

R

Section 1
Bill No. 1
PRELIMINARIES

PREAMBLES FOR TRADES

The Model Preambles for Trades (1999 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claim arising from brevity of description of items fully described in the said Model Preambles for Trades will be entertained

Supplementary preambles to the Model Preambles covering clauses of a general nature, clauses pertaining to specific materials and amendments to clauses in the Model Preambles are incorporated in these bills of quantities to satisfy the requirements of this project

The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the Model Preambles and in any supplementary preambles

GENERAL

If Alternative A as set out in clause B10.3 hereinafter is to be used for the adjustment of the preliminaries each item priced is to be allocated to one or more of the three categories "F", "T" or "V" as the case may be below such item, where "F" denotes a fixed amount (amount not to be varied), "T" denotes an amount variable in proportion to time and "V" denotes an amount variable in proportion to value

SECTION A - PRINCIPAL BUILDING AGREEMENT

Definitions (A1)

- 1 Definitions and interpretation (clause 1)

F:..... V:.....
T:.....

Item

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Objective and Preparation (A2 to A14)

2 Offer acceptance and performance (clause 2)

F:..... V:.....
T:.....

Item

3 Documents (clause 3)

F:..... V:.....
T:.....

Item

4 Design responsibility (clause 4)

F:..... V:.....
T:.....

Item

5 Employer's agents (clause 5)

F:..... V:.....
T:.....

Item

The principal agent shall:

- monitor and control progress and scheduling
- monitor all contract conditions, and
- coordinate the efforts of the employer's agents, the contractor and subcontractors

The powers conferred on the principal agent in terms of this clause and/or the exercising of these powers shall not be construed as removing or diminishing any of the obligations of the Contractor in terms of the Principal Building Agreement, whether financial, contractual or otherwise, nor shall the exercising of these powers create any privity of contract as between the Employer or his agents on the one part and the Contractor or subcontractors or suppliers on the other part

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	The principal agent reserves the right to attend and participate in all contractor/subcontractor's meetings, to invite other employer's agents to attend such meetings at his discretion and to converse and chair any such meetings if the contractor is derelict in his duty in arranging such meetings to the degree of frequency and comprehensiveness dictated in the opinion of the project manager by the circumstances and exigencies of the construction process			
6	Site representative (clause 6)			
	F:..... V:..... T:.....	Item		
7	Compliance with regulations (clause 7)			
	F:..... V:..... T:.....	Item		
8	Works risk (clause 8)			
	F:..... V:..... T:.....	Item		
9	Indemnities (clause 9)			
	F:..... V:..... T:.....	Item		
10	Works insurances (clause 10)			
	F:..... V:..... T:.....	Item		
11	Liability insurances (clause 11)			
	F:..... V:..... T:.....	Item		
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[illegible]

19	Assignment (clause 19) F:..... V:..... T:..... The contractor shall not cede his rights or delegate his obligations in terms of this agreement unless specifically called for by the employer	Item		
20	Nominated subcontractors (clause 20) F:..... V:..... T:.....	Item		
21	Selected subcontractors (clause 21) F:..... V:..... T:..... Written proof is required from subcontract tenderers at tendering that they can meet the JBCC Selected Subcontract Agreement or other tender agreements and provide security in terms of the agreement. If the above is not provided the tender may not be accepted All amounts allowed under Provisional Amounts are intended to be awarded to Selected Subcontractors	Item		
22	Employer's Direct Contractors (clause 22) F:..... V:..... T:.....	Item		
23	Contractor's Domestic Sub-Contractors (Clause 23) F:..... V:..... T:..... <u>Completion (A24-A30)</u>	Item		
24	Practical completion (clause 24) F:..... V:..... T:.....	Item		
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25 Works completion (clause 25)

F:..... V:.....
T:.....

Item

26 Final completion (clause 26)

F:..... V:.....
T:.....

Item

27 Latent defects liability period (clause 27)

F:..... V:.....
T:.....

Item

28 Sectional completion (clause 28)

F:..... V:.....
T:.....

Item

29 Revision of date of practical completion (clause 29)

F:..... V:.....
T:.....

Item

The removal and replacement of materials and/or workmanship that do not conform to specification or drawings shall not constitute grounds for an extension of the construction period nor for an adjustment to the contract sum (clause 29.3)

30 Penalty for non-completion (clause 30)

F:..... V:.....
T:.....

