SITES CERTIFIED PROJECT

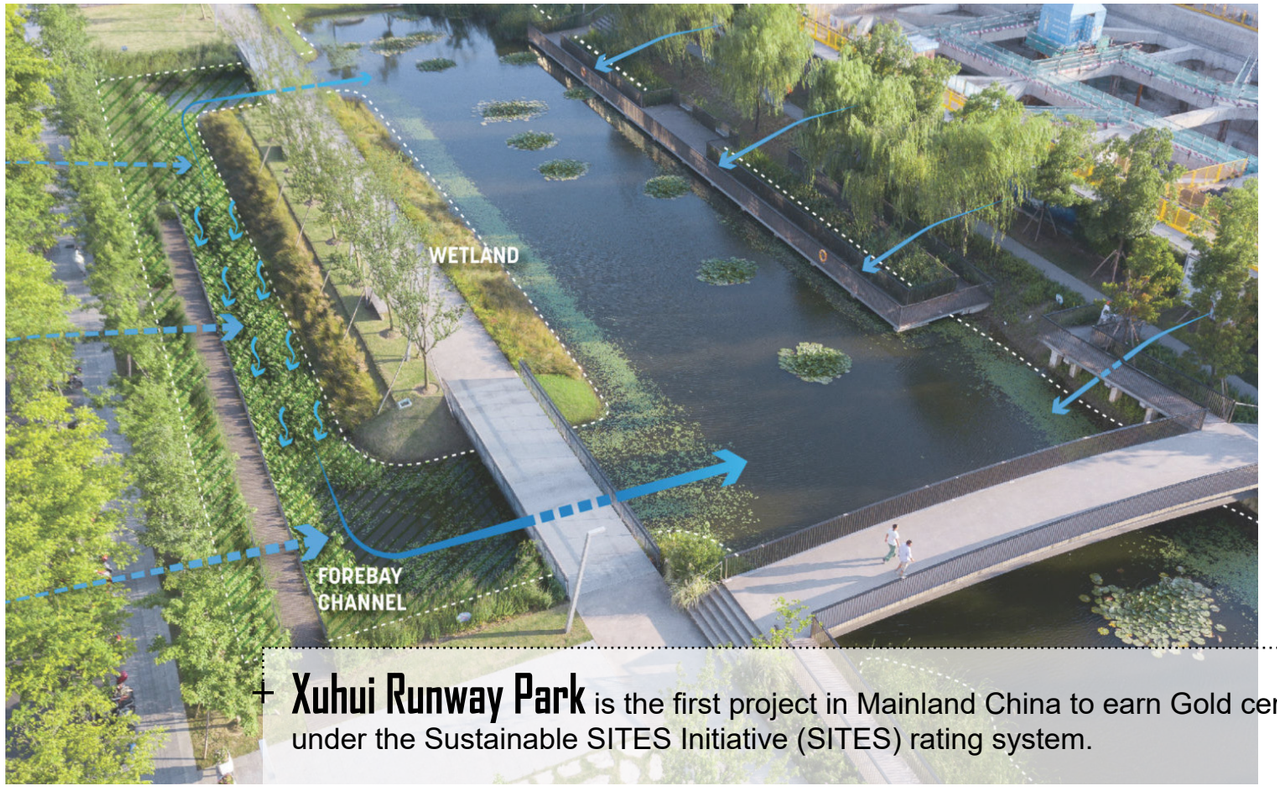
XUHUI RUNWAY PARK

2019
SITES GOLD

Xuhui, Shanghai, China

THE Sustainable SITES Initiative®

SITE CERTIFICATION



Xuhui Runway Park is the first project in Mainland China to earn Gold certification under the Sustainable SITES Initiative (SITES) rating system.

SITES Certification recognizes site sustainability and resilience practices, with an added focus on restoring ecosystems. This Gold-level application achieved credits across all ten sections of the SITES program, including exemplary performance credits for soil restoration and stormwater management.

