CONTRACT

PART C2: PRICING DATA

C2.2 – Bills of Quantities

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Item No		Quantity	Amount

SECTION 1

BILL NO 1

PRELIMINARIES

- -

BUILDING AGREEMENT AND PRELIMINARIES

The JBCC® Principal Building Agreement (May 2018 edition 6.2) prepared by the Joint Building Contracts Committee ® - NPC shall be the applicable building agreement, amended as hereinafter described, together with the associated documentation as prepared by the Joint Building Contracts Committee (JBCC)

The JBCC® General Preliminaries (May 2018 edition 6.2) prepared by the Joint Building Contracts Committee ® shall be the applicable building agreement, amended as hereinafter described, together with the associated documentation as prepared by the Joint Building Contracts Committee (JBCC)

The Contractor is deemed to have referred to the above-mentioned documents for the full intent and meaning of each clause thereof

These clauses are hereinafter referred to by clause number and heading only.

Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading and such modifications, corrections or supplements shall take precedence notwithstanding anything contrary contained in the above-mentioned documents

Where any item is not relevant to this specific contract, such item is marked N/A, signifying "not applicable"

The Bills of Quantities have been drawn up in accordance with the "Standard System of Measuring Building Work Seventh Edition (Revised 2015)" published by The South African Association of Quantity Surveyors

The quantities or specifications contained in these bills of quantities are not to be used for the calculation or ordering of materials

PREAMBLES FOR TRADES

The General Preambles for Trades (2017 edition) as published by The Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained

	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount

Supplementary preambles are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the said Model Preambles

Where Architect's or Engineer's specifications or drawings (where issued) are in conflict with the General Preambles for Trades 2017 or any Supplementary Preambles, the Architect's or Engineer's specification and drawings, as the case may be, are to take preference. Where the drawings and Architect's or Engineer's specifications are in conflict, the **Contractor** is to obtain written clarification from the **Principal Agent** prior to the closing of tenders.

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 said Model Preambles and in any supplementary preambles, drawings and/or specifications

PRICING OF PRELIMINARIES

Should the Contractor select Option A in terms of clause 26.9.4 in the Contract Data for the purpose of adjustment of these preliminaries, the amount entered into the amount column in these preliminaries is to be divided into one or more of the three categories provided, namely:

F - An amount which shall not be varied (Fixed)

V - An amount which shall be varied in proportion to the **contract value** as compared with the **contract sum** (Value)

T - An amount which shall be varied in proportion to the **construction period** as compared to the initial c**onstruction period** excluding revisions to the **construction period** for which the **Contractor** is not entitled to adjustment of the **contract value** in terms of the **agreement** (Time)

