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收稿时间 / Received Date
2013-03-14

中图分类号 / TU986.2
文献标识码 / B

苏州太湖沿岸慢行步道（示范段）设计

Design of the Bicycle and Pedestrian Trail along Taihu Lake (Demonstration Part), Suzhou

苏州致朗景观设计顾问有限公司
/ Suzhou Z-land Landscape Design & Consulting, Inc.

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摘要 ……

项目位于苏州高新区沿太湖的湖岸线上，开阔的湖景与连绵的绿色吸引了附近镇区的居民和远道而来的游客。本项目通过寻求对植被和环境影响最小的慢行线路，同时采用当地的材料与工法来表现地缘景观的特色，最终呈现出与自然环境极为融合的设计方案。

关键词 ……

低影响；慢行；地缘景观

Abstract …

With an expansive lake view and a vast stretch of green grassland, the site, which is located along the shore of Taihu Lake in Suzhou New District, has attracted residents nearby and visitors from afar. By designing a bicycle and pedestrian route with the minimum impact on the surrounding vegetation and environment, the project tries to feature the geo-landscape with local materials and construction methods, and has managed to come up with a design in perfect harmony with its natural environment.

Key words …

Minimum Impact; Bicycle and Pedestrian; Geo-landscape

项目地址：苏州高新区太湖大堤沿岸
用地面积：62 898m²
项目委托：苏州西部生态城指挥部
业主代表：王晓东
景观设计：苏州致朗景观设计顾问有限公司
项目费用：595万人民币
设计总监：姚臻
首席设计师：蒋如弈
项目负责人：陈嘉
设计团队：刘婷婷、臧宇鸿、朱静逸、郭明雄、李樱莹、王敏霞、胡中静、姚威、夏君、严亚男、徐婷娇
设计时间：2009年
建成时间：2010年

Location: SND (Suzhou New District), Suzhou
Area (size): 62,898 m²
Client: Suzhou West Eco-city Headquarter
Client Representative: Xiaodong Wang
Landscape Architecture: Suzhou Z-land Landscape Design & Consulting, Inc.
Cost Item: RMB 5.95 million
Design Director: Zhen Yao
Chief Designer: Ruyi Jiang
Project Manager: Jia Chen
Project Team: Tingting Liu, Yuhong Zang, Jingyi Zhu, Mingxiong Guo, Yingying Li, Minxia Wang, Zhongjing Hu, Wei Yao, Jun Xia, Ya'nan Yan, Tingjiao Xu
Design Period: 2009
Completion Period: 2010

1. 掩映在茂密芦苇中的观景木平台 © 蒋如弈
2. 冬季湖面
3. 现状植被
4. 现状驳岸
5. 项目选址
6. 项目区位

1. Wooden viewing platform in the dense reeds © Ruyi Jiang
2. Winter lake
3. Current vegetation
4. Current revetment
5. Project site
6. Project location

1 项目背景

太湖岸线北段在苏州高新区区划内的长度达24.5km。2004年，高新区整修了这段驳岸，同时实施了以增加植被覆盖率为主要目的的景观设计。5年后，当我们在场地开展设计之时，沿堤岸的植被已是郁郁葱葱，绿意可人。开阔的湖面和连绵的绿色深深地打动了设计团队。

随着苏州经济的快速发展，前往太湖沿岸寻求与自然对话的游客也逐渐增多。2010年，苏州高新区建立了西部生态城，以生态的方式启动对临湖板块的保护性开发。面对如此绝佳的资源和日益增长的游客需求，生态城指挥部计划沿太湖大堤岸线选取两个示范区，对区域内进行慢行步道的设计，同时提出尽量降低对环境的影响的要求。设计团队怀揣对自然、人与未来的敬畏之情，尝试采用低技术、低影响的方式去完成这个实验性项目。

2 问题与挑战

这一项目面临着诸多的问题与挑战。首先是选址问题，需要在绵延24.5km的带形空间中寻找出最宜启动的两个示范区域。通过对整段湖岸全线细致的踏勘和筛选，最终选择了北部围合感较强、岸边湿

地缓冲带较宽、风浪较小的一处用地和位于岸线西南部尽端的一处用地。其次，如何在这里界定“慢行”的功能？经过与委托方的讨论，最终确定以步行道为主，同时考虑到高新区山地自行车爱好者众多的情况，在北区设置了山地自行车道。

