



# **The Monument Hill:**

New Ice and Snow Culture Museum and Celebration Plaza  
of Chongli, Zhangjiakou



## ■ Project Statement

For a small town in the north part of China, becoming one of the main competition venues for the snow sports of the 2022 Winter Olympics makes Chongli stepped onto the stage of the national stage and attracted the attention of the world. During this historical moment, Chongli government decided to build up a new ice and snow museum and celebration square so as to commemorate this historical event and display the town history and culture to the tourists.

The site is chosen in the location of a rundown urban area in the center of the town with large altitude variations, right across the old ice and snow culture museum. With the total scale of 8.02 hectares, the site is a combination of a museum, library and a celebration square for different scales of events. Architects join together with landscape designers in the project, which creates an integrated urban open space with iconic buildings, open square and urban green space. The museum and plaza has become an vigorous spot during and after the Olympic Games time, and is now a town cultural living room and civil landmark for both citizens and tourists.





## ■ Project Background and Site Analysis

Located in the center part of Chongli district, the site is considered to be one point of the citizen celebrating spot for the 2022 Winter Olympic Games just hold nearby their homes. The chosen site is to be built with a new ice and snow culture museum as well as a celebration plaza, looking back to the old museum across the main road of Yuxing Road. Around the site there are several city main roads including Yuxing road and Capital Express road passing by. And just like the typical topography of the district, surrounded by mountains, and Fulong Snow park is located on the side of the mountain right across the capital express road.

The relationships between the site and its surrounding area are broken and blocked. The broken relationships are including:

- 1) Unlinked ecological relationship between the urban developed area and the natural environment surrounded due to the capital express way;
- 2) Unbuilt cultural relationship between the new ice and snow Culture museum and the old one due to the Yuxing Municipal road;
- 3) Blocked traffic relationship between the site and its surrounding area due to the scarps and height differences on the edge.

## ■ Master Plan

Integrated with surrounding natural environment and landscape, the building is designed on the east part of the site, in a shape of mountain with 3 ice-liked peaks, which creates a historical axis between the old and new museum on the west side. Through the axis, a set of giant 3D-printed twisted arches are shining with changing lights which is called as the *'Time Corridor'*, connecting a ceremonial entrance of the plaza with the museum building.

Gentle slopes and green open borders created convenient traffic system for all groups of visitors, and central open square and terrace stands made it possible for different scales of events and activities. Natural-imitated forests on the east side blocked off noise from express way and as well as connected the urban space with the natural environment of mountains. Gradually varied green roof created a different experience to enter the museum.

## ■ Design Highlights

### Eco-Connection between Urban space and Natural Environment

The integration of museum and plaza creates green open roof and green open borders on edges of the site. Natural-imitated forest are arranged in connection with the natural environment to the urban space.

### Cultural Link of History and Future

With the *'Time Corridor'* axis and buildings of museum and city library, the project is built to become a cultural link which displaying the profound ice and snow history of Chongli, the historical event of 2022 Winter Olympics and a promising future of the town development.

### Public and Winter Olympics

During the 2022 Olympic Games, the square is a lively spot for citizens to watch sportscast and enjoy prize ceremony on the big screen settled in center of the square. And after the Olympic Games, varies of social activities are hold on the square which makes this place a vigorous spot of the town. Citizens and visitors from all over the world gathered here to feel the charisma of ice and snow culture.

### Local and Hi-tech

The overall planting design is made to show the integrity of the regional landscape with the strategy of extensive planting by arranging large clusters of single species to imitate the environment of Alpine region of Chongli area. By using 3D-printing technologies with recyclable Asa composite material, five giant non-linear arches structures which represent Olympic rings is made in the studio.

Intelligent lighting control system is stetted and will be operated due to different occasion including during Olympic Games time, Important holidays, ordinary days and late night time, in order to minimize the energy consumptions as well as creating holiday atmosphere when needed.



## ■ Achievements

### Ecological Benefits:

- The project achieved ecological improvements including enhanced habitat diversity and biodiversity.
- All plant materials are native to the region. Expected to significantly enhance habitat diversity in the long run.
- LID measures are taken in the site including crescent-shape green belts, sunken green lands to slow down the surface runoff

### Social Benefits:

- It provides new civil living room for urban residents, and satisfy the urgent needs for people's life such as leisure, entertainment and culture.
- The project promotes the quality of public cultural and civil life, and creates a vigorous open space for the town.
- It creates a stage of displaying Chongli with a green-sustainable Winter Olympic Heritage and Monumental landmark that shows the world a sample city of ecological human settlement.

### Economic Benefits:

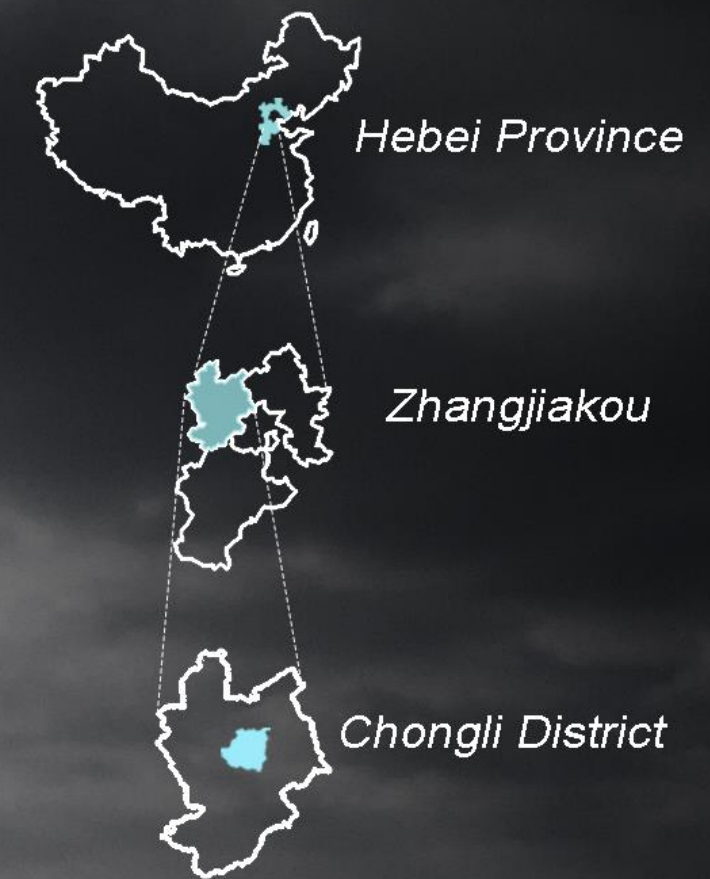
- Drive the recovery of tourism in Chongli.
- Help to drive the economic development of transportation, restaurant and other relative industries.
- Drive real estate values and attract investors.





