Panoramic view of Hangzhou Asian Games Canal Sports Park

Hangzhou Asian Games Canal

Sports parks and venues

ASIAN GAMES 2022 SPORTS PARK & STADIUMS

Project name: Hangzhou Asian Games Canal Sports Park and Venues

Project Client: Gongshu District Urban Village Renovation and Renovation Project Headquarters

Project status: Won the invitational competition in May 2018 **and W A S completed in 2022.**

Opening date : ASIAN GAMES OCTOBER **2023**

Project location: Hangzhou, China

Project Category: 2022 Hangzhou Asian Games Master Plan: Ecological Park with 7 Buildings

Project area:

The park covers an area of 47 hectares, with a 35,000 square meter table tennis hall and an 18,000 square meter

Hockey arena, 36,000 square meters of retail space, ... m2 fitness and ....m2visitor center

Architectural Design: Archi-Tectonics NYC LLC

ARCHITECT in charge: ProfessorWinka Dubbeldam

Project leader: Justin Korhammer

Design team: Paul Starosta, Dongliang Li, Boden Davies , Maud

Fonteyne, Soyeon Cha, Alex Barr, Dan Rothbart

Cooperation Design Team:

Landscape design: !Melk

Structural Design: Thornton Tomasetti Engineering

Mobility/Transportation Consultant: Mobility in Chain

Project

LDI: Zhejiang Province Institute Of Architectural Design And

Research (Ziad), Powerchina Huadong Engineering Corporation

Limited (Hdec)

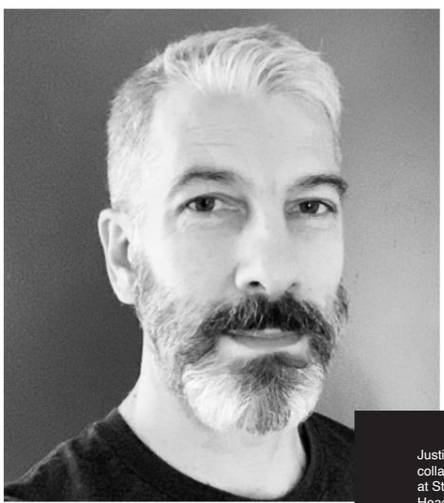
Project contractor: Zhejiang Xinsheng Construction Group

Photography : SFAP: Shanghai Shaofeng Architectural Photography

Creative Architect

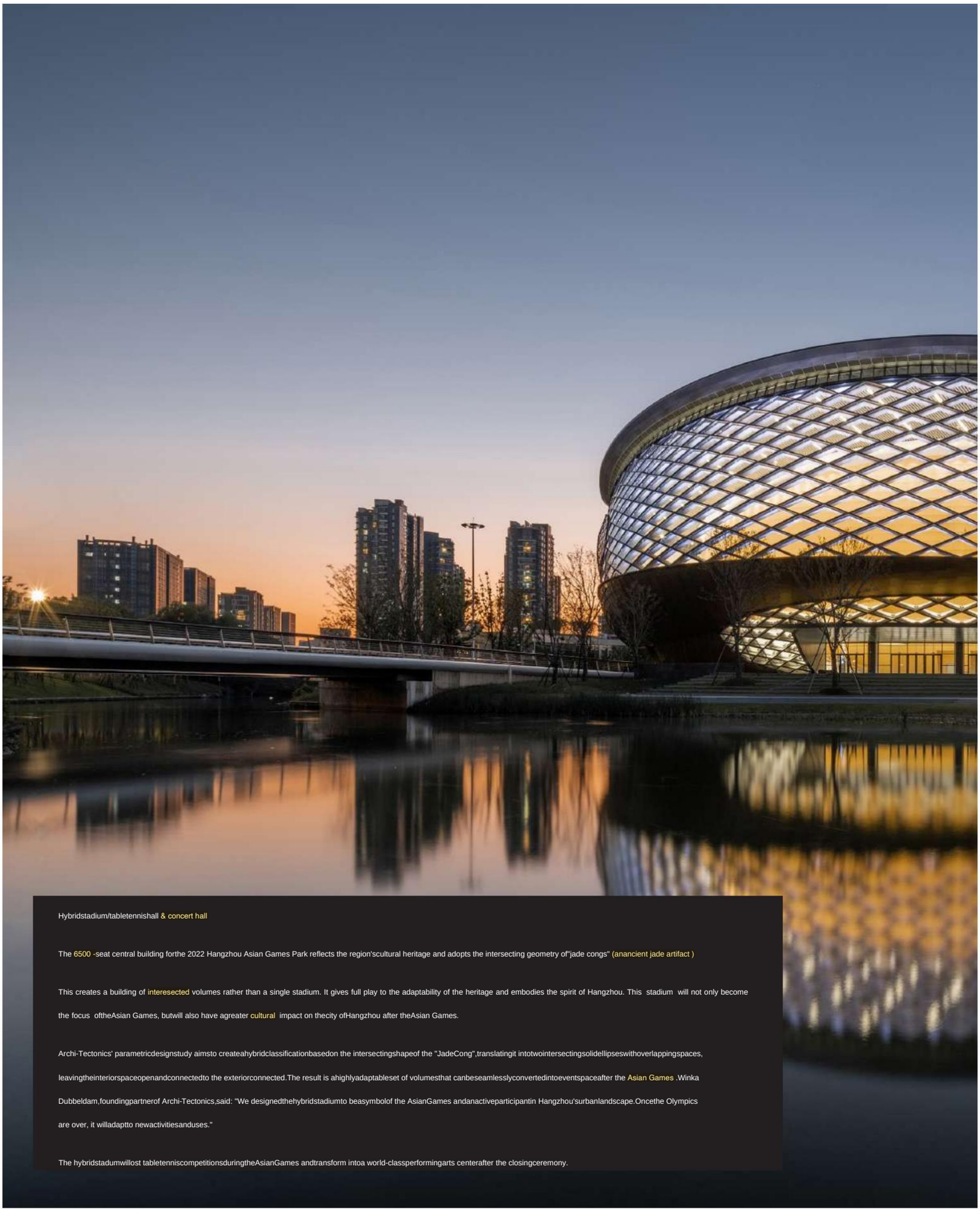
Architect in charge: Professor Winka Dubbeldam