同时，如何设计才能降低对目前环境的影响，以及如何在不破坏原有驳岸边界的前提下，拉近步道与湖面的距离以表现人与水的亲近关系也成为了项目面临的主要挑战。加之苏州地区冬季盛行西北风，风浪大，还必须谨慎考虑北部风浪对步行道的影响。

3 设计理念

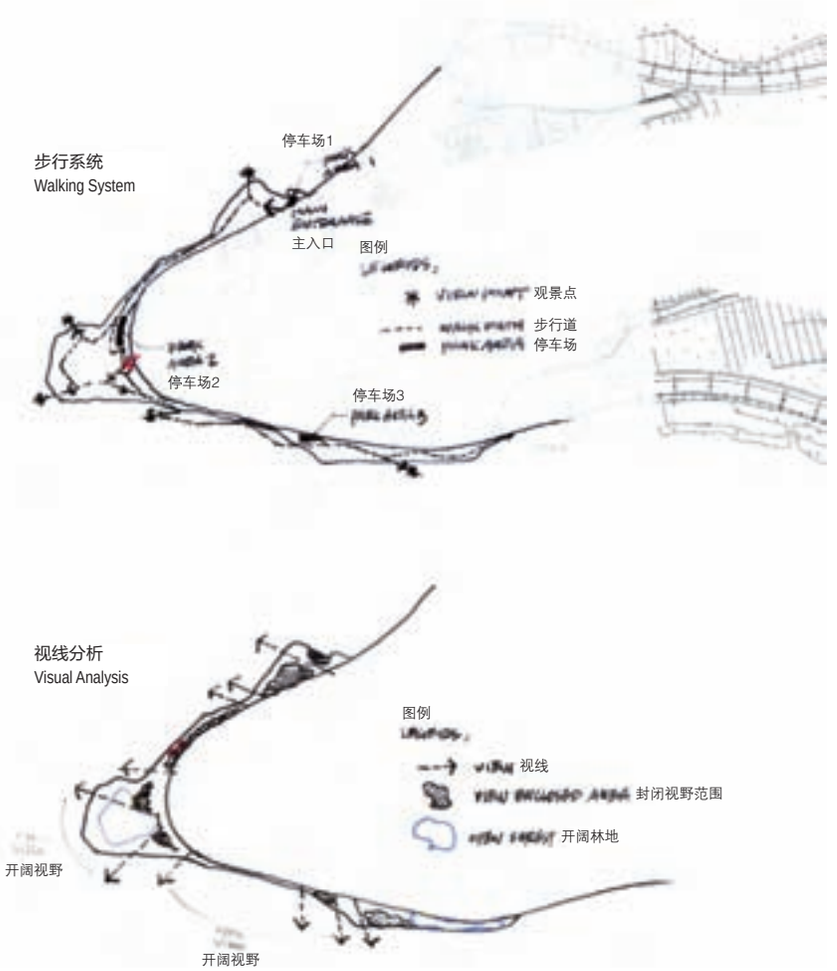
面对这一独特的项目，我们提出了以下3个设计原则：

（1）低影响设计

设计师通常热衷于在项目中表达自己的想法，以自我为中心的设计往往导致过度设计，表现为复杂的空间、多样的材料、牵强的构造。由此，我们首先思考的是放下对景观形式的苛求，而采用简洁有效的减法设计方式去解决问题。我们以减少对环境的伤害为出发点来对慢行步道的线路进行精心选择。设计中的悬浮步道将人的行为与环境隔离开，降低了人对环境的干扰。悬浮的构造保持了步道下部空间水文过程和生境的连续性，避免了类似城市中步行道对土地表面的隔离和破坏。这种构造也减少了连续基础对材料的消耗。

（2）舒适细腻的慢行体验

我们试图在设计中带给漫步者安全、舒适的体验。因此，首先在材料选择上考虑采用能够使人放慢脚步的材质——木甲板、鹅卵石、瓦片、细石子，并通过不同材质的转换创造一种节奏，摆脱单一材质的简单连续。根据具体的位置和光线条件决定材质的选取。起伏弯曲的细石子自行车道带来一种挑战式的体验，而锚固式木板地面则激起了步行者的好奇心。嵌地式叠瓦紧密地与大地结合在一起，草茎从缝隙中露出，形成有具有底纹的天然草毯。我们还精心地将鹅卵石小径设置为朝西的



