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Building Quantities Explained

IVOR H. SEELEY

Formerly Emeritus Professor of Nottingham Trent University

In collaboration with

Roger Winfield

Director of Studies
Department of Surveying
The Nottingham Trent University

Fifth Edition

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This book is dedicated to those numerous graduates, diplomats and students in quantity surveying of the former Trent Polytechnic and its predecessor colleges, with whom I had the privilege and pleasure to be associated, and from whom I learnt a great deal.

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Preface to the Fifth Edition

The primary aim of this book continues to be to meet the needs of students studying the subject of building measurement in the earlier years of degree courses in quantity surveying and building, and those preparing for the appropriate examinations of the relevant professional bodies, the Business and Technician Education Council and National Vocational Qualifications. Although the needs of some of these students differ, it is believed that they all will benefit from the fundamental and yet practical approach that has been adopted.

This book describes and illustrates the measurement of relatively simple building work in accordance with the principles laid down in the *Standard Method of Measurement of Building Works: Seventh Edition (SMM7)* supported by the associated *Code of Procedure*. The book contains a careful selection of worked examples of taking off, accompanied by extensive explanatory notes, encompassing all the basic work sections of the *Standard Method*. Its main aim is to explain simply and to illustrate the measurement of building work and to amplify and clarify the basic principles contained in the *Standard Method*, for the benefit of quantity surveying and building students.

In preparing this edition a prime objective has been to increase its usefulness to students. This has been achieved by introducing new examples which incorporate modern constructional techniques and updating the remaining drawings. The format of the descriptions has been changed from traditional prose to a structured and standardised approach, encompassing classification tables, which follows closely the arrangements contained in the *SMM7 Library of Standard Descriptions*. This approach is more akin to current quantity surveying office practice and is complementary to the majority of standard libraries of descriptions used in conjunction with the production of computerised bills of quantities, and hence will better meet the needs of present day students.

The explanatory notes to the worked examples have been printed for ease of reading, but retaining the handwritten dimensions and descriptions to illustrate good practice. They have proved popular in earlier editions, as giving students a benchmark against which they can gauge their own performance. The texts of many chapters have been extended to give greater guidance and contain more diagrams, where they were felt to be both relevant and useful.

Many of the worked examples contain alternative constructional methods to illustrate a range of approaches and descriptions. For example, the pitched roof worked examples in chapter 8 cover both traditional cut and trussed rafter types and both tiled and slated roofs, encompassing roof void ventilation systems, while the flat roofs embrace both timber and concrete construction and coverings of built up felt, asphalt and lead. In the external works worked example, the road is taken in bituminous macadam and in concrete, the footpaths in precast concrete flags and clay cobbles, and the grassed area as seeded and turfed.

The worked examples covering wood casement windows and internal doors have been extended to embrace a number of windows and doors, to resemble more fully measurement work in practice. The internal finishes example relates to an eleven roomed bungalow, with a variety of ceiling, wall and floor finishes, while the drainage example has been extended to include separate foul and surface water drainage systems, incorporating drains in two different materials and three types of inspection chambers, to give the widest possible coverage. There are also new worked examples covering gas flue blocks and stone rubble walling, and joinery examples encompass both purpose made and stock pattern items.

A new chapter has been added to cover the measurement of simple electrical services and the former plumbing chapter has been more appropriately retitled 'water, heating and waste services' to indicate its wider scope. As the measurement of building services is more widely practised, it was considered desirable to extend the basic examples in this area to give improved coverage. Although students requiring a more detailed knowledge of this class of work are referred to *Measurement of Building Services*, also in the Macmillan Building and Surveying series.

The format and use of schedules are given much greater attention than hitherto, and worked examples including them cover the measurement of internal finishes, windows, internal doors, cold water services, drains and inspection chambers. There are also more examples of dimensioned diagrams, typical take off lists and a query sheet. The information on the principles, aims and application of coordinated project information has been retained as it is still of great relevance, despite its somewhat haphazard use in practice. In the final chapter the emphasis on abstracting and billing by the traditional method has been reduced and replaced by computerised taking off and billing, in keeping with current quantity surveying practice.

Following previous practice, the symbols 'mm' and 'm' are omitted from the drawings and measurement item descriptions, except where fractions of millimetres are involved. The decimal marker provides the distinguishing feature between metres and millimetres and hence there can be no misunderstanding, despite their use in the *SMM7 Measurement Code*. The procedure adopted follows the recommendation of the British Standards Institution, when advising on the change to metric in the construction

industry in 1968, and is the approach that is frequently used in practice. It avoids the unnecessary repetition of metric symbols and reduces the length of descriptions in bills of quantities and on drawings.

Nottingham

IVOR H. SEELEY

A revised edition of the *Standard Method of Measurement of Building Works* (SMM7) was published in 1998. The need for the revision was mainly due to the introduction of a new document entitled UNICLASS which has had the effect of changing a significant number of the Common Arrangement work sections into which SMM7 is subdivided. Consequently a second edition of the Common Arrangement of Work Sections for Building Works (CAWS) has also been published. In publishing the revised edition of SMM7, the opportunity has been taken to amend existing rules and introduce new rules of measurement on a minimal basis.

This book has been prepared in accordance with the revised editions of SMM7 and CAWS. However further amendments to SMM7 will be issued in 1999. In particular these will affect the existing rules relating to active, toxic and hazardous materials which appear in a number of different work sections.

Nottingham,
1998

ROGER WINFIELD

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