

Civil Engineering Quantities Ivor Seeley

This book sets out in simple language the art of detailing structures in steel, reinforced concrete and timber. It assumes no prior knowledge of structural mechanics or design and is suited to self-study or use as an introductory text for students of architecture, building, civil and structural engineering.

Facilities management is the growth property profession, as the drive towards ever-increasing efficiency and international competitiveness brings the facilities manager into the spotlight and he becomes recognised as a top level manager.

Written by a consultant facilities manager with more than 20 year's experience, the book deals with an area that is a step on from the design, procurement and furnishings of buildings into the skills of managing how the facility is used, and how it evolves in response to changing occupier demands.

The book fully explains the principles contained in the third edition of the Civil Engineering Standard Method of Measurement (CESMM3) and shows how they are implemented in practice. The contractual background to the measurement and valuation of civil engineering works is described in detail, as are the value and use of method-related charges. All aspects of the measurement of civil engineering work, from taking-off to bill preparation are covered; these are illustrated by some twenty-two worked examples containing working drawings and clear handwritten dimension sheets with fully explanatory notes. In addition to being completely revised and reset, the coverage is also extended with a further chapter on the measurement of the renovation of sewers and water mains.

Value Management (VM) has been welcomed as a breakthrough in project management that can greatly increase the effectiveness of construction expenditure. This book provides a comprehensive, step-by-step review of authentic VM procedures, illustrated with examples and descriptions from the authors' extensive experience as practising value specialists. In addition to explaining all the steps that are integral elements of VM studies, it describes how to set up a VM programme and provides tips to ensure its success. The book will appeal to advanced students of construction management and to a wide range of construction professional.

A long established text that aims to meet the needs of students studying building measurement in the early years of quantity surveying and building degree courses. It contains a careful selection of 28 worked examples embracing all the principal building elements and including alternative constructional methods to illustrate a range of approaches.

This book covers the whole range of skills and knowledge that modern quantity surveyors require to perform their work efficiently and effectively. The text has been thoroughly revised and substantially extended to enhance its value to the reader. All the basic skills of the quantity surveyor in construction procurement, contract administration and cost control

and management are dealt with in sufficient detail to meet the needs of students. The newly developing areas of project management and value management are examined and illustrated in a practical way.

This book analyses and comments on the 1980 JCT Standard Form of Building Contract, Private with Quantities Edition on a clause-by-clause basis, including notes on interpretation, legal precedents and information on the alternative editions of the Standard Form as well as the appropriate supplements. The third edition of this book incorporates the amendments published up to the end of November 1994 and updates the case law to include significant, recent precedents which supplement those included in the first two editions. Thus, this book will prove of use to many concerned with building, whether in industry or the professions commonly encountering problems of interpretation and implementation of the contract, or as students. The use of this book is recommended to be in conjunction with a copy of the appropriate JCT contract in order that the exact terminology of the document may be studied together with its interpretation. This is particularly important in practical situations where amendments to the contract vary the standard terms.

The book begins by considering the general backcloth to civil engineering works and contracts, including funding, preliminary investigations and the preparation of engineer's reports. The form and purpose of the various contract documents are examined and the principal requirements of the ICE Conditions summarised and explained. The principal tendering arrangements are described and compared, together with the more commonly practised approaches to estimating the cost of civil engineering works. Site organisation and supervision are covered in sufficient depth to illustrate the means by which a civil engineering project can be effectively planned, managed and controlled, and having regard to such important aspects as productivity, plant usage and safety of operatives. The method of measuring and valuing civil engineering works is explored and this encompasses the use of daywork, issue of interim certificates, settlement of final accounts, valuation of variations and financial control of contracts. Finally, the book examines the background to contractors' claims and how they should be presented by the contractor and dealt with by the engineer.

This comprehensively rewritten, updated and extended new edition of this established text focuses on what has become the most important single facet of the quantity surveyor's role - cost management. The scope of the book has been broadened to take account of the widening and more sophisticated cost management and control service that clients now require. The book examines the factors influencing building costs and how the precontract costs can be estimated, analysed and controlled, to ensure that buildings can be completed within the agreed budget and timescale, and be of acceptable quality, function effectively and provide value for money. A new chapter on value management has been added, together with an introductory chapter on cost modelling; the chapter on life cycling costing is extended, while the sections on energy conservation and occupancy costs are expanded. Throughout the text many new case studies, with supporting tables and diagrams, are included in order to enhance the value of this book to the student and the practitioner.

The increasing sophistication of buildings means that most of the work on an average project will be sub-contracted, so sub-

contractors now play a crucial role in practically all building projects. This book is a comprehensive examination of the legal principles which affect sub-contractors and explains in detail the key provision of the standard sub-contracts for use with the various JCT forms of the main contract. It examines issues such as design by sub-contractors, variations in sub-contract work, payment and set-off, and sub-contractor's claims for extensions of time and loss and expense.

This popular and well-established book has been rewritten to conform to the seventh edition of the Standard Method of Measurement of Building Works (SMM7) The author explains in detail the practical measurement of building works, using some twenty-five worked examples covering all the main building components, supplemented by extensive explanatory notes that clarify the basic principles and show how they are best interpreted and applied. As in previous editions, a chief aim has been to emphasise the usefulness of the book as a practical student guide to the measurement of relatively simple building work. A guide to developments in construction contracts law. It explains typical problem areas using illustrations, and discusses procedures for treating a variety of contractual problems. It also suggests guidelines for better practice on the part of the employer's team as well as contractors.

Constructability has been defined as 'the optimum integration of construction knowledge and experience in planning, engineering, procurement and field operations to achieve overall project objectives'. Those who advocate it as a concept and approach claim that it can bring real benefits to all involved clients, consultants, contractors and users. This book provides for the advanced student or practitioner a review of the concepts, principles and practices of constructability at each stage in the total construction process. After introductory chapters that explain the concept and principles of constructability and place them in the building/engineering context, the authors review the impact of different procurement routes on constructability, before moving on to focus on the implications in the design and construction phases. A key chapter is devoted to a sequence of case studies of real projects that illustrate the implementation of constructability; these cover building, engineering, services and refurbishment.

This book covers a practical approach to contract planning based on a series of live building and civil engineering projects in which the author has been directly involved. Aimed directly at CIOB and Building and Surveying students, the book covers all stages of the contract process from pre-contract through to final completion, and uses the principles and applications of bar charts, line of balance techniques, precedence diagrams and network analysis. The main topics are: the planning process; development of bar charts for budgets and sequence studies; principles and uses of line of balance techniques; network analysis; precedence diagram relationships; project planning by computer. Each chapter includes exercises.

Organisations of many kinds, perhaps none more so than those within the construction industry, are increasingly aware of the growing need to reduce the potentially harmful effects of their business upon the environment. Environmental

management and environmental management systems are concepts that embrace those aspects of policy, strategy, procedure and practice that form an organisation's response to its environmental situation. This book provides a detailed guide to the concepts and practices involved in the field of construction.

Civil Engineering Quantities Macmillan International Higher Education

Examines the principles which govern civil liability for the construction of defective buildings. The book deals with the key questions of who can be sued if a building is defectively constructed; who can sue if a building is defectively constructed; and what damages are recoverable. Special emphasis is placed on the consumer aspect of liability for defective buildings, the relationship between contract and tort, and the increasing importance of European legislation.

A clearly written and self-contained introductory textbook that presents the principles of economics for non-specialist students of the built environment. Using relevant examples, it shows how economics can provide a logical framework within which construction activity can be analysed. The text assumes no prior exposure to economics and aims to give readers the confidence to use economics at the microeconomic and macroeconomic levels.

A textbook for students at undergraduate and equivalent level taking courses on the built environment. It will appeal in particular to second level students of construction, building surveying, quantity surveying and architecture. While covering the full range of topics normally associated with building services, the author focuses on the treatment of energy within the built environment, as this is held to be one of the chief concerns of building consultants, building and facilities managers, inspectors and engineers.

Intended for undergraduate (and postgraduate) students studying property investment and development, this book provides an overview of the application of finance to property assets. After distinguishing between debt and equity, and project and corporate finance, the concepts and financial structures are then developed. The role of key developments and players in the market - the institutions, banks, investors and property companies - are examined. The book also aims to provide a financial perspective for those in the property and construction industry and, for those in finance, a view of real estate investment and development.

A comparative review of construction techniques relating to low and medium rise buildings, based on five representative European Community countries - Denmark, France, Germany, The Netherlands and Portugal. Professional relationships and the roles of the architect, engineer and surveyor are described, together with contractual procedures as appropriate. Case study examples are discussed under each country and numerous line diagrams illustrate the different techniques adopted for the construction of foundations, floors, internal and external walls and roofs. Comparative data on other EC countries not examined in detail is included. A textbook and reference source for students of the built environment.