# Project Background

Located in the center part of Chongli district, the site is considered to be the citizen celebrating spot for the 2022 Winter Olympic Games just hold nearby their homes. The chosen site is to be built with a new ice and snow culture museum as well as a celebration plaza, looking back to the old museum across the main road of Yuxing Road. Around the site there are several city main roads including Yuxing road and Capital Express road passing by. And just like the typical topography of the district, surrounded by mountains, and Fulong Snow park is located on the side of the mountain right across the capital express road.



Zhangjiakou Zone venues of the 2022 Winter Olympics



Beijing Zone venues of the 2022 Winter Olympics



Fulong Snow Park



SITE 8.02Ha

Background Information

URBAN AREA  
of Chongli

the Old Ice and Snow  
Culture Museum

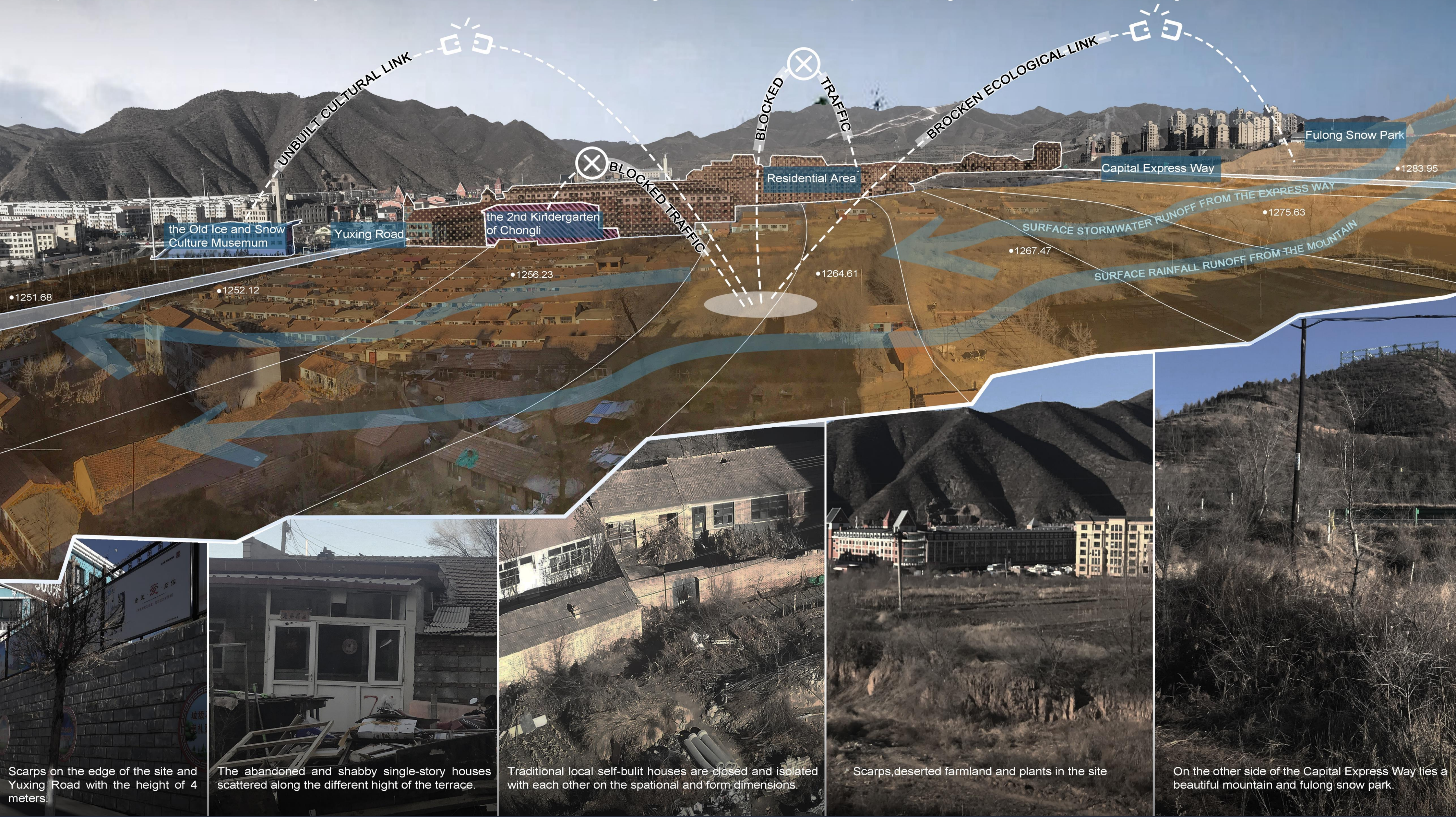




# Site Analysis

The relationships between the site and its surrounding area are broken and blocked. The broken relationships are including:

