



# Project Statement

## Re-breathing Land: Hongqiao 1958 Ecological Park, Guangming District, Shenzhen, China

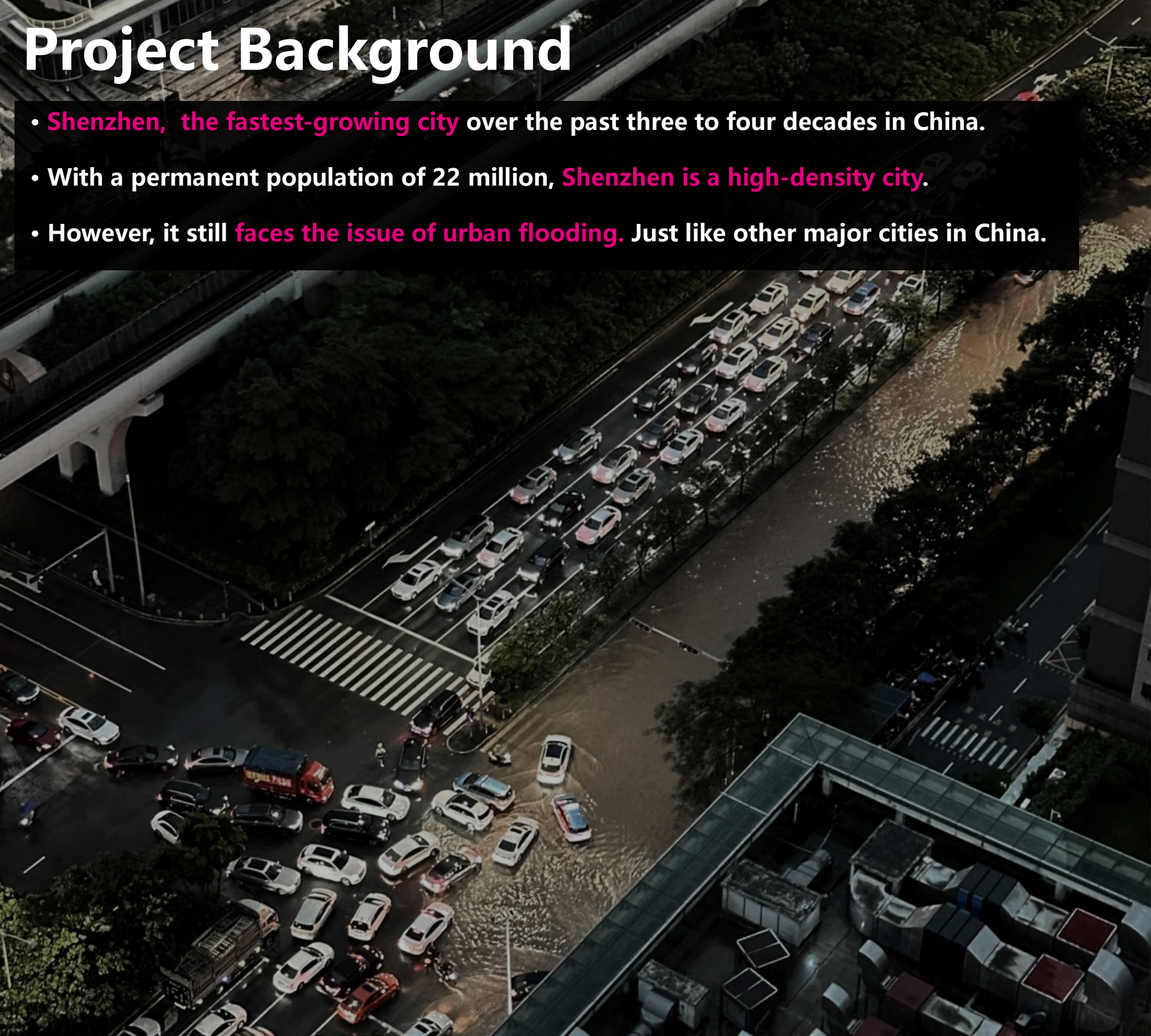
The Hongqiao 1958 ecological park in Guangming District, Shenzhen, China, has significantly improved the urban ecological environment and residents' quality of life through innovative stormwater management measures.

The project utilizes the natural topography of high sides and a low center, achieving earthwork balance by excavating lowlands and filling terraces, optimizing rainwater runoff paths. It employs a comprehensive stormwater management strategy of source reduction, process control, and terminal storage to ensure effective control and utilization of rainwater.

Through overall greening and low-impact development, the site's permeability and ecological stability are enhanced. The project's rain gardens, bioswales, and rainwater storage ponds naturally purify and reuse rainwater.

By integrating stormwater management with landscape design, the project not only addresses urban flooding issues through a landscape approach but also enhances the ecological and social value of urban green spaces, making it a model of urban stormwater management .





