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# Brownfield Remediation & Redevelopment 棕地治理与再开发

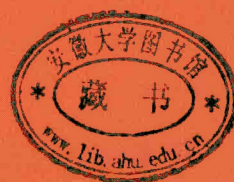
AECOM Inc. 编著

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# Brownfield Remediation & Redevelopment

## 棕地治理与再开发

AECOM Inc. 编著



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# 序一

## Foreword I

近年来,由于我国工业企业搬迁和固体废弃物堆放等原因,污染场地(也称为“棕地”)的数量正不断增加,对这类土地的环境风险评估和环境修复已引起政府部门的高度重视。中国环境保护部已经或准备出台相关政策、条例与标准以规范和引导污染场地的环境整治工作。随着中国经济的持续快速发展,城市化进程加速,各大中型城市实施的工业企业搬迁活动将更加频繁,如何对这些活动产生的污染场地进行有效的环境管理,是中国环境科技工作者面临的一个重要课题。

相对于发达国家而言,中国污染场地环境管理的步伐才刚刚开始,吸收和引进国外经验对于提高中国污染场地环境管理水平尤为重要。AECOM作为世界知名的咨询公司,在总结其在世界各地开展棕地再开发经验的基础上编写了本书,可为中国读者了解国际棕色土地再开发的工程实施提供参考。

本书内容非常广泛,如2004年悉尼奥运会场馆和2012年伦敦奥运会场馆的规划与开发,均考虑把棕地修复完全纳入区域环境整治和可持续发展之中,追求环境、经济和社会效益的最大化和统一。书中有两章专门介绍这两届奥运会棕地再开发的成功案例。另外,本书还介绍了美国和英国棕地再开发过程中的实施战略、成本管理和如何选择修复技术等内容。同时本书还特别指出,棕地修复工程的成功实施需要考虑到各种风险,选择适当的实施战略和成本管理方法可最大限度地减少风险。书中的一些工程案例总结了在项目实施过程中收获的经验教训。

难能可贵的是,书中分享了AECOM在中国开展棕地再开发的部分案例,包括北京首都钢铁公司棕地开发、广州市棕地开发和香港财利船厂旧址修复等,从而帮助中国读者更好地理解 and 借鉴国外棕地开发经验在本土的应用。

最后,衷心祝贺本书的出版,并希望更多的棕地管理和工程技术人员能从本书受益。

李发生

李发生  
中国环境科学研究院总工程师



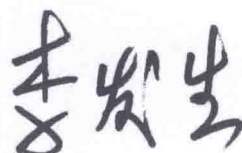
In recent years, the increasing amount of contaminated sites (also referred as "Brownfields") in China as a result of industrial enterprises' relocation and landfills development, has been highly regarded as a key issue by the government, for which requires immediate efforts on environmental risk assessment and remediation. The Ministry of Environmental Protection's immediate response was to launch relevant policies, regulations and standards to guide these works. As the economy of China continues to grow with rapid urbanization, further relocation of industrial enterprises in large and medium cities is anticipated. As a result, it will further present significant challenges to effectively manage the brownfields generated under these activities for the environmental professionals in China.

Compared with other developed countries, China is still in the early stage on brownfield management. It is essential to introduce and learn from other countries' experiences to enhance the overall management of brownfield in China. As a world-renowned building engineering and construction management consultant, AECOM has compiled this book based on its extensive experience in brownfield redevelopment worldwide, which will help Chinese readers understand how brownfield redevelopment projects are delivered in other parts of the world.

The book covers a wide range of topics, including the planning and development of the Sydney and London Olympic Games venues in 2004 and 2012, both of which are landmark cases of successful brownfield redevelopment. In these projects, the concept of regional environmental improvement and sustainable development was fully incorporated into the design of brownfield remediation in order to maximize and balance environmental, economic and social benefits. The book also includes choices of implementation strategies, cost management tools and remediation technologies from different brownfield redevelopment projects in the U.S. and U.K. As illustrated in the book, a successful brownfield remediation project requires taking all risks into consideration and mitigating them to the greatest extent by selecting the right implementation strategy and cost management tools. Some cases in the book have also presented valuable experiences and lessons learned during project delivery.

