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A Tale of Tier Two Cities
二级城市的传说


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Tim Johnson是世界高层都市建筑学会（CTBUH）主席（2011－2013）。他是NBBJ全球建筑公司的合伙人之一，在公司里领导国际商业设计项目。他的获奖作品遍布全球，且包括商业综合开发项目、多家庭住宅、医疗设施、交通设施、以及企业办公室内项目。 Tim的工作融入当地社区和文化来进行设计，从而提出重新定义都市环境和提升生活质量的成果。

Abstract

The migration of Chinese residents to cities presents great challenges and opportunities. Large developments near the city core represent the best solution to the challenges of this urban migration, but the superblock must be configured with a strong sense of place, and tall buildings are essential to making this possible. Tier 2 and Tier 3 cities pose additional challenges to creating developments that establish a sense of place both in the skyline and at street level: how can one achieve architectural sophistication with a simplicity of means? Three case studies designed by NBBJ for Eton Properties—located in Xiamen, Shenyang, and Dalian—are considered. The future of tall building design is the architectural expression of internal function.

Keywords: Tall Buildings, Superblocks, Simplicity, Tier 2

摘要

中国居民逐步的迁徙到城市展现着巨大的挑战与机遇。在城市中心附近的大型开发项目代表解决城市迁徙的最佳方案，但超级街区必须体现出强烈的场所感，高层建筑对于实现此目标至关重要。二级与三级城市提出了另一种挑战：打造一个在天际线和街道标高两方面均建立场所感的开发项目：如何以一种简约的手段达成建筑的经久不衰？ 三项由NBBJ为裕景兴业设计的案例—位于厦门、沈阳、和大连—在此探讨。未来高层建筑的设计是内部功能的建筑体现。

关键词：高层建筑，超级街区，简约，二级

In 2011, for the first time in history, a higher percentage of China's population lived in urban areas than in rural ones (Bloomberg, 2012). And though other regions are urbanizing at a faster rate than China, the United Nations estimates that 1 billion Chinese will live in urban areas by 2050—an increase of more than 300 million people (United Nations, 2012). This influx of urban residents presents great challenges and opportunities. And while much has been written about China's Tier 1 cities—Beijing and Shanghai, and typically Guangzhou and Shenzhen as well—most development in the next four decades will occur in the so-called Tier 2 and Tier 3 cities, in maturing and emerging markets throughout the country.

To accommodate this growth, Chinese cities must become increasingly dense. For instance, the three emerging cities under consideration here—Xiamen, Shenyang, and Dalian—contain, respectively, only 1,600 people per square kilometer, 2,200/km^2, and 2,400/km^2 (US Consulate, 2012a and 2012b; Xiamen). These cities are significantly less dense than Los Angeles (3,100/km^2), let alone Paris (20,000/km^2) or Manhattan (27,000/km^2), although they are expanding rapidly (US Census, 2012a and 2012b; United Nations, 2011).

在2011年，中国城市人口比例在历史上首次高于农村（彭博社，2012年）。并且尽管其他区域正在以比中国更快的速度城市化，联合国预计十亿的中国人将在2050年之前住在城市地区内—一个超过3亿人口的增长（ 联合国，2012年）。城市居民的这种集聚代表着巨大的挑战和机遇。而在中国一级城市—北京和上海，以及作为典型的广州和深圳被大量报道的同时—在接下去的40年内最多的开发项目将发生在所谓的2级和3级城市，遍布全国的成熟中的和新兴的市场。

为了顺应此增长，中国城市必须逐渐提高密度。譬如，在这里考量的三座新兴城市—厦门，沈阳和大连—每平方公里分别仅包含1,600人， 2,200人和2,400人（美国领事馆， 2012a和2012b；厦门）。这些城市尽管正在急速扩大，仍然远没有洛杉矶（3,100人/平方公里）密度高，更不用说巴黎（20,000/平方公里）或曼哈顿（27,000/平方公里）（美国人口普查，2012a和2012b）；联合国，2011）

由于传统的胡同巷弄和低层建筑将显不足，城市核心区域附近的大型的城市尺度开发项目代表了解决这座城市变迁所带来挑战的最佳方案。只有大型城市可以满足密度要求，创造一个连贯统一的空间体验，并包含点燃地区城市活力所需要的混合用是途规划项目的关键体量。当获得成

As traditional hutong streets and low-rise buildings will be insufficient, large urban-scale developments near the city core represent the best solution to the challenges of this urban migration. Only large sites can accommodate density, create a coherent spatial experience, and house the critical mass of mixed-use programming necessary to jump-start urban vitality in the area. When successful, these projects can then be leveraged to positively influence the surrounding area, increasing nearby land value and spurring additional high-quality development. We call this city building.

When poorly executed, however, large "superblock" developments have rightly received criticism for being out of scale, hostile to the pedestrian experience, or walled-off fortresses divorced from the city around them. To avoid these pitfalls while still achieving the benefits of large development—density, critical mass, mixed uses, a coherent environment, and urban vitality—the superblock must be configured with a strong sense of place, and tall buildings are essential to making this possible.

As China continues urbanizing, many planners and architects may ask—certainly many have asked us—why so many tall buildings? The reasons are many. For one, tall buildings enable greater density, even as they free other portions of the site for open spaces such as plazas, courtyards, and other public amenities which create a sense of place that enhances the overall value of the development and benefits the surrounding community. For their inhabitants, tall buildings provide outward views, daylight, and airflow around the exterior; while the large building site furnishes a convenient mix of uses and proximity to the CBD. Economists and planners have repeatedly proven that the kinds of social interactions that spur innovation and increase GDP thrive on the density that tall buildings can provide.

Finally, tall buildings play a crucial role in the image and psyche of the cities in which they are built. Most people associate a city with its tallest or most interesting buildings: New York has the Empire State Building, Hong Kong the Bank of China building, Shanghai the Oriental Pearl Tower. This is no exception in emerging cities, where prime sites challenge their designers to create sophisticated architecture that represents the city's aspirations.

These are the factors fuelling China's dramatic building boom, and some truly impressive architecture has resulted. However, Tier 2 and Tier 3 cities pose an additional challenge to creating a development that will establish a sense of place both in the skyline and at street level. That is, how can one achieve architectural sophistication with a simplicity of means? In developing markets, simplicity yields important benefits: ease of constructability can not only accommodate varying capabilities in the construction trades, but also speed the product to market, which may make all the difference in a rapidly urbanizing area.

Developer Eton Properties and architects NBBJ are currently collaborating on projects in three of China's rapidly developing Tier 2 cities: Xiamen, Shenyang, and Dalian. These projects, all of which feature large development sites and tall buildings (and all currently under construction), exemplify our approach to creating a sense of place using architecturally sophisticated simplicity.

Xiamen Eton Center

Xiamen, a southeastern coastal city located approximately halfway between Hong Kong and Shanghai, occupies a large island and surrounding mainland areas. The Eton Properties site—adjacent to the harbor, the CBD, and the main street leading from the water deep into the city—enjoys tremendous views of the sea and nearby historic

功时，这些项目可以用于对周边区域产生积极影响，增长周边土地价值并激励其他的高质量的开发项目。 我们称之为城市建筑 。

然而，当运作不佳，大型的“超级街区”开发项目立即被批评为规模过大，人性体验不友善或者构筑无城墙的城堡把它们周围的城市分隔开来。为了在取得大型开发项目优势—高密度，关键体量，综合用途，一个连贯统一的环境，和城市活力—的同时避免这些缺陷，超级街区必须被赋予强烈的场所感，而高层建筑对于实现此目标至关重要。

由于中国持续城市化，很多规划师和建筑师可能会问—至少我们已经被问过很多—为什么这么多的高层建筑？原因有很多，其中之一，高层建筑可以有更高的密度，更能将场地其它部分释放出来作为广场，庭院和公共设施等开放空间，这创造了提升开发项目的整体价值并使周边社区受益的场地感。对于它们的住户，高层建筑提供了向外的视野，日照和外部周围的空气流动 ；当大型建筑场地配以综合用途功能并邻近中心商务区时，它们也提供了极大的便利。经济学家和规划师已经反复证明了，高层建筑的高密度，将会提供这类社会交互活动激励创新和促进繁荣国民生产总值。

最后，高层建筑在城市的形象和灵魂方面扮演一个重要的角色。大多数人们通过最高或最有趣的建筑联想到一座城市； 纽约有帝国大厦，香港有中银大厦，上海有东方明珠电视塔。 这在新兴城市中也是不例外的，优质场地向设计师提出挑战来创造能代表城市愿景的经久不衰的建筑。

这些因素是促使中国戏剧化的高楼耸立，和产生一些真正令人印象深刻的建筑的缘由。然而，2级和3级城市提出了另一种挑战：打造一个在天际线和街道标高两方面均建立场所感的开发项目。即如何以一种简约的手段达成建筑的经久不衰？ 对于发展中市场， 简约产生重要的益处：容易施工性不仅可以顺应建筑行业中的不同变化的能力，也加速 产品推向市场，使其在快速城市化的地区中与众不同。

开发商裕景兴业和建筑设计方NBBJ目前正在就中国快速发展的2级城市：厦门，沈阳和大连的项目进行合作。这些项目， 都具备大型开发场地和高层建筑的特色（并且所有目前都在施工中）例证了我们利用建造经久不衰的简约性创造一种场地感的设计手法。

厦门裕景中心

厦门， 一个大约位于香港和上海中途的东南海岸城市，包含一座大岛屿和其周边的陆地。 裕景兴业基地—紧邻海港，中心商务区和从水域直插入市区的主干道 —享有无尽的海景和边临具有历史意义的鼓浪屿 。 项目包括一座5星级酒店和礼堂，SOHO（小办公室/家庭办公室）和商业配套。

第一步是理解场地如何与城市脉络产生联系，城市是一个带有狭窄街道的行人友善的地区。作为回应，用穿透性的商业裙楼界定了一个内嵌的中心庭院和场地内的公共广场，提供一个到达场所和公共交互活动。两个主要元素在上方竖向耸立：一座18层楼的酒店和一座40层楼，210米高的SOHO塔楼。 横向相称比例的滨海酒店最大化地展现海景；在地面层横跨着一条有盖顶的过道，它为酒店大堂打造了一个巨大的入口门户，并且也框定了远处的海景。 曲线型的SOHO塔楼，在内陆亭亭玉立，同时充分利用了绝佳的海景（图1）。

把城市活力和场所感带入厦门裕景中心项目的最简单的表述不是仅仅建筑方面的：商业和酒店/礼堂规划项目在SOHO和酒店大厦之间被分隔开来， 通过人行天桥把它们连接起来（图2）。这些连接鼓励在两幢大楼之间的互动，当购物者在穿越地面层的中心庭院时，以及酒店宾客从第4、第5层穿到SOHO大厦的礼堂和会议

Figure 1.Xiamen Eton Center, aerial view. (Source: NBBJ)
图1. 厦门裕景中心，鸟瞰图（出自：NBBJ）

Figure 2. Xiamen Eton Center, section through pedestrian bridges. (Source: NBBJ)
图2. 厦门裕景中心，穿过必行桥的剖面图（出自：NBBJ）

Gulangyu Island. The project contains a 5-star hotel and ballroom, SOHO (Small Office / Home Office), and retail.

The first step was understanding how this site would connect with the fabric of the city, a pedestrian-friendly area with narrow streets. In response, porous retail podiums define a recessed central courtyard and on-site public plazas, which provide places for arrival and public interaction. Two major elements rise vertically: an 18-story hotel and a 40-story, 210-meter tall SOHO tower. The horizontally proportioned, waterfront hotel maximizes sea views; spanning a high breezeway at ground level, it creates a large entry portal for the hotel lobbies, and also frames views towards the sea. The curved SOHO tower, rising slightly inland, also takes advantage of the extraordinary views (see see Figure 1).

The simplest gesture to introduce urban vitality and a sense of place into Xiamen Eton Center isn't architectural: the retail and hotel/ ballroom programs are split amongst the SOHO and hotel buildings, with pedestrian bridges connecting them (see see Figure 2). These links encourage cross-pollination between the two buildings, as shoppers traverse the central courtyard at grade level and hotel guests cross at Levels 4 and 5 into the ballroom and meeting spaces in the SOHO building. With the pedestrian bridges fully glazed, the movement is apparent to people on the street and the surrounding buildings, lending a sense of dynamism to the public spaces (see Figure 3).

Additionally, both buildings explore a "thick" façade system, which, while simple in concept and construction, operates at a high level of performance, both architecturally and climatically: deep extrusions at the edge of each floor plate not only shade the interior from Xiamen's strong sunlight, but also conceal the A/C condenser units (see Figure 4). This strong horizontal banding gives the development its unique visual identity and a presence on the Xiamen skyline. At the same time, it provides a clean architectural solution to the perennial challenge of avoiding the visual clutter of mechanical units on the exterior of residential buildings—even as it decreases the load on those units.

Shenyang Eton Center

Rapidly-growing Shenyang is the cultural and commercial hub of Northeastern China. Its major north-south axis, Qingnian Street, has become a popular boulevard for many multi-national developers, to whom sites were sold with significant plot sizes and plot ratios. The site of Shenyang Eton Center lies just south of Government Square, a public park that draws significant pedestrian traffic (see Figure 5).

Figure 3. Xiamen Eton Center, courtyard view. (Source: NBBJ)
图3. 厦门裕景中心，庭院景（出自：NBBJ）

空间时。人行天桥全部安装玻璃，使内部的动态被街道上和周围建筑中的人们看到，为公共空间提供一种动感（图3）。

另外，两幢大厦探索运用一套“厚的”外立面系统，概念和施工方面保持简单，并在建筑方面和气候方面均以高性能运行：每层楼面边缘的较深的延伸，不仅为室内遮蔽了厦门强烈的日照，也隐藏了空调冷凝机组（图4）。 这个强烈的横向带状系统赋予开发项目独特的视觉识别性并成为厦门天际线的一抹风景。同时，它提供了一套清晰的建筑解决方案，针对一个多年的挑战：避免住宅建筑室外设备机组的视觉凌乱—甚至是当它在减少这些机组荷载的同时。

沈阳裕景中心

迅速发展的沈阳是华北地区的文化和商业中心。其庄严宏大的南北向中轴线，青年大街已经成为众多跨国开发商青睐的林荫大道，各种规模和比例的重要地块已售予这些开发商。沈阳裕景中心位于政府广场正南面，是吸引大量人流量的公共公园（图5）。

项目开发将引导现有的行人流量朝向北方，形成一个通行的“绿色漩涡”，以鼓励更多公众进入该场地（图6）。而且，在街道层面上的场所营造要素是裙楼，可细分为多个穿透性和可达性楼群，以形成多样性穿过该场地的途径，沿着“城市小丘”的斜坡向上，然后进入住宅楼群之间多层次的景观化广场（图7）。这适宜行人尺度的广场通过进入到不同项目集的零售场所和大堂热闹起来。

裙楼以上的十层塔楼：超级塔楼一号，89层高，包括一家酒店和酒店式公寓； 超级塔楼二号包括一栋83层的写字楼，六栋住宅

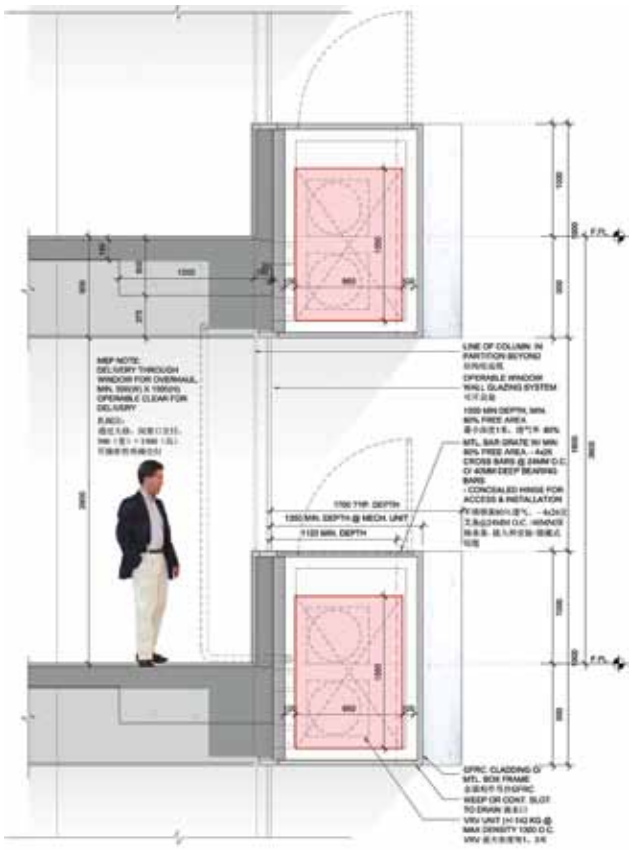

Figure 4. Xiamen Eton Center, SOHO wall section. (Source: NBBJ)
图4. 厦门裕景中心，SOHO墙剖面（出自：NBBJ）

Figure 5. Shenyang Eton Center, aerial view. (Source: NBBJ)
图5. 沈阳裕景中心，鸟瞰图（ 出自：NBBJ）

The development embraces existing pedestrian flows to the north, shaping a "green vortex" of circulation that encourages the wider public to engage with the site (see Figure 6). Again, the key place-making element at street level is the podium, broken into multiple blocks for porosity and accessibility, permitting a variety of paths through the site, up the slope of the "urban hill," and into a multi-level landscaped plaza amidst the residential buildings (see Figure 7). This pedestrian-scaled plaza is activated by retail and by lobbies that enter into the various programs.

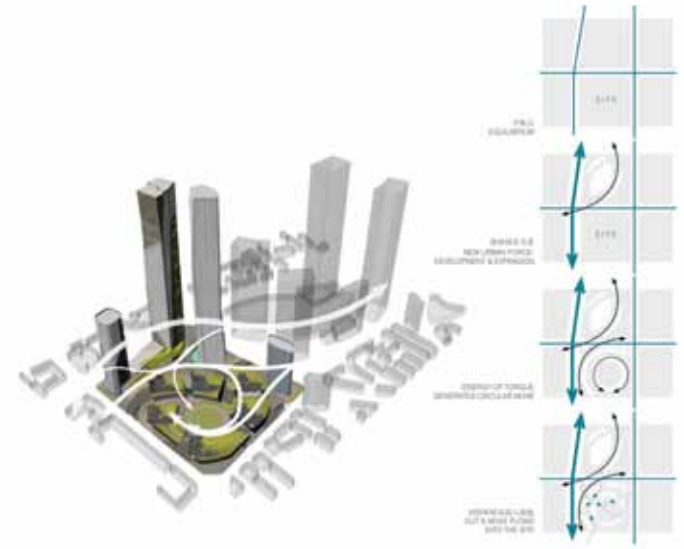

Figure 6. Shenyang Eton Center, "vortex" concept diagrams. (Source: NBBJ)
图6. 沈阳裕景中心，“漩涡”理念示意图（ 出自：NBBJ）

Figure 7. Shenyang Eton Center, courtyard view. (Source: NBBJ)
图7. 沈阳裕景中心，庭院景（ 出自：NBBJ）

楼和两栋酒店式公寓楼。尽管均为独立式，但超级塔楼一号和二号设计为看起来像是一个单一实体（图8）。为了与新兴城市中屡见不鲜的大楼过于“繁杂”的复杂模式区分开来，这两座塔楼的立面仅采用两层幕墙铰接在一起：坚固的外层将在若干个关键地方开口以揭示出金色的内层（图9）。各种高度的住宅楼也采用同样的手法处理以避免同样模式开发所致的单调。这种简洁的外形有助于塔楼形成映衬在天际线上与众不同的外形，并成为城市环境中的聚焦点。

大连裕景中心

在沈阳西南方400公里之外的大连位于具有重要港口的半岛之上，其海域面朝北方，南有山脉作为背景。大连中心裕景位于市区中心，占地面积六公顷，是包括豪华办公、酒店、零售店、娱乐场所、会议、SOHO办公室和住宅项目等在一起的综合项目（图10）。空中大堂、绿色空间、会议区、观景台和其他公共场所分布在整个项目之中，将基本的垂直功能—办公楼、酒店和住宅区—转变成更富有生命力。

地块位于20米的斜坡，因此裙楼成为场所营造策略中的关键要素。地块自街道平面向南延伸，然后以带有公共场地的大型零售楼群拔地而起，朝北俯瞰着整个周边街区（图11）。该项目在街道、住宅区和零售楼群拥有多个进入点，因而该场所极为便于进入和行人接近。

Figure 8. Shenyang Eton Center, Super Towers 1 and 2. (Source: NBBJ)
图8. 沈阳裕景中心，超级塔楼一号和二号（ 出自：NBBJ）

Ten towers rise from the podiums: Super Tower 1, 89 stories high, containing a hotel and serviced apartments; Super Tower 2, an 83-story office building; and six residential buildings and two serviced apartment towers. Though freestanding, Super Towers 1 and 2 are designed to read as a single entity (see Figure 8). In reaction against the overly "exuberant," complex forms typical of towers in emerging cities, they have facades articulated simply as two curtainwall layers: a solid outer layer which cracks at several key locations to reveal a golden inner layer (see Figure 9). The residential towers, rising to a variety of heights, are similarly treated to avoid the monotony of "cookie-cutter" development. This simple gesture lends the towers both a distinctive appearance on the skyline and a sensitivity to their urban context.

Eton Dalian Center

Dalian, 400 kilometers southwest of Shenyang, is located on a peninsula with a major seaport, water views to the north, and a mountain backdrop to the south. Eton Place Dalian, on a six-hectare site in the central city, features a mix of uses including the primary office, hotel, retail, entertainment, convention, SOHO, and residential programs (see Figure 10). Sky lobbies, green spaces, meeting zones, observation decks, and other communal areas are spread throughout the project, transforming the basic vertical programs—office, hotel, and residences—into a more active project.

The site slopes 20 meters, so the podium became a key element of the place-making strategy. It begins at street level to the south, then rises atop the vast retail program with a public park, which overlooks the surrounding streets to the north (see Figure 11). Multiple entry points—from the street, residences, and retail—make the site accessible and welcoming to pedestrians.

In planning the high-rises, it became clear that to meet the approved FAR, very tall buildings would be required. The final scheme includes the mixed-use, 383-meter-high Super Tower 1, containing a retail

Figure 9. Shenyang Eton Center, façade detail. (Source: NBBJ)
图9. 沈阳裕景中心，外立面细部（ 出自：NBBJ）

Figure 10. Eton Dalian Center, aerial view. (Source: NBBJ)
图10. 大连裕景中心，鸟瞰图（ 出自：NBBJ）

Figure 11. Eton Dalian Center, podium park view. (Source: NBBJ)
图11. 大连裕景中心，裙楼公园（ 出自：NBBJ）

Figure 12. Eton Dalian Center, hotel atrium view. (Source: NBBJ)
图12. 大连裕景中心，酒店中庭（ 出自：NBBJ）

podium, Class A offices, two hotels, and an observation deck and skylobbies; the 260-meter-high Super Tower 2, containing the SOHO program; and three 150-meter-high residential towers. These were carefully configured so as not to block views and create "overlooking."

Super Tower 1 is the project's signature building. The overall mass, an efficient square in plan, rises vertically with a slenderness ratio of 8.6. There is also a twist: we chamfered the sea-facing corner, then carved out an internal atrium from the hotel level up. This gives the building its unique external articulation; more importantly, it creates an interior space that engages the city views at all levels of the hotel (see Figure 12). This gesture creates an asymmetrical torsion to the tower, countered by another iconic feature of the building—an 80-story vertical truss that ties the tower together. This element has inherited the nickname "dragon brace" and is a signature element of the building both externally and internally (see Figure 13). The simple chamfer drove the massing and structural solutions, creating maximum visual impact with little effort.

Elements of Dalian Center point toward what we believe is the future of tall building design: the architectural expression of internal function. Whereas many recent and current high-rises are articulated as singular, monolithic sculptural objects, regardless of the diversity of program within, Super Tower 1 at Dalian Center is animated by the internal atrium of the upper hotel levels (visible from the exterior through transparent glass), and by the cantilevered balcony of the 61st-floor hotel lobby and skygarden (see Figure 14). While these specific gestures are small, they show how variations in materiality, form, and structure can enliven the high-rise, mirroring in the vertical plane the urban vitality of the street, and making legible the reasons why the tall building typology is so compelling and dynamic. Again, in emerging urban markets, the challenge will be to achieve this architectural variety within an economy of means.

Building tall for the sake of tallness is not interesting to us—tall buildings that meet the ground with a mix of uses, that shape both the street life and the image of the entire city, are the key to

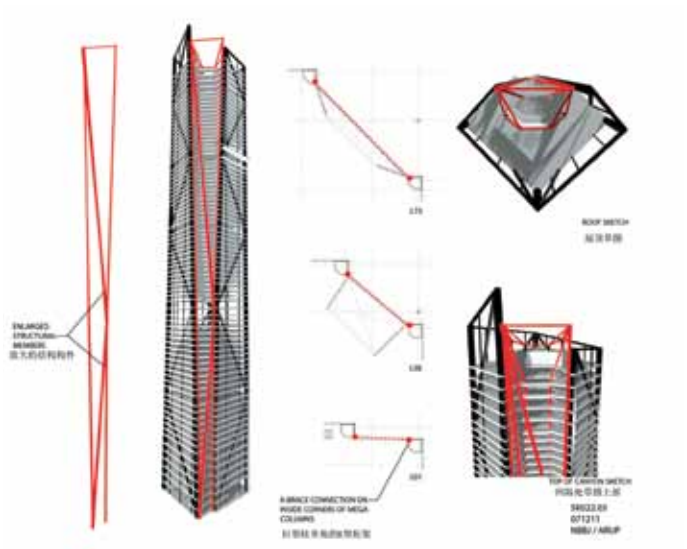

Figure 13. Eton Dalian Center, "dragon brace" structural diagram. (Source: NBBJ)
图13. 大连裕景中心，“龙骨桁架”结构示意图（ 出自：NBBJ）

Figure 14. Eton Dalian Center, Super Towers 1 and 2. (Source: NBBJ)
图14. 大连裕景中心，超级塔楼一号和二号（ 出自：NBBJ）

在高层楼群规划中，过高建筑物很显然必须满足批准的建筑容积率。最终方案包括综合用途的383米高的一号超级塔楼，具体包含一座零售裙楼，A级写字楼、两家酒店和一座观景台和多个空中大堂；260米高的二号超级塔楼，具体包含SOHO办公室功能、三栋150米高的住宅楼。两大结构进行了精心配制，以避免互相阻挡视野和形成“俯视”。

一号超级塔楼是该项目的标志性建筑。其整体体量，计划中的高效率正方体，按8.6长宽比垂直拔地而起。并且还有一点不同：我们将朝海一角设计为倒棱式，然后在与酒店的同一平面上开拓出一栋内部裙楼，使建筑物外观形成一种独特的外观诠释；更重要的是，这样使酒店各层均能拥有观看城市景观的室内空间（图12）。这种形态创造出塔楼的不对称转矩，但这种不对称可由建筑物的另一标志性特色所补偿—这就是80米高的将塔楼连接在一起的垂直桁架。这种元素是从俗称的“龙骨桁架”继承而来，是建筑物内外部的标志性元素（图13）。这种简单的斜面构成了体量和结构的解决方案，毫不费力地创造出最大化的视觉冲击。

大连中心的设计元素指向我们所认为的高层建筑设计的未来：内部功能的建筑体现。当很多近来和当前的高层建筑都呈现出单一的整齐划一的雕塑式物体外观，姑且不说项目内部多样的功能，大连中心的一号超级塔楼则以酒店楼层之上的内部裙楼（通过透明玻璃从外部可见）、61层酒店大堂和空中花园的悬臂阳台而显得生动活泼（图14）。尽管这些具体的形态较小，但它们在材

success. Developments that have a mix of uses, form a vibrant urban experience, and allow their vertical inhabitants to have inspiring views and abundant natural light, have and always will be why cities are wonderful places to live.

料、形体、和结构的变化，让高层建筑看起来生动活泼，从垂直的平面中反映出城市街道上的生命力，并且充分说明高层建筑形态学是如此的引人注目和富于动感。再次说明，在新兴市场中，挑战就在于以经济节约的手段来实现这种建筑多样性。

为了高度而建设高楼并不是我们的兴趣所在—能满足地面综合使用功能、构建成街市生活和整个城市形象的高层建筑物才是成功的关键。综合利用项目的开发会形成生机勃勃的城市体验，并能使生活在垂直空间中的居民们观看到激动人心的景色，享受到丰富的自然阳光，并且能使城市不仅是在现在而且还在未来都是美好的居住所在。

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