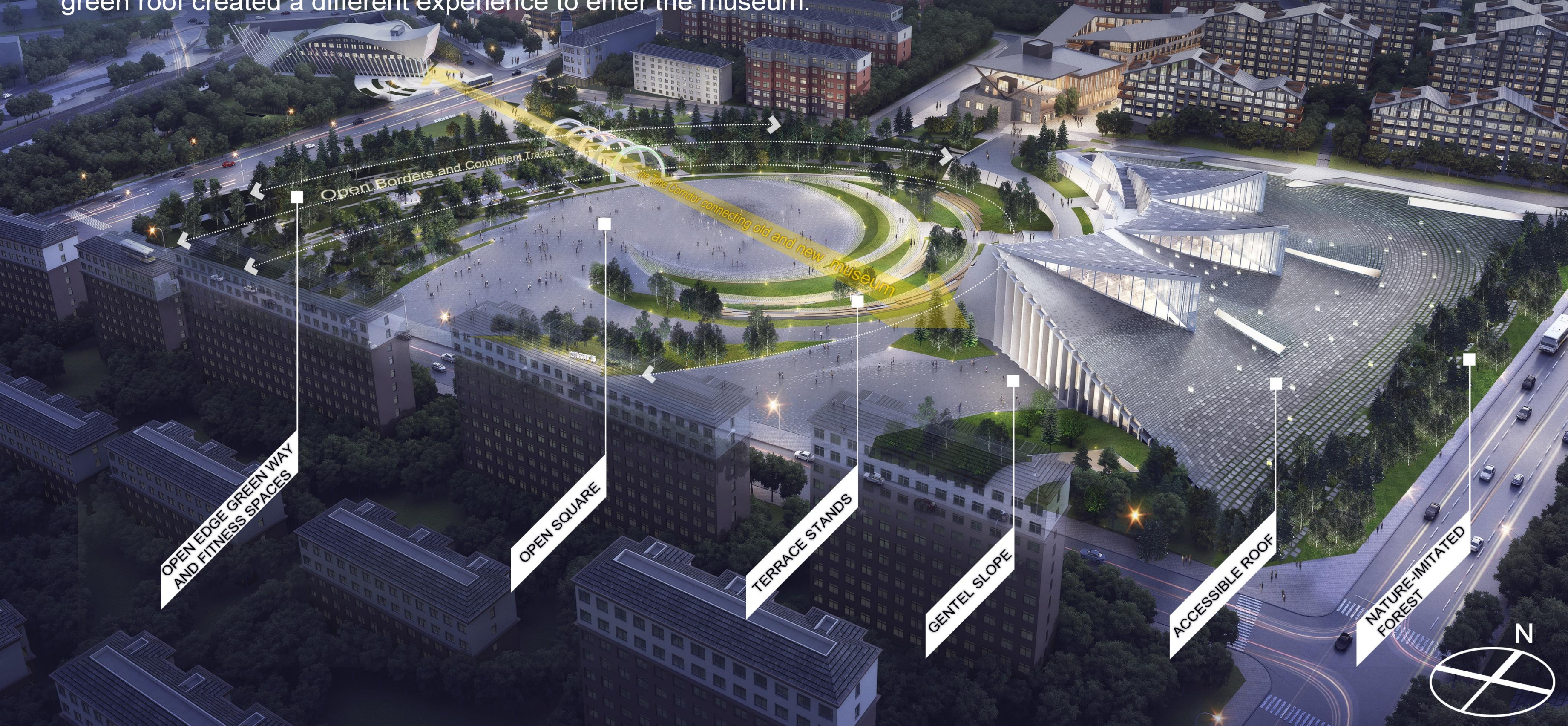
- 1) **Unlinked ecological relationship** between the urban developed area and the natural environment surrounded due to the capital express way;
- 2) **Unbuilt cultural relationship** between the new ice and snow Culture museum and the old one due to the Yuxing Municipal road;
- 3) **Blocked traffic relationship** between the site and its surrounding area due to the scarps and height differences on the edge.



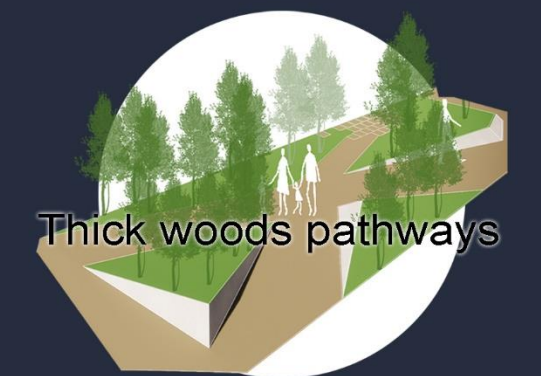
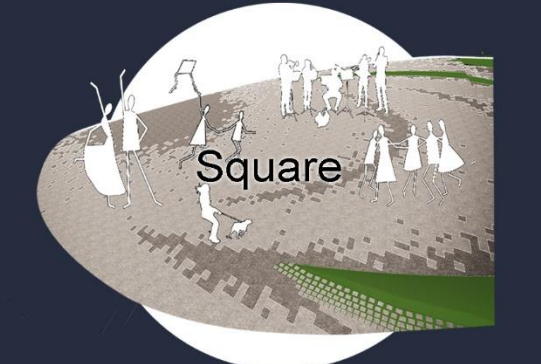


# Design Strategies

Integration of the architecture and landscape, the layout built up a 'Time Corridor' between the old and new museum, which also became a ceremonial entrance of the site, by walking through five huge 3D-printed Arches. Gentle slopes and open borders created convenient traffic system for all groups of visitors, and central open square and terrace stands made it possible for different scales of events and activities. Natural-imitated forests on the east side blocked off noise from express way and as well as connected the urban space with the natural environment of mountains. Gradually varied green roof created a different experience to enter the museum.



Varies kinds of Spaces





# Master Plan



Summer View



Winter View





-----Ecological Media from mountain to city

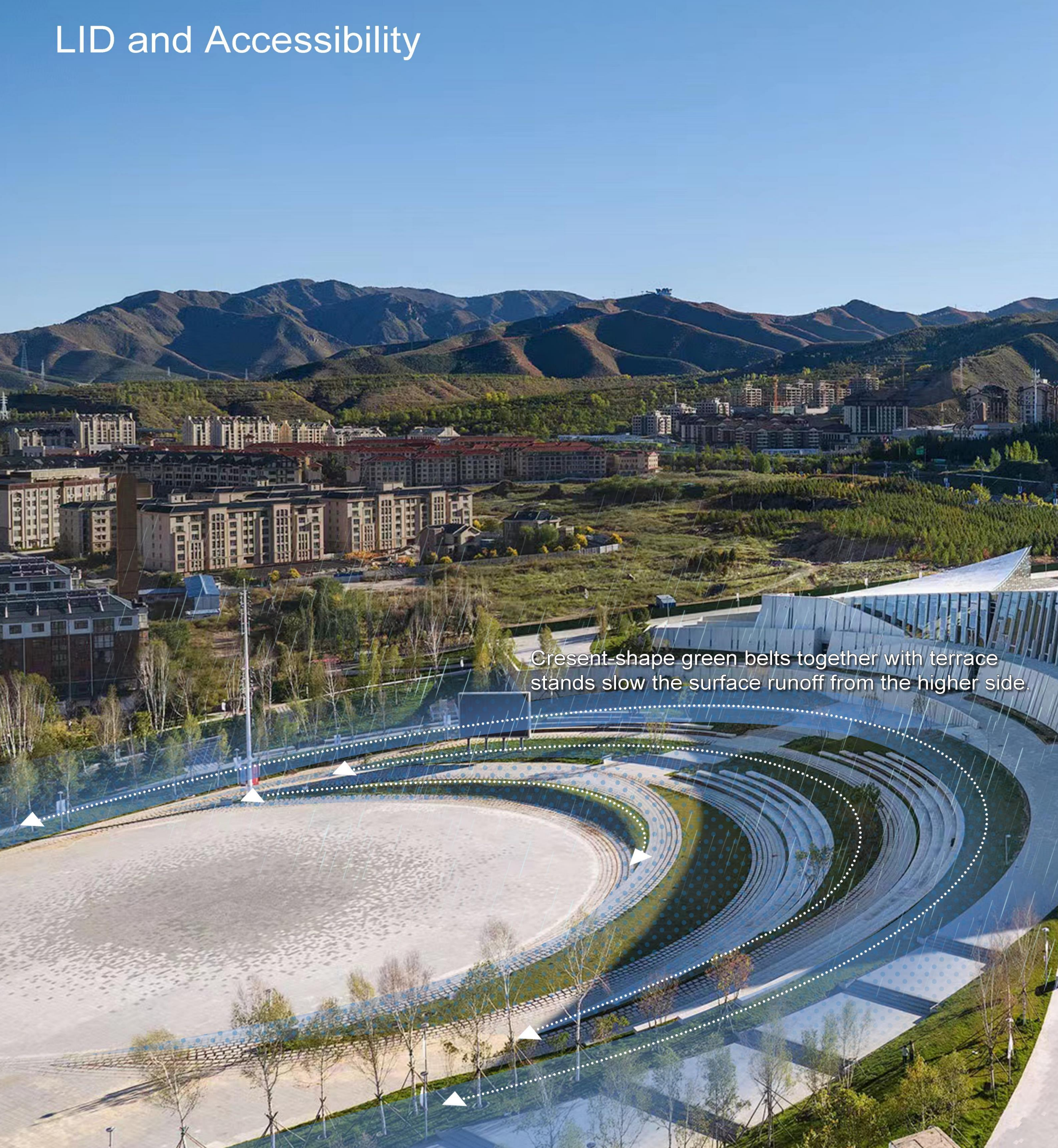
-----Culture Link from history to future

