

THE ASSOCIATION OF
SOUTH AFRICAN QUANTITY SURVEYORS



Guide to

Elemental Cost Estimating &

Analysis for Building Works

1998



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FOREWORD

This Guide to Elemental Cost Estimating & Analysis for Building Works (the new Guide) replaces the existing Guide to Elemental Cost Analysis (1982 second edition). A working group of the Construction Economics Committee, comprising Martin Smith, Professor Paul Bowen, Martin Treadaway and Keith Cattell, undertook the compilation of the new Guide. We are greatly indebted to them for this excellent document.

The primary purpose of the new Guide is to present a system for elemental estimating, however, the document has been compiled in such a manner as to enable and stimulate dedicated cost analysis and cost comparison between construction projects.

The elemental list contained in the 1982 second edition has been revised, categories of elements amended and the format changed. This Guide is more comprehensive than the previous one and has been expanded to include taking off and pricing notes and a column for analysis purposes.

Hopefully this document will be supplemented in future by further guides to the various other methods and stages of estimating, ultimately providing a comprehensive estimating manual.

The committee would welcome constructive criticism and suggestions to improve the Guide.

Dave Lindenberg
Chairman
Construction Economics Committee
Association of Quantity Surveyors

September 1998

EXPLANATORY NOTES

The primary objective of this Guide is to present a system which sets out principles and a model format for elemental estimating.

Cost Analysis

Meaningful elemental cost analysis will only be possible if cost data are based on a uniform standard analysis. The estimator is therefore urged not to deviate from the system proposed in this Guide since only then will it be possible to use the derived data for comparative elemental estimating and cost planning.

New Guide

The list of elements has been re-organised into the following sections:

- Primary Elements
- Special Installations
- Alterations
- External Works and Services
- Training
- Preliminaries
- Contractor's Fee
- Contingency Allowances
- Escalation
- Value Added Tax

Salient Features of New Guide

A TAKING OFF/PRICING NOTES column has been introduced as part of the element and component list in order to assist the estimator in compiling and pricing the elemental estimate. Detail is not provided as it is up to the estimator to allow for all components.

The element PILING falls under Special Installations as it represents an abnormal site condition and would adversely affect meaningful cost comparison of typical building projects with different ground conditions.

BASEMENT EXCAVATIONS are deemed to be part of the site preparation and, therefore, have been included with External Works and Services. There is no longer a separate element called BASEMENT and the basement components such as floors, walls, etc., have been included with the appropriate Primary Elements.

There is a new element INDEPENDENT STRUCTURAL COMPONENTS applicable to unframed structures and no longer an UPPER FLOORS element. All slabs and staircases fall under the elements Structural Frame or Independent Structural Components, as the case may be, and the Guide clearly indicates how these are to be provided for.

CONCRETE WALLS, whether reinforced or not, are included with External Envelope or Internal Divisions, as the case may be, and not with the Structural frame. Concrete walls are included with the External Envelope or Internal Divisions based on a functional, rather than a construction, definition.

PARTITIONS is a new element which is separate from Internal Divisions.

The category SPECIAL INSTALLATIONS includes all specialist sub-contractor work, except for the conventional Electrical Installation within the building. There is a comprehensive list of Special Installations which incorporates all the more frequently encountered specialist work.

An element, MISCELLANEOUS ITEMS, has been introduced at the end of sections 1, 2 and 4 for any items which are not catered for within the list of elements.

TRAINING is a new bill required mainly by government clients to be included in bills of quantities and, therefore, is a new element of cost.

PRELIMINARIES has been expanded to include a break-down of components. It is no longer the first section, but has been moved to the end of the estimate.

CONTRACTOR'S FEE has been introduced as a separate section. This is an optional approach and the estimator may wish to include the principal contractor's fee on a pro-rata basis within the individual rates in the estimate. The Contractor's Fee is often a separately identifiable and negotiated amount, as in the case of multiple procurement contracts, and it may be helpful to reflect this cost separately. However, it should be realised that this approach will distort the cost analysis data.

CONTINGENCY ALLOWANCE has been expanded to include both "Price and Detail Development" and "Building Contract Contingencies" as components. The Price and Detail Development Contingency is there to take care of design development at the estimating stage, and the Building Contract Contingency is included to cover unforeseen circumstances during the contract stage.

ESCALATION is a new element of cost, included in order to provide estimated pre-tender and contract escalation.

VALUE ADDED TAX, introduced after the 1982 second edition guide, is now included as a new element of cost.

DEFINITIONS

Sections

The elements are sub-divided into the following sections: Primary Elements, Special Installations, Alterations, External Works and Services, Training, Preliminaries, Contractor's Fee, Contingency Allowances, Escalation and Value Added Tax. Elements are defined and constant for all buildings, thus facilitating the use of information obtained from a building when estimating the cost of other similar buildings.

Element

Buildings are divided into Elements (e.g. Foundations, External Envelope, Roofs, etc.). An Element is that part of any building that always performs the same function irrespective of its construction or specification. Elements should not be combined or divided.

Component

Each Element is sub-divided into Components (e.g. the Element Roofs is sub-divided into the Components of Construction, Coverings, Insulation, etc.). Where a specific Component forms a high cost part of the estimate, such Component should be further sub-divided into sub-components.

Measurements Required for Element or Component

The Measurement required is the actual quantitative unit of the Element or Component. Each of the Elements or Components is considered and evaluated in the plane in which it occurs (e.g. the Element Roofs would be evaluated per square metre in the various planes of the roof, the Component Downpipes per metre length and the Component Dormers per unit number). The quantity of an Element or a Component is measured and multiplied by a monetary rate thus obtaining an estimated construction cost for that Element or Component.

Unit

Unit denotes the unit of measurement of the individual Element or Component.

Composition of Element or Component

Each Element comprises various Components. Each Component comprises various parts or sub-components.

Taking Off/Pricing Notes

Taking off/pricing notes are guidelines to assist the estimator in the taking off and pricing stages of an estimate.

Code

The Code is the numerical identification for each Element or Component.

Cost

Cost is the cost of an Element and is the aggregate of the Component costs comprising the particular Element.

Quantity

Quantity is the actual measured quantity of an Element or Component.

Cost Per Unit

Cost per unit is the cost of an Element divided by the measured Quantity of the Element (e.g. the Cost of the Element Roofs divided by the area of the Element Roofs).

Cost Per Square Metre

Cost Per Square Metre is the Cost of the Element divided by the Construction Area.

Cost (Percentage) %

Cost % is the Cost of the Element expressed as a portion of the total cost.

Construction Area

The Construction Area of a building is the total of all the areas of a building measured on plan at each covered floor level over the external walls or external lines of the outermost vertical enclosing planes or, where applicable, the centre line of party walls between buildings

The following items are **included** in the calculation of Construction Area

- Internal stairwell and staircase areas
- Lift shaft areas
- Duct space areas
- Mezzanine floor areas
- Finished floor areas in attic spaces
- Floor areas to penthouses, staff quarters, lift motor rooms, etc.
- All open but covered porches, balconies and balcony corridors within the enclosing planes of the main building
- Floor areas to attached sheds, carports, etc., and all partially completed rooms, porches, balconies, etc., provided the relevant areas are covered and have at least two of their walls not less than two thirds of the storey height on which they occur.

The following to be **excluded** from the calculation of Construction Area

- External steps and paved areas
- Areas of projecting roof overhangs, hoods, canopies and the like
- Enclosed open areas (light or ventilation wells and courtyards)
- Areas of open covered ways and carports, etc.
- Areas of unenclosed fire escapes
- Areas on plan of small projections such as pilasters, attached piers, fins, chimney breasts, etc.

Training

Government clients require the inclusion of an amount for training of previously disadvantaged individuals. Training of candidates shall consist of institutional training on a competency based modular basis and practical on-site training under competent supervision provided by the contractor.

