

Li River has always played an important role in the tourism industry in Guilin. In the past one or two decades, due to social and economic development, many environmental problems have emerged in the Lancang River Basin, such as dry water, flood disasters, water pollution, land resources reduction, surface subsidence and soil erosion. These problems have restricted the development of Guilin's industry and agriculture, especially tourism.



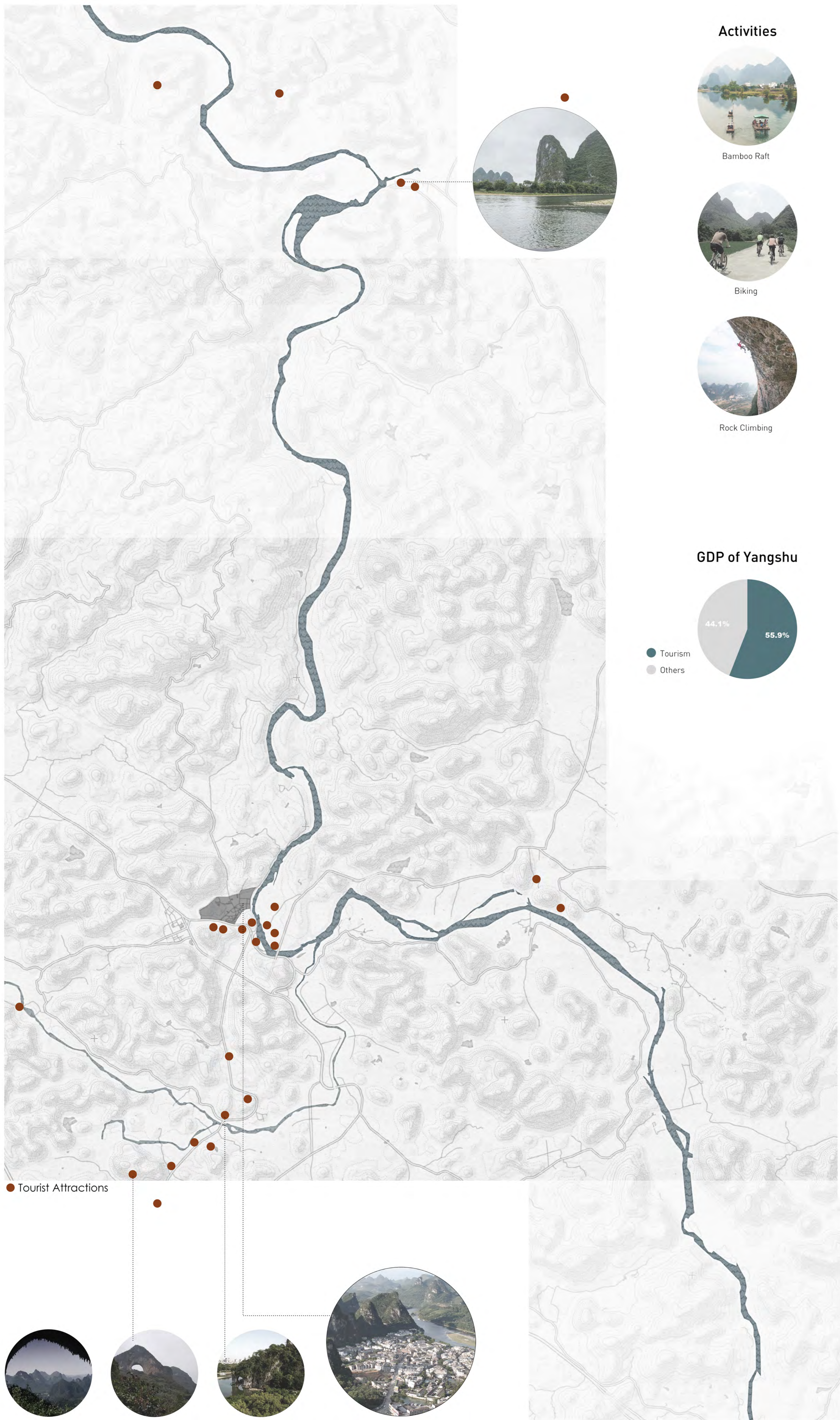
CHINA



GUILIN



YANGSHUO



Activities



Bamboo Raft

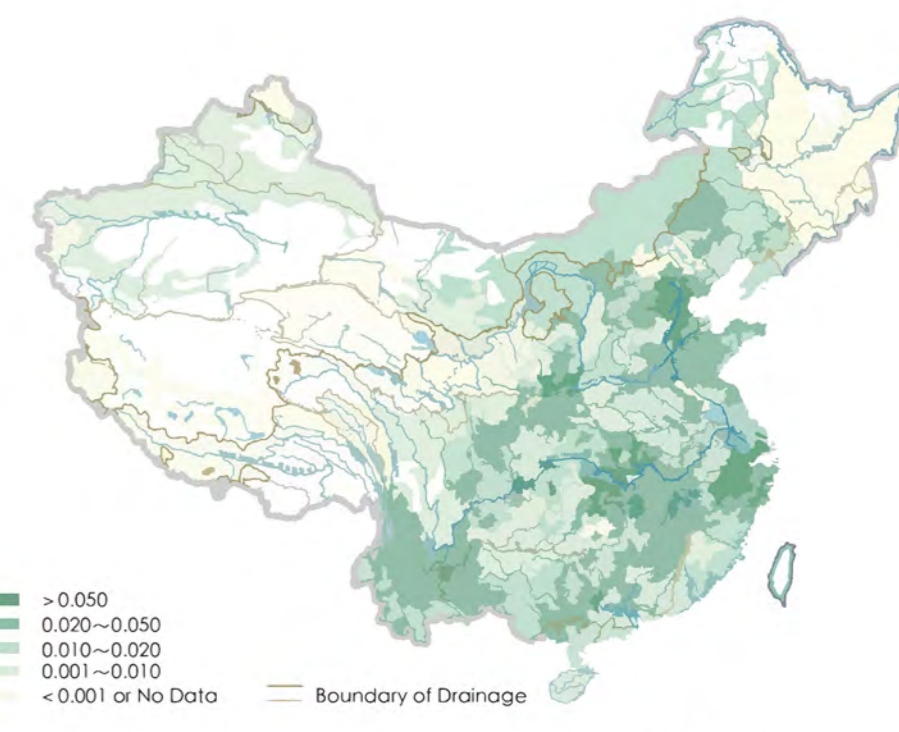
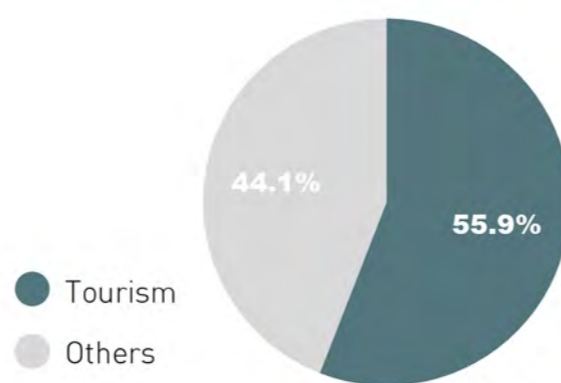


Biking

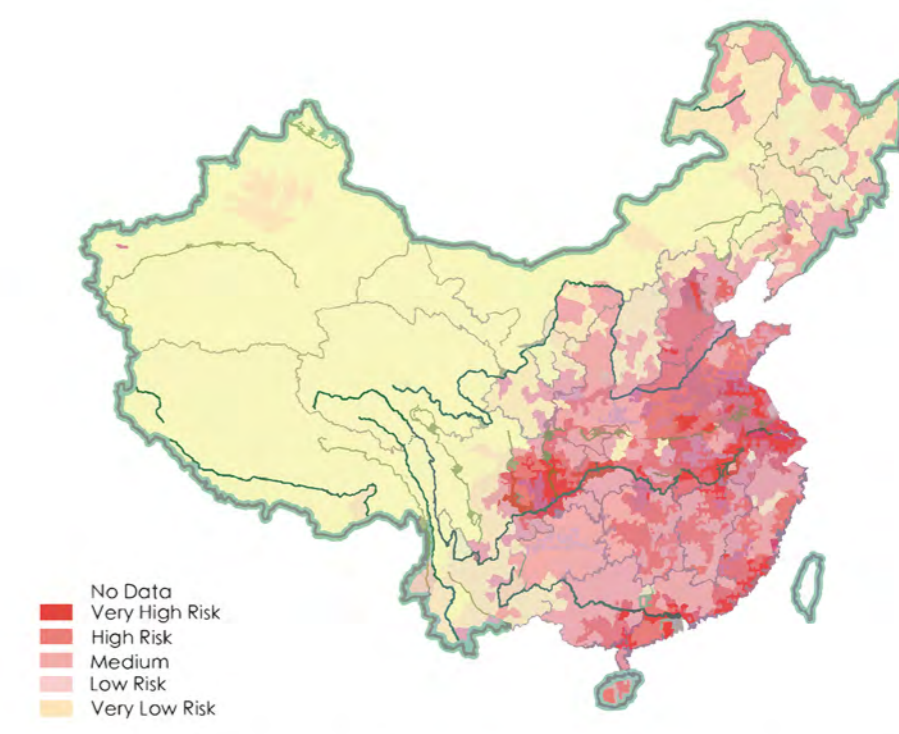


Rock Climbing

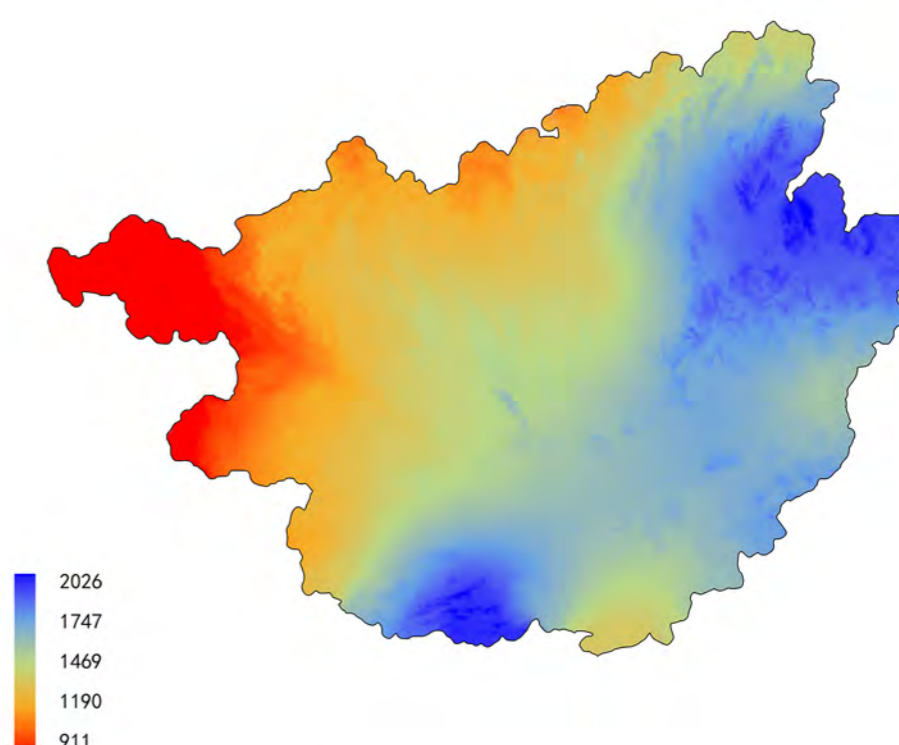
GDP of Yangshuo



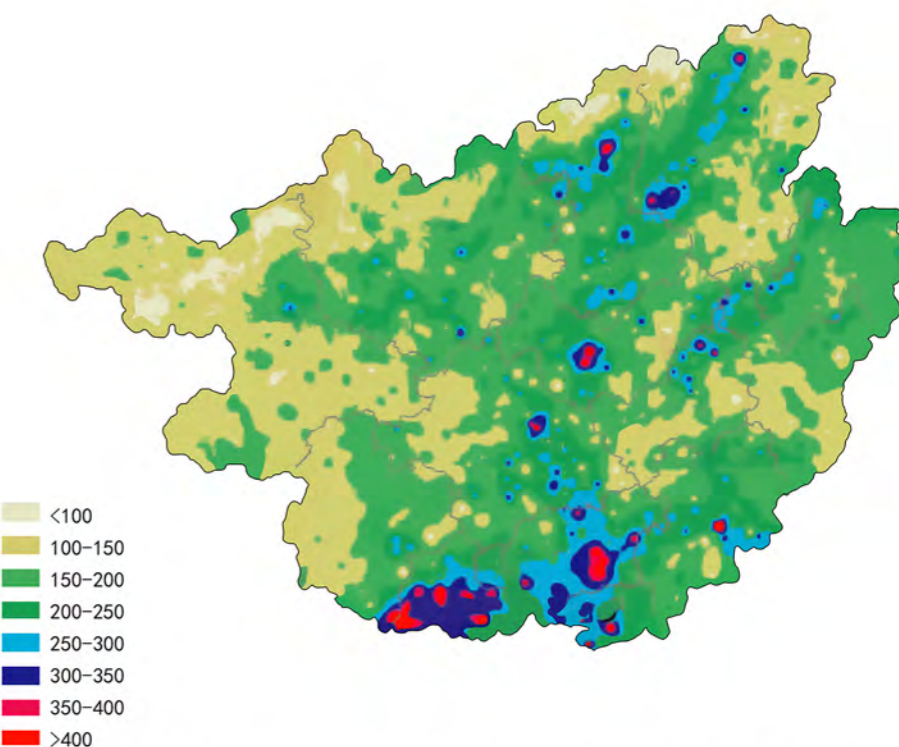
Frequency of Flood Events (times/year)



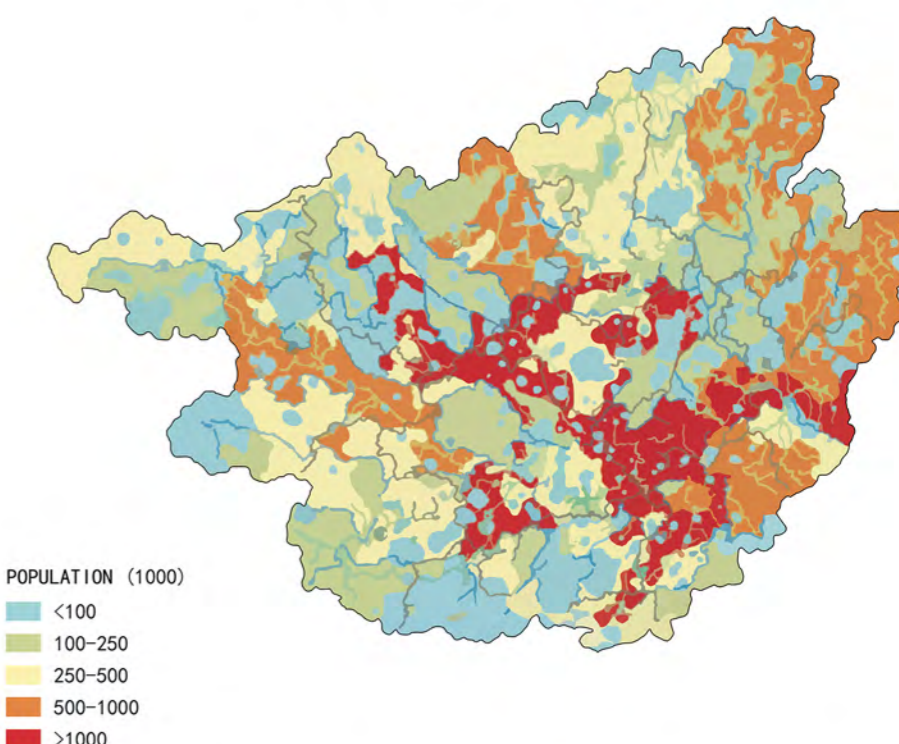
Micro-scale Region Flood Risk Assessment



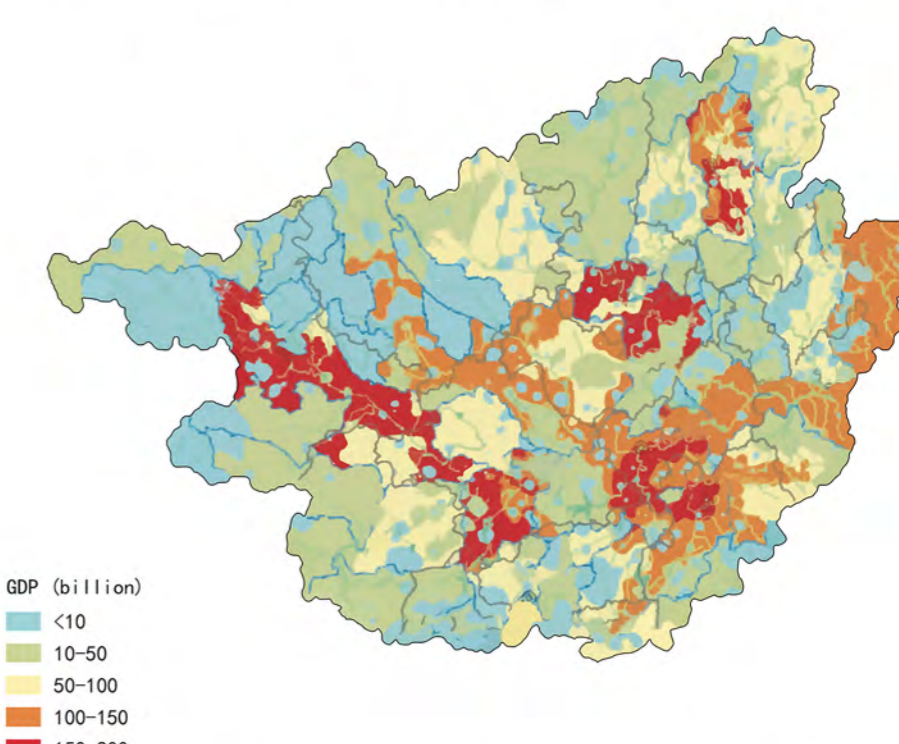
Annual Precipitation (mm)



24-hour Spatial Distribution Map of Extreme Precipitation Events in Guangxi Province

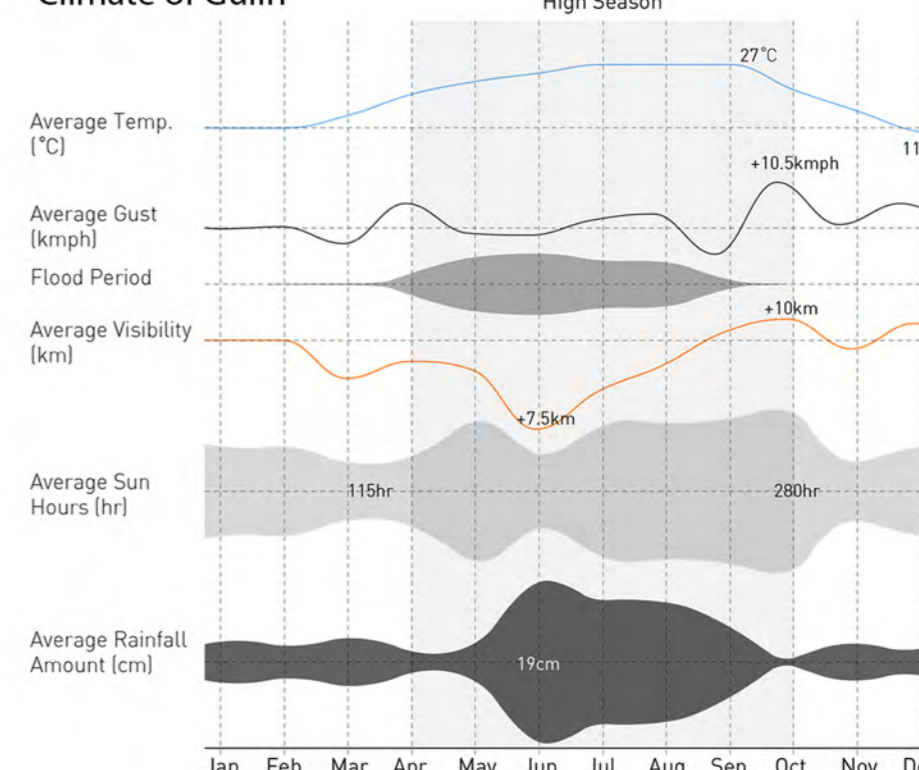


24-hour extreme precipitation event spatial distribution of population exposure in Guangxi Basin