## Dialogues with Nature and History

The new ice and snow culture museum and square becomes an ecological media of conversations between the natural environment and the urban space, as well as a link that connect the city history and the future imagination.



# LID and Accessibility







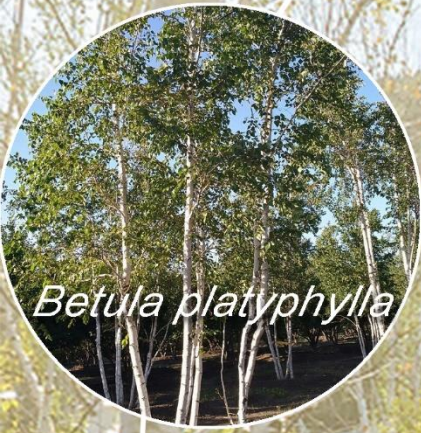
Deciduous Trees



*Quercus mongolica*



*Sophora japonica*



*Betula platyphylla*



*Acer mono*



*Acer saccharinum*

Shrubs and ground covers



*Sabina vulgaris*



*Lonicera maackii*



*Festuca glauca 'Elijah Blue'*



*Lespedeza bicolor*



*Pennisetum orientale*



*Pinus sylvestris L. var. mongolica*



*Pinus tabuliformis*



*Picea obovata*



*Picea meyeri*

Evergreen Trees

## Nature-stimulating Environment

the planting design of the square is based on Chongli's natural environment system, and are naturally laying out on the green land in order to create a nature-imitating Alpine region environment, which connects the mountain to the city area.

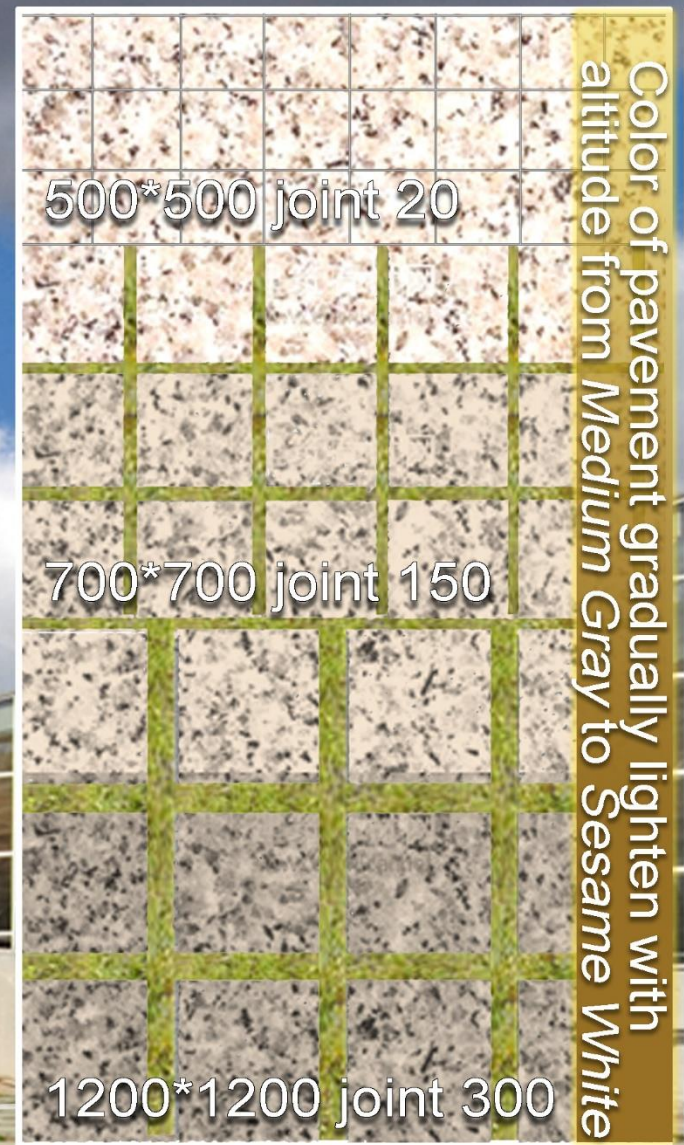
On the basis of the biodiversity consideration, the overall planting design is made to show the integrity of the regional landscape with the strategy of extensive planting by arranging large clusters of single species instead of elaborate garden planting.



# Pavement System



Snow-capped imitation



Expansion joint reserved

Different surface textures increasing the force of fiction on the quare, as well as creating different tactiles for visitors.