Particularly, the book incorporates some brownfield redevelopment projects delivered by AECOM in China as case studies, such as brownfield redevelopment projects for Beijing Capital Steel Group, Guangzhou City Redevelopment and the redevelopment of the Hong Kong Cheoy Lee Shipyard, making it easier for Chinese readers to learn from local cases with foreign best practices in brownfield redevelopment.

To conclude, I would like to extend my sincere congratulation on the successful publication of the book, and hope it will benefit more professionals in the field of brownfield management.



Li Fasheng  
Chief Engineer  
Chinese Research Academy of Environmental Sciences

# 序二

## Foreword II

《棕地治理与再开发》一书是AECOM几年来努力工作的成果，也是来自不同地区和领域的专家共同合作的结晶。

棕地修复在北美、澳大利亚以及西欧是一项成熟产业，该领域的发展很大程度上得益于环境法规的完善以及诸如成立超级基金等举措。美国超级基金是由联邦政府运作的项目，旨在清理全国的高危废弃物场地。这一系列举措使大量受污染土地得以修复，同时为环境顾问机构开展技术及管理革新提供动力，从而促使棕地重建速度更快、成本更低、效率更高。

发达国家所积累的经验一方面为棕地修复的提升创造了良机，另一方面也帮助其他国家数以百万计的人们改善生活环境。这在发展中国家例如中国，尤其具有说服力。这里，棕地修复尚处于“婴幼儿”时期。快速的工业化产生了土地修复的需求。修复土地的需求、绿地的稀缺以及高昂的开发成本为这些经济体实施棕地开发提供了契机，也使其成为符合公私营部门需要并具备实效性和时效性的解决方案。

本书出版的目的是要帮助人们提高对这一新兴、待开发市场的认知，这对包括中国在内的发展中国家尤其有意义。修复对于土地资源十分珍贵的发展中国家而言，是兼具经济性又具环境可行性的解决方案。发展中国家也可成功实现棕地再开发。我们希望通过分享自身经验以及学习来自成熟市场如美国等地的最佳实践和失败教训，推动该行业的发展和转变。

近年来，棕地修复进步神速。我们相信，发展中国家有能力与西方国家一样取得令人称道的佳绩。而中国作为世界第二大经济体，极有可能成为这一跨专业实践的全球领袖，令我们生活的城市变得更美好、更安全和更宜居。

最后，我衷心感谢所有为本书出版作出贡献的工作人员，同时期待目睹棕地治理和再开发在中国，以及世界众多国家取得进步。



乔全生  
AECOM中华区行政总裁

The *Brownfield Remediation and Redevelopment Book* is the result of several years of hard work and collaboration between AECOM professionals from various geographies and fields of expertise.

Remediation is a mature sector in North America, Australia and Western Europe, with development of the practice largely driven by improved environmental regulations and initiatives, such as the United States' Superfund, a program by the federal government to clean up the nation's uncontrolled hazardous waste sites. These initiatives have led to the remediation of a tremendous amount of contaminated land, and have provided the impetus for environmental consultancies to develop technical and managerial innovations that have made brownfield redevelopment faster, more accessible and more effective.

Building on the experience gained in developed economies, there are significant opportunities to advance the field of remediation while improving the environmental conditions for millions of people in other countries. This is particularly true in developing countries such as China, where remediation is still in its infancy. Fast industrialization has generated land with remediation needs; coupled with the scarcity of greenfield land in many of these economies, this makes brownfield development a relevant and timely solution to meet the needs of both public and private sectors.

In this context, this publication is our attempt to help increase the awareness of a sector that is established elsewhere but still remains untapped, especially in emerging countries such as China: remediation offers environmentally sound and economically feasible solutions for development in a fast developing country where land is at a premium. We hope by sharing our experience, best practices and lessons learned elsewhere in established markets such as the United States, we could be a catalyst for development and change.

Much progress in remediation has been made in recent years and we believe that emerging economies can now achieve the same laudable results seen in western countries. In particular, China, as the world's second largest economy, has the opportunity to become a global leader in this multidisciplinary practice, making cities better, safer and more livable.

In closing, I wish to thank all of those who have contributed to this publication, and I look forward to witnessing the advancement of brownfield remediation and redevelopment, not only in developing countries, but also in many countries worldwide.

A handwritten signature in black ink, appearing to read 'Sean Chiao', with a long, sweeping horizontal stroke extending to the right.

Sean Chiao  
Chief Executive, China  
AECOM