Carried Forward to Trade Summary R

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount
	SECTION A: PRINCIPAL BUILDING AGREEMENT		
	INTERPRETATION		
1	1.0 Definitions and Interpretation		
	F: ..... V: ..... T:	Item	
2	2.0 Law, Regulations and Notices		
	Occupational Health and safety Act 1993		
	Without limiting the generality of the provisions of clause 2.0 of the agreement, the Contractor's attention is drawn to the provisions of the Construction Regulations, 2003 issued in terms of the Occupational Health and Safety Act, 1993 in which it is specifically stated that the Employer shall prepare a documented health and safety specification for the works and that the Employer shall ensure that the Contractor has made provision for the cost of health and safety measures during the execution of the works		
	The Principal Agent shall, on behalf of the Employer, issue such health and safety specification and the Contractor shall price opposite this item for compliance with the act and the regulations and the provisions of the aforementioned health and safety specification, provided such provisions are reasonable in terms of the act and the regulations		
	F: ..... V: ..... T:	Item	
3	3.0 Offer an Acceptance		
	F: ..... V: ..... T:	Item	
4	4.0 Assignment and Cession		
	F: ..... V: ..... T:	Item	
5	5.0 Documents		
	Value Added Tax		
	Provision is made in the summary page of these bills of quantities for the inclusion of Value Added Tax (VAT)		
	F: ..... V: ..... T:	Item	
6	6.0 Employer's Agents		
	F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount
7	7.0 Design Responsibility		
	F: ..... V: ..... T:	Item	
	INSURANCE AND SECURITY		
8	8.0 Works Risk		
	F: ..... V: ..... T:	Item	
9	9.0 Indemnities		
	F: ..... V: ..... T:	Item	
10	10.0 Insurances		
	F: ..... V: ..... T:	Item	
11	11.0 Security		
	Add the following Clause 11.1.3		
	"A security held by **the Employer** shall be for the due fulfilment of **the Contractor's** obligations in terms of this **agreement"**		
	Clause 11.5 - OMITTED		
	F: ..... V: ..... T:	Item	
	EXECUTION		
12	12.0 Obligations of the Parties		
	F: ..... V: ..... T:	Item	
13	13.0 Setting out		
	The Contractor shall notify the **principal agent** if any encroachments of adjoining foundations, buildings, structures, pavements, boundaries, etc. exist in order that the necessary arrangements may be made for the rectification of any such encroachments		
	F: ..... V: ..... T:	Item	
14	14.0 Nominated Subcontractors		
	F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount
15	15.0 Selected Subcontractors		
	F: ..... V: ..... T:	Item	
16	16.0 Direct Contractors		
	Refer Contract Data [CD 16,0]		
	F: ..... V: ..... T:	Item	
17	17.0 Contract Instructions		
	Contract Instructions issued in terms of 17.0		
	F: ..... V: ..... T:	Item	
	COMPLETION		
18	18.0 Interim Completion		
	F: ..... V: ..... T:	Item	
19	19.0 Practical Completion		
	F: ..... V: ..... T:	Item	
20	20.0 Completion in Sections		
	Completion in sections is **applicable**		
	F: ..... V: ..... T:	Item	
21	21.0 Defects Liability Period and Final Completion		
	F: ..... V: ..... T:	Item	
22	22.0 Latent Defects Liability Period		
	F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount
23	23.0 Revision of Date for Practical Completion The removal and replacement of materials and/or workmanship which do not conform to specifications and / or **contract drawings** and / or Contract Instructions [17.0] shall not constitute grounds for the extension of the construction period [23.0] nor for the adjustment of the contract value [26.0] Clause 23.1.1 is amended by adding the following: An allowance of **(5) five working days** of the construction period is to be included in this agreement for the adverse affect of weather conditions. The allowed days are accumulated over the construction period and all claims granted in respect of the adverse affect of weather shall be deducted from the above allowance. Furthermore, any other claims for delays in terms of 23.1, 23.2 and 23.3 once awarded shall be offset against any surplus days accumulated in terms of this clause F: ..... V: ..... T:	Item	
24	24.0 Penalty for Late or Non-completion F: ..... V: ..... T:	Item	
	PAYMENT		
25	25.0 Payment Add the following Clause 25.14.4 "Terminate the **agreement** [29.14.7] where the listed options [25.14.1-3] have failed" Materials and goods prematurely on site **Materials and goods** brought onto the site prematurely without authorisation by the **principal agent** shall not be authorised for payment [25.3.2] Materials and goods stored off site **Materials and goods** stored off **site** without authorisation by the **principal agent** shall not be authorised for payment [25.3.2]. Authorisation will also be subject to an **advance payment guarantee** issued by a approved guarantor being provided to the employer F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount
26	26.0 Adjustment to the Contract Value and Final Account This is a fixed price contract and therefore the Contract Value **WILL NOT** be adjusted according to **CPAP** Fluctuations in costs All fluctuations in costs, with the exception of fluctuations in the rate of Value Added Tax, shall be for the account of the **contractor** [25.3.4] Prices submitted Where prices are submitted by the **contractor** or **subcontractor** during the progress of the **works** in respect of **contract instructions** or in regard to a claim under the terms of this **agreement** 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 **certificate of final completion**, it shall be in writing Tenant installations/users requirements delayed Where works related to tenant installations/users requirements may have to be delayed and / or not be executed prior to **practical completion**, the **employer** reserves the right to omit such work without compensation to the **contractor** for loss of profit or any other loss which the **contractor** may suffer as a result of such omission. Cost of claims All costs incurred by the **contractor** in the preparation of claims shall be borne by the **contractor**. The **contractor** shall review, assess and adjudicate any claims received by him from any **subcontractor** and thereafter submit same to the **principal agent** with a recommendation in order to assist the **principal agent** in adjudicating the claim [26.6] F: ..... V: ..... T:	Item	
27	27.0 Recovery of Expense and/or Loss F: ..... V: ..... T:	Item	
	SUSPENSION AND TERMINATION		
28	28.0 Suspension by the Contractor F: ..... V: ..... T:	Item	
29	29.0 Termination F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount
	DISPUTE RESOLUTION		
30	30.0 Dispute Resolution		
	F: ..... V: ..... T:	Item	
	AGREEMENT		
	The required information of the contracting parties and the amount of the accepted contract sum shall be inserted in the contractual agreement for signature of the agreement by the contracting parties		
31	Post tender information agreed with the Contractor		
	F: ..... V: ..... T:	Item	
	- -		
	SECTION B: PRELIMINARIES		
	1.0 INTERPRETATION		
32	1.1 Definitions		
	F: ..... V: ..... T:	Item	
33	1.2 Interpretation		
	F: ..... V: ..... T:	Item	
	2.0 DOCUMENTS		
34	2.1 Checking of documents		
	The tenderer shall inspect the drawings at the Principal Agent's office prior to submission of the tender and thoroughly acquaint himself with the nature and degree of complexity of the works.		
	F: ..... V: ..... T:	Item	
35	2.2* Provisional bills of quantities		
	F: ..... V: ..... T:	Item	
36	2.3* Availability of construction documentation		
	F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount
37	2.4 Ordering of **materials and goods**		
	The quantities or specifications contained in these bills of quantities are **not** to be used for the ordering of materials and goods		
	F: ..... V: ..... T:	Item	
	37.0 PREVIOUS WORK AND ADJOINING PROPERTIES		
38	3.1* Previous work - dimensional accuracy		
	F: ..... V: ..... T:	Item	
39	3.2* Previous work - **defects**		
	F: ..... V: ..... T:	Item	
40	3.3* Inspection of adjoining properties		
	F: ..... V: ..... T:	Item	
	40.0 THE SITE		
41	4.1* Handover of site in stages		
	F: ..... V: ..... T:	Item	
42	4.2* Enclosure of the **works**		
	F: ..... V: ..... T:	Item	
43	4.3* Geotechnical and other investigations		
	F: ..... V: ..... T:	Item	
44	4.4 Encroachments		
	F: ..... V: ..... T:	Item	
45	4.5* Existing premises occupied		
	F: ..... V: ..... T:	Item	
46	4.6* Services - known		
	F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Item No		Quantity	Amount
	5.0 MANAGEMENT OF CONTRACT		
47	5.1 Management of the works		
	F: ..... V: ..... T:	Item	
48	5.2 Progress meetings		
	F: ..... V: ..... T:	Item	
49	5.3 Technical meetings		
	F: ..... V: ..... T:	Item	
	6.0 SAMPLES, SHOP DRAWINGS AND MANUFACTURER'S INSTRUCTIONS		
50	6.1 Samples of materials		
	F: ..... V: ..... T:	Item	
51	6.2 Workmanship samples		
	F: ..... V: ..... T:	Item	
52	6.3 Shop drawings		
	F: ..... V: ..... T:	Item	
53	6.4 Compliance with manufacturers' instructions		
	F: ..... V: ..... T:	Item	
	7.0 DEPOSITS AND FEES		
54	7.1 Deposits and fees		
	F: ..... V: ..... T:	Item	
	8.0 TEMPORARY SERVICES		
55	8.1* Water		
	F: ..... V: ..... T:	Item	
56	8.2* Electricity		
	F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Item No		Quantity	Amount
57	8.3* Ablution and welfare facilities		
	F: ..... V: ..... T:	Item	
58	8.4* Communication facilities		
	F: ..... V: ..... T:	Item	
	9.0 PRIME COST AMOUNTS		
59	9.1 Responsibility for **prime cost amounts**		
	F: ..... V: ..... T:	Item	
	10.0 ATTENDANCE ON SUBCONTRACTORS		
60	10.1 General attendance		
	F: ..... V: ..... T:	Item	
	10.2 Special attendance		
	F: ..... V: ..... T:		
	11.0 GENERAL		
61	11.1* Protection of the **works**		
	F: ..... V: ..... T:	Item	
62	11.2* Protection/isolation of existing/sectionally occupied **works**		
	F: ..... V: ..... T:	Item	
63	11.3 Security of the works		
	F: ..... V: ..... T:	Item	
64	11.4 Notice before covering work		
	F: ..... V: ..... T:	Item	
65	11.5* Disturbance		
	F: ..... V: ..... T:	Item	
66	11.6* Environmental disturbance		
	F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Item No		Quantity	Amount
67	11.7 **Works** cleaning and clearing Clause 11.7 is amended by adding the following: No claims for clearing or carting away any earth, rubbish or superfluous materials, including that of any subcontractor, shall be accepted. All such materials must be cleared regularly and in addition as and when directed by the Principal Agent. The Contractor shall allow for cleaning all glass, scrubbing all floors and pavings, thoroughly vacuum cleaning walls and floors of all rooms to remove all dust and dirt and leaving the premises in a clean and perfect state for immediate use and occupation at completion. F: ..... V: ..... T:	Item	
68	11.8 Vermin F: ..... V: ..... T:	Item	
69	11.9 Overhand work F: ..... V: ..... T:	Item	
70	11.10* Installations by **direct contractors** This project is based on multiple procurement of which most specialist trades are contracted directly by the employer. The contractor must therefor carefully study the construction programme by the **Principal Agent** to fully understand the sequence of the work and when other **direct contractors** will require access to the site before the date for **practical completion**. The appointed building contractor is to assist the **Principal Agent** with programming and coordinating of other direct contractors in order to successfully execute the project as a whole. F: ..... V: ..... T:	Item	
71	11.11 Advertising Other than the **notice board** [Clause 12.0 as amended], any other form of advertising os the site and the hoarding by the **Contractor** and / or any **subcontractor** is not permitted F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Item No		Quantity	Amount
	SECTION C: SPECIFIC PRELIMINARIES		
	C1: CONFIDENTIALITY		
72	The **Contractor** undertakes to maintain in confidence any and all information regarding this project and shall obtain appropriate similar undertakings from all subcontractors and suppliers. Such information shall not be used in any way except in connection with the execution of the works No information regarding this project shall be published or disclosed without the prior written consent of the **Employer** F: ..... V: ..... T:	Item	
	C2: CONTRACT INSTRUCTIONS		
73	Contract 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	
	C3: SITE LEVELS		
74	Before commencement of the works the **Contractor** shall carry out and provide the **Principal Agent** for approval a survey of the existing site levels in sufficient detail to enable the preparation of a final account. F: ..... V: ..... T:	Item	
	C4: UNAUTHORISED PERSONS ON SITE		
75	The **Contractor** shall not permit unauthorised persons onto and workmen to lodge on the site. F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Item No		Quantity	Amount
	C5: GUARANTEES		
76	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 no later than the works completion date. The gurantee shall state that workmanship, materials and installation are guaranteed for a specified period from the final completion date 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 defect of the works and his decision shall be final and binding in terms of clause 40.2 of the agreement F: ..... V: ..... T:	Item	
	C6: WARRANTIES FOR MATERIAL AND WORKMANSHIP		
77	Where warranties for materials and/or workmanship are called for, the **Contractor** shall obtain a written warranty, 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 warranty shall state that workmanship, materials and installation are guarenteed for a specified period from the date of final completion 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 to do so. The warranty 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** F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Item No		Quantity	Amount
	C7: OVERTIME		
78	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** F: ..... V: ..... T:	Item	
	C8: REINSTATEMENT OF DAMAGED AREAS ON THE SITE OR EMPLOYERS' PROPERTIES IN GENERAL CAUSED BY CONSTRUCTION OPERATIONS, ETC		
79	Before commencing with the works and/or moving on to site, the **Contractor** shall arrange with the **Principal Agent** to inspect, among others, existing buildings, structures, roads, pavings, kerbs, channels and fences on and around the site and the **Contractor's** "site yard" The **Contractor** shall compile a report, noting all conditions that the works could affect, paying particular attention to cracks, defects and existing levels related to structures, roads, pavings, kerbs, channels and fences, which later could be claimed to have been caused or disturbed by the construction operations. The report shall also include levels and/or photographs taken by the **Contractor** Certified copies of the report shall be lodged with the **Principal Agent** before the work commences and site establishment, who shall within five (5) working days of receipt of the report inspect the areas of concern and confirm in writing acceptance or rejection thereof noting reasons for the rejection ***The cost associated with the compilation of the report shall be for the Contractor's account*** The **Contractor** will be held responsible for maintaining the above in its present condition during execution of the works and will be liable for all costs relating to the repairing or replacing of damaged areas caused by the construction operations F: ..... V: ..... T:	Item	
	Carried Forward to Trade Summary	R	