SUMMARY OF ELEMENTS

SUMMARY OF ELEMENTS

The following new elements and components within the above sections have been introduced:

Primary elements

- Foundations
- Ground Floor Construction
- Structural Frame
- Independent Structural Components
- External Envelope
- Roofs
- Internal Divisions
- Partitions
- Floor Finishes
- Internal Wall Finishes
- Ceilings and Soffits
- Fittings
- Electrical Installation
- Internal Plumbing
- Fire Services
- Balustrading, etc.
- Miscellaneous Items

Special installations

- Piling
- Sun Control Screens, Grilles, etc
- Raised Access Floors
- Special Fire Protection
- Lifts
- Escalators
- Air Conditioning
- Ventilation
- Heating
- Special Electrical Installations
- Other Services
- Compactors
- Access Control
- Gondolas
- Stoves
- Kitchen Equipment
- Specialised Equipment
- Security Systems
- Communication Systems
- Prefabricated Cold Rooms
- Signage
- Artwork
- Miscellaneous Items

Alterations

- Alterations

External works and services

- Soil Drainage
- Sub-surface Water Drainage
- Stormwater Drainage
- Water Supplies
- Fire Service
- External Electrical Installations
- Connection Fees, etc
- Demolitions
- Site Clearance
- Earthworks
- Boundary, Screen and Retaining Walls, etc
- Fencing and Gates
- Roads, Paving, etc
- Covered Parking, Walkways, etc
- Pergolas, Canopies, etc
- Minor Construction Work
- Pools, etc
- Sports Facilities
- Garden Works
- Miscellaneous Items

Training

- Training

Preliminaries

- Preliminaries

Contractor's Fee

- Contractor's Fee

Contingency allowances

- Price and Detail Development
- Building Contract Contingencies

Escalation

- Pre-tender escalation
- Contract escalation

Value Added Tax

- Value Added Tax

SCHEDULE OF ELEMENTS

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
1	PRIMARY ELEMENTS							
100	Foundations			Areas on plan of structure having foundations, measured over walls.	m ²	Comprises all work below lowest floor level to the buildings proper including basement foundation but excluding structural frame, piling and site excavation (refer to 102 – Structural frame, 200 – Piling and 409 – Earthworks).		
		100.10	Unreinforced strip footings.	Length on plan.	m	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding and formwork.	Measure different sizes separately. Measure footings for external and internal walls separately for use when measuring superstructure. State depth of excavation and size of footing.	
		100.20	Reinforced strip footings.	Length on plan.	m	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding, formwork and steel reinforcement.	Measure different sizes separately. Measure footings for external and internal walls separately for use when measuring superstructure. State depth of excavation and size of footing.	
		100.30	Straps and foundation beams.	Length on plan.	m	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding, formwork and steel reinforcement.	Measure different sizes separately. Measure beams for external and internal walls separately for use when measuring superstructure. State depth of excavation and size of footing.	
		100.40	Columns, column bases and pile caps.	Number.	no	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding, formwork and steel reinforcement below the lowest floor level.	Measure different sizes separately. State depth of excavation and size of bases and pile caps. State column sizes and height columns.	
		100.50	Lift shaft bases.	Number.	no	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding, formwork and steel reinforcement.	Measure different sizes separately. State depth of excavation and size of bases.	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
	Foundations (continued)	100.60	Brick and block walls.	Length on plan.	m	Comprises all brickwork, blockwork, brick reinforcement and plinth finishes up to lowest floor level.	Measure different types and thicknesses of walls separately. Include horizontal dampproof course and triangular fillet in walls. State height of wall and finish.	
		100.70	Reinforced concrete walls.	Length on plan.	m	Comprises all concrete, formwork, steel reinforcement and plinth finishes up to lowest floor level.	State thickness of walls and measure different thicknesses separately. State height of wall and finish.	
		100.80	Rock, etc excavation.	Volume.	m ³	Comprises rock excavation, removal of concrete, brickwork, etc.	State percentage of excavation volume allowed.	
		100.90	Sundries.	Area on plan of structure having foundations.	m ²	Comprises carting on/away and dewatering items that apply to 100.10 to 100.70 above (dewatering to be included with 409.70 – Dewatering when basements occur).	Each unit to be measured in the applicable unit of measurement.	
101	Ground floor construction			Area on plan of ground floor construction, measured over walls.	m ²	Comprises complete ground floor construction, including integral steps and ramps.	Finishes (screed, etc) to be measured under 108 – Floor finishes and Sub-surface water drainage to be measured under 401 – Sub-surface water drainage.	Often the same area as foundations.
		101.10	Solid floors.	Area on plan of the portion having solid floors, measured over walls.	m ²	Comprises excavation or filling under solid floors, ant proofing, hardcore, underfloor waterproofing, surface beds, mesh reinforcement (if any), expansion joints and thickening out of surface beds under walls and at edges.	Measure different types separately. Measure expansion joints and thickening out separately. State floor thickness.	
		101.20	Suspended floors.	Area on plan of the portion having suspended floors, measured over walls.	m ²	Comprises excavation, ant proofing, concrete, brickwork and ties to sleeper piers, wall plates, sleepers, bearers, floor joists, boarding, battens, slabs, formwork and mesh reinforcement (if any).	Measure different types separately. Applied finishes to boarding to be measured under 108 – Floor finishes.	

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	Ground floor construction (continued)	101.30	Steps.	Area on plan of the steps measured over walls.	m ²	Comprises excavations, filling, ant proofing, hardcore, waterproofing, concrete, formwork, reinforcement (if any), etc.	Measure finishes under 108 – Floor finishes and balustrades under 115 – Balustrading, etc.	
		101.40	Ramps.	Area on slope of the ramps measured over walls.	m ²	Comprises excavations, filling, ant proofing, hardcore, waterproofing, concrete, mesh reinforcement (if any), etc.	State thickness of ramps. Measure finishes under 108 – Floor finishes and balustrades under 115 – Balustrading, etc.	
102	Structural frame			Area on plan of structural floor and roof slabs measured over small openings and staircases (deduct area of lift shafts and large openings).	m ²	Comprises the components above lowest floor level that form the skeleton frame of the building.	Concrete walls to be measured with external envelope of internal divisions.	Adjust area for large openings.
		102.10	Slabs.	Area on plan of structural floor and roof slabs measured over small openings (deduct area of staircases, lift shafts and large openings).	m ²	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items.	Measure different slab types separately. Measure solid portions of coffer slabs separately. State thickness of slabs.	
		102.20	Ramps.	Area on slope measured over supporting walls.	m ²	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items.	State thickness of ramps. Measure applied finishes under 108 – Floor finishes and balustrades under 115 – Balustrading, etc.	
		102.30	Staircases.	Area on plan measured over enclosing walls at each floor level.	m ²	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items.	Measure applied finishes under 108 – Floor finishes and balustrades under 115 – Balustrading, etc.	
		102.40	Columns supporting slabs.	Length.	m	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items.	Measure different sizes separately. State size of columns.	
		102.50	Beams.	Length.	m	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items.	Measure different sizes separately. State net size of beams.	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
103	Independent structural components			Construction area.	m ²	Comprises ramps, staircases, slabs in unframed structures, independent columns, beams and portal frames not forming part of the structural frame (refer to 102.20 for ramps and 102.30 for staircases forming part of the integral structural frame).	Concrete walls to be measured with external envelope or internal divisions.	
		103.10	Ramps.	Area on slope measured over walls.	m ²	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items.	State thickness of ramps. Measure applied finishes under 108 – Floor finishes and balustrades under 115 – Balustrading, etc.	
		103.20	Staircases.	Area on plan measured over enclosing walls at each floor level.	m ²	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items.	Measure reinforced concrete, structural steel, etc, staircases separately. Measure applied finishes under 108 – Floor finishes and balustrades under 115 – Balustrading, etc.	
		103.30	Slabs in unframed structures.	Area on plan of floor and roof slabs measured over small openings (deduct area of staircases and large openings).	m ²	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items.	Measure different types separately. State thickness and type of slabs.	
		103.40	Independent columns.	Length.	m	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items.	Measure different types separately. State size of columns.	
		103.50	Beams.	Length.	m	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items.	Measure different types separately. State net size of beams.	
		103.60	Portal frames.	Combined length of columns and beams.	m	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items.	State size of beams and columns.	

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104	External envelope			Area on elevation of the external envelope of the building in line with the general faces of the building and measured over openings, columns, slab edges, etc and including gable walls.	m ²	Comprises all vertical components enclosing the building including gable walls.	Measured from lowest floor level to underside of roof. Measure parapet and balustrade walls under 115 – Balustrading, etc.	
		104.10	Brick and block walls.	Area on elevation.	m ²	Comprises brickwork, blockwork, beam filling, gable walls, sundries (eg damp-proofing, ties to concrete, building cavities solid, tanking, etc).	Measure different types and wall thicknesses separately.	
		104.20	Reinforced concrete walls.	Area on elevation.	m ²	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, waterproofing and tanking.	Measure different wall thicknesses separately.	
		104.30	Curtain walls.	Area on elevation.	m ²	Comprises the curtain wall complete with framing, glass, infill panels, service ducts, pelmets, etc and any related sundry builder's work.	If divided vertically and horizontally by structural frame, then measure as windows.	
		104.40	Precast cladding.	Developed area on elevation.	m ²	Comprises the complete precast cladding with finish, steel reinforcement, fixing method, shims, etc.	Measure different types, thicknesses and finishes separately.	
		104.50	External finishes.	Area on elevation.	m ²	Comprises all finishes to the external envelope, excluding finishes imparted by stonework and openings but including all finishes to projecting slabs, etc.	Measure different finishes separately. Measure expensive finishes in detail. Smooth, patterned or other formwork to concrete walls to be measured separately.	
		104.60	Windows.	Area on elevation.	m ²	Comprises windows, lintols, internal and external cills, pelmets, curtain tracks, remote control, reveals, glass and paint.	Measure window with different types of glass separately. Measure louvre drapes separately.	