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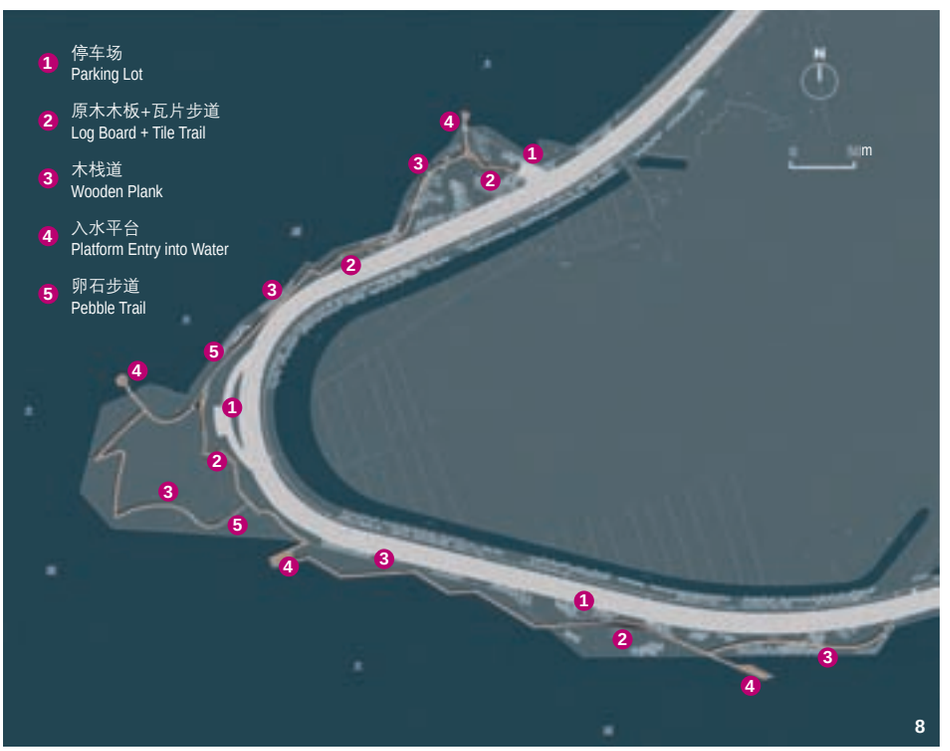

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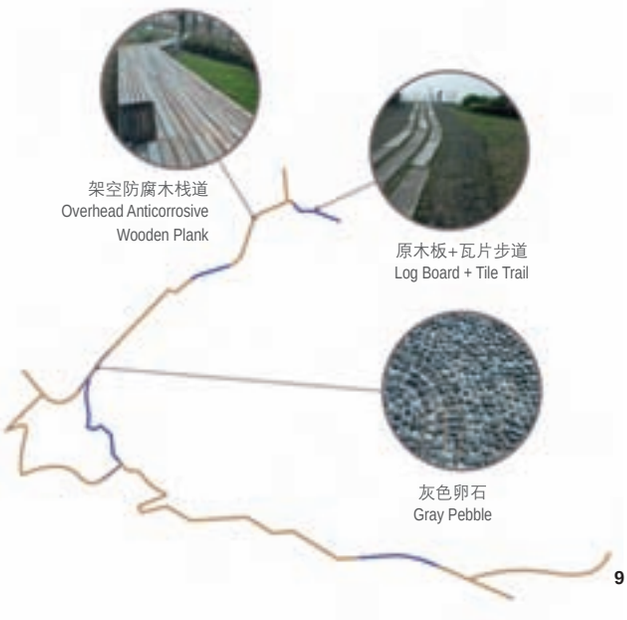