This book examines estimating and bidding for construction work in the context of construction economics and construction management. It will appeal to undergraduate students of the built environment, particularly those studying building, construction economics and quantity surveying. After an introductory chapter on the construction industry and the market forces that operate

within it, there follows a review of a range of estimating methods and an examination of the relationship between estimating and project planning. Sub-contracting, the price of preliminaries, plan and specification contracts, and overheads, profit and project financing are each considered separately, with examples, in ; chapters 7 to 10. Chapter 11 considers the adjudication and bid submission process, while subsequent chapters deal with risk and uncertainty in estimating and tendering, bidding strategies, the client's view of the competitive bidding process, consortium and joint venture bidding, and the use of computers.

This book provides an overview to the context of property development so that students and professionals can examine the stages of development in the process. The stages are developed from initial consideration to site finding, general appraisal, valuation, funding, construction and marketing. In providing the context for development the author is able to focus on two key areas of the process: appraisal and finance. New ideas, concepts and techniques are introduced in considering the valuation of development properties, cash flow approaches, computer applications and risk analysis. In the area of finance, up to date information on the sources of development finance and the criteria for lending is provided. Project-based funding is examined in detail, as well as corporate funding and institutional investors. Joint venture arrangements and property companies are also discussed. A final section of the text deals with financial management. The book will appeal to a wide readership among students and practitioners in the built environment, especially those studying or involved in estate management, property funding and development, planning, surveying and construction.

For the third edition, the author has revised his popular text and enlarged the chapters on the valuation of freehold and leasehold interests, discounted cash flow techniques and methods of valuation. An additional chapter on computer applications has been provided. This is a valuable text for first stage valuation examinations for professional degree and diploma courses and includes fully worked examples and self-test questions.

This book presents a comprehensive review of the development process for recreation facilities, in both the public and private sectors of the economy. Using a sequential model of the development process derived from similar models for other types of property, the author outlines the motives for development, measure of feasibility, methods of calculating financial viability, and performance indicators for establishing the success of a development. Also examined are the role of the statutory planning process and its application in urban and rural areas. The development and planning process is then illustrated with four detailed case studies.

This book offers a new approach to the management of resources within the construction industry, and with special reference to smaller construction companies. A systems approach, based on a case study, is adopted to describe how the basic production resources are planned for, monitored and managed. Each resource is considered in detail, highlighting its associated problems for management, the aim being to develop a structured approach to the management of each resource within an overall integrated framework. The early chapters examine the problems of resource control; they describe the economic, financial, social and legal constraints under which management decisions are taken. Subsequent chapters deal with manpower, materials, plant and

subcontracting. Then come several chapters that examine costs from the viewpoint of classification, monitoring and control. The closing chapters discuss resource cost management and cashflow, culminating in a final chapter that demonstrates how an integrated systems of cost and cashflow management may be operated.

The maintenance of existing building stock is receiving increasing attention in most developed and in many developing countries. Intended as a comprehensive textbook for students, as well as a valuable reference for the professional, this book is a study of building defects, their diagnosis and cure. It deals with the full range of materials, components and elements involved in a building and is fully illustrated and referenced throughout.

This book studies the technical basis of the environment which exists in and around buildings. The main considerations are the effects of heat, light and sound within buildings; together with supplies of water and electricity. This edition discusses climatic effects, energy use, sick buildings and other topical subjects.

This book is directed primarily towards providing students and practitioners with a basic grounding in the use of computers by quantity surveyors. It is divided into two parts, the first part (Chapters 1 to 8) dealing with general concepts of information technology, and the latter part (Chapters 9 to 13) dealing with specific quantity surveying issues. Covers a wide range of topics: computer hardware; operational and management implications of computer systems; legal issues; general purpose software such as word processors, spreadsheet systems and micro-computer based data manipulation packages; public information software; development of in-house software; artificial intelligence and expert systems; the use of computers in cost planning, production of bills of quantity, post contract work and project management and computer aided design. The book is extensively referenced. Describes and explains the principles of the techniques that can be used to appraise the financial viability for a developer of undertaking the construction of a building project. Adopts an integrated approach that takes into account the roles of all the parties normally involved in the development process in UK, namely, the developer, the financial analyst, the property valuer, the quantity surveyor, the accountant, the building surveyor and the facilities manager. The book analyses the two factors which determine viability: the value realised, and the cost incurred by the project developer. Both factors are analysed in an economic, financial and managerial context.

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