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Payment (A31 - A35)

31 Interim payment to the contractor (clause 31)

F:..... V:.....
T:.....

Item

32 Adjustment to the contract value (clause 32)

F:..... V:.....
T:.....

Item

Where prices are submitted by the contractor or nominated/selected subcontractors during the progress of the works in respect of contract instructions or in regard to a claim under the terms of the contract and notwithstanding the fact that such prices may be used in an interim payment certificate, there is to be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the final certificate, it will be in writing

33 Recovery of expense and loss (clause 33)

F:..... V:.....
T:.....

Item

34 Final account and final payment (clause 34)

F:..... V:.....
T:.....

Item

The employer shall not pay any interest on amounts payable to the contractor for one hundred and forty two (142) days after the date of issue of the certificate of practical completion

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The employer shall, however, pay interest to the contractor at the rate stipulated in clause 34.11 on any amounts payable to the contractor more than one hundred and forty two (142) days after the date of issue of the certificate of practical completion but only for such period as the settlement of the final account is delayed by the non-performance of the principal agent or the employer or his agents. In evaluating non-performance for purposes of this clause a reasonable time shall be allowed to the employer or his agents to respond to any matter brought to his/their attention and which may affect the settlement of the final account

35 Payment to other parties (clause 35)

F:..... V:.....
T:.....

Item

Cancellation (A36-A39)

36 Cancellation by employer - contractor's default (clause 36)

F:..... V:.....
T:.....

Item

37 Cancellation by employer - loss and damage (clause 37)

F:..... V:.....
T:.....

Item

38 Cancellation by contractor - employer's default (clause 38)

F:..... V:.....
T:.....

Item

39 Cancellation - cessation of the works (clause 39)

F:..... V:.....
T:.....

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	<u>Dispute (A40)</u>			
40	Dispute Settlement (clause 40) F:..... V:..... T:.....	Item		
	<u>Substitute Provisions (A41)</u>			
41	State clauses (Clause 41) F:..... V:..... T:..... Information necessary for the completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder	Item		
	<u>THE SCHEDULE</u> Information necessary for completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder			
42	Pre-tender information (clause 42) F:..... V:..... T:.....	Item		
	<u>42.1 CONTRACTING AND OTHER PARTIES</u> 42.1.1 Employer: As per infomation on the tender data 42.1.2 Principal Agent: As per the infomation on the Tender data 42.1.3 Architect:			
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42.1.4
Quantity Surveyor:

Structural :

42.1.5 Civil:

42.1.6
Electrical Engineer:

42.1.6
Mechanical Engineer:

42.2 CONTRACT DETAILS

42.2.1 Works Description: Construction of sanitation facilities

42.2.2 Site Description: as per the information on the tender data

42.2.3 Work or installations by direct contractors:

N/A

42.2.4 This agreement is for a government contract where there are specific options that are applicable to a **State** organ only

Yes

42.2.5 Date on which possession of the site is intended to be given:

UNKNOWN

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42.2.6 Period for the commencement of the works after the contractor takes posse

42.2.7 For the works **as a whole**. Intended date of practical completion and the penalty per calendar day

3 months after contractual commencement date *Date*

Penalty Amount
*The penalty shall be 7.5c per R100 per **calendar day** of the tendered amount (inclusive of value added tax)*

42.2.8 For the works in **sections**: Intended date of practical completion and the penalty per calendar day

Section 1

.N/A..... *Date*

R.N/A..... *Penalty Amount*

42.2.9 The **law** applicable to this **agreement** shall be that of

South Africa (country)

42.3 INSURANCES

42.3.1 Contract works insurance to be effected by:

Contractor:

For the Sum of R Contract Amount + 20.00 %

With a deductible of - to be determined by the contractor

42.3.2 Supplementary insurance is required

No

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42.3.3 Public liability insurance to be effected by:
Contractor:

For the Sum of R 2 500 000-00

With a deductible of - to be determined by the contractor

42.4 DOCUMENTS

42.4.1 Waivers of **contractors lien** or right of continuing possession is required

Yes

42.4.2 Number of construction document copies to be supplied to the **contractor** free of charge:

3 Number of

42.4.3 **Bills of Quantities/Lump sum document** schedule of rates drawn up in accordance with:

“Standard System of Measuring Builders’ Work”