THE Sustainable SITES Initiative®

Xuhui Runway Park

SITES v2 Gold (2019)	112*
Site Context	10/13
Pre-design Assessment + Planting	3/3
Site Design - Water	15/23
Site Design - Soil + Vegetation	18/40
Site Design - Materials Selection	14/41
Site Design - Human Health + Well-Being	22/30
Construction	5/17
Operations + Maintenance	9/22
Education + Performance Monitoring	7/11
Innovation Or Exemplary Performance	9/9

*Out of a possible 200 points and 9 bonus points
Certified 70–84, Silver 85–99, Gold 100–134, Platinum 135–200

SITE CONTEXT

Former Land Uses

Located in the Xuhui Riverfront Area, a formal industrial zone of the city, this 14.63-hectare (36.15-acre) site was a runway for Longhua Airport, which operated for over 80 years and was Shanghai's only civilian airport until 1949. The remaining 1,830-meter (2,001-yard) long and 80-meter (87-yard) wide concrete runway was built in 1948 and used until the airport was closed in 2011.

Location: **Shanghai, China**

Project Size: **28.63 acres**

Certification Level & year: **Gold, 2019**

Project type: Open space - Park

Site Context: **Urban**

Former Land Use: **Previously Developed**

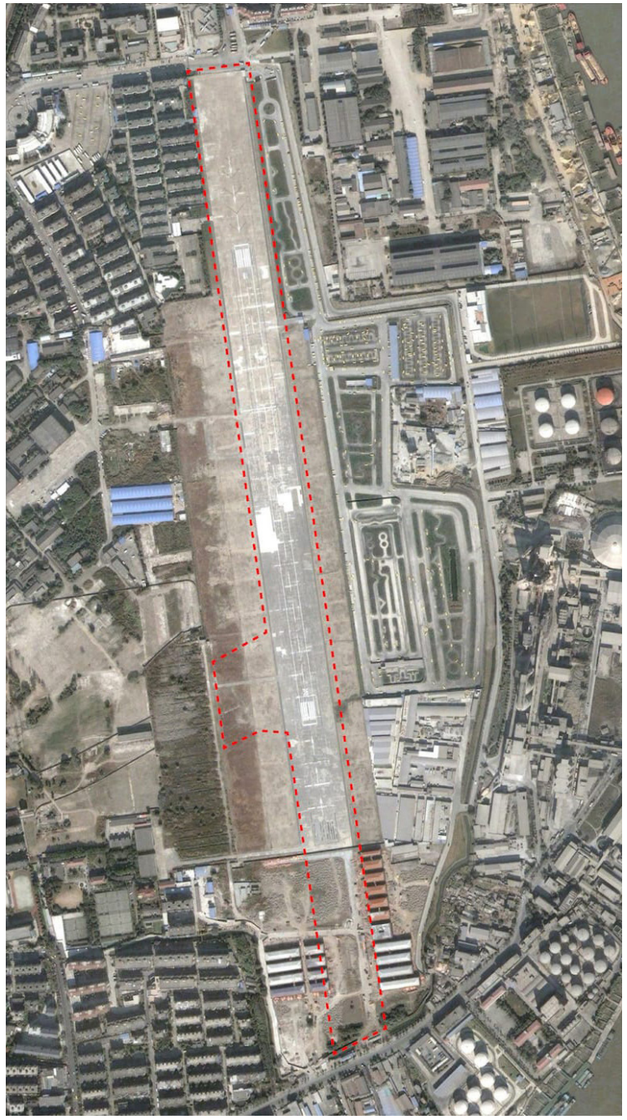
Terrestrial Biome: Temperate Broadleaf and Mixed Forests

THE Sustainable SITES Initiative®

Xuhui Runway Park is an innovative urban revitalization project that breathes new life into a unique piece of Shanghai's history.

SITE PLAN

Before



After

PROJECT GOALS

With the redevelopment of the **Xuhui Riverfront Area** into a mixed-use district, the historic runway is embracing its new life. Master planned as a public street and linear park side-by-side, this project serves as a runway of modern life, offering a space of recreation for nearby communities, as well as a respite from the high-density redevelopment around.

Following its **environmentally, socially, and economically sustainable** approaches, the project aims to lead the city's new lifestyle, reimagine the space for pedestrian and vehicle traffic. The park revitalizes a unique part of Shangai's history through innovative, restorative means.

THE Sustainable SITES Initiative®

PROJECT TEAM

Sasaki is a global leader in creating authentic and inspiring landscapes. They draw upon their skills as systems thinkers, leading to the implementation of resilient solutions that foster healthy and equitable communities.

