

# The SuperNature Waterfront | Mayslits Kassif Architects

We live in cities, yet we long for nature.  
We are drawn to explore nature, to track how it changes and reveal its secrets; to regularly discover nature's mesmerizing sights and sensations.

At first, we dwelled in Nature, as if we were hosted by it. Gradually, nature was seen as a problem. We began to alter nature, manipulate it to match our needs and comfort.  
Now, time has come to grow and build nature, to nourish and integrate it into our lives, to bring nature closer to our cities and our homes - because we are nature.  
In our era, we ought to design everything - we simply cannot afford to leave nature on its own anymore; and as our natural environment is replaced by a designed one, the definition of nature is expanding. Nature becomes everything there is, it is one and inseparable, be it natural or artificial.  
The city is an endless source of innovation and excitement.  
A vibrant hub of cultures and emotions, of human gestures and boundless creativity.  
Nature is the becoming and the outcome of possibility. When we open up to this becoming of things, we find our self-face-to-face with the sensation of the pure Possibility.

The SuperNature approach looks at the future as an open setup for possibilities and offers a radical shift from traditional architecture and planning methodologies, governed by preditions and 'top-down' visions.  
As architects and leaders of the built environment, we use our imagination to open up possibilities and create open spaces in the broader sense of the term: open to interpretations, open to change, open to 'the other', open to the wild.

To create SuperNature we learn from the ever-changing dynamics of nature and rethink the customary categories and boundaries of our built environments. Learning both from wild ecosystems as well as from organic manmade urban fabrics, we look at our surroundings as living labs where everything can happen.

We take the freedom to mix between inside and outside, big and small, traditional and novel, natural and artificial. Instead of resisting to entropy, we manage entropy, we play to create unfamiliar combinations and surprising interactions. Inspired by the ever-changing nature we escape from the predictable and use SuperNature to evoke our attention and stimulate free interpretation of our spaces. This approach to urban design is our tool to create stimulating places, our way to evoke the endlessly creative and poetic potential of human habitats.

Shenshan SuperNature waterfront is a unique opportunity to plant the seeds for a vivid new urban habitat by the sea. To grow new waterfront cultures that merge visitors and locals into an inspiring new mix of city and nature. Shenshan has a real possibility to develop as a coastal landmark of diversity and sustainability that, like many great urban destinations, will perpetually reinvent itself and become a lighthouse of creativity and inspiration for many future generations.

我们居住在城市中，然而，我们却渴望自然。  
我们天生地被自然吸引，追踪四季的变化，揭示自然的奥秘，探索自然的迷人景色和动人感触。

最初，我们栖居在自然之中，仿佛是自然的一部分。逐渐得，自然被视为需要解决的问题。我们开始改变自然，操纵自然以适应我们的需求。  
现在，是时候让我们发展和建设自然，将自然融入我们的生活，更加贴近我们的城市家园。因为我们就是自然。  
在我们的时代，我们应该去设计一切，自然不应该被抛在脑后。随着自然环境逐渐被人工设计所取代，自然的定义也在不断扩展。自然包括一切事物和存在。它是不可分割的，无论是天的然还是人工得。  
城市是创意和激情的无尽源泉，一个充满活力、文化和情感的枢纽，包含丰富的情感和无穷的创造力。  
自然是可能性的发展过程和最终结果。当我们接受这种事物的发展过程，我们便能面对面地感受到“可能性”带来的纯粹力量和感触。

“超-自然”将未来视为开放的可能性，改变了转变传统建筑设计和规划中“自上而下”的设计方法。建筑师是建成环境的领导者，我们应该发挥想象力来开创更多可能性，并在更广泛的层面上创造更加开放自由的空间：能够自由地被诠释，自由地变化，向“他者”开放，向自然开放。

为了创建“超-自然”，我们从不断变化的自然中学习，并重新思考建筑环境中的常规和界限。我们既师法野生生态系统中学习，也从人造城市肌理中获取灵感。我们将周围环境视为一切皆有可能的实验室。

我们可以在内部与外部、大与小、传统与创新、自然与人工之间进行自由融合。我们对无序状态加以管理而不是抵抗，创造不熟悉的组合和令人惊讶的互动。我们被不断变化的自然启发，摆脱了可预见的常规模式，并使用“超-自然”来唤起我们的注意力，激发对空间的自由诠释。这种城市设计方法是我们创造活力场所的工具，唤起人类栖息地的无穷的创造力和诗意。

深汕“超-自然”滨海区是打造生机勃勃的城市栖居地的独特机会。我们在海边播撒种子，培育新的滨水文化，将游客和居民融为一体，将城市与自然融为一体。深汕将会发展为多样性和可持续性的沿海地标城市，同很多重要城市一样，将不断发展更新，成为子孙后代创造力和灵感的灯塔。



## Shenshan SuperNature Waterfront

深圳市深汕特别合作区滨海地区城市设计国际咨询

International Consultation on Urban Design for the Coastal Area of  
Shenshan Special Cooperation Zone of Shenzhen Municipality Preface