Winka Dubbeldam, founder and partner of Archi-Tectonics, is also Professor of Architecture at the University of Pennsylvania, Philadelphia, where she was Chair for 10.5 years [2013-23] , she also taught at Columbia University, Harvard and Cornell. Dubbeldam was the RIBA External Examiner at the Architectural Association London (2006 -12) and UCL, the Bartlett School of Architecture in London (2018 - 22]). Dubbeldam was named one of the DesignIntelligence 30 Most Admired Educators in 2015. She has lectured widely and chaired many international award juries, such as the Prix de Rome, SARA, CTBUH, and AIA to name a few.
Professor Dubbeldam is also one of the creative directors for CityX exhibit in the Virtual Italian Pavilion at the Venice Architecture Biennale [2021 - 23]. Dubbeldam recently spoke at the World Forum of Architects [UIA] advising the UN on climate issues at the UIA Copenhagen [July 2023], presented research on the Future City NEOM in Venice Italy, and spoke at the CTBUH Singapore where Archi-Tectonics received the prestigious CTBUH award for the Asian games 2023 Masterplan [Oct 2023]. Dubbeldam will speak at COP28 in Dubai this November 2023.



Project architect: Justin Korhammer

Justin Korhammer is partner at Archi-Tectonics since 2016. Before joining the firm he was the founder and principal of Anima LLC since 1999. He also collaborated with several internationally renowned architectural firms, including Daniel Libeskind, Peter Eisenman, and Steven Holl. During his 7 years at Steven Holl Architects, Justin was the project architect and main designer for numerous award-winning projects, most recently the Het Oosten Headquarters in Amsterdam, as well as several museum projects. In addition to obtaining his degree in architecture, Justin studied Industrial Design. He has taught design studios at the Berlage Institute, Columbia University, Pratt Institute and the University of Pennsylvania. Justin works as an independent architecture critic and freelance writer for international architecture magazines.



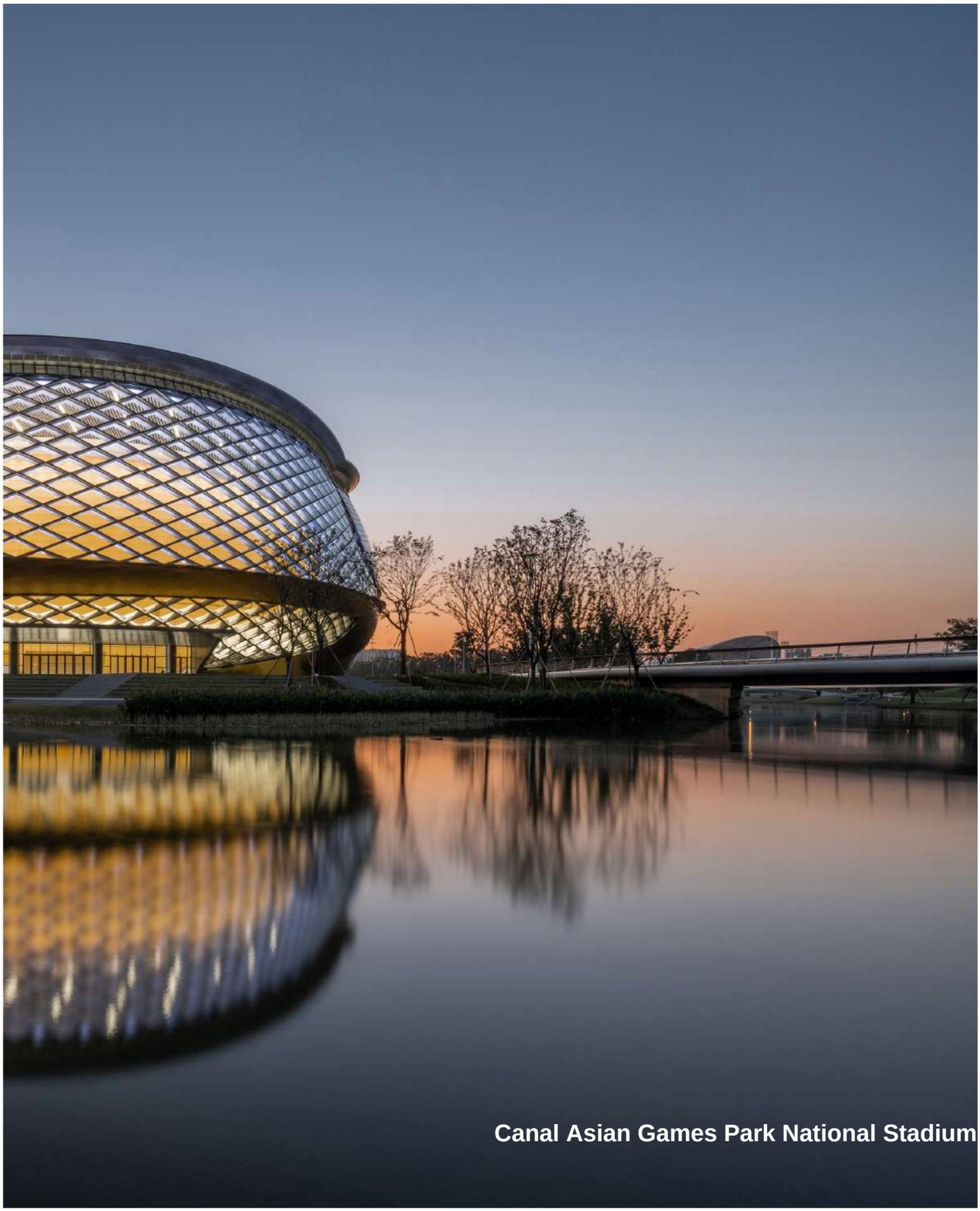
Hybridstadium/tabletennishall & concert hall