# Project Background

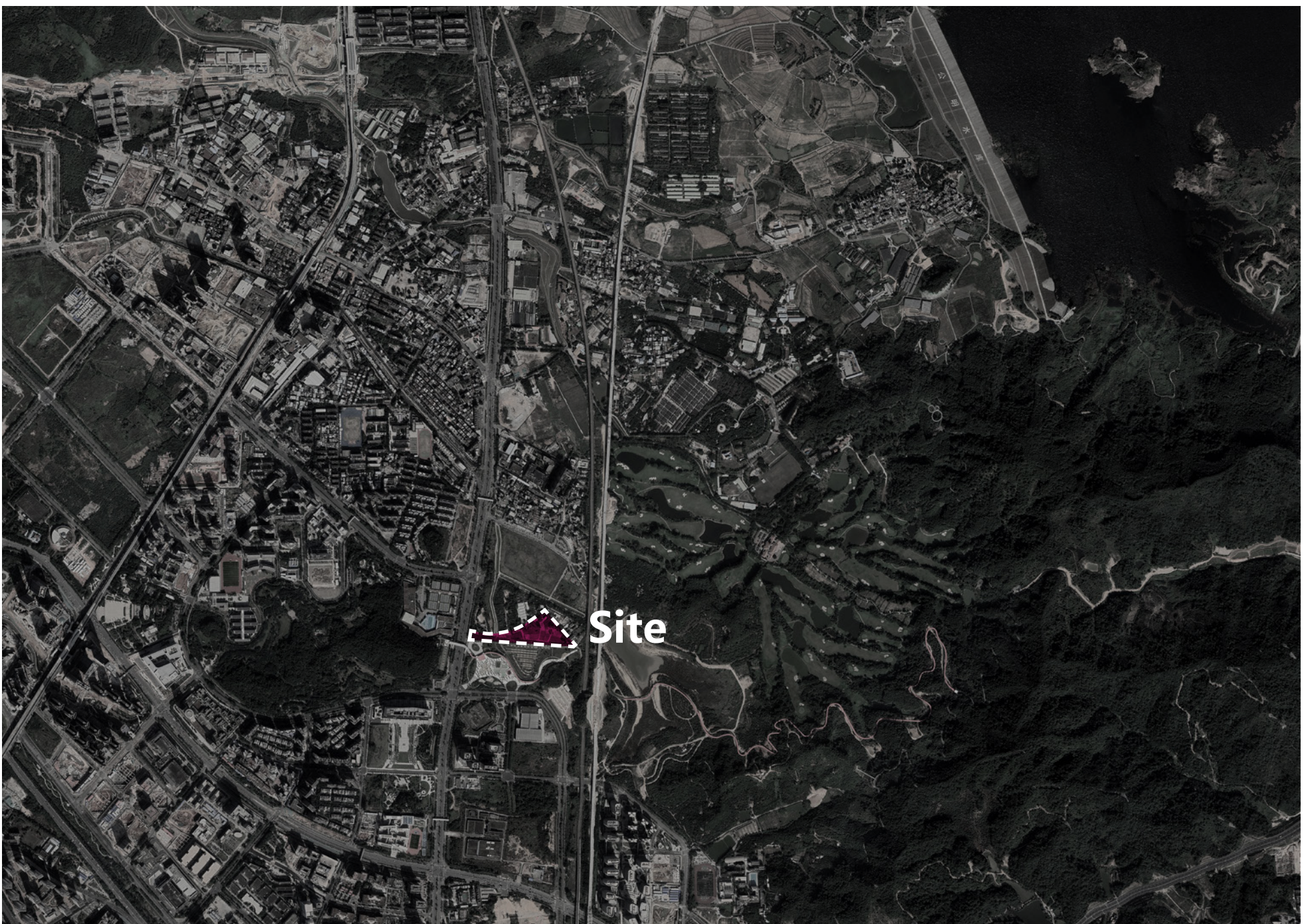
- **Shenzhen, the fastest-growing city** over the past three to four decades in China.
- With a permanent population of 22 million, **Shenzhen is a high-density city.**
- However, it still **faces the issue of urban flooding.** Just like other major cities in China.





# Project Location

This project is located in the eastern part of Guangming District, Shenzhen city in china.

