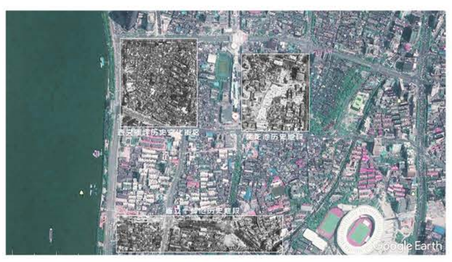
Scherk's Plaza
谢 尔 克 广 场

老城文化区块



“语言隔阂”背景下的商业内卷

南门口作为曾经大宗业主引领的繁华商业区，现在开始变得无序而缺乏活力，稀少的人流暗示着南门口似乎已经进入了内卷时期……

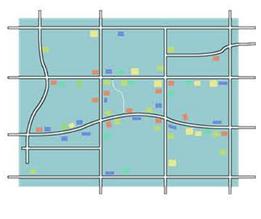
十几年前垂直的商区规划已经不复存在，业主在集体背景下获得财富之后，开始不断摆脱集体的束缚，意图在有限的资源中发掘更多的价值；就像修筑巴别塔的人群，对于洪水的畏惧，对于高度的追求，最终因“打乱的语言”而失败，一成不变的规模化发展最终必将进入“商业内卷”。

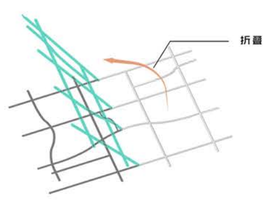
South Gate, once a bustling business district led by large number of owners, now becomes disorderly and lack of vitality. The scarce flow of people indicates that South Gate seems to have entered the period of inner winding... vertical business district planning more than a decade ago no longer exists, the owner under the background of the collective wealth, began to cast off the yoke of the collective, intent to discover more in the limited resources value; Like the people who built the Tower of Babel, the fear of flood and the pursuit of height are ultimately defeated by the "language of disruption", and the unchanging scale will eventually enter the "commercial inner volume".

相比之下的文庙坪则更加具有活力，在这种水平化的小宗商业圈中，个人的自由度发挥到极致，以老城文化为背景的商业价值不断被发掘，但各自为营的自发性经营在不断提高丰富度的同时，很难形成大的经济效益。

In contrast, Wenmiao Ping is more dynamic. In this horizontal small business circle, individuals' freedom is exerted to the extreme, and commercial values based on the culture of the old city are constantly explored. However, independent spontaneous management is difficult to generate large economic benefits while increasing its richness.

垂直与水平的对应关系

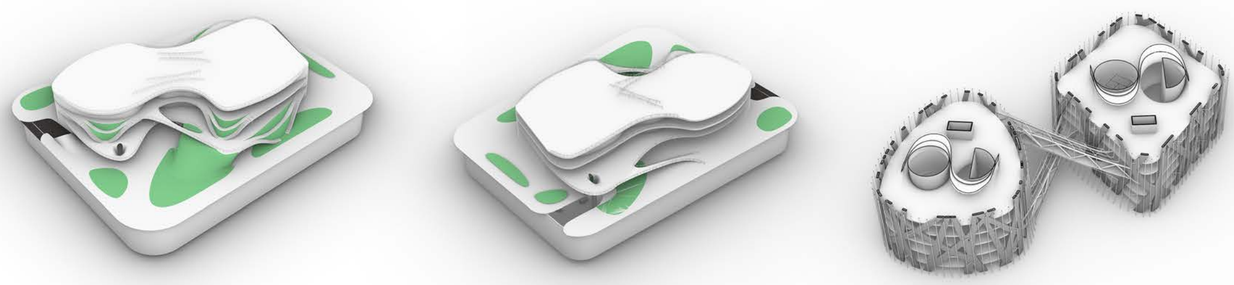




新的商业发展模式应该注重加强垂直化商业的沟通与联系，促进各个空间的互通，使得其在获得大宗资本需求的同时，也与其他个体取得交流，形成一定的纽带关系，而非完全的竞争关系。

The new business development model should focus on strengthening the communication and connection of vertical business, and promote the interconnection of all Spaces, so that when they obtain large capital needs, they can also communicate with other individuals and form a certain bond relationship, rather than a complete competition relationship.

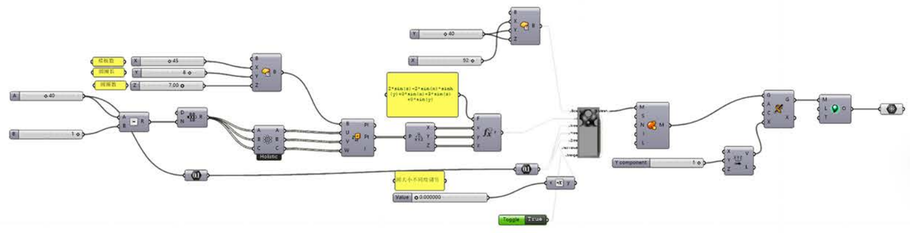
坡道与Scherk's曲面核心体



本方案采取路网折叠的设计方法，将平面交通叠加至垂直向，使得不同高度的人群与商业有更加紧密的联系，结合地形建立起多个缓坡与垂直交通，形成完备的TOD模式。
同时在11至13层区间建立起空中连廊形成穿插交通体系，达到增加联系，空间互通，获得交流的目的。

This scheme adopts the design method of road network folding to superpose the plane traffic to the vertical direction, so that people of different heights have a closer connection with the business. Combined with the terrain, a number of gentle slopes and vertical traffic are established to form a complete TOD mode. At the same time, an air corridor is set up between the 11th and 13th floors to form an interspersed traffic system, so as to increase the connection, spatial exchange and obtain the purpose of communication.