Client: **Shanghai West Bund Development Group Co., LTD**
Landscape Architect (Prime): **Sasaki Associates Inc.**
SITES Consultant: **Shanghai Zhijie Architectural Design and Consulting Co., LTD**
Construction Manager: **Shanghai Greenland Construction Group Co., LTD**
Maintenance: **Shanghai Disheng Property Management Co., LTD**

THE Sustainable SITES Initiative®

DESIGN PROCESS

Constraints

- Yunjin Road separates the open space and the majority of the development parcels

- Original Longhua Airport character has been lost. Massive development and new construction changed the airport appearance.

- The existing infrastructure in place, the construction of the underground utilities and Metro Line 11, will restrict the design possibilities.

Opportunity

- Transition area from the first airport in Shangai to a public open space. The **historic runway** can provide cultural background for the park design. The historical urban footprint can be consistently communicated within the park.

- The current bicycle renting service along Longteng Avenue starts good precedence for **a healthy and sustainable lifestyle**. There is a large potential for developing a bicycle system in this area to help reduce the traffic pressure and provide one more transportation option for the public.

- The proposed open space is parallel to Yunjin Road, which can help filter surface runoff and **improve the water quality** of surrounding canals.

To reflect the site's previous **history**, the design mimics the motion of a runway, creating diverse **linear spaces** for vehicles, bicycles, and pedestrians by organizing the park and street into one interconnected sequence at a runway scale. While the spaces are linear in form, **diverse spatial experiences** are created by applying different materials, scales, topography, and programs. The ascending and descending movement, with overlooks created for pedestrians and cyclists, resembles the experience of being on an airplane, which connects visitors to the past while also providing varied viewpoints of the site.

Urban Journey

THE Sustainable SITES Initiative®

STRATEGIES

Compact Urban District

The layout of Yunjin Road contributes to a compact urban district by limiting the number of vehicular travel lanes and promoting public transit over personal cars. Designated bike lanes are integrated into the street section, facilitating the “last one kilometer” commute between public transit and individual destinations.

Reuse of Runway

The park integrates portions of the original runway concrete where feasible to prolong the site’s memory. The design team identified a row of 3.6-meter (11-feet and 10-inch) wide structurally-sound runway panels to serve as the main pedestrian path of the park, with its original direction markings preserved. Preservation and reuse of the runway concrete on site has not only saved construction costs but also reduced greenhouse gas emissions from the manufacturing of new concrete.

Roadside Rain Garden System

The stormwater from the park and Yunjin Road is managed along the street through the 5,760-square-meter (1.42-acre) rain garden on the north portion of the site and the 8,107-square-meter (2-acre) constructed wetland to the south. The roadside rain garden system is the first of its kind built in the city of Shanghai. After treatment at the rain garden and the forebay, the stormwater meets the quality requirements for recreational water, according to the Surface Water Quality Standard of China.

Locally and Environmentally Friendly Materials

Most construction materials were sourced locally and environmentally friendly to reduce emissions during transportation, protect rainforests, and support the local economy. For example, fused bamboo lumber was used as a sustainable substitute of tropical hardwood on benches, boardwalks, and riverfront overlooks, due to its fast-growing nature, comparable strength, and longevity in outdoors environments.

Active Lifestyles

Diverse programs are planned in various park spaces, open to all ages and groups and mostly free of charge. Active lifestyles are promoted through bicycle paths, walking runways and playgrounds. Cultural events and performances can be accommodated at the sunken garden with a maximum of 900 audience members, and various restaurant and public service facilities scattered throughout the park are designed to allow for small social gatherings like office parties, serving the developments around.