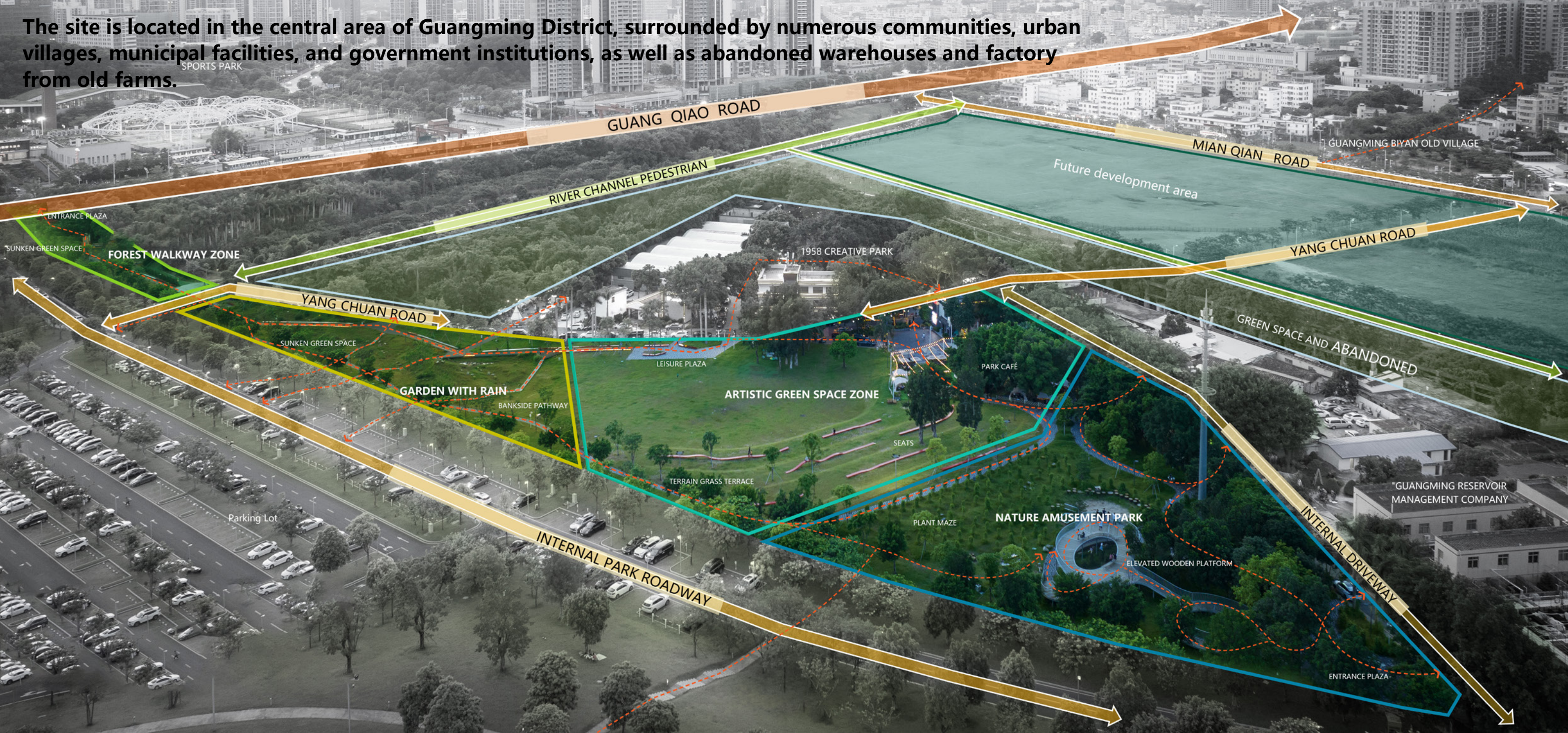




# Project Location

This project is located in the eastern part of Guangming District, Shenzhen city in china, covering an area of approximately 33,200 square meters.

The site is located in the central area of Guangming District, surrounded by numerous communities, urban villages, municipal facilities, and government institutions, as well as abandoned warehouses and factory from old farms.





# Master Plan





# Site Analysis

## Topography

The site features a topography with higher elevations on both sides and a lower center. This natural characteristic will be fully utilized in the renovation design.



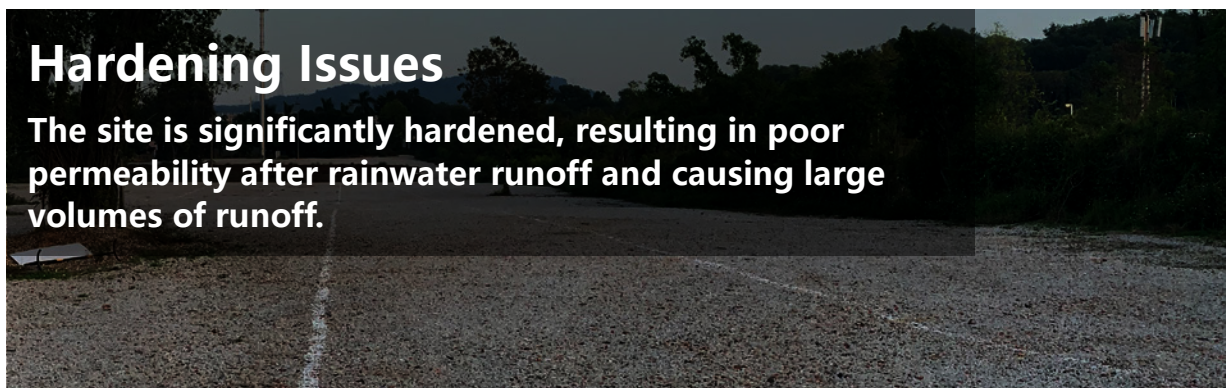
## Current Use

The site has been illegally used as a parking lot for a long time, leading to severe surface hardening and it gets extremely hot here in the summer.



## Hardening Issues

The site is significantly hardened, resulting in poor permeability after rainwater runoff and causing large volumes of runoff.



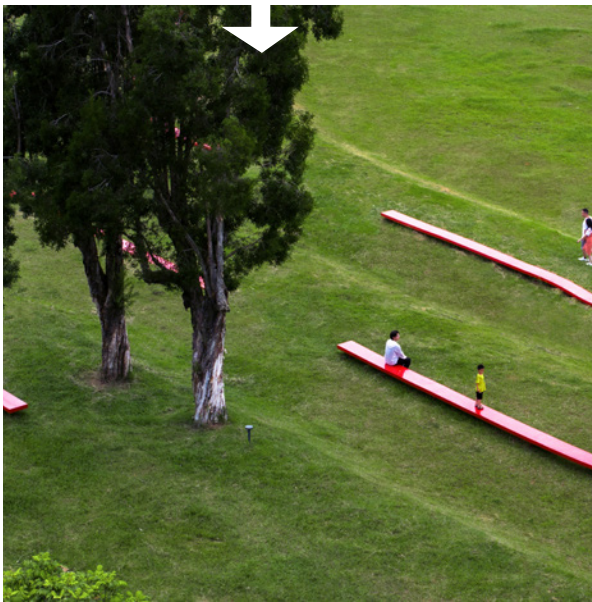
## Existing Vegetation

The site retains some large trees, which will be preserved and protected in the renovation design to enhance the site's ecological stability.