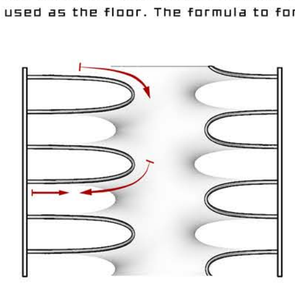
Scherk's核心体受力分析与空腔通风



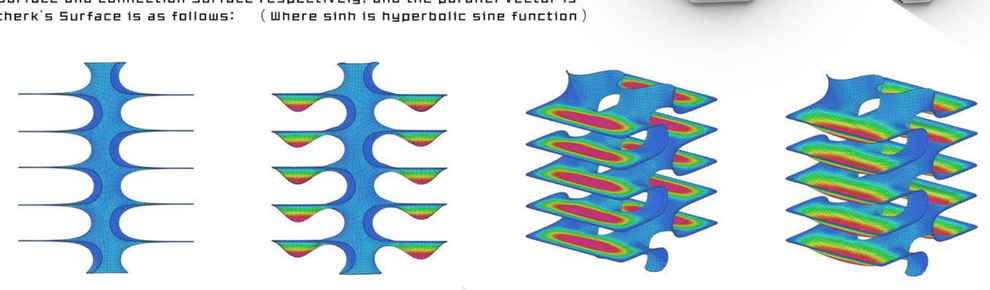
对于受力核心体，我们运用极小曲面形成水平与垂直叠加的空间向受力体系。在选用曲面类型时，考虑核心与楼板的层级关系，最终选用了悬炼面类型的Scherk's Surface，该曲面在z向量上平行，其他两个向量分别为悬链面和连接面，并借助平行向量作为楼板。形成Scherk's Surface的公式为：

$2*\sin(z)-2*\sin(x)*\sinh(y)+3*\sin(z)$，sinh为双曲正弦函数。

For the force core, we use the minimal surface to form the horizontal and vertical superimposed spatial force system. When selecting the Surface type, considering the hierarchical relationship between the core and the floor, Scherk's Surface of suspension Surface type was finally selected. This Surface is parallel on the Z vector, and the other two vectors are catenary Surface and connection Surface respectively, and the parallel vector is used as the floor. The formula to form Scherk's Surface is as follows: （Where sinh is hyperbolic sine function）



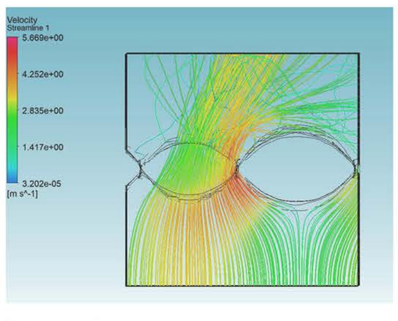
水平与出垂直向的协力过程

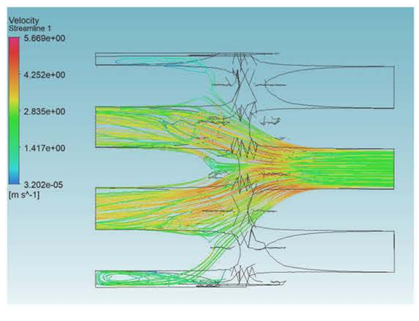


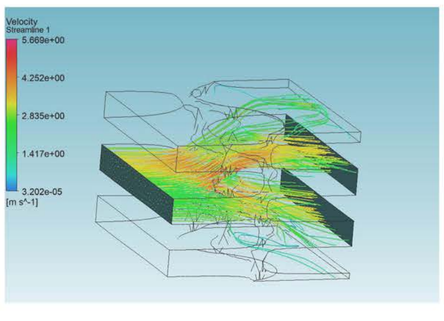
荷载分析

荷载分析的结果与预期相同，核心部分受力比较合理，主要的过载位置为楼板中心位置，需要进行加强，为正常现象。

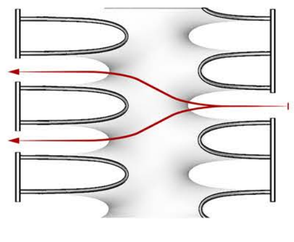
The load analysis results are the same as expected, the core part is reasonably stressed, and the main overload position is the center of the floor slab, which needs to be strengthened, which is a normal phenomenon.







空腔通风分析分析



借助最小曲面的空间连通性，能够同时达到通风拔风效果，但是在收口部分风速偏高，需要将将径向的距离加大，使得空腔更加圆滑，保证风速安全性。

With the help of the spatial connectivity of the minimum curved surface, the effect of ventilation and air pulling can be achieved at the same time. However, the wind speed at the closing part is high, so the radial distance needs to be increased to make the cavity more smooth and ensure the safety of wind speed.

综上，核心体部分，在兼顾空间互通性的同时，在力学、生态通风方面都具有一定的合理性，主体核心结构不可进行大面积开洞，否则会破坏水平与垂直的力学体系，影响整体结构稳定性。

To sum up, the core part has certain rationality in mechanics and ecological ventilation while taking into account the spatial interoperability. The core structure of the main body should not be caved in a large area, otherwise it will destroy the horizontal and vertical mechanical system and affect the stability of the whole structure.

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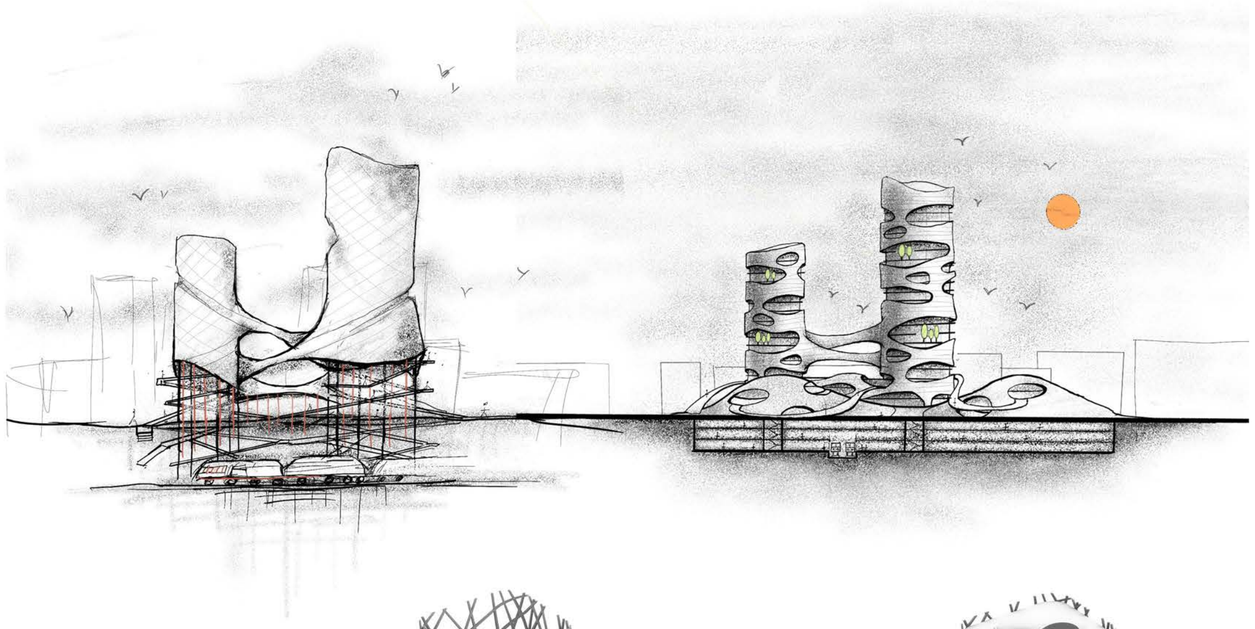
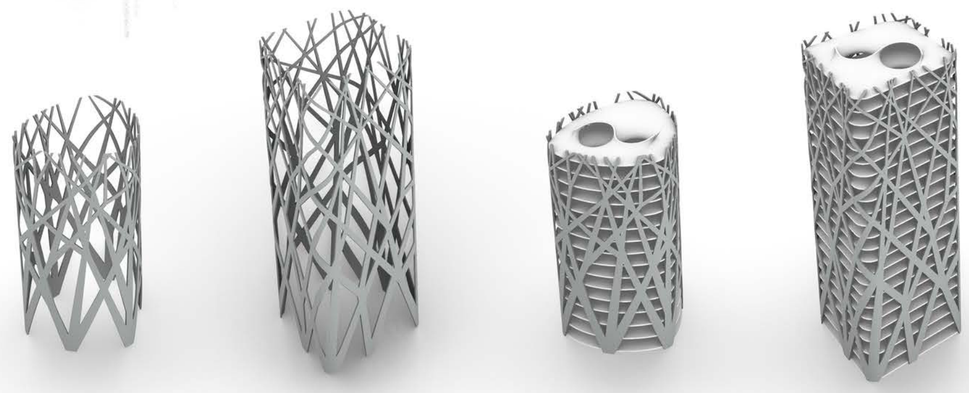
概念演变



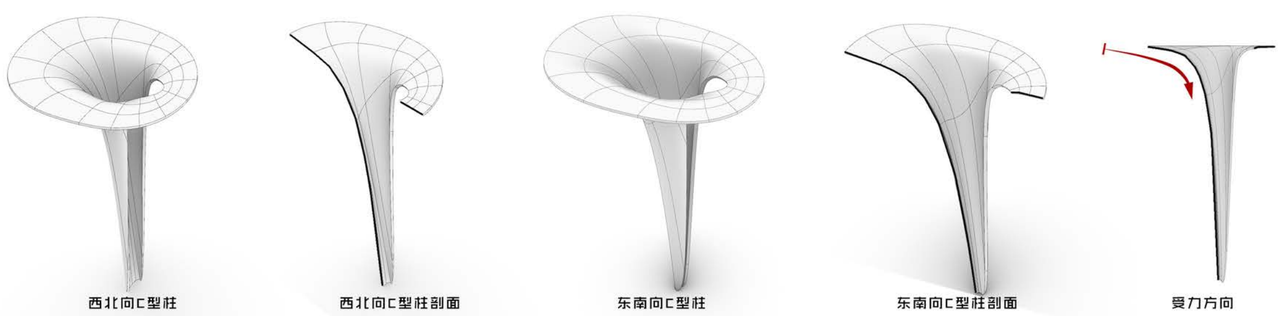
外骨骼受力体系



外骨骼为铝包混凝土，模拟树枝的生长逻辑，形成空间支撑体系，获得良好的受力体系；同时主要承担内部核心区域朝四周外泄的纵向力；外骨骼的柱网在一层进行转换便于地下室的停车、设备以及交通组织。外骨骼与内部核心体组成大的支撑结构，最终形成的空间无需柱网支撑，获得较为开敞的空间。

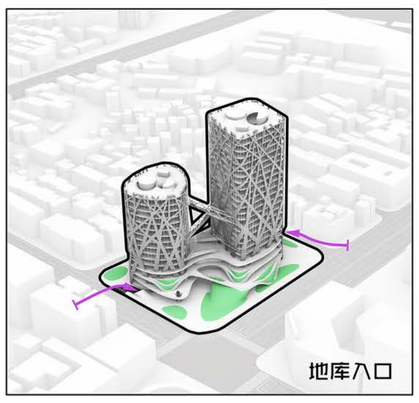
The exoskeleton is aluminum clad concrete, which simulates the growth logic of branches to form a spatial support system and obtain a good stress system. At the same time, it mainly undertakes the longitudinal force from the internal core area to the surrounding area. The column network of the exoskeleton transforms on the ground floor to facilitate basement parking, equipment, and traffic organization.
The exoskeleton and the internal core constitute a large supporting structure, and the final space formed does not need the support of the column network, thus obtaining a relatively open space.

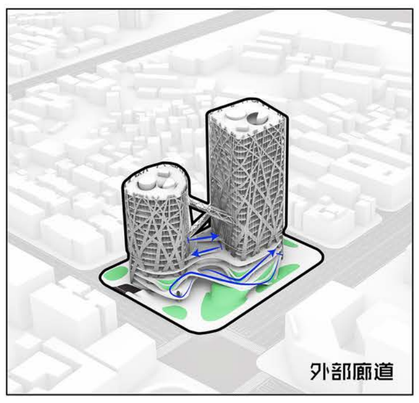
C形柱受力体系

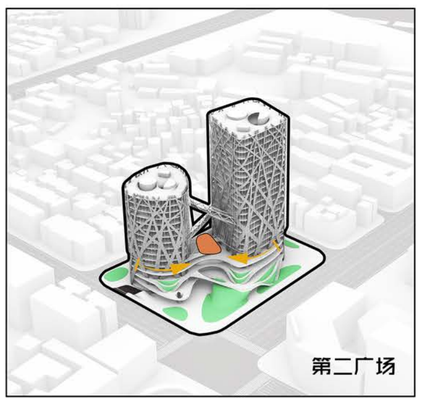


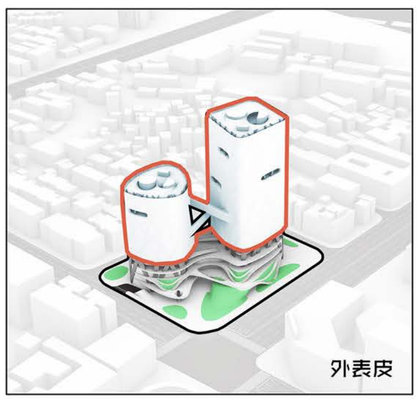
C形柱是一种单侧开放，顶部开口的倒锥形屋顶支撑形式。C形柱的受力逻辑与Sherk's曲面的受力逻辑相近，水平向的力不断转换至C形立柱之上，取消了梁，伞片更加轻巧，使得柱下空间比较通透，同时，伞口的洞口可以给予伞下空间充足的阳光，使得一层的敞开空间更加具有活力。

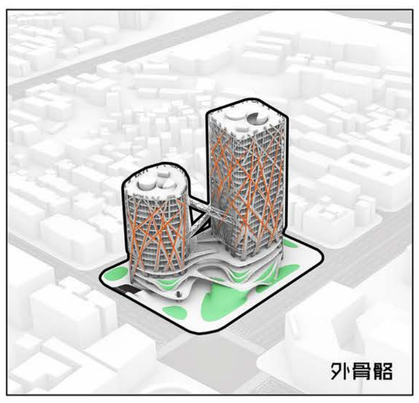
The C-column is an inverted tapered roof support that opens on one side and opens at the top.The force logic of C-shaped column is similar to that of Sherk's curved surface. The horizontal force is constantly transferred to the C-shaped column, which cancels the beam and makes the umbrella piece lighter, making the space under the column more transparent. Meanwhile, the opening of the umbrella can provide sufficient sunshine to the space under the umbrella, making the open space on the first floor more dynamic.

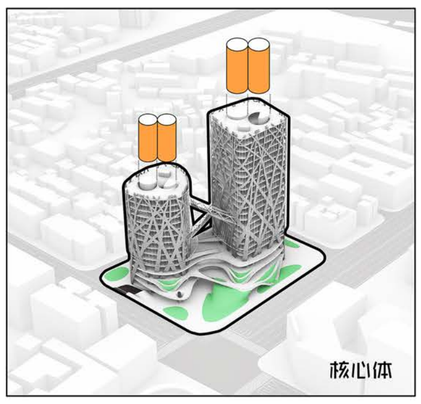


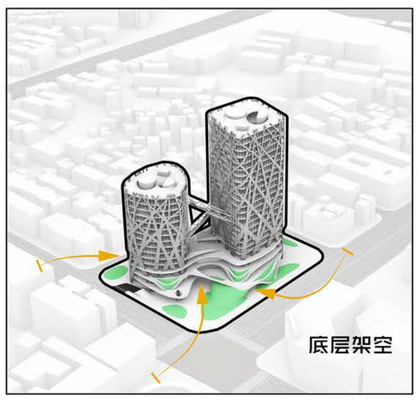


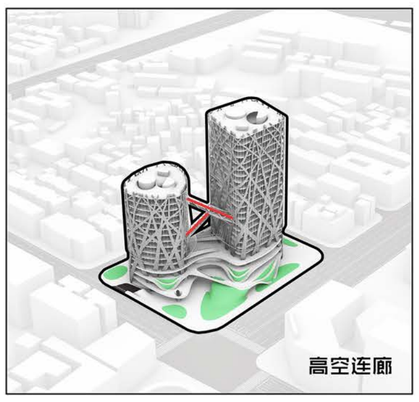


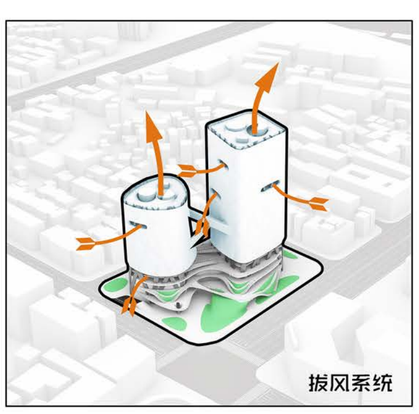


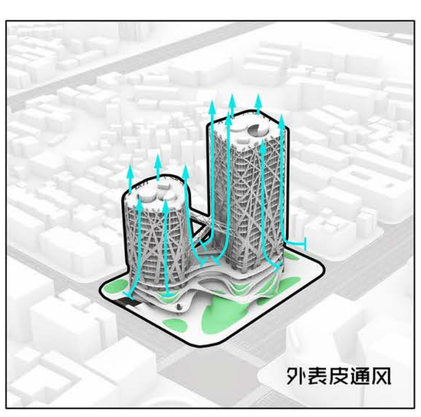


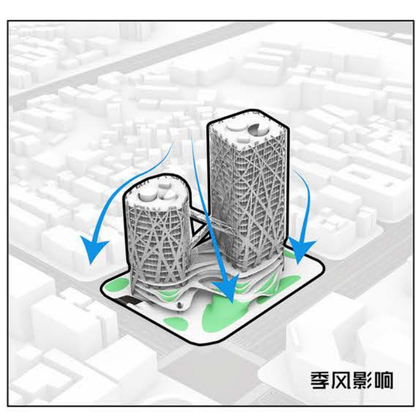


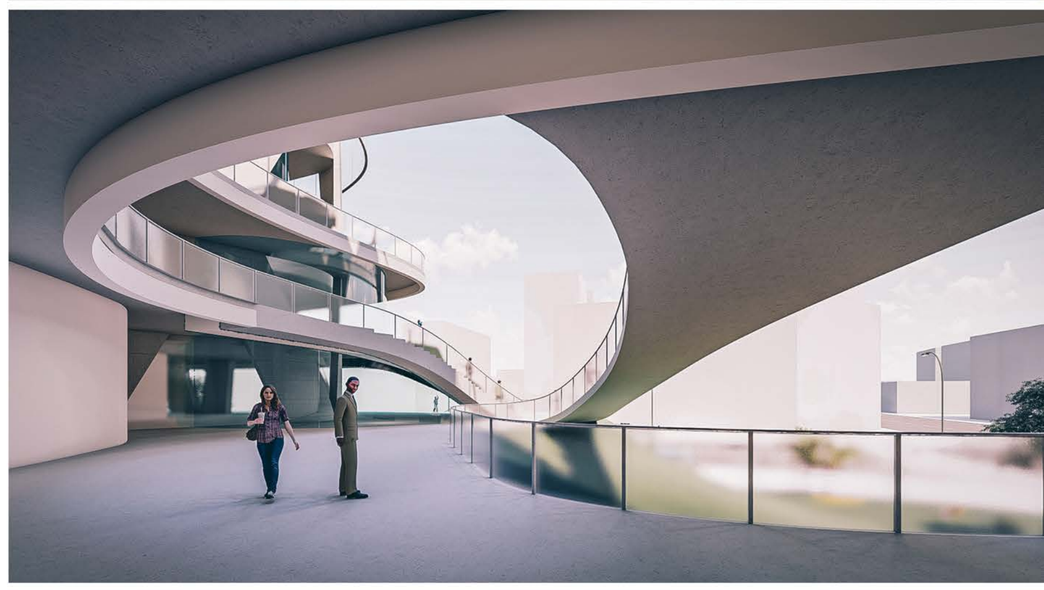


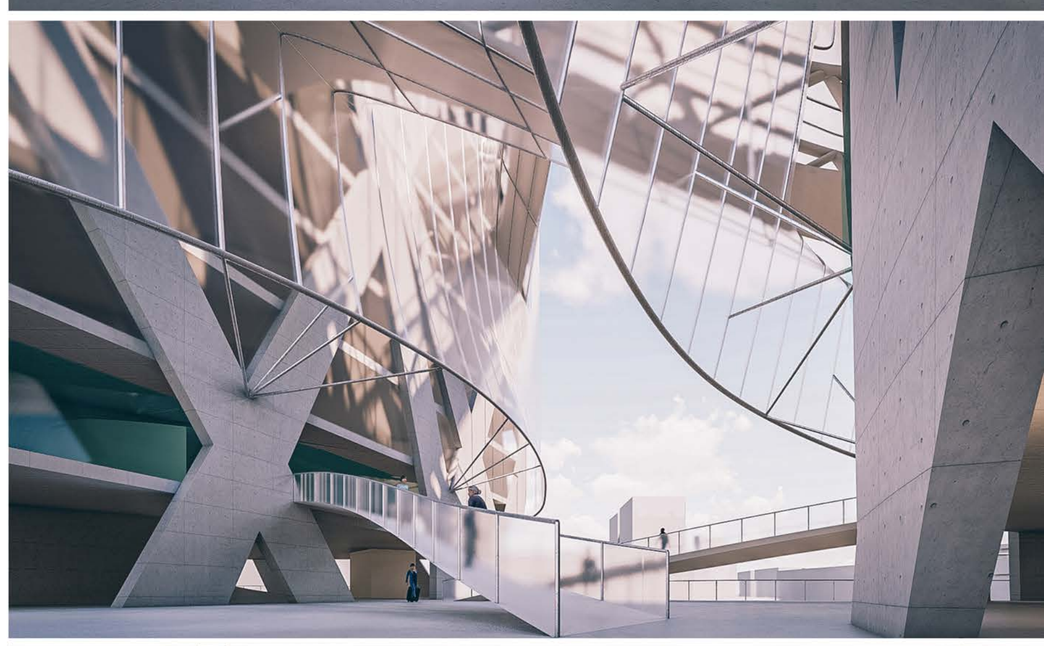