Item No		Quantity	Amount
	C9: CO-OPERATION OF CONTRACTOR FOR COST MANAGEMENT		
80	It is specifically agreed that the **Contractor** accepts the obligation of assisting the agents in implementing proper cost management on this project. The **Contractor** will be advised by the **Principal Agent** of all cost management procedures which will be implemented to ensure that the final account does not exceed the budget F: ..... V: ..... T:	Item	
	C10: PLANT AND LABOUR RECORD		
81	At the end of every second week the **Contractor** shall provide the **Principal Agent** with a written record, in schedule form, reflecting the number and description of tradesmen and labourers employed by him and all subcontractors on the works each day and the number, type and capacity of all plant, excluding hand tools, currently used on the works. F: ..... V: ..... T:	Item	
	C11: LOCAL LABOUR, SUPPLIERS & SUBCONTRACTORS		
82	The minimum spend on local subcontractors, suppliers and labour within the Freestate Province is 30% of the contract value. The contractor will have to appoint a CLO at their cost for the duration of the project. ALL unskilled labourers will have to be recruited from within a 20km radius of the Harrismith area. The successful contractor is to submit a detailed plan outlining how the targets will be reached prior to appointment. The contractor will be required to submit monthly reports detailing the local spend to date. Failure to reach the required targets will result in penalties which will be calculated as follows: P = (0.15 x (D - Do) x CA)/100 P = penalty payable D = contract target local spend Do = actual local spend CA = contract amount F: ..... T: ..... V:	Item	
	Carried Forward to Trade Summary	R	