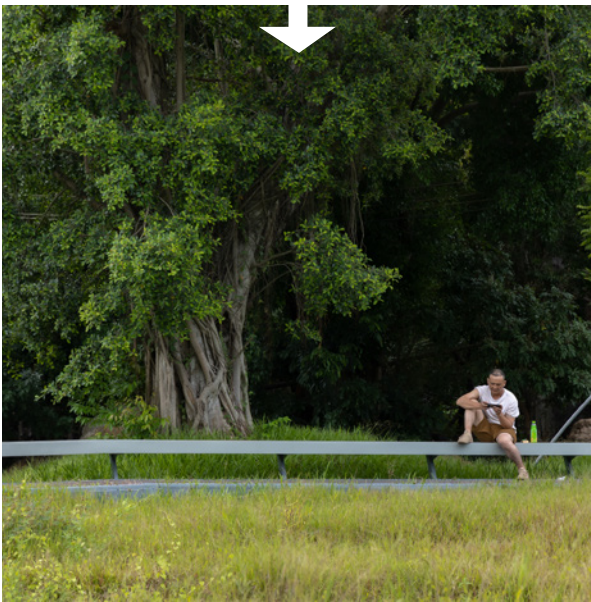
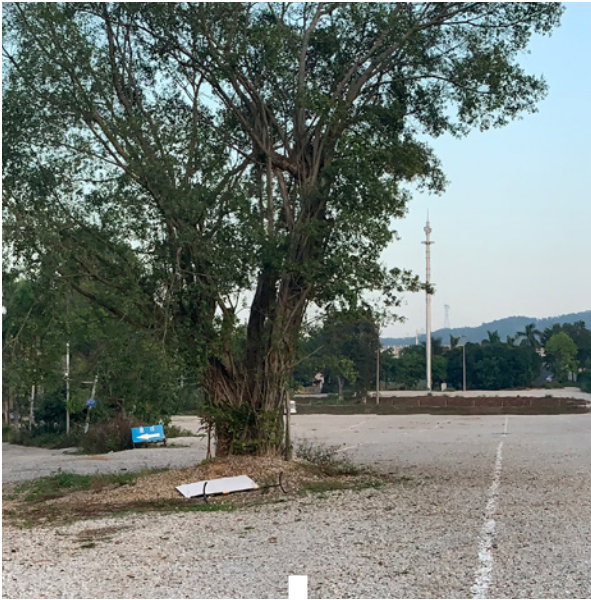


# Design Strategies



## • Topography Shaping

Achieve earthwork balance by excavating lowlands and filling terraces, reshaping the topography to optimize rainwater management and landscape effects.



## • Overall Greening

Increase green coverage by preserving existing trees and planting various native species to create a multi-layered green landscape, enhancing biodiversity.



## • Low-Impact Development

Adopt low-impact construction methods to minimize damage to the existing environment, using environmentally friendly materials and technologies to maintain the stability of natural ecosystems.



## • Rainwater Management

Design an efficient drainage system to reduce rainwater runoff, increase infiltration, and decrease hardened surface areas, thereby enhancing the site's permeability and water retention capacity.



## • Flexible Spaces

Create diverse public spaces with flexible and varied activity areas to meet the needs of different groups, enhancing the functionality and attractiveness of the site.