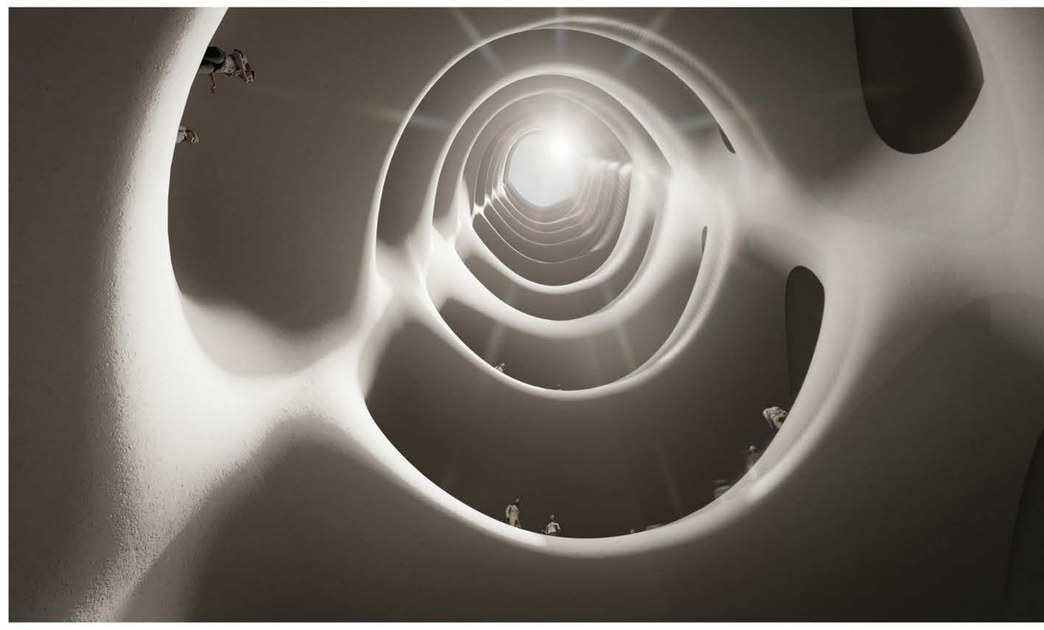








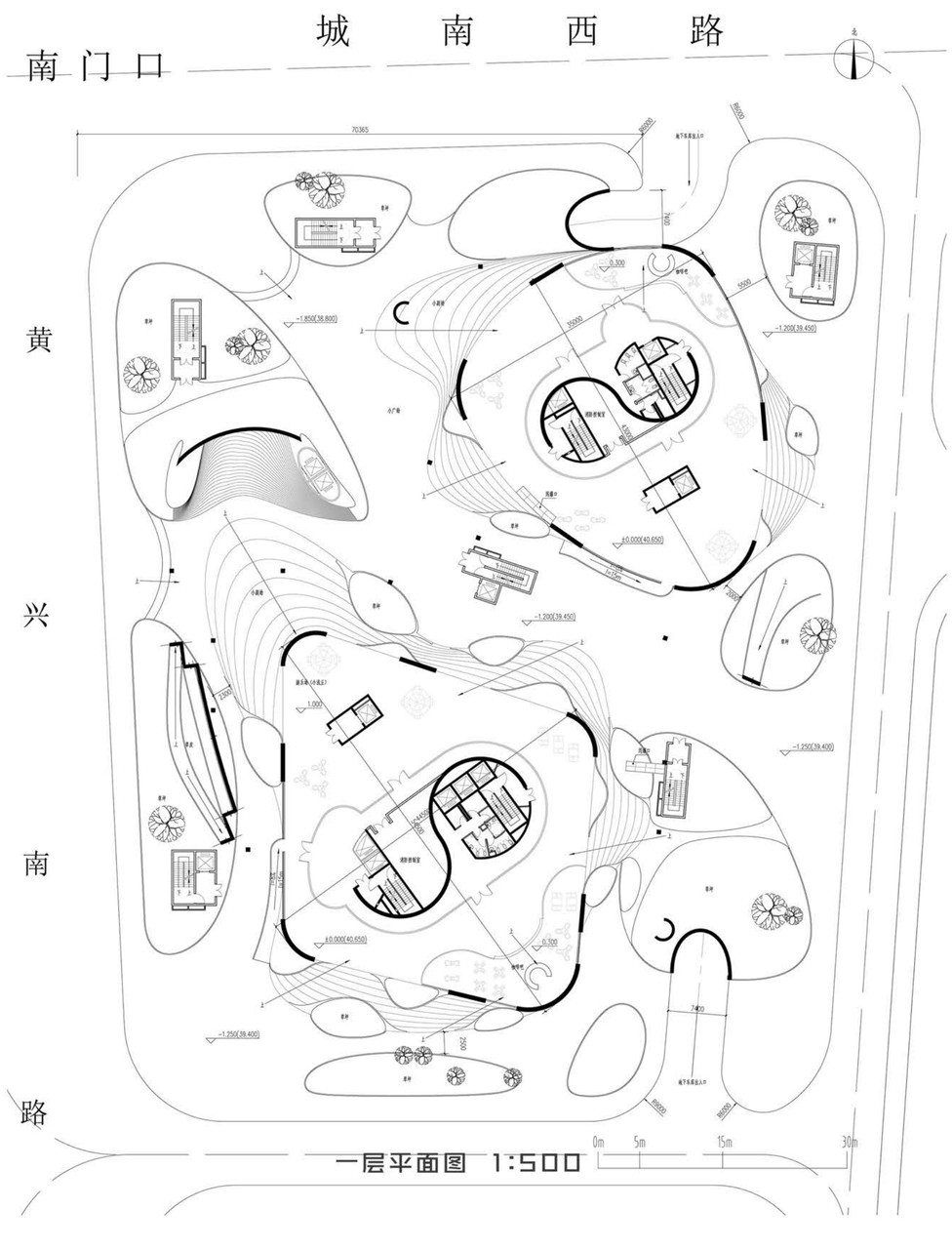




Scherk's Plaza
谢尔克广场

主要技术经济指标

类别	名称		数量	单位		名称	数量	单位
建筑面积	总建筑面积（可计容积率部分）		73800	㎡	占地面积	总用地面积	16750	㎡
		地上	23000	㎡		净用地面积	9360	㎡
	其中 商业空间	地下	3000	㎡	建筑指标	容积率	5.77	
	酒店		8400	㎡		建筑密度	40	%
	办公		12500	㎡		绿地率	30	%
	架空开放区		7100	㎡				
	地下室（不计容）		19800	㎡				
停车位			310	个				

