLOSSOMS IN THE CLOUDS
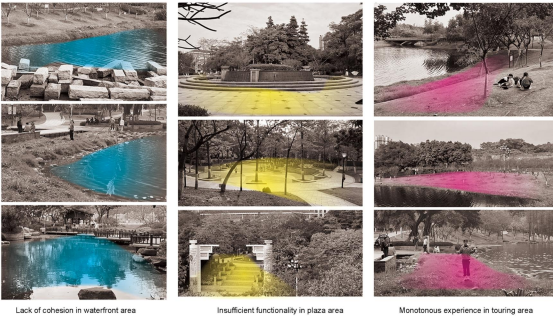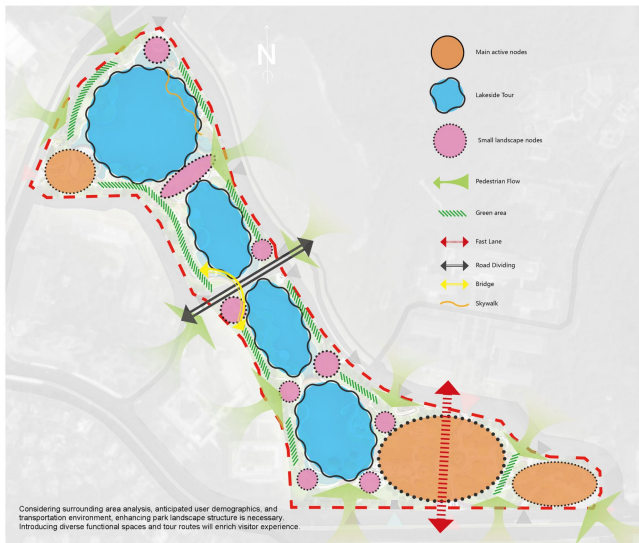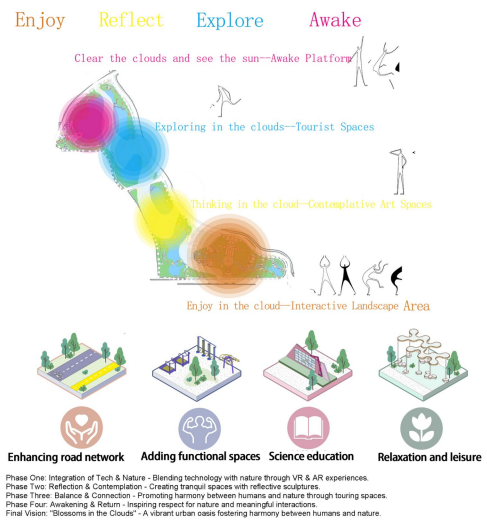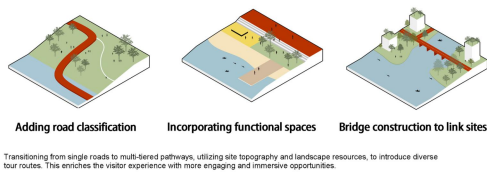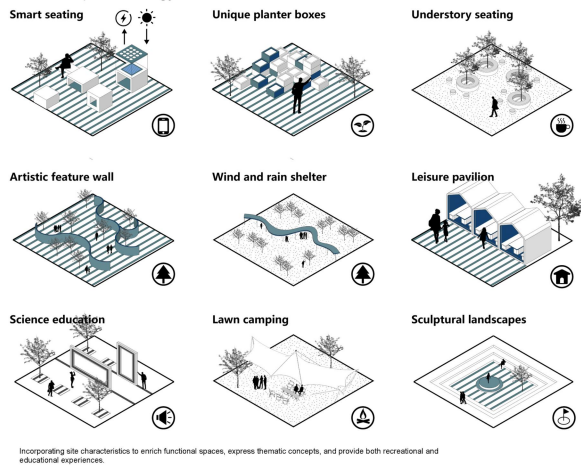## --Luogang Technology Theme Park Renovation and Upgrade 04

Master plan

Legend:
- Water
- Pavement
- Pavement
- Pavement
- Flower
- Pavilion
- Shrub
- High Tree
- Big Tree
- Small Tree
- Base Tree
- Wooden platform
- Sky walkway

N 1:2000

1. Interactive Plaza
2. Sculpture Valley
3. Central Axis Space
4. Station entrance
5. Children's activity space
6. Leisure Area
7. Communication space
8. Viewing Pavilion
9. Wooden platform
10. Ecological pontoon
11. Viewing platform
12. Middle Entrance
13. Sky Corridor
14. Ecological plank road
15. Water mist platform
16. Falling water landscape
17. Waterscape interactive space
18. Valley of Flowers
19. Canopy Walkway Area
20. Leisure Platform
21. Circle of Awakening
22. Parking Lot
23. Underground Parking Lot

The "Blooms in the Clouds" Park merges technology and nature to reconnect people with the natural world. Divided into four phases: integrating virtual reality experiences, providing spaces for reflection, designing guided tour areas, and inspiring respect for nature. Our vision is to create an urban oasis promoting harmony between humans and nature for a sustainable future.

0 20m 40m 100m

Road systerm

- Main Entrance
- Secondary Entrance
- Parking lot
- Main road
- Secondary road
- Bridge

Road classification
Integrating with terrain design
Enhancing landscape views
Enriching the visitor experience

Function

4.Awake
Viewing stop space

3.Explore
Visit the walking space

Leisure and communication space
2.Reflect

Interactive landscape space
1.Enjoy

Enhancing functional spaces
Enriching thematic concepts
Adding enjoyment

View point

- Overlooking
- Mid-range
- Close Vision
- Features Sight

Incorporating site conditions
Adding varied elevation views
Enriching skyline landscapes

Landscape Structure Analysis

- Main landscape space
- Small Landscape Node
- Landscape Axis

Reasonable distribution of spatial nodes
Even connections
Enhancing landscape structure

Visualization

Connecting two parts of the site and creating an elevated viewing platform.

Cloud-themed children's activity space, enhancing fun while also having educational significance.

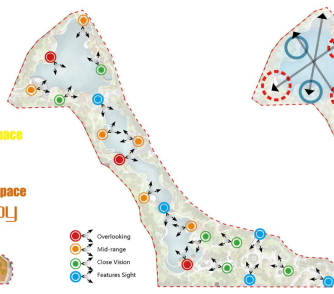Street-distributed recreational fitness areas for convenient use by elderly individuals.

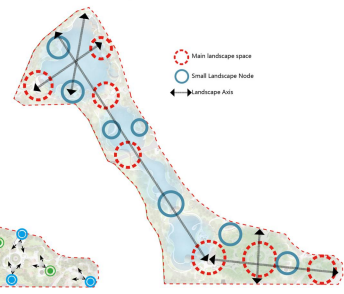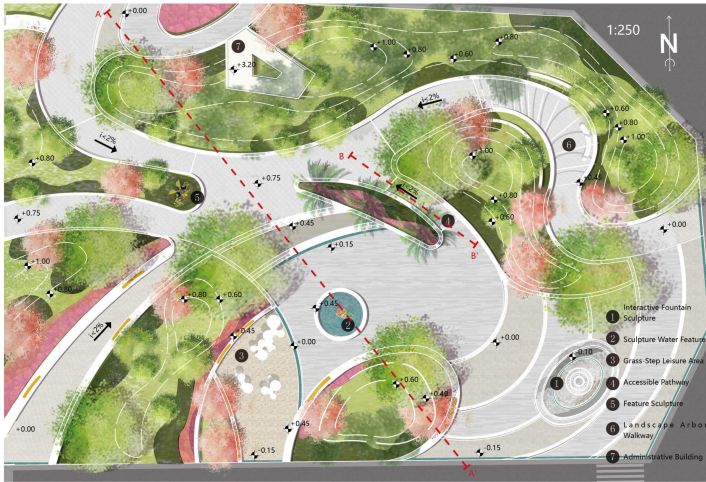The lakeside area can be enhanced with pavilions for both scenic viewing and relaxation.

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BLOSSOMS IN THE CLOUDS
--Luogang Technology Theme Park Renovation and Upgrade 05

Master plan

1:250

Fountain Sculpture
Pavement
Pavement
Pavement
Flower
Lawn
Shrub
High Tree
Big Tree
Small Tree
Base Tree
Drainage Ditch

Low
High

1. Interactive Fountain Sculpture
2. Sculpture Water Feature
3. Grass-Step Leisure Area
4. Accessible Pathway
5. Feature Sculpture
6. Landscape Arbor Walkway
7. Administrative Building
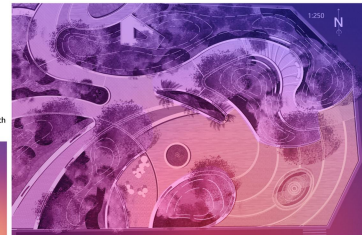
Sunlight Analysis
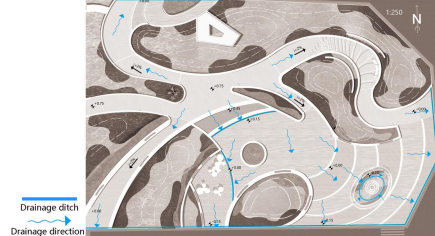

24 hours sunshine
WEST
NORTH
SOUTH
EAST

The plaza area enjoys ample sunlight, while the walkway under the pergola is mostly shaded throughout the day.

