

## 从建筑废料到地景艺术

——上海滨江爱特公园

From Construction Waste to Landscape:

Shanghai Riverfront Aite Park

刘宇扬

LIU Yuyang

### 基本信息

地点：上海市嘉定区江桥望淞路

时间：2014—2016 年

业主：上海江桥农业发展有限责任公司

项目类型：生态环保 / 社区公园

基地面积：1.3 公顷

项目造价：13,000,000 元人民币

### 设计团队

概念设计，设计深化：刘宇扬建筑事务所，英国 CHORA 工作室

施工图设计，凉亭设计：刘宇扬建筑事务所

主持建筑师：刘宇扬（ALYA），Raoul Bunschoten (CHORA)

项目建筑师：曹飞乐（ALYA），王珏（ALYA），Henry Jones (CHORA)

滨江爱特公园位于上海虹桥机场以北 5km 的吴淞江北岸。早在 2014 年，由当地政府委托，刘宇扬建筑事务所已与深圳的都市实践、上海的集合设计和思作设计团队合作，对吴淞江北岸沿江范围进行过一轮概念性城市设计。

爱特公园所在的这一沿江地带，属于城乡接合部，大规模的城市开发造成了大量建筑垃圾，长时间堆放在场地上，而政府也没有具体的措施以及预算去处理。前期城市设计时做的基础调研工作，让设计团队对周遭的环境问题已有了比较深刻的了解，而他们城市设计提案的着重点，也恰恰针对环境治理问题，提出土壤复育和水质净化的建议。

公园基地处在居民区与工厂交界的灰色地带，场地上堆放着大量建筑垃圾及土方，杂草丛生；周边道路来往着工程车辆，灰尘滚滚，南边是一个污染严重的水泥厂。

居民对周边环境情况不满，对当地的城市管理者形成一定的压力，才有了这个项目。起初政府试图将这些废土废料移到他处，而刘宇扬建筑事务所与英国 CHORA 工作室则从全新的角度去思考，如何消化和转化场地内的现有土方以及如何利用这个地块作为天然屏障，有效阻挡水泥厂的粉尘污染和穿行的沙石车（图 1）。

设计团队本着土方在地消化及再利用的可持续理念，创新地利用废弃建筑垃圾填充石笼，形成标志性的地景构筑物，既留住了基地的过去，又活化了“废弃空间”，他们决定要还给居民一个干净的休闲空间、一个健康的社区场所。

设计策略是尽量就地把废土重新整饬和利用。他们借用在水利工程中常用的生态石笼，把现场搜集来的碎石、混凝土块、砖等全部填

图1 / Figure 1  
污染隔离示意图  
Source of Pollution  
来源：刘宇扬建筑事务所提供  
Source: Provided by Atelier Liu Yuyang Architects



入石笼，形成 1m×1m×2m 的大型砌块，这样的大型砌块一共做了 800 多个，然后用这些砌块在基地南侧设计出一座 5m 高、202m 长的石笼墙（图 2）。它既是贯穿整个公园的标志性景观，也是阻隔周边水泥厂污染的屏障。在石笼墙当中，设计师还预留了 3 个通道，在未来将连接二期的河滨公园。

另外，他们还用同样的方法设计了两个 3~4m 高的石笼高台，形成一组在意象上跟古文明金字塔可相呼应的当代地景艺术（图 3）。其中一个同时也是可上人的观景平台，让人回视这些在很短的建设历程中创作出来的垃圾纪念碑。

除了用石笼解决掉大量的石块和砖块之外，现场还有大量土方需要处理。由于经年堆积，原有场地也几乎演化出自然的地景。设计团队把这些土方重新以堆坡和植草

的方法，形成一个错落起伏的自然地景。土方平衡的难题，使设计师必须不断调整场地的设计标高。最终，350m 长的健身步道串联起入口广场、健身广场、儿童活动区和各个石笼构筑物，花草和乔木搭配形成四季变化的景观，成为具有亲和力的社区公园（图 4—图 6）。

设计师还设计了一组凉亭，以竹钢和阳光板制成轻盈的构筑物。在公园里还有其他许多相当丰富的小细节，从水洗石收边到路径上的材料与照明设计都有体现。在软质景观方面，尽量选择较大的乔木，形成些许阴凉的小环境；在公园的开放场地中，我们设计了座椅并由工人来现场制作，某种程度上也是对传统工艺的致敬。在当下社会中许多公共空间的配套设施都来自现成品采购，我们更愿意花时间和精力斟酌合宜的物件设计，

借用匠人的手做出来，居民使用时或能感受到设计对人的关怀。

在中国过去数十年的快速城市化进程中，建筑废弃物的处理是一个不大被建筑行业关注的问题。建筑师都忙着盖新房子，对大量建设所造成的环境污染问题却束手无策。98% 的建筑垃圾，最终都露天堆放或者简单填埋。建筑师对抗环境问题的设计策略，也不应局限于单栋建筑物的技术应用，而必须通过更广泛的场所、社区及城市研究，重新界定“建筑学”作为生态基础设施的核心价值，并唤起所有相关利益方对自然环境的敬畏之心，为永续发展留下净土。📖



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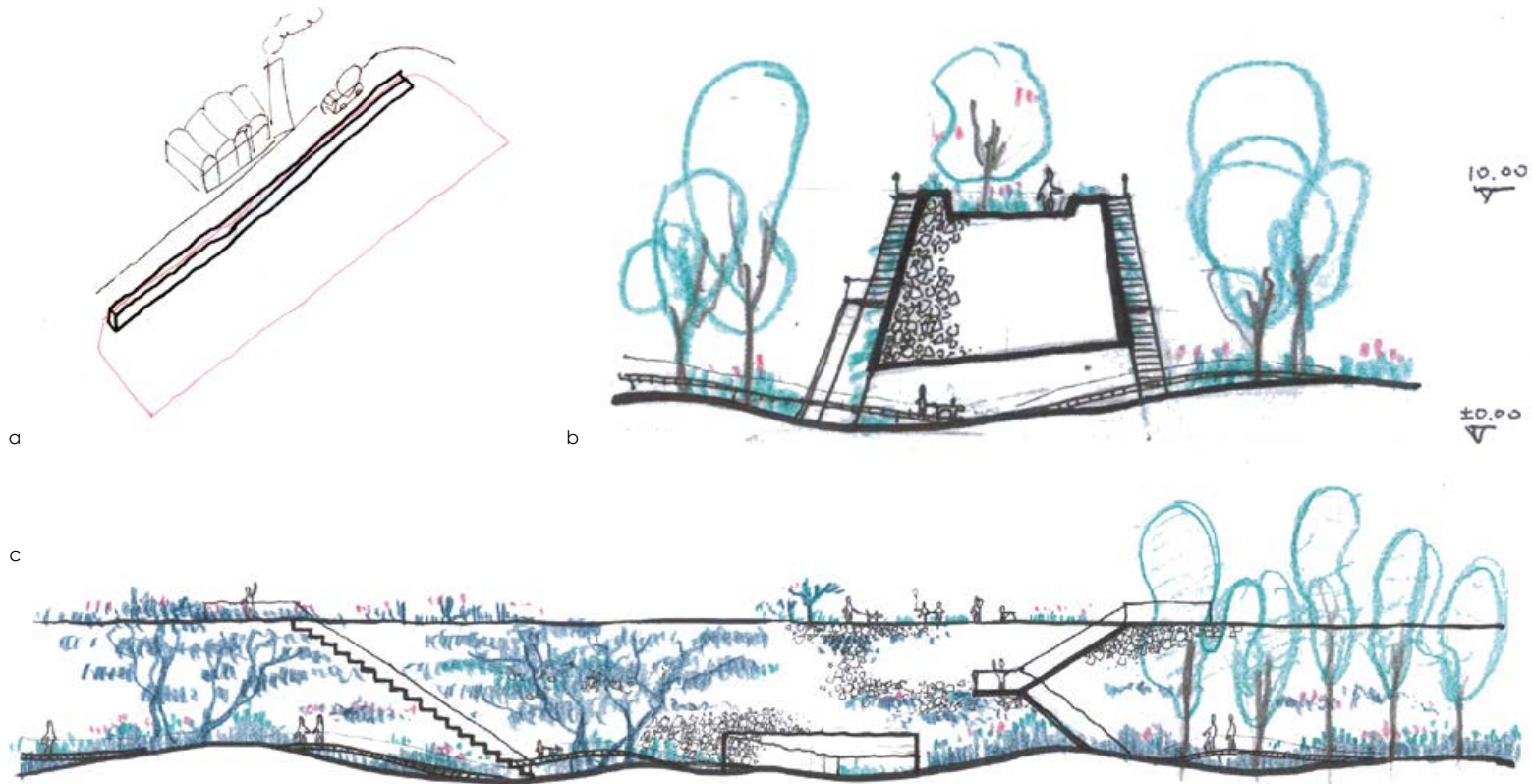


图2 / Figure 2  
概念草图 a.石笼墙作为隔离屏障；b.剖面草图；c.立面草图  
Sketches a. gabion wall—pollution barrier; b. section sketch; c. facade sketch  
来源：刘宇扬建筑事务所提供 / Source: Provided by Atelier Liu Yuyang Architects

## ENGLISH TEXTS

### From Construction Waste to Landscape: Shanghai Riverfront Aite Park

LIU Yuyang

#### Facts

**Location:** Wangsong Rd., Jiading, Shanghai, China  
**Time:** 2014-2016  
**Client:** Shanghai Jiangqiao Agricultural Development Co., Ltd.  
**Program:** Environmental protection / Community park  
**Site Area:** 1.3 hectare  
**Cost:** 13,000,000 RMB

#### Design Team

**Concept Design, Design Development:** Atelier Liu Yuyang Architects, CHORA  
**Construction Drawing, Pavilion Design:** Atelier Liu Yuyang Architects  
**Design Principals:** Liu Yuyang (ALYA), Raoul Bunschoten (CHORA)  
**Project Architect:** Cao Feile, Wang Jue (ALYA), Henry Jones (CHORA)

Riverfront Aite Park is located on the north shore of Suzhou Creek, a suburban area five kilometers north from Shanghai Hongqiao Airport. Earlier in 2014, Atelier Liu Yuyang Architects, in collaboration with URBANUS from Shenzhen, ONE DESIGN and FAN's STUDIO from Shanghai were commissioned by the local government to do a concept urban design scheme of north Suzhou Creek waterfront.

This suburban area used to be a dump site full of construction waste from adjacent urban development sites. This remains to be an environmental problem without any specific policy nor budget to deal with. The whole team have a good understanding of adjacent environmental problems from preliminary research, so they focused their design proposal on environmental management by suggesting ways of soil remediation and water purification.

Situated in the grey zone between residential area and factories, the site was a dump ground for construction waste, occupied by overgrown and surrounded by dusty trucks. Another seri-

ous source of pollution sits at the south, a huge cement plant (Figure 1).

This project was initiated when residents keep complaining about the condition and putting pressure on the government. The government was planning to transport these materials to another place at the beginning. However, Atelier Liu Yuyang Architects and CHORA proposed a totally different strategy: how to deal with the construction waste and how to use the site to screen the trucks and the dust produced by the cement plant?

Under the sustainable concept of reuse and digestion, the park was revitalized through an innovative design approach. The park re-utilized a large amount of existing earthwork to form new topography, and waste materials were packed into galvanized metal gabions and piled up as landscape installations. The design team decided to restore a good resting space and a community park for the neighborhood.

Our design strategy is try to rearrange and reuse all the waste onsite. There is a kind of mate-



图3 / Figure 3  
石笼构筑物 a,b,c,d. 石笼构筑物及石笼墙概念草图；e. 石笼模型；f. 石笼施工过程  
Isometric of the gabions a,b,c,d. concept sketches of the gabions; e. gabion model; f. process of construction  
来源：刘宇扬建筑事务所提供 / Source: Provided by Atelier Liu Yuyang Architects

rial that is often used in hydraulic engineering projects called gabion. They used that idea and packed all the stones, tiles and other waste materials into gabions to form a 1m×1m×2m building block. They use more than 800 blocks to form a gabion wall on the south side, which is 202-metre long and 5-metre high and is the most iconic feature in this park (Figure 2), shielding this cosy communal space from adjacent cement factories. Three open passages were designed to connect the site with a larger riverfront park at the south, which will be developed as the second phase in the future.

Besides the wall, two 3-4 meter high gabion installations were piled up with the same logic. They formed a kind of contemporary landscape art that echoes the pyramid of ancient civilizations (Figure 3). One of the two platforms was designed for people to climb up and look back at these Monuments of Waste which had been formed in such a short time.

In addition of use the gabions to settle a large amount of stones and tiles, there was still an

unexpected amount of earthwork. After years of piling, the landscape seems almost naturally formed. The design team has reshaped these soils to create a natural landscape of the slopes and grasses. To solve the biggest problem of balancing the volume of earthwork, they have to modify the design elevation again and again according to the site condition. Finally, along with a 350-metre long jogging trail, exercise facilities and other gabion installations, this site is successfully turned into a community park, with different scenes in four seasons (Figure 4-6).

A small pavilion is designed on the square. They use laminated bamboo structure and polycarbonate panels as main material to build a very light structure. The park design has a lot of details: rustic stone finish, paving material and lighting design. They choose large trees to create little shaded environment. For the facilities, seatings were designed by the team and made onsite. To some aspect, they are trying to show their respect to the design of traditional parks a few decades ago. Nowadays, people are used to buy

ready-made facilities for public space, but they prefer to design them and build them with the construction workers. They hope the residents will feel the consideration from their design at a human scale.

In China's rapid urbanization over the past few decades, the disposal of construction waste is a problem that is not very well received by the construction industry. The architects are busy building new houses, but they are helpless about the environmental pollution caused by massive construction. In the construction waste, 98% of the waste is piled up in the open air or simply filled in. And also, the architects' design strategy against environmental problems, should not be limited to the building technology application. "Architecture" must be redefined as the core values of ecological infrastructure through a wider range of studies with site, community, and urban. And it should arouse all stakeholders the fear of the natural environment to leave the pure land for sustainable development. □





图4 / Figure 4

水洗石弧形步道和石笼墙、石笼构筑物相映成趣

The curved rustic stone path, the gabion basket wall and the gabion basket installation, complementing each other

来源：刘宇扬建筑事务所提供，朱思雨 摄 / Source: Provided by Atelier Liu Yuyang Architects, photo by ZHU Siyu



图5 / Figure 5

通往石笼墙上的楼梯

The stairs going up to the gabion basket wall

来源：刘宇扬建筑事务所提供，朱思雨 摄 / Source: Provided by Atelier Liu Yuyang Architects, photo by ZHU Siyu





图6 / Figure 6  
公园全景图  
Panorama of the park  
来源：刘宇扬建筑事务所提供 / Source: Provided by Atelier Liu Yuyang Architects, photo by Eiichi Kano