

Toward More Sustainable Infrastructure Project Evaluation For Planners And Engineers

As more factors, perspectives, and metrics are incorporated into the planning and building process, the roles of engineers and designers are increasingly being fused together. Sustainable Infrastructure explores this trend with in-depth look at sustainable engineering practices in an urban design as it involves watershed master-planning, green building, optimizing water reuse, reclaiming urban spaces, green streets initiatives, and sustainable master-planning. This complete guide provides guidance on the role creative thinking and collaborative team-building play in meeting solutions needed to affect a sustainable transformation of the built environment.

Transport systems have to meet the mobility needs of people and commodities on all scales, from the local to the global level. Concerns about the energy, fumes and sound emissions produced, and about the safety, service quality, intelligence and lifecycle of the systems, etc. can all be included in a systemic approach. This approach can contribute to the development of sustainable solutions, for individual vehicles as well as for transport systems. Derived from an approach combining the social and physical sciences, these solutions result from the integration of physical objects, services and organizational processes, which involve several actors. Their harmonious organization contributes to the development of more virtuous transport systems for the future of urban and inter-urban mobility.

When the United States entered World War I, President Woodrow Wilson declared to Congress that the objective was not merely to bring "a new balance of power," but rather to bring a "just and secure peace" to the world by the end of the conflict. In this famous speech, known as "The Fourteen Points," Wilson offered the world a road map toward a more equitable international system in the midst of unprecedented global conflict, including ideas on the interconnectedness of democracy, trade, and the concept of a forum for peaceably resolving international disputes. Even decades after the end of the First World War, Wilson's ideas remained important and influenced many of his successors. But now, in the twenty-first century, there are forces at work in the world that Wilson could never have imagined, and those forces call for a new plan toward peace. In *Fourteen Points for the Twenty-First Century: A Renewed Appeal for Cooperative Internationalism*, Richard H. Immerman and Jeffrey A. Engel bring together a diverse group of thinkers who take up Wilson's call for a new world order by exploring fourteen new directions for the twenty-first century. The contributors -- scholars, policymakers, entrepreneurs, poets, doctors, and scientists -- propose solutions to contemporary challenges such as migration, global warming, health care, food security, and privacy in the digital age. Taken together, these points challenge American leaders and policymakers to champion an international effort, not to make America great again, but to work cooperatively with other nations on the basis of mutual respect.

This book is a printed edition of the Special Issue "Sponge Cities: Emerging Approaches, Challenges and Opportunities" that was published in *Water*

Human Settlement Development is a component of Encyclopedia of Institutional and Infrastructural Resources in the global

Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The Theme on Human Settlement Development deals, in nine parts and four volumes , with a myriad of issues of great relevance to our world such as: Urban Sustainability and the Regional City System in the Asia Pacific; Peri-Urbanization: Zones of Rural - Urban Transition; Urban Sustainability: Theoretical Perspectives on Integrating Economic Development and the Environment; Rural Sustainability; Using Foreign Direct Investment to Improve Urban Environmental Infrastructure and Services- The Case of Hanoi, Vietnam; The Long Road Towards Sustainable Cities: The Dutch case; Urban Dimensions of Sustainable Development; Rural Development: Participation and Diversity for Sustainability; The Cities, the State and the Markets: In Search of Sustainability. These four volumes are aimed at the following five major target audiences: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs.

This report traces the journey and partnership of the People's Republic of China (PRC) and the Asian Development Bank (ADB) over the past decade in four areas: environmental protection and ecological conservation, rural economy, green livable cities, and climate change mitigation and adaptation. It highlights how the green development partnership between the PRC and ADB has evolved over the years. Best practices, innovations, and lessons learned offer insights for ADB, its developing member countries, and other development partners. The report also presents forward-looking directions for further collaboration by the PRC and ADB in pursuit of a more sustainable future.

This report analyses planned infrastructure projects, decision-making frameworks related to infrastructure development and strategic planning documents in the six countries of the EU Eastern Partnership: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.

Construction Project Management provides a thorough understanding of construction project management techniques with the help of various concepts, practical insight, real-life examples and skills to execute large and small projects. Broadly, this comprehensive book is organized in 5 parts: ? Introducing Construction Project Management ? Developing Project Construction Time Schedule ? Developing Project Resources Plans ? Planning and Budgeting Construction Costs ? Controlling Project Construction Plan Focusing on project planning, scheduling and controlling techniques, the 3rd Edition covers the practical application of the knowledge and skills required to plan and control construction project scope, time, resources, cost, risk and integration using project management technique.

In a world on the brink of a global recession caused by the COVID-19 global pandemic, the infrastructure efforts of today and tomorrow are more crucial than ever. For one, they are an indispensable countercyclical tool to mitigate the negative effects of the economic paralysis. But they also constitute a pivotal component for a country's development, raising its competitiveness in the long term. That is why infrastructure will continue to play a critical role even when the pandemic crisis has been tamed. Rapid demographic growth, increasing urbanization, especially in developing countries, coupled with the daunting challenge posed by climate change, are trends that are not going to disappear with the virus. How to cope with these global, long-term trends? How to

finance the increasing need for infrastructure? Which major international actors will take the lead? And what role will technology play in shaping the future of infrastructure?

Nature-Based Solutions for More Sustainable Cities makes a clear case of performances, impacts, and benefits generated by NBS in cities providing a comprehensive framework approach to understand the real and full potential of NBS at the urban level.

This report is a joint effort by the OECD, UN Environment and the World Bank Group, supported by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. It focuses on how governments can move beyond the current incremental approach to climate action.

Presents an objective rigorous analysis of relevant issues along with case studies to examine the interface between ape conservation and infrastructure development. This title is also available as Open Access via Cambridge Core.

Social entrepreneurship is revolutionizing the way societal challenges are being approached and solved. Instead of waiting for government or big business to take action, individuals across the world are developing and implementing innovative, effective, and sustainable solutions to some of our most pressing social and environmental challenges.

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Following the Brexit and Trump election cycles, consistent, long-term policy solutions to environmental and other societal challenges are becoming increasingly difficult to achieve. Stepping into this breach is a clear opportunity for innovation by public and privately held companies, as well as the increasingly significant role of investment and consumption. Sustainable Innovation and Impact provides a roadmap of the many critical pathways of positive change emerging to achieve modern day societal success, including rapidly evolving corporate and investment innovation and impact strategy considerations. Exploring innovation around the future of energy, electricity and related technologies, as well as transportation and buildings efficiency, Krosinsky and Cort consider ideas framed around the circular economy, operational and supply chain strategies and the global economy.

Drawing together a diverse range of contributors and case studies, this book will be of great relevance to students, scholars and professionals with an interest in innovation, economics and sustainability more broadly.

This report analyses planned infrastructure projects, decision-making frameworks related to infrastructure development and strategic planning documents in eight countries in Central Asia and the Caucasus: Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan, Turkmenistan and Uzbekistan.

This volume contains the papers presented at IALCCE2018, the Sixth International Symposium on Life-Cycle Civil Engineering (IALCCE2018), held in Ghent, Belgium, October 28-31, 2018. It consists of a book of extended abstracts and a USB device with full papers including the Fazlur R. Khan lecture, 8 keynote lectures, and 390 technical papers from all over the world. Contributions relate to design, inspection, assessment, maintenance or optimization in the framework of life-cycle analysis of civil engineering structures and infrastructure systems. Life-cycle aspects that are developed and discussed range from structural safety and durability to sustainability, serviceability, robustness and resilience. Applications relate to buildings, bridges and viaducts,

highways and runways, tunnels and underground structures, off-shore and marine structures, dams and hydraulic structures, prefabricated design, infrastructure systems, etc. During the IALCCE2018 conference a particular focus is put on the cross-fertilization between different sub-areas of expertise and the development of an overall vision for life-cycle analysis in civil engineering. The aim of the editors is to provide a valuable source of cutting edge information for anyone interested in life-cycle analysis and assessment in civil engineering, including researchers, practising engineers, consultants, contractors, decision makers and representatives from local authorities.

This paper investigates the emerging global landscape for public-private co-investments in infrastructure. The creation of the Asian Infrastructure Investment Bank and other so-called “infrastructure investment platforms” are an attempt to tap into the pool of both public and private long-term savings in order to channel the latter into much needed infrastructure projects. This paper puts these new initiatives into perspective by critically reviewing the literature and experience with public private partnerships in infrastructure. It concludes by identifying the main challenges policy makers and other actors will need to confront going forward and to turn infrastructure into an asset class of its own.