Item No		Quantity	Amount
	C12: NOTES TO TENDERER		
83	All requirements as stated in the "Notes to Tenderer" shall be met and adhered to at all times F: ..... V: ..... T:	Item	
	SUMMARY OF CATEGORIES Category : Fixed R..... Category : Value R..... Category : Time R.....		
	Carried Forward to Trade Summary	R	

Section 1 - Preliminaries & General
Bill No. 1
Preliminaries

Bill No. 1

Preliminaries

TRADE SUMMARY

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Carried Forward to Final Summary		R

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 1

EARTHWORKS

- -

PREAMBLES

The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be included in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained

The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Nature of ground:

The nature of the ground is assumed to be gravel, therefore "earth", but possibly interspersed with "soft rock" or "hard rock"

Should the Contractor encounter any "soft" or "hard" rock in the excavations, he shall immediately notify the Engineer who shall be the sole arbiter as to what constitutes "soft" or "hard" rock for final account purposes

Subterranean water:

No subterranean water is expected

Carting away of excavated material:

Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 1
Earthworks

Item No			Quantity	Rate	Amount
	Filling:				
	Notwithstanding the reference to prescribed multiple handling in clause 1 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any necessary multiple handling of material				
	Testing:				
	Prices for backfilling to trenches and holes only are to include for all necessary density tests in accordance with SANS 1200D				
	Formwork:				
	Formwork to sides of bases, pile caps, ground beams, etc will only be measured where it is prescribed by the Engineer for design reasons				
	Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks"				
	- -				
	EXCAVATION, FILLING, ETC				
	Excavation in earth not exceeding 2m deep:				
1	Trenches	m3	127		
2	Holes	m3	829		
	Excavation in earth exceeding 2m not exceeding 4m deep:				
3	Holes	m3	289		
	Excavation in earth exceeding 4m not exceeding 6m deep:				
4	Holes	m3	18		
	Carried Forward to Trade Summary			R	

Section 2 - Building Works
Bill No. 1
Earthworks

Item No			Quantity	Rate	Amount
	Extra over trench and hole excavations in earth for excavation in:				
5	Soft rock	m3	80		
6	Hard rock	m3	65		
	Extra over trench and hole excavations in earth for breaking up and removing:				
7	Brickwork	m3	10		
8	Unreinforced concrete	m3	8		
9	Reinforced concrete	m3	7		
	Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 97% Mod AASHTO density:				
10	Not exceeding 1,5m deep for placing and removing formwork to walls, etc against excavated face	m2	216		
11	Exceeding 1,5m and not exceeding 3m deep for placing and removing formwork to walls, etc against excavated face	m2	216		
12	Exceeding 3m and not exceeding 4,5m deep for placing and removing formwork to walls, etc against excavated face	m2	44		
	Extra over all excavations for carting away:				
13	Surplus material from excavations and/or stock piles on site to a dumping site located by the contractor	m3	1,064		
	Risk of collapse of excavations:				
14	Sides of trench and hole excavations not exceeding 1,5m deep	m2	744		
15	Sides of trench and hole excavations exceeding 1,5m deep	m2	476		
	Keeping excavations free of water:				
16	Keeping excavations free of all water other than subterranean water		Item		
	Carried Forward to Trade Summary			R	

Section 2 - Building Works
Bill No. 1
Earthworks

Item No			Quantity	Rate	Amount
	FILLING, ETC				
	Earth filling with selected suitable material obtained from the excavations and/or prescribed stock piles on site, compacted to 98% Mod AASHTO density:				
17	Backfilling to trenches, holes, etc	m3	199		
	Coarse river sand filling supplied by the Contractor:				
18	Under floors, etc	m3	41		
	G8 filling material supplied by the Contractor, compacted to 98% Mod AASHTO density (100% for sand):				
19	Under floors, steps, pavings, etc	m3	203		
	C3 cement stabilised material supplied by the Contractor, compacted to 97% Mod AASHTO density:				
20	Under floors, steps, pavings, etc	m3	216		
21	Extra over C3 for cement stabilization with "PPC Sureroad"	t	13.52		
	Compaction of surfaces:				
22	Compaction of ground surface under surface beds, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density	m2	1,352		
	Prescribed density tests on filling:				
23	"Modified AASHTO Density" test	No	60		
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Section 2 - Building Works

Bill No. 1

Earthworks

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Section 2 - Building Works
Bill No. 1
Earthworks

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 2

CONCRETE, FORMWORK AND REINFORCEMENT

- -

PREAMBLES

The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained

The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Cost of tests:

The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SANS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Principal Agent.

The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Principal Agent. (Test cubes are measured separately)

Formwork:

Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 2
Concrete, Formwork and Reinforcement

Item No			Quantity	Rate	Amount
	The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself Formwork to soffits of solid slabs, etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described Formwork to soffits of slabs, beams, etc shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described Formwork to sides of bases, pile caps, ground beams, etc will only be measured where it is prescribed by the Engineer for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks" -				
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	15MPa/19mm concrete:				
1	Surface blinding under footings and bases	m3	10		
	REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	25MPa/19mm concrete:				
2	Strip footings	m3	20		
3	Bases	m3	64		
	30MPa/19mm concrete:				
4	Surface beds cast in panels on waterproofing	m3	207		
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 2 Concrete, Formwork and Reinforcement				

