

Bills of Quantities for Landscape Work

By H. W. Waterworth, MA, ARICS, FIOB, AIQS and Professor A. E. Weddle, BArch, DipTP, PILA

The growing importance of bills of quantities in landscape practice is discussed in this paper. There are controversial suggestions that landscape practices might carry out some of the techniques of quantification themselves, as well as relying upon quantity surveyors.

Traditionally the bill of quantities has been used for many years as a basis for obtaining tenders and subsequently in connection with the various accounting procedures necessary to arrive at the value of interim payments and the final account. The price information generated by such a document is also of value for approximate estimating at the design stage and in relatively more recent times in the application of design cost control techniques, such as cost planning. The bill of quantities though is of less direct value to the contractor in connection with his construction planning techniques and steps are at present being taken to remedy this defect. In future the bill of quantities is likely to have a much more general application in landscape work than at the present time and this paper discusses various possibilities which might be developed in landscape practice.

To define landscape work would produce an extensive definition ranging from afforestation and reclamation schemes to work around buildings and civil engineering structures, whereas to define brickwork or plasterwork would give a much narrower definition closely related and integrated with other construction work. In other words landscape work is not just another "trade" but an involved and complex part of the construction industry and itself made up of a number of trades with its own special requirements, such as with regard to maintenance work (not to be confused with making good defects!). It follows therefore that there must be rules of measurement which properly reflect the nature of this work and meet the needs of landscape designers and contractors, which are not just "bent" building or civil engineering rules.

Landscape work may be broadly classified under two headings – "hard" and "soft" finishings. The main problem with "hard" finishings is that, at present, the rules of measurement may be taken from those used for building as well as those used for civil engineering work – not helpful as far as the landscape contractor is concerned who has to price and implement the requirements of bills of quantities differently structured and prepared according to different rules. As for "soft" finishings the position is even more unsatisfactory as the rules for this work are virtually non-existent.

Before considering the adequacy of the current rules to properly reflect the requirements of landscape work, which is questioned by many, it might be useful to attempt to classify landscape contracts. The following classifications are suggested:

- (a) large-scale direct contracts containing a varying mixture of "soft" and "hard" finishings;
- (b) direct and sub-contracts comprised mainly, if not exclusively, of "soft" finishings carried out in association with buildings, and
- (c) similar works carried out in association with civil engineering works.

It will be noted that the "ILA Conditions of Contract" requires the use of the "Standard Method of Measurement of Building Works" and from an examination of the rules for both civil engineering and building it would seem that the building rules are likely to be the most appropriate for the measurement of "hard" finishings for all types of landscape contract (i.e. for (a), (b) and (c)). It would therefore be helpful if these rules and only these rules, could be used exclusively for all such work.

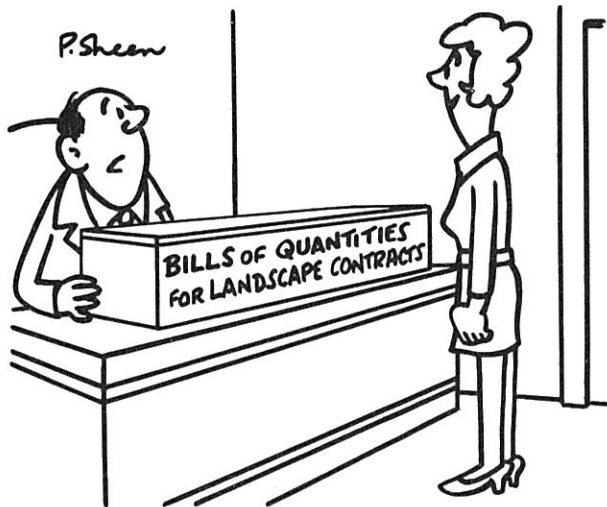
In view of the limited relevance of current methods of measurement to "soft" landscape works BALI (British Association of Landscape Industries) established a small working party in 1975 to prepare a set of rules for "soft" finishings. A document entitled "Method of Measurement of Soft Landscape Works" is now under consideration by the BALI council. It is the hope of the working party that should the document be approved then acceptance by the JCLI (Joint Council for Landscape Industries) will be sought. The working party emphasises that this is the first major attempt to rationalise measurement in this area and therefore should the "Method" be applied it will be necessary to keep it under constant review with the intention of issuing a revised document after several years. The document has been expressed as concisely as possible, commensurate with the main objective of trying to standardise the quantification of "soft" landscape work. Apart from the Introduction and Preamble it contains five sections dealing with "Cultivation and preparation of ground generally for growing material", "Seeding and turfing", "Planting, including shrub and tree planting", "Thinning and pruning, tree surgery, grass improvement and other work to existing growing material", "Protection of existing artifacts and growing material during construction."

Having discussed rules of measurement who should prepare the quantities? There is certainly no divine right as to who should do this work, the question is surely how can this activity be most efficiently completed? There seems to be two reasonable alternatives – by quantity surveyors or by the landscape architect's own staff. In order to attempt to answer this question it is important to firstly identify the qualities a person should possess in order to effectively produce bills of quantities and secondly to recognise the essential differences between landscape and other construction work.

To enable a person to produce bills of quantities, apart from an aptitude for analysis and handling a large amount of detailed information, it is important that he (or she) should have a high level of understanding and knowledge of the subject matter, together with some knowledge of the designer's problems and the contractor's construction techniques. Quantity surveyors, apart from a few firms, will not have the required specialist knowledge of landscape work – this aspect of construction does not feature in the education and training for

quantity surveyors, or where it does the treatment given is usually very cursory and therefore such knowledge as quantity surveyors have of this subject is acquired through experience in practice.

It seems that the essential difference between landscape and other construction work is one of scale, both from the point of view of the size of the contracts and the size of the firms carrying out the work. Both are relatively small when compared with other parts of the construction industry carrying out new works. In consequence some quantity surveyors have questioned whether it is worth their while producing bills of quantities for such work. This must have meant that in certain circumstances bills have not been employed when they should and could have been used with advantage.



"Please see I'm not disturbed while I weed out and generally dig into these papers."

How often has one seen the criticism that clerks of works for building or clerks of works/resident engineers for civil engineering projects are, because of their training and experience, of little value when it comes to overseeing landscape works? In order to overcome this problem a number of landscape architects employ what one might describe as "contracts staff", some of whom also perform, in part, the functions of the quantity surveyor. Much of the inspection work for landscape projects is carried out by such staff who could also, with ease, prepare interim valuations and complete measurements for variations at the same time. Clearly for many projects this must be a more efficient way of dealing with this aspect of quantity surveying than by involving another person in these activities, in addition to the less well defined advantages to be gained by the close working relationship such a person would automatically have with the designer.

Furthermore, it is becoming increasingly necessary in order to secure approvals for major projects in particular to make successive submissions as the design develops from outline to detail to tender stage. Appropriately broad or finalised estimates are needed at these stages. In the case of landscape work some offices have developed their estimating techniques to the extent that they use them to refine the design at each stage and secure a best value solution rather than suffer the cut price solution when at the end of the design process the tenders are found to be out of line with earlier estimates. Whilst the good quantity surveyor can assist the building architect in design cost control it remains necessary for much cost planning in landscape work, due to the highly specialised and variable nature of such work, to be carried out in the designer's own office. This is an area where "contracts staff" can make a contribution in the design process by measuring and estimating at each stage in the development of the project.

It is surely then but a short step to the creation of a properly qualified technical assistant for the landscape architect capable of participating in design cost control, producing specifications and bills of quantities, vetting tenders and subsequently dealing with the inspectorial and accounting functions necessary during the currency of the contract, as well as other associated activities. Whilst this suggestion is relevant for many landscape schemes for the larger projects it would be necessary for quantity surveyors, with the necessary specialist experience, to be employed, certainly for the preparation of the contract documentation. It would not be a viable proposition for such "contracts staff" to cope with large projects, mainly because of time constraints and lack of special quantity surveying facilities.

The position then appears to call for a "two level" approach to the production of bills of quantities. For the smaller projects this work would seem to be carried out preferably by the landscape architect's own "contracts staff" and for other projects by the traditional method of employing a quantity surveyor. Perhaps in this connection the RICS and IQS could be persuaded to maintain lists of those firms with particular expertise in this area.

Landscape contractors have indicated, in the past, a need for bills of quantities for quite small projects and the suggestion made here would assist in meeting this demand, though bills of quantities should obviously only be used when the cost of their production and subsequent application does not exceed the likely saving that their use would create.

As to the rules of measurement it would seem important, eventually, that those relating to landscape work, in common with those for all other aspects of construction, should accord with the same fundamental philosophy, though initially this is probably impossible until the practices relating to the quantification of landscape work have evolved to a greater extent than at present. In the meantime it is suggested that in order to make progress consideration should be given to the quantification of landscape work in the ways suggested. Inevitably there will be problems but the identification and proper resolution of these problems will contribute to the development and improvement of quantification and indeed other practices for this increasingly important part of construction work.