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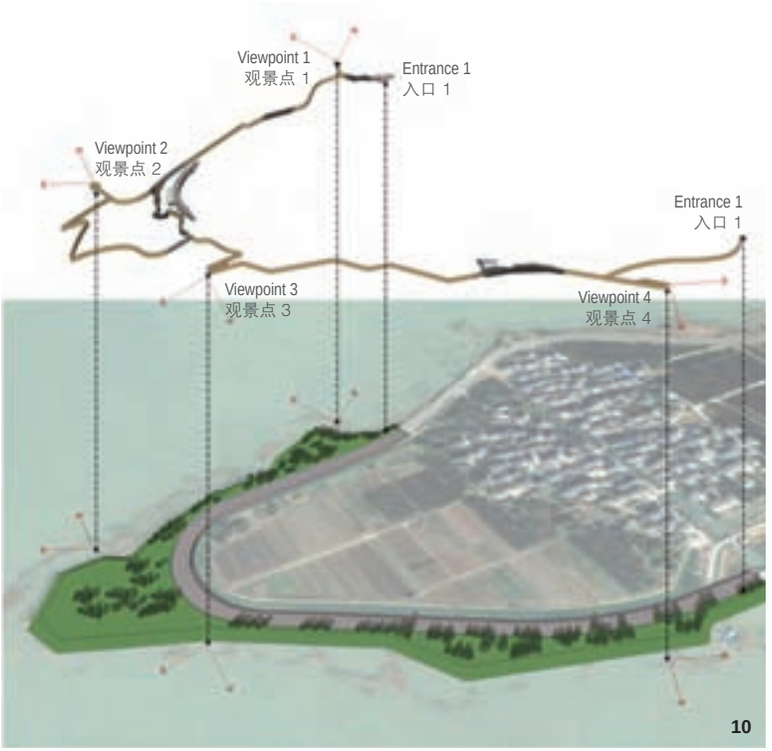

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方向，在夕阳之下，呈现出波光粼粼的景象。

（3）创造与地缘共生的设计

设计在材料选择和营造工法上尽量考虑了地缘特点，希望通过工程的手段保留地域的价值。例如：干垒的原石挡墙的施工，邀请了场地附近光福镇的老石匠参与其中，而卵石步道的施工邀请了通晓苏州古建园林工程的老匠人一起完成，从而将传统的施工技法融入现代景观之中。地面嵌叠的瓦片来自附近镇区老房拆迁之后回收而来的旧瓦；粗犷的停车空间则采用光福镇的本地石料铺砌而成。在项目竣工之时，场地的地方精神也被凝聚其中。

4 建成后使用评价

设计与地区环境以及人的行为紧密融合，促进了使用者的活动，为场地带来了活力。附近镇区的居民成为这个项目最主要的使用者和受益者。这里也成为苏州年轻人拍摄婚纱照的必选之地和山地车爱好者的天堂。**LAF**

7. 南区设计分析
8. 南区总平面图
9. 南区步道材质说明
10. 南区入口及观景点
11. 木质平台拉近了人与水的距离。© 姚臻
12. 折线的水上栈道，最大程度地让人体验到太湖的风、浪与气息。© 姚臻
7. Southern district design analysis
8. Southern area master plan
9. Material description of the trail in southern area
10. Entrance and viewpoint of southern area
11. The wooden platform shortens the distance between human being and water. © Zhen Yao
12. Water plank road in the form of broken line makes people experience the wind, wave and breath of Taihu Lake. © Zhen Yao

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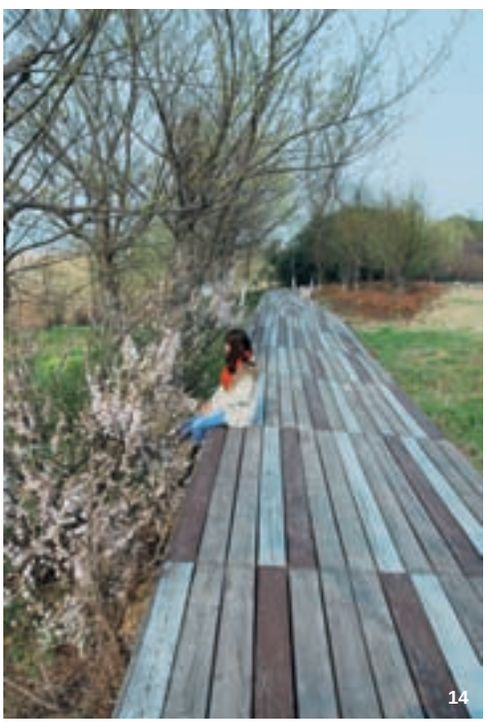
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1 Background

The northern part of Taihu Lake shoreline within Suzhou New District (Suzhou National New and High-Tech Industrial Development District) stretches 24.5km long. In 2004, Suzhou New District renovated the revetment along the shoreline and implemented landscape design with the primary aim of expanding the green area. Five years later when we began the design work on the spot, the vegetation there had turned luxuriously green, and the current design team was impressed by the vast expanse of the lake view and the endless stretch of greenery.