1:250

Section

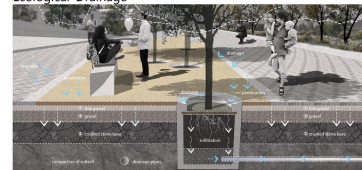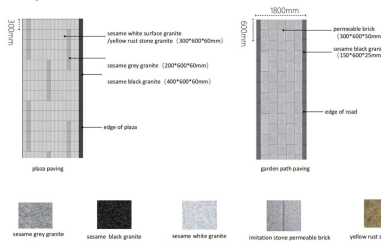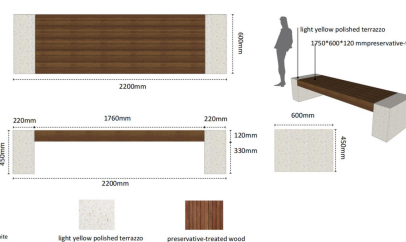
A-A' Section 1:250

B-B' Section 1:200

Drainage Analysis

1:250

Drainage ditch
Drainage direction

Ecological Drainage

Paving Materials

300mm

sesame white surface granite /yellow rust stone granite（300*600*60mm）
sesame grey granite（200*600*60mm）
sesame black granite（400*600*60mm）
edge of plaza

plaza paving

1800mm
600mm

permeable brick（300*600*50mm）
sesame black granite（150*600*25mm）
edge of road

garden path paving

sesame grey granite
sesame black granite
sesame white granite
imitation stone permeable brick
yellow rust stone granite
light yellow polished terrazzo
preservative-treated wood

Bench Details

1800mm
2200mm
600mm

light yellow polished terrazzo
1750*600*120 mm preservative-treated wood
600mm

220mm 1760mm 220mm
450mm
120mm
330mm
2200mm
450mm

Fountain Sectional Details
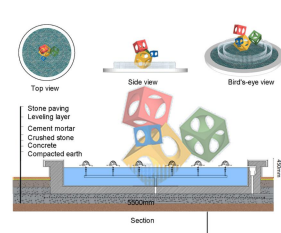
Top view
Side view
Bird's-eye view

Stone paving
Leveling layer
Cement mortar
Crushed stone
Concrete
Compacted earth

5500mm

Section

1. Cloud-shaped sculpture, interactive fountain

6. Sculptural pergola for leisurely strolling area

3. Feature pavilion resting area

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BLOSSOMS IN THE CLOUDS
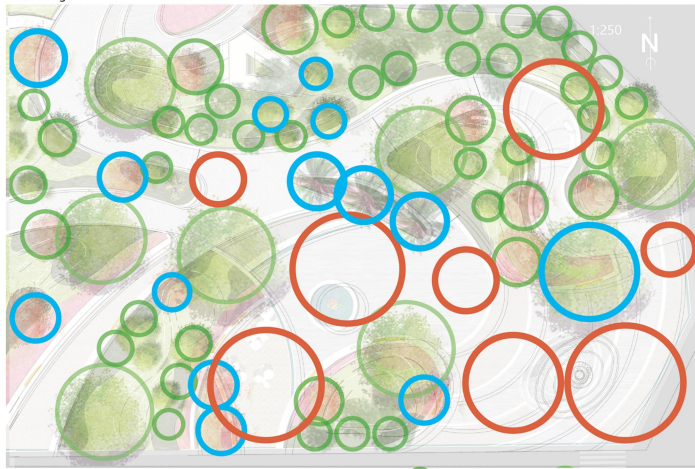## --Luogang Technology Theme Park Renovation and Upgrade 06

Plant Design

1:250 N

Tree Distribution

1:250 N

- Cinnamomum camphora (12)
- Cassia fistula (14)
- Delonix regia (2)
- Lagerstroemia indica (10)
- Acer rubrum (3)
- Cocos nucifera 'Giant' (3)
- Citrus reticulata (3)
- Ficus microcarpa (5)
- Paulownia fortunei (2)

Shrub and Flower Distribution

1:250 N

- Grass
- Shrub
- Perennial Flowers
- Perennial Flowers

Before Design: Vegetation is too dense

Site requirements: Crowd gathering space

Planting plan

After design: Suitable plaza

○ Existing plants
○ Planned plants
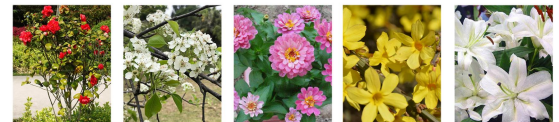○ Plants to be cut down