Native Plant Design

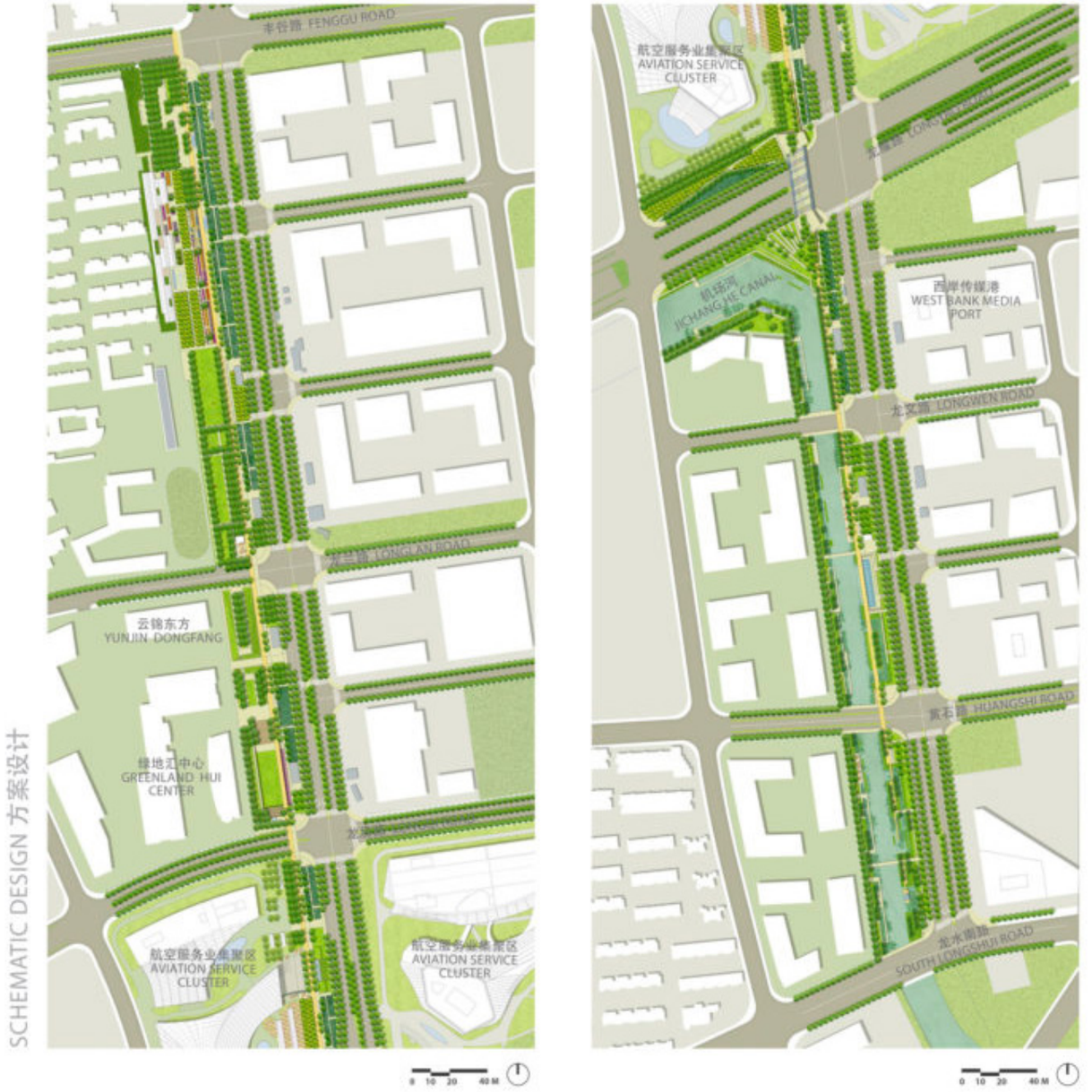
Abundant wildlife habitats are integrated with landscape programs, with 100% of plant species native to the Yangtze River Delta. These habitats include both land and marine typologies. A total of 82 plant species, including 2,227 trees, are planted on site. Over 68% of the hardscape is shaded by deciduous trees, providing outdoor comfort while reducing the heat island effect at this post-industrial site.

FINAL DESIGN

This site traces the record of urban development in Shanghai. It transcends time and space, bringing a piece of the memorable past to the present and into the modern comfort of urban public spaces. Its strong sustainable initiatives have earned it the first **SITES Gold** certification in Mainland China and the **SITE 2019 Green Building Market Leader Award** by USGBC's Massachusetts Community.

The Park has received a lot of attention from the neighborhood as well as from the city. Following its construction, many major residential, commercial, and office developments were grounded in its adjacent blocks, the property value of the neighborhood increased over **80%** from 2015 to 2019.