With the fast development of Suzhou's economy, an increasing number of visitors from afar come to Taihu Lake to enjoy the nature. In 2010, the West Eco-city was established in Suzhou New District to initiate the sensitive development of the lakefront areas in an ecology-friendly way. Faced with such wonderful resources and increasing demands of visitors, the Eco-city Headquarters then considered selecting two demonstration areas along the shoreline of Taihu Lake and designing a bicycle and pedestrian trail in it with minimum impact on the environment. Holding the nature, people and the future in awe, the team managed to accomplish the experimental project with simple techniques and minimum impact on the environment .

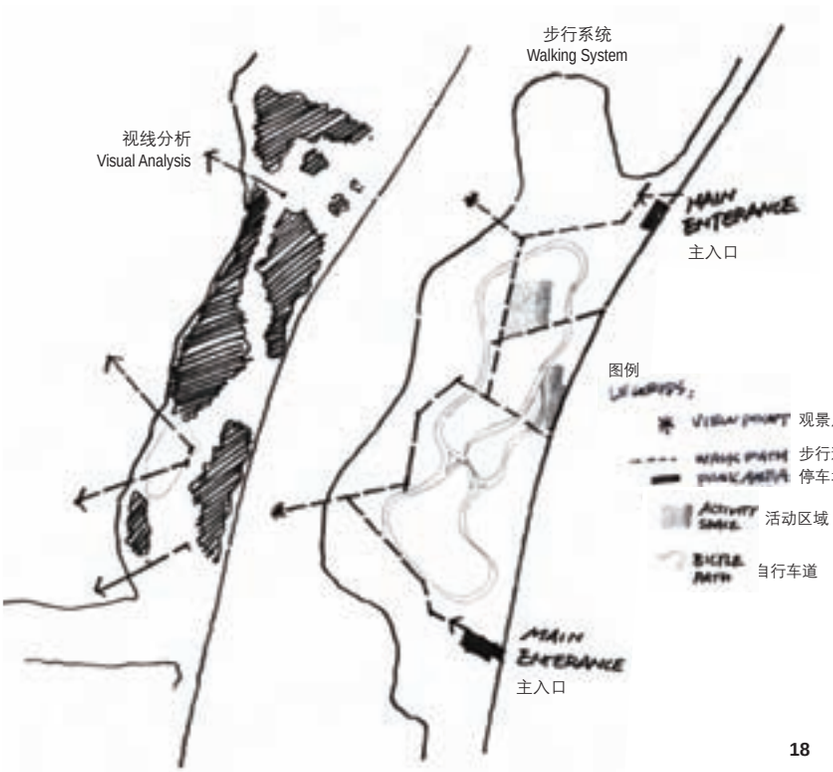
2 Problems and Challenges

This project faced many problems and challenges. The first was the selection of location. The team must find out two demonstration areas mostly suitable to initiate the work within the belt zone of 24.5km long. After a meticulous field exploration of the whole line, the northern area was chosen for its strong sense of enclosure, light wind and waves, and wide offshore wetland as the buffer strips, as well as an area located at the end of the southwest part of the shoreline. The second problem was how to define the "bicycle and pedestrian" function here. After adequate discussions with the client, the team ultimately decided to give priority to pedestrians. Meanwhile, considering the fact that there are great number of mountain bike enthusiasts in Suzhou New District, the team also set up special lanes for mountain bikes in the northern area.