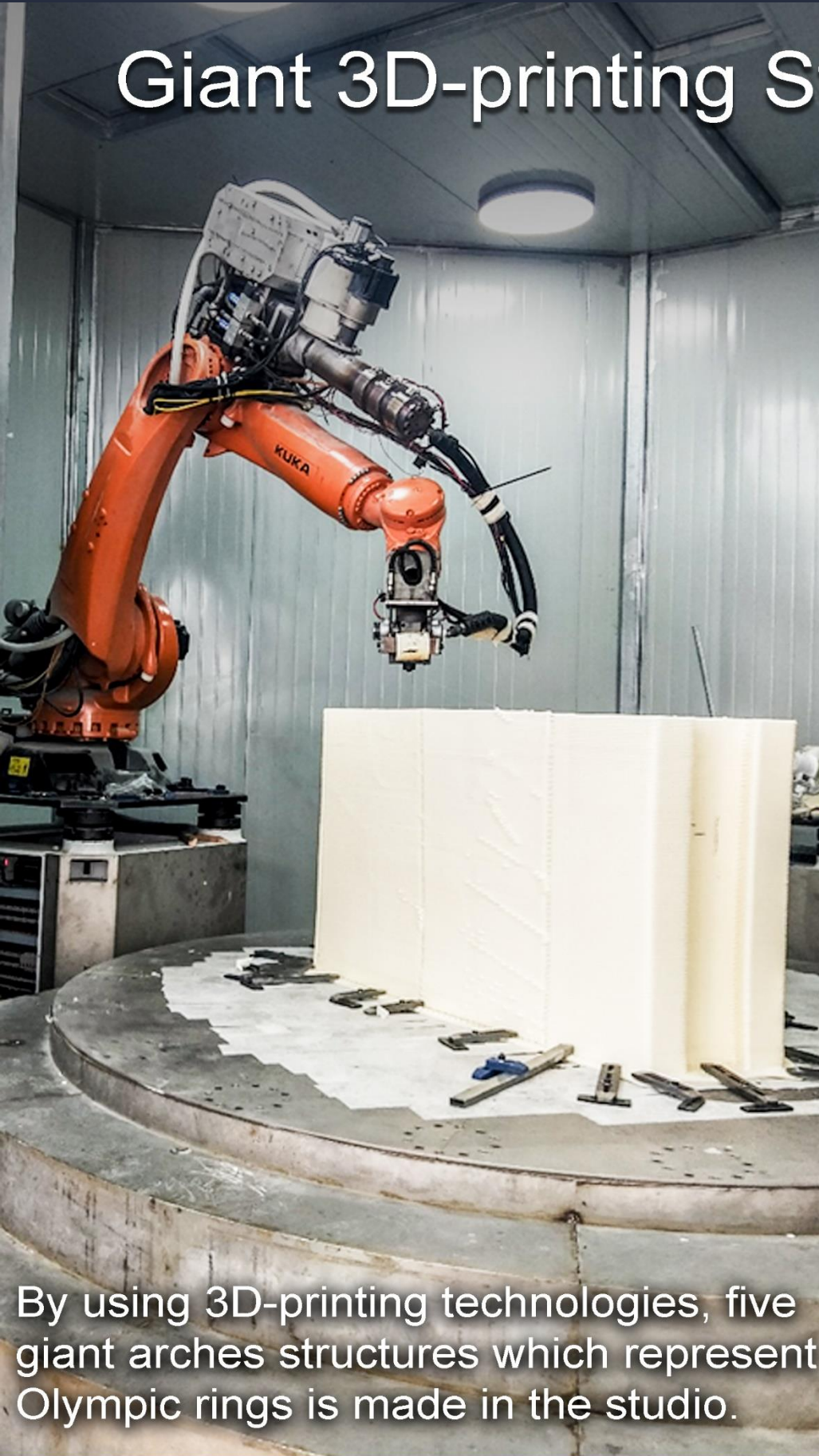
Color gradually lightened from the center to the side of the square, creating a snow-capped landscape on the bottom of a mountain.



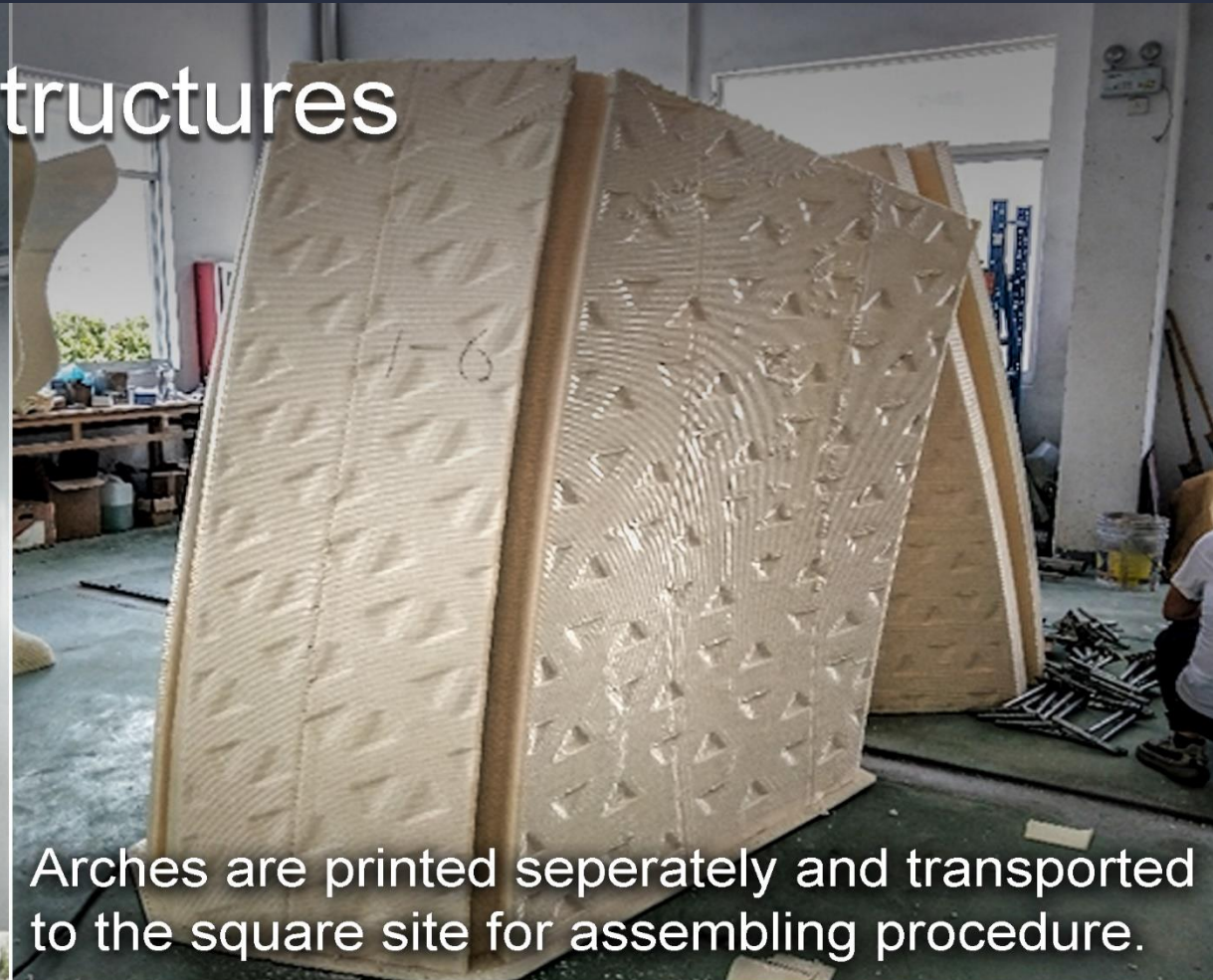
Joints of the pavement decrease gradually from green area to pavement square area, which help increasing the infiltration ability of the ground.