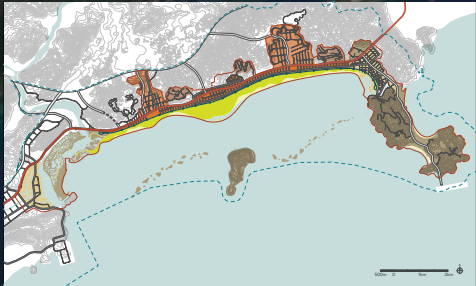


总体规划  
Master Plan



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|--|----|--|----|
| Train Station<br>火车站                         | 19 | Shenshan Airport<br>神山机场                     | 01 |
| Hospital<br>医院                               | 20 | Airport Terminal<br>机场航站楼                    | 02 |
| Chishi River Estuary<br>赤石河口                 | 21 | Eco Tourism resort beach<br>生态旅游度假区海滩        | 03 |
| Xiaomo Ponds<br>小漠池塘                         | 22 | Eco tourism zone<br>生态旅游区                    | 04 |
| Xiaomo Urban Village Regeneration<br>小漠新文旅小镇 | 23 | Haumen Marina<br>鲘门码头                        | 05 |
| Green Water Breakers<br>生态防浪堤                | 24 | Haumen Urban Village Regeneration<br>鲘门城中村改造 | 06 |
| Mangyu Island<br>芒屿岛                         | 25 | Haumen New Village<br>鲘门新村                   | 07 |
| Visitor Center<br>访客中心                       | 26 | Podder Farming Cluster<br>圩田农业区              | 08 |
| Shenshan City<br>深汕中心区                       | 27 | One Mile Adventure Park<br>一英里冒险公园           | 09 |
|  |    | Hill Side Neighborhood<br>山地社区               | 10 |
|  |    | Train Station<br>火车站                         | 11 |
|  |    | Hospital<br>医院                               | 12 |
|  |    | Coastal Forest & Swimming Pools<br>滨海森林和游泳池  | 13 |
|  |    | Marina World<br>码头世界                         | 14 |
|  |    | Music Hall<br>音乐厅                            | 15 |
|  |    | Maritime Sports Base<br>海上运动基地               | 16 |
|  |    | The Coastal Urban Strip<br>滨海城市地带            | 17 |
|  |    | Shenshan City Delta<br>深汕城市三角洲               | 18 |

规划空间结构  
Skeleton Plan



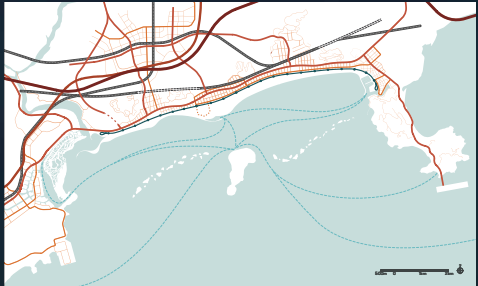
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|--|--|--------------------------------|----------------------------|
| 滨海枢纽<br>The Coastal Hub                                    | 滨海大道<br>The Coastal Artery Road            | 滨海大道<br>Pedestrian Road        | 滨海城市带<br>The Coastal Strip |
| 鲘门站片区与深汕城市三角洲<br>Haumen Station Area & Shenshan City Delta | 鲘门村与小漠村<br>Haumen Village & Xiaomo Village | 山地住宅<br>Hillside Neighborhoods | 西贡半岛<br>Bayan Peninsula    |

城市总体土地利用  
General Urban Land Uses



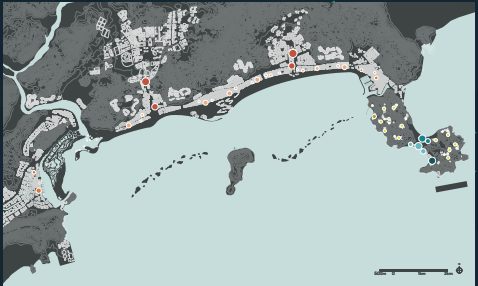
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| 滨海枢纽<br>The Coastal Hub                                    | 山地住宅<br>Hillside Neighborhoods          | 芒屿岛<br>Mangyu Island                  | 滨海城市带<br>The Coastal Strip       |
| 鲘门站片区与深汕城市三角洲<br>Haumen Station Area & Shenshan City Delta | 西贡半岛<br>Bayan Peninsula                 | 机场与码头<br>Aerial and Marine Facilities | 水源<br>Water Sources              |
| 公共建筑区<br>Public Buildings Zone                             | 城市空间更新<br>Regeneration of Existing Uses | 新村落<br>New Village                    | 综合社区中心<br>Multi-Community Center |

交通规划  
Transportation



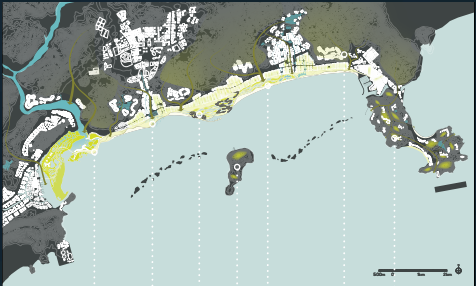
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|--------------------------------------|--------------------|-------------|
| High Speed Train<br>Underground Path | Urban Strip Street | Express Way |
| Intercity Train                      | Urban Strip Avenue | Highway     |
| Trom Line                            | Artery Road        | Ferry Route |

旅游业类型  
Tourism Typologies



- |                                     |                        |                     |                                     |
|-------------------------------------|------------------------|---------------------|-------------------------------------|
| 生态栖居之家<br>The Skipper House         | 生态精品酒店<br>Eco Boutique | 滨海酒店<br>Beach Hotel | 城市村宿<br>Urban Village Accommodation |
| 生态旅游与豪华露营<br>Eco tourism & Glamping | 生态度假村<br>Eco Resort    | 大型酒店<br>Large Hotel | 城市酒店<br>Urban Hotel                 |

景观类型  
Landscape Typologies



- |                        |                         |                              |                         |
|------------------------|-------------------------|------------------------------|-------------------------|
| 赤石河口<br>Chishi Estuary | 城市三角洲<br>City Delta     | 自然保护区岛屿<br>Preserved Islands | 红树林公园<br>Mangroves Park |
| 马林公园<br>Marine Park    | 生态走廊<br>Green Corridors | 山地<br>Hills                  |                         |

地标兴趣节点  
Points of Interest



- |                                       |  |                                    |                                  |
|---------------------------------------|--|------------------------------------|----------------------------------|
| 1 Shenshan Airport<br>深汕机场            | 6 Haumen Urban Village Regeneration<br>鲘门城中村改造 | 11 Maritime Sports Base<br>海上运动基地  | 16 Biomass Power Plant<br>生物质发电厂 |
| 2 Eco Tourism resort beach<br>生态旅游度假区 | 7 One Mile Adventure Park<br>一英里冒险公园           | 12 Music Hall<br>音乐厅               | 17 Visitor Center<br>访客中心        |
| 3 Eco Tourism Zone<br>生态旅游区           | 8 Fun Fair<br>游乐场                              | 13 Shenshan City Delta<br>深汕城市三角洲  | 18 Train Station<br>火车站          |
| 4 Public Buildings Zone<br>公共建筑区      | 9 Coastal Forest & Swimming Pools<br>滨海森林和游泳池  | 14 Chishi River Estuary<br>赤石河口    | 19 Hospital<br>医院                |
| 5 Haumen Marina<br>鲘门码头               | 10 Marina World<br>海洋世界                        | 15 Xiaomo Urban Village<br>小漠新文旅小镇 |                                  |





## 滨海枢纽 深汕海滨核心 The coastal Hub The Heart of Shenshan's Waterfront

“滨海枢纽”是深汕滨海区域的核心。作为宏大而慷慨的城市设计策略，滨海枢纽将沿海的黄金位置向公共开放，打造为公共休闲场所。沿海枢纽将连接并整合整个深汕海岸线，一切可能性都会在此发生。

滨海枢纽作为沿海地区的脊柱将覆盖深汕全部海岸线，形成强大而灵活的结构，成为深汕滨海区的核心。沿长度方向，滨海枢纽将结合美丽的步道系统以及领先的智能交通系统，将人们引导到各个区域；沿宽度方向，它将生长并渗透到城市之中，丰富邻近的城市肌理，并充分享受美丽的滨海环境。

作为远近游客的目的地，滨海枢纽将紧密地连接大陆和海洋。

At the heart of Shenshan coast we will grow the Coastal Hub. In a grand and generous urban gesture, the best part of the waterfront is designated for public recreation all along the coast. The coastal hub will unite and connect all of Shenshan's coast as an elongated public realm where everything can happen. Where everything is possible.

The strong coastal spine will be spread along the sea front, creating a powerful and flexible structure as the core of the waterfront city. The new coastal hub will connect people to places lengthwise - with many beautiful walking routes combined with high level service of smart public transport, and width wise - it will grow its branches to enrich the adjacent urban fabric as well as enjoy the beautiful aquatic environment. Designed as a destination for visitors from close and afar, the hub will be inherently connected both to the land and to the sea.



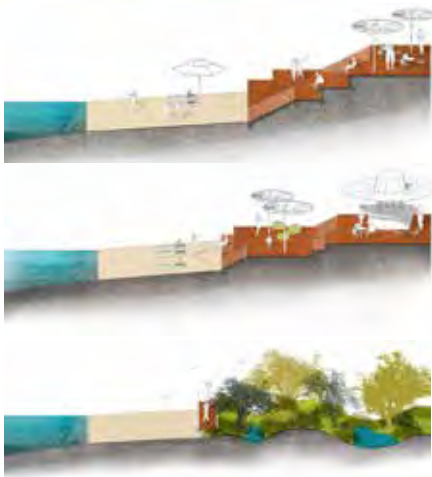
“超-自然” 海滨  
Supernature Waterfront



## 深汕滨海枢纽步道 Shenshan Coastal Hub Promenade

滨海枢纽长廊是沿海区域另一条主要路线。这条步道充满蜿蜒的步道，布满各种活动和丰富的景观，吸引人们沿海岸漫步，享受繁忙都市之外的美丽自然的海景、树林。同时，滨海枢纽步道也保护城市免受海平面上升和海浪袭击的影响。沿着滨海步道将设有海滩酒吧、海滩设施、安全和救生员服务等。

The Coastal Promenade will function as an alternative route. This route carries the task of allowing movement along the coast in a meandering manner; a walk whose main purpose is the enjoyment of the sea scape, the groves, pockets of activities, the rich landscape - without immersing in the urban hectic daily life. But the Hub has an additional role in keeping the city safe from sea level rise and sea storms. Along the Promenade will be situated beach bars, beach facilities, safety and life guard services etc.



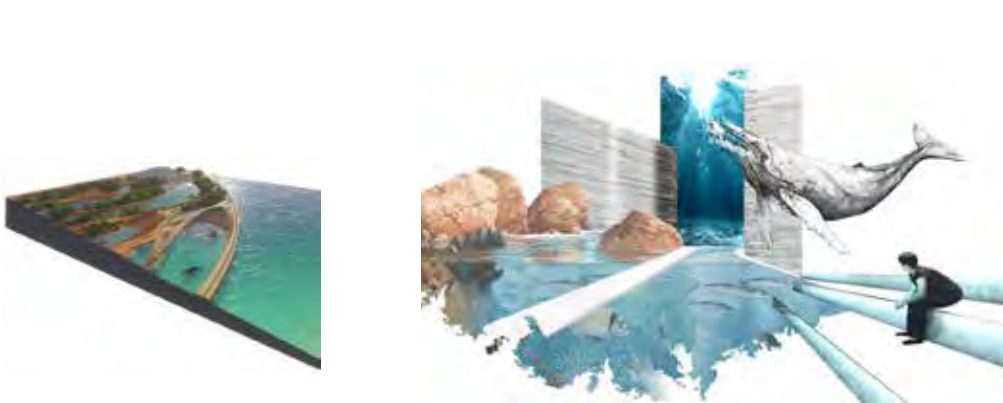
## 海滨森林 The Coastal Forest

海滨森林位于城市与海洋之间。这片重要的森林中拥有蜿蜒的步道、天然雨水池塘、自然的泳池，并提供各种烹饪和文化体验。同时，这片人工森林及其中的一些列水池系统也是抵御台风和洪水的天然屏障。都市森林是休闲和享受自然的好去处。步行到海边沐浴，在忙碌的都市生活中享受闲暇。无论从酒店房间还是家门口出发，到海边的路途都是令人兴奋的旅程。

The coastal forest lays between the city and the sea. This important forest features meandering footpaths, natural rainwater ponds, natural looking swimming ponds, and various culinary and cultural experiences. The artificially grown forest, along with a series of water ponds, also functions as a barrier against typhoon gales and floods. The urban forest is the place to relax and enjoy nature, just a breeze from the busy city life. It is the way to walk to the sea for bathing and relaxing. The route to the sea becomes an exciting trip just outside your doorstep, be it the hotel room or your home.



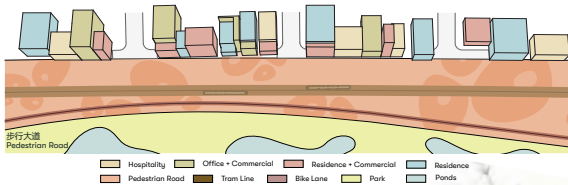




## 海洋世界 Marine World

海洋世界是一个庆祝海滩和海洋生物的户外博物馆，提供沉浸式和互动性的独特教育体验。海洋世界将拥有研究和学术中心，领导区域和国家海洋科学工作，探索海洋以及其中独特而神秘的生物。拟建的博物馆将结合公众开放区域以及包含室内观察和游览的商业功能。此外，海洋世界将当地渔民纳入研究，指导和帮助当地渔业发展，在海洋农业、海洋保护和物种保护之间取得平衡。海洋世界还对天气和海洋状况进行实时监测和预测。

The Marine-World is an outdoor museum that celebrates beach and sea-life, offering a unique educational experience, immersive and interactive; natural and sensorial. The Marine world will host a research and academic center and will lead regional and national scientific work that will explore the sea and the unique and mysterious life in it. The proposed Museum will combine an area that is open to the public as well as commercial activities for indoor observations and guided tours. Moreover, this institute will incorporate local fishermen in research, guidance and information, in order to help local fishery balance between sea agriculture, marine conservation and species protection. The Marine World will also take part in the monitoring and prediction of weather and sea changes, as well as forecasts.



## 友好的沿海交通与连接 Friendly Coastal Mobility & Connectivity

任何新建城市的主要成功因素之一都是通过友好、智能和灵活的基础设施而实现自由高效的连通。深汕沿海地区是打造终极海滨连通体验的难得机会。与许多现有沿海城市被基础设施与海滩阻隔不同，深汕的海岸应用理想但高效的连接性原则，将清晰的路线与简单的步行网络相结合，打造健康的城市滨水区。

- **无车沿海中心** - 这条15公里的公园将为步行、自行车、跑步和休息提供无尽的可能，将沿海公园内丰富的活动串联起，沿海岸一直延伸，保证从城市每个区域到海滩都顺畅可达性
- **直行滨海城市带** - 有机融合的滨海城市带与清晰的街道网络开置。直行的街道网络创造了开放的海景，并连通沿海枢纽。街道结合了步行、车辆、自行车和轻便公共交通等，形成综合解决方案，在沿海枢纽创造了宜人的街景。
- **步行大道** - 滨海枢纽的步行大道将沿海地带首尾相连。步行大道拥有宽敞的行人空间，以及包括轻轨、班车以及自行车道的公共交通系统。宽阔的步行大道以最高标准设计，将结合商业、酒店、办公、住宅和研究丰富混合体与相邻的野生自然联系，向公众开放，并激发城市创造力。

The freedom to move efficiently in a human friendly, smart and flexible infrastructure is a major factor in any successful new urban fabric. Shenshan's coastal area creates a rare opportunity to form the ultimate waterfront connectivity experience. Unlike many coastal cities in which existing infrastructure blocks the natural free flow to the beach, Shenshan's coast is the place to apply the ideal, yet simplest, connectivity principles. Combining a clear continuous route with a simple perpendicular network of walkable streets, is the best tool for a healthy urban waterfront.

- The Car Free Coastal Hub - The 15 km park will allow endless options for walking, cycling, running and resting, connecting the rich chain of activities within the coastal park. Stretched all along the coast it creates continuous flows and supreme accessibility to the beach from every point in the city.
- The Walkable Strip - The organically grown mixed use urban fabric is juxtaposed with a clear network of perpendicular streets which create open views to the sea and lead to the coastal hub. The streets combine pedestrian flow with vehicles, cyclist, and light public transit solutions, in a highly walkable street section.
- The Pedestrian Road - The Hub's pedestrian road connects the coastal strip from end-to-end. The generous space for pedestrians is integrated with a public transport infrastructure that combines trams and light shuttles with bicycle lanes. Its location connects between the rich blend of commercial spaces, hotels, workspaces, dwelling, and institutes to the adjacent wild nature.