Besides, there were also many challenges. Firstly, how to reduce the design's impact on the current environment? Secondly, how to shorten the distance between the trail and

13. 步道尽端为一个供人休息的空间。© 姚臻
14. 栈道不设栏杆，提供了一个连续的休憩长凳。© 姚臻
15. 青瓦叠砌式的铺地与松木板嵌入式的长汀步相互交织。© 姚臻
16. 青瓦叠砌的节点处理凸显了自然生长的景观特色。© 姚臻
17. 朝西的卵石步道在夕阳下呈现出波光粼粼的景象。© 姚臻
18. 北区设计分析
19. 北区平面图

13. There is a space for rest at the end of the trail. © Zhen Yao
14. The plank without railing offers a continuous bench. © Zhen Yao
15. The pavement which is made by piled up gray tiles interweaves with the embedded pine boards. © Zhen Yao
16. The detail of piled up gray tiles highlights the natural landscape features. © Zhen Yao
17. The westward pebble trail is sparkling under the setting sun. © Zhen Yao
18. Northern area design analysis
19. Northern area plan



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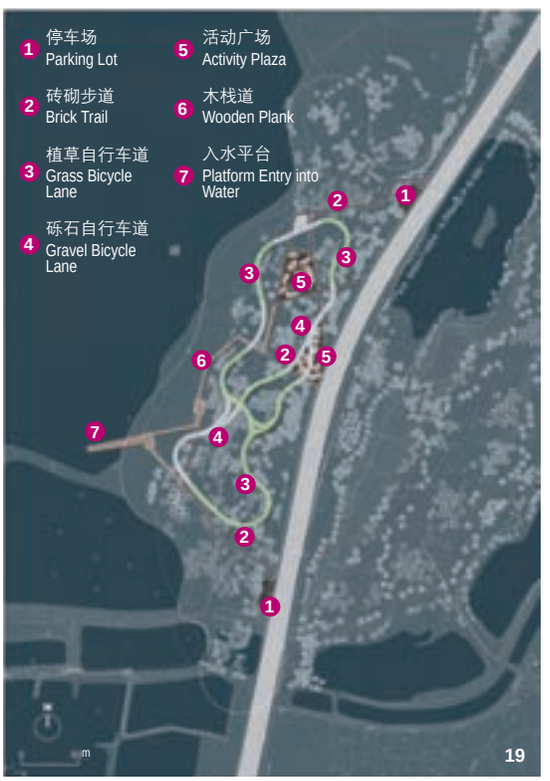

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the lake, and increase the intimacy between people and water without damaging the original revetment boundaries? Thirdly, the prevailing northwest wind, which is normally very strong here in winter, often causes great waves, so the influences of the north wind and waves on the trail must be taken into consideration.

3 Design Principles

We have put forward three principles for this project as follows:

(1) Design with minimum impact

Generally speaking, designers are keen on expressing their own ideas in their projects. Yet, self-centered designs tend to result in over-design, which is embodied in the complexity of space, a variety of materials and far-fetched structure. Therefore, we should give up the excessive demand on the form of the landscape, and adopt a minimalist design method to solve the problem, being simple but effective. With the starting point of reducing its damage to environment, we made a careful selection of the route of the trail. The floating trail separates human behavior from the environment, and effectively decreases people's interference in the environment. It not only preserves the hydrologic process in the lower space of the trail and the continuity of the habitat, but also avoids separation and damage to the land surface in similar urban trails. Moreover, it reduces the construction cost of foundation materials.

(2) An exhilarating and comfortable experience of bicycle and pedestrian

We were trying to bring to the pedestrians a refreshing sense of safety and comfort. Therefore, in the choice of materials, we made use of materials that can slow down people's pace, such as wood decks, pebbles, tiles and cobbles. We were also trying to create a rhythm to avoid the monotony of single material by switching different materials. The choice of materials depends on the specific conditions, including location and light. The curving pebbled trail for bicycles will bring cyclists a thrilling challenge, and the anchoring wooden ground will evoke pedestrians' curiosity. The embedded tiles will closely integrate themselves with the earth with grass blades popping out from the crevices, forming a natural grass-shaded blanket. The west-oriented pebble trail glitters

in the sunset.

(3) A harmonious coexistence with local geography

The design has taken geographical features into consideration to the greatest extent in the choice of materials and construction methods, with the intention of preserving the values of the region through engineering. For instance, we invited the local senior stonemasons from Guangfu Town nearby, to join in our construction of retaining walls with rough stones. The senior craftsmen, who are experts at building Suzhou's traditional gardens, were invited to join the construction of the pebbled trail. Consequently, the traditional craftsmanship was well integrated with modern landscape technology. The tiles embedded in the earth were from the demolished old residences of the adjacent townships, while the spacious but elegant parking lot was built with local natural stones from Guangfu Town. As a result, local spirits were also embodied in it at the completion of the project.

