

Contracting:

Up till recent years contractors in Australia have tended to recruit technical and management personnel with trade backgrounds and it is only in the past decade that the industry has begun to realise the potential for recruitment of professionally trained surveyors into the increasingly

sophisticated areas of contract administration, cost control, estimating and project management.

For the quantity surveyor with additional experience in aspects of the construction industry Australia today is indeed a land of promise.

To contemplate a move half way across the world can be a traumatic experience for a

family with established roots. To those members of the Institute who are presently considering the possibility of emigrating, we sincerely hope that the results of our researches and combined experiences will help you arrive at the right decision. To those who have already decided on a new life down under—welcome and good luck!

Reconstruction Costs

—a burning issue

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Last year fire damaged more than £469m worth of buildings in the British Isles. The most spectacular blaze in recent times being the Alexandra Palace at a loss of some £18m.

Most householders when confronted with insuring their property are never really quite sure whether they are over or under insured and somewhat apprehensive in the case of the latter.

Local Authorities have long lists of individual buildings with insured reconstruction costs running into several hundred million pounds. They are probably adding to or selling off part of the building stock every year and need to keep the insured value under regular review.

Empirical assessments requiring a certain ingenuity if not a firm belief in magic may fit the bill occasionally but they will of course rarely provide accurate base data. Because of the fluid nature of building stocks in Local Authorities no assessment can be absolutely accurate, however there is no substitute for a proper assessment of reconstruction costs based on facts.

To do so on one building is relatively straightforward. In the case of one thousand buildings the work is in theory increased a thousand fold. There are however certain common factors which can be examined. They principally fall into two categories:

1. General

- i. Terms of the Insurance agreement
- ii. The base tender cost per M² for various building types
- iii. Future rate of inflation
- iv. Professional fees.

This forms the data on which the details are based.

2. Specific

- i. Age of building
- ii. Use of premises
- iii. Construction type and specification level
- iv. Number of storeys
- v. Floor area
- vi. Pre contract lead or design time

vii. Construction period

viii. Demolition and external works

ix. General insurance category.

In the case of age, use, specification and storey height the base rate may be 'factored' to reflect the cost effects of same. The effects of time in relation to cost will be self evident as will the net cost of demolition and external works.

If the general data is obtained and each up-to-date property record is enhanced to include the specific, the facility exists to carry out a detailed assessment of reconstruction costs for each one of a thousand buildings. The only practical constraint being that of time.

Property records can be stored on a card index system, bound into loose leaf record books or retained by the use of a computer. In the case of the former a considerable workload awaits the would-be assessor. The latter represents a classic example of a computer application that lends itself directly to the manual equivalent operation.

A computer program to retain a detailed property record together with cost factoring facilities was written for a Commodore PET. It became evident that this approach would not only be cost effective and accurate but also give several other spin-off benefits in the area of data retrieval.

The completed system requires periodic maintenance of the "floppy disc" property record by the property surveyor and reappraisal of basic costs, rate factors and inflation by the quantity surveyor. The procedure thereafter is largely automatic. Behind the automation is a fairly complex logic which follows the manual process but still requires the exercise of professional judgement.

Irrespective of the number of buildings the method of calculation remains constant. The basic rate for construction is the cost per square metre of gross floor area and is obtainable from a variety of sources but for preference should be the product of analysis of recent tenders for similar buildings received by the Authority.

Insurance policies commonly require the reinstatement values to include inflation for the whole of the design and construction period following the loss of the building, which represents a large proportion of the total reconstruction cost. For example larger buildings may not be replaced until several years after a fire. Selection of suitable rates for inflation is the responsibility of the insurer.

Fees, including those for architects, quantity surveyors, structural engineers and service designers, should also be accounted for and temporary relocation of the occupants and functions of a building pending replacement are other considerations.

On a note of caution, floor areas of buildings can mean different things to different people. The area kept on record must be the gross internal floor area used by quantity surveyors in their construction cost analyses. Any discrepancy in the area definition will require adjustment.

The size of a building can be used as a pointer to certain aspects of the reconstruction costs. Adjustments can be made which reflect both the tender climate and the measurable economic differences between large and small projects. Size and cost also provide good indications of lead times and construction periods.

Although damage to the building structure by fire can be compared with the costs of new construction—external works are a special case. Fences, plants and access roads for example may be damaged by fire or the action necessary to fight it, whereas soil grading and drainage are not likely to be. The requirement should be set out in the conditions to the policy and should be examined carefully.

Broadly speaking reconstruction costs are banded into policy groups and sub divided into geographic users.

Typical content of the property data file would include:

- i. Name and address
- ii. Unique property number
- iii. A code signifying a single building on a site, or buildings forming a complex on a site

- iv. The property use code indicating the primary function of the building, e.g. Comprehensive School
- v. The building type code indicating the specific use of a building, e.g. Sports Hall, Caretaker's House
- vi. Floor area of the building
- vii. The relevant insurance policy or individual category
- viii. The price factor which allows judgement of cost related facts not adjusted elsewhere
- ix. The number of storeys.

G.F.A. SQ.M.

Small Wks.
Addition
+ % YearDes. Time
MonthsConst. Time
Months

0 — 60	35	4	6
60 — 180	20	9	9
180 — 530	7	12	12
530 — 1000	0	15	12
1000 — 1800	0	18	15
Over 1800	0	24	19

450	Courthouses
180	Warehouses
380	Offices
320	Technical and F.E. Colleges
275	Housing
360	Laboratories
330	Day Centres
150	Temporary Buildings

212 = Tender Index at 1 July 1981
 216 = Tender Index for cost information
 11% = Anticipated annual inflation rate
 .05% and .08% = Test premium percentages

Percentage allowance for external works: 3%
 Percentage for Professional Fees: 15%

The application of "factors" to revise the basic rates to take account of the unique features of each building are built into the program. The quantity surveyor thereby has the facility of fine tuning according to individual circumstances.

This format has been designed to suit both the requirements of the County Council and the insurers.

A great deal of interest has been shown in the program, anyone wishing to obtain further information should contact the authors.

Typical Content of Base Data:

Date of start of Insurance Year—1 July 1981
 Re-Construction Costs per M² of Gross Floor Area.

£	
275	Primary Schools
290	Secondary Schools
240	Sports Halls (inc. Changing)
275	Workshops
325	Old Peoples or Childrens Homes
330	Libraries
300	Youth or Community Centres
375	Fire Stations

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