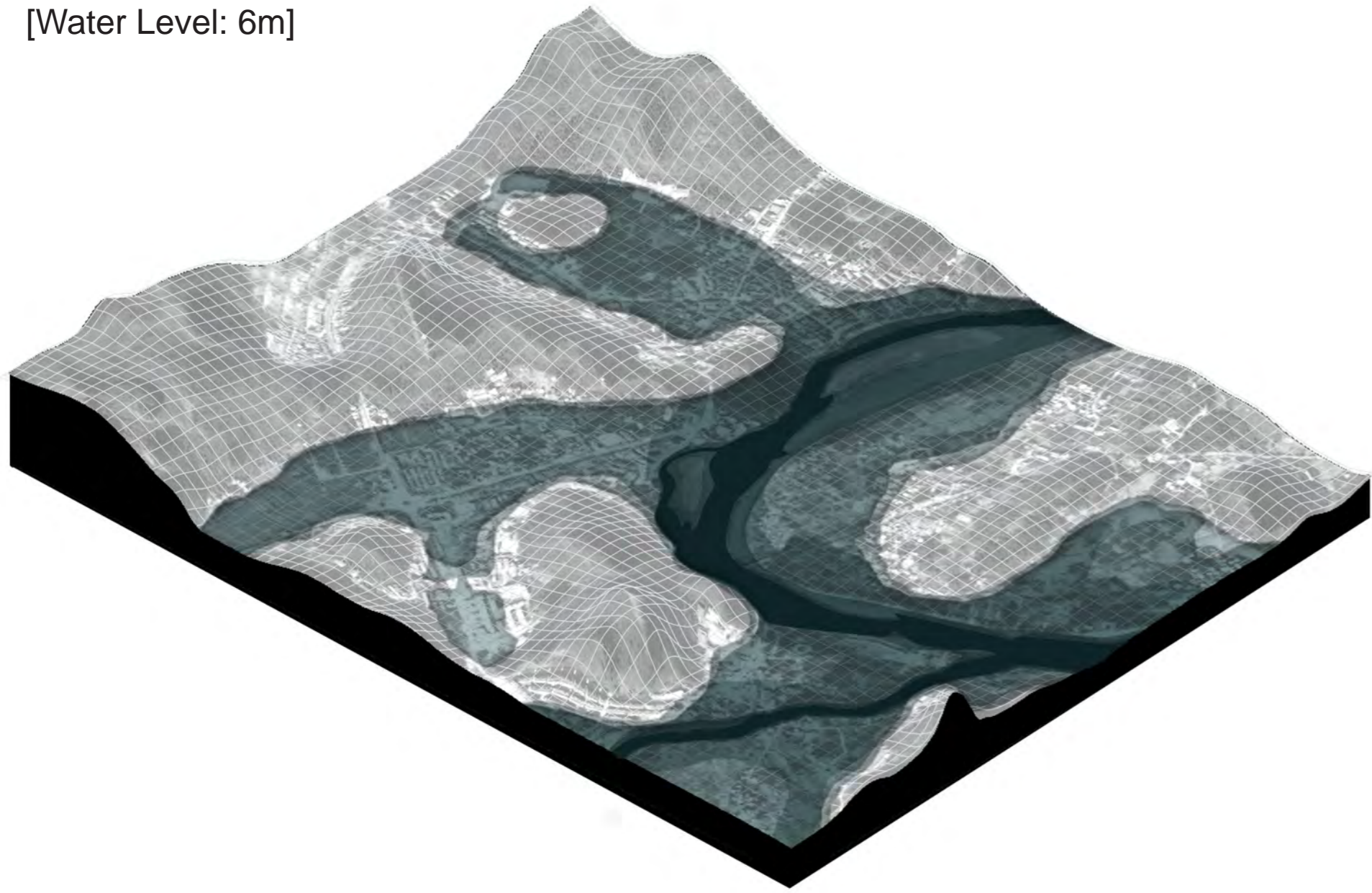


24-hour extreme precipitation event spatial distribution of population exposure in Guangxi Basin

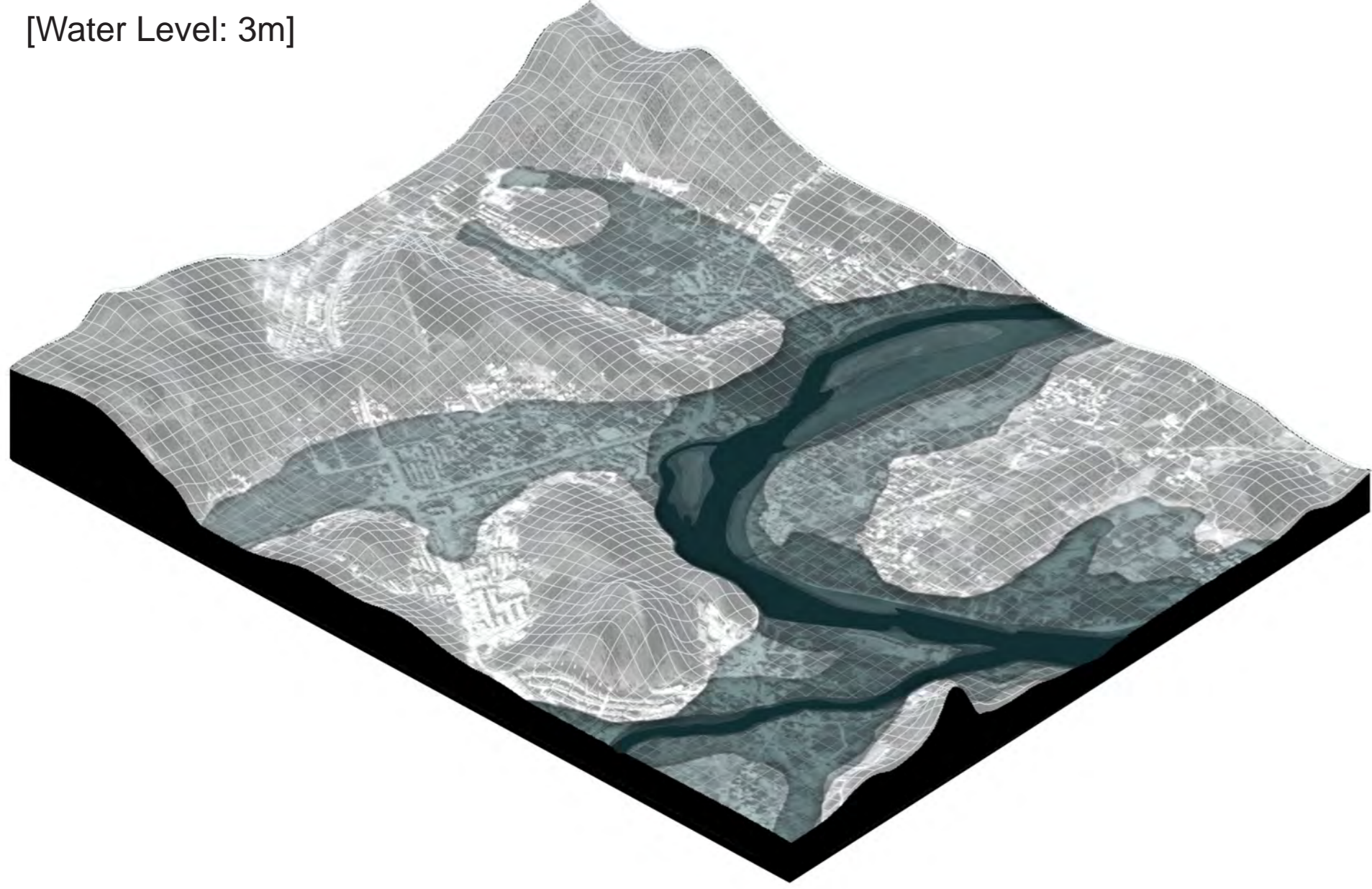
Climate of Guilin



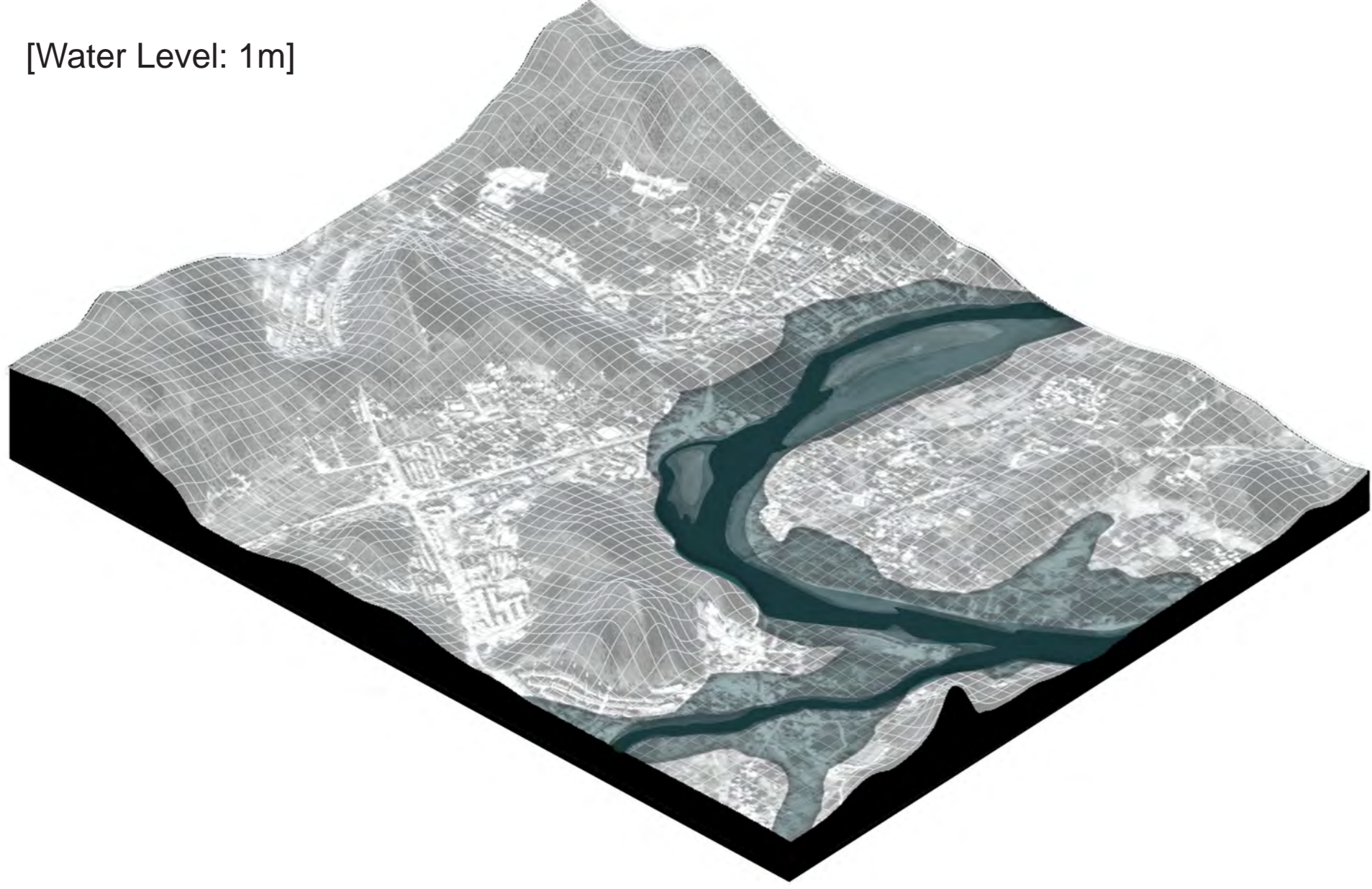
[Water Level: 6m]



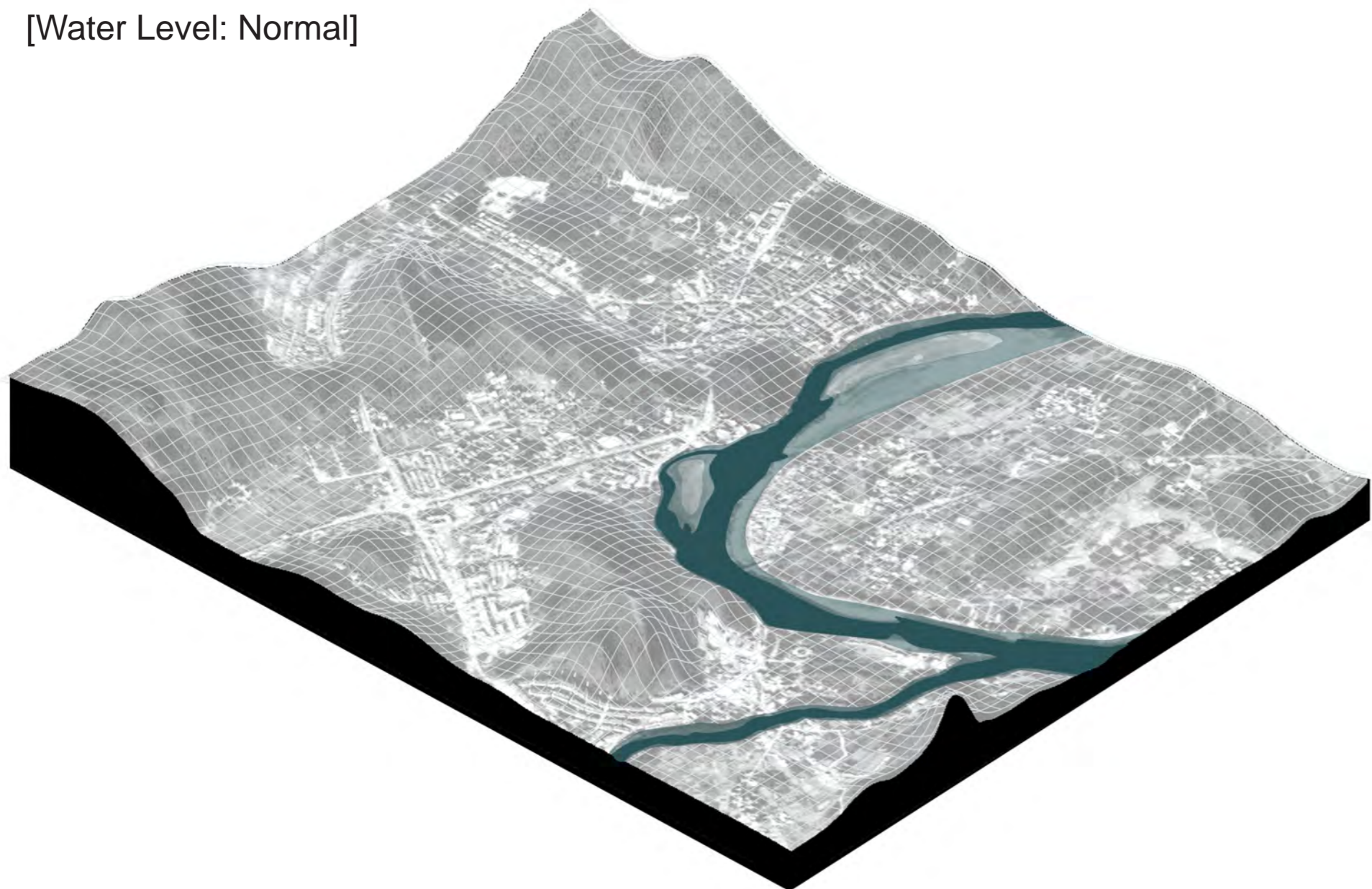
[Water Level: 3m]



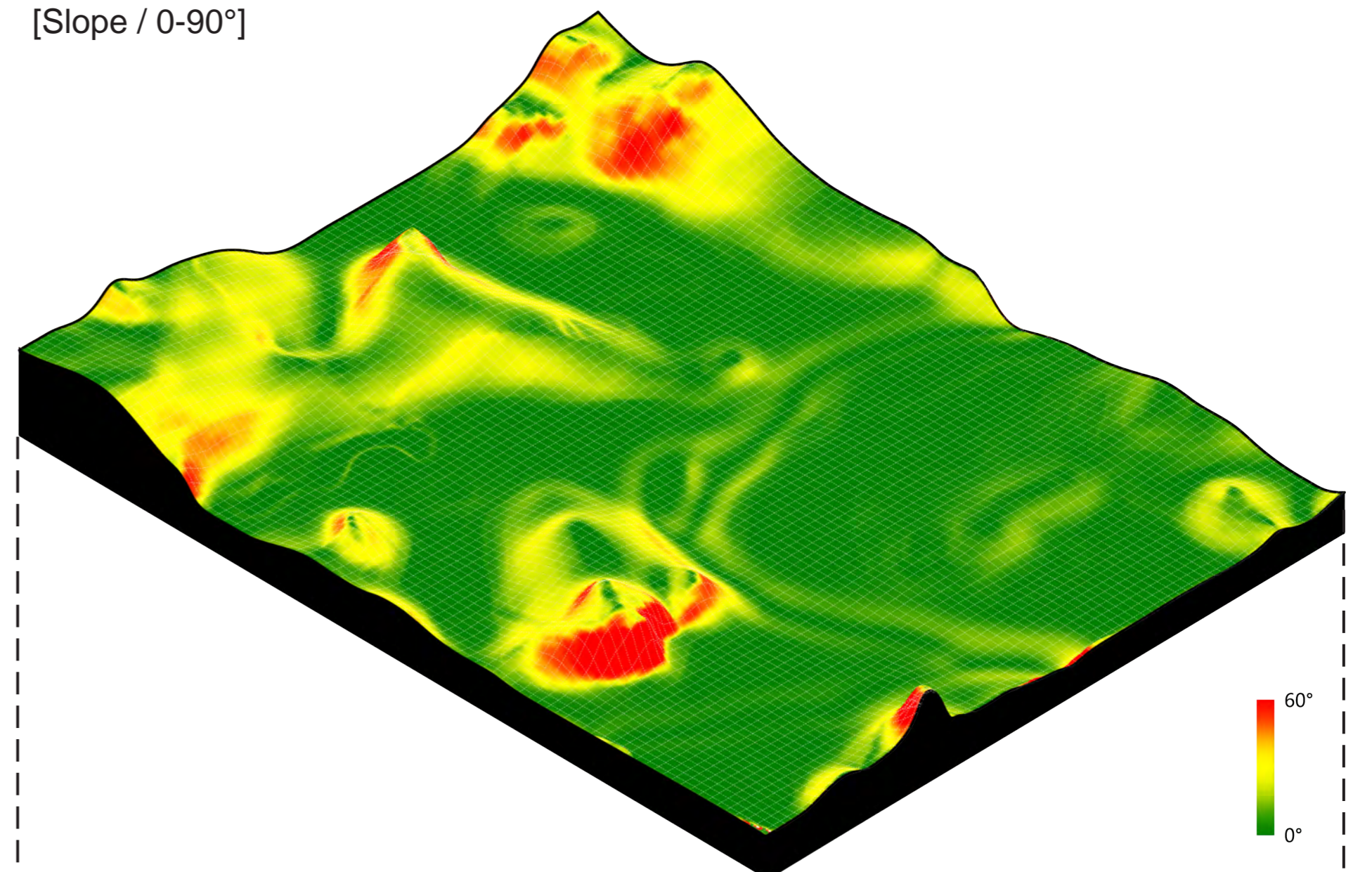
[Water Level: 1m]