# Giant 3D-printing Structures



By using 3D-printing technologies, five giant arches structures which represent Olympic rings is made in the studio.



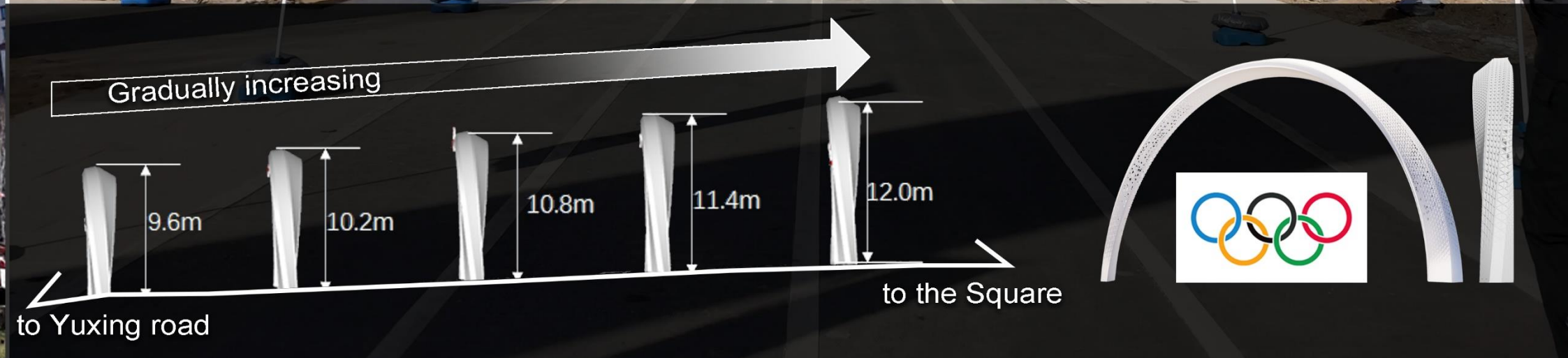
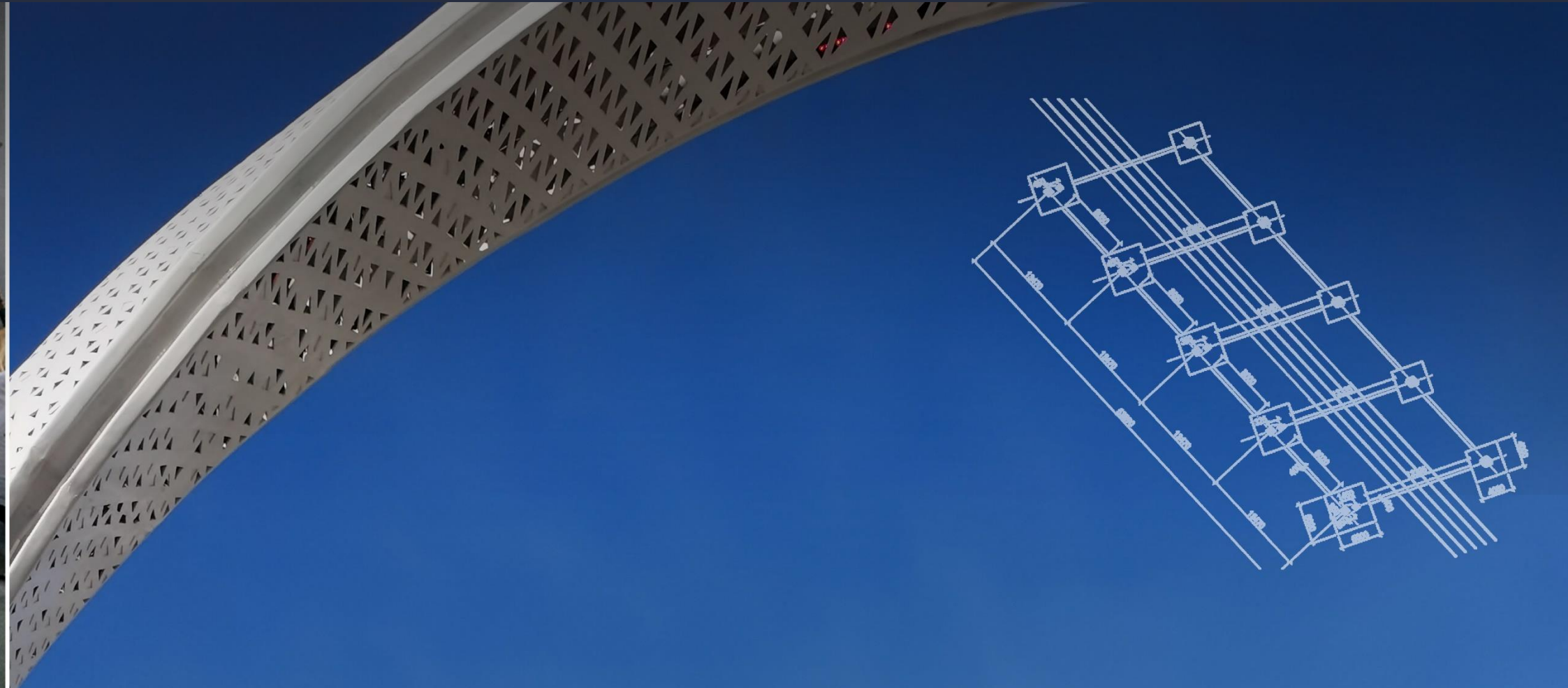
Arches are printed seperately and transported to the square site for assembling procedure.