LANDSCAPE DESIGN | MASTER PLAN



THE Sustainable SITES Initiative®

SASAKI

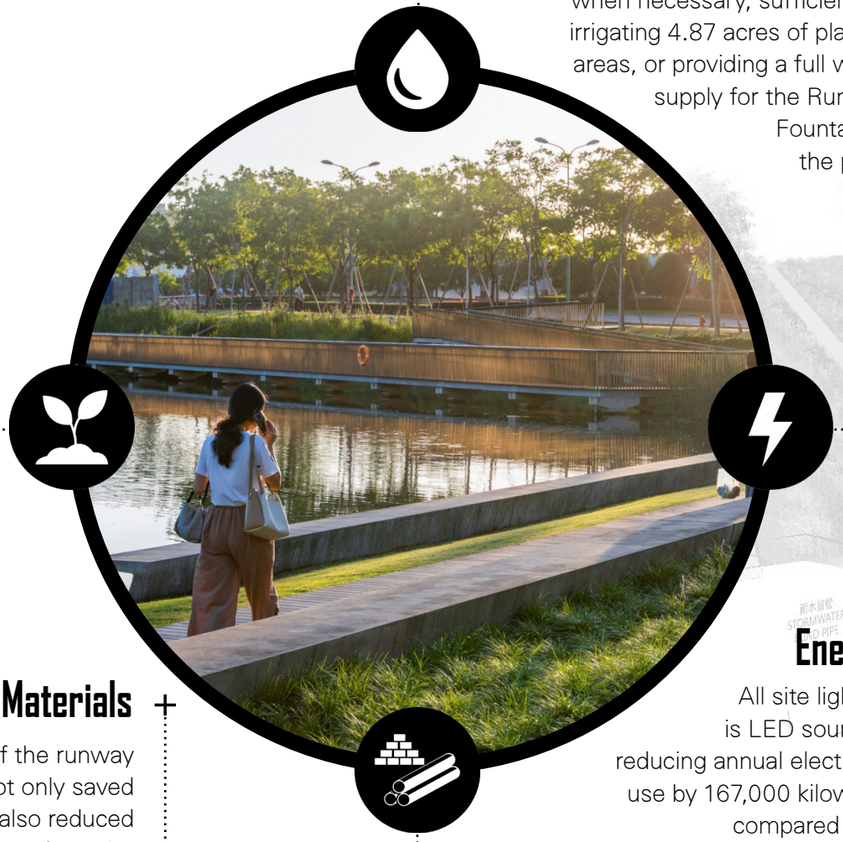
VALUE OF SITES

Plants + soils

With 100% plant species native to the Yangtze River Delta, including both land and marine typologies, the project builds a valuable ecological patch in the urban environment.

Water

A portion of the treated runoff is collected at a 10,408–gallon underground cistern for park operation and maintenance use when necessary, sufficient for irrigating 4.87 acres of planted areas, or providing a full water supply for the Runway Fountain in the park.



Materials

Preservation and reuse of the runway concrete on site has not only saved construction costs but also reduced greenhouse gas emissions from the manufacturing of new concrete. Most construction materials were sourced locally and environmentally friendly to reduce emission during transportation, protect rainforests, and support the local economy.

Energy

All site lighting is LED sourced, reducing annual electricity use by 167,000 kilowatts compared with metal–halide lighting.

ENVIRONMENTAL FEATURES

SOCIAL

Active Lifestyles

can be found in multiple forms of runways, such as the bike and pedestrian runways through the park, a runway playground, a runway fountain, and the multipurpose lawn with a capacity for holding 3,500–people events or 5 soccer games in five–a–side size fields. The entire park has become a year–round outdoor lifestyle destination for nearby residents, office workers, and school students.

ECONOMIC

Reuse rainwater to reduce the potable water use and save

19,200 USD per year.