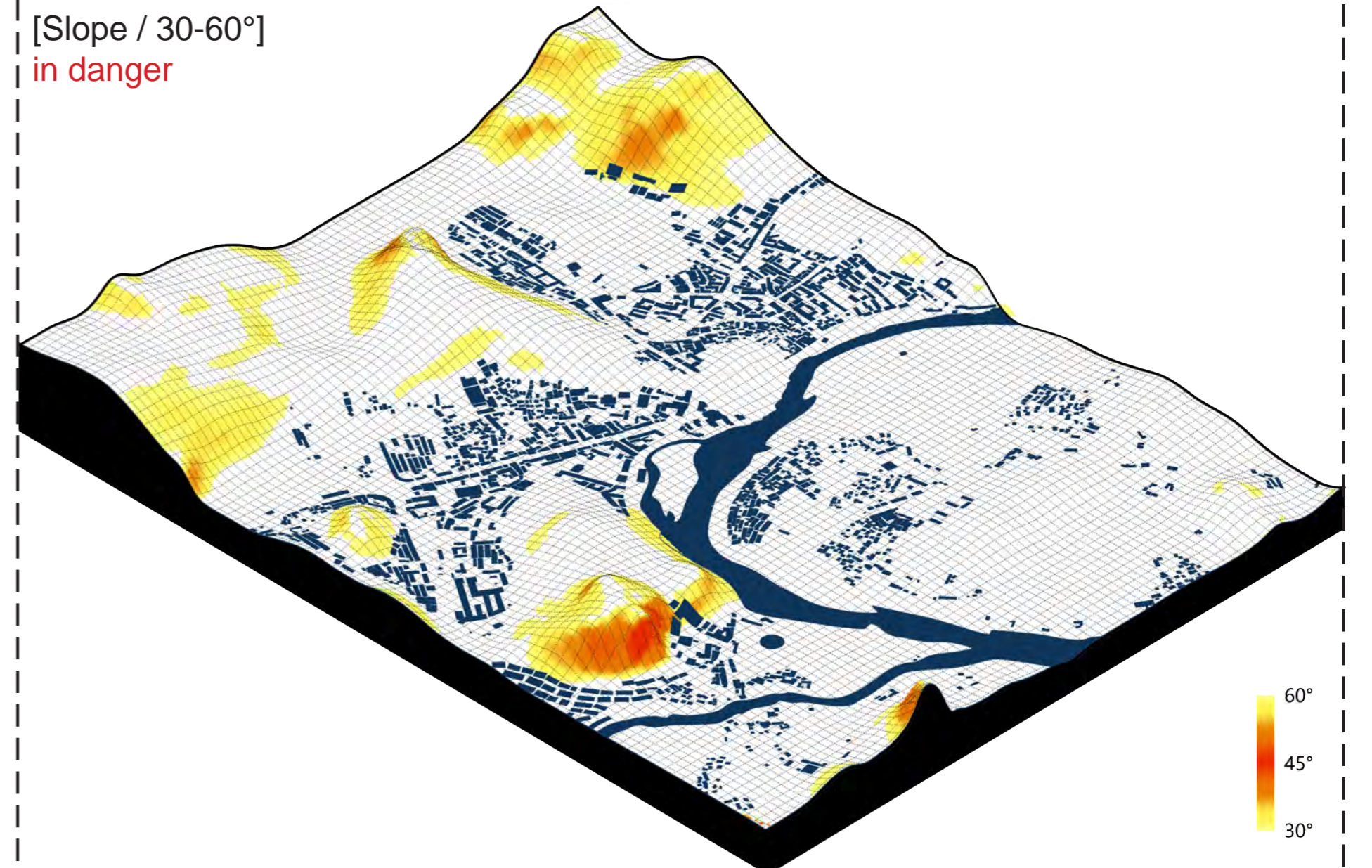
[Water Level: Normal]



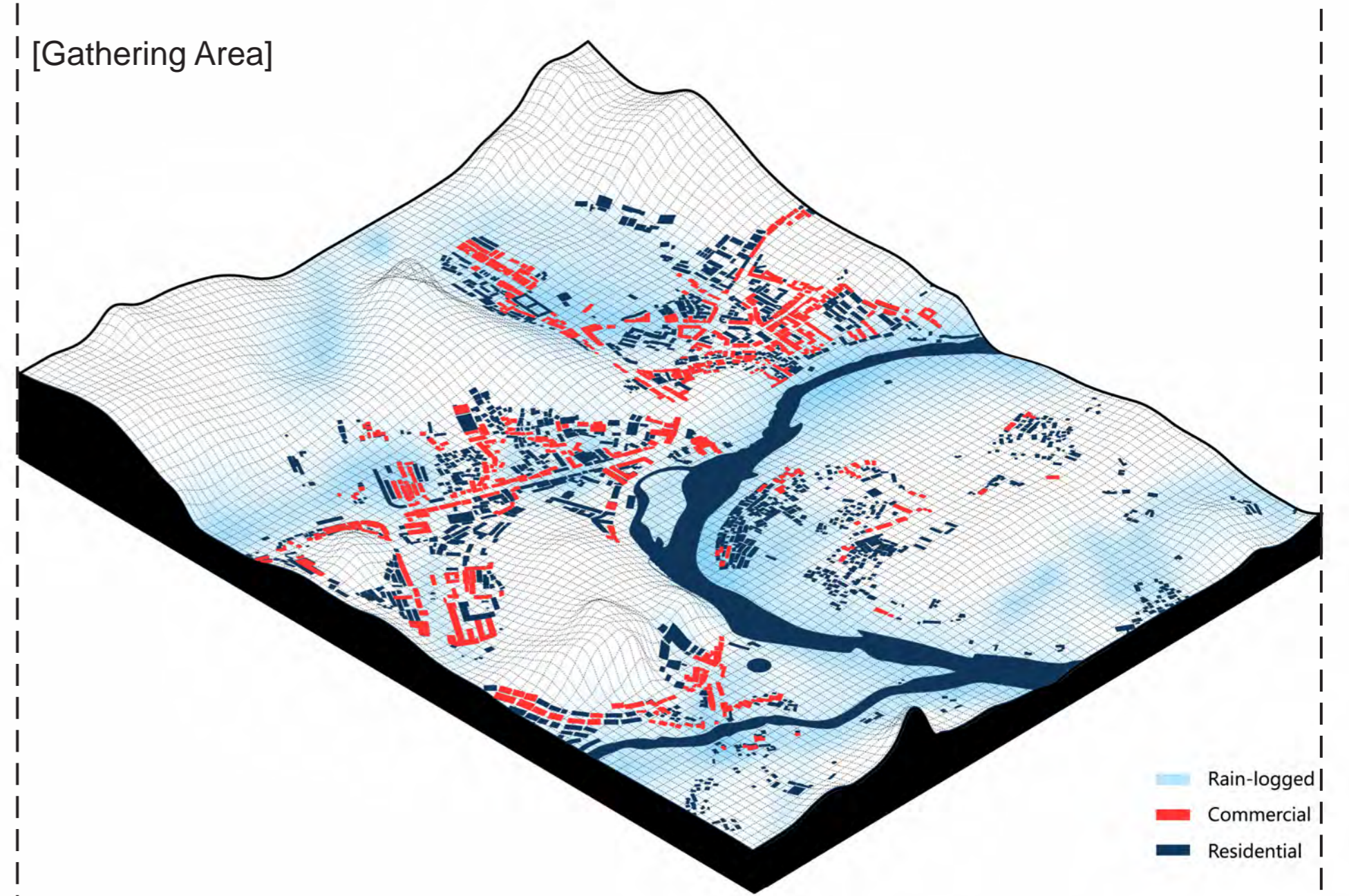
[Slope / 0-90°]



[Slope / 30-60°]
in danger

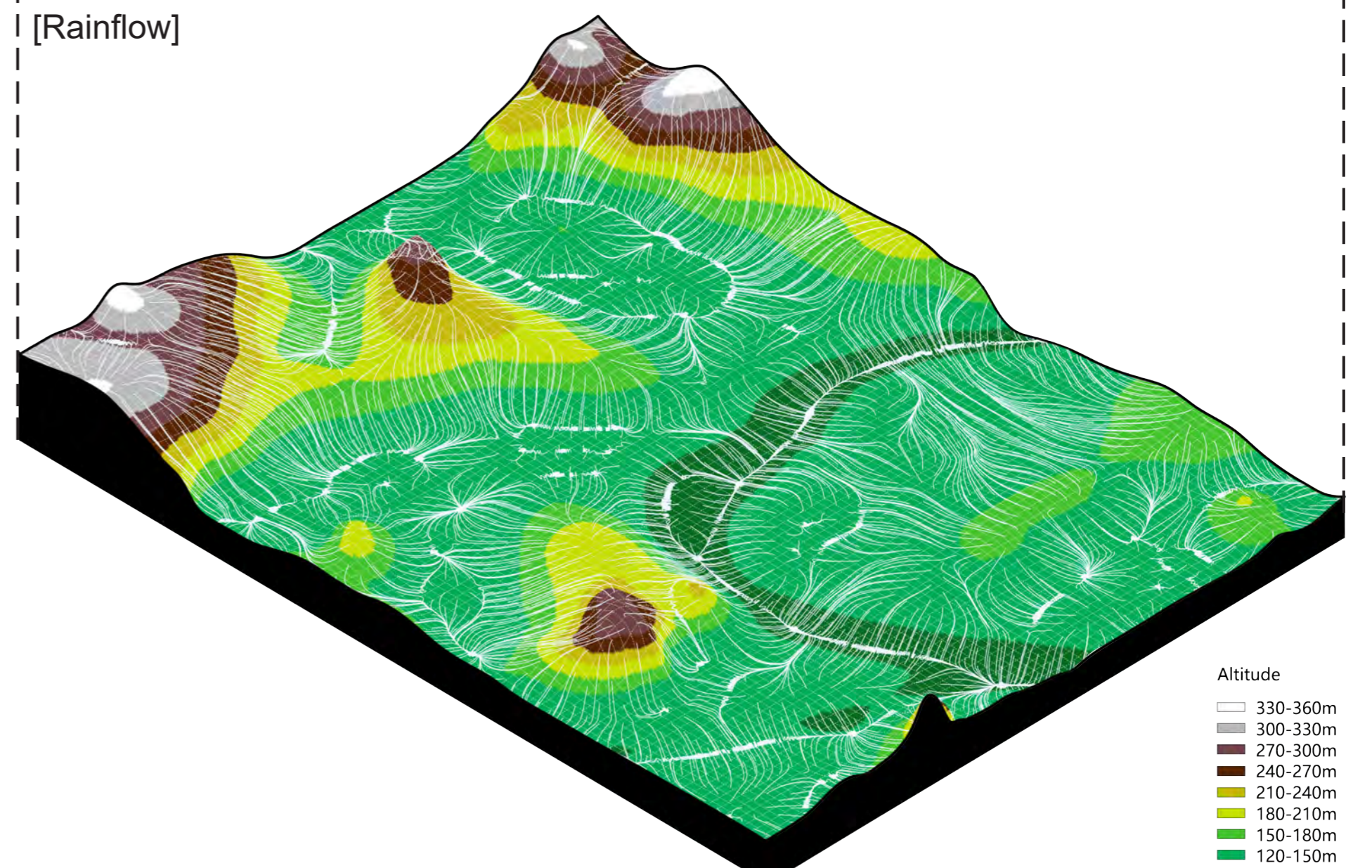


[Gathering Area]



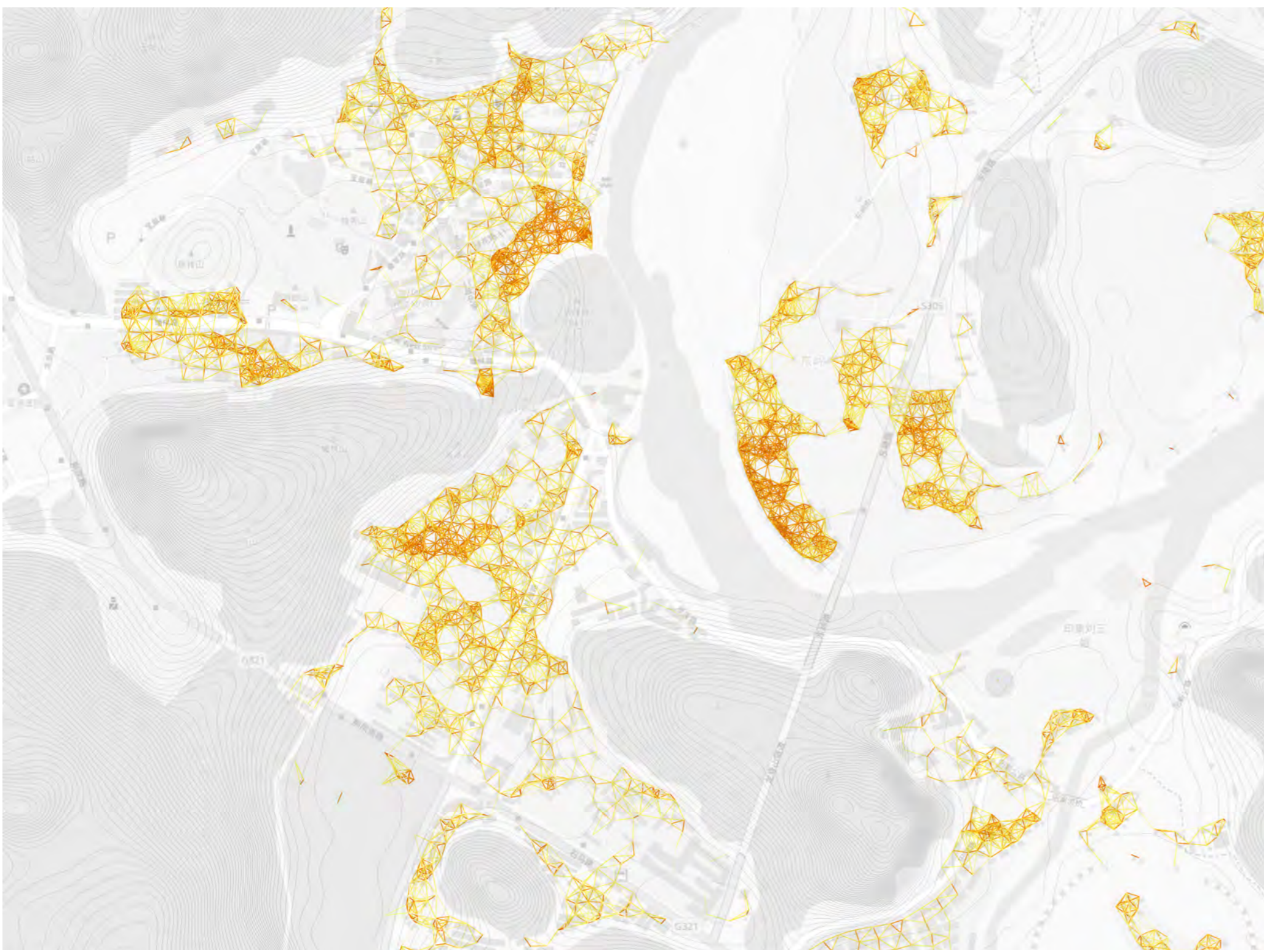
- Rain-logged
- Commercial
- Residential

[Rainflow]

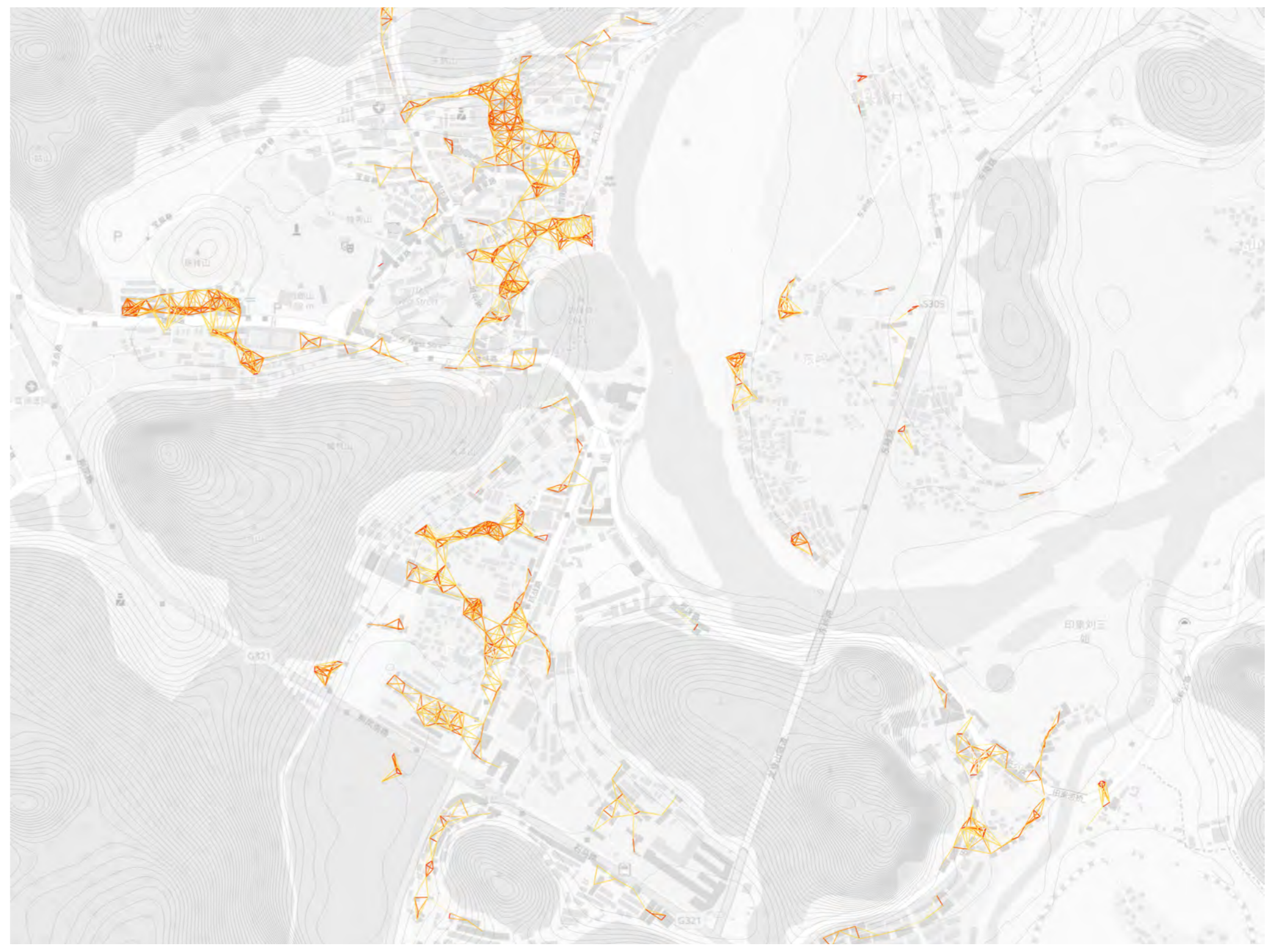


- Altitude
- 330-360m
 - 300-330m
 - 270-300m
 - 240-270m
 - 210-240m
 - 180-210m
 - 150-180m
 - 120-150m
 - 90-120m