Item No			Quantity	Rate	Amount
	30MPa/19mm concrete with "Penetron" or "Xypex" admixture as per supplier's specification:				
5	Surface beds (silo and mill pits)	m3	82		
	REINFORCED CONCRETE CAST ON/IN FORMWORK				
	25MPa/19mm concrete:				
6	Sub columns in foundations	m3	11		
	30MPa/19mm concrete:				
7	Slabs including beams and inverted beams	m3	8		
8	Walls	m3	12		
9	Plinths	m3	55		
	30MPa/19mm concrete with "Penetron" or "Xypex" admixture as per supplier's specification:				
10	Retaining walls (silo and mill pits)	m3	127		
	TEST CUBES				
11	Making and testing sets of three 150 x 150 x 150mm concrete strength test cubes (Provisional)	Sets	3		
	CONCRETE SUNDRIES				
	Finishing top surfaces of concrete smooth with a power float:				
12	Surface beds, slabs, etc	m2	1,466		
13	Surface beds (silo and mill pits)	m2	309		
	Finishing top surfaces of concrete smooth with a wood float:				
14	Tops walls	m2	46		
	Carried Forward to Trade Summary				
	Section 2 - Building Works Bill No. 2 Concrete, Formwork and Reinforcement			R	

Item No			Quantity	Rate	Amount
	Grooves, channels, mortices, sinkings, etc in concrete:				
15	400mm Wide x average 550mm deep sloping channels in silo floors with rounded bottom, including all necessary excavation, formwork, etc (Refer Silo foundation layout and section for further details)	m	46		
16	Extra over for bend	No	2		
17	Extra over for end	No	2		
18	Extra over for junction	No	2		
	30MPa non-shrink grout:				
19	Bedding approximately 25mm thick under 200 x 300mm base plates, including chamfered edges all round	No	9		
20	Ditto, but 200 x 350mm	No	32		
21	Ditto, but 250 x 500mm	No	11		
	ROUGH FORMWORK (DEGREE OF ACCURACY III)				
	Rough formwork to sides:				
22	Strip footings	m2	125		
23	Bases	m2	180		
	SMOOTH FORMWORK (DEGREE OF ACCURACY I)				
	Smooth formwork to sides:				
	NOTE: The external face formwork to the sides of the raised floor retaining walls is measured to the top of the new surface bed. No additional formwork to edges of surface beds will be measured to these areas, so it is up to the Contractor to decide the construction methodology and sequence.				
24	Rectangular stub columns in foundations	m2	83		
25	Retaining walls (silo and mill pits)	m2	644		
	Carried Forward to Trade Summary				
	Section 2 - Building Works Bill No. 2 Concrete, Formwork and Reinforcement			R	

Item No			Quantity	Rate	Amount
26	Retaining walls with total height exceeding 3m and not exceeding 4,5m above bearing level (silo and mill pits)	m2	307		
27	Walls	m2	151		
28	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	349		
29	Sloping and stepped outer edges of stairs not exceeding 300mm high extreme	m	9		
	Smooth formwork to soffits:				
30	Slabs	m2	54		
	Boxing in smooth formwork to form:				
31	25 x 25mm Horizontal chamfers at corners	m	348		
	MOVEMENT JOINTS, ETC				
	Expansion joints with "Sondor Jointex" polyethylene expansion joint filler with tear-off strips in floors:				
32	10mm Joints not exceeding 300mm high	m	66		
	Saw-cut joints:				
33	6 x 40mm Saw-cut joints in top of concrete	m	476		
	Horizontal construction joints through concrete including thick cement slurry to one face:				
34	Surface beds not exceeding 300mmm thick	m	40		
	REINFORCEMENT				
	Mild steel reinforcement to structural concrete work:				
35	Mild steel bar reinforcement (8 to 40mm diameter bars)	t	7.57		
	High tensile steel reinforcement to structural concrete work:				
36	High tensile steel bar reinforcement (8 to 40mm diameter bars)	t	17.83		
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 2 Concrete, Formwork and Reinforcement				

Item No			Quantity	Rate	Amount
	High tensile steel dowel bars, sleeves, etc:				
37	Diamond dowel sleeves and plate dowels in construction joints	No	101		
	Fabric reinforcement:				
38	Type 311 fabric reinforcement in concrete surface beds etc	m2	122		
39	Type 395 fabric reinforcement in concrete surface beds etc	m2	1,600		
	Carried Forward to Trade Summary			R	

Section 2 - Building Works
Bill No. 2
Concrete, Formwork and Reinforcement

Section 2 - Building Works

Bill No. 2

Concrete, Formwork and Reinforcement

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Section 2 - Building Works
Bill No. 2
Concrete, Formwork and Reinforcement

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 3

MASONRY

- -

PREAMBLES

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SUPPLEMENTARY PREAMBLES

BRICKWORK

Sizes in descriptions:

Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick

Hollow walls:

Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole

Face bricks :

Bricks shall be ordered timeously to obtain uniformity in size and colour

All face brickwork shall be regularly cleaned down as the work proceeds and shall be protected as necessary by an approved method

Carried Forward to Trade Summary R

Item No			Quantity	Rate	Amount
	Pointing:				
	Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include smooth floated square recessed, hollow recessed, weathered pointing, etc				
	- -				
	BRICKWORK				
	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar:				
1	280mm Solid walls of two half brick skins including wire ties and with cavity filled solid with and including 15Mpa/19mm concrete as the work proceeds	m2	25		
2	330mm Solid walls of two half brick skins including wire ties and with cavity filled solid with and including 15Mpa/19mm concrete as the work proceeds	m2	21		
	SUPERSTRUCTURE				
	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar:				
3	Half brick walls	m2	52		
4	Half brick walls for building in concealed cisterns and brackets	m2	2		
5	Half brick linings to concrete	m2	16		
6	One brick walls	m2	333		
7	280mm Hollow walls of two half brick skins including wire ties	m2	65		
	BRICKWORK SUNDRIES				
8	Splayed mortar fillets one course high in 50mm cavities	m	23		
9	Splayed mortar fillets one course high in 100mm cavities	m	17		
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 3 Masonry				