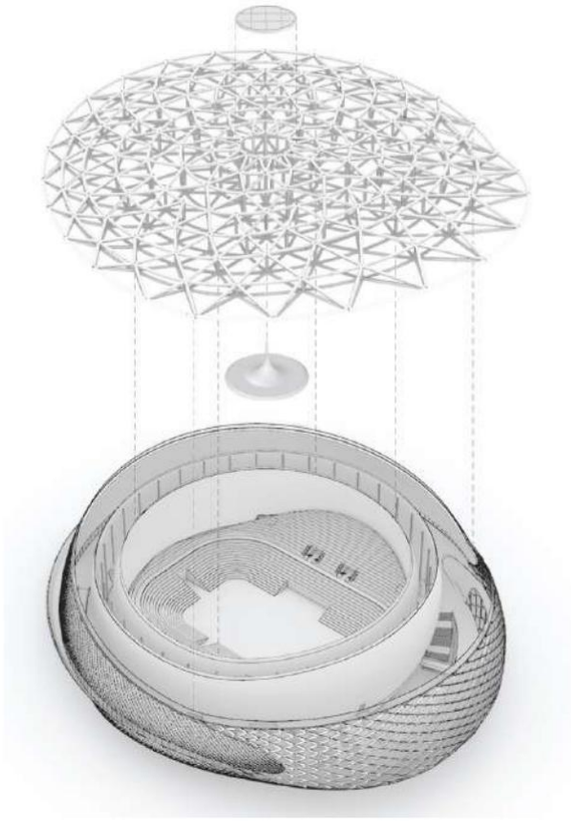
The 6500 -seat central building forthe 2022 Hangzhou Asian Games Park reflects the region'scultural heritage and adopts the intersecting geometry of"jade congs" (anancient jade artifact)

This creates a building of interesected volumes rather than a single stadium. It gives full play to the adaptability of the heritage and embodies the spirit of Hangzhou. This stadium will not only become the focus oftheAsian Games, butwill also have agreater cultural impact on thecity ofHangzhou after theAsian Games.

Archi-Tectonics' parametricdesignstudy aimsto createahybridclassificationbasedon the intersectingshapeof the "JadeCong",translatingit intotwointersectingsolidellipseswithoverlappingspaces, leavingtheinteriorspaceopenandconnectedto the exteriorconnected.The result is ahighlyadaptableset of volumesthat canbeseamlesslyconvertedintoeventspaceafter the Asian Games .Winka Dubbeldam,foundingpartnerof Archi-Tectonics,said: "We designedthehybridstadiumto beasymbolof the AsianGames andanactiveparticipantin Hangzhou'surbanlandscape.Oncethe Olympics are over, it willadaptto newactivitiesanduses."

The hybridstadumwillost tabletenniscompetitionsduringtheAsianGames andtransform intoa world-classperformingarts centerafter the closingceremony.





In 2018, Archi-Tectonics won the first place in the 2022 Hangzhou Asian Games Canal Sports Park Design Project Competition with its bold and innovative design and unique concept in a concept competition involving five international architectural companies. The design cleverly integrates landscape and architecture, and blends three-dimensional terrain and artistic inspiration. This is the secret of its success. In Hangzhou, China's rapidly growing city, Archi-Tectonicscollaboratedwith !Melk Landscape Architecture and Thornton Tomassetti engineersto create a spectacular Masterplan that seamlessly interweaves 116 acres (47 hectares) of parkland with seven buildings, including 2 stadiums.

While the project was originally designed for the upcoming 2022 Asian Games in Hangzhou, the team See beyond the immediate and open new paths for the future of urban environments. Project adoption The "sponge city" landscape strategy was adopted and a hilly oasis was introduced to provide the city with a world class recreational landscape At the same time, this oasis is also an important habitat for the local ecosystem.