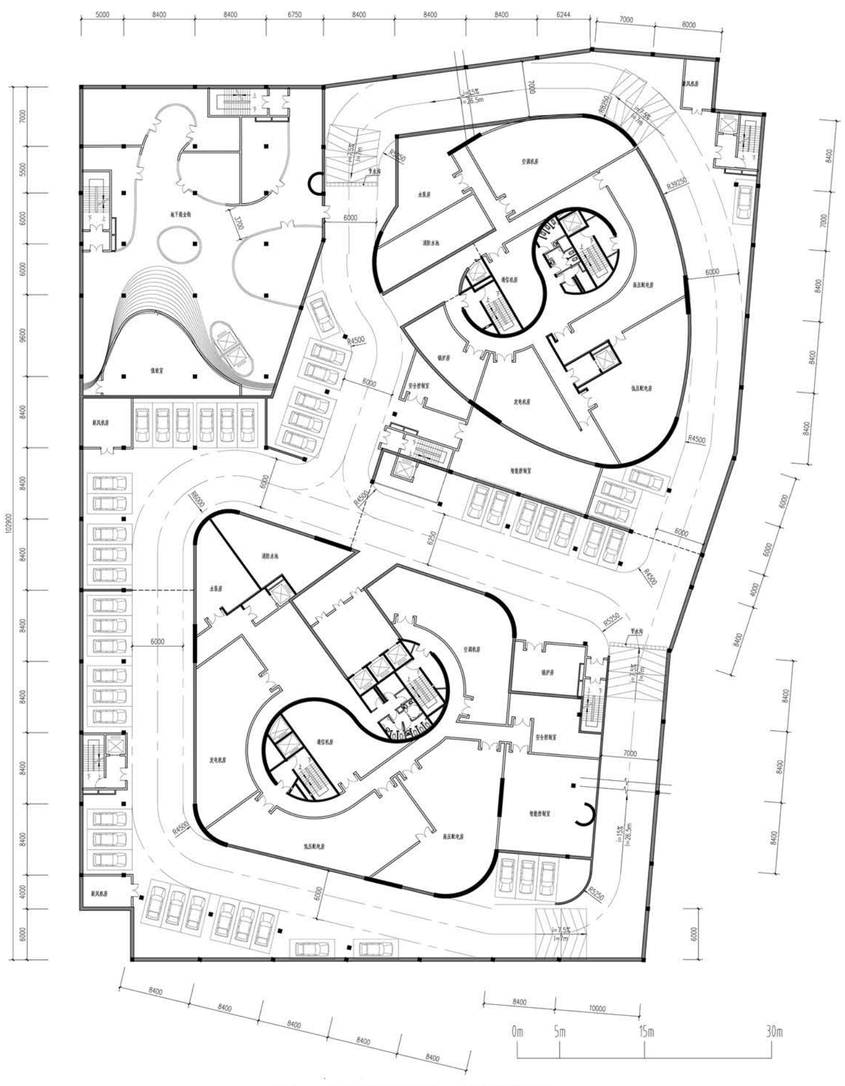


一层平面图 1:500

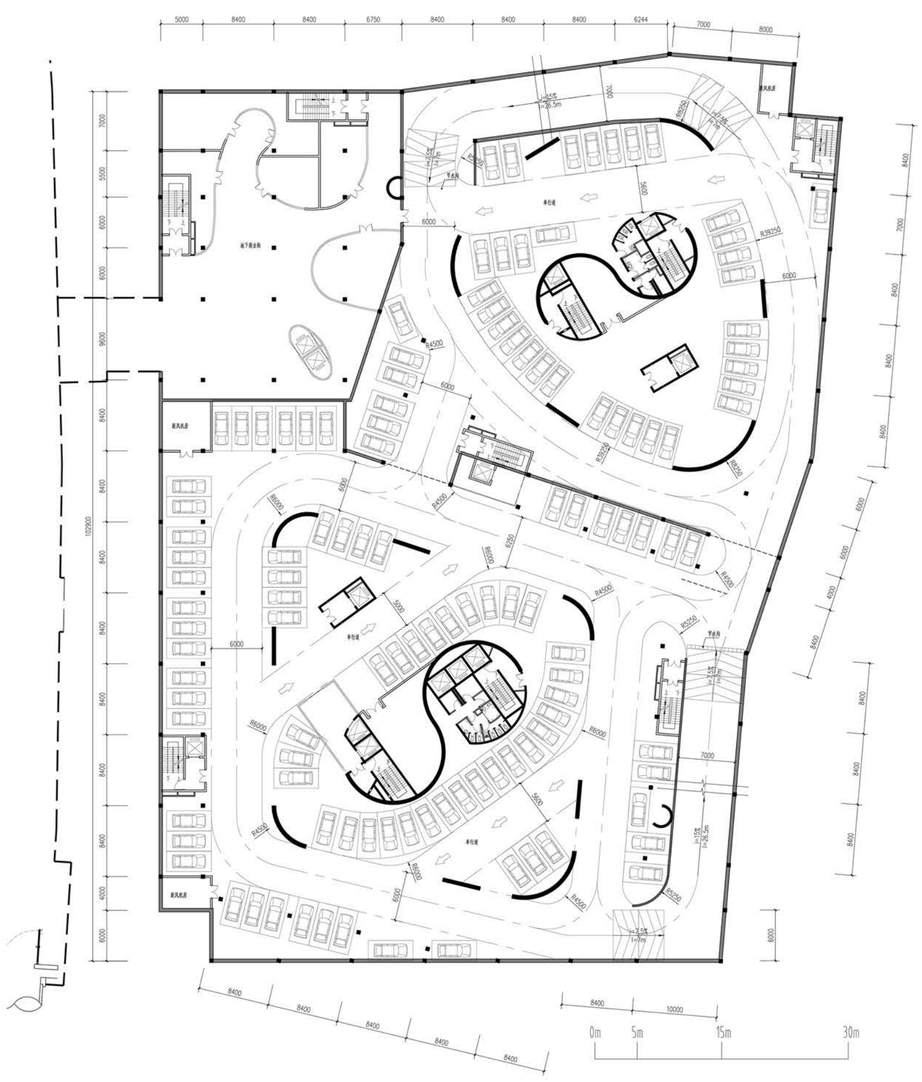
二层平面图 1:500

三层平面图 1:500

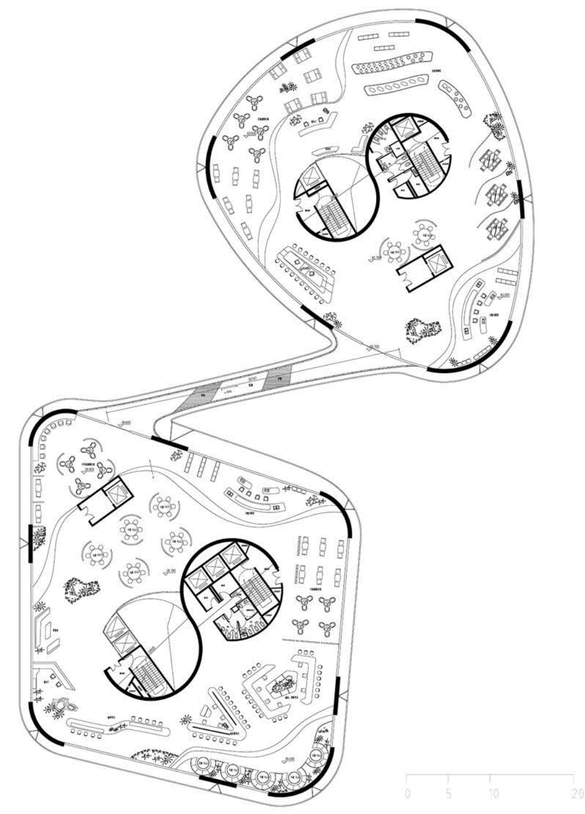
Scherk's Plaza