[Density of the buildings]



[Density of the commercial]



[GPS track]

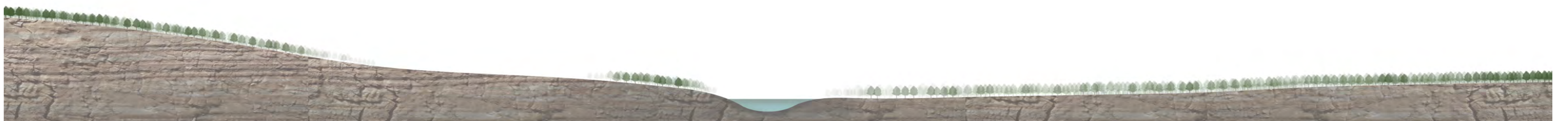


[Existing pond / levee]

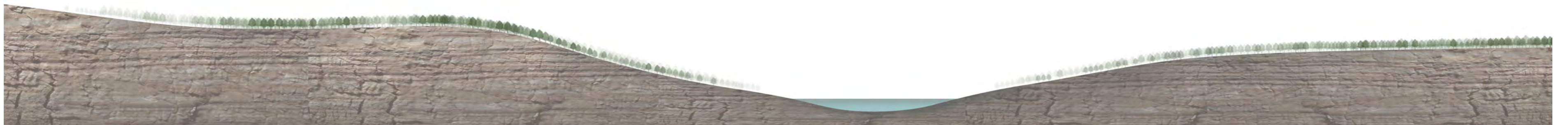


[Section 1:2000]

A-A Section



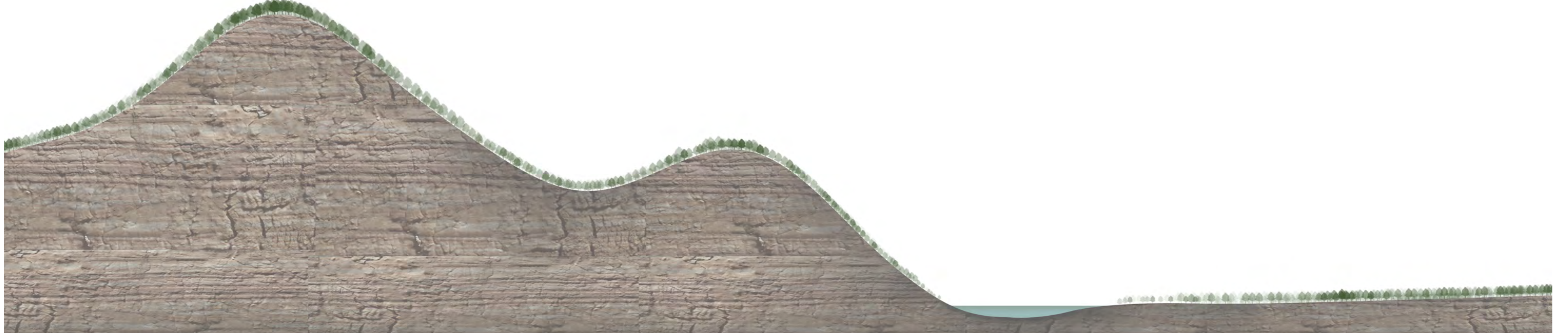
B-B Section



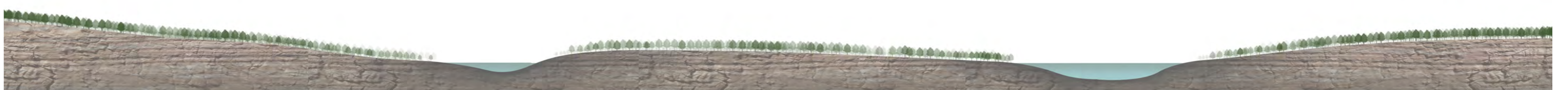
C-C Section



D-D Section

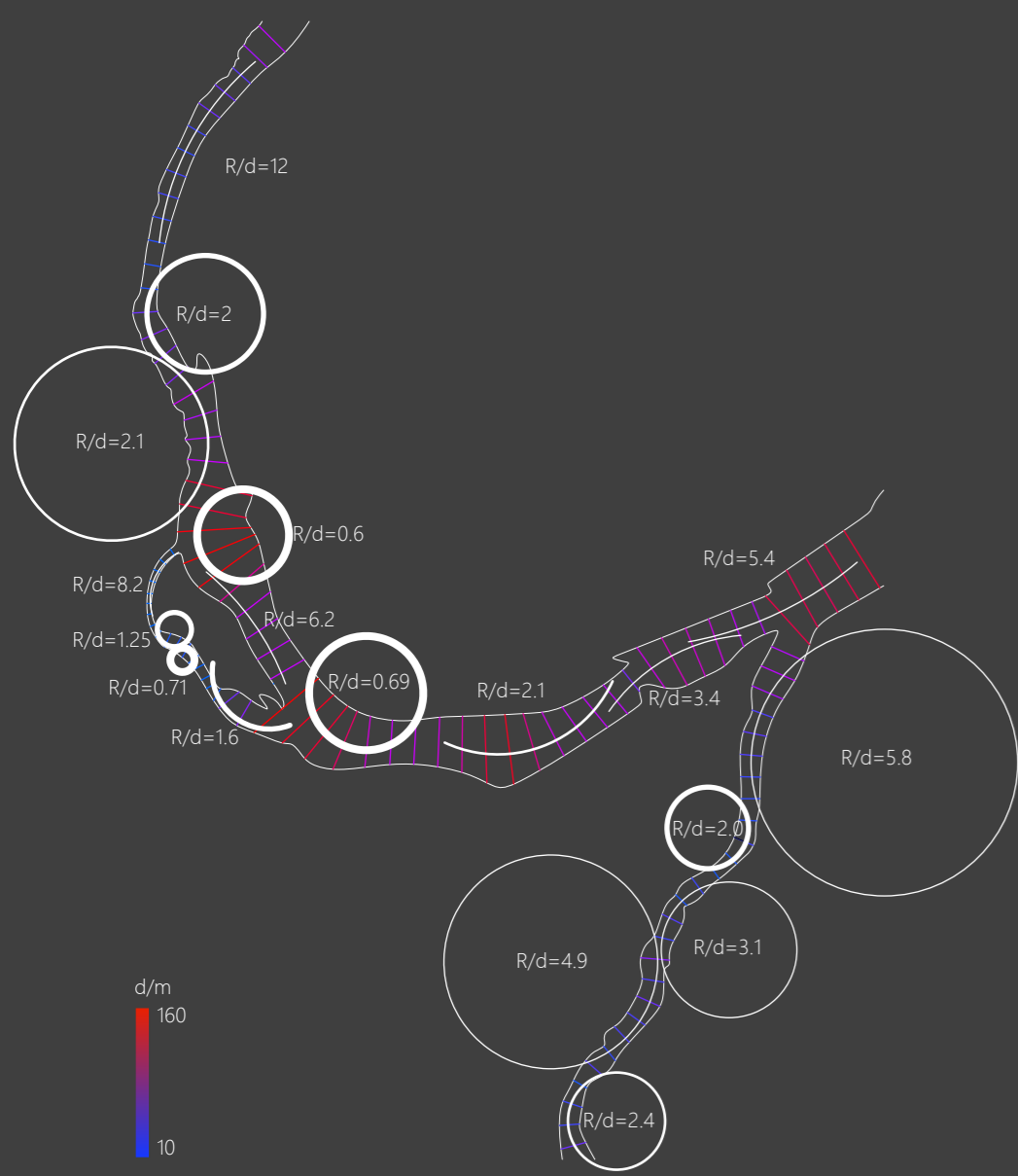
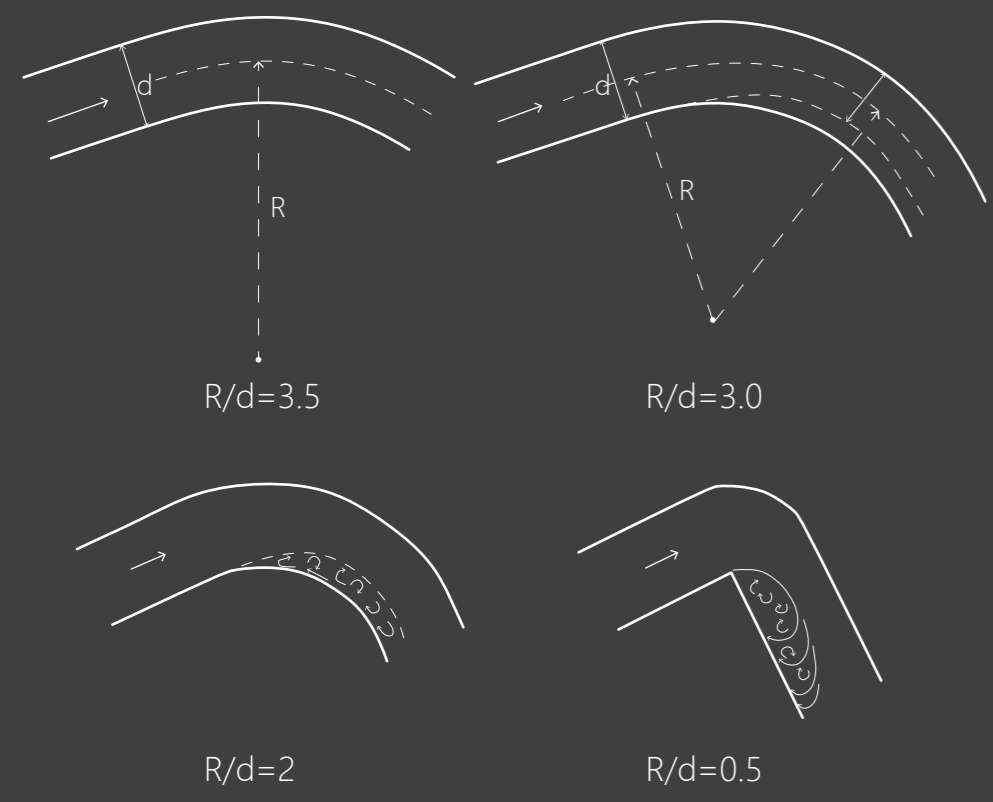


E-E Section



[River Li in Yangshuo]

Abundant water flow/Rapid difference of water level between seasons/Long flood season/Low sediment content



[Simulation of river flow]

0.8m/s



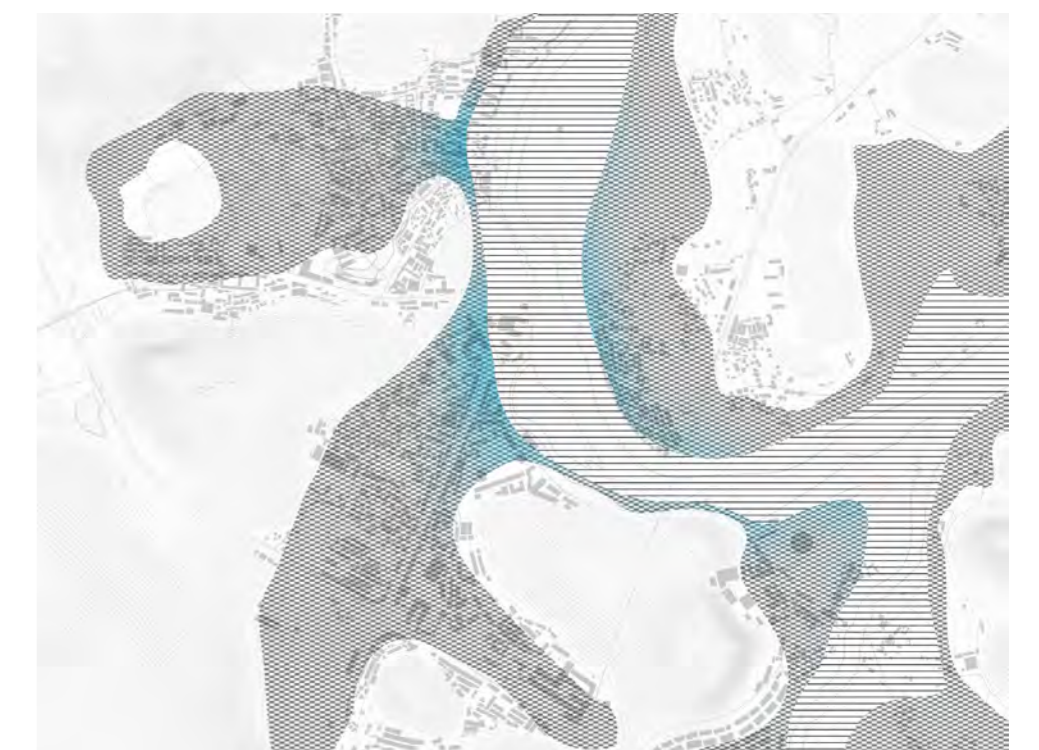
1.5m/s



3.0m/s



Flood area



River flow Exceeding area





SITE CHOSEN

This map shows the YANGSHUO town is in a really bad condition to get the water out of the town when the flood or rainstorm happens. the town is divided two parts, each of which is surrounded by local mountains. Only leaving one side to the LI river, which means flood is unable to avoid.

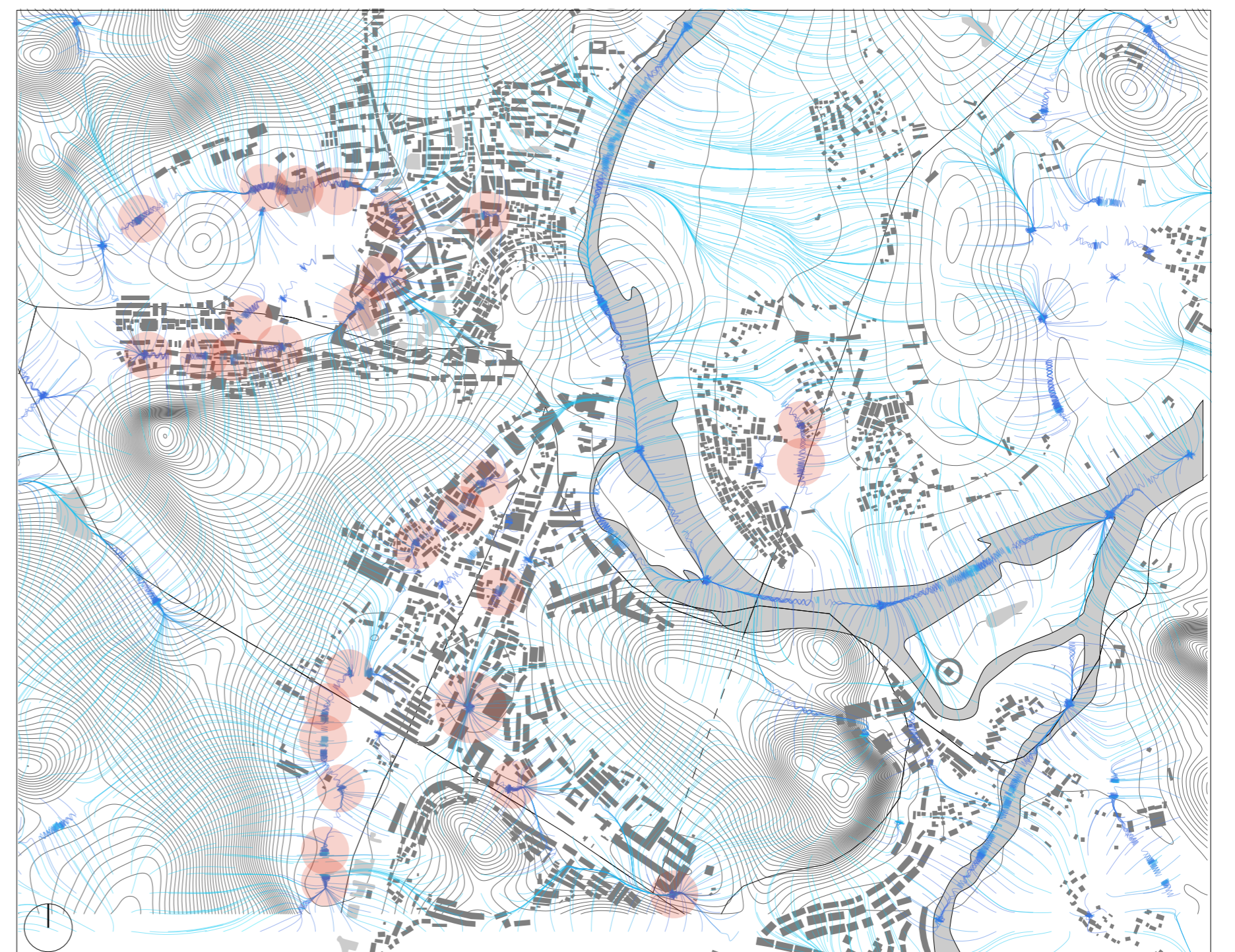
Generally, there are three principles to help the water flood in the town. redevelop the existing pool, block the flow path and organize the water gathering point. Using the grasshopper in rhino, i managed to simulate the rainfall among this area. And through adjustment the flow of the rainfall, we got two maps below, which shows the water path and the gathering point. And because the mountain in this area are extremely steep, it is very hard to block the water path. For the existing pool, most of them are located in the town, surrounds by the existing buildings. As a result, i choose to manage the gathering point, which means to build a water reservoir.