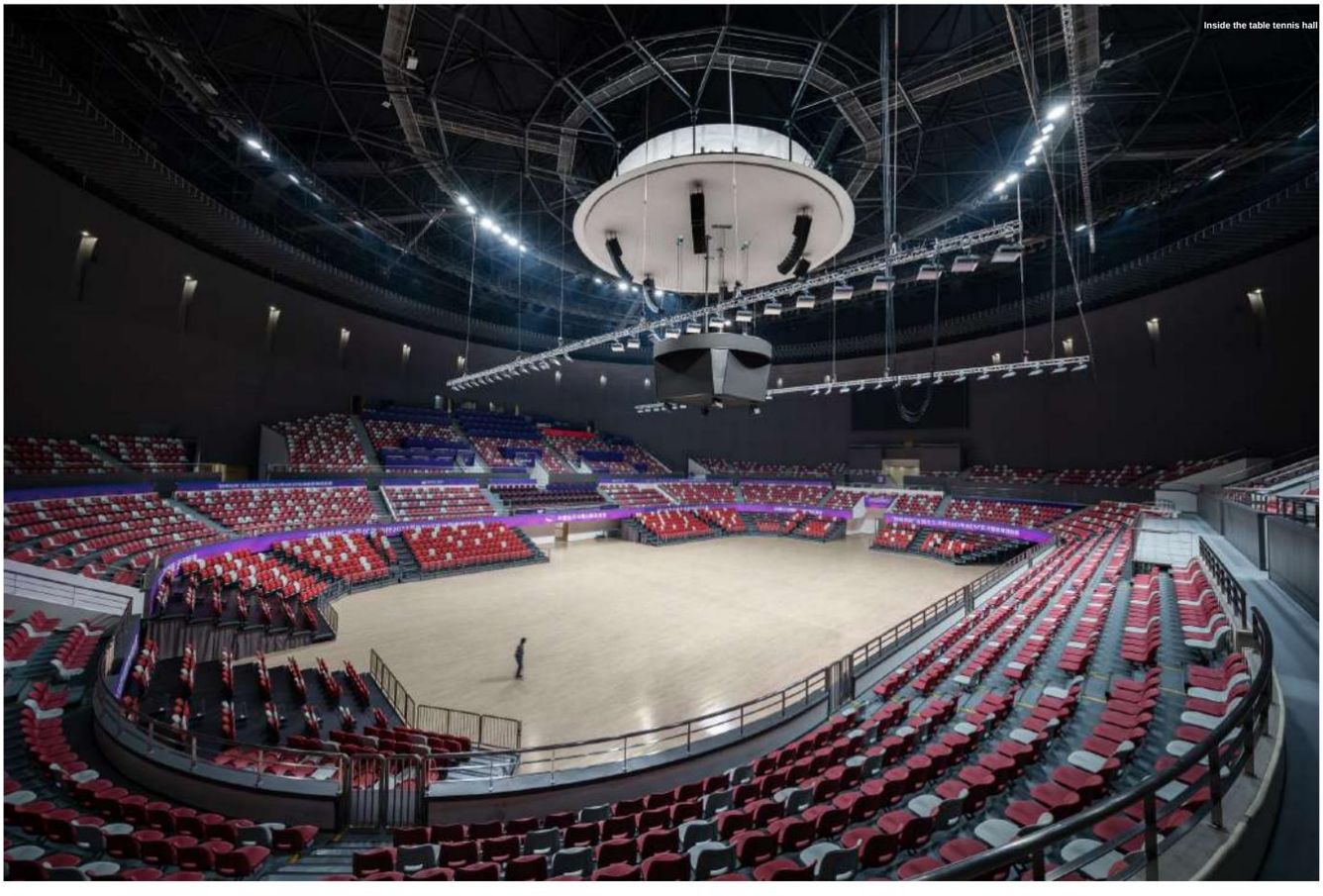
Resting areas enhance the stability of the hydrological system.

In terms of sustainability, the Hybridstadiumandfitnesscenter received the Green Building Rating Label three stars (GBEL3 star) certification, comparable to LEED platinum level, which marks the highest honor for sustainable development in China. Through BIM optimization between the Archi-Tectonics and LDI teams, the project not only saved a lot of steel and costs, but a lso shortened the construction time by up to 20%, and the project was completed in just 4 years.

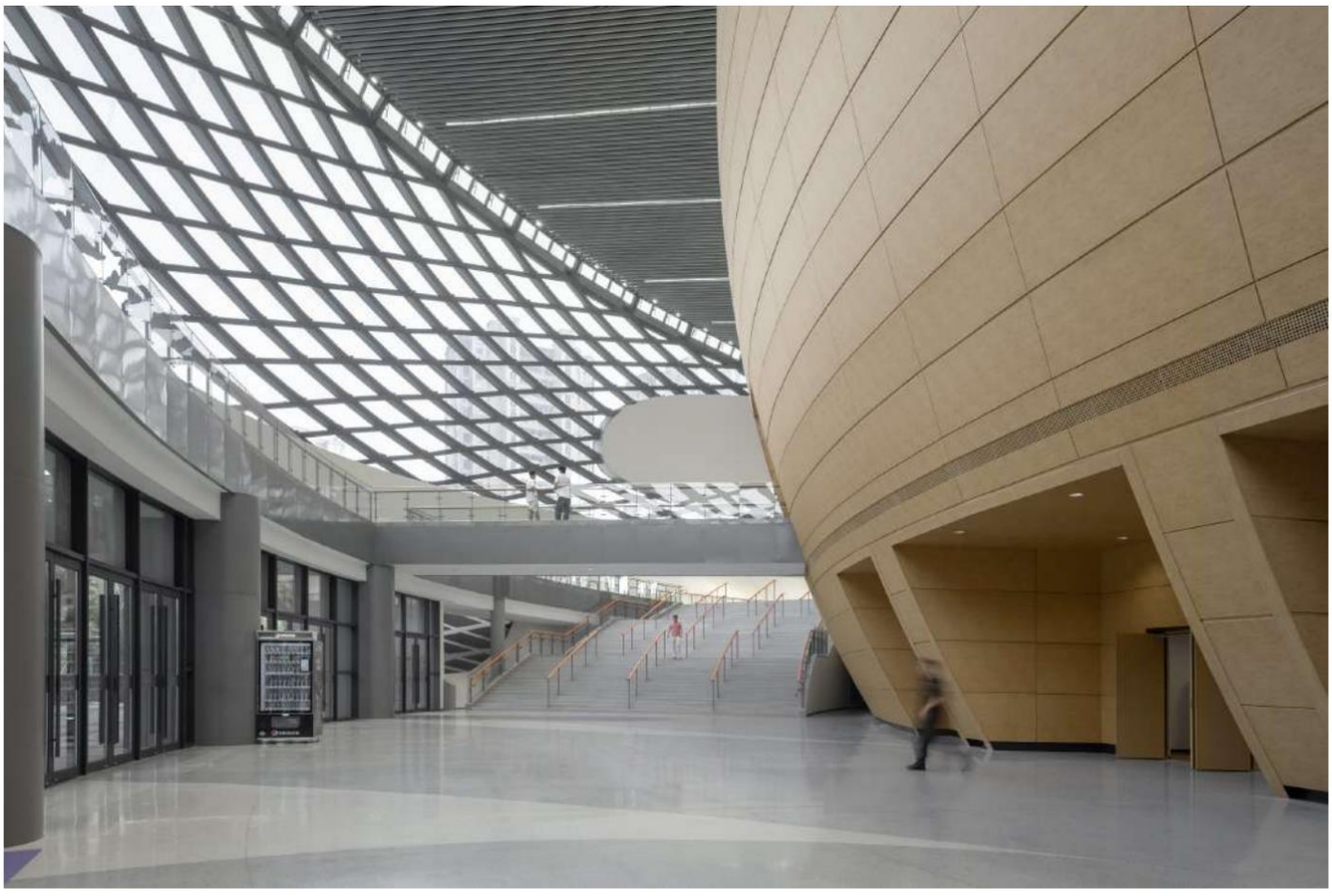
How to integrate a total of 185,000-square-meter buildings into a greening requirement of up to 85%? ~~Entering the landscape has become a huge challenge~~. The design team transformed seven new green buildings into

The building is cleverly embedded into the Asian Games venue and subsequently converted into community use, providing a musical

A venue for meetings and performances, it brings new cultural and social space to the city. This ecological park



inside the table tennis hall



Entrance foyer of table tennis hall (first floor)

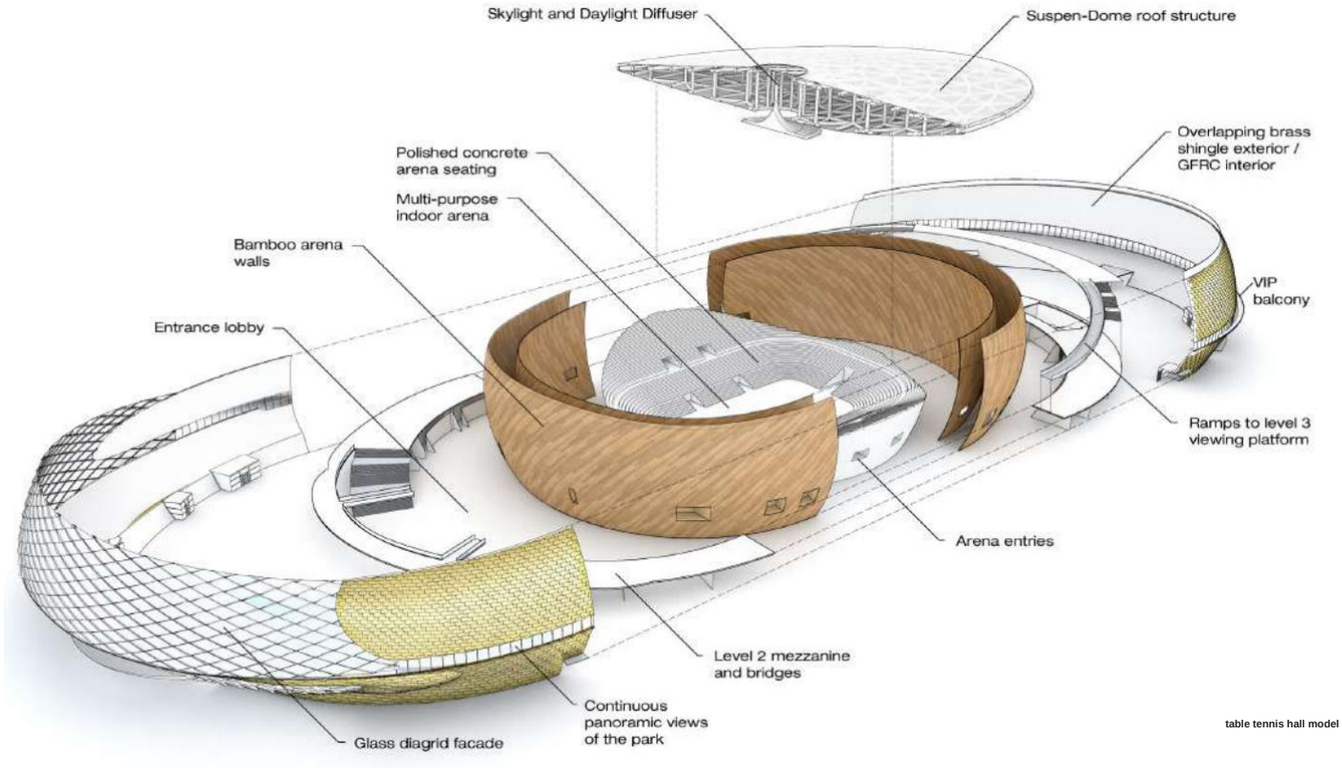


table tennis hall model

Exterior view of table tennis hall

The parkalsoservesas the heartof the community,containingrichelementssuchas naturereserves,hikingtrails,waterfeatures, playgrounds,andlandscapeswith sustainable infrastructure, suchas thereconstructionof wetlands,theapplicationof porouspavements,andthe installationof stormwatermanagementsystems. Innovation.The greenroof areain the master planreachesapproximately64,160squaremeters, releasing83,408kilogramsof oxygenandabsorbing114,850kilogramsof carbondioxideeveryyear. Eachsquaremeter of greenroof canabsorb1.79 kilogramsof carbondioxideandrelease1.3 kilogramsof oxygenannually.

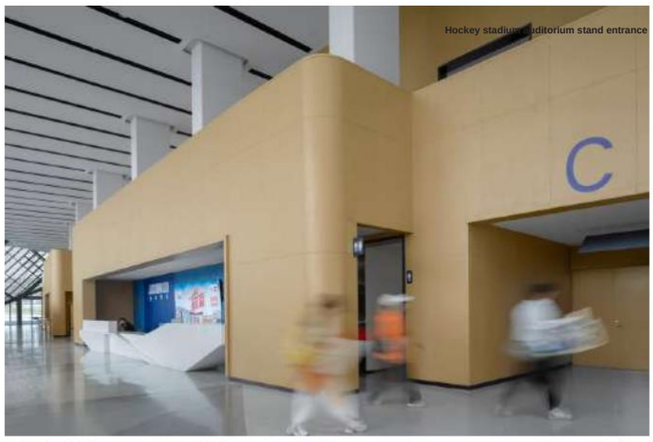
DuringtheHangzhouAsianGames, this parkwillbecomeanimportanthubfor spectatorsto gatherandfor communicationbetweenvenues.As the AsianGames comesto anend,it It willbetransformedintoa communitygreenspaceto cater for a varietyof people'sneeds,includingkayaking,running,hiking,skateboardingandvarioussports. it connectsand It alsostrengthensHangzhou'sexistingurbanstructure andinfrastructure,bringingvaluablegreenspaceto this denselypopulatedcity. Likea "sponge",it collects,filtersandreuses rainwater,becominga greenlungfor the city.

"We designedthis parkto beanagentof changeinthe urbanenvironment,"saidWinka Dubbeldam,foundingpartnerof Archi-Tectonics. "It sets a newparadigmfor Hangzhouto be a greener,moreresilientcity andfuture urbanplanning.We willusethis as a modelto pursuesustainabledevelopmentdensity."

Valley Village Shopping Center

At either end of 1.6km long site, the design plans for two competition venues - a Fieldhockey stadium and HYBRID table tennis stadium. The park is divided into two halves by a road and river and the 800m long "Valley Village" shoppingconcept is created as a social artery connecting the two halves of the park. The "Valley Village" shopping mall is conceived as a sunken green valley housing circular glass shopping kiosks. The shopping area is equipped with two car parks on both sides and connected underground to provide delivery access. The valley has several fire exit stairs and 2 escalators that connect back to the bisecting road

Initiallythemallwas conceivedto belocatedunderground,but insteadwedesignedit as a shoppingvalleylandscapewith greenpavilions,



Hockey stadium auditorium stand entrance

An open-airsocialcoreis created,allowingpeopleto stay connectedto the surroundinglandscapeandcity. The challengewe facedwasthat only15%of the projectwasvisiblefrom the ground,as 85%hadto constitutea park.

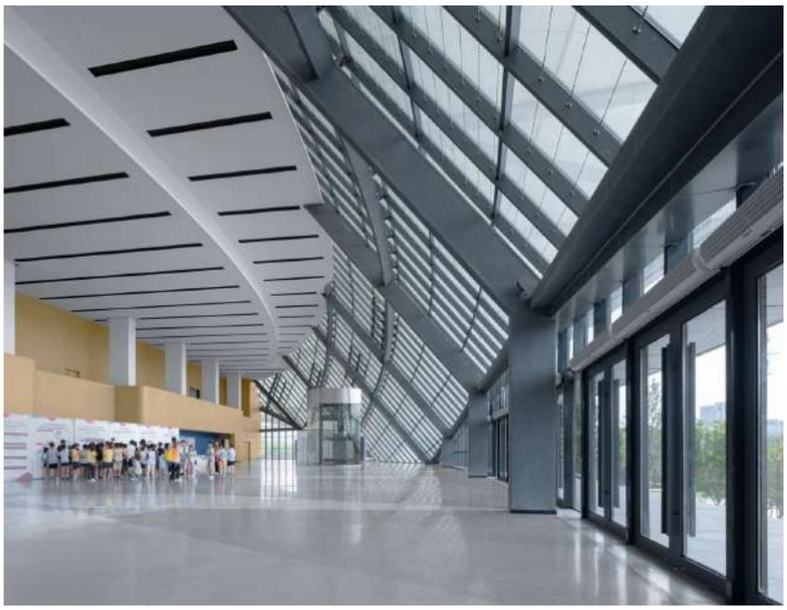
The "ValleyVillage"shoppingcenter has coffeeshops, retail, restaurants,cafes, kiosksandoutdoorgathering areas, positioningit as thesocialheart of the park. Permeablepavementminimizesstormwater runoff. Each shop pavilionis toppedwitha greenroof, whichnot onlyenhanceswaterretentionbut alsoextendsthelandscapeand providesvisitors witha placeto relax,picnicandappreciatetheirsurroundings.Tailor-madesolarwingsfor Valley Villageprovideshade whileprovidingpowerandlightingto the park. Thesesolarwingsalsointroducebreezes,creating a leasant microclimate. The Shopping valley connects to the Field hockey stadium with a 125m shading wing and an arena for 5000 viewers