42.4.4 On acceptance of the tender the bills of quantities/lump sum document is to be submitted within **working days**

The priced bills of quantities must be handed in with the tender

42.4.5 JBCC Engineering General Conditions are to be included in the **contract documents**:

No

42.4.6 The contract value is to be adjusted using escalation adjustment indices

No

Where **JBCC CPAP** is to be used

Base Month **N/A**

42.4.7 Details of changes made to the provision of JBCC standard documentation:

SECTION B: PRELIMINARIES

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<u>Definitions and interpretation (B1)</u>				
43	Definition and interpretation (B1.1 - B1.4.6) F:..... V:..... T:.....	Item		
<u>Documents (B2)</u>				
44	Checking of documents (B2.1) F:..... V:..... T:.....	Item		
45	Provisional bills of quantities (B2.2) F:..... V:..... T:.....	N/A		
46	Availability of construction documentation (B2.3) F:..... V:..... T:.....	Item		
47	Interests of agents (B2.4) F:..... V:..... T:.....	Item		
48	Priced documents (B2.5) F:..... V:..... T:.....	Item		
49	Tender submission (B2.6) F:..... V:..... T:.....	Item		
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50 Defined works area (B3.1)

F:..... V:.....
T:.....

Item

The site (B3)

51 Geotechnical investigation (B3.2)

F:..... V:.....
T:.....

Item

52 Inspection of the site (B3.3)

F:..... V:.....
T:.....

Item

Existing premises occupied (B3.4)

F:..... V:.....
T:.....

Previous work - dimensional accuracy (B3.5)

F:..... V:.....
T:.....

Previous work - defects (B3.6)

F:..... V:.....
T:.....

53 Services - known (B3.7)

F:..... V:.....
T:.....

Item

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54	Services - unknown (B3.8)				
	F:..... V:..... T:.....	Item			
55	Protection of trees etc (B3.9)				
	F:..... V:..... T:.....	Item			
56	Articles of value (B3.10)				
	F:..... V:..... T:.....	Item			
	<u>Management of contract (B4)</u>				
57	Inspection of adjoining properties etc (B3.11)				
	F:..... V:..... T:.....	Item			
58	Management of the works (B4.1)				
	F:..... V:..... T:.....	Item			
59	Programme for the works (B4.2)				
	F:..... V:..... T:.....	Item			
60	Progress meetings (B4.3)				
	F:..... V:..... T:.....	Item			
61	Technical meetings (B4.4)				
	F:..... V:..... T:.....	Item			
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62 Labour and Plant records (B4.5)

F:..... V:.....
T:.....

Item

Samples, Shop Drawings and Manufacturer's Instructions (B5)

63 Samples of materials (B5.1)

F:..... V:.....
T:.....

Item

64 Workmanship samples (B5.2)

F:..... V:.....
T:.....

Item

65 Shop drawings (B5.3)

F:..... V:.....
T:.....

Item

66 Compliance with Manufacturer's Instructions (B5.4)

F:..... V:.....
T:.....

Item

Temporary works and plant (B6)

67 Deposits and fees (B6.1)

F:..... V:.....
T:.....

Item

68 Enclosure of the works (B6.2)

F:..... V:.....
T:.....

Item

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69	Advertising (B6.3)				
	F:..... V:..... T:.....	Item			
70	Plant, equipment, sheds and offices (B6.4)				
	F:..... V:..... T:.....	Item			
71	Main notice board (B6.5)				
	F:..... V:..... T:.....	Item			
72	Subcontractors' notice board (B6.6)				
	F:..... V:..... T:.....	N/A			
	<u>Temporary services (B7)</u>				
73	Location (B7.1)				
	F:..... V:..... T:.....	Item			
74	Water (B7.2)				
	Option [A] shall apply				
	F:..... V:..... T:.....	Item			
75	Electricity (B7.3)				
	Option [A] shall apply				
	F:..... V:..... T:.....	Item			
76	Telecommunication facilities (B7.4)				
	F:..... V:..... T:.....	Item			
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77	Ablution facilities (B7.5)				
	Option [A] shall apply				
	F:..... V:..... T:.....	Item			
	<u>Prime cost amounts (B8)</u>				
78	Responsibility for prime cost amounts (B8.1)				
	F:..... V:..... T:.....	Item			
	<u>Attendance on N/S Subcontractors (B9)</u>				
79	General attendance (B9.1)				
	F:..... V:..... T:.....	Item			
80	Special attendance (B9.2)				
	F:..... V:..... T:.....	Item			
81	Commissioning - Fuel, water and power (B9.3)				
	F:..... V:..... T:.....	Item			
	<u>Financial aspects (B10)</u>				
	Statutory taxes, duties and levies (B10.1)				
	F:..... V:..... T:.....	Item			
82	Payment of preliminaries (B10.2)				
	Option [B] shall apply				
	F:..... V:..... T:.....	Item			
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83 Adjustment of preliminaries (B10.3)
Option [A] shall apply

F:..... V:.....
T:.....