## 海边音乐厅 Music Hall

深汕音乐厅融合了海洋和城市生活，是海上文化的独特地标。音乐厅位于海洋边缘，其特殊的地理位置将音乐厅与海滩活动紧密联系，并创造出令人耳目一新的多元文化融合方式。音乐厅以及滨海枢纽中其他公共建筑将具有非凡的特色。与滨海枢纽相邻的大多数城市用地都比较紧凑和经济，但音乐厅将成为深汕公共空间以及市民生活的重要标志。由于音乐厅的滨海位置，我们建议采用源自海洋生物的有机形态，将尖端技术与天然有机形式融合为一个新的“超-自然”形态。

The Shenshan Music Hall offers a rich blend of sea and city life, creating a unique landmark of culture on the sea. Its exceptional positioning on the coast edge will connect it to beach activities and will create a surprising and refreshing mix of diverse cultures, merging into a new type of local culture. One that lives round-the-clock, day or night, weekdays or weekends. The architecture of the Music hall, as well as other buildings in the Hub, will be of exceptional character. While most of the urban fabric adjacent to the Hub will be compact, functional and economic in land use, the Music Hall will become an icon of Shenshan public domain and its importance to the life of this city. As these buildings' setting borders the edge of the water, it is suggested to study and adopt biological morphologic forms stemming from marine life, thus merging cutting edge engineering with natural organic forms into a new reality, SuperNature, as we phrase it.

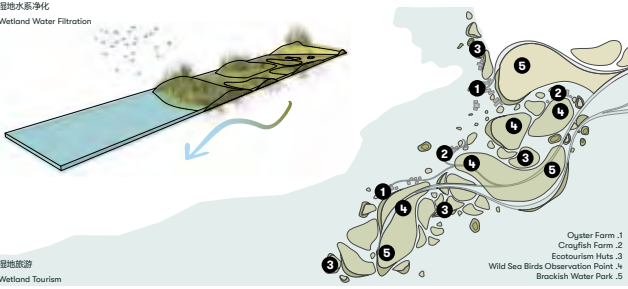




“国家公园城市” 策略  
The “National Park City” Approach

“超-自然”城市基于现有的自然景观及其动态流动而生成空间布局。新的沿海地区保护自然生态系统，并对城市居民开放。当下在全球范围内的紧迫任务是减少碳排放足迹，将自然引入我们的日常城市与生活中，这也是所有城市居民的共同需求。同时也是生态保护工具。提高人们对环境价值的认识。本着这种精神，海洋和陆地景观与城市设计交织，与自然基础设施一起成长，保护各种栖息地，并使自然成为新滨水文化的一部分。伦敦之类的老城区已转变为“国家公园之城”以应对当前环境危机，而深汕将与丰富的周边环境进行最大程度的融合，提出一种新的滨水亲生物都市主义。

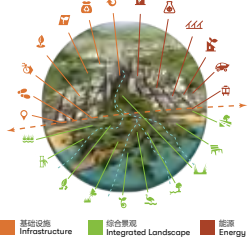
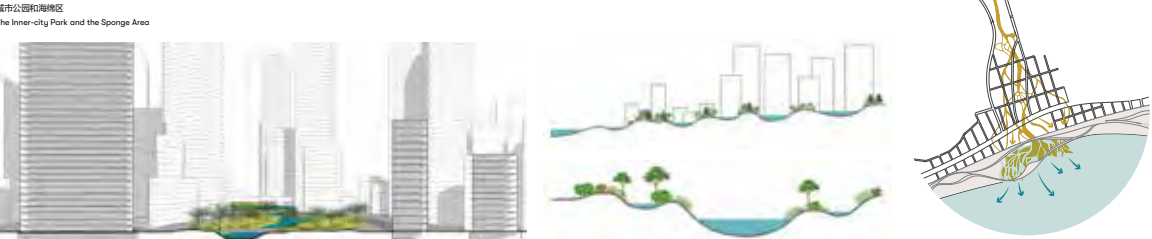
The SuperNature city takes the existing natural landscapes and its dynamic flows as the predominate generator of its layout. The new coastal area is built to support and preserve the natural ecosystem, and at the same time to make it accessible to city dwellers. Our global and urgent mission to leave minimal foot print is combined with the quest to bring nature to our daily urban life, a quest which is seen as a major need of all urbanites, but also a protective tool which builds awareness to its value. In this spirit, aquatic and terrestrial landscapes are interwoven in the urban design which grows together with the natural infrastructure systems, protects the various habitats and makes nature part of the new waterfront culture. While old cities like London are turning these days into a “National Park City” in order to deal with the current environmental crisis, Shenshan is designed in maximal integration with its rich surrounding landscapes to propose a new biophilic urbanism on the waterfront.



城市肌理的多样性  
Urban Fabric Diversity

多样性是任何目的地城市的关键。尤其对于新建城市，实现多样性是一个巨大的挑战，需要一套清晰的城市设计原则和工具。新的沿海枢纽将成为城市肌理的丰富混合体，从总体布局到区域特征都发挥积极作用。从总体上看，该规划将不同城市肌理有机融合，从高密度城市到零星散落的建筑。在此过程中，丰富多样且特定肌理与传统用地功能创意融合，以实现多样丰富的现代城市的有机发展。

Diversity is a key to any successful urban destination. However, achieving it in a newly built city is a real challenge and requires an articulate set of urban design tools. The new coastal hub is designed as a rich mixture of urban environments which works in all aspects - from the general layout and unto the specific characterization of each area. In the overall scale, the plan offers a diverse combination of very different urban environments; From high density urban ones to the most sporadically built ones. Along this move, the particular different fabrics are all designed to statutorily allow creative combinations of traditional uses in order to enable an organic growth of a multifaceted rich and contemporary urban fabric.