Item No			Quantity	Rate	Amount
10	Closing 50mm cavities of hollow walls vertically with brickwork one brick wide	m	38		
11	Closing 50mm cavities of hollow walls horizontally with one course of brickwork	m	40		
	Joint forming material in movement joints:				
12	10mm "Sondor Jointex " polyethylene joint filler with tear-off strip built in vertically between brickwork and steel not exceeding 300mm wide or high	m	126		
13	Ditto, but between brickwork and concrete	m	56		
	2,5mm Galvanised brick reinforcement:				
14	75mm Wide reinforcement built in horizontally	m	1,672		
15	150mm Wide reinforcement built in horizontally	m	980		
	Prestressed fabricated concrete lintels, including necessary temporary supports:				
16	110 x 75mm Lintels in lengths not exceeding 3m	m	3		
17	Ditto, but exceeding 3m and not exceeding 4,5h	m	18		
18	150 x 75mm Lintels in lengths exceeding 3m and not exceeding 4,5h	m	4		
	Galvanised hoop iron cramps, ties, etc:				
19	30 x 1,2mm Wall tie 860mm long with one end shot pinned to steel and other end built into brickwork	No	371		
20	Ditto, but with one end shot pinned to concrete and other end built into brickwork	No	165		
	FACE BRICKWORK				
	"Corobrick Silvergrey Travertine" face bricks pointed with recessed horizontal and vertical joints:				
21	Extra over brickwork for face brickwork	m2	320		
22	Extra over brickwork for 220mm Wide sills set level and slightly projecting	m	14		
	Carried Forward to Trade Summary			R	

Section 2 - Building Works
Bill No. 3
Masonry

Item No			Quantity	Rate	Amount
23	Extra over brickwork for 1600mm diameter bullseye arch in 280mm brick wall of one brick-on-edge header ring	No	1		
24	Extra over brickwork for 1600mm diameter bullseye arch in 220mm brick wall of one brick-on-edge header ring	No	2		
25	220mm Brick-on-edge header course copings on top of one brick walls pointed with recessed joints on all exposed faces	m	24		
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Section 2 - Building Works
Bill No. 3
Masonry

Section 2 - Building Works

Bill No. 3

Masonry

TRADE SUMMARY

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Section 2 - Building Works
Bill No. 3
Masonry

Item No			Quantity	Rate	Amount
	SECTION 2				
	BILL NO 4				
	WATERPROOFING				
	- -				
	PREAMBLES				
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained				
	The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles				
	SUPPLEMENTARY PREAMBLES				
	Waterproofing:				
	Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets, etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs				
	- -				
	DAMPPROOFING OF WALLS AND FLOORS				
	One layer 375 micron polyethylene waterproof sheeting:				
1	In walls	m2	28		
	One layer 250 micron waterproof sheeting sealed at laps with PVC self-adhesive tape:				
2	Under surface beds	m2	1,352		
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 4 Waterproofing				

Item No			Quantity	Rate	Amount
	WATERSTOPS				
	"Penebar SW-55" Waterstops cast into concrete:				
3	Cast in silo and mill pit floor/wall junction	m	144		
	SEALING STRIPS, JOINT SEALANTS, ETC				
	"Sikaflex PRO-2HP" or equal approved polyurethane sealing compound, including backing cord, bond breaker, primer, etc:				
4	10 x 10mm In vertical expansion joints, including raking out expansion joint filler as necessary	m	182		
5	10 x 10mm In expansion joints in floors, including raking out expansion joint filler as necessary	m	66		
	"Sikaflex 35 SL" or equal approved polyurethane sealing compound, including primer, etc:				
6	6 x 10mm In saw cut joints in floors	m	476		
	Carried Forward to Trade Summary			R	

Section 2 - Building Works
Bill No. 4
Waterproofing

Section 2 - Building Works

Bill No. 4

Waterproofing

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Section 2 - Building Works
Bill No. 4
Waterproofing

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 5

ROOF COVERINGS

- -

PREAMBLES

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The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Profiled metal roof sheeting and accessories shall be supplied with a 5 year guarantee and be installed by an approved installer

All fixing holes shall be drilled and not punched

Roof covering accessories shall be manufactured from the same material as used for roof covering

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Carried Forward to Trade Summary		R	
Section 2 - Building Works Bill No. 5 Roof Coverings, Claddings Etc			

Item No			Quantity	Rate	Amount
	ALUMINIUM ROOF COVERINGS				
	0,53mm "Klip-tite" Zincalume AZ150 interlocking roof sheeting, in single lengths and fixed to steel purlins at approximately 1750mm centres (purlins elsewhere measured) including flashings, accessories, etc:				
1	Roof covering with pitches not exceeding 25 degrees	m2	1,227		
2	Roof covering with a 45 degree pitch	m2	326		
	Accessories:				
3	Ridge cappings 550mm girth	m	40		
4	Gable flashings 385mm girth	m	133		
5	Headwall flashings 310mm girth	m	36		
6	Sidewall flashings 310mm girth	m	28		
7	Broad flute closers	m	117		
	0,53mm "Nu-Rib" AZ150 interlocking roof sheeting with "Colorbond" finish to one side, in single lengths and fixed to steel purlins at approximately 1200mm centres (purlins elsewhere measured) including flashings, accessories, etc:				
8	Side cladding with broad-flute face to the weather side	m2	1,280		
	Accessories:				
9	External corner trims 462mm girth	m	75		
10	Internal corner trims 462mm girth	m	11		
11	Drip flashings 154mm girth	m	164		
12	Flashing around pipe not exceeding 100mm diameter	No	8		
13	Ditto, but pipe exceeding 100mm and not exceeding 200mm diameter	No	10		
	Carried Forward to Trade Summary				
	Section 2 - Building Works Bill No. 5 Roof Coverings, Claddings Etc			R	

Item No			Quantity	Rate	Amount
	4mm "Alucushion®" FR (fire retardant grade) white polyethylene coated single-sided aluminium foil insulation:				
14	Insulation laid taut over steel purlins and fixed concurrently with roof covering including white PVC coated straining wires	m2	1,553		
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Section 2 - Building Works
Bill No. 5
Roof Coverings, Claddings Etc

Section 2 - Building Works

Bill No. 5

Roof Coverings, Claddings Etc

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Section 2 - Building Works
Bill No. 5
Roof Coverings, Claddings Etc