# Site Evolution

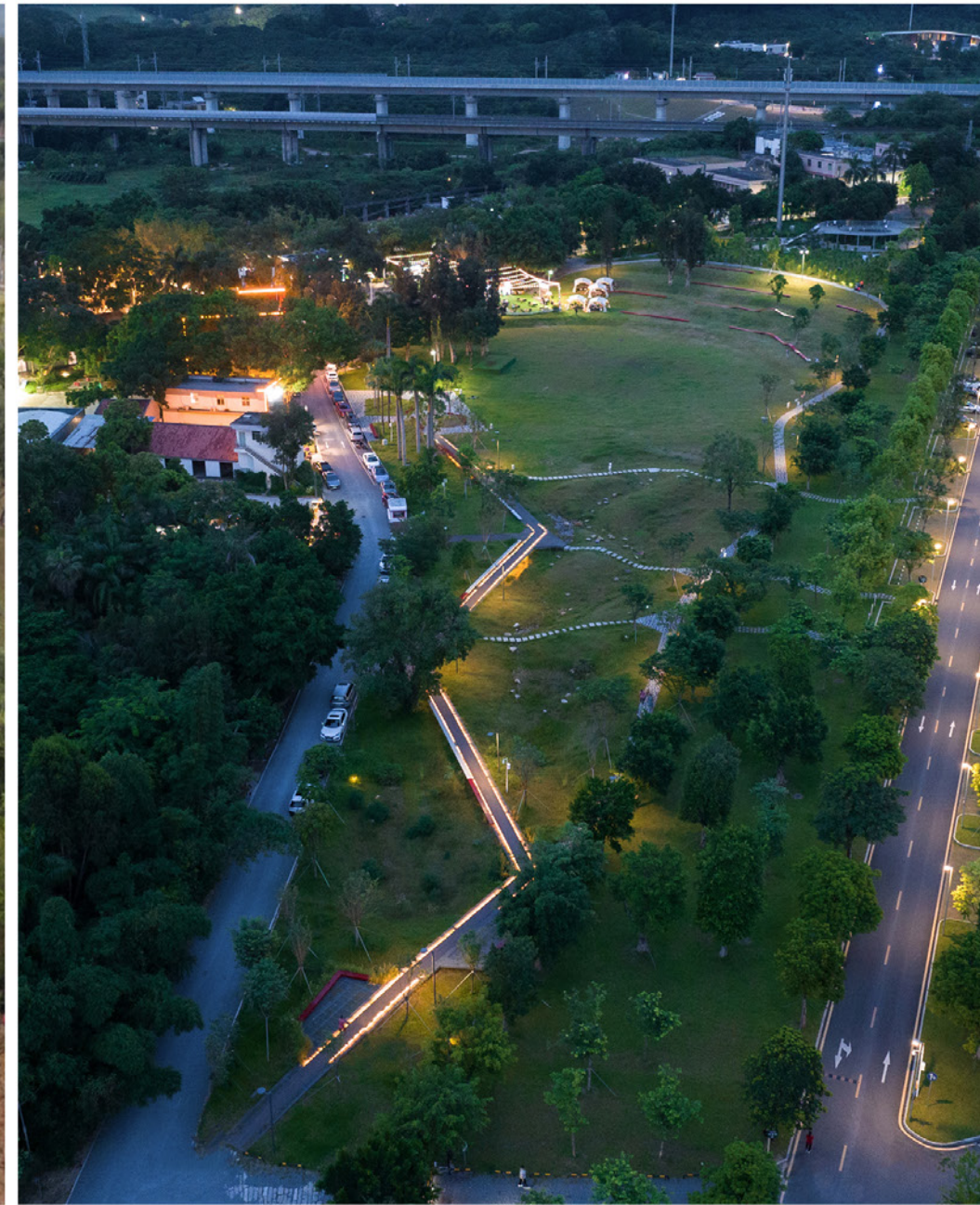
## Overall landscape changes



2021



2022



TODAY





# Site Evolution

## High-elevation areas

**Before**

illegally occupied parking lot



**Shape**

Utilize the original topography to shape the landscape



**Restore**

Replant vegetation to restore the land



**Grow**

Urban Ecological Park



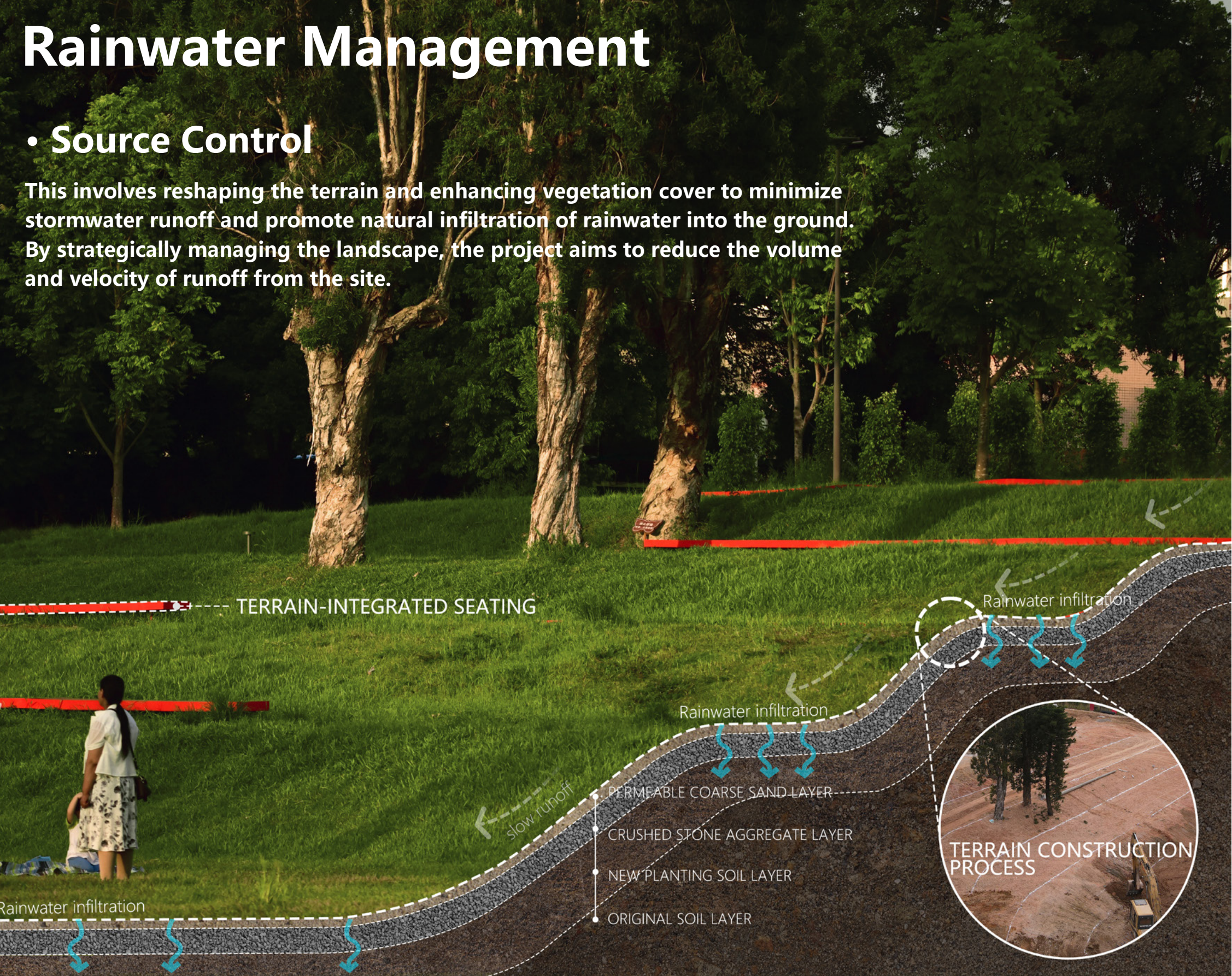




# Rainwater Management

- **Source Control**

This involves reshaping the terrain and enhancing vegetation cover to minimize stormwater runoff and promote natural infiltration of rainwater into the ground. By strategically managing the landscape, the project aims to reduce the volume and velocity of runoff from the site.







# Rainwater Management

## • Process Control

During the course of rainwater flow, various structured rainwater management features will be integrated. These include vegetated swales, rain gardens, and permeable surfaces designed to filter and purify rainwater as it moves through the site. This approach helps to remove pollutants and improve the quality of runoff water before it enters natural waterways or municipal drainage systems.



As rainwater flows downhill along the terrain, it naturally filters impurities and pollutants.

The meandering creek slows down water flow, thereby enhancing water purification.