The continued growth of any nation depends largely on the development of their built infrastructures and communities. By creating stable infrastructures, countries can more easily thrive in competitive international markets. Sustainable Infrastructure: Breakthroughs in Research and Practice examines sustainable development through the lens of transportation, waste management, land use planning, and governance. Highlighting a range of topics such as sustainable development, transportation planning, and regional and urban infrastructure planning, this publication is an ideal reference source for engineers, planners, government officials, developers, policymakers, legislators, researchers, academicians, and graduate-level students seeking current research on the latest trends in sustainable infrastructure.

Azerbaijan has set the course for the economy to reduce its dependence on oil by promoting new drivers of growth. By 2025, under the government’s Strategic Roads Maps, a more diversified economy should take shape led by three sectors: agriculture, tourism, and manufacturing. Bold reforms need to strengthen areas of the economy that could otherwise impede this transition, and policy makers must resolutely stay on the reform path. The core message of this publication is diversification toward non-oil sources of growth alongside efforts to reduce macroeconomic risks and the high cost of finance, make the education system responsive to the needs of the labor market, close infrastructure gaps, and help economically significant state-owned enterprises become more efficient.

This book deals with human factors research directed towards realizing and assessing sustainability in the built environment. It reports on advanced engineering methods for sustainable infrastructure design, as well as on assessments of the efficient methods and the social, environmental, and economic impact of various designs and projects. The book covers a range of topics, including the use of recycled materials in architecture, ergonomics in buildings and public design, sustainable design for smart cities, design for the aging population, industrial design, human scale in architecture, and many more. Based on the AHFE 2016

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International Conference on Human Factors and Sustainable Infrastructure, held on July 27-31, 2016, in Walt Disney World®, Florida, USA, this book, by showing different perspectives on sustainability and ergonomics, represents a useful source of information for designers in general, urban engineers, architects, infrastructure professionals, practitioners, public infrastructure owners, policy makers, government engineers and planners, as well as operations managers, and academics active in applied research.

Toward More Sustainable Infrastructure: Project Evaluation for Planners and Engineers provides readers a framework for understanding and evaluating infrastructure projects to improve their performance and sustainability, taking into account not only the financial and economic issues, but also the social and environmental impacts that affect the sustainability of infrastructure. Based on a course designed developed by the author over ten years at M.I.T., this text demonstrates how to apply the basic methods of engineering economics in evaluating major infrastructure projects and also demonstrates how these same techniques can be useful with many routine business and personal decisions. It introduces students to project management, system performance, concepts of sustainability, methods of engineering economics, and provides numerous case studies, examples, and exercises based upon real world problems. This text fills a void in the education of many planners and engineering students, namely an understanding of why major infrastructure projects are undertaken, how they are structured and evaluated, and how they are financed. Toward More Sustainable Infrastructure: Project Evaluation for Planners and Engineers prepares readers to evaluate projects based upon an appreciation of the needs of society, the potential for sustainable development, and recognition of the problems that may result from poorly conceived or poorly implemented projects and programs.

Construction is one of the biggest industries in the world, providing necessary facilities for human prosperity ranging from the homes in which we live to the highways we drive, the power plants that provide energy for our daily activities, and the very infrastructure on which human society is built. The construction sector, including the building sector, has among the largest potential of any industry to contribute to the reduction of greenhouse gas emissions. This ambitious and comprehensive textbook covers the concept of embedding sustainability across all construction activities. It is aimed at students taking courses in construction management and the built environment. Written in a lively and engaging style the book sets out the practical requirements of making the transition to a sustainable construction industry by 2020. Case studies are included throughout making the book both a core reference and a practical guide.

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This edited collection brings together leading theoretical and applied research with the intent to design a sustainable global financial future. The contributors argue that our world cannot move toward sustainability, address climate change, reverse environmental degradation, and improve human well-being without aligning the financial system with sustainable development goals like those outlined by the United Nations. Such a system would: a) be environmentally and socially responsible; b) align with planetary boundaries; c) manage natural resources sustainably; d) avoid doing more harm than good; and e) be resilient and adaptable to changing conditions. The overarching theme in this collection of chapters is a response to the worldwide, supranational sustainable finance discussions about how we can transition to a new socio-ecological system where finance, human well-being, and planetary health are recognized as being highly intertwined.

What is "urban"? How can it be described and contextualised? How is it used in theory and practice? Urban processes feature in key international policy and practice discourses. They are at the core of research agendas across traditional academic disciplines and emerging interdisciplinary fields. However, the concept of "the urban" remains highly contested, both as material reality and imaginary construct. The urban remains imprecisely defined. Defining the Urban is an indispensable guide for the urban transdisciplinary thinker and practitioner. Parts I and II focus on how "Academic Disciplines" and "Professional Practices," respectively, understand and engage with the urban. Included, among others, are Architecture, Ecology, Governance and Sociology. Part III, "Emerging Approaches," outlines how elements from theory and practice combine to form transdisciplinary tools and perspectives. Written by eminent experts in their respective fields, Defining the Urban provides a stepping stone for the development of a common language—a shared ontology—in the disjointed fields of urban research and practice. It is a comprehensive and accessible resource for anyone with an interest in understanding how urban scholars and practitioners can work together on this complex theme.

This book examines complex challenges in managing major strategic economic and social infrastructure projects. It is divided into four primary themes: value-based approach to infrastructure systems appraisal, enabling planning and execution, financing and contracting strategies for infrastructure systems and digitising major infrastructure delivery. Within these four themes, the chapters of the book cover: the value and benefits of infrastructure projects planning for resilient major infrastructure projects sustainable major infrastructure development and management, including during mega events improving infrastructure project financing stakeholder engagement and multi-partner collaborations delivering major infrastructure projects effectively and efficiently whole-life-cycle performance, operations and maintenance relationship risks on major infrastructure projects public-private partnerships, design thinking principles, and innovation and technology. By drawing on insights from their research, the editors and contributors

bring a fresh perspective to the transformation of major strategic infrastructure projects. This text is designed to help policymakers and investors select and prioritise their infrastructure needs beyond the constraining logic of political cycles. It offers a practical set of recommendations for governments on attracting private capital for infrastructure projects while creating clear social and economic value for their citizens. Through theoretical underpinning, empirical data and in-depth informative global case studies, the book presents an essential resource for students, researchers, practitioners and policymakers interested in all aspects of strategic infrastructure planning, project management, construction management, engineering and business management. The response of the international community to the pressing socio-ecological problems has been framed around the concept of 'sustainable development'. The ecological pressure, however, has continued to rise and mainstream sustainability discourse has proven to be problematic. It contains an instrumental view of the world, a strong focus on technological solutions, and the premise that natural and human-made 'capitals' are substitutable. This trajectory, which is referred to as 'weak sustainability', reproduces inequalities, denies intrinsic values in nature, and jeopardises the wellbeing of humans as well as other beings. Based on the assumptions of strong sustainability, this edited book presents practical and theoretical alternatives to today's unsustainable societies. It investigates and advances pathways for humanity that are ecologically realistic, ethically inclusive, and receptive to the task's magnitude and urgency. The book challenges the traditional anthropocentric ethos and ontology, economic growth-dogma, and programmes of ecological modernisation. It discusses options with examples on different levels of analysis, from the individual to the global, addressing the economic system, key sectors of society, alternative lifestyles, and experiences of local communities. Examining key topics including human-nature relations and wealth and justice, this book will be of great interest to students and scholars of environmental and development studies, ecological economics, environmental governance and policy, sustainable business, and sustainability science.

"TRB's Transit Cooperative Research Program (TCRP) Report 157: State of Good Repair: Prioritizing the Rehabilitation and Replacement of Existing Capital Assets and Evaluating the Implications for Transit presents a framework that builds upon a set of fundamental concepts and provides a basic set of steps for transit agencies to follow when evaluating and prioritizing capital asset rehabilitation and replacement investments. In addition to the printed report, an analytical approach and set of spreadsheet tools were developed to support the framework. These tools address how to evaluate rehabilitation and replacement actions for specific types of transit assets, and how to prioritize candidate rehabilitation and replacement actions."--Publisher's description.

This volume contains the papers presented at IALCCE2016, the fifth International Symposium on Life-Cycle Civil Engineering (IALCCE2016), to be held in Delft, The Netherlands, October 16-19, 2016. It consists of a book of extended abstracts and a DVD with full papers including the Fazlur R. Khan lecture, keynote lectures, and technical papers from all over the world. All major aspects of life-cycle engineering are addressed, with special focus on structural damage processes, life-cycle design, inspection, monitoring, assessment, maintenance and rehabilitation, life-cycle cost of structures and infrastructures, life-cycle performance of special structures, and life-cycle oriented computational tools. The aim of the editors is to provide a valuable source for anyone

interested in life-cycle of civil infrastructure systems, including students, researchers and practitioners from all areas of engineering and industry.

In the aftermath of the pandemic, global demand for infrastructure is booming. National plans around the world show that infrastructure is likely to provide the backbone for a resurgence in public expenditure, and to support growth in economies badly hit by the pandemic. As all the biggest powers and blocs (the EU, the US, China, and Japan) have recently announced their plans for climate or carbon neutrality, the room and need for green and sustainable infrastructure are greatly expanding. Decarbonisation and digitalisation will be underpinning this latest investment drive in infrastructure, with sustainability and ESG principles at its core. However, infrastructure expenditure will not come without risk: after the pandemic, the world will be left with the highest levels of public and private debt since World War II, and the sustainability of key investment decisions must be carefully evaluated. How to foster quality and sustainable infrastructure investment? What role for the private sector? What future for sustainable mobility? What kind of policies will countries adopt to reach carbon neutrality?

The development of any contemporary economy is affected by numerous factors. By creating stable infrastructures, countries can more easily thrive in competitive international markets. *Social, Health, and Environmental Infrastructures for Economic Growth* is a comprehensive source of academic material that examines the impact of infrastructure development on modern economies. Highlighting relevant perspectives on topics such as employment, rural development, and energy production, this is an ideal reference source for researchers, students, professionals, practitioners, and policy makers interested in the social, health, and environmental infrastructures in contemporary economies.

You're overseeing a large-scale project, but you're not an engineering or construction specialist, and so you need an overview of the related sustainability concerns and processes. To introduce you to the main issues, experts from the fields of engineering, planning, public health, environmental design, architecture, and landscape architecture review current sustainable large-scale projects, the roles team members hold, and design approaches, including alternative development and financing structures. They also discuss the challenges and opportunities of sustainability within infrastructural systems, such as those for energy, water, and waste, so that you know what's possible. And best of all, they present here for the first time the Zofnass Environmental Evaluation Methodology guidelines, which will help you and your team improve infrastructure design, engineering, and construction.

This newly updated book offers a comprehensive introduction to the scope and nature of engineering work, taking a rigorous but common sense approach to the solution of engineering problems. The text follows the planning, modelling and design phases of engineering projects through to implementation or construction, explaining the conceptual framework for undertaking projects, and then providing a range of techniques and tools for solutions. It focuses on engineering design and problem solving, but also involves economic, environmental, social and ethical considerations.

This third edition expands significantly on the economic evaluation of projects and also includes a new section on intractable problems and systems, involving a discussion of wicked problems and soft systems methodology as well as the approaches to software development. Further developments include an array of additional interest boxes, worked examples, problems and up-to date references. Case studies and real-world examples are used to illustrate the role of the engineer and especially the methods employed in engineering practice. The examples are drawn particularly from the fields of civil and environmental engineering, but the approaches and techniques are more widely applicable to other branches of engineering. The book is aimed at first-year engineering students, but contains material to suit more advanced undergraduates. It also functions as a professional handbook, covering some of the fundamentals of engineering planning and design in detail.

In the context of heightened climate variability, thinking about ways to redesign our urban areas with more sustainable infrastructure solutions is becoming more and more important. Green infrastructure (GI) is emerging as an alternative approach to traditional ('grey') infrastructure in urban planning and development. Its emergence can be understood in terms of the growing demand for infrastructure and services, increased concerns over natural resource constraints and climate change, and the negative impacts associated with traditional approaches to designing and building cities. It has been proposed that GI can provide the same services as traditional infrastructure at a similar capital cost, while also providing a range of additional benefits. However, despite the increasing examples of successful urban GI applications, traditional infrastructure continues to dominate due to the lack of systematic evidence to support GI implementation. As a result, there has been an increase in calls from policy- and decision-makers for a greater evidence base on the benefits of GI, as well as for practical guidelines on its implementation. 'Towards applying a green infrastructure approach in the Gauteng City-Region' is the GCRO's third report in its ongoing research into 'Green assets and infrastructure'. The first two reports in this project series were more theoretically grounded and policy-oriented, whereas this third report is more practical in nature. The first report explored the basic principles around GI, assessed the extent of ecological features in Gauteng and the way governments in the province think about planning and maintenance of green assets. The second report responded to some of the challenges identified in the first report, and in particular the importance of government officials and practitioners in exploring how international green infrastructure plans could be applied in the Gauteng context. This third report builds on the findings of the aforementioned reports and the project's CityLab series, which highlighted the need to build an evidence base as critical for garnering support for and as well as enhancing investment in the GI approach. Unlike the more theoretically grounded earlier reports, this report comprises four technical sections and practical reflections on how a GI approach could be incorporated into urban planning in the GCR and in other similar

urban contexts.

This publication has been designed to assist member States in integrating transport, health, quality of life and environmental objectives into urban and spatial planning policies. It provides many references to case studies, good practices and examples from cities across the Euro-Asian region (and beyond) covering a wide array of thematic areas, including: the future of sustainable urban mobility; spatial planning in function of sustainable urban mobility and accessibility; public transport planning as a cornerstone of sustainable urban mobility; active mobility and how it promotes health and the environment; and the potential of Intelligent Transport Systems in an urban context. The publication puts forward a methodology for sustainable urban transport planning and introduces a concise set of key messages and recommendations as an input to the Fifth High-level Meeting on Transport, Health and Environment which takes place in Vienna from 26-27 November 2020.

Sustainable Construction Technologies: Life-Cycle Assessment provides practitioners with a tool to help them select technologies that are financially advantageous even though they have a higher initial cost. Chapters provide an overview of LCA and how it can be used in conjunction with other indicators to manage construction. Topics covered include indoor environment quality, energy efficiency, transport, water reuse, materials, land use and ecology, and more. The book presents a valuable tool for construction professionals and researchers that want to apply sustainable construction techniques to their projects. Practitioners will find the international case studies and discussions of worldwide regulation and standards particularly useful. Provides a framework for analyzing sustainable construction technologies and economic viability Introduces key credit criteria for different sustainable construction technologies Covers the most relevant construction areas Includes technologies that can be employed during the process of construction, or to the product of the construction process, i.e. buildings Analyzes international rating systems and provides supporting case studies

Fiber-reinforced polymer (FRP) composites have become an integral part of the construction industry because of their versatility, enhanced durability and resistance to fatigue and corrosion, high strength-to-weight ratio, accelerated construction, and lower maintenance and life-cycle costs. Advanced FRP composite materials are also emerging for a wide range of civil infrastructure applications. These include everything from bridge decks, bridge strengthening and repairs, and seismic retrofit to marine waterfront structures and sustainable, energy-efficient housing. The International Handbook of FRP Composites in Civil Engineering brings together a wealth of information on advances in materials, techniques, practices, nondestructive testing, and structural health monitoring of FRP composites, specifically for civil infrastructure. With a focus on professional applications, the handbook supplies design guidelines and standards of

practice from around the world. It also includes helpful design formulas, tables, and charts to provide immediate answers to common questions. Organized into seven parts, the handbook covers: FRP fundamentals, including history, codes and standards, manufacturing, materials, mechanics, and life-cycle costs Bridge deck applications and the critical topic of connection design for FRP structural members External reinforcement for rehabilitation, including the strengthening of reinforced concrete, masonry, wood, and metallic structures FRP composites for the reinforcement of concrete structures, including material characteristics, design procedures, and quality assurance–quality control (QA/QC) issues Hybrid FRP composite systems, with an emphasis on design, construction, QA/QC, and repair Quality control, quality assurance, and evaluation using nondestructive testing, and in-service monitoring using structural health monitoring of FRP composites, including smart composites that can actively sense and respond to the environment and internal states FRP-related books, journals, conference proceedings, organizations, and research sources Comprehensive yet concise, this is an invaluable reference for practicing engineers and construction professionals, as well as researchers and students. It offers ready-to-use information on how FRP composites can be more effectively utilized in new construction, repair and reconstruction, and architectural engineering.

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