NOMAL PRECIPITATION - BLOCK WATER FLOW

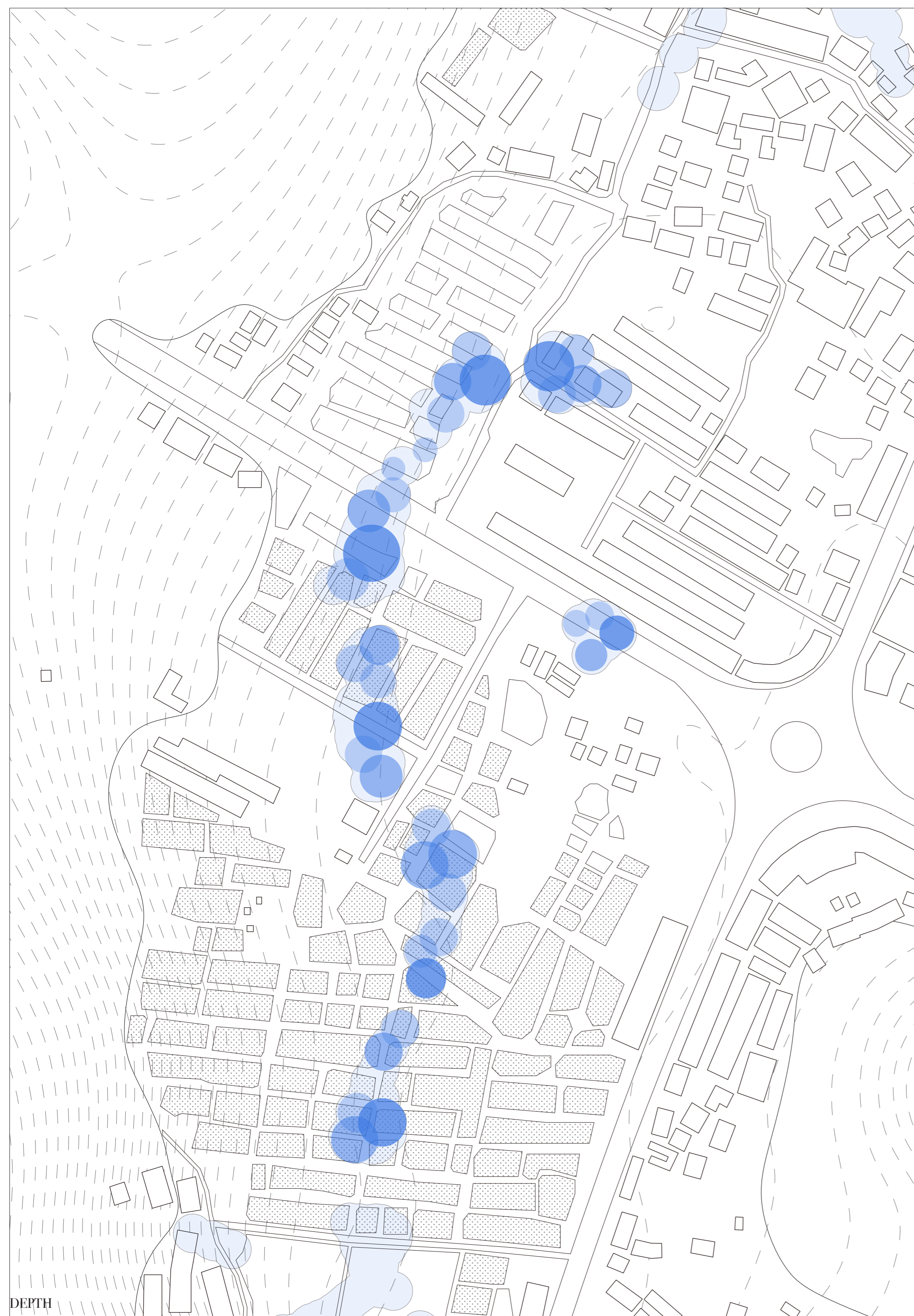
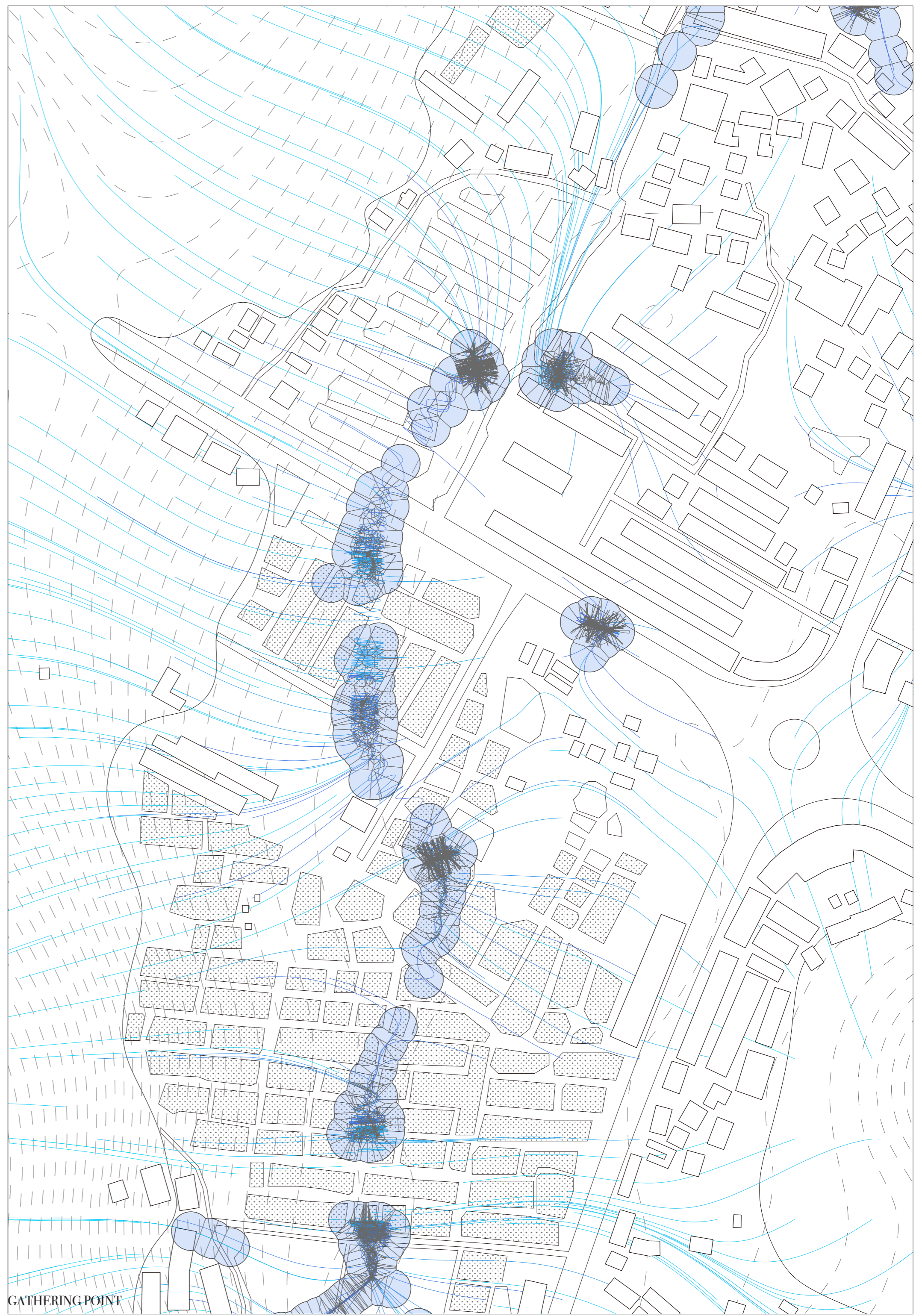
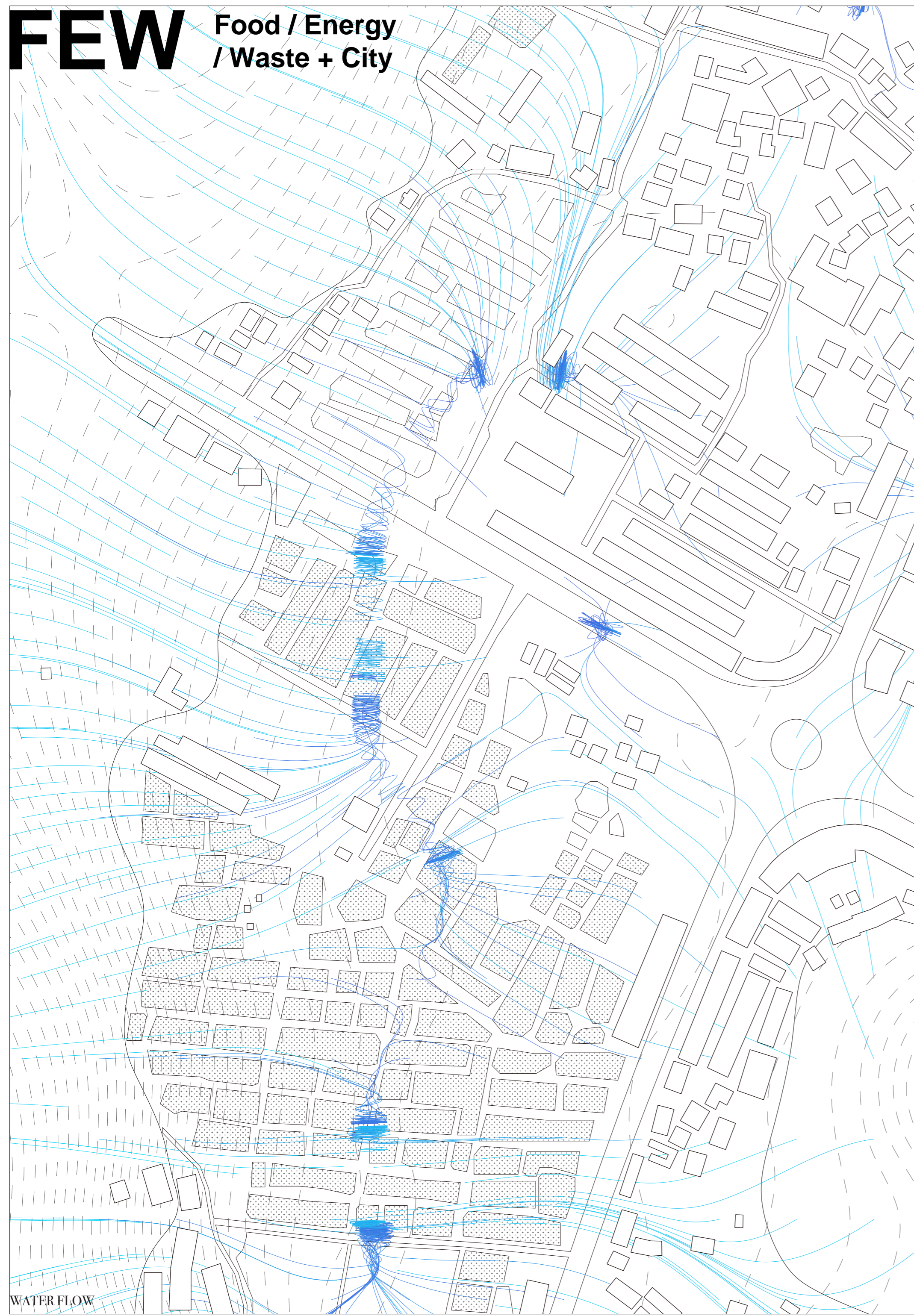


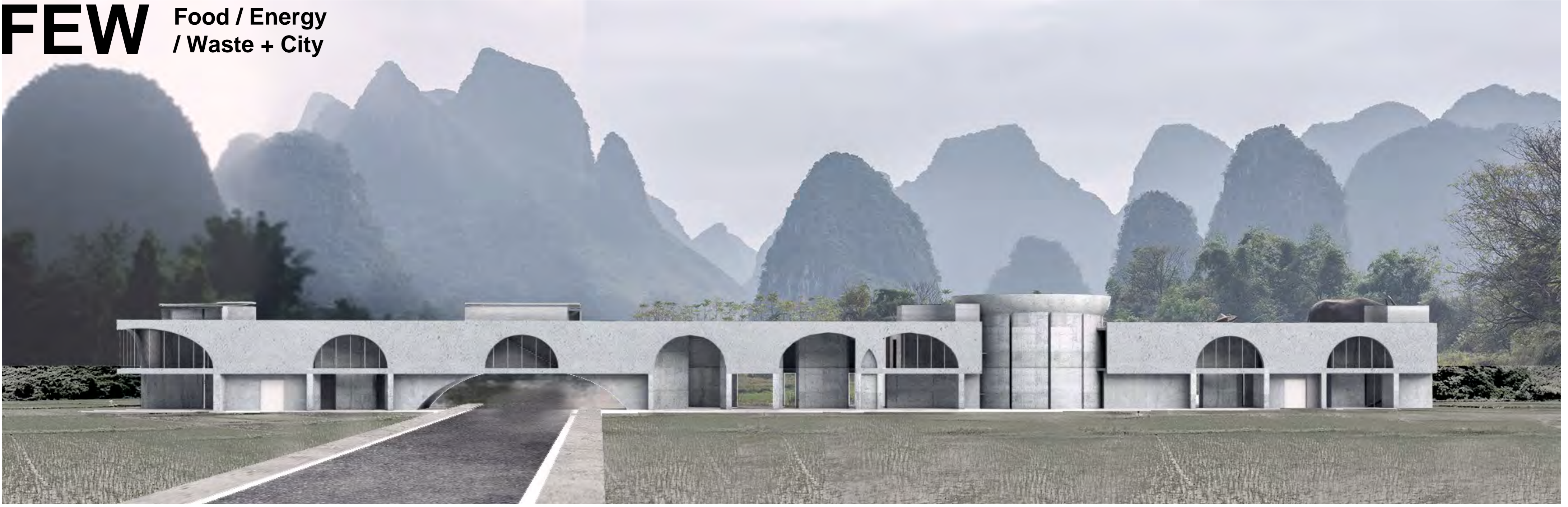
1: 20000

PRECIPITATION DOUBLED - WATER GATHERING POINT



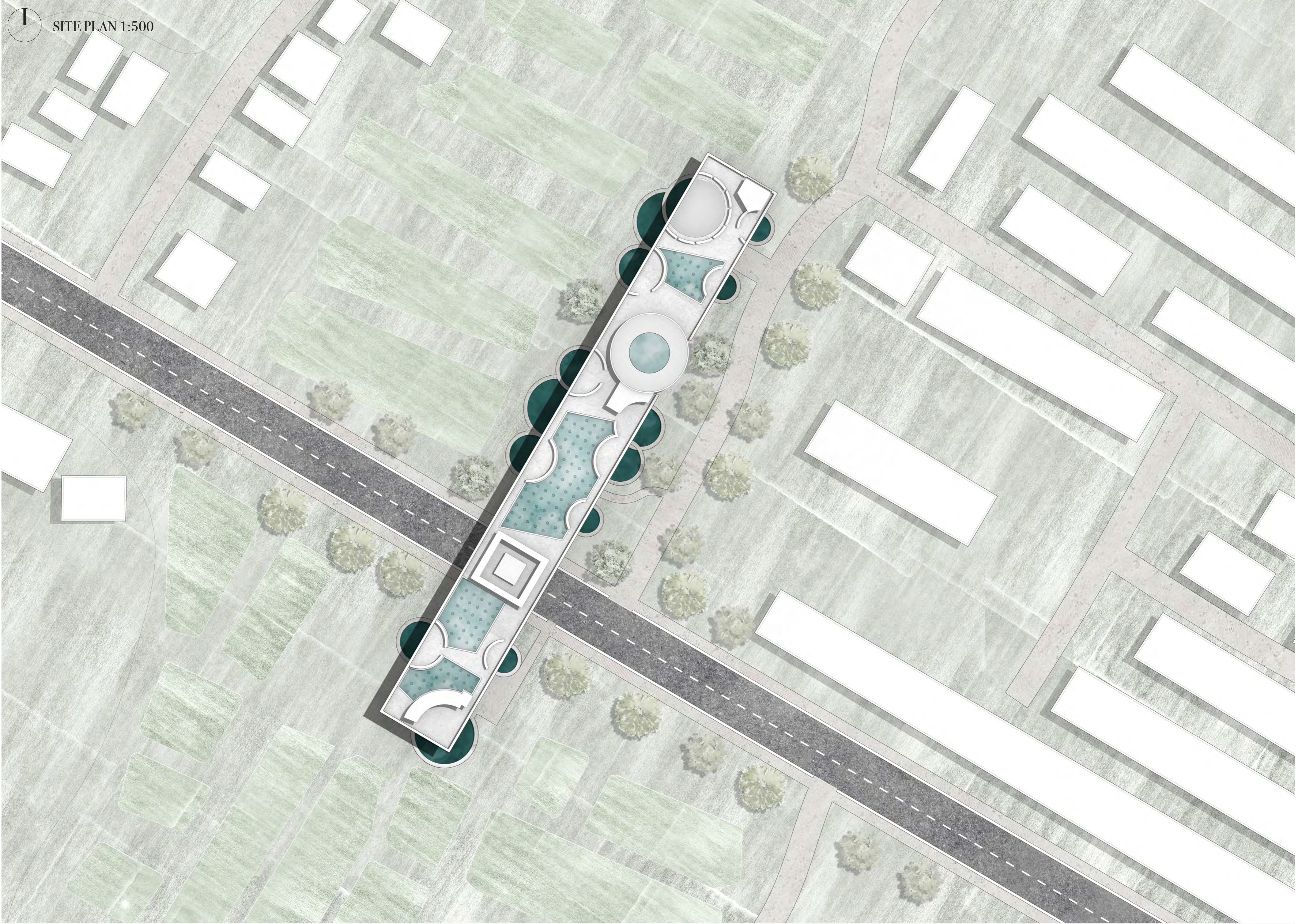
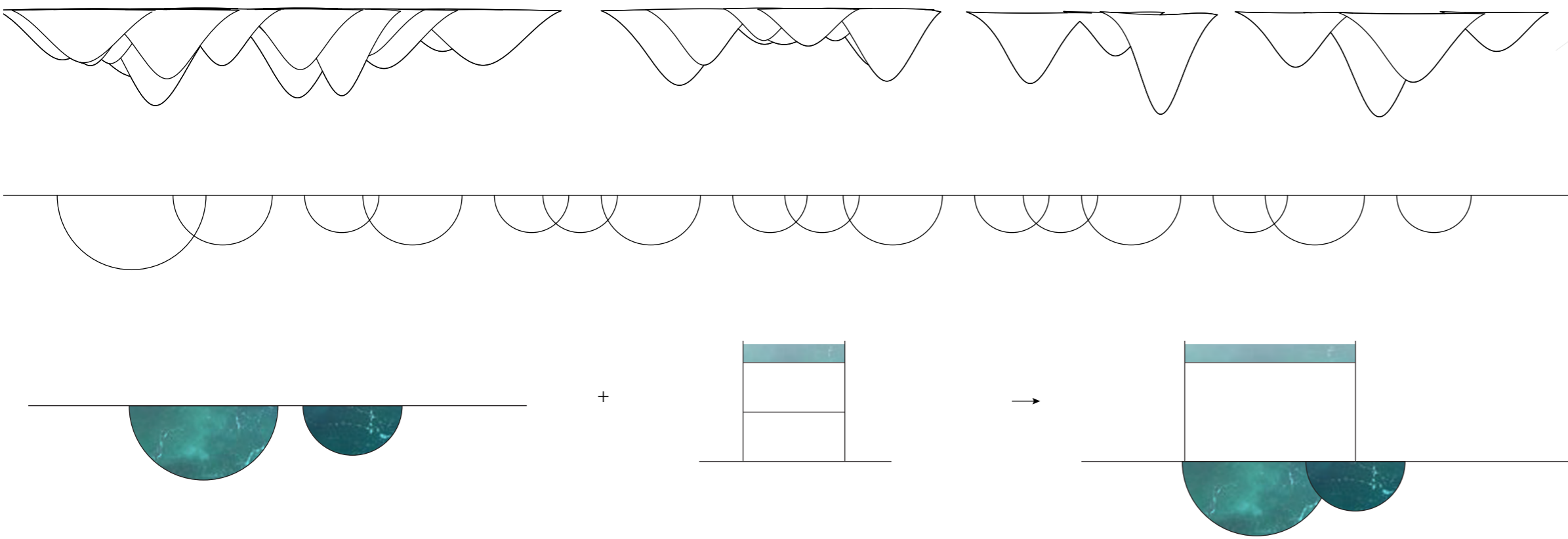
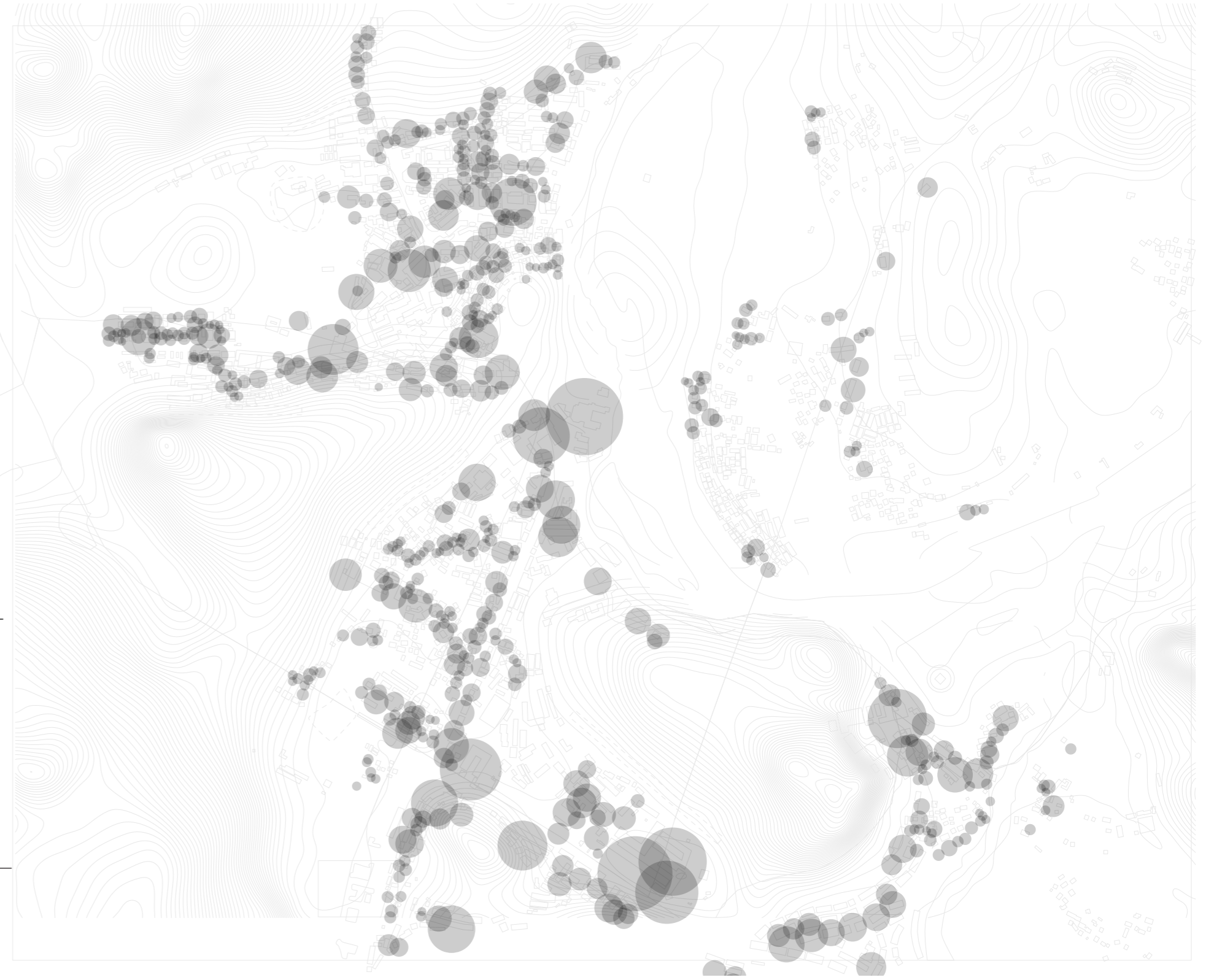
1: 20000



