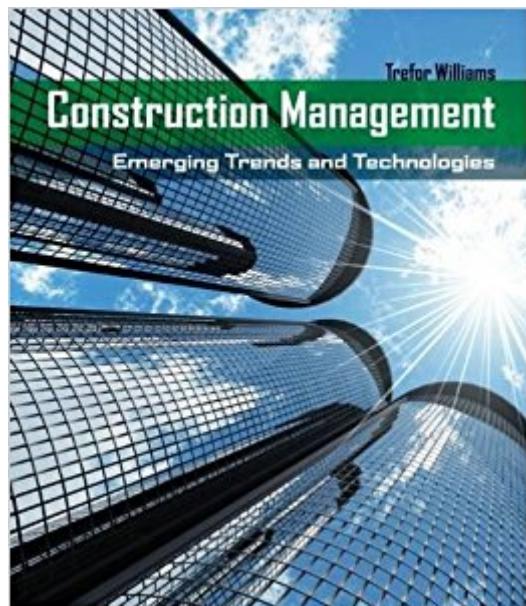


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# Construction Management: Emerging Trends & Technologies (Go Green With Renewable Energy Resources)



## **Synopsis**

With a fresh approach that addresses the unique features of construction management for the 21st century, this book provides an overview of the construction industry and the management of construction projects. *Construction Management: Emerging Trends and Technologies* offers solid, foundational concepts in "traditional" areas, including construction contracts, cash flow, estimating and scheduling. Setting it apart from traditional books on the subject, it breaks away from these traditional areas to explore emerging areas of interest, such as "mega-projects," design-build construction, public private partnerships, the application of information technology to construction, configuration management, and sustainable construction. With thorough, up-to-date information and detailed explanations, this is an indispensable resource for anyone seeking a better understanding of the up-and-coming state of the construction management industry.

## **Book Information**

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1. The Nature of the Construction Industry Introduction to Construction. Some Statistics About the Construction Industry. Projects and the Construction Industry. Comparison of Construction and Automobile Manufacturing. Construction Project participants. Specialization within the Construction Industry. Emerging Trends in the Construction Industry. Megaprojects. Globalization. The US Transportation Infrastructure Crisis. The Importance of Ethics in the Construction Industry. Careers

in Construction. 2. Methods of Delivering Construction Projects. Introduction. Basic Construction Contractual Arrangements. Public and Private Owners: Construction Contract Types. Competitive Bidding. Unit Price and Lump Sum Projects. Steps in the Competitive Bidding Process. Completion of the Design and the Development of the Bid Package. Advertising the Bid. Obtaining the Bid Package. Preparing the Bid. Design Changes During the Bidding Period. Pre-Bid Meetings. Submitting the Bid and the Bid Opening. Award of Contract Notice to Proceed. Bid Security and Bid Bonds. Bid Package Details. Specifications. General Conditions. Special Conditions. The Complexity of Bidding. The Importance of General Conditions During Construction. Change Orders. Time Extensions. The Ethics of Competitive Bidding. 3. Change Orders and Disputes during Construction. Introduction. Change Orders. Changed Conditions. Design Errors and Omissions. Change in Project Design. Negotiating Change Orders. Contractor's Duty to Perform Change Order Work. Issues Related to Time and Delay. Liquidated Damages. Time Extensions. Resolving Construction Disputes. Dispute Resolution Boards and On-Site Neutrals. Arbitration and Mediation. Litigation. Partnering. Value Engineering. 4. Construction Management Contracts: An Alternative to Design-Bid-Build. Introduction. Construction Management Contract Formats. Agency Construction Management. At-Risk Construction Management Contracts. 5. Design Build Procurement: Combining the Designer and the Contractor. Introduction. Potential Benefits of Using Design-Build. The Design-Bid Process. The Request for Proposals: Defining the Project Scope. Competitive Procurement: One-Step and Two-Step Procurement. Preliminary Designs Included in the RFP. Formations of Teams and Consortiums. Additional Legal Risks for Contractors with Design-Build. 6. Emerging Trends in Project Procurement: Public Private Partnerships. Introduction. Reasons for the Emergence of Public-Private Partnerships. The Structure of Public Private Partnerships. Build-Operate-Transfer. Design-Build-Finance-Operate. Examples of Public Private Partnerships. BOT Projects. DBFO Projects. Conclusions. 7. Cost Control, Profitability and Cash Flow. Monitoring costs during construction. Assessing project profitability. Construction accounting and the profitability of the firm. Cash flow during construction. Unbalanced bids. Financing. Using computer software for accounting cost control. The JobView software. Monitoring project profitability using the software. Producing financial documents. 8. A Short Introduction to Scheduling and Planning. The importance of planning. Increasing project complexity. Linear scheduling techniques. Line-of Balance Analysis. Example applications. The Critical Path Method. Introduction. Benefits. History. The Basics of CPM. Activity. Network diagrams. Calculations. Computers and Scheduling. Discussion of available programs. Examples of input and output. Interpretation of output. 9. Managing Project Complexity: Configuration Management. Introduction. Increasing project

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It could use a reprint to resolve a few specific issues that seem to be mishaps faulted by the publishers. Notwithstanding, the book provides a solid, holistic knowledge of this industry in a current and approachable format. I am currently taking a course with the author, himself, and this book has, so far, proven to be a very valuable resource. I recommended it to anyone who is interested in managing construction on a larger scale, especially as an engineer (in training or professional).

Great it was shipped on time

While the other review cited many errors within the book, that may have been a slight exaggeration. There are some mistakes in the book, which are found mostly (if not exclusively) within the chapter review problems. These mistakes range from referencing in-existent tables or typographical errors within figures. The chapter content, however, is very easy to understand without any help from the professor. The only chapter that is a little tricky on its own is Chapter 7 involving Scheduling and planning. While this is a crucial method to understand, it is very easy to get the hang of it. Once you understand this method (the forward-pass and backward-pass), it's easy to tackle any problem of the nature. In fact, the book references software that deals with this kind of scheduling. I recommend checking out the trial versions of the software listed in the book to make it easier to understand the concept of calculation total float, free float, critical path (method), and calculating total project duration. Again, the book has some mistakes (a lot of which are typographical errors, seemingly done on the publisher's part) but the core material is present and easy to understand.

I found many errors on Schedule and estimating chapters. I called the publisher and even e-mailed them regarding this issue and I have received no answer. This book contains simple errors as well as technical ones. It will confuse you in one way because it uses tables that do not exist to solve some of the problems. Sometimes, it refers you to the wrong table as well, and even has errors as to simple adding like  $3+6=3$ . You would be distracted trying to make sense out of this book.

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