Hockey stadium exterior

Zero soil landscaping strategy

The two halvesof the parkareconnectedby excavatingwetlandsandvalleys,allowingthe originallyflat site to be shapedinto a rollinghillylandscapemorethan 20metersabovethe groundwithoutthe needfor additionalsoil.This is inlinewiththe "zero soil"strategy, minimizingthe environmentalimpact of soilremoval.Someof the newhillscan serve as naturereservesto promotebiodiversityandecologicalconservation.Beneaththe landscape,an interconnectednetworklines68,000square metersof parkingspacesandpathways,linkingallbuildingsandthe stadium.Undergroundnetworkprovidesefficient back-office services,goodsdeliveryandaccessto parks

Hockey stadium spectator entrance hall



Access to various areas will not damage the natural landscape above. In addition, there is a cinema for The city creates another leisure destination.

Sponge City: Recreational and Resilient Waterscapes

The design adopts the sponge city model, introducing extensive waterways to enhance water circulation and create new possibilities for leisure projects.The natural B river meanders through the site and thevillage valley dips under road and river with a new aqueduct beside the road provides passage for VIPs during the games. This river is the heart of the wetland system components that mitigate stormwater runoff and offset the impact of new areas. It is also designed to allow for kayaking and create a scenic element overlooking the hills and valley village shopping center. New Islands with wetland vegetation in the river create faster water flow, which naturally purifies and oxygenates the water.

infrastructure

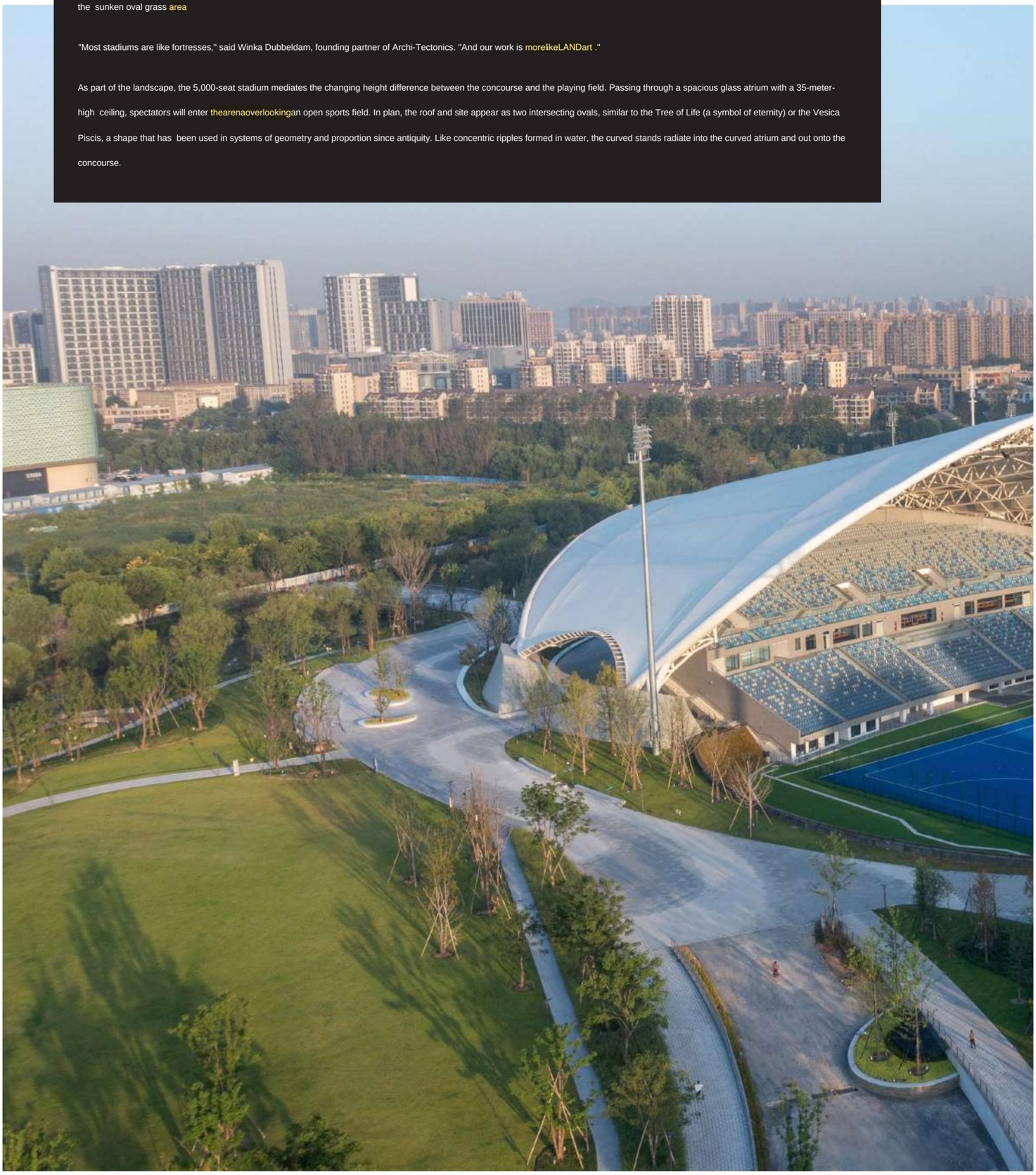
To achieve a porouspark with multiple entrances, convenience and ease of navigation, archi-tectonics invited Mobility in Chain [MIC]Team. Escalators from Valley Village create a passage from the deepest part of the shopping thoroughfare to the bi-secting road, while an elegantly curved pedestrian bridge spans the hilly landscape, connecting over the road and river. In addition, several bridges are being built across the river to connect the park to surrounding community infrastructure to blend themtogether smoothly.