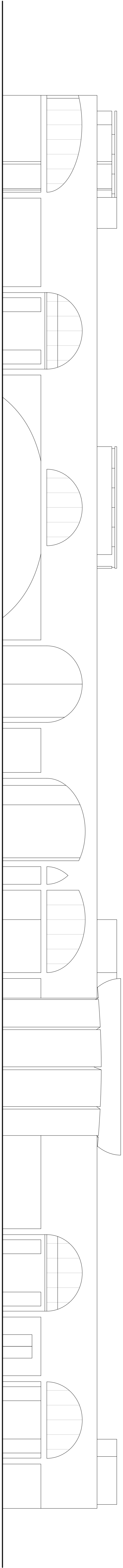


CONCEPT - WATER RESERVOIR WITH MUSEUM

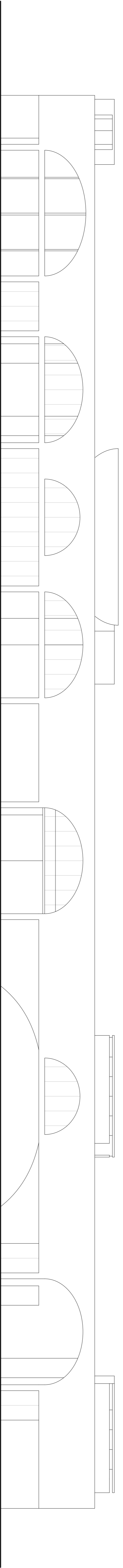
The rhythm of the reservoir is corespondance with the mountain , which is a respond to the site.And the town is full of hotels and lack of public space. there is an intense to making the tourist explore deeper into the town, another idea is to place a museum in Yangshuo.



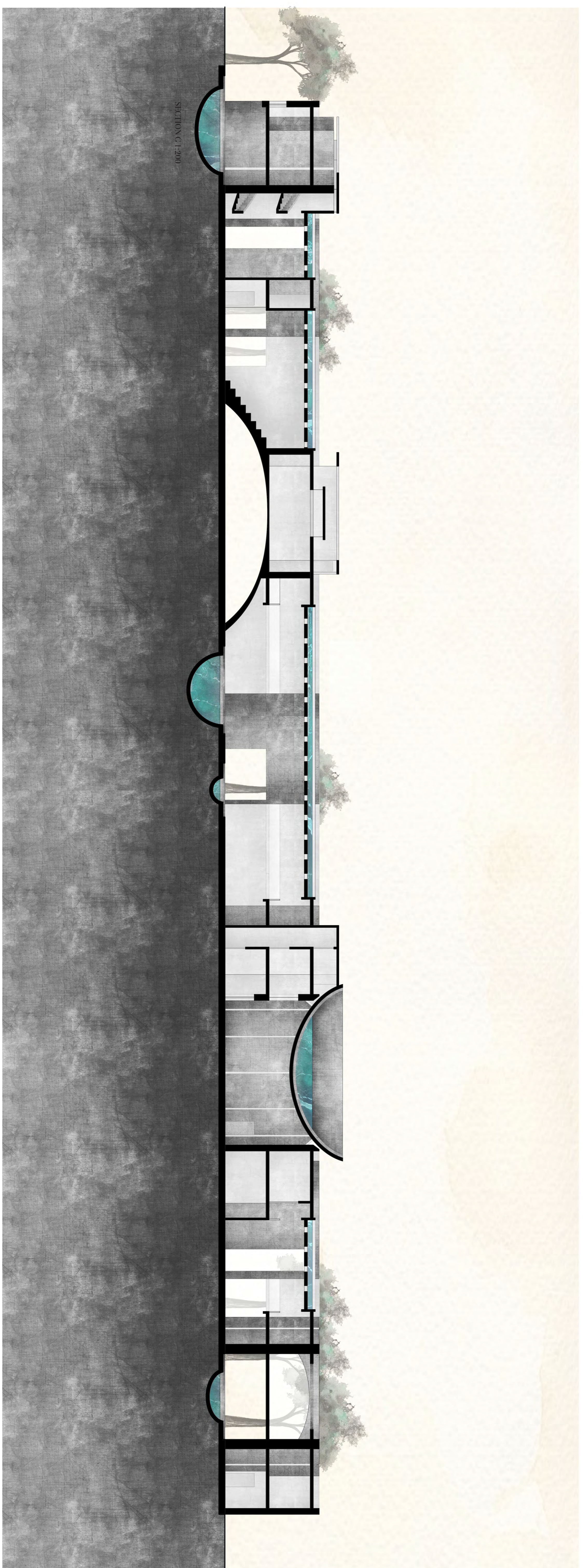
SITE PLAN 1:500



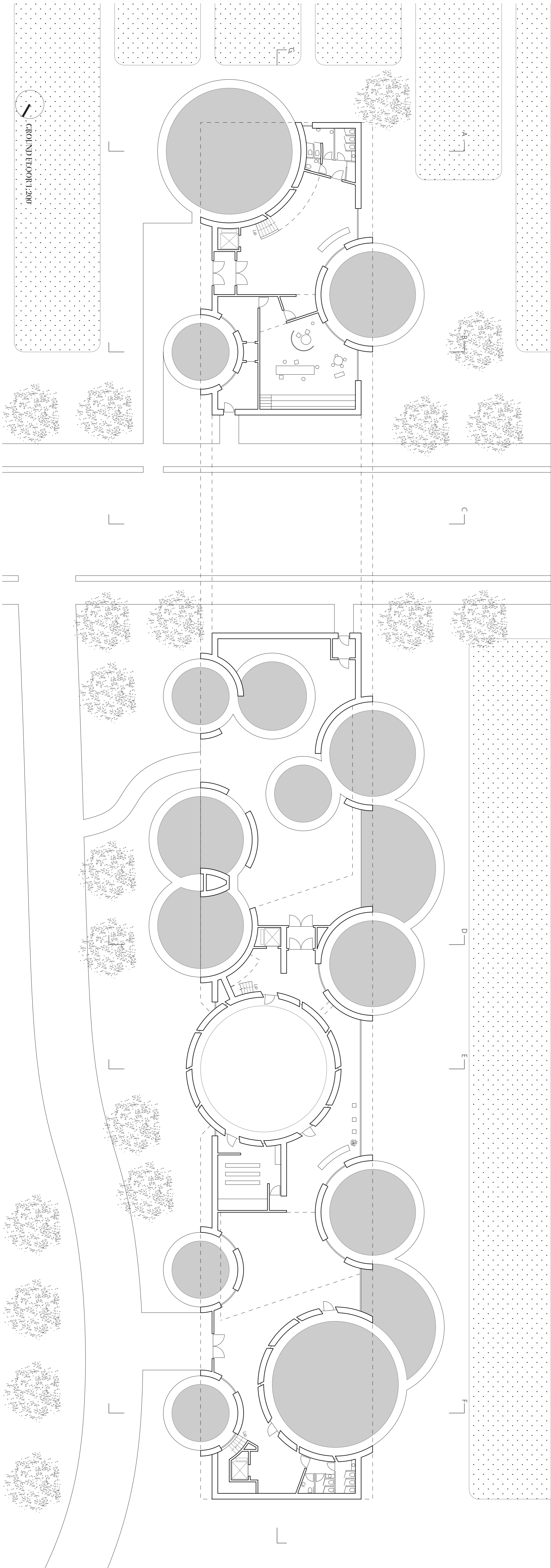
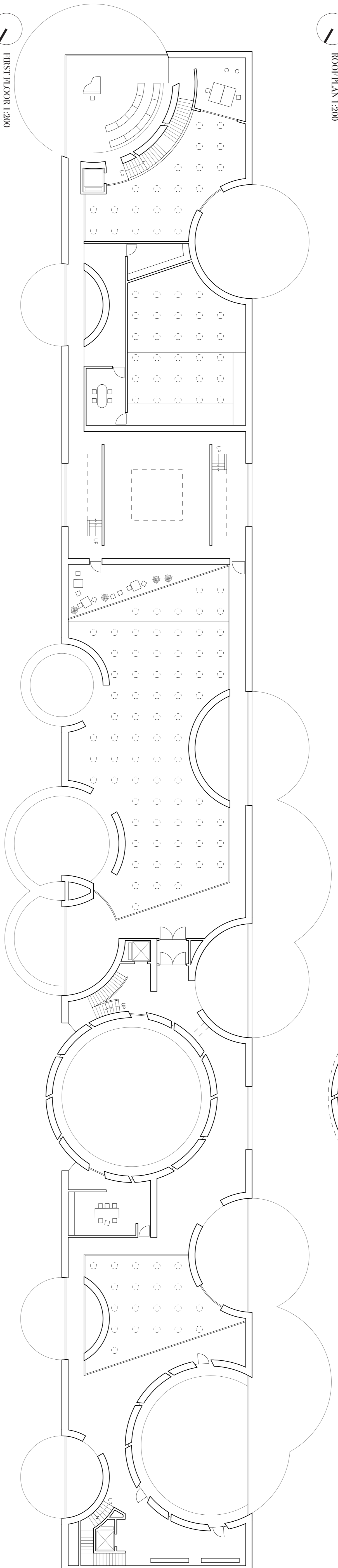
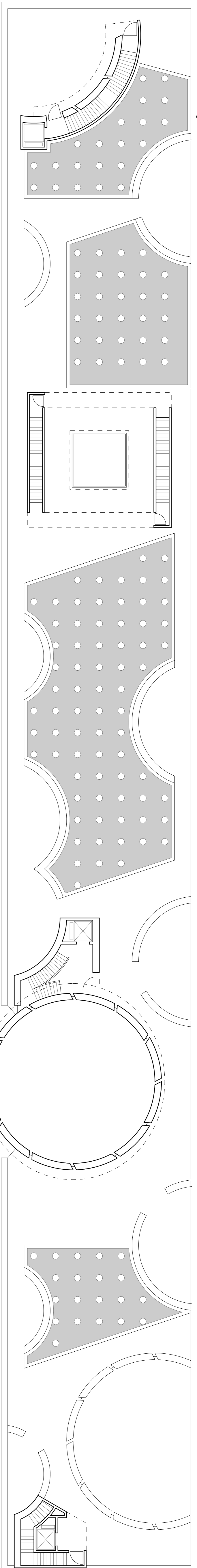
FRONT ELEVATION 1:200



BACK ELEVATION 1:200

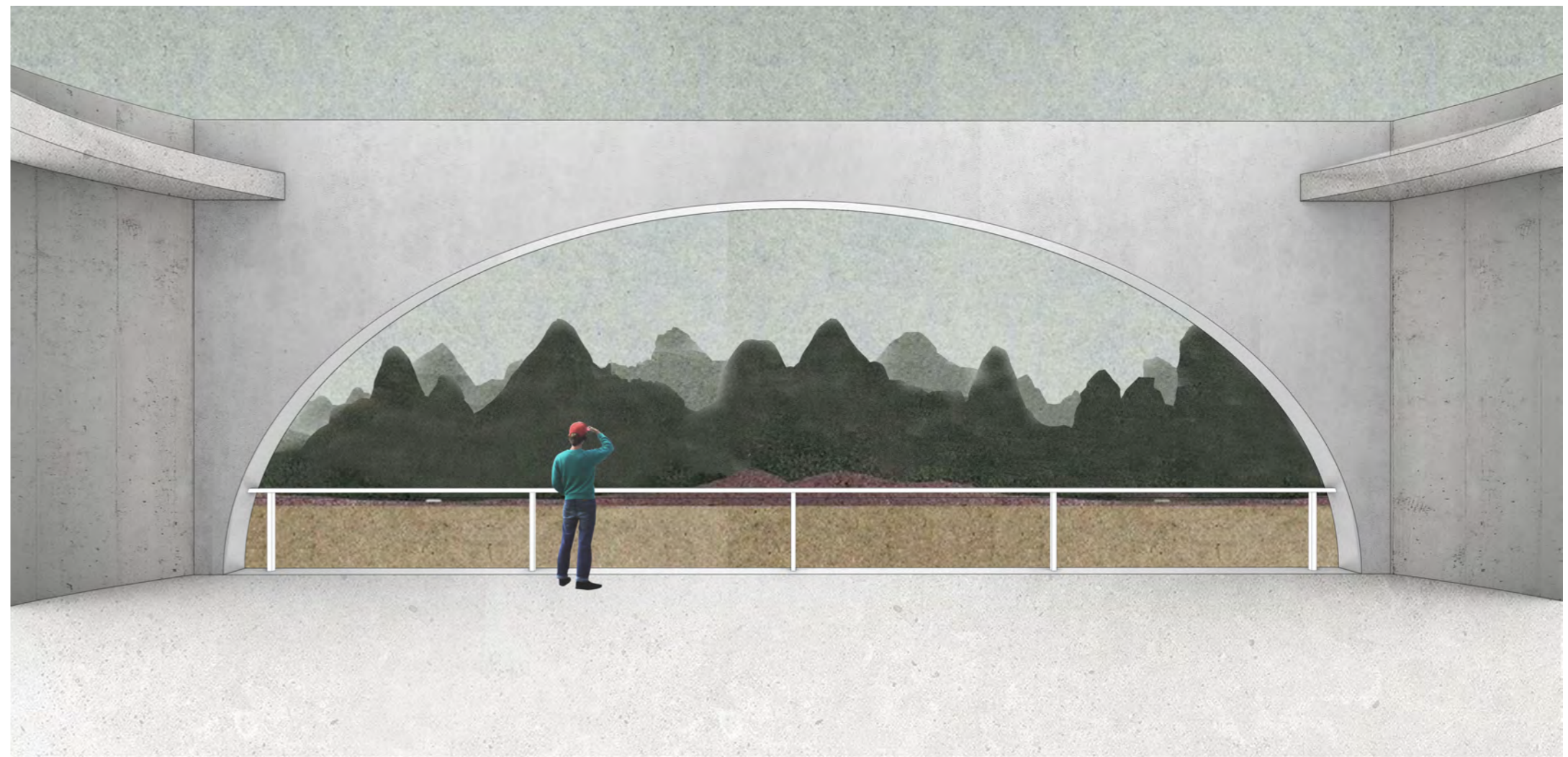
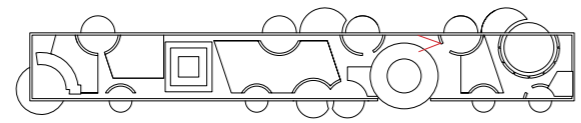