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 6

CARPENTRY AND JOINERY

- -

PREAMBLES

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SUPPLEMENTARY PREAMBLES

Fixing:

Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", the bolts have been given separately elsewhere

Sizes:

Sizes are nominal and the Contractor shall make allowance in his prices for minor variances in stated finished sizes of timber doors, door members, door frames, architraves, etc

- -

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 6
Carpentry and Joinery

Item No			Quantity	Rate	Amount
	DOORS, ETC				
	Hollow core flush doors:				
1	Type HBSTDLIO internal door	No	2		
2	Extra over for undercutting door by 150mm	No	2		
	FRAMED FRAMES, ETC				
	Wrought meranti:				
3	Type SK1 meranti door frame	No	2		
	FLOORS, ETC				
	Sawn softwood:				
4	19 x 70mm Skirting, plugged	m	83		
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Section 2 - Building Works
Bill No. 6
Carpentry and Joinery

Section 2 - Building Works

Bill No. 6

Carpentry and Joinery

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Section 2 - Building Works
Bill No. 6
Carpentry and Joinery

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 7

CEILINGS, PARTITIONS AND ACCESS FLOORING

- -

PREAMBLES

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SUPPLEMENTARY PREAMBLES

Fixing:

Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete

Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", the bolts have been given separately elsewhere

Ceilings:

Unless otherwise described, ceilings shall be deemed to be horizontal

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Section 2 - Building Works
Bill No. 7
Ceilings, Partitions and Access Flooring

Item No			Quantity	Rate	Amount
	Bulkheads:				
	Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features				
	Bulkheads have only been described as such where they conform to the above definition and where the horizontal, vertical or sloping dimensions do not exceed 1200mm. Where these dimensions are more than 1200mm such portions of ceilings have been included in the appropriate general items of ceilings				
	Unless otherwise described, bulkheads shall be deemed to be horizontal along the length				
	Openings:				
	Prices for openings for light fittings, ventilation grilles, air conditioning diffusers, etc are to include for any necessary additional support, trimming around, etc				
	Steel components:				
	All steel components for ceilings, partitions, etc are to be galvanised in accordance with SANS 121				
	- -				
	INSULATION				
	"Isotherm" or similar approved insulation:				
1	100mm Insulation closely fitted and laid on top of brandering between roof timbers, etc	m2	85		
	Carried Forward to Trade Summary			R	

Section 2 - Building Works
Bill No. 7
Ceilings, Partitions and Access Flooring

Item No			Quantity	Rate	Amount
	SUSPENDED CEILINGS				
	SUPPLEMENTARY PREAMBLES				
	Flush plastered gypsum plasterboard suspended ceilings:				
	Ceilings shall comprise 6,4mm (9,5mm?/12,5mm?) gypsum plasterboard boards screwed to and including screw-up suspension grid consisting of main tees at 1200mm centres and galvanised steel capped cross tees at 400mm centres and with tape fixed over joints and the whole finished with gypsum plaster trowelled to a smooth polished surface				
	The grid shall be suspended by means of galvanised steel L-section hangers at suitable centres, securely shot-pinned or screwed to concrete, steel or wood				
	6,4mm Gypsum plasterboard on screw-up tee suspension grid including hangers, etc with tape fixed over joints and the whole finished with gypsum plaster trowelled to a smooth polished surface:				
2	Ceilings including 38 x 38mm sawn softwood brandering at 400mm centres	m2	85		
3	Extra over ceiling for opening for sprinkler head	No	12		
4	Extra over ceiling for opening for 75mm diameter downlighter	No	16		
	Cornices, perimeter trims, etc to ceilings:				
5	"Donn" pre-painted shadow line perimeter trims fixed to timber battens	m	83		
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Section 2 - Building Works

Bill No. 7

Ceilings, Partitions and Access Flooring

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Section 2 - Building Works
Bill No. 7
Ceilings, Partitions and Access Flooring

Item No			Quantity	Rate	Amount
	SECTION 2				
	BILL NO 8				
	FLOOR COVERINGS				
	- -				
	PREAMBLES				
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained				
	The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles				
	SUPPLEMENTARY PREAMBLES				
	Fixing:				
	Floor coverings, wall linings, etc shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc				
	- -				
	FLOOR COVERINGS				
	3mm "Tal Screedmaster" or similar approved self-levelling screed applied by an approved specialist:				
1	On floors	m2	85		
	Woodplank vinyl tiles (Allow a Prime Cost Amount of R250/m2 delivered to site) applied by an approved specialist with adhesive to screeds:				
2	On floors	m2	85		
	Carried Forward to Section Summary			R	
	Section 2 - Building Works Bill No. 8 Floor Coverings				

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 9

IRONMONGERY

- -

PREAMBLES

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SUPPLEMENTARY PREAMBLES

Proprietary items:

Where applicable, the manufacturers' names or product catalogue titles are given in sub-headings preceding the items

Prices are to be based on the specific products/articles specified. Should tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures, etc clarifying the features of the products/articles offered

On request, returnable samples are to be provided to the Principal Agent for consideration

Locks:

Notwithstanding Clause 2, Item 3 of the "Ironmongery" trade of the "Standard System of Measuring Building Work, Seventh Edition", descriptions of locks shall be deemed to include two keys per lock

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 9
Ironmongery

Item No			Quantity	Rate	Amount
	- -				
	HINGES, BOLTS, ETC				
	Take delivery of and fix only the following ironmongery to timber doors and frames, unless otherwise described:				
1	Ball barrel butt hinge	No	4		
	LOCKS				
	Take delivery of and fix only the following ironmongery to timber doors, unless otherwise described:				
2	Bathroom indicator bolt	No	2		
	DOOR STOPS				
	Take delivery of and fix only the following ironmongery to timber doors and frames, unless otherwise described:				
3	Door stops, plugged	No	2		
	BATHROOM FITTINGS				
	Take delivery of and fix only the following ironmongery to walls:				
4	Disabled grab rails, plugged	No	2		
5	Toilet roll holder, plugged	No	2		
	SUPPLY OF IRONMONGERY:				
6	Prime Cost Amount of Ten Thousand for supplying ironmongery to timber doors		Item		10,000. 0
7	Profit & attendance			%	
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Section 2 - Building Works
Bill No. 9
Ironmongery