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	External envelope (continued)	104.70	Shopfronts and similar entrance screens.	Area on elevation measured over doors and stallboard risers.	m ²	Comprises the shopfronts, shop entrances, doors, stallboard risers and bulkheads above including finishes and appurtenant sundry builder's work.	Measure single, double and rotating doors separately. State provisional sum net rate if applicable. Doors to be measured separately as "extra over" State if remote control. Measure bulkhead construction, fixing and finishes thereof separately.	
		104.80	Doors.	Number.	no	Comprises doors, frames, lintols, fanlights, sidelights, anchors, ironmongery, door closers, dowels, reveals, glass and paint.	Measure different types of single and double doors separately. State if doors are non standard sizes. Measure door closers separately. Measure mat recesses and door mats separately.	
		104.90	Special doors.	Number.	no	Comprises doors, frames, lintols, fanlights, sidelights, anchors, ironmongery, door closers, dowels, reveals, glass and paint.	Measure special doors (eg fire and electronic doors) separately.	
105	Roofs			Area of the roof covering and waterproofing measured in the various planes of the roof over parapets, box gutters, etc.	m ²	Comprises the complete roof including concrete flat roofs.	Excludes parapet and gable walls.	Measure waterproofed area separate from roof construction area.
		105.10	Construction (other than concrete)	Area on flat or on slope, excluding roof lights.	m ²	Comprises the complete roof construction including wall plates, ties, trusses, windbracing, etc.	Measure timber and structural steel construction separately.	
		105.15	Coverings.	Area on flat or on slope, excluding roof lights and dormers.	m ²	Comprises roof and dome coverings, treatment, battens, purlins, boarding, hip and ridge coverings.	Measure different types separately. Deduct for area of roof lights and dormers.	
		105.20	Roof, lantern and southlights.	Area.	m ²	Comprises construction, glass or polycarbonate, paint, etc.	Measure different types separately.	

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	Roofs (continued)	105.25	Waterproofing.	Area measured over parapets, etc but excluding roof lights and dormers.	m ²	Comprises screeds for and waterproofing to roofs, gutters, canopies, etc, turnups, sundry items and paint.	Measure different types separately. Deduct for area of roof lights and dormers.	
		105.30	Insulation.	Area on flat or on slope but excluding roof lights and dormers.	m ²	Comprises all insulation materials and appurtenant sundry items.	Deduct for area of roof lights and dormers.	
		105.35	Trafficable surfaces.	Area of waterproofing finished with trafficable surfaces.	m ²	Comprises the materials forming the trafficable surface including appurtenant sundry items.	Measure different types separately Measure in detail if expensive.	
		105.40	Eaves.	Length.	m	Comprises eaves soffit and edge treatment and eaves gutters.	Measure different types separately. Measure in detail if expensive. State projection.	
		105.45	Verges.	Length.	m	Comprises soffit and edge treatment.	Measure different types separately. Measure in detail if expensive.	
		105.50	Accessories and flashings.	Length.	m	Comprises flashings, lightning conductors and valley details.	State width of flashings. Measure each accessory, etc. separately.	
		105.55	Downpipes.	Length.	m	Comprises downpipes cast-in or surface mounted, sundries and paint including outlets, rainwater heads, etc.	Measure different types separately.	
		105.60	Ventilators.	Number.	no	Comprises ridge ventilators, revolving ventilators, powered ventilators, slope ventilators, etc.	Measure different types separately.	
		105.65	Dormers.	Number.	no	Comprises construction, cladding, covering, flashing, window, etc.	Measure different types separately.	
		105.70	Chimneys.	Number.	no	Comprises construction, finishes, cowls, etc.	Measure different types and sizes separately. State length.	

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106	Internal divisions			Area on elevation of internal divisions measured over all openings, columns, etc.	m ²	Comprises all vertical components dividing the interior of the building excluding partitions (refer to 107 – Partitions).		
		106.10	Brick and block walls.	Area on elevation excluding openings.	m ²	Comprises all brickwork, blockwork and sundries.	Measure different types and thicknesses separately.	
		106.20	Reinforced concrete walls.	Area on elevation excluding openings.	m ²	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, etc.	Measure different thicknesses separately.	
		106.30	Borrowed lights.	Area on elevation.	m ²	Comprises internal windows, borrowed lights, view panels, etc, cills, glass and paint.	Measure different types of glass separately.	
		106.40	Doors.	Number.	no	Comprises doors, frames, lintols, fanlights, sidelights, anchors, ironmongery, door closers, dowels, reveals, glass and paint.	Measure different types and sizes separately. State if doors are non standard sizes.	
106.50	Special doors.	Number.	no	Comprises doors, frames, lintols, fanlights, sidelights, anchors, ironmongery, door closers, dowels, reveals, glass and paint.	Measure different types and sizes separately. State if doors are non standard sizes.			
107	Partitions			Areas on elevation of partitions measured over doors, sidelights, fanlights and borrowed lights.	m ²	Comprises demountable, fixed, fire rated and glazed partitions, frames, doors, fanlights, borrowed lights, ironmongery, finishes, attached skirtings and cornices, glass, etc.		Measure toilet partitions separately from office partitioning.
		107.10	Partitions.	Area on elevation.	m ²	Comprises demountable, fixed, fire rated and glazed partitions, borrowed lights, finishes, attached skirtings and cornices, glass, etc.	Measure each type separately. Measure over doors. State provisional sum net rate if applicable.	
		107.20	Doors.	Number.	no	Comprises doors, frames, fanlights, sidelights, ironmongery, door closers, paint and glass and forming openings in partitioning.	Measure different types and sizes separately. Doors to be measured separately as "extra over".	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
108	Floor finishes			Area on plan of floors measured over walls, small openings and staircases.	m ²	Comprises all finishes to floors, stairs, ramps, etc.		Measure parking garage, etc finishes separately from general office, etc areas.
		108.10	Applied floor finishes.	Area on plan of those portions of the building having applied floor finishes measured over walls and small openings (deduct area of staircases, lift shafts and large openings).	m ²	Comprises screeds and floor finishes of all types of floor construction, raised access floors, etc including dividing strips, etc.	Measure different types separately. State P C net rate if applicable. Measure raised access floor construction under 202 – Raised access floors.	
		108.20	Stair and ramp finishes.	Area on plan of the staircase and ramps measured over walls at each floor above lowest floor level.	m ²	Comprises finishes to treads, risers, landings and edges.	Measure different types separately. Soffit finishes to stairs to be measured under 110 – Ceilings and soffits.	
		108.30	Skirtings, etc.	Length.	m	Comprises all skirtings including finishes except where integral with partitions and panelling.	Measure different types separately.	
109	Internal wall finishes			Area on elevation of internal finishes to all walls measured between unfinished floor and ceiling and over doors, windows, etc.	m ²	Comprises all finishes to internal walls, including internal columns, reveals, projecting beams, etc including internal finishes to external walls.		Area of internal wall finishes is area of external envelope plus twice the area of internal divisions. Rate to be adjusted for large glazed, etc areas.
		109.10	Finishes.	Area on elevation but excluding area of finishes imparted by formwork, openings, etc.	m ²	Comprises all finishes to internal walls, including finishes to lift shaft and other concrete walls (except where finish is imparted by formwork), internal columns reveals, projecting beams, etc.	Measure different finishes separately. State PC net rate if applicable. Measure expensive finishes accurately.	
		109.20	Rails, etc.	Length.	m	Comprises all picture rails, hat and coat rails, etc, including finishes, except where integral with partitions and panelling.	Measure different types separately.	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
110	Ceilings and soffits			Area on plan of those portions of the building having soffit finishes and ceilings measured over walls, small openings and staircases (deduct area of lift shafts and large openings).	m ²	Comprises soffit finishes and ceilings.		Measure ceilings over parking garages, etc, separately from general office, shop, mall, etc, areas.
		110.10	Slab soffit finishes.	Area on plan measured over walls, small openings and staircases.	m ²	Comprises plaster and paint finishes to soffits of slabs, stairs, ramps, landings and sides and soffits of beams.	Deduct area of staircases, lift shafts and large openings.	
		110.20	Nailed-up ceilings.	Area measured over walls and small openings.	m ²	Comprises joists, bearers, hangers, brandering, boarding, finishes, trap doors, etc.	Measure different types separately. Deduct area of staircases, lift shafts and large openings.	
		110.30	Suspended ceilings.	Area on plan measured over walls and small openings.	m ²	Comprises construction, hangers, tees, panels, finishes, etc.	Measure different types separately. Deduct area of staircases, lift shafts and large openings. State provisional sum net rate if applicable.	
		110.40	Bulkheads.	Length on plan.	m	Comprises the complete construction, fixing and finishes thereof.	Measure different types separately. State girth.	
		110.50	Cornices, etc.	Length on plan.	m	Comprises all cornices, etc including finishes.	Measure different types separately.	
111	Fittings			Construction area.	m ²	Comprises fittings complete with ironmongery, steelwork, finishes, etc.	State type of material and finish. Sanitary fittings, etc integral to joinery fittings to be measured under 113 – Internal plumbing.	Allow where possible individual.
		111.05	Chalk boards, etc.	Area on elevation.	m ²	Comprises chalk boards, white boards, etc.	Measure different types separately. State if patent type.	
		111.10	Pinning boards, etc.	Area on elevation.	m ²	Comprises pinning boards, notice boards, etc.	Measure different types separately. State if patent type.	