深汕城市三角洲  
Shenshan's Urban Delta

深汕城市三角洲将高密度城市和林立的摩天大楼，与野生自然融合，创造自然与人工之间的有机协调。行人、车辆和水系混合成一个整体，共同通向大海。在深汕城市与海洋的交汇处，我们设计了具有生态修复功能的三角洲区域，不仅能过滤城市雨水排放，还邀请游客和居民在茂密的植被和湿地公园中畅游。

'Down Town Shenshan' is designed as a hybrid of an intense city with high-rises and sky scrapers, mixed in with wild nature in order to create synergy between the natural and the artificial. The stream of pedestrians, cars and water is mixed into one blended activity of flow leading to the sea. And at the meeting point of Shenshan city and the Red Sea, a delta of Phytoremediation ponds will filter the city's rainwater, and at the same time invite visitors for a walk among rich vegetation and Wetland Park.







**百安生态旅游区**  
**Bayan Eco Tourism Zone**

百安半岛拥有迷人的日落景色，是生态旅游的理想目的地。生态度假村嵌入于自然环境中，通过狭窄的小路将游客引向僻静的礁石海滩。

The beautiful Bayan Peninsula, with its mesmerizing sunsets, is an ideal destination for ecotourism – where ecological resorts are embedded in the natural surroundings, connected by narrow paths that lead visitors to secluded rocky beaches.



**芒屿岛生态圈地标**  
**Mangyu Island**  
**Ecosphere Landmark**

位于海湾的中心的芒屿岛是深汕可持续发展的地标。它的自然风光和显著位置使该岛成为深汕海湾的“绿色灯塔”，并成为各种生态倡议的中心。它与世隔绝的生态系统形成了一个独特的生物圈，成为了为当地社区和世界学者提供研究和教育的自然实验室。

Situated at the heart of the bay, Mangyu Island forms the icon of sustainable Shenshan. Its untamed nature and conspicuous location turn the island into the bay's 'green lighthouse' and to an attractive center for various ecological initiatives. Its isolated ecosystem forms a unique biosphere which becomes a living lab of research and education that serves local community and qualified scholars.

生态圈博物馆位于岛的北坡，是一个独特的圆形地标，可以欣赏壮丽的景色。从沿海的每一个角度看，它对游客和居民都具有相当的吸引力，其启发性的展览揭示了绿色地球的未来潜力。

The Ecosphere Museum, a unique circular landmark with breathtaking views, is located on the island's northern slopes. Viewed from every point along the coast, it forms an attractive destination for tourist and locals, with inspiring exhibitions that expose the exciting potential of the planet's green future.

爬上岛顶钟楼的游客能尽览深汕湾的美景。

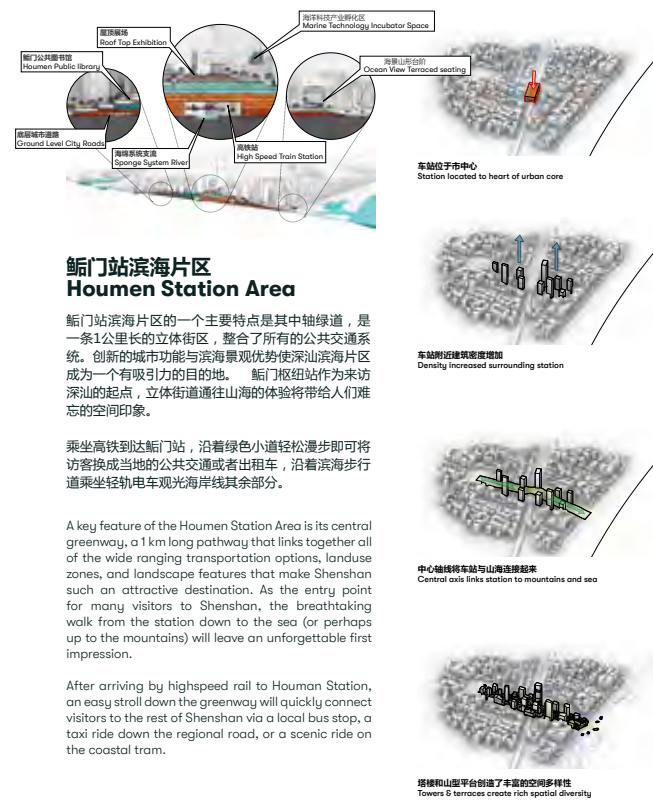
For visitors climbing up to the bell tower, at the island's top, the view of Shenshan bay will be one of its kind.



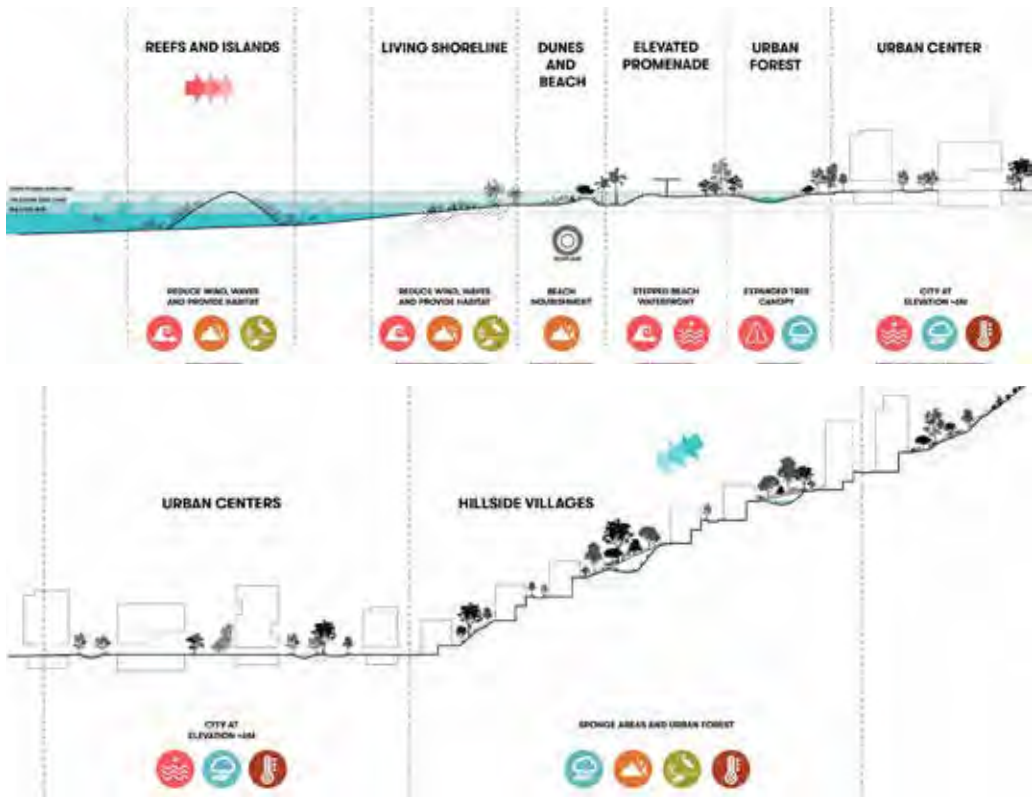
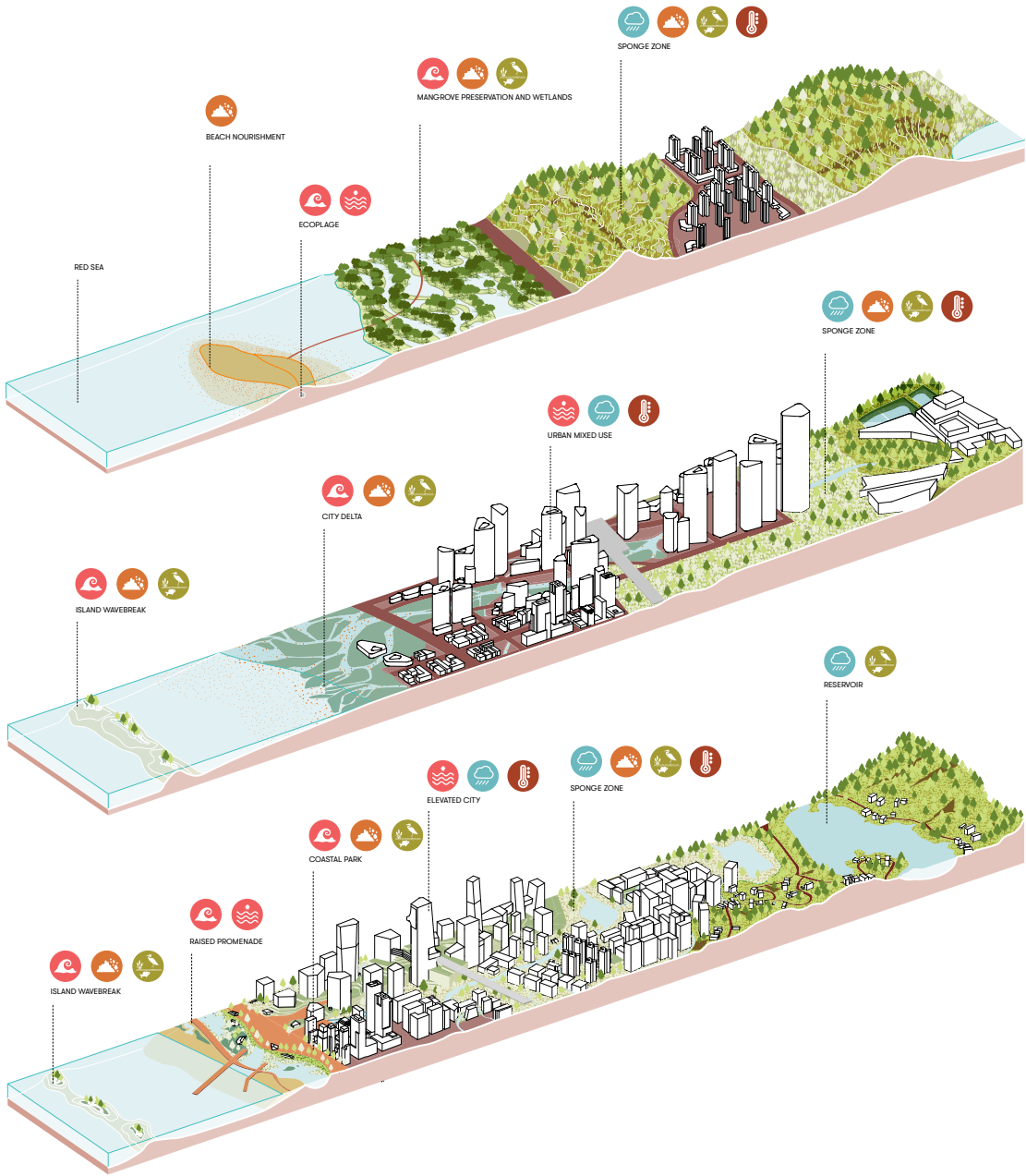












## 与自然共建 Building with Nature

### 海滩保育

将赤石河的水流沿海岸转移，促使沉积物积聚，防止海滩受到侵蚀，并为红树林的生长提供新的土壤。生态海滩系统的加入进一步支持了海滩的保育和增长，从而创造美丽、可持续的海滩，改善通往大海的通道，并为旅游业发展创造机会。