SECTION C 1:200

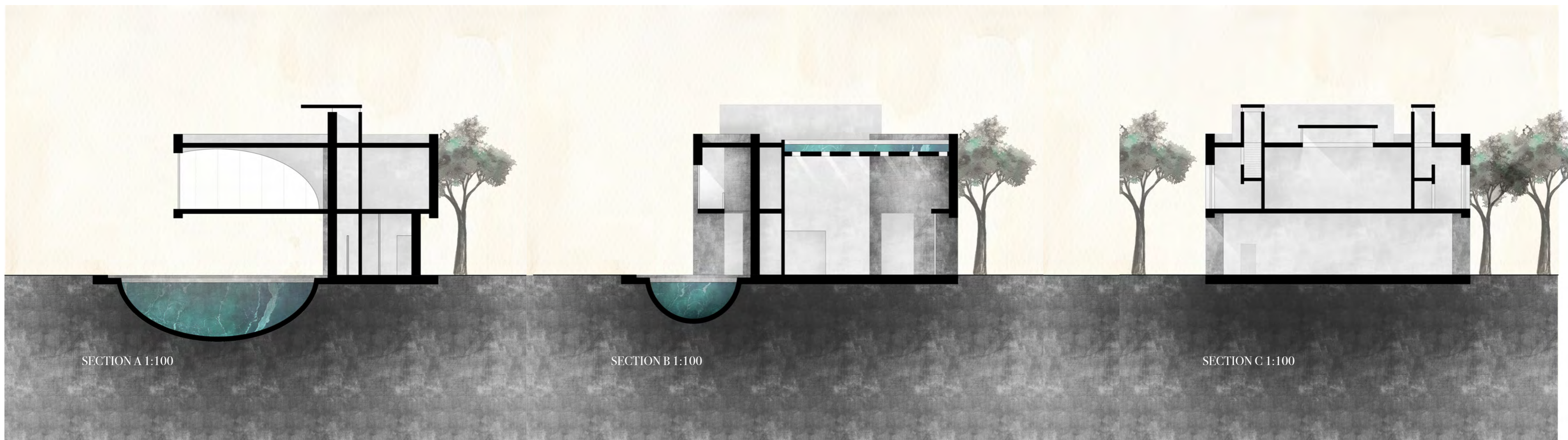
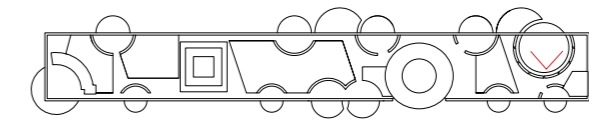




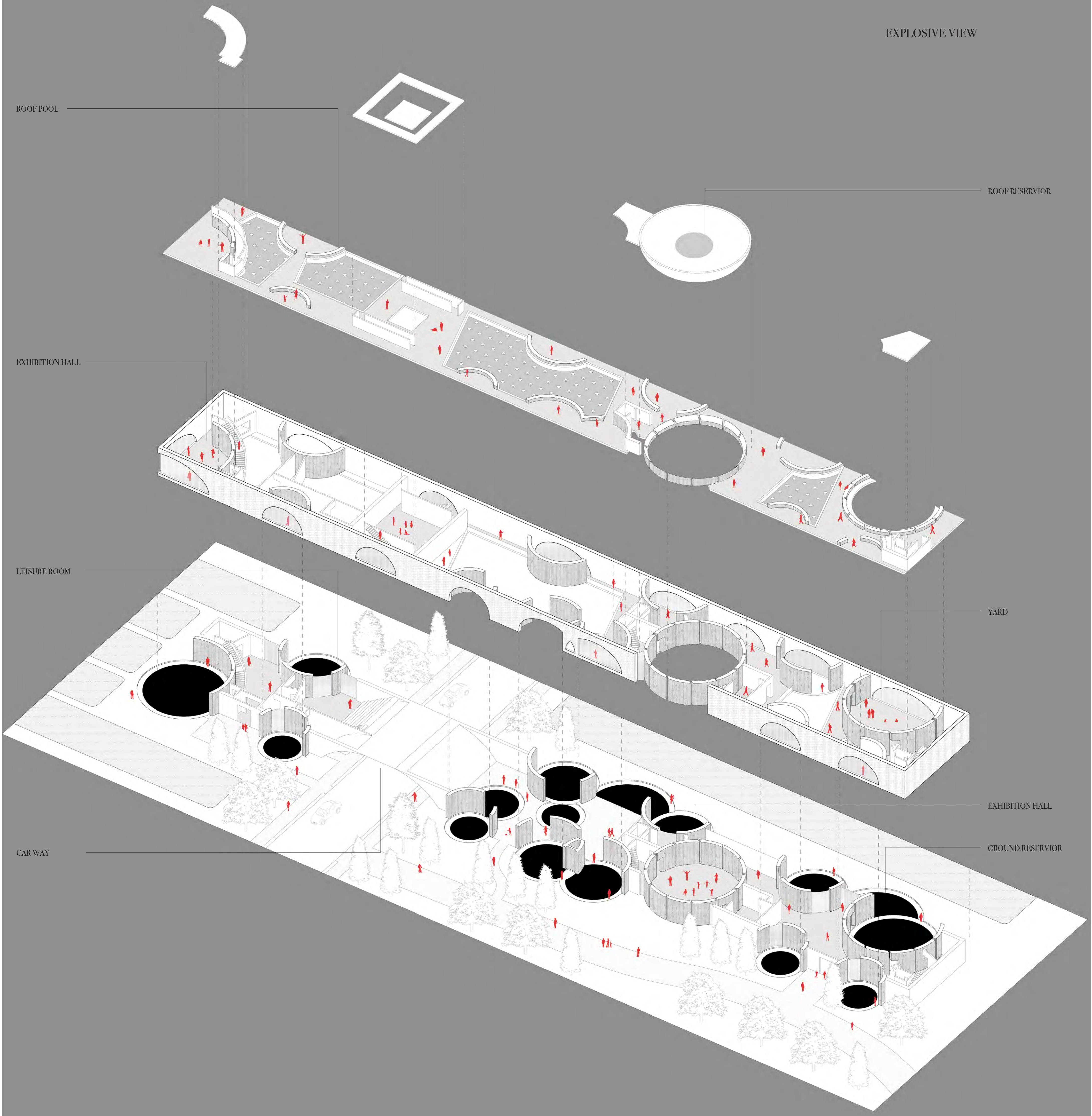
CORRIDOR FIRST FLOOR



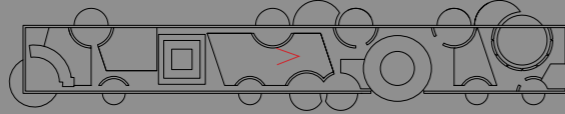
YARD FIRST FLOOR



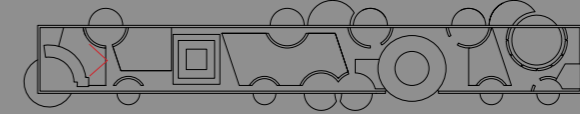
EXPLOSIVE VIEW



WATER RESERVOIR GROUND FLOOR



ENTRANCE HALL GROUND FLOOR



[Basic Information of Site] 1:4000



Satellite Imagery



Water level

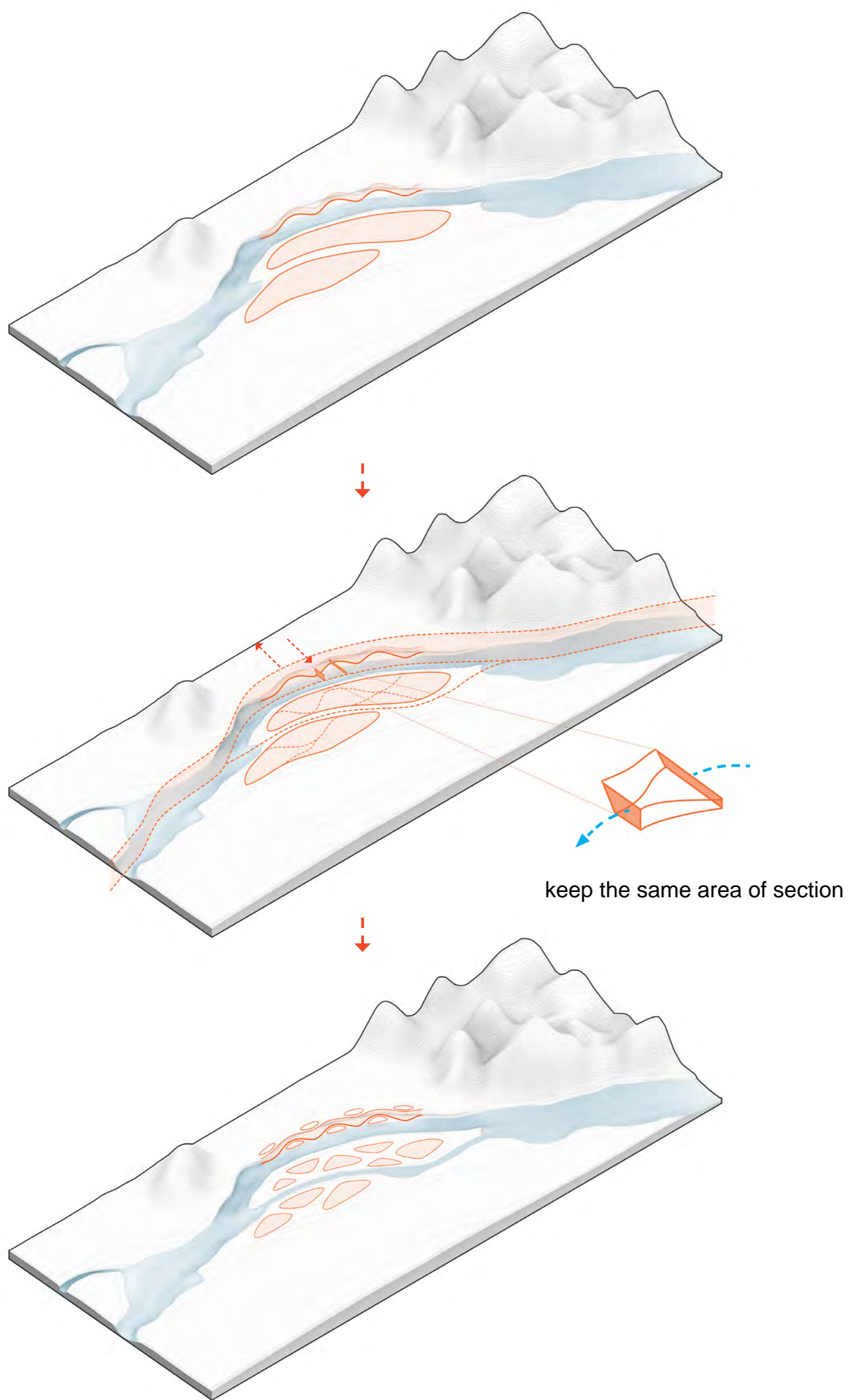


Path Trace

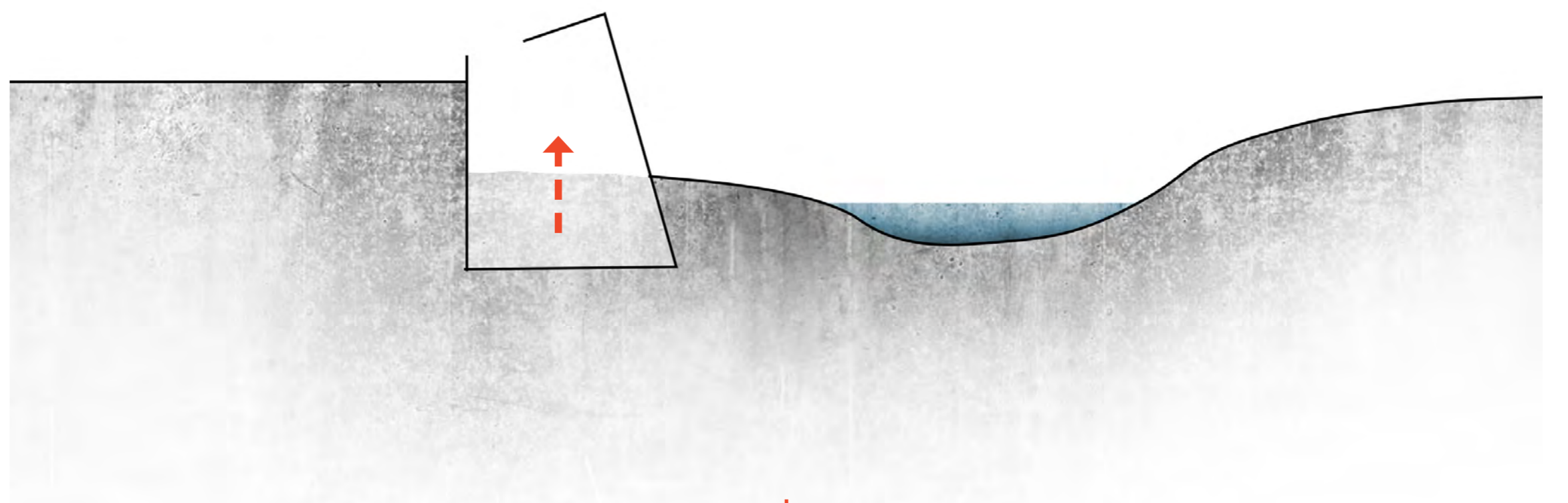


Texture

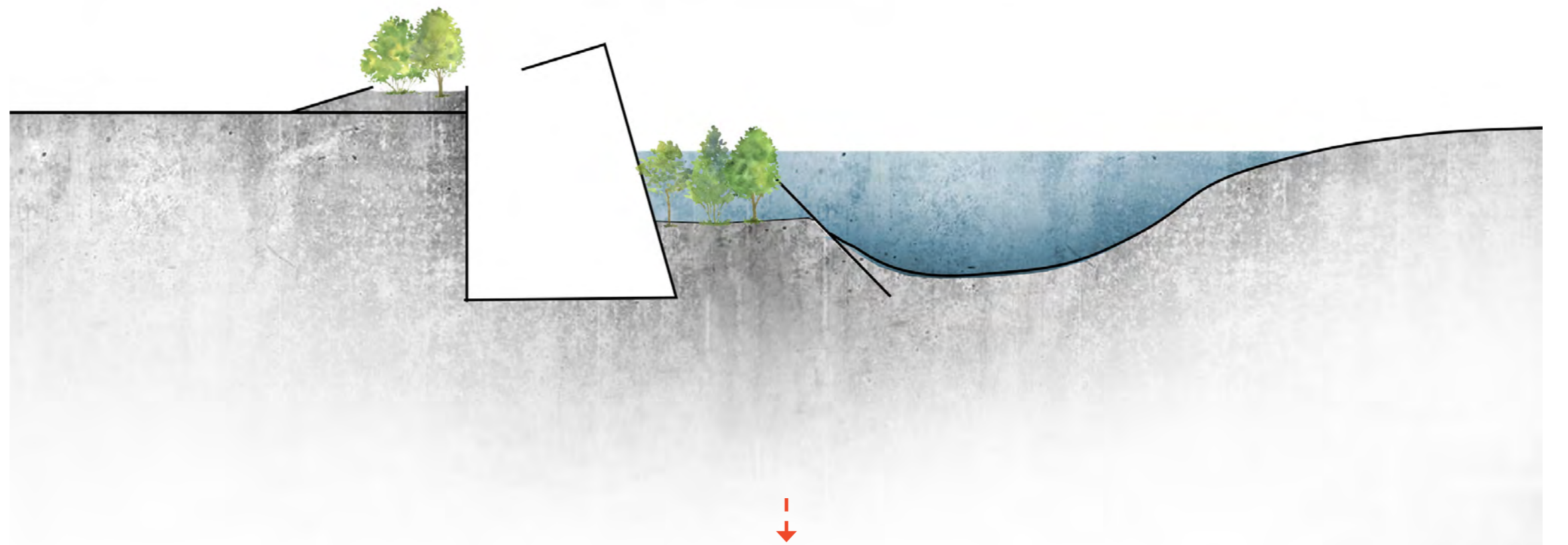
[Generation]