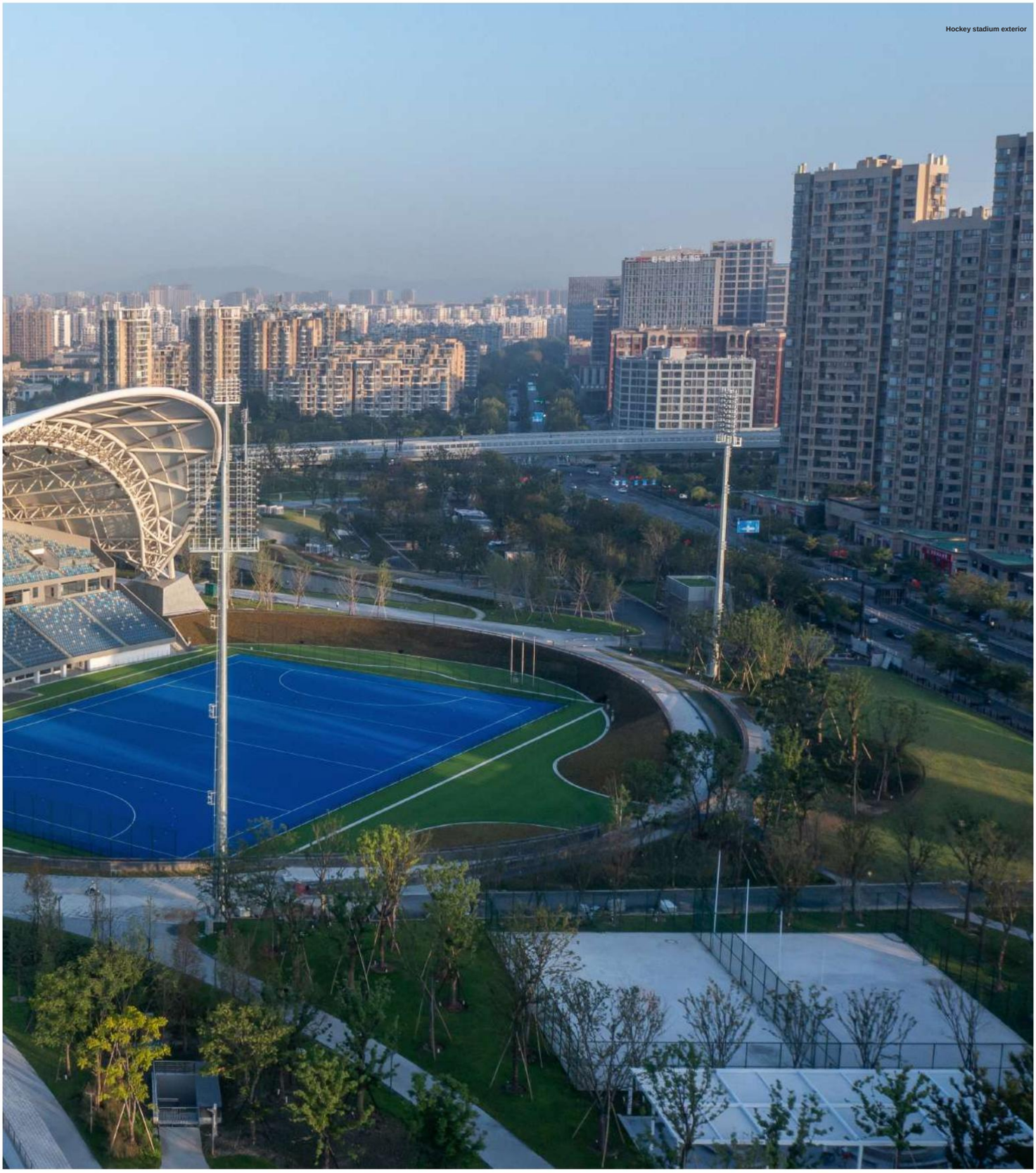
Hockey hybrid stadium doubles as landscape sculpture

Located five meters below the Landscape the 2022 Asian Games Hockey Stadium emerges from the folded landscape and blends into its surroundings, becoming a ~~porous~~ sculptural element in the park. A 125-meter transparent free-span wing-shaped roof covers the hall and stands. The competition venue is located in the rolling landscape of Hangzhou Asian Games Park, embedded in the sunken oval grass area

"Most stadiums are like fortresses," said Winka Dubbeldam, founding partner of Archi-Tectonics. "And our work is morelikeLANDart ."

As part of the landscape, the 5,000-seat stadium mediates the changing height difference between the concourse and the playing field. Passing through a spacious glass atrium with a 35-meter-high ceiling, spectators will enter thearenaoverlookingan open sports field. In plan, the roof and site appear as two intersecting ovals, similar to the Tree of Life (a symbol of eternity) or the Vesica Piscis, a shape that has been used in systems of geometry and proportion since antiquity. Like concentric ripples formed in water, the curved stands radiate into the curved atrium and out onto the concourse.





Hockey stadium exterior