### 红树林保护和湿地

红树林是独特的沿海生态系统，可提供重要的栖息地，支持生物多样性，并为风暴潮和波浪能提供天然的缓冲。红树林通过蒸散作用净化空气并调节水位，改善居民的生活质量，创造出完美的生态旅游空间。

### 海绵区域

在城市中设计绿色空间可以有效改善空气质量，创造绿化公园，并减少不透水的区域表面积。这些海绵区将吸收降雨径流，减缓水溢流，预防破坏性的洪水或泥石流。在沿海地区种植耐盐植物，创造可持续的环境，并允许适当的洪水发生。高地地区的树木、灌木和花卉的本地物种打造了城市森林，将大自然引入城市。

### 生态防浪堤

在海湾内创建一系列人工岛屿，为体验自然环境的旅游业创造更多机会。同时人工岛屿能有效抵御沿海风暴，海浪的冲击经过岛屿时会有效分散，从而有效降低水位，并分散可能会破坏海岸建筑和海滩的能量。

### 架高的海滨长廊

滨海长廊将城市中心与沿海地区连接，沿着俯瞰大海的沙滩创造轻松而活跃的场所。滨海长廊采用韧性材料设计，并经过抬高以抵御轻型沿海洪水。

### 滨海公园

滨海公园位于城市和海岸线之间的低洼地带，缓冲市区免受风和洪水的侵蚀。本地以及耐盐物种遍布公园，为自然环境提供了长期复原和广袤生长空间，同时成为游客和市民的目的地。

### BEACH NOURISHMENT

Capturing flow from the Chishi River and diverting it along the shore allows for the accumulation of sediment, protecting against beach erosion and providing new land for mangrove growth. The addition of the Ecoplage system further supports the preservation and growth of the beaches. This creates a beautiful, sustainable beach, improving access to the sea and providing opportunities for tourism.

### MANGROVE PRESERVATION AND WETLAND AREAS

Mangrove forests are unique coastal ecosystems that provide critical habitat, support biodiversity, and create a natural buffer against storm surge and wave energy. The mangrove trees purify air and mitigate water levels through evapotranspiration, improving the quality of life for residents and creating beautiful spaces perfect for ecotourism.

### SPONGE ZONES

Designing green, verdant spaces into the city improves the air quality, creates park space for recreation, and reduces the impervious surface area. These sponge zones absorb rainfall runoff, slowing down excess water that might otherwise cause destructive flooding or mudslides. Planting salt-tolerant species along the coast creates a sustainable environment that can be allowed to flood on occasion. Native species of trees, shrubs, and flowering plants in the upland areas create urban forests, bringing nature into the city.

### ISLAND WAVEBREAK

Creating a chain of artificial islands within the bay offers additional opportunities for experiencing the natural environment through tourism and creates a wavebreak to help protect against coastal storms. The wavebreak functions by creating friction at the bottom of the water column as the wave passes over, causing it to break or tip over. This reduces the effective water level by the height of the wave and dissipates wave energy that would otherwise cause destruction to shoreline structures and beaches.

### RAISED PROMENADE

The One Mile Promenade connects the urban centers to the coast, providing a relaxing yet active space along the beach that looks out over the sea. The promenade is designed with resilient materials and is elevated to create a barrier against minor coastal flooding.

### COASTAL PARK

The coastal park occupies the low-lying land between the city and the shoreline, buffering the urban areas against winds and flood waters. Native and salt-tolerant species populate the park, providing long-term resilience and space to gather within nature. The park can be a destination for tourists and residents of the city alike.



## 历史上的土地用途 Historic Use of Land

对现有农场和鱼塘的分析表明，它们位于水体和现状溪流附近，这表明最容易发生洪水的土地历史上已被用于农业和水产养殖。这些区域应尽可能保留为绿色海绵区，其上建造的城市应结合绿色街道和其他海绵策略，以吸收高地的降雨径流。

An analysis of the existing farms and fish ponds shows that they are located near water bodies and existing streams, suggesting that the lowest lying land most prone to flooding has historically been used for agriculture and aquaculture. These areas should be preserved as green sponge zones where possible. Urban areas built on this land should incorporate green streets and other sponge features to absorb rainfall runoff from upland.

## 滨海风险分析 Coastal Risk



## 滨海灾害与韧性生态框架 Coastal Hazards and Resilience Framework

设计从一开始就充分考虑潜在的生态危害和风险，使设计能够在保障自然生态系统的同时，将这些挑战转化为娱乐和投资的机会。由于风暴潮、海平面上升和降雨径流，深山合作区有可能遭受洪水的侵袭。极端风暴引起的强风和泥石流是另一个重要的考虑因素，同时必须防止沉积物侵蚀、城市热量以及自然生态栖息地的丧失。

营造健康自然环境的设计策略可以使城市变得更具韧性和乐趣。同时引导经济投资于负责任地人口增长，增强和恢复自然系统，修复自然资源，支持当地环境和经济的共生经济。

Accounting for potential hazards and risks from the outset of the design process allows us to turn these challenges into opportunities for recreation and investment while supporting the natural ecosystem. The Shenzhen Shenshan Cooperative Zone is subject to potential flooding due to storm surge, sea level rise, and rainfall runoff. Strong winds and mudslides caused by extreme storms are another important consideration. Sediment erosion, urban heat, and the loss of natural ecological habitat must also be protected against.

Selecting solutions that foster a healthy natural environment leads to a more resilient and enjoyable city. Channeling economic investment to responsibly allow for population growth while enhancing and restoring natural systems creates a symbiotic environment in which the natural features support the local health and economy.