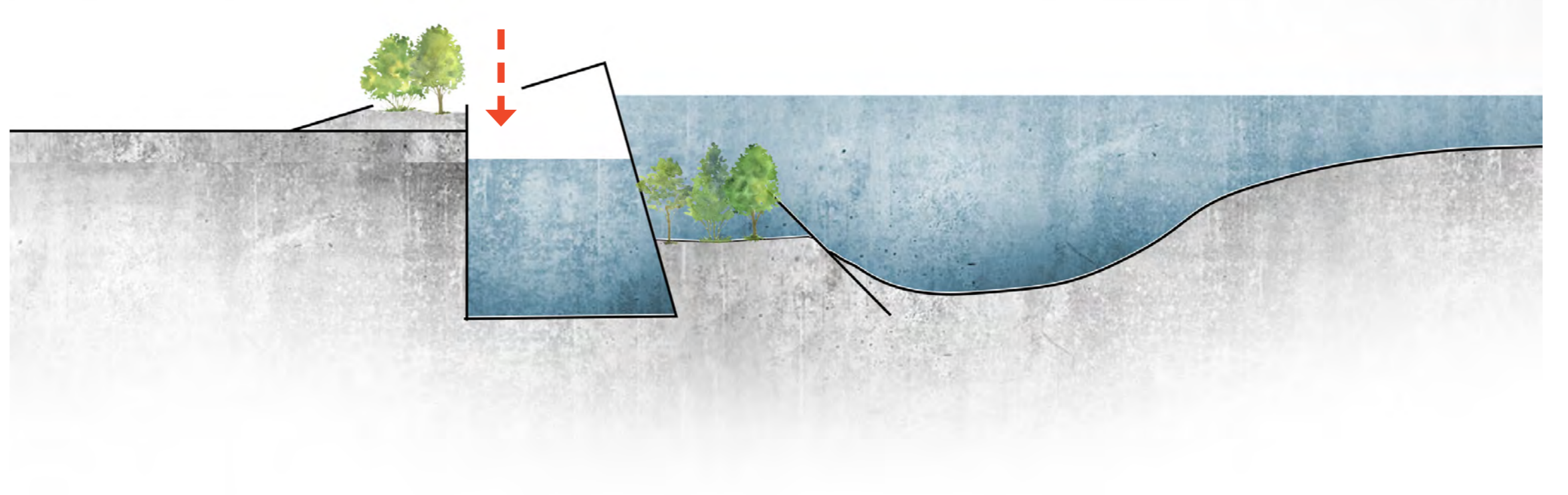
Set up the embankment



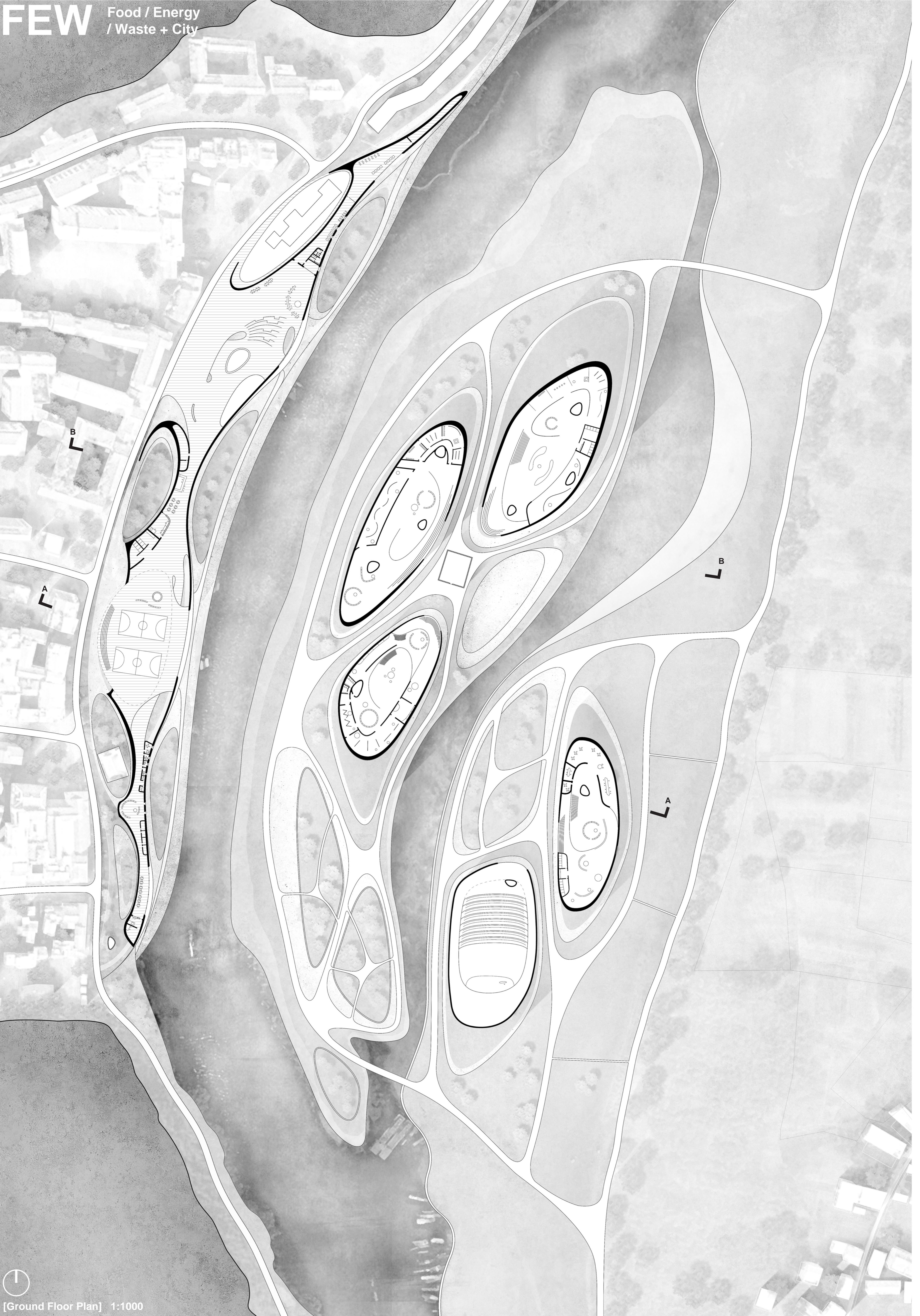
Add tree pools



Receive spilled floods

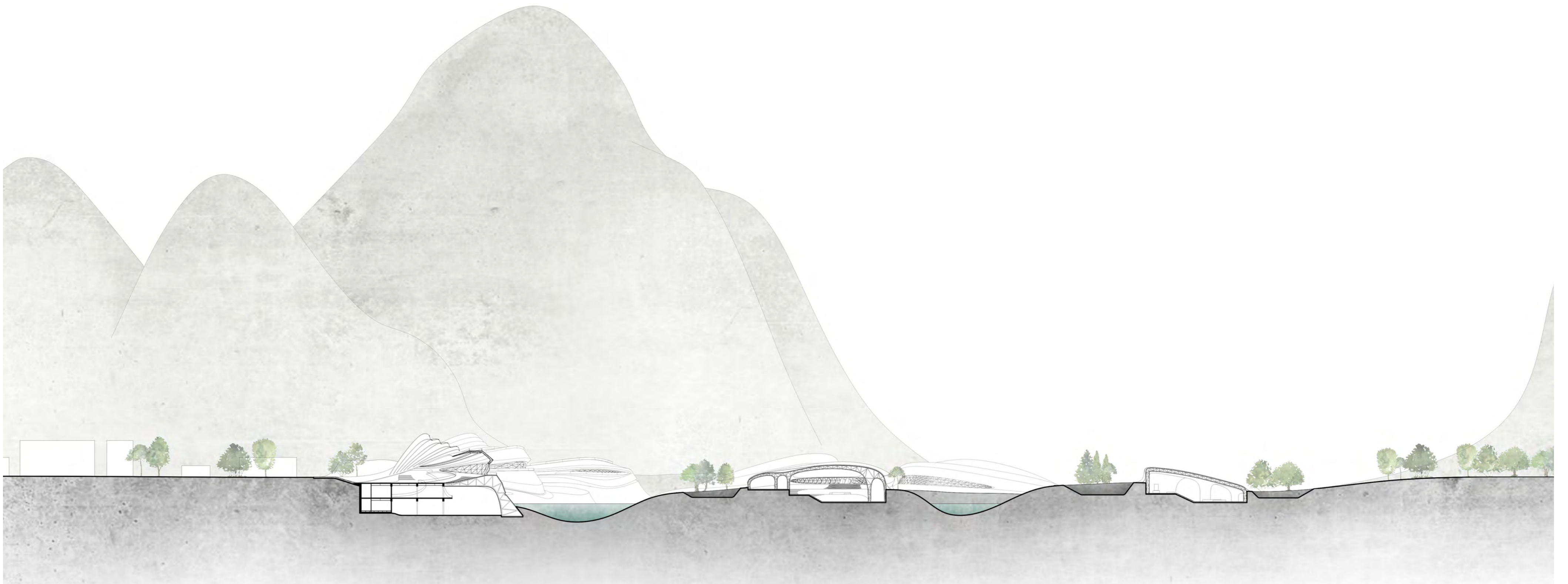




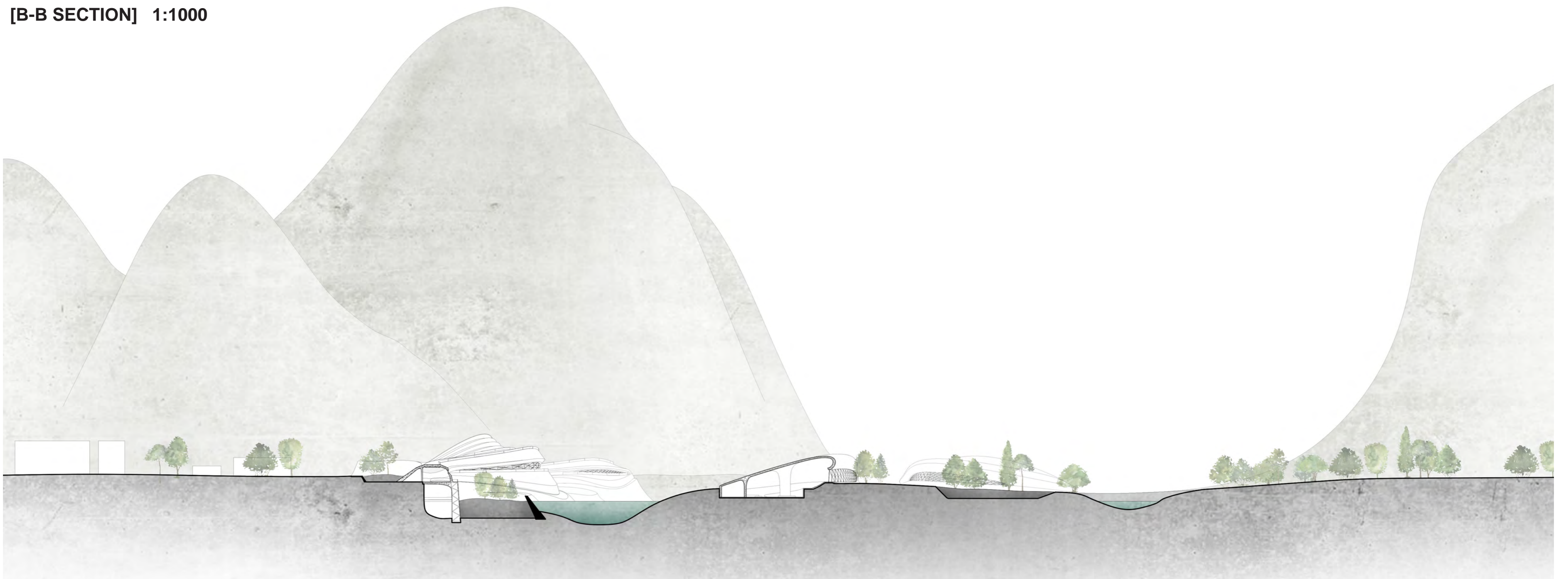


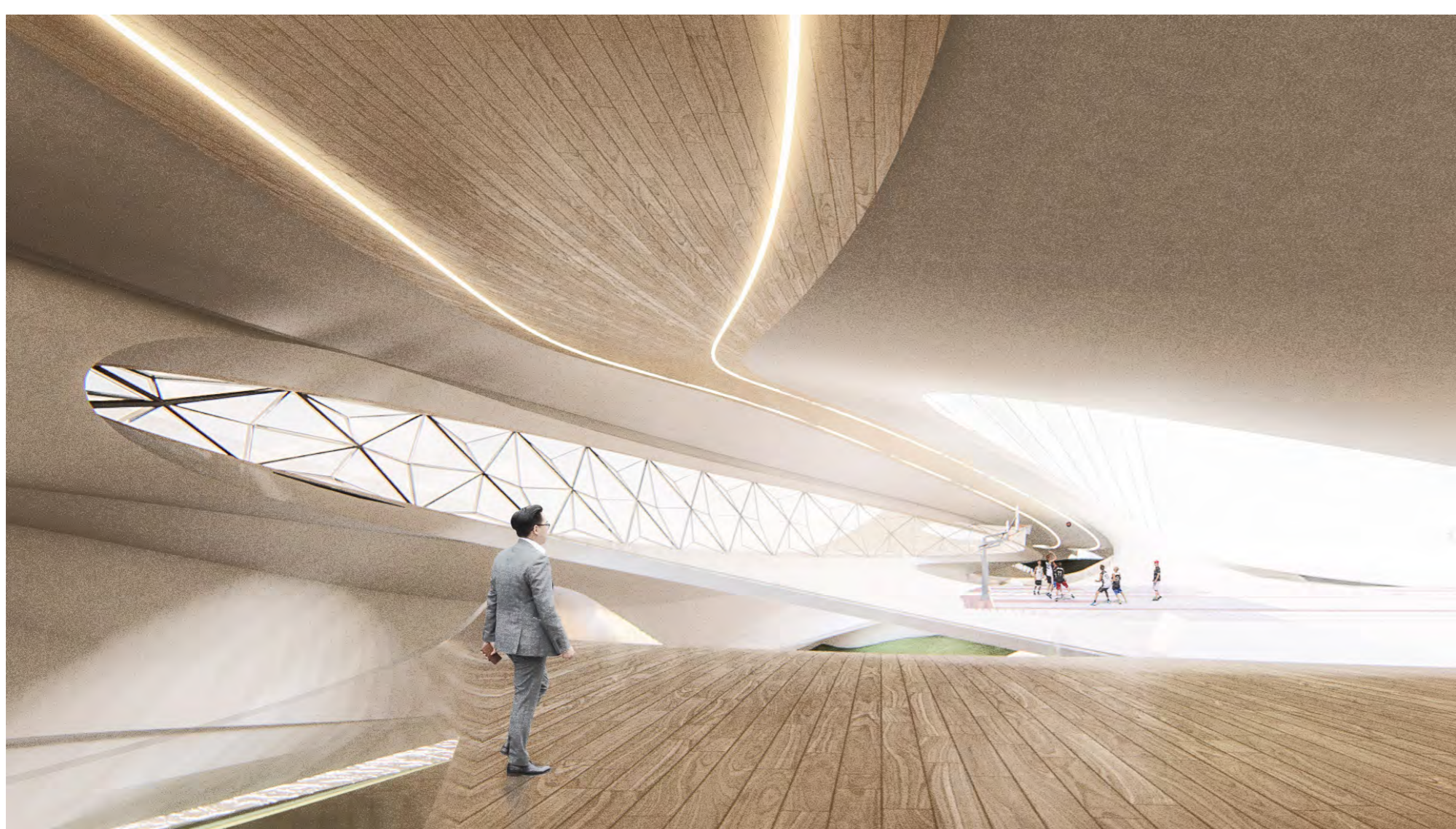
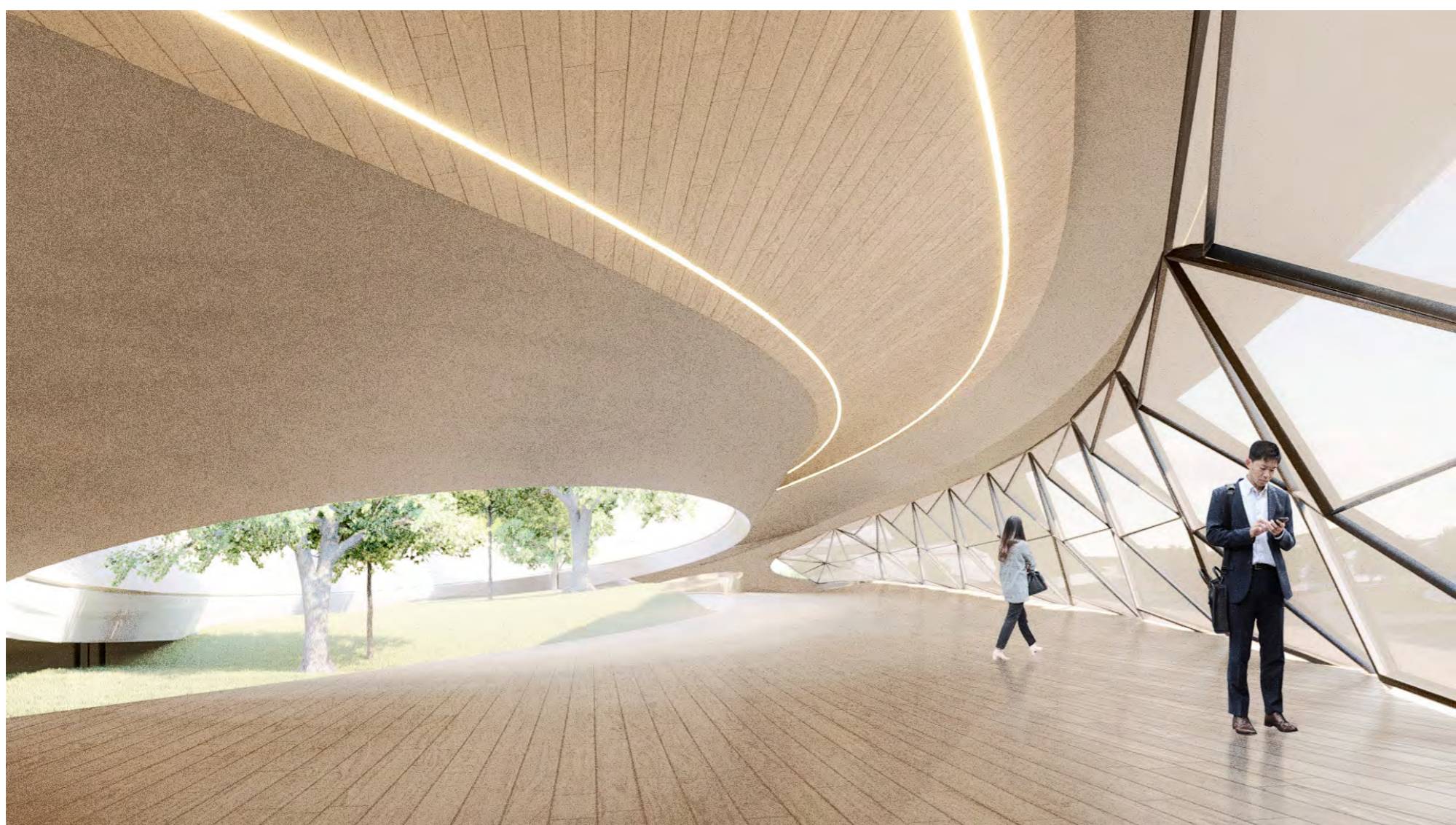
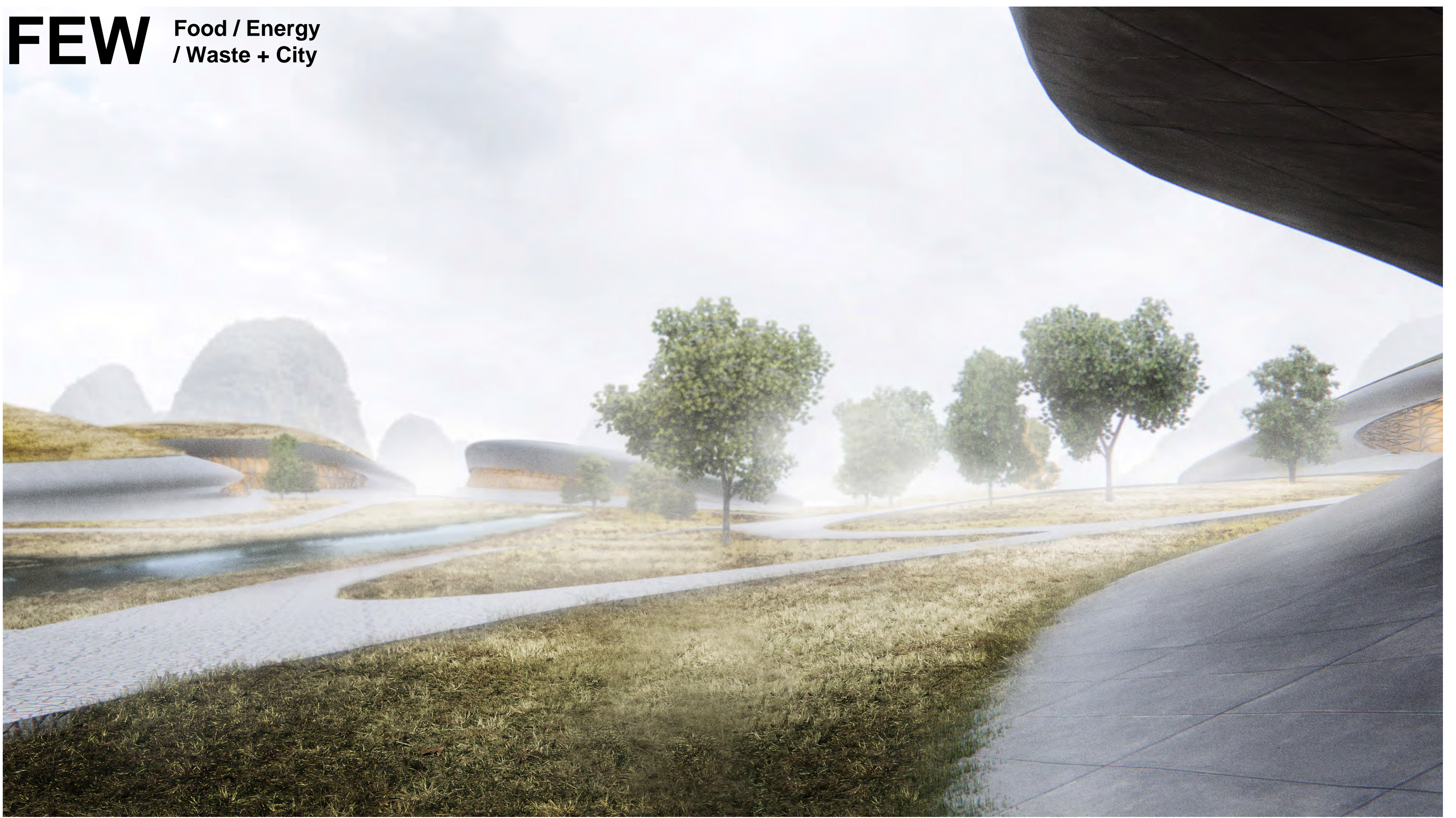


[A-A SECTION] 1:1000



[B-B SECTION] 1:1000





[TREE POOLS]