4 Post-occupancy Evaluation

The design, which integrates itself closely with local environment and human activities, not only encourages users' engagement but also brings vitality to the site. Residents from neighboring townships are the major users and beneficiaries of this project. The site has also become a top choice for young couples to take their wedding photos as well as a paradise for mountain bikers. **LAF**

20. 多变的坡地地形围合出的活动空间，深受孩子们的喜爱。© 蒋如弈
21. 步行道、山地车道为不同的被动休闲活动创造了可能。© 姚臻
22. 采用苏州本地施工工法和石材砌筑的挡墙创造出小尺度的休憩空间。© 姚臻
23. 开阔的草地成为了深受人们喜爱的活动场地。© 蒋如弈
24. 北区步道材质说明
25. 北区入口及观景点
20. Activity space enclosed by variable slope terrain are loved by kids. © Ruyi Jiang
21. Walking trail and mountain bikeway create possibilities for different negative recreation activities. © Zhen Yao
22. The traditional craftsmanship and local stones were used for retaining wall creating small-scale resting space. © Zhen Yao
23. Open grassland becomes activity space. © Ruyi Jiang
24. Material description of the trail in the northern area
25. Entrance and viewpoint of northern area


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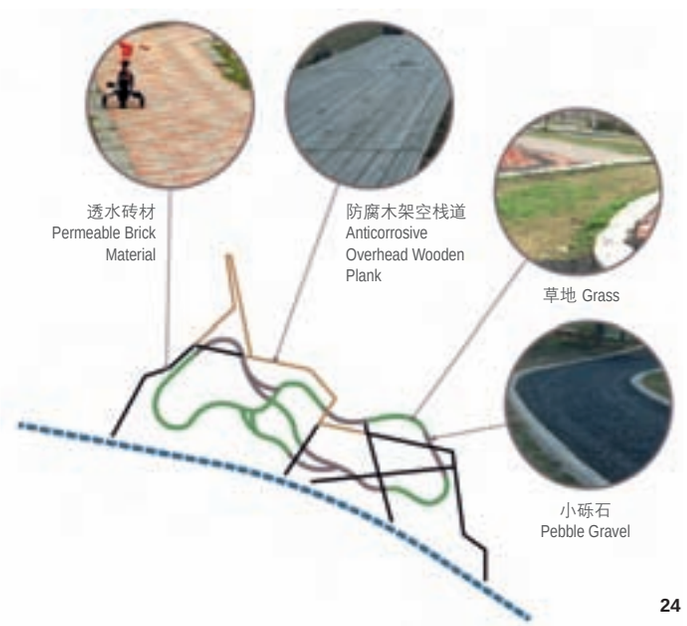

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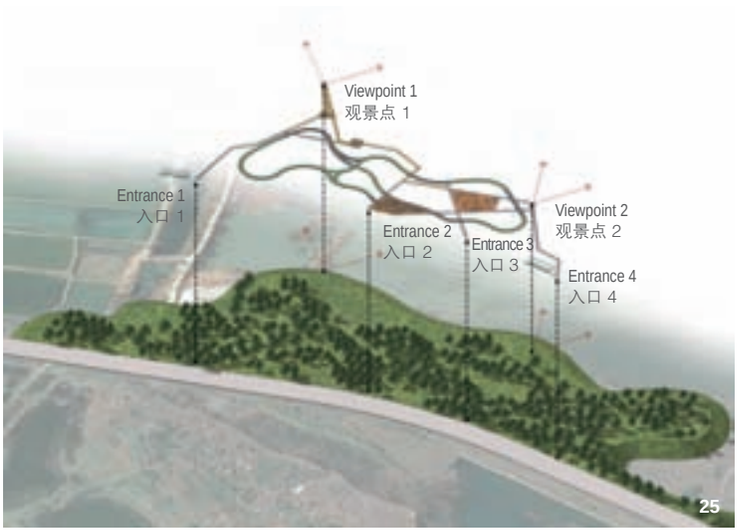

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