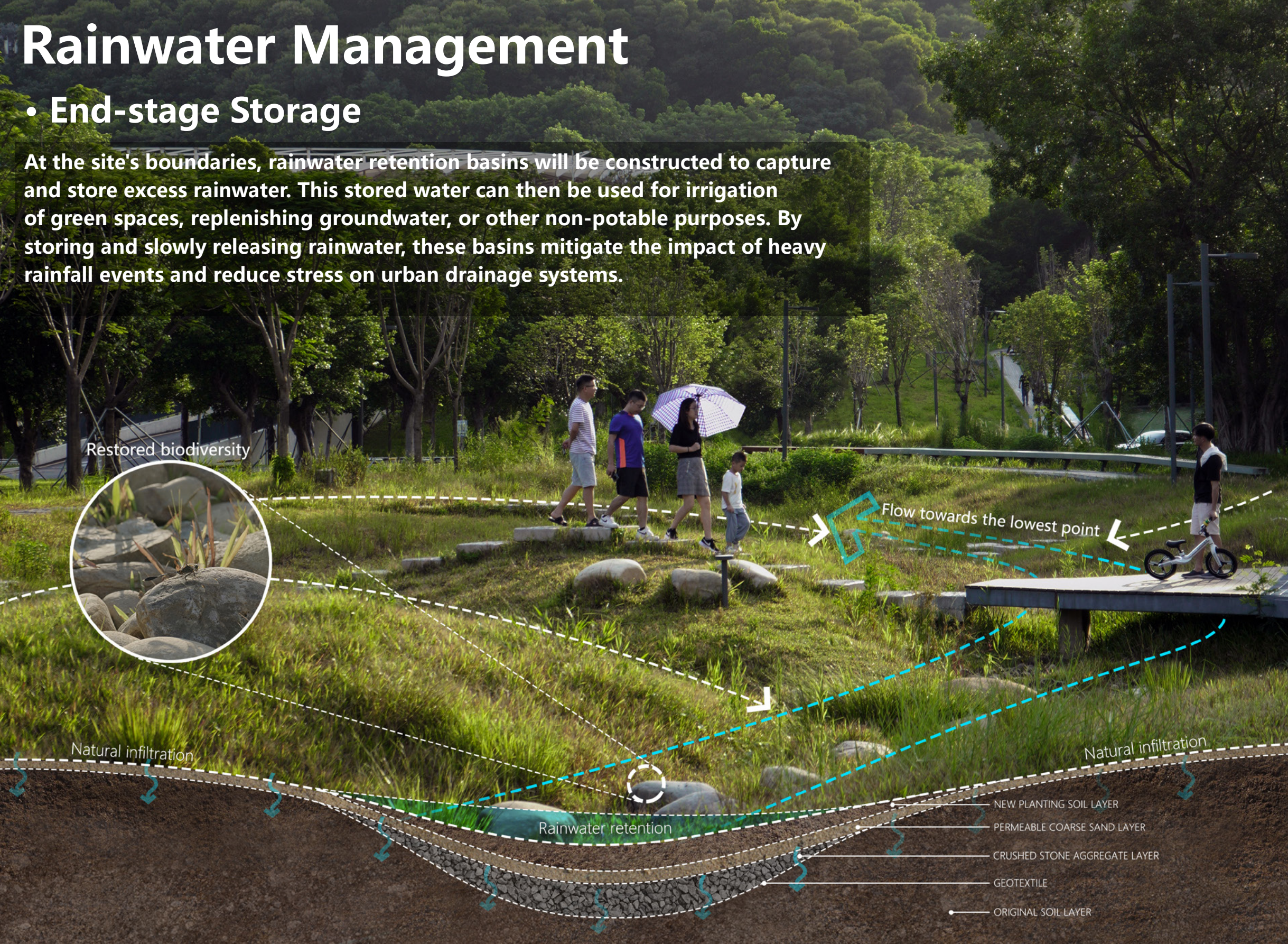
Gravel and aquatic plants help purify rainwater.



# Rainwater Management

## • End-stage Storage

At the site's boundaries, rainwater retention basins will be constructed to capture and store excess rainwater. This stored water can then be used for irrigation of green spaces, replenishing groundwater, or other non-potable purposes. By storing and slowly releasing rainwater, these basins mitigate the impact of heavy rainfall events and reduce stress on urban drainage systems.



The natural wetland pond organically integrates with the terrain and landscape paths.