Multilayer Planting Strategy
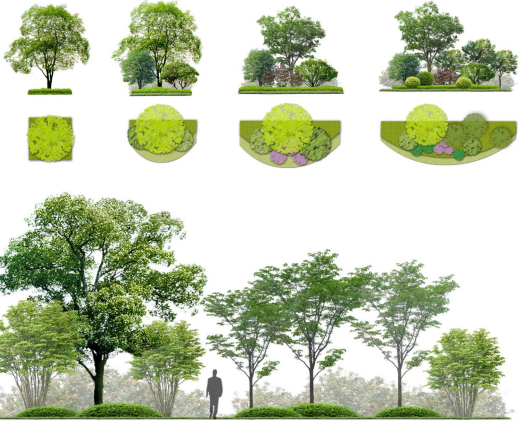
Plant List

		SPECIES	MAIN CHARACTER	USDA ZONES	HEIGHT OF THE PLANT(M)	NUMBER OF PIECES PER SQUARE METER	TOTAL SQUARE METER	TOTAL NUMBER
Tree	1	Delonix regia	Flamboyant red flowers during summer	10-12	5-12			2
	2	Ficus microcarpa	Dense foliage, aerial roots	7-11	2-30			5
	3	Paulownia fortunei	Fast-growing, large heart-shaped leaves	5-9	10-20			2
	4	Cocos nucifera	Palm with large coconuts	10-12	15-30			3
	5	Cinnamomum camphora	Evergreen tree, aromatic leaves	8-11	10-20			12
	6	Acer rubrum	Brilliant red autumn foliage	3-9	15-25			3
	7	Cassia fistula	Golden yellow flowers in spring	10-12	10-20			14
	8	Citrus reticulata	Evergreen tree, small orange fruits	8-11	2-5			3
	9	Lagerstroemia indica	Colorful flowers in summer, attractive bark	7-9	2-6			10
Shrub	1	Photinia serratifolia	Spring to summer, Red leaves	6-9	2-6	3-5	20	5
	2	Rhododendron simsii	Spring, Red flowers	8-10	1-3	1-3	6	3
	3	Ligustrum lucidum	Spring to summer, Golden leaves	7-10	2-6	2-4	6	6
	4	Asplenium nidus		9-11	0.3-0.6	10-15	72	6
	5	Hibiscus rosa-sinensis	Summer to autumn, Various (depends on cultivar)	9-11	1-3	1-2	6	6
Perennial Flowers	1	Camellia japonica	Late winter to early spring, Various (red, pink, white)	7-9	2-6	3-5	20	80
	2	Oenothera biennis	Summer to early autumn, Yellow	3-9	0.5-1	10-15	15	200
	3	Nerium oleander	Spring to summer, Various (pink, white, red)	8-10	1-3	1-3	25	50
	4	Bauhinia variegata	Spring, Purple/pink	9-11	5-12	1-2	20	25
	5	Chrysanthemum indicum	Late summer to autumn, Various (yellow, orange, red)	5-9	0.5-1	10-15	15	220
	6	Dendrobium	Varies depending on species, Various (varies depending on species)	10-12	0.2-1	15-20	20	300
	7	Narcissus	Spring, Yellow/white	4-9	0.2-0.5	20-30	10	200
	8	Rosa	Spring to autumn, Various (depends on species)	4-9	0.5-2	3-5	15	45
	9	Lilium	Summer, Various (depends on species)	3-9	0.5-2	5-10	30	160
	10	Rudbeckia fulgida	Yellow/orange, Summer to fall	3-9	0.5-1.5	5-10	20	150

Perennial Flowers

Camellia japonica — Nerium oleander — Chrysanthemum indicum — Narcissus — Lilium

Oenothera biennis — Bauhinia variegata — Dendrobium — Rosa — Rudbeckia fulgida

Shrubs

Photinia serratifolia — Rhododendron simsii — Ligustrum lucidum — Asplenium nidus — Hibiscus rosa-sinensis

Trees

Cinnamomum camphora — Cassia fistula — Delonix regia — Lagerstroemia indica — Acer rubrum — Cocos nucifera 'Giant' — Citrus reticulata — Ficus microcarpa — Paulownia fortunei

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MATE

DECLARATION

the public access and authenticity of the thesis/dissertation/portfolio[1]

Student's name: Luo Feiyang

Student's Neptun code: CG4UMY

Title of thesis: Blossoms in the Clouds -- Luogang Technology theme Park renovation and upgrade

Year of publication: 2024

Name of the consultant's institute: Institute of Landscape Architecture

Name of consultant's deparment: Department of garden and open space design

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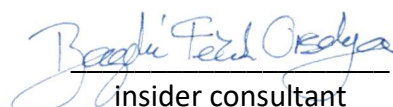_____Luo Feiyang_____
            Student's signature

DECLARATION

Bagdiné Dr. Fekete Orsolya (student Neptun code: CG4UMY)
as a consultant, I declare that I have reviewed the final thesis/thesis/dissertation/portfolio[1] and that I have informed the student of the requirements, legal and ethical rules for the correct handling of literary sources.

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The thesis contains a state or official secret: yes   <u>no</u>*[3]

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[2] The appropriate one should be underlined.
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