谢 尔 克 广 场



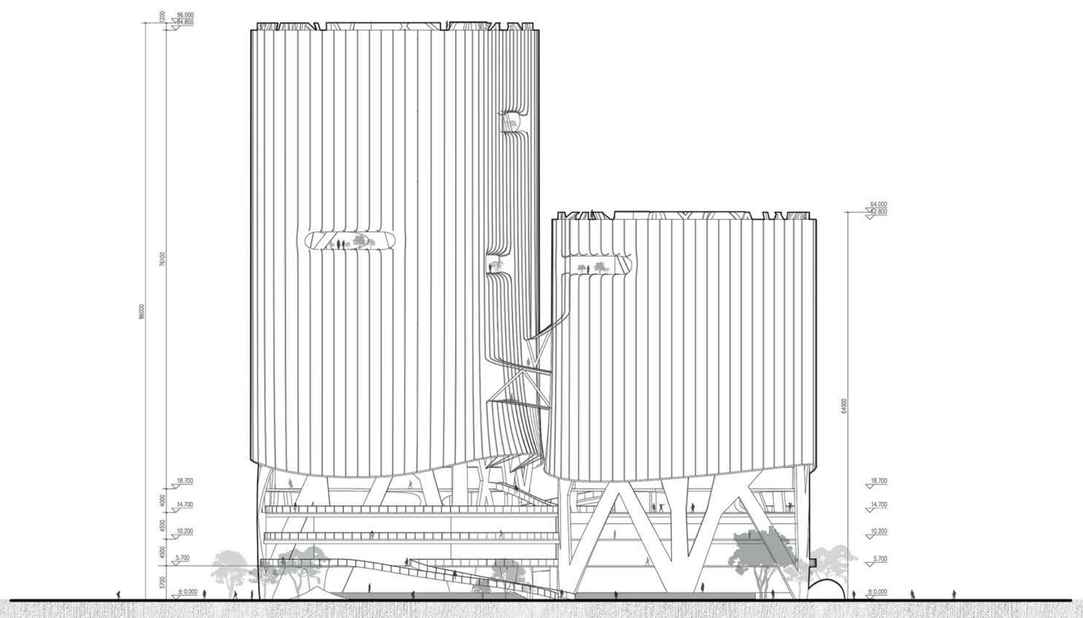
负一层平面图 1:500



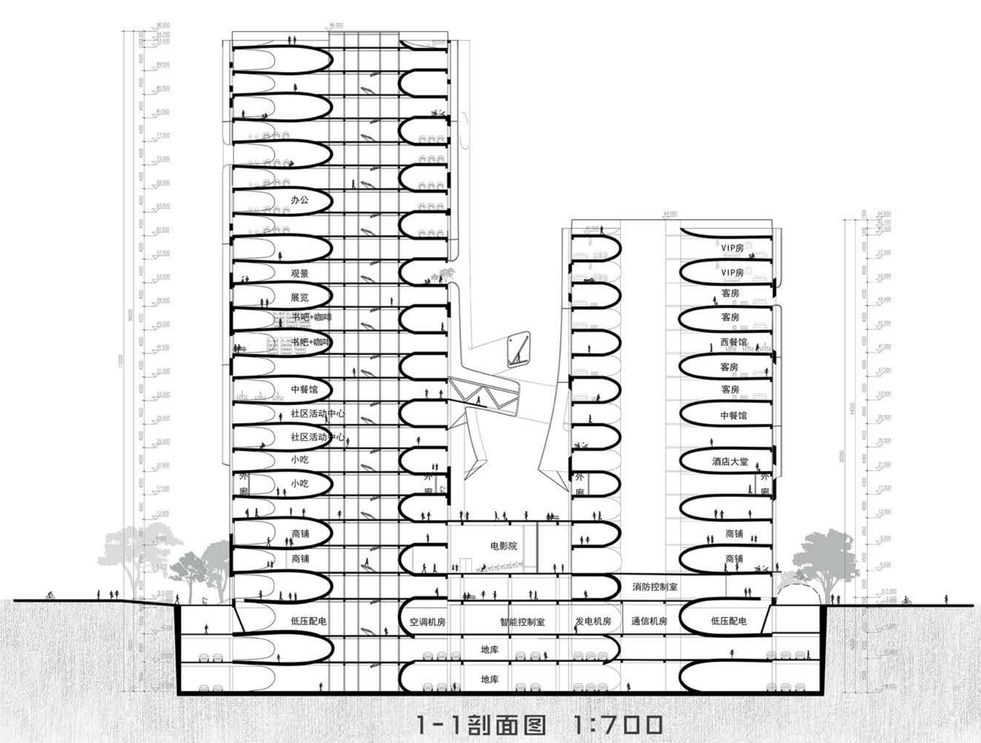
负二层平面图 1:500



北塔11层、南塔10层（西餐厅、自助餐厅）
平面图 1:500



东立面图 1:700



1-1剖面图 1:700