Reserve the existing airport runway as the hardscape, save

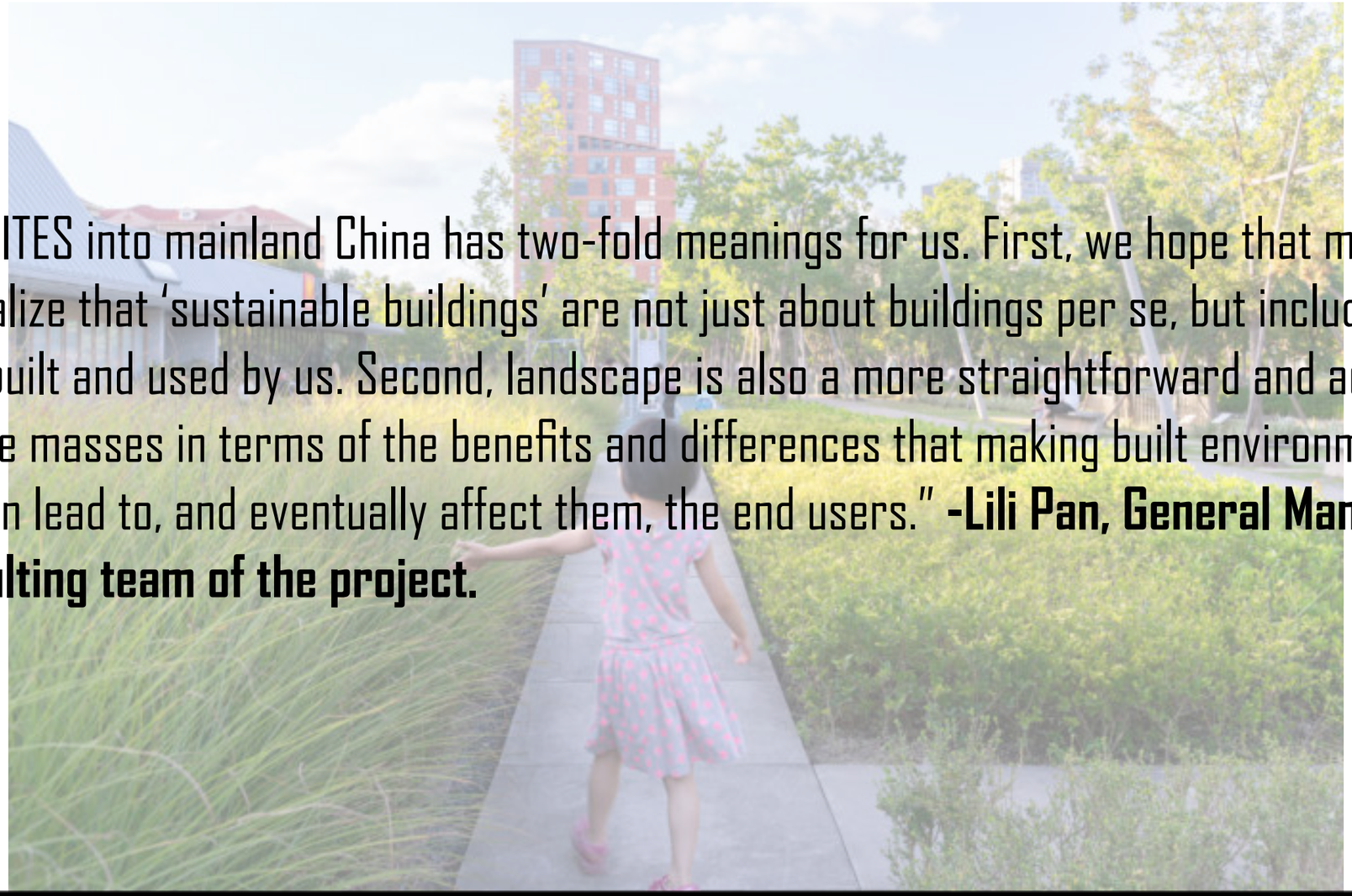
540,000 USD from the material cost. Reuse the broken airport runway, save

226,880 USD from the material cost.

Use Xeriscaping species for the landscape design to save

27,830 USD per year compared to the conventional design.

Reduce annual electricity cost by **22,000 USD** for the project site.



"Introducing SITES into mainland China has two-fold meanings for us. First, we hope that more and more people can realize that 'sustainable buildings' are not just about buildings per se, but include landscape that are also built and used by us. Second, landscape is also a more straightforward and accessible message to the masses in terms of the benefits and differences that making built environment sustainable can lead to, and eventually affect them, the end users." **-Lili Pan, General Manager of TREND, consulting team of the project.**