Item

84 Payment certificate cash flow (B10.4)

F:..... V:.....
T:.....

Item

General (B11)

85 Protection of works (B11.1)

F:..... V:.....
T:.....

Item

86 Protection/isolation of existing/sectionally occupied works (B11.2)

F:..... V:.....
T:.....

Item

87 Security of the Works (B11.3)

F:..... V:.....
T:.....

Item

88 Notice before covering work (B11.4)

F:..... V:.....
T:.....

Item

89 Disturbance (B11.5)

F:..... V:.....
T:.....

Item

90 Environmental Disturbance (B11.6)

F:..... V:.....
T:.....

Item

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91	Works cleaning and clearing (B11.7) F:..... V:..... T:.....	Item		
92	Vermin (B11.8) F:..... V:..... T:.....	Item		
93	Overhand work (B11.9) F:..... V:..... T:.....	Item		
94	Instruction manuals and guarantees (B11.10) F:..... V:..... T:.....	Item		
95	As built information (B11.11) F:..... V:..... T:.....	Item		
96	Tenant Installations (B11.12) F:..... V:..... T:.....	Item		
	<u>Schedule of variables (B12)</u>			
97	Pre-tender information (B12.1) F:..... V:..... T:.....	Item		
	12.1.1 Provisional bills of quantities (B2.2) The quantities are provisional: No			
	12.1.2 Availability of construction documentation (B2.3) Construction documentation is not complete No			
	12.1.3 Interest of agents (B2.4)			
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YES

No

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12.1.16 Water (B7.2) Alternative Selected: A			
12.1.17 Electricity (B7.3) Alternative selected: A			
12.1.18 Telecommunications (B7.4)			
12.1.19 Ablution facilities (B7.5) Alternative selected: A			
12.1.20 Protection of existing/sectionally occupied works (B11.2)			
12.1.21 Special attendance (B9.2) Subcontractor (1) details: N/A			
12.1.22 Protection of the works (B11.1) N/A			
12.1.23 Disturbance (B11.5) N/A			
12.1.24 Environmental Disturbance (B11.6) N/A			
<u>Post tender information (B12.2)</u>			
12.2.1 Payment of preliminaries Alternative selected: B			
12.2.2 Adjustment of preliminaries Alternative selected: A			
12.2.3 Additional agreed preliminaries items N/A			

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SECTION C: SPECIFIC PRELIMINARIES

Any special items to meet the particular circumstances of a specific project are embodied in this section. Where required for an aspect of the works to be executed according to a design by a consulting engineer, a recital of the headings to the individual clauses of the JBCC Engineering General Conditions are included

98 Site instructions

Instructions issued on site are to be recorded in triplicate in a site instruction book which is to be maintained on site by the contractor

F: V:
T:

Item

99 Black economic empowerment and training

F: V:
T:

Item

100 Proprietary branded products

F: V:
T:

Item

101 Testing of flat roof waterproofing for watertightness

Flat roof waterproof areas shall be prepared with small sand dykes around them of a size and enclosing an area approved by the principal agent, flooded with water and kept "ponded" for at least 36 hours as a test to ensure the watertightness of the waterproofing and before any further construction work is carried out above the waterproofing

F: V: T:

Item

The contractor shall take delivery of, handle, store, use, apply and/or fix all proprietary branded products in strict accordance with the manufacturers' instructions after consultation with the manufacturer's authorised representative

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102 Contract instructions

F:..... V:.....
T:.....

Item

Contract instructions issued on site are to be recorded in triplicate in a contract instruction book which is to be supplied and maintained on site by the contractor

103 Labour record

F:..... V:.....
T:.....

Item

At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number and descriptions of tradesmen and labourers employed by him and all subcontractors on the works each day of that week

104 Plant record

F:..... V:.....
T:.....

Item

At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools used on the works each day of that week

105 Guarantees

F:..... V:.....
T:.....