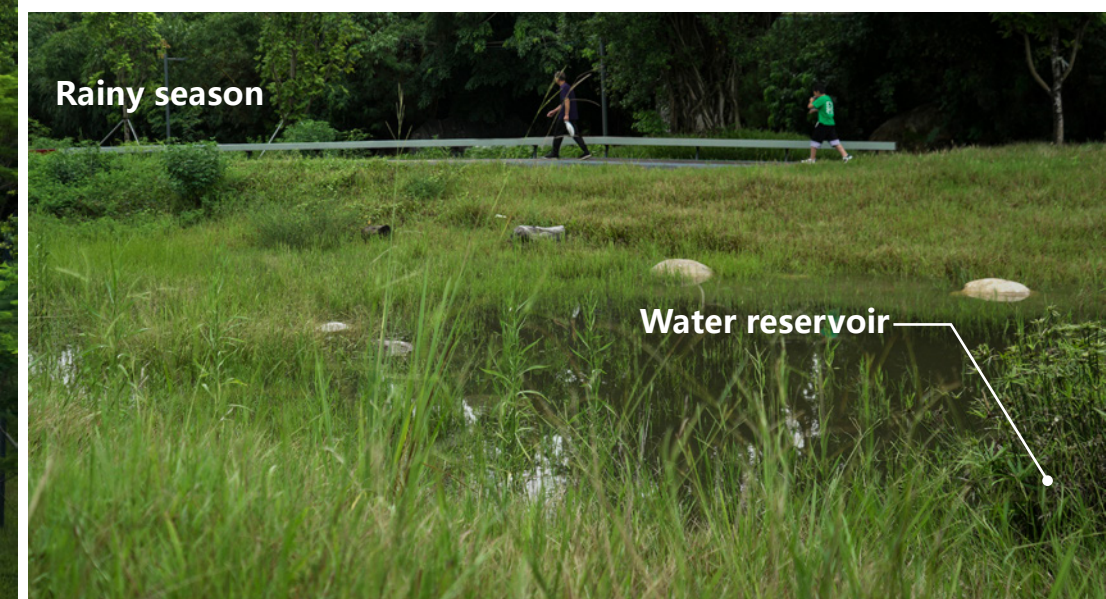
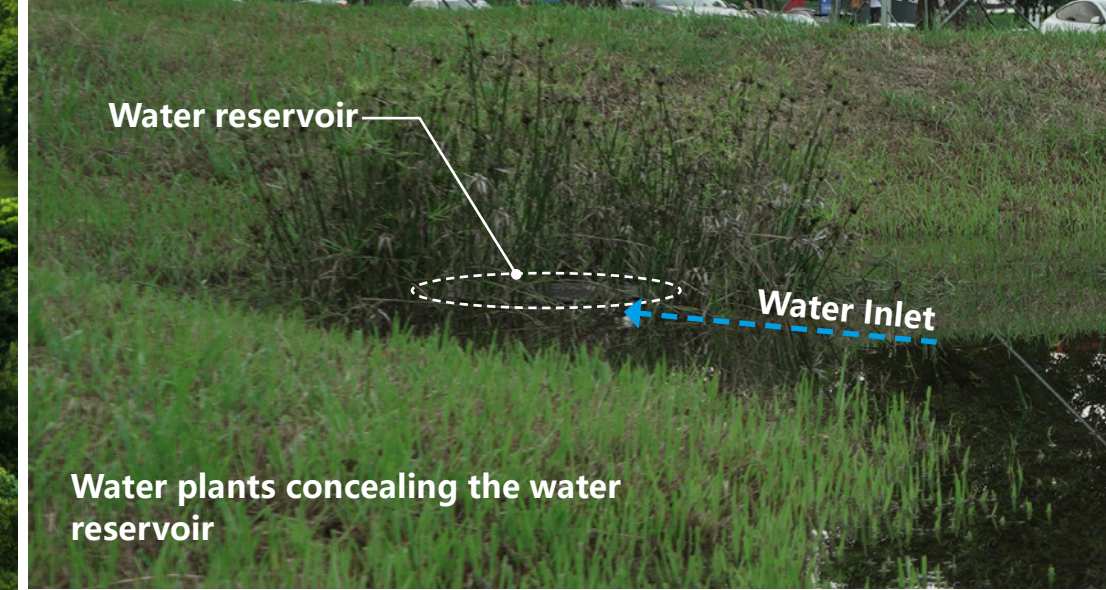


During the rainy season, rainwater flows through streams and filters into the wetland pond.



Wetland pond at the lowest point of the site









# Diverse Activity Spaces

## Forest-themed Children's Play Area

Within the site, a children's play area is designed using existing large trees and natural terrain to create safe and enjoyable play facilities.









# Diverse Activity Spaces

## Tiered Landscape Platforms

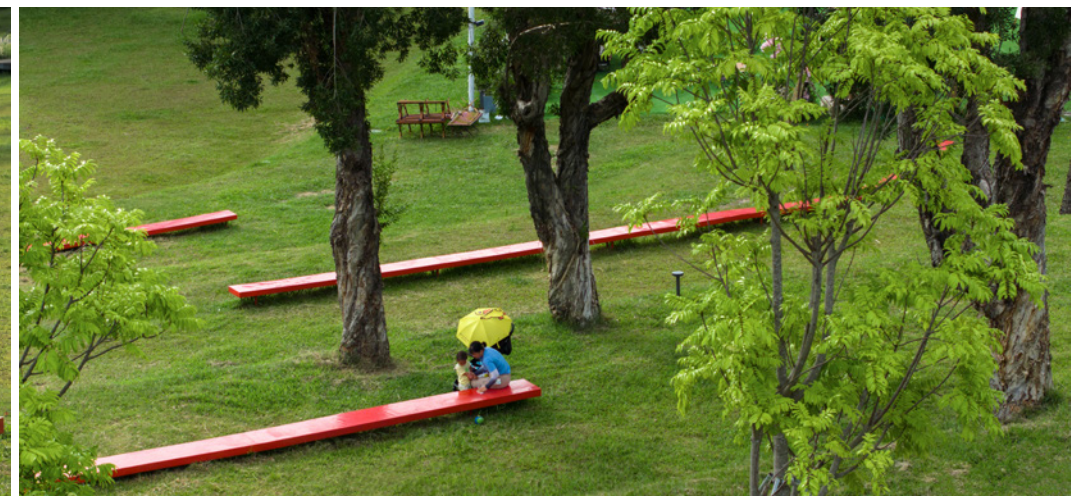
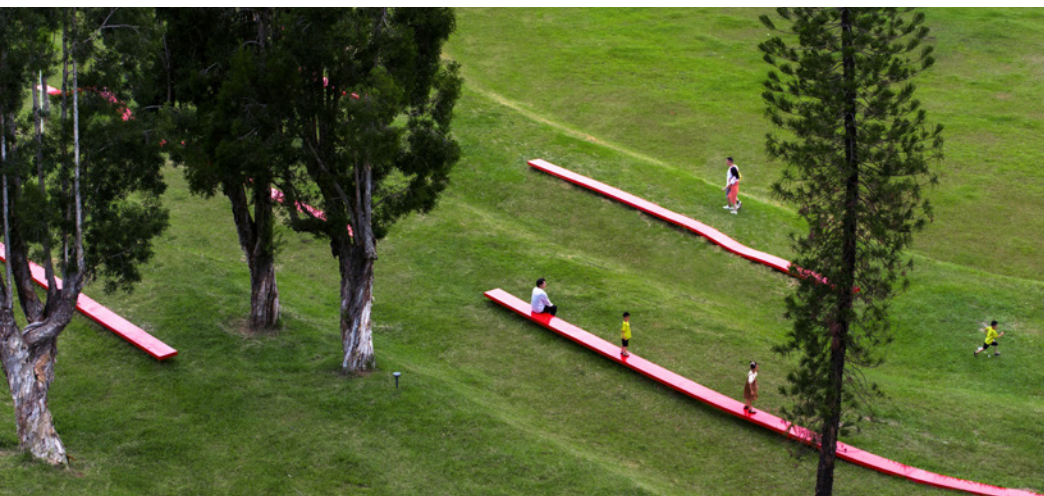
Designed to take advantage of the site's elevation changes, these terraces offer varied activity spaces and viewing platforms, enhancing the site's visual appeal and usability.



# Diverse Activity Spaces

## Tiered Landscape Platforms

tiered landscape platforms are designed to enhance the three-dimensional feel of the area .





# Diverse Activity Spaces

## Flexible Large Lawn Space

Creating extensive lawn areas for residents to leisurely enjoy activities such as picnicking, kite flying, and sports, enhancing the site's openness and vibrancy.





# Diverse Activity Spaces

## Flexible Large Lawn Space

The market activity on the large lawn every weekend , also generates rental income for the park.





# Diverse Activity Spaces

## Rainwater Gardens

Designing rainwater gardens that integrate rainwater management and landscape beautification.





# Diverse Activity Spaces

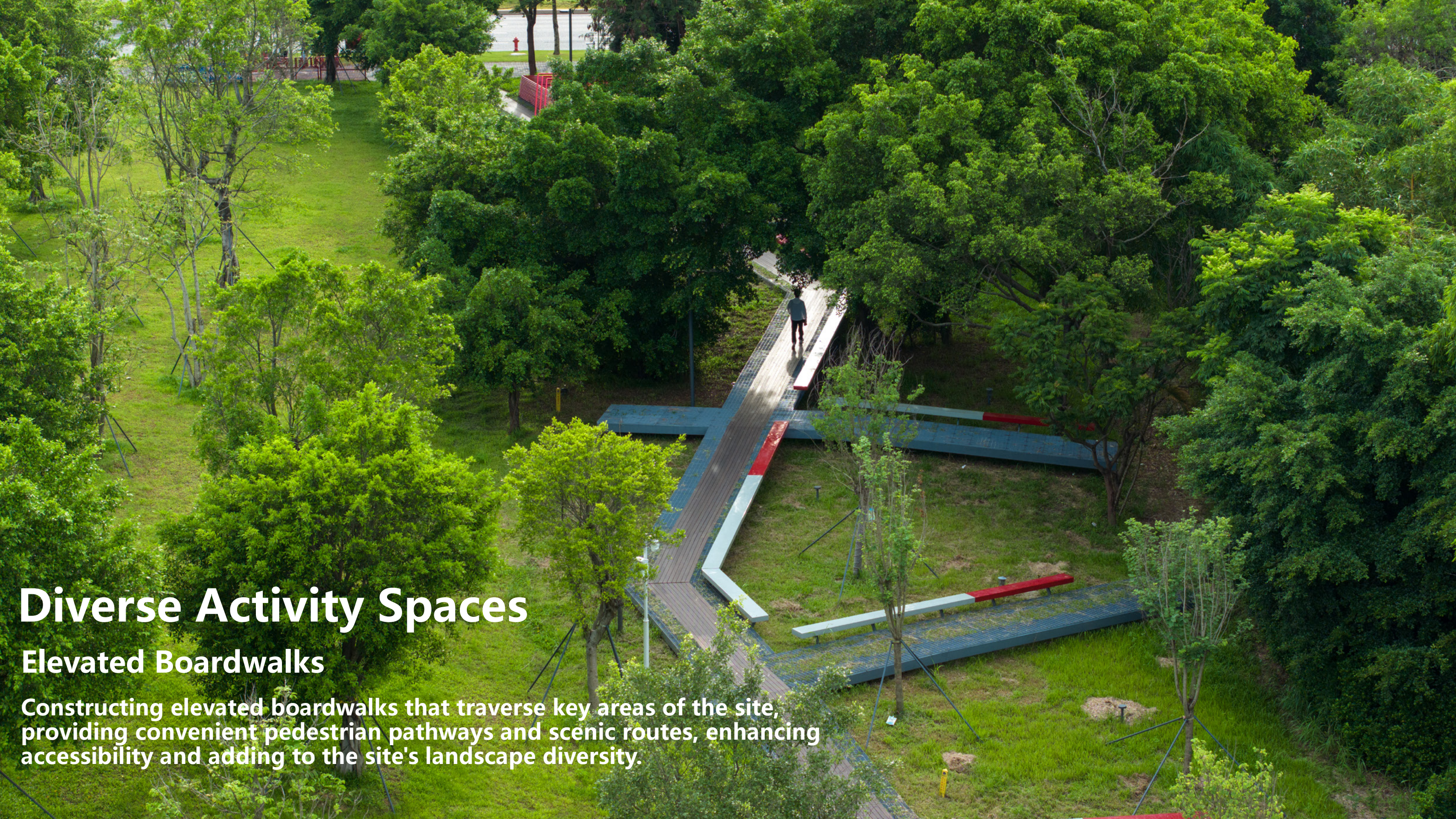
## Rainwater Gardens

Utilizing natural plant filtration and purification processes to enhance the quality and efficiency of rainwater use.

Encouraging participation in natural design also fosters a closer relationship between people and nature.







# Diverse Activity Spaces

## Elevated Boardwalks

Constructing elevated boardwalks that traverse key areas of the site, providing convenient pedestrian pathways and scenic routes, enhancing accessibility and adding to the site's landscape diversity.





# Diverse Activity Spaces

## Rainwater Gardens

The landscape design preserves the existing trees, and the pathways meander through the existing tree.



EXISTING TREES

ELEVATED WALKWAY