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	Fittings (continued)	111.15	Raised platforms.	Area on plan.	m ²	Comprises raised platforms not forming part of the floor.	State height and covering.	
		111.20	Built-in cupboards.	Length.	m	Comprises cupboards built into recesses in walls, between walls, etc.	Measure different types separately. State height and if patent type.	
		111.25	Cupboards plugged to walls.	Length.	m	Comprises cupboards attached to face of walls.	Measure different types separately. State height and if patent type.	
		111.30	Pigeon hole fittings, etc.	Length.	m	Comprises pigeon hole fittings, magazine display racks, etc.	Measure different types separately. State height and if patent type.	
		111.35	Work benches and work tops.	Length.	m	Comprises work benches and work tops including integral cupboards or framing below.	Measure different types separately. State height and if patent type.	
		111.40	Room dividers.	Length.	m	Comprises room dividers of all types other than built-in cupboards or cupboards plugged to walls.	Measure different types separately. State height and if patent type.	
		111.45	Counters.	Length.	m	Comprises counters.	Measure different types separately. State height and if patent type.	
		111.50	Kitchen floor units.	Length.	m	Comprises kitchen units at floor level.	Measure different types separately. State height and if patent type.	
		111.55	Kitchen wall units.	Length.	m	Comprises kitchen units fixed to walls but not touching the floor.	Measure different types separately. State height and if patent type.	
		111.60	Shelving.	Length.	m	Comprises shelving, brackets, cleats, bearers, grounds, etc.	Measure different types separately. State height and if patent type. Measure free standing shelving separately. State number of shelves.	
		111.65	Pews.	Length.	m	Comprises pews.	Measure different types separately.	
	111.70	Single seating benches.	Length.	m	Comprises benches for seating purposes.	Measure different types separately.		

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	Fittings (continued)	111.75	Double seating benches.	Length.	m	Comprises back to back benches for seating purposes.	Measure different types separately.	
		111.80	Tables.	Number.	no	Comprises tables forming part of fittings.	Measure different plan shapes separately.	
		111.85	Pulpits, lecterns, etc.	Number.	no	Comprises pulpits, lecterns, etc.	Measure different types separately.	
		111.90	Lockers.	Number.	no	Comprises staff, sport, firearm, etc lockers.	State size and height.	
		111.95	Miscellaneous	Number.	no	Comprises fittings that cannot be included above.	Measure different types separately.	
112	Electrical installation (refer also to 209 and 405)			Construction area.	m ²	Comprises the complete electrical installation including light fittings and builder's work.		Measure area of parking garages, etc separately from general offices, shops, mall, etc. areas.
		112.10	Installation.	Area.	m ²	Comprises the complete electrical installation including power skirting or rails and general light fittings but excluding transformers and builder's work.	Measure different use areas within a building and anticipated lux levels separately.	
		112.20	Special light fittings.	Number.	no	Comprises special light fittings not included elsewhere.	Measure chandeliers, etc separately.	
		112.30	Builder's work.	Construction area.	m ²	Comprises builder's work in connection with 112.10 and 112.20 above, profit and attendance, sleeves, duct covers, etc.		
113	Internal plumbing			Number of sanitary fittings.	no	Comprises the complete internal plumbing installation.	Geysers, boilers, pumps, etc not to be counted as fittings. Each 600 mm of stall urinal and each shower to be counted as a fitting.	
		113.05	Sanitary fittings.	Number.	no	Comprises fittings and units complete with taps, service pipes, stop cocks and traps and those combined with cupboards or worktops.	State P C net rate if applicable. State quality and colour.	

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	Internal plumbing (continued)	113.10	Sanitary fittings sundries.	Number.	no	Comprises soap dishes, toilet paper holders, mirrors, towel rails, medicine cabinets, etc.		
		113.15	Sanitary plumbing.	Number.	no	Comprises anti-siphonage, waste, soil and vent stacks, paint on pipes, a proportion of holes and cutting to tiling, etc.		
		113.20	Plumbing duct covers.	Number.	no	Comprises covers, framing, finishes, etc.		
		113.25	Cold water supplies.	Number.	no	Comprises all cold water services including paint on pipes, a proportion of holes and cutting to tiling, wheel valves, etc.	Hot water cylinders to be counted as a supply point.	
		113.30	Water storage tanks.	Number.	no	Comprises tanks, ball valves, tank stands, trays and overflow pipes.	State capacity of storage tanks.	
		113.35	Hot water supplies.	Number.	no	Comprises piping, lagging, paint on pipes, a proportion of holes and cutting to tiling, wheel valves, etc.		
		113.40	Geysers.	Number.	no	Comprises geysers, stands, trays and overflow pipes (if any) and those combined with cupboards.	State capacity of geysers.	
		113.45	Boilers.	Number.	no	Comprises boilers and hot water cylinders, laggings, etc.	State capacity of boilers, etc.	
		113.50	Booster pumps.	Number.	no	Comprises pumps, motors, etc.		
		113.55	Solar heating.	Number.	no	Comprises solar heating installation, panels, support- and pipework and associated storage tanks.	State area, type of panels and capacity of tanks.	
		113.60	Supply heat pumps.	Number.	no	Comprises heat pump installation, support- and pipework.		

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114	Fire services (refer also to 203)			Number of fire service fittings.	no	Comprises complete fire service installation excluding sprinkler installation and other special fire fighting installations (refer to 203 – Special fire protection).		
		114.10	Fire stops to vertical service shafts, etc.	Area.	m ²	Comprises fire stopping.	Measure in number or length if areas are inappropriate.	
		114.20	Fire resistant paint, etc.	Area.	m ²	Comprises fire resistant (intumescent) paint to structural steelwork, etc.		
		114.30	Extinguishers.	Number.	no	Comprises extinguishers including backing boards, etc.	Measure different types separately.	
		114.40	Fire hose reels.	Number.	no	Comprises fire hose reels.	Measure different types separately.	
		114.50	Valve and hose couplings.	Number.	no	Comprises valves with instantaneous connectors, booster pump connections, etc.		
		114.60	Water supply.	Number.	no	Comprises piping, paint on pipes, a proportion of holes and cutting tiling, wheel valves, etc.		
		114.70	Water storage tanks.	Number.	no	Comprises tanks, ball-valves, tankstands, trays and overflow pipes.	State capacity.	
		114.80	Booster pumps.	Number.	no	Comprises pumps, motors, etc.		
115	Balustrading, etc.			Length of all balustrading, parapet walls, etc.	m	Comprises balustrading, balustrade and parapet walls.		
		115.10	Balustrade walls.	Area on elevation.	m ²	Comprises balustrade walls complete with copings, finishes, etc.		
		115.20	Parapet walls.	Area on elevation.	m ²	Comprises parapet walls complete with copings, finishes, etc.		

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	Balustrading, etc. (continued)	115.30	Steel balustrading.	Length.	m	Comprises steel balustrading, handrails, sundry fixing items, infill panels, finishes, cappings, etc.	Measure different types separately. State height.		
		115.40	Timber balustrading.	Length.	m	Comprises timber balustrading, handrails, sundry fixing items, infill panels, finishes, cappings, etc.	Measure different types separately. State height.		
		115.50	Other balustrading.	Length.	m	Comprises other balustrading, handrails, sundry fixing items, infill panels, finishes, cappings, etc.	Measure expensive balustrading separately. State height.		
116	Miscellaneous items			Construction area.	m ²	Comprises items that cannot be included with other elements or components above.			
		116.10	Floor ducts.	Length.	m	Comprises construction, finishes, covers, etc.	Measure different types separately. State depth and width.		
		116.20	Other.	Number.	no	Comprises other items that cannot be included with other elements and components above.			
2	SPECIAL INSTALLATIONS								
200		Piling		Area on plan of lowest floor having piled foundations.	m ²	Comprises specialist piling and sundry builder's work.			
			200.10	Sheet piling.	Area on elevation.	m ²	Comprises sheet piling excluding builder's work.	Measure different types separately.	
			200.20	Driven piles.	Number.	no	Comprises driven piles excluding builder's work.	State type, diameter and length.	
			200.30	Cast in-situ piles.	Number.	no	Comprises cast in-situ piles excluding builder's work.	State type, diameter and length.	
	200.40		Establishment, etc.	Number.	no	Comprises establishment and de-establishment.	Measure establishment and de-establishment separately.		

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	Piling (continued)	200.50	Pile testing, etc.	Area on plan of lowest floor having piled foundations.	m ²	Comprises pile testing, etc.		
		200.60	Builders work.	Area on plan of lowest floor having piled foundations.	m ²	Comprises builder's work, cutting down piling items, etc in connection with 200.10 to 200.50 above.		
201	Sun control screens, grilles, etc.			Area on elevation of sun control screens, grilles, etc.	m ²	Comprises special sun control features not integral with the structural frame complete with finishes and sundry builder's work.	Measure different types separately.	
		201.10	Sun control screens, grilles, etc.	Area on elevation.	m ²	Comprises special sun control features not integral with the structural frame complete with finishes excluding builder's work.		
		201.20	Builder's work.	Area on elevation.	m ²	Comprises builder's work in connection with 201.10 above.		
202	Raised access floors			Area on plan of those portions of the building having raised access floors measured over walls and small openings.	m ²	Comprises all raised access floors.	State if patent type Measure applied finishes under 108.10 – Applied floor finishes.	
		202.10	Raised access floors.	Area on plan of those portions of the building having raised access floors measured over walls and small openings.	m ²	Comprises all raised access floors.		
203	Special fire protection (refer also to 114)			Area on plan of the portions of the building protected.	m ²	Comprises the complete special fire protection installation and sundry builder's work.	State if double or single system.	
		203.10	Sprinkler installation.	Area on plan of the portions of the building protected.	m ²	Comprises the complete sprinkler installation excluding builder's work.		

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	Special fire protection (Refer also to 114) (continued)	203.20	Smoke detection system.	Area on plan of portions of the building protected.	m ²	Comprises the complete smoke detection system excluding builder's work.	Measure different types separately.	
		203.30	Early fire warning system.	Area on plan of the portions of the building protected.	m ²	Comprises the complete early fire warning system excluding builder's work.	Measure different types separately.	
		203.40	Building evacuation.	Area on plan of the portions of the building protected.	m ²	Comprises the complete building evacuation system excluding builder's work.	Measure different types separately.	
		203.50	Other special fire protection.	Area on plan of the portions of the building protected.	m ²	Comprises other special fire protection systems excluding builder's work.	Measure different types separately.	
		203.60	Builder's work.	Area on plan of the portions of the building protected.	m ²	Comprises builder's work in connection with 203.10 to 203.50 above.		
204	Lifts			Number of lifts.	no	Comprises the complete lift installation and sundry builder's work.		
		204.10	Lifts.	Number.	no	Comprises the complete lift installation excluding builder's work.	Measure different types separately. State number of stops, speed and capacity. State if hydraulic, etc.	
		204.20	Builder's work.	Number.	no	Comprises builder's work in connection with 204.10 above.		
205	Escalators			Number of escalators.	no	Comprises the complete escalator installation and sundry builder's work.		
		205.10	Escalators.	Number.	no	Comprises the complete escalator installation excluding builder's work.	Measure different types separately. State capacity, step width, speed and rise. Measure soffit and side cladding separately.	
		205.20	Builder's work.	Number.	no	Comprises builder's work in connection 205.10 above.		

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206	Air conditioning			Area on plan of the air conditioned portions of the building.	m ²	Comprises the complete air conditioning installation and sundry builder's work.	Measure different types separately.	Apply to rentable areas only.
		206.10	Air conditioning.	Area on plan of the air conditioned portions of the building.	m ²	Comprises air conditioning installation excluding builder's work.		
		206.20	Builder's work.	Area on plan of the air conditioned portions of the building.	m ²	Comprises builder's work in connection with 206.10 above.		
207	Ventilation			Area on plan of the ventilated portions of the building.	m ²	Comprises the complete ventilation installation and sundry builder's work.	Measure extract canopies separately.	
		207.10	Ventilation.	Area on plan of the ventilated portions of the building.	m ²	Comprises ventilation installation excluding builder's work.		
		207.20	Builder's work.	Area on plan of the ventilated portions of the building.	m ²	Comprises builder's work in connection with 207.10 above.		
208	Heating			Area on plan of the heated portions of the building.	m ²	Comprises the complete heating installation and sundry builder's work.	Measure different types separately.	
		208.10	Heating.	Area on plan of the heated portions of the building.	m ²	Comprises underfloor, wall mounted, etc heating excluding builder's work.		
		208.20	Builder's work.	Area on plan of the heated portions of the building.	m ²	Comprises builder's work in connection with 208.10 above.		
209	Special electrical installations (refer also to 112 and 405)			Construction area.	m ²	Comprises the complete special electrical installation and sundry builder's work.		
		209.10	Transformers.	Number.	no	Comprises transformers excluding builder's work.		
		209.20	Emergency generators.	Number.	no	Comprises emergency generators excluding builder's work.		

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	Special electrical installation (refer also to 112 and 405) (continued)	209.30	Uninterrupted power supply.	Number.	no	Comprises uninterrupted power supply excluding builder's work.		
		209.40	Clean power supply.	Number.	no	Comprises clean power supply excluding builder's work.		
		209.50	Other special electrical installation.	Number.	no	Comprises other special electrical installation excluding builder's work.		
		209.60	Builder's work.	Number.	no	Comprises builder's work in connection with 209.10 to 209.50 above.		
210	Other services			Construction area.	m ²	Comprises such services as gas installation, TV installation, refrigeration, etc and sundry builder's work.		
		210.10	Other services.	Number.	no	Comprises other services excluding builder's work.		
		210.20	Builder's work.	Number.	no	Comprises builder's work in connection with 210.10 above.		
211	Compactors			Number of compactors.	no	Comprises the complete compactor installation and sundry builder's work.		
		211.10	Compactors.	Number.	no	Comprises compactors excluding builder's work.	State capacity.	
		211.20	Builder's work.	Number.	no	Comprises builder's work in connection with 211.10 above.		
212	Access control			Number of access control.	no	Comprises the complete access control installation and sundry builder's work.		

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	Access control (continued)	212.10	Parking booms and/or traffic lights.	Number.	no	Comprises the complete access control including installation of parking booms and/or traffic lights, etc excluding builder's work.		
		212.20	Builder's work.	Number.	no	Comprises builder's work in connection with 212.10 above.		
213	Gondolas			Number of gondolas.	no	Comprises the complete window cleaning gondola installation and sundry builder's work.		
		213.10	Gondolas	Number.	no	Comprises gondolas excluding builder's work.	State if manual or automatic.	
		213.20	Builder's work.	Number.	no	Comprises builder's work in connection with 213.10 above.		
214	Stoves			Number of stoves.	no	Comprises supply and installation of gas or electrical stoves and sundry builder's work.		
		214.10	Stoves.	Number.	no	Comprises stove excluding builder's work.	Measure extractor hoods separately under 207.10 – Ventilation.	
		214.20	Builder's work.	Number.	no	Comprises builder's work in connection with 214.10 above.		
215	Kitchen equipment			Area on plan of the portion of the building having kitchen equipment.	m ²	Comprises the complete kitchen equipment installation and sundry builder's work.		
		215.10	Kitchen equipment.	Number.	no	Comprises supply and installation of all equipment excluding builder's work.	Measure electrical connections under 112 – Electrical installation and water connection under 113 – Internal plumbing.	
		215.20	Builder's work	Number.	no	Comprises the builder's work in connection with 215.10 above.		

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216	Specialised equipment			Area on plan of the portion of the building being served by specialised equipment.	m ²	Comprises the complete specialised equipment installation and sundry builder's work.		
		216.10	Specialised equipment.	Number.	no	Comprises specialised equipment excluding builder's work.	Measure different types separately.	
		216.20	Builder's work.	Number.	no	Comprises builder's work in connection with 216.10 above.		
217	Security systems			Areas on plan of the portion of the building having security systems.	m ²	Comprises the complete security system installation and sundry builder's work.		
		217.10	Security systems.	Number.	no	Comprises card readers, CCTV installation, turnstiles, etc excluding builder's work.		
		217.20	Builder's work.	Number.	no	Comprises builder's work in connection with 217.10 above.		
218	Communication systems			Area on plan of the portion of the building having communication systems.	m ²	Comprises the complete communication system installation and sundry builder's work.		
		218.10	Communication systems.	Number.	no	Comprises communication systems excluding builder's work.	Measure different types separately.	
		218.20	Builder's work.	Number.	no	Comprises builder's work in connection with 218.10 above.		
219	Prefabricated cold rooms			Number of prefabricated cold rooms.	no	Comprises the complete prefabricated cold room installation and sundry builder's work.		
		219.10	Prefabricated cold rooms.	Number.	no	Comprises the complete prefabricated cold room installation including necessary mechanical equipment excluding builder's work.		

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	Prefabricated cold rooms (continued)	219.20	Builder's work.	Number.	no	Comprises builder's work in connection with 219.10 on above.		
220	Signage			Construction area.	m ²	Comprises the complete signage installation and sundry builder's work.		
		220.10	Signage.	Number.	no	Comprises directional, identification and safety signage excluding builder's work.	Measure different types separately.	
		220.20	Signage pylons, towers, etc.	Number.	no	Comprises the complete signage pylon construction and installation excluding builder's work.		
		220.30	Builders work.	Number.	no	Comprises builder's work in connection with 220.10 and 220.20 above.		
221	Artworks			Number of artworks.	no	Comprises statues, ornamentation, artworks, murals, fountains, banners, etc.		
		221.10	Artworks.	Number.	no	Comprises statues, ornamentation, artworks, murals, fountains, banners, etc.	Measure each artwork separately.	
222	Miscellaneous items			Construction area.	m ²	Comprises special items that cannot be included with other elements or components above.		
		222.10	Fireplaces, etc.	Number.	no	Comprises fireplaces or units, mantles, shelves, hearths, flue linings, cappings, oil burners, paraffin heaters, etc.		
		222.20	Dock levellers.	Number.	no	Comprises dock leveller's installation and sundry builder's work.		
		222.30	Other.	Number.	no	Comprises miscellaneous items that cannot be included with other elements or components above.		

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3	ALTERATIONS							
300	Alterations			Area on plan of the portion of the building having alteration works.	m ²	Comprises all alterations to existing buildings.		
		300.10	Alterations.	Area on plan of the portion of the building having alteration works.	m ²	Comprises all alterations to existing buildings.	Measure in detail.	
4	EXTERNAL WORKS AND SERVICES							
400	Soil drainage			Length of soil drains measured over manholes from the feet of stacks to the connections, etc.	m	Comprises all works in connection with soil drainage.		
		400.10	Soil drains.	Length.	m	Comprises excavations, soil drains, cleaning eyes, gulleys and concrete encasing.	Measure different types and diameters separately.	
		400.20	Inspection chambers.	Number.	no	Comprises inspection chambers complete with channelling, covers, etc.	Measure different types and sizes separately.	
		400.30	Septic tanks, etc.	Number.	no	Comprises septic tanks, soak away, conservancy tanks, etc.	Measure different types and sizes separately.	
401	Sub-surface water drainage			Length of sub-surface drains measured over catchpits to sumps.	m	Comprises all works in connection with sub-surface water drainage, sumps, sump pumps, catchpits, etc.		
		401.10	Sub-surface drains.	Length.	m	Comprises excavations, sub-surface drains, stone chips, geofabric filter blanket, etc.	Measure different types and diameters separately.	
		401.20	Catchpits, inspection chambers, sumps, etc.	Number.	no	Comprises catpits, inspection chambers, sumps, etc complete with cover or gratings and all sundry items.	Measure different types separately.	
		401.30	Pumps.	Number.	no	Comprises pumps, motors, etc.		

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402	Stormwater drainage			Length of stormwater channelling and piping measured over catchpits to connections.	m	Comprises all works in connection with stormwater drainage, gratings or covers, etc.		
		402.10	Surface water channelling	Length.	m	Comprises channelling and all sundry items.	Measure different types and sizes separately.	
		402.20	Stormwater drains.	Length.	m	Comprises stormwater drains and all sundry items.	Measure different types and sizes separately.	
		402.30	Catchpits, inspection chambers, sumps, etc.	Number.	no	Comprises catchpits, inspection chambers, sumps, etc complete with covers or gratings and all sundry items.	Measure different types and sizes separately.	
		402.40	Pumps.	Number.	no	Comprises pumps, motors, etc.	Measure different types and sizes separately.	
403	Water supplies			Length of water piping from mains to building and over site.	m	Comprises water supplies within the site, piping, wheel valves, non-return valves, valve chambers, trust blocks, taps to standpipe, sundry builder's work, etc.		
		403.10	Incoming main.	Length.	m	Comprises the incoming main within the site, piping, wheel valves, non-return valves, valve chambers, trust blocks, etc.	Measure different diameters separately.	
		403.20	Site reticulation.	Length.	m	Comprises site reticulation piping, wheel valves, taps to standpipes, sundry builder's word, etc.	Measure different diameters separately.	
404	Fire service			Length of water piping from mains to building and over site.	m	Comprises fire service within the site, piping, wheel valves, non-return valves, valve chambers, trust blocks, sundry builder's work, etc.		
		404.10	Incoming main.	Length.	m	Comprises the incoming main within the site, piping, wheel valves, non-return valves, valve chambers, trust blocks, etc.	Measure different diameters separately.	
		404.20	Site reticulation.	Length.	m	Comprises site reticulation, piping, wheel valves, etc.	Measure different diameters separately.	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
	Fire service (continued)	404.30	Booster connection, wheel valves, etc.	Number.	no	Comprises booster connection, wheel valves, sundry builder's work, etc.		
		404.40	Hydrants, pedestals, etc.	Number.	no	Comprises hydrants, pedestals, sundry builder's work, etc.		
405	External electrical installations (refer also to 112 and 209)			Length of cables from mains to building and over site.	m	Comprises electrical installation within the site, including cables, street lighting, floodlighting, sundry, builders work, etc.		
		405.10	Incoming main.	Length.	m	Comprises cables, etc.		
		405.20	Site reticulation.	Length.	no	Comprises cables, etc.		
		405.30	Street, bollard, etc lighting.	Number.	no	Comprises street, bollard, etc lighting including sundry builder's work, etc.	Measure different diameters separately.	
		405.40	Floodlighting.	Number.	no	Comprises floodlighting and sundry builder's work, etc.		
406	Connection fees, etc.			Number of connections, etc.	no	Comprises the local authority connection fees, etc.		
		406.10	Soil drainage.	Number.	no	Comprises the local authority connection fees, etc.		
		406.20	Stormwater drainage.	Number.	no	Comprises the local authority connection fees, etc.		
		406.30	Water supplies.	Number,	no	Comprises the local authority connection fees, etc.		
		406.40	Fire service.	Number,	no	Comprises the local authority connection fees, etc.		
		406.50	External electrical installation.	Number,	no	Comprises the local authority connection fees, etc.		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
407	Demolitions			Number of items demolished.	no	Comprises demolition of buildings and removal of pavings, rubble, etc.		
		407.10	Demolition of buildings.	Number.	no	Comprises demolition of buildings and removal of pavings, rubble, etc.	State if removal of foundations are included.	
		407.20	Pavings, etc.	Area.	m ²	Comprises the removal of pavings, etc.		
408	Site clearance			Area of site clearance.	m ²	Comprises clearing of site, removal of trees, etc (refer to 407.2 for removal of pavings, etc).		
		408.10	Site clearance.	Area.	m ²	Comprises clearing of site, removal of trees, etc (refer to 407.2 for removal of pavings, etc).		
		408.20	Trees.	Number.	no	Comprises the removal of large trees.	State girth and height. Measure each category separately.	
		408.30	Hedges, fences, etc.	Length.	m	Comprises the removal of hedges, fences, etc.	Measure each category separately.	
409	Earthworks			Volume of excavation and/or filling.	m ³	Comprises total cutting, filling, levelling, forming banks, basement excavations, carting away excavated material, etc.		
		409.10	Site excavation.	Volume.	m ³	Comprises all bulk excavation and levelling over site and carting away excavated material.	Measure carting away of excavated material separately.	
		409.20	Rock, etc excavation over site.	Volume.	m ³	Comprises rock excavation, removal of concrete, brickwork, etc and carting away material.	State percentage of excavation volume allowed.	
		409.30	Site filling.	Volume.	m ³	Comprises all bulk filling over site, roof gardens, etc and carting on earth filling.	Measure carting away/on of earth filling separately.	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
	Earthworks (continued)	409.40	Basement excavation.	Volume of basement excavation measured over external walls.	m ³	Comprises excavation, risk of collapse, backfilling and carting away of excavated material.	The volume of carting on or away must be calculated bearing in mind filling under solid floors (101.10), basement excavation (409.40), etc. Unsuitable material must be discarded.	
		409.50	Rock, etc excavation to basements.	Volume.	m ³	Comprises rock excavation, removal of concrete, brickwork, etc.	State percentage of excavation volume allowed.	
		409.60	Lateral support.	Length.	m	Comprises shoring, underpinning, ground anchors, etc.	State height of support and whether permanent or temporary.	
		409.70	Dewatering.	Number of dewatering points.	no	Comprises dewatering, well pointing, etc.		
		409.80	Sundries.	Volume of excavations.	m ³	Comprises items that cannot be included in any of the above components.		
410	Boundary, screen and retaining walls, etc.			Area on elevation on walls, etc.	m ²	Comprises foundations, walls, finishes, copings, doors, screens, etc to boundary, screen, retaining and wing walls, etc.		
		410.10	Boundary, screen and retaining walls, etc.	Area on elevation.	m ²	Comprises foundations, walls, finishes, copings, doors, screens, etc.	Measure different types separately. Measure footings (including excavation) in metre stating size and depth of excavation and walls, including copings, in m ² .	
411	Fencing and gates			Length of fencing measured over gates.	m	Comprises fencing, gates, standards, droppers, posts, footings, etc.		
		411.10	Fencing.	Length.	m	Comprises fencing, standards, posts droppers, footings, etc.	Measure different types separately. State height and overhang (if applicable)	
		411.20	Gates.	Number.	no	Comprises gates, posts, stays, footings, ironmongery, etc.	Measure different types separately. State if electronic, double or single, etc.	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
412	Roads, paving, etc			Area on plan of roads, paving, etc.	m ²	Comprises roads, parking areas, paving, paths, etc including kerbs (channelling measured with stormwater drainage).		
		412.10	Roads.	Area.	m ²	Comprises roads.	Measure different types separately. State thickness.	
		412.20	Pavings.	Area.	m ²	Comprises pavings, steps, etc.	Measure different types separately. Measure expansion joints separately. State thickness.	
		412.30	Kerbs.	Length.	m	Comprises kerbs for 412.10 and 412.20 above.		
413	Covered parking, walkways, etc.			Area on plan of covered parking, walkways, etc.	m ²	Comprises foundations, columns, walls, doors, windows, screens, roofs, finishes, floor finishes, etc.		
		413.10	Covering to parking.	Area on plan.	m ²	Comprises foundations, columns, walls, doors, windows, screens, roofs, finishes, floor finishes, etc.	Measure in detail if information is available.	
		413.20	Covered walkways.	Area on plan.	m ²	Comprises foundations, columns, walls, doors, windows, screens, roofs, finishes, floor finishes, etc.	Measure in detail if information is available.	
414	Pergolas, canopies, etc.			Area on plan of pergolas, canopies, etc.	m ²	Comprises foundations, construction, covering, supports, etc.		
		414.10	Pergolas	Area on plan.	m ²	Comprises foundations, construction, covering, support, etc.		
		414.20	Canopies	Area on plan.	m ²	Comprises foundations, construction, covering, support, etc.		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
415	Minor construction work			Area on plan of all minor construction work.	m ²	Comprises construction work such as gate houses, switchgear rooms, shelters, etc.		
		415.10	Minor construction work.	Area on plan.	m ²	Comprises all elements.	Measure different structures separately.	
416	Pools, etc.			Number of pools.	no	Comprises pool, surrounds, shelters, change rooms, filtration plant, power connections, etc.		
		416.10	Swimming pools, etc.	Number.	no	Comprises pool, surrounds, filtration plant, power connections, etc.	Measure swimming, reflection, etc pools separately. State size and depth range.	
		416.20	Change rooms, etc.	Area on plan.	m ²	Comprises change rooms, shelters, etc complete.	Measure in detail if information is available.	
417	Sports facilities			Number of sports facilities.	no	Comprises tennis courts, bowling greens, putting greens, etc and change rooms, shelters, etc.		
		417.10	Sports facilities.	Number.	no	Comprises tennis courts, bowling greens, putting greens, etc.	Measure each facility separately.	
		417.20	Change rooms, etc.	Area on plan.	m ²	Comprises change rooms, shelters, etc.	Measure in detail if information is available.	
418	Garden works			Area on plan of garden work.	m ²	Comprises top dressing, rockeries, grassing and planting, stone pitching and general landscaping.		
		418.10	Garden works.	Area on plan of garden works.	m ²	Comprises top, dressing, rockeries, grassing and planting, stone pitching and general landscaping.	Measure soft and hard landscaping separately.	
		418.20	Irrigation.	Area on plan under irrigation.	m ²	Comprises piping, sprinkle heads and programming facilities.		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
419	Miscellaneous items			Number of miscellaneous site works.	no	Comprises items, services, etc that cannot be included with other elements or components above.		
		419.10	Miscellaneous external work and services.	Number.	no	Comprises items, services, etc that cannot be included with other elements or components above.		
5	TRAINING			Construction area.	m ²	Comprises the whole of the training bill.	Express as percentage of net estimate total excluding Preliminaries and Contingencies.	
500	Training							
		500.10	Additional preliminaries.		Item	Comprises additional competent instructional, supervising administrative personnel to carry out the training programme in a meaningful way, additional toilets, safety and first aid equipment, computers, offices, clock card and ID card systems, etc.		
		500.20	Institutional training.		Item	Comprises the relevant training skills obtained from approved training centres accredited by the applicable Industries Training Boards.		
		500.30	Training skills and trade tests.		Item	Comprises the relevant training skills obtained from approved training centres accredited by the applicable Industries Training Boards.		
		500.40	Practical Training.		Item	Comprises practical training on site for the time period(s) when trainees are not engaged in institutional training or doing tests but are actively being trained on site.		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
6	PRELIMINARIES							
600	Preliminaries			Construction area.	m ²	Comprises the whole of the preliminaries bill.	Express as percentage of net estimate total excluding Preliminaries and Contingencies.	
		600.05	Salaries and wages.		Item	Comprises salaries and wages (including out-of-town bonuses) of personnel (including vehicle allowances where applicable). Examples of personnel: Project manager, Site agent, Engineer, Planner, Contract Surveyor, General and other foreman, Cost clerk, Timekeeper, Checker, Tea maker, Messenger, Cleaner, Storeman, Driver, Charge hands, Watchman.	Assess numbers of each type of employee required, number of days/weeks/months needed and estimate percentage of time allocated to this project. Include cost of car benefit where applicable.	
		600.10	Setting out.		Item	Comprises materials for setting out, surveying equipment and Land Surveyor's fees.	Exclude labour for setting out (include under hours for charge hands in 600.05 above).	
		600.15	Hoarding and gantries.		Item	Comprises hoardings, readyfence, gates, temporary footpaths, road, pavement and adjacent property rentals, deposits, temporary roads/hardstanding, loss of parking fees.		
		600.20	Signboards.		Item	Comprises signboards for: Owner/consultants, main contractor, sub-contractors, no parking, safety.		
		600.25	Offices.		Item	Comprises rental of offices for: Clerk of works, Foreman, Contract surveyors, Timekeeper, Clerks, Site meetings,	Include labour costs of erecting and dismantling if not done by charge hands (refer to 600.05).	
		600.30	Office furniture and equipment.		Item	Comprises tables, chairs, filing cabinets, drawing boards, lockers, photocopiers.		
		600.35	Consumables.		Item	Comprises stationery, refreshments, cleaning materials, etc.		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
	Preliminaries (continued)	600.40	Sheds.		Item	Comprises sheds for: cement; tools; general store; watchman's cubicles.	Include labour costs of erecting and striking if not done by charge hands (refer to 600.05).	
		600.45	Toilets.		Item	Comprises hire and servicing of temporary toilets.		
		600.50	Major plant.		Item	Comprises items of major plant such as: cranes; concrete/mortar mixers and batching equipment; dumpers; loadalls; tractors; hoists; conveyors.	Assess number of each type required, duration of need and hire rates per period.	
		600.55	Equipment.		Item	Comprises items of minor equipment such as: compactors; compressors; cutting torches; grinders; Kango-hammers; hand drills; masonry saws; rollers; saw benches; skillsaws; vibrators; pumps; welding plant, etc.	Assess number of each type required, duration of need and hire rates per period.	
		600.60	Gear and loose tools.		Item	Comprises small tools; blades; bits; wheelbarrows; and consumables.		
		600.65	Temporary services.		Item	Comprises temporary water connection, hoses and water consumption; temporary electrical connection, generators and consumption; temporary Telkom connections, telephones, cellular phones, fax machines; radios, etc.		
		600.70	Scaffolding.		Item	Comprises steel scaffolding; builders trestles; scaffold boards; ladders; platforms.	Assess number of each type required. duration of need and hire rates per period.	
		600.75	Vehicles/transport.		Item	Comprises general transport and labour transport (trucks, busses, etc).	General transport includes transport of formwork and other equipment, travelling allowances, air transport and accommodation costs. Exclude cars and bakkies included with personnel in 600.05.	
		600.80	Safety measures and equipment.		Item	Comprises screens and fans; rails and barricades; protection of adjacent properties; protective clothing; first aid.		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
	Preliminaries (continued)	600.85	Cleaning.		Item	Comprises general cleaning; cleaning on completion; rubbish and rubble removal; rubbish chutes.		
		600.90	Insurances, etc.		Item	Comprises the following insurances: all risks; public liability; lateral support; cash in transit. Also include latent defects funds; RSC levies; photographs.		
		600.95	Other costs.		Item	Comprises miscellaneous costs that cannot be included with other components above.		
7	CONTRACTOR'S FEE							
700	Contractor's fee			Construction area.	m ²	Comprises the whole of the construction profit and attendance if not spread pro-rata over all elements.	State if the rates priced net or gross including contractors fee.	
		700.10	Contractors fee.	Construction area.	m ²	Comprises the whole of the construction profit and attendance if not spread pro-rata over all elements.	Express as a percentage of the construction cost excluding contingency allowances.	
8	CONTINGENCY ALLOWANCES							
800	Price and detail development.			Construction area.	m ²	Comprises amounts allowed for covering lack of detail at estimate stage.		
		800.10	Price and detail development.	Construction area.	m ²	Comprises amounts allowed for covering lack of detail at estimate stage.	Express as a percentage of the construction cost.	
801	Building contract contingencies			Construction area.		Comprises amounts allowed for unforeseen expenditure.		
		801.10	Building contract contingencies.	Construction area.	m ²	Comprises amounts allowed for unforeseen expenditure.	Express as a percentage of the construction cost.	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
9	ESCALATION							
900	Pre-tender escalation	900.10	Pre-tender escalation.	Construction area.	m ²	Comprises amounts allowed for escalation from date of estimate to contract tender date.		
				Construction area.	m ²	Comprises amounts allowed for escalation from date of estimate to contract tender date.	State method of calculation and source of escalation prediction information.	
901	Contract escalation	901.10	Contract escalation.	Construction area.	m ²	Comprises amounts allowed for escalation from contract tender date to contract completion date.		
				Construction area.	m ²	Comprises amounts allowed for escalation from contract tender date to contract completion date.	State method of calculation and source of escalation prediction information.	
10	VALUE ADDED TAX							
1000	Value added tax	1000.10	Value added tax.	Construction area.	m ²	Comprises amounts allowed for value added tax (VAT).		
				Construction area.	m ²	Comprises amounts allowed for value added tax (VAT).	State current percentage applicable.	

EXAMPLES

EXAMPLE A

TYPICAL EXAMPLE OF THE LAYOUT OF AN ELEMENTAL ESTIMATE

ELEMENT 104: EXTERNAL ENVELOPE

Element	Component	Description	Details of Element and Component				Element Rate R	Cost %
			Unit	Quantity	Cost per unit R	Cost R		
104 External envelope			m ²	111	174,68	19 390,00	220,34	15,00
	104.10 Brick and block walls	230 mm Brick wall	m ²	94	130,00	12 220,00		
	104.50 External finishes	External cement plaster and PVA paint to walls	m ²	83	50,00	4 150,00		
		Facing bricks	m ²	11	60,00	660,00		
	104.60 Windows	Residential type windows	m ²	4	340,00	1 360,00		
	104.80 Doors	FLB door size 813 x 2032 mm	No	1	1 000,00	1 000,00		

Notes: Construction area = 88 m²; Elemental area = 111 m².
 Details included in descriptions will depend upon the extent of information available.

EXAMPLE B

TYPICAL EXAMPLE OF AN ELEMENTAL ESTIMATE SUMMARY

ESTIMATE OF ESCALATED CONSTRUCTION COST AT CONTRACT COMPLETION DATE INCLUDING VALUE ADDED TAX (16/6/99)

SUMMARY OF CONSTRUCTION COST

	Construction Cost R	Rate per m ² R	% of construction cost %
Primary elements	2 781 900	1 028,81	61,48
Special installations	450 050	166,44	9,95
Alterations	-	-	-
External works and services	715 030	264,43	15,80
Training	-	-	-
Preliminaries	278 020	102,82	6,14
Contractor's fee (spread over all elements)	-	-	-
Contingency allowances	300 000	110,95	6,63
ESTIMATE OF CURRENT CONSTRUCTION COST (EXCLUDING VAT) (1/04/97)	4 525 000	1 673,45	100,00
Pre-tender escalation	141 700	52,40	3,13
Contract escalation	351 100	129,84	7,76
Value added tax (VAT)	702 500	259,80	15,52
ESTIMATE OF ESCALATED CONSTRUCTION COST AT CONTRACT COMPLETION DATE INCLUDING VALUE ADDED TAX (16/06/99)	5 720 300	2 115,50	126,42

CONSTRUCTION AREA: 2 704 m²

PROGRAMME ASSUMPTIONS: Date of estimate : 1 April 1997
 Contract tender date : 16 June 1997
 Contract completion date : 16 June 1999

ESCALATION: Pre-tender contract escalation : Based on latest published BER Building Cost Indices
 Date of estimate index : 1092,5
 Contract tender date index : 1126,7
 Contract escalation : Based on latest published JBCC Contract Price Adjustment Provisions indices (Work group 180) (PO151) adjusted for the Haylett formula
 Contract tender date index : 158,4
 Contract completion date index : 183,6

VALUE ADDED TAX (VAT): Value added tax calculated at 14,00%

EXCLUSIONS

This estimate of construction cost is based on ruling competitive tender market conditions and excludes the following:

Abnormal foundations Security system Loose furniture and fittings Fencing and gates Professional fees

USER NOTE:

Other items comprising the total capital investment for the project should be reflected elsewhere eg:

Property costs	Promotional costs	Financing costs	Funding costs
Local authority costs	Sundry costs	Professional fees	Tenancing costs

EXAMPLE B – continued

ELEMENTAL ESTIMATE OF CONSTRUCTION COST							
Code	Description	Cost R	Quantity	Unit	Cost per unit R	Cost per m² R	Cost %
1	PRIMARY ELEMENTS	2 781 900	2 704	m ²	1 028,81	1 028,81	61,48%
100	Foundations	92 380	2 624	m ²	35,21	34,16	2,04%
101	Ground floor construction	148 120	2 624	m ²	56,45	54,78	3,27%
102	Structural frame	-	-	m ²			
103	Independent structural components	97 020	2 704	m ²	35,88	35,88	2,14%
104	External envelope	673 900	1 232	m ²	547,00	249,22	14,89%
105	Roofs	530 930	2 580	m ²	205,79	196,35	11,73%
106	Internal divisions	137 770	901	m ²	152,91	50,95	3,04%
107	Partitions	12 780	48	m ²	266,25	4,73	0,28%
108	Floor finishes	137 210	2 624	m ²	52,29	50,74	3,03%
109	Internal wall finishes	126 680	2 453	m ²	51,64	46,85	2,80%
110	Ceilings and soffits	172 120	2 624	m ²	65,59	63,65	3,80%
111	Fittings	18 900	2 624	m ²	7,20	6,99	0,42%
112	Electrical installation	541 440	2 624	m ²	206,34	200,24	11,97%
113	Internal plumbing	82 000	26	no	3 153,85	30,33	1,81%
114	Fire services	10 650	17	no	626,47	3,94	0,24%
115	Balustrading, etc	-	-	m			
116	Miscellaneous items	-	-	m ²			
2	SPECIAL INSTALLATIONS	450 050	2 704	m ²	166,44	166,44	9,95%
200	Piling	-	-	m ²			
201	Sun control screens, grilles, etc	-	-	m ²			
202	Raised access floors	-	-	m ²			
203	Special fire protection	-	-	m ²			
204	Lifts	-	-	no			
205	Escalators	-	-	no			
206	Air conditioning	264 000	800	m ²	330,00	97,63	5,83%
207	Ventilation	143 050	1 774	m ²	80,64	52,90	3,16%
208	Heating	-	-	m ²			
209	Special electrical installations	-	-	m ²			
210	Other services	13 000	2 704	m ²	4,81	4,81	0,29%
211	Compactors	-	-	no			
212	Access control	-	-	no			
213	Gondolas	-	-	no			
214	Stoves	-	-	no			
215	Kitchen equipment	-	-	m ²			
216	Specialised equipment	-	-	m ²			
217	Security systems	-	-	m ²			
218	Communication systems	-	-	m ²			
219	Prefabricated cold rooms	-	-	no			
220	Signage	30 000	2 704	m ²	11,09	11,09	0,66%
221	Artworks	-	-	no			
222	Miscellaneous items	-	-	m ²			

EXAMPLE B – continued

ELEMENTAL ESTIMATE OF CONSTRUCTION COST							
Code	Description	Cost R	Quantity	Unit	Cost per Unit R	Cost per m ² R	Cost %
3	ALTERATIONS	-	-	m ²	-	-	-
4	EXTERNAL WORKS AND SERVICES	715 030	2 704	m ²	264,43	264,43	15,80%
400	Soil drainage	20 750	273	m	76,01	7,67	0,46%
401	Sub-surface water drainage	-	-	m			
402	Stormwater drainage	18 680	295	m	63,32	6,91	0,41%
403	Water supplies	16 380	273	m	60,00	6,06	0,36%
404	Fire service	16 380	273	m	60,00	6,06	0,36%
405	External electrical installations	25 000	1	m	25 000,00	9,25	0,55%
406	Connection fees, etc	20 000	4	no	5 000,00	7,40	0,44%
407	Demolitions	72 000	1	no	72 000,00	26,63	1,59%
408	Site clearance	2 470	4 930	m ²	0,50	0,91	0,05%
409	Earthworks	137 410	1 808	m ³	76,00	50,82	3,04%
410	Boundary, screen and retaining walls, etc.	34 080	122	m ²	279,34	12,60	0,75%
411	Fencing and gates	-	-	m			
412	Roads, paving, etc	244 080	5 072	m ²	48,12	90,27	5,39%
413	Covered parking, walkways, etc	-	-	m ²			
414	Pergolas, canopies, etc	11 400	30	m ²	380,00	4,22	0,25%
415	Minor construction work	-	-	m ²			
416	Pools, etc	-	-	no			
417	Sports facilities	-	-	no			
418	Garden works	50 000	1 430	m ²	34,97	18,49	1,10%
419	Miscellaneous items	46 400	80	no	580,00	17,16	1,03%
5	TRAINING	-	-	m ²	-	-	-
6	PRELIMINARIES	278 020	2 704	m ²	102,82	102,82	6,14%
7	CONTRACTOR'S FEE	-	-	m ²	-	-	-
8	CONTINGENCY ALLOWANCES	300 000	2 704	m ²	110,95	110,95	6,63%
800	Price and detail development	150 000	2 704	m ²	55,47	55,47	3,31%
801	Building contract contingencies	150 000	2 704	m ²	55,47	55,47	3,31%
ESTIMATE OF CURRENT CONSTRUCTION (EXCLUDING VAT) (01/04/97)		4 525 000	2 704	m ²	1 673,45	1 673,45	100,00%
9	ESCALATION	492 800	2 704	m ²	182,25	182,25	10,89%
900	Pre-tender escalation	141 700	2 704	m ²	52,40	52,40	3,13%
901	Contract escalation	351 100	2 704	m ²	129,84	129,84	7,76%
10	VALUE ADDED TAX (VAT)	702 500	2 704	m ²	259,80	259,80	15,52%
ESTIMATE OF ESCALATED CONSTRUCTION COST AT CONTRACT COMPLETION DATE INCLUDING VALUE ADDED TAX (16/06/99)		5 720 300	2 704	m ²	2 115,50	2 115,50	126,42%

Note: Contractor's fee spread over all elements