Item

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Where guarantees are called for, the contractor shall obtain a written guarantee, addressed to the employer, from the firm supplying the materials and/or doing the work and shall deliver same to the principal agent on the certified completion of the contract. The guarantee shall state that workmanship, materials and installation are guaranteed for a specified period from the date of certified completion of the contract, and that any defects that may arise during the specified period shall be made good at the expense of the firm supplying the materials and/or doing the work, upon written notice from the principal agent to do so. This guarantee will not be enforced if the work is damaged by defects in the construction of the building in which case the responsibility for replacement shall rest entirely with the contractor. The principal agent shall be the sole judge of the cause responsible for defects in the work and his decision shall be final and binding in terms of clause 40.2 of the agreement

106 Overtime

F:..... V:.....
T:.....

Item

Should overtime be required to be worked for any reason whatsoever, the costs of such overtime are to be borne by the contractor unless the principal agent has specifically authorised, in writing, prior to execution thereof, that costs for such overtime are to be borne by the employer

107 Co-operation of contractor for cost management

F:..... V:.....
T:.....

Item

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108	It is specifically agreed that the contractor accepts the obligation of assisting the professional consultants in implementing proper cost management. The contractor will be advised by the principal agent of all cost management procedures which will be implemented to ensure that the final building cost does not exceed the budget. The quantity surveyor undertakes to make available to the contractor all budgetary allowances and cost assessments/reports to enable the proper procedures to be implemented and the contractor will attend all cost plan review and cost management meetings. The contractor undertakes to extend these procedures in regard to all subcontractors Occupational Health and Safety Specification F:..... V:..... T:..... Any Principal Contractor entering into a contract with The Developer must achieve an acceptable level of Occupational Health and Safety performance. Refer to "Project Specification" and "Safety, Health and Environmental Evaluation Questionnaire" The contractor to comply with all provisions of the above and to be enforced on all selected and or other sub-contractors, as no claim afterwards will be entertained <u>SUMMARY OF CATEGORIES</u> Category : Fixed R..... Category : Value R..... Category : Time R..... Carried to Collection Section 1 Bill No. 1 PRELIMINARIES	Item		
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<u>COLLECTION</u>			
Brought Forward	Page No	R	Amount
Total Brought Forward from Page No.	21		
	22		
	23		
	24		
	25		
	26		
	27		
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Item No	Quantity	Rate	Amount
<u>SECTION 2</u>			
<u>BILL No. 1</u>			
<u>ALTERATIONS</u>			
<u>MODEL PREAMBLES</u>			
The tenderer is referred to the "General Preambles for Trades 2017" for supplementary and comprehensive expansion of descriptions, appropriate provision for which shall be deemed to have been included in all relevant rates.			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>View site</u>			
Before submitting his tender the tenderer shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained			
<u>Explosives</u>			
No explosives whatsoever may be used for demolition purposes unless otherwise stated.			
<u>General</u>			
Water supply pipes and other piping in ground that may be encountered and found necessary to disconnect or cut, shall be effectually stopped off or grubbed up and removed, and any new connections that may be necessary shall be made with proper fittings to the satisfaction of the principal agent.			
Unless otherwise described all materials are to become the property of the contractor and are to be removed from the site.			
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Removal of asbestos material

All preparatory work, alterations, etc., to existing asbestos cement roof sheeting, gutters, rainwater pipes, etc., is to be carried out strictly by an approved and certified specialist company and in accordance with statutory requirements (Occupational Health and Safety Act, 1993 - Asbestos Regulations 2001) and all necessary precautions must be taken when working with and disposing of asbestos cement products and the disposal of waste water resulting from cleaning operations, etc.

The following shall apply in respect of asbestos removal

The removal of asbestos shall be carried out by a certified entity, registered in accordance with the Occupational Health and Safety Act, 1993 and the Asbestos Regulations 2001

Asbestos in all forms/building elements that is to be removed, shall be carried out in strict accordance with aforementioned regulation and a certificate issued by the entity as contemplated in the above, shall be provided per block for the removal thereof, where the term block shall in this context refer to any single, free standing building structure, regardless of size or purpose

Corresponding disposal certificates shall be issued by the facility at which the asbestos is disposed off, with said facility to, prior to the disposal of any asbestos material provide satisfactory proof that the facility is duly registered and fully compliant in terms of the act, to receive the asbestos material

Under no circumstances is the Contractor nor any of his duly authorised representatives to sell and/or give away asbestos material to any member/s of the school community, the community in general or the public at large. Should this be found to be occurring, the Contractor will be held responsible contractually and may further be prosecuted criminally