Archs are assembling with intelligent lighting system as well as structural support



In using of the material of Asa composite material, which not only shapes the highly complex geometry and huge volume of the arch, but also a powerful exploration of new materials and new technology in the landscape industry because the material can be recycled and is more economical and environmentally friendly.





# Intelligent Lighting



In order to decrease the energy consumption of the square, there are minimum of lighting facilities around the museum area, by which provide lights through the internal light transmission from inside of the building by permeability glass of curtain walls.



The museum and square provides tones of warm and peaceful atmosphere during the night time.

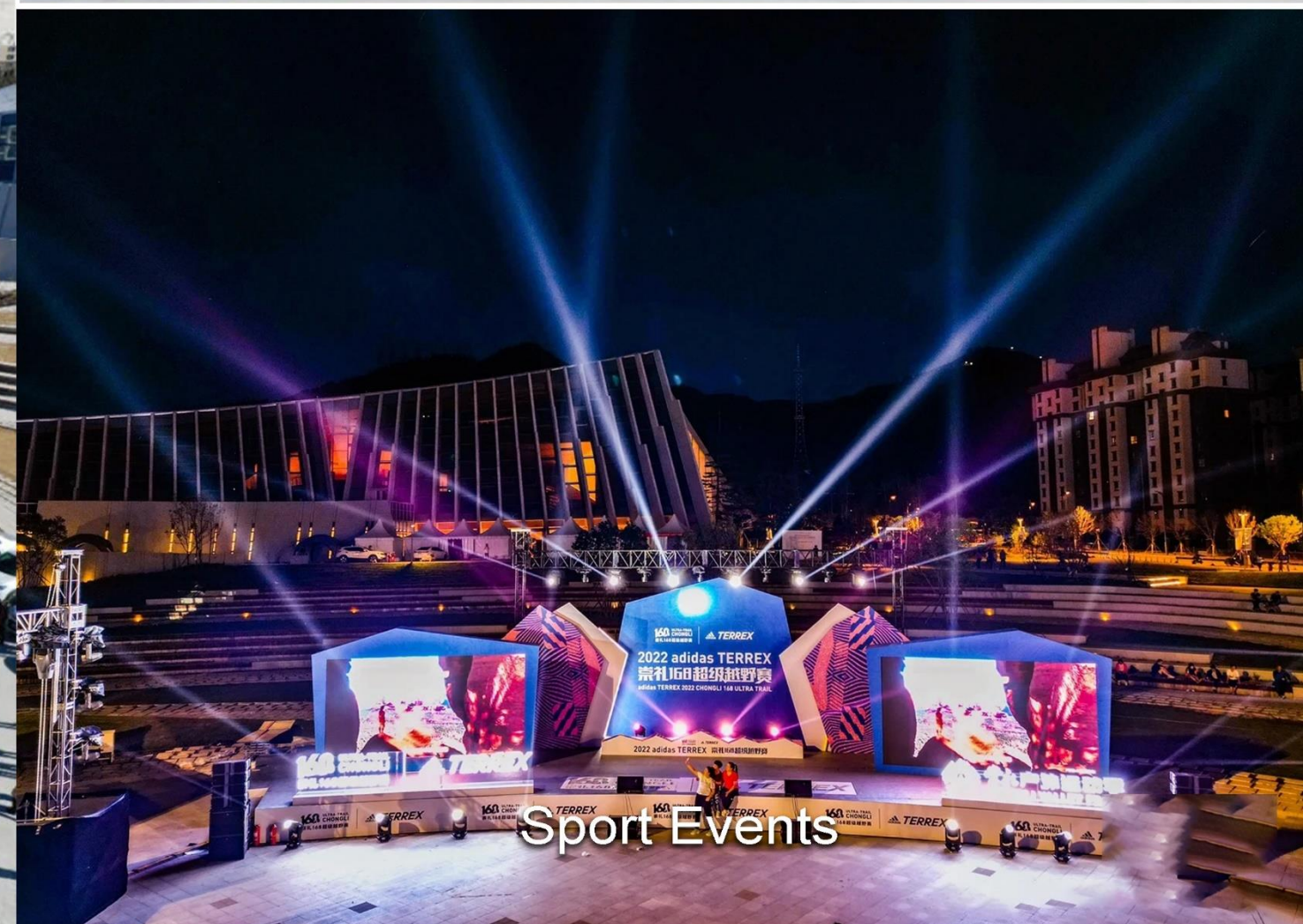
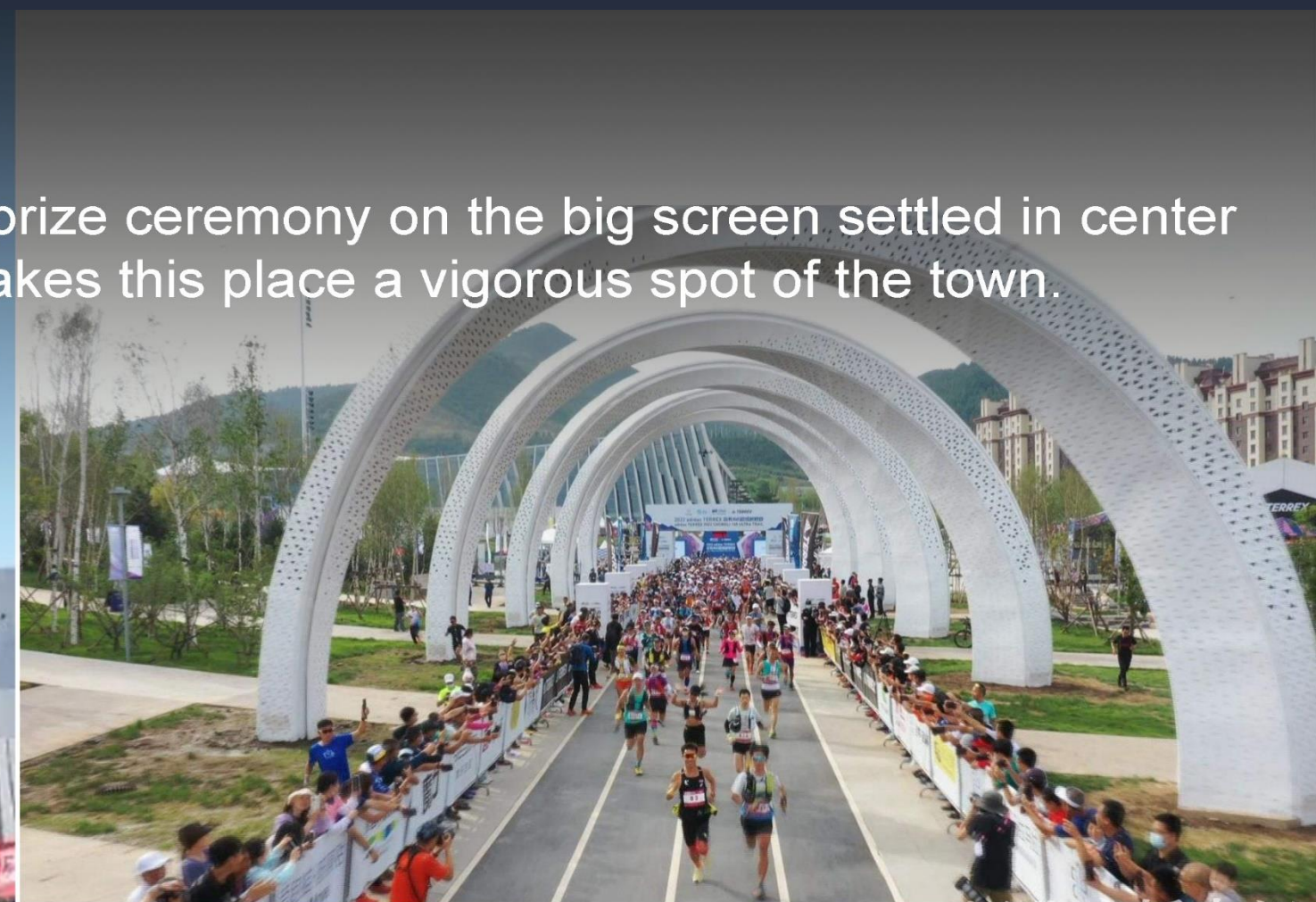
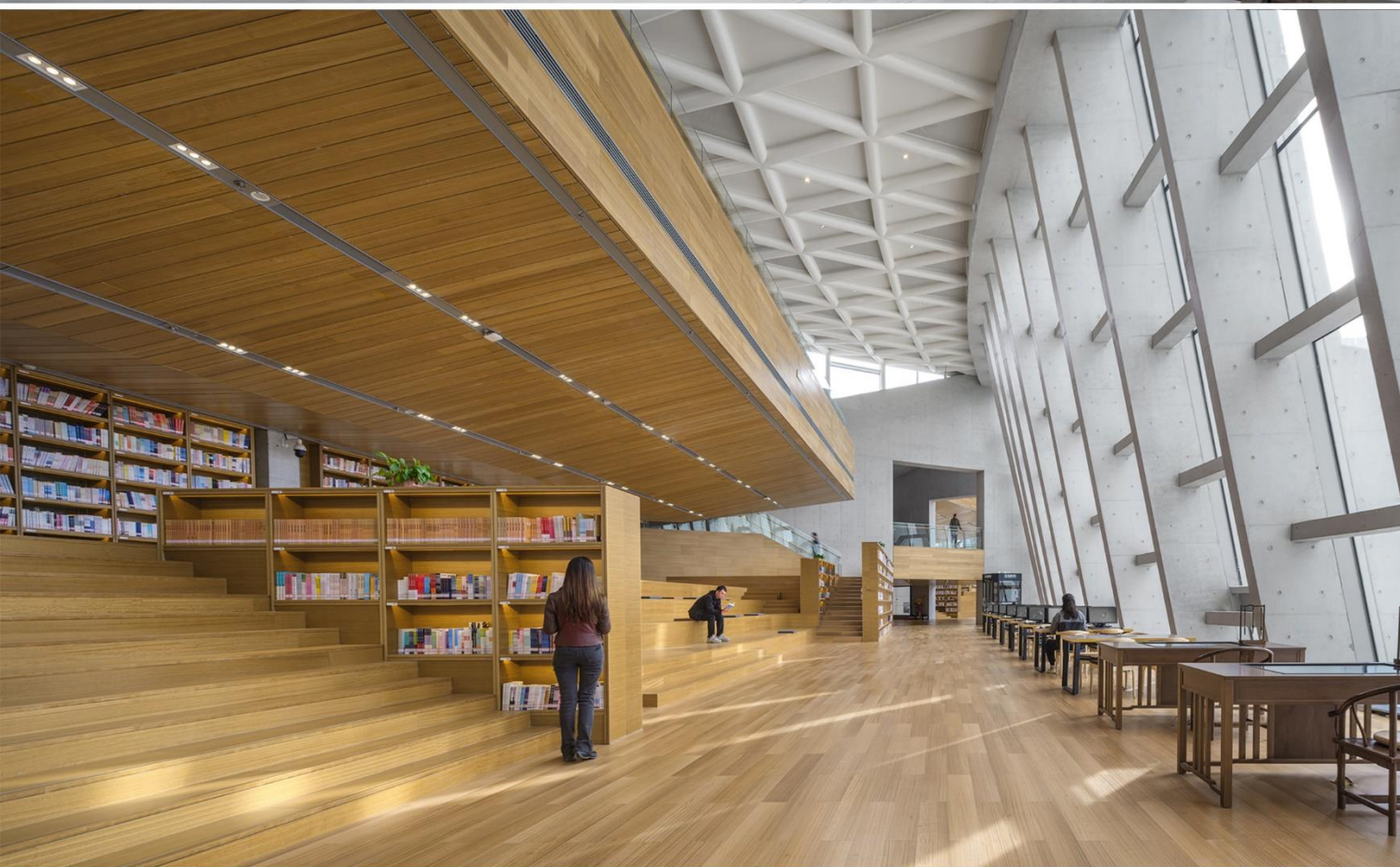


Intelligent lighting control system is statted in the giant Olympic rings structure through the *Time Corridor*. Different program will be operated due to different occasion including during Olympic Games time, Important holidays, ordinary days and late night time, in order to minimize the energy consumptions as well as creating holiday atmosphere when needed.



# Vigorous Spot of the Town

During the 2022 Olympic Games, the square is a lively spot for citizens to watch sportscast and enjoy prize ceremony on the big screen settled in center of the square. And after the Olympic Games, varies of social activities are hold on the square which makes this place a vigorous spot of the town. Citizens and visitors from all over the world gathered here to feel the charisma of ice and snow culture.



Ice and Snow Culture Display and Library of the town

Cultural Events

Sport Events





The museum and square are peacefully settled at the foot of the mountain, linking nature the urban space, just like the characteristic of Chongli citizens who always have the reverence the respect for the nature from history to the future. The cultural and urban open space itself is also considered as a monument that tells the story of the glorious history and Olympic heritage of the city, as well as a witness of the hoping future and everyday life that happens.