

世界景观工程实录

World Landscape Case Studies

# SUSTAINABLE ECOLOGY LANDSCAPE

可持续发展生态景观

高迪国际出版有限公司 编

大连理工大学出版社





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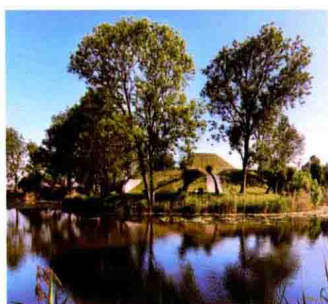
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# PREFACE



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首席设计师 董事

Landscape architects work with materials that are intrinsically dynamic – soil, water, plants and people. These elements connect us to nature and each other, enabling us to create outdoor spaces that foster human and ecological health within the built environment.

The remarkable projects in these pages illuminate a new approach toward orchestrating this living, changing palette by engaging directly in natural systems. Selected from all over the globe, these regenerative landscapes are functional rather than symbolic, adaptable rather than static. They address environmental challenges through landscape infrastructural solutions for stormwater management, soil and groundwater remediation, habitat restoration and energy conservation. Equally important, they create authentic and beautiful outdoor spaces that humanize the increasingly dense urban environments in which modern civilization exists. Rooted in place, history and culture, these landscapes – including parks, playgrounds, green roofs, performance venues, riverfronts, trails, campuses and urban farms – are not limited to a particular scale or style. Some projects occupy a fraction of a city block; others encompass waterfronts and forests. A few offer the orderly patterns commonly associated with the built environment while others embody the unkempt, informal character of a natural wetland or prairie.

Humans crave connection to nature, as described by E.O. Wilson, the famous Harvard University biologist and theorist who coined the phrase “biophilia” to describe our innate emotional drive to affiliate with other living organisms. At the University of Virginia, Timothy Beatley’s current work applies this craving to the design of “biophilic cities” that offer daily contact with the natural world. Just as hospital patients heal more quickly when they can observe scenery through a window, urban dwellers thrive when exposed to authentic flora, fauna and a multisensory experience of place.

Yet eco-landscape design calls for a careful balance of function and aesthetics. As Joan Nassauer of the University of Minnesota wrote in her *Landscape Journal* article, “Messy Ecosystems, Orderly Frames”, ecological quality tends to look messy. Furthermore, landscape infrastructure is often invisible. The typical visitor does not perceive, for example, how a landform has been carefully sculpted to store contaminated soils or how a palette of deep-rooted plants is controlling erosion along a river bank. In effect, the appearance of disorder can easily be mistaken for neglect.

The reader of this book, therefore, can delight in discovering a new, ecologically based vocabulary of design that fosters beauty and experiential richness while supporting natural processes. The projects in this collection allow ecosystems to breathe; they also communicate human care and habitation through intentionally designed elements such as formal tree rows or seawalls built with salvaged industrial artifacts. In some cases the projects communicate ecological process through unique, place-based expressions. With whimsy, a knowledge of ecological function and keen sensitivity to site and the needs of people, these designs establish vibrant connections between people and place, breathing life into the public realm.

景观设计师常常同土壤、水源、植物和人这些本身非常活跃的素材打交道。这些元素是连接人与自然、人与人之间的桥梁，能够让设计师在已有的大环境中创造出可以促进人类健康和生态平衡的室外景观。

书中的经典案例阐释了当代景观设计的新方法，即通过直接融入自然系统，协调各种元素之间的关系。所选案例来自全球各地，这些具有再生能力的景观建筑，功能性大于象征性，能主动适应周围环境而不是被动静止地存在于某个地区。这些景观设计采用不同的基础设施解决方案来进行雨水管理、增效修复地下水和土壤、修复栖息地，以及节约能源。随着现代文明进程的加快，城市环境日益密集。在成功应对环境挑战的同时，这些真实存在的景观为居民提供了优美的户外空间，使城市生活更加人性化。城市景观种类繁多，包括公园、运动场、绿色屋顶、表演场地、临河建筑区、游径、校园和城市农场等等。这些景观不局限于特定的规模和风格，而是根植于某一特定地区独特的历史和文化。有些景观只占据了城市街区的一小部分；而有些景观则将河畔和森林都囊括其中。有些景观布局整齐，与周围建筑环境相互融合；有些景观则不拘一格，湿地、草原尽显自然原生态。

正如哈佛大学生物学家和理论家 E.O. 威尔逊所说：人类渴望亲近自然。由他创造的“亲生命性”（生态倾向）一词，正是用来表明人类有同其他生物有机体紧密联系的情感渴望。在弗吉尼亚大学，蒂莫西·比特利目前的工作便是将人类的这

种渴望融入到“生态倾向城市”的设计之中。这一设计旨在实现人与自然朝夕相处的愿望。正如窗外的风景能够加快病人康复的速度，城市居民如果能够每日与鲜活的植物、动物为伴，便能充满活力。

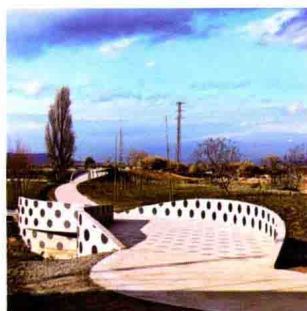
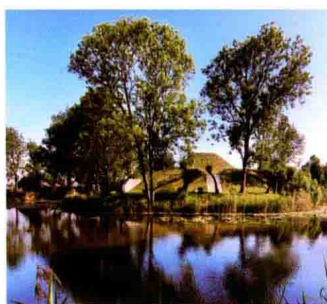
然而，生态景观的设计理念在于寻求功能与美学的契合点。明尼苏达大学琼·纳塞在其发表在《景观札记》中的文章《生态无序，框架有序》中提到：良好的生态环境往往看起来杂乱无章。进一步来讲，景观中基础设施布局的最高境界便是不留人工痕迹。比如，一块土地如何被精心设计成存储污染土壤的地貌，沿河岸种植的植物体系如何控制水土流失，这些对一名普通游客来说，都是不易察觉的。实际上，看似无序混乱的外观可以很容易掩饰住景观的实际功效。

因此，探索新景观正是阅读本书的一件乐事。读者在此过程中会遇到一系列新奇的、与自然生态相关的设计词汇，既能增加美学知识，丰富阅历，又能促进自然环境的改善。书中精选的经典景观设计尊重自然生态系统，设计师以完善人类居住环境为目的，通过对一些元素的精心设计来传递人文关怀。这些设计元素从排列整齐的树行到用废弃工业制品堆砌的阶梯坐台不一而足。有些景观通过独特的实体表达，成功展现了某一生态进程。设计师从人类的需求出发，以生态功能为立足点，充分发挥奇思妙想和敏锐的判断力，打造出一个各具特色的生态景观，从而实现人与自然的和谐相处，为公共领域注入生命的活力。



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拉斐特绿地城市花园



# TONGVA PARK AND KEN GENSER SQUARE

汤瓦公园和肯金斯广场

## LANDSCAPE ARCHITECT

James Corner Field Operations

## TEAM

James Corner(Principal), Lisa Switkin(Associate Principal), Sarah Weidner Astheimer(Sr. Associate and Design Phase Project Manager), Matt Grunbaum(Associate and Construction Phase Project Manager), David Christensen(Associate), Tsutomu Bessho(Associate), Yitian Wang(Designer)

## ARCHITECTURE

Frederick Fisher & Partners

## WATER FEATURE DESIGN

Fluidity Design Consultants

## PHOTOGRAPHER

Tim Street Porter, JCFO

Tongva Park and Ken Genser Square embody a new type of urban landscape that is active, innovative, resource-conscious, and natural.

### Ecology

Transformed from a flat parking lot into a series of topographically dynamic meadows and gardens, the most dramatic aspect of the site has been the restoration of its ecosystem. Over three hundred carefully selected new trees, thousands of new plants, and hundreds of different California native and appropriately adapted species are part of the project's abundant and ambitious planting scheme. Beyond just plants, the parks have been fundamentally modeled on healthy, native environments whose interconnected botanical, hydrologic, topographic, and agronomic systems work to provide restored ecosystem services to the site. New forest types and amended soils respond to microclimates and showcase a diversity of species well-suited to different parts of the project.

### Water

Plant, tree, and turf areas are irrigated using water from the nearby Santa Monica Urban Runoff Recycling Facility (SMURRF) water reclamation facility. Irrigated water and stormwater are maintained on site through the natural movement of water into bioswales at the base of almost every hill in the park. Daily water consumption for the irrigated park landscape and turf areas and the water features is less than the

City average. Water features use potable water and biological filtration within closed recirculating systems which only consume water through evaporation. The water play area uses potable water which drains into a water reserve where it is treated for use, as needed, in the Ocean Avenue water feature.

### Energy

Park lighting is the primary energy consumer within the park and square. Energy demands have been kept to an extreme minimum with LED and other efficient fixtures and technologies.

### Materials

Materials for the Park and Square consist of non-tropical hardwoods that have been sustainably forested, local aggregates and stone, numerous products with recycled content, low VOC paints, sealants, and adhesives and soy-based anti-graffiti coatings.

### Human Health

Apart from the physical aspects of the site, the social sustainability of the project is uniquely high. The Park and Square provides a range of social spaces, quiet contemplative spaces, and promotes human health through a series of walking trails and loops, bike parking areas, and inclusive play spaces for all ages and abilities.