The cost for complying with the above, and all requirements of regulation as reflected above is to be priced for in terms for removal of asbestos material. No further claims in this regard will therefore be entertained

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ALTERATIONS

1	Take out existing fence and set aside	m	150
2	Re-install fence	m	150

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	<u>Prescribed density tests on filling:</u>				
6	In-situ dry density test.	No	5		
	<u>Approved brand of anti-termite soil poison applied by a Registered Pest Control Company and guaranteed against termite infestation for ten years:</u>				
7	Treat filling under paving with 'Chlordane Heptachlor Aldrin' or equal approved.	m2	183		
	<u>Concrete Paving Blocks</u>				
	<u>Paving of 60mm thick 200x100mm 25MPa Bevel Bond paver blocks grey in colour in herringbone pattern on and including 20mm thick sand bed with dry filler sand swept and vibrated into joints all laid on subgrade (elsewhere measured) conforming to SABS 1200D degree of accuracy I:</u>				
8	Paving to walkway areas, etc laid to falls.	m2	183		
	<u>Kerbing</u>				
	<u>Precast or in situ mass concrete (25 MPa - 19 mm stone) kerbs cast in convenient lengths with exposed faces finished smooth from the mould and all salient angles rounded, jointed and pointed in 1:3 cement mortar, including excavations, formwork, etc.</u>				
9	Figure 8B (300 x 275 x 175mm) semi mountable kerb laid in lengths not exceeding 1000mm on a well rammed earth bottom or base course.	m	115		
10	Ditto but circular on plan.	m	10		
	<u>Welded balustrading to walkways</u>				
11	Horizontal welded balustrading 1000mm high of 70 x 70 x 2,5mm hollow section posts, at 1600mm centres, with 40 x 40 x 2,5mm hollow section top and bottom rails and 10mm diameter vertical uprights at 100mm centres	m	46		
12	Extra on last for closed end to 70 x 70mm posts	No	12		
13	150 x 150 x 6mm baseplate, four times holed and welded to soffit of posts	No	29		
	Carried to Collection			R	
	Section 3				
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14	M16 x 100mm expansion bolt	No	115
Carried to Collection			R
Section 3 Bill No. 1 External Works			

STORMWATER CHANNELS

Excavation not exceeding 2m deep

15	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	225
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Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):

16	Off site to a dumping site to be found by the Contractor.	m3	225
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Filling supplied by the contractor under channels

17	G7 Base course material compacted to 98% Mod AASHTO density	m3	90
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18	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m3	90
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Cast in-situ Ref 395 mesh reinforced concrete (25MPa) open stormwater channels having V-shaped waterway formed in top, finished smooth on all exposed surfaces in 3:1 cement plaster trowelled smooth and with angles rounded, cast in suitable lengths not exceeding 2m, including all formwork, moulds, shallow excavation, filling and ramming, laying to falls, bedding and pointing in 3:1 cement mortar. Concrete apron to be tinted, colour to be specified by the Engineer.

19	2000 x 200mm thick V' channel 450mm deep in centre laid in position in ground in 2000mm sections including all formwork, reinforcement, expansion joints, smooth finishing to top of concrete surface etc.	m	75
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20	Extra for 2000mm angle	No	5
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21	Extra for forming 200mm thick 2000mm wide spreader with 200mm high edges fanning out to 4 000mm width at furthest end with hard burnt bricks pitching cast in ass diffusers including working off concrete to a smooth finish and draining onto natural ground with 150 - 200mm diameter loose stones.	No	2
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THE FOLLOWING IN RETAINING WALLS, ETC.