Section 2 - Building Works

Bill No. 9

Ironmongery

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Section 2 - Building Works
Bill No. 9
Ironmongery

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 10

STRUCTURAL STEELWORK

- -

PREAMBLES

The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained

The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Specification:

All structural steel must comply with SANS 1200H (Degree of Accuracy II)

All hot rolled structural steel sections must comply with SANS 1431 grade 300W, unless otherwise specified on the drawings

Unless otherwise designated, all bolts and nuts will be grade 4.6 to SANS 135 and BS 916. Descriptions of bolts shall be deemed to include nuts and washers.
Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete. Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete

All connections must be welded all round with a 6mm fillet weld, unless otherwise specified on the drawings

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 10
Structural Steelwork

Item No			Quantity	Rate	Amount
	Drawings and shop details:				
	The Contractor shall be responsible for preparing shop drawings and details which must be submitted to the Principal Agent for approval prior to commencement of fabrication.				
	Before commencing any fabrication, the steel fabricator must check the accessibility of the site and design the sizes of individual parts accordingly				
	Hot-dipped galvanizing:				
	After fabrication and prior to delivery to site, all steelwork described as hot-dipped galvanized, is to be descaled and thoroughly cleaned by pickling, after which it is to be hot dip galvanized in accordance with the requirements of SANS 121/1501461				
	Descriptions:				
	Descriptions of bolts shall be deemed to include nuts and washers				
	Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete				
	Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
	Priming steelwork:				
	Priming non-galvanised steel shall comprise abrasive blast cleaned to Grade SA 2 1/2 and applying Jotun QD zinc phosphate primer as per paint manufacturer's specification, before delivery to site				
	- -				
	PRIMED STEEL COLUMNS AND BEAMS				
	Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete:				
1	254 x 146 x 31kg/m I-section columns (In No.9)	t	2.66		
	Carried Forward to Trade Summary			R	

Section 2 - Building Works
Bill No. 10
Structural Steelwork

Item No			Quantity	Rate	Amount
2	305 x 165 x 41kg/m I-section columns (In No.32)	t	15.27		
3	457 x 191 x 67kg/m I-section columns in heights exceeding 13m and not exceeding 18m (In No.11)	t	11.91		
	Welded beams in single lengths with flat bearer and connection plates, bolted to steel:				
4	356 x 171 x 51kg/m I-section beams (In No.2)	t	0.73		
5	203 x 133 x 25kg/m I-section rafters (In No.4)	t	0.49		
	PRIMED STEEL TRUSSES				
	Welded and bolted roof trusses of angle rafters, tie beams, rails, struts, braces, cleats, etc and flat bearer, gusset and connection plates, bolted to steel:				
	Juice Building:				
6	Truss Type 1, 20m long x 3.3m high extreme (In No.4)	t	5.15		
7	Truss Type 2, 25m long x 4m high extreme (In No.5)	t	7.74		
8	Truss Type 3, 5m long x 1.1m high extreme (In No.5)	t	0.57		
9	Truss Type 4, 20m long x 3.3m high extreme (In No.4)	t	5.15		
	GALVANISED STEEL PURLINS, GIRTS, BRACING, ETC				
	Purlins and girts, bolted to steel:				
10	125 x 65 x 20 x 2.5mm Thick cold-formed lipped channel purlins	t	5.26		
11	125 x 65 x 20 x 2.5mm Thick cold-formed lipped channel girts	t	4.84		
	PRIMED STEEL PURLINS, GIRTS, BRACING, ETC				
	Welded bracing, anti-sag rails, etc with flat connection plates, bolted to steel:				
12	Angle cleats and splice plates	t	1.05		
	Carried Forward to Trade Summary				
	Section 2 - Building Works Bill No. 10 Structural Steelwork			R	

Item No			Quantity	Rate	Amount
13	Angle bracing	t	2.54		
14	Angle sag rails	t	1.00		
15	Angle false rafters	t	0.39		
16	76 x 3mm CHS struts	t	1.16		
	3CR12 GUTTERS				
	2.5mm Welded plate gutters:				
	Juice Building:				
17	Box gutters 950mm girth, 4 times bent along length including necessary collared and sealed expansion joints (bearers elsewhere) (Juice Type 5)	m	15		
18	Ditto, but 900mm girth, 4 times bent (Juice Type 2)	m	25		
19	Ditto, but 900mm girth, 4 times bent (Juice Type 3)	m	40		
20	Ditto, but 850mm girth, 4 times bent (Juice Type 1)	m	16		
21	Ditto, but 850mm girth, 4 times bent (Juice Type 4)	m	20		
	BOLTS, FASTENERS, ETC				
22	High tensile bolts (class 8.8)	t	0.80		
23	Anchor bolt of 20mm diameter grade 8.8 threaded bolt 800mm long with 70 x 70 x 16mm thick anchor plate embedded in top of concrete	No	230		
24	M10 grade 8.8 insulation panel fixing nut welded against column	No	268		
25	Insulation panel fixing bolt of 10mm diameter grade 8.8 threaded bolt 150mm long with two nuts of which one welded against column	No	268		
	BIRD PROOFING				
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 10 Structural Steelwork				

Item No			Quantity	Rate	Amount
	'Vitex' or similar approved mesh:				
26	Type 30-2R birdproofing mesh 270mm wide with one end fixed to sheeting rail and other end to insulation panel, fixed horizontally (fixing detail to be designed by contractor)	m	139		
	PAINTING				
	Touch-up primer and two coats "Jotun Jotafloor Rapid Dry" finishing coats, each coat to 40 micron dry film thickness, on:				
27	Structural steel columns, beams, etc	m2	1,066		
28	Structural steel lattice columns, beams, trusses, etc	m2	671		
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Section 2 - Building Works
Bill No. 10
Structural Steelwork

Section 2 - Building Works

Bill No. 10

Structