

## Books

### REVIEWS

#### Mentoring for civil engineers

by Patrick Waterhouse, published by ICE Publishing, 2020, £30, reviewed by **Philip Parker**, Byrom Clark Roberts, UK



Patrick Waterhouse's new book is essential reading for every aspiring graduate civil engineer through to the most experienced supervising civil engineer.

The clear, unambiguous text focuses throughout on the issues facing a mentor. He has sought the advice of an 'expert panel', ranging from consultants to contractors to academics, to give a balanced view of the Institution of Civil Engineers (ICE) professional review process. This means any potential or acting mentor can give sound advice and constructive criticism.

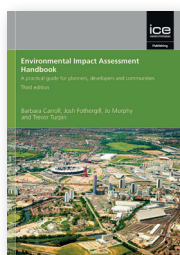
Waterhouse talks about the role of sponsors and how a mentor can input into this vital part of the review process. He gives clear guidance on the actual review and explodes several urban myths surrounding it. He explains how standards have evolved over the years, technology changed and how ICE has moved with the times.

Training schemes are comprehensively covered. Waterhouse explains what a mentor does and what they do not do, and how it is up to the trainee to demonstrate what they have learned, why they did it, what would they do differently.

I cannot recommend this book more highly.

#### Environmental impact assessment handbook

by Barbara Carroll, Josh Fothergill, Jo Murphy and Trevor Turpin, published by ICE Publishing, 2019, £65, reviewed by **Jo Griffiths**, Network Rail, UK



This practical guide is a must for anyone actively involved, or about to become involved, in environmental impact assessments. It is broken down into stages of the assessment process, enabling readers to dip in and out whenever they need advice and support.

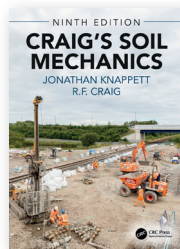
Each chapter works through the process methodically, identifying the relevant parts of the legislation, providing advice from the authors and presenting case studies. Process flow diagrams, charts and tables aid understanding and define the key actors and stakeholders.

I particularly liked the way areas are linked back to relevant legislation, and how sources of further information are listed at edge of the text rather than in a table of references at the back.

As well as those directly involved with environmental impact assessments, if you are new to civil engineering or just curious about the assessment process, this handbook is a good way to gain continuing professional development in the topic.

#### Craig's soil mechanics (9th ed.)

by Jonathan Knappett and Bob Craig, published by CRC Press, 2020, £99.99, reviewed by **John Carroll**, UK



The presentation and style of this geotechnical textbook is a pleasure to read, even electronically, with all of its 640 pages. The use of clear explanatory diagrams and relevant black and white photographs complement the theoretical explanation.

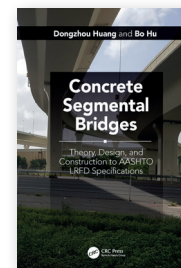
The theory is explained with the use of relevant examples and then the reader is tasked with the application of this knowledge to a series of problems. This effective format is applicable to both the theoretical modelling

and application parts of the book. Each section is well referenced and a recommended list of further reading is provided.

While this book is primarily aimed at engineering students, it is a worthwhile reference for all civil engineers. The authors, in issuing a ninth edition, are ensuring that this book is compatible with the latest developments in all aspects of soil mechanics.

#### Concrete segmental bridges: theory, design and construction to AASHTO LRFD specifications

by Dongzhou Huang and Bo Hu, published by CRC Press, £175, 2020, reviewed by **John Carroll**, UK



While this book is primarily aimed for the North American highway engineering market, it provides a very considered review of all aspects of concrete segmental bridges.

The text is well illustrated with relevant diagrams and photographs of the various forms of segmental bridges, and of the intricate detailing that is required to ensure that not only do they perform in their operational use but also can be safely constructed.

Each chapter considers a specific form of segmental bridge and provides the theory, basis of design and the method of construction in explicit detail. The authors have taken the opportunity to explain the process in a clear and concise manner for each form of bridge. They have also provided examples of suitable substructures, bearings and expansion joints applicable to segmental bridges.

It would be interesting to see, in the next edition of this book, sections on maintenance and potential demolition methodology to cover the whole life cycle of these structures.

## MONITOR Books

### Refurbishment projects: health and safety management

edited by David Oloke,  
published by ICE  
Publishing, 2020, £50,  
reviewed by **Sarah  
Melville-Crowe**, UK



The need to adapt buildings and other structures to accommodate new uses has become very commercially

attractive recently. Focusing on health and safety management in construction and the issues that have led to the main challenges faced, this book gives a clear and interesting overview of the concerns.

It is set out in logical chapters covering the most popular types of project. Topics range from technical issues relating to extension and refurbishment projects to basement construction (an increasingly popular type of project in London) to innovation and sustainability practices.

I particularly liked the case studies illustrating factors associated with alteration and refurbishment projects including risk assessment, asbestos, working at height and the collapse of structures. This highlights the fact that refurbishment and alteration projects should be carefully planned with competent and specialised people involved from the very beginning to ensure the project is not compromised or does not end catastrophically.

## NEW BOOKS

The ICE Library maintains one of the most comprehensive collections of civil engineering books in the world, including all titles from ICE Publishing (shown in bold below). New books acquired in the past 3 months include the following (\* indicates e-book only).

<b>Blue–green cities: integrating urban flood risk management with green infrastructure</b>	<b>C Thorne</b>	<b>£55.00</b>
Conceptual design of buildings	J Norman <i>et al.</i>	£39.00
Construction environmental manual (2nd ed.)	Construction Industry Publications	£42.00
Construction health and safety manual (2nd ed.)	Construction Industry Publications	£73.50
Construction project manager's pocket book (2nd ed.)*	D Cartlidge	£25.99
Decarbonising the built environment: charting the transition*	P Newton <i>et al.</i> (eds)	£44.99
Forms and concepts for lightweight structures	K Miura and S Pellegrino	£135.00
Green and smart technologies for smart cities*	P Tomar and G Kaur (eds)	£130.00
Increase 2019: 2nd international congress on engineering and sustainability in the XXI century	J Monteiro (ed.)	£159.99
Lea's chemistry of cement and concrete (5th ed.)	P Hewlett and M Liska (eds)	£140.00
<b>Mentoring for civil engineers</b>	<b>P Waterhouse</b>	<b>£30.00</b>
Nonlinear finite element analysis of composite and reinforced concrete beams*	X Lin <i>et al.</i>	£115.00
Optimizing community infrastructure: resilience in the face of shocks and stresses	R Colker (ed.)	£99.95
Pipeworks, valves and associated equipment in dams, Ciria report C789	T Williamson <i>et al.</i>	£170.00
Practical power plant engineering: a guide to early career engineers*	Z Bedalov	£94.95
<b>Refurbishment projects: health and safety management</b>	<b>D Oloke (ed.)</b>	<b>£50.00</b>
Rheology and processing of construction materials, Rheocon2 and SCC9	V Mechtcherine (ed.)	£159.99
Smart and sustainable cities and building.	R Roggema and A Roggema	£119.99
Structural analysis of historical constructions: an interdisciplinary approach, SAHC 2018	R Aguilar (ed.)	£449.99
Structural health monitoring in civil engineering, Ciria report C788	P Sparkes and J Webb	£110.00
Sustainable design basics*	M Karlen <i>et al.</i>	£55.00
Temporary works for concrete bridges	Concrete Bridge Development Group	£75.00
The management of advanced numerical modelling in geotechnical engineering: good practice, Ciria report C791	A O'Brien and K Higgins	£90.00
The smart enough city – putting technology in its place to reclaim our urban future*	B Green	£12.87
Understanding BIM: the past, present and future	J Ingram	£49.99
Urban systems design – creating sustainable smart cities in the internet of things era*	Y Yamagata and P Yang	£95.95

All books can be borrowed through the library's online catalogue at [www.ice.org.uk/knowledge-and-resources/ice-library](http://www.ice.org.uk/knowledge-and-resources/ice-library) or from the ICE Members' Resource Hub on the second floor of 1 Great George Street, London, SW1P 3AA from 10 a.m. to 3 p.m., Monday to Friday (subject to Covid-19 restrictions). ICE Publishing titles can also be purchased from the ICE Members' Resource Hub or ordered by calling +44 1235465577, emailing [orders@icepublishing.com](mailto:orders@icepublishing.com) or by visiting [www.icevirtuallibrary.com/content/books](http://www.icevirtuallibrary.com/content/books).