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	<u>Excavation in earth not exceeding 2m deep</u>				
22	Trenches.	m3	82		
	<u>Risk of collapse of excavations:</u>				
23	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	172		
	<u>Keeping excavations free of water:</u>				
24	Keeping excavations free of all water other than subterranean water.		Item		
	<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>				
25	Off site to a dumping site to be found by the Contractor.	m3	82		
	<u>Filling with approved clean, hard, dry decomposed dolerite filling supplied and carted onto site by the Contractor, compacted to a density of at least 95% Mod. AASHTO maximum density:</u>				
26	Behind walls with selected backfilling supplied by the Contractor compacted to 98% Mod ASSHTO density	m3	82		
27	Clean coarse sand with a fineness modulus of greater than 2,8	m3	30		
	<u>Compaction of surfaces</u>				
28	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density.	m2	40		
	<u>15Mpa/19mm unreinforced concrete</u>				
29	Surface blinding under footings and bases.	m3	2		
	<u>30Mpa/19mm reinforced concrete</u>				
30	Strip footings.	m3	10		
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31	Cavity walls.	m3	12
	<u>Test blocks:</u>		
32	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	10
	<u>Fabric reinforcement:</u>		
33	REF. 395 fabric reinforcement in concrete infill, strip footings.	m2	153
	<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in Class I mortar (Cement to be 42.5N all-purpose cement):</u>		
34	One brickwalls in foundations	m2	13
35	One brick walls	m2	101
	<u>Brickwork reinforcement:</u>		
36	230mm Wide reinforcement built in horizontally.	m	667
	<u>"Rustgold FBS/Qunu Travertine" clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints, suitable for exposure zones 1-2 (Cement to be 42.5N all-purpose cement):</u>		
37	Extra over brickwork for face brickwork externally.	m2	63
38	One brickwall in facings	m2	38
	<u>Brick-on-edge header course copings, sills, etc, of "Rustgold FBS/Qunu Travertine" or equal Architect approved clay face brick size 222 x 106 x 73mm, pointed with recessed joints on all exposed faces:</u>		
39	220mm Wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on top and both sides as described.	m	42
	<u>Openings in Walls etc.</u>		
40	Leave or form 32mm weephole through one brick wall	No	28
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	<u>Membranes</u>		
41	"Geofabric filter blanket wrapped around stone with 300mm side and 300mm end laps, including stitching.	m2	50
	<u>Earth filling 300 x 300mm section of 19mm thick stone material surrounding 110mm uPVC pipe, supplied by the contractor compacted to 98% Mod AASHTO density:</u>		
42	19mm Stone.	m3	4
	<u>Slotted uPVC flexible drainage pipes</u>		
43	110mm Pipes laid in stone encasing (encasing elsewhere)	m	50
	<u>Extra over slotted uPVC flexible drainage pipes for fittings</u>		
44	110mm End cap	No	2
45	110mm Bend	No	2
	<u>THE FOLLOWING IN HEADWALLS</u>		
46	Excavation not exceeding 2m deep.	m3	64
47	Keeping excavations free from water		Item
48	Carting away surplus excavated material	m3	64
49	150mm layer of G7 material compacted to 95% MOD AASHTO under concrete slab.	m3	29
50	150mm layer of G5 material compacted to 95% MOD AASHTO under concrete slab.	m3	10
51	25Mpa/19mm Reinforced concrete in bottom slabs and footings.	m3	7
52	Formwork to edges, risers, ends and reveals not exceeding 300mm wide or high.	m	24
53	Mesh reinforcement Ref 193 in concrete bottom slab.	m2	32
54	One brick wall of 14 MPa NFX bricks.	m2	16
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55	230mm Wide reinforcement built in horizontally.	m	47
56	Extra over brickwork for "Rustgold FBS/Qunu Travertine" clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints face brickwork externally.	m2	16
57	220mm Wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on both sides.	m	11
<u>Reinforcement:</u>			
58	Mild steel bars	t	1
59	High-tensile steel bars	t	1
<u>CULVERTS</u>			
<u>Excavation for culvert structures:</u>			
<u>Excavating in all material situated within the following depth ranges below the surface level:</u>			
60	0 m to 1,5 m	m3	30
61	Exceeding 1,5 m and up to 3,0 m	m3	7
<u>Concrete pipe culverts:</u>			
62	600mm dia Concrete pipe on Class B bedding (Spigot & Socket, 100D)	m	16
<u>Pitching</u>			
63	Grouted stone pitching with morta	m2	300
64	25Mpa Concrete edge beams	m3	3
Carried to Collection			
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Section No	<u>FINAL SUMMARY</u>	Page No	Amount	
1	PRELIMINARIES	29		
2	ALTERATIONS(PROVISIONAL)	33		
3	EXTERNAL WORKS (PROVISIONAL)	42		
	SUB-TOTAL		R	
	<u>CONTINGENCIES</u>			
	Allow 10 per cent (10%) of the above sub-total for contingencies to be used as directed and deducted in whole or in part if not required.		R	
	SUB-TOTAL		R	
	Add Value Added Tax at the rate of 15%		R	
	Carried to Form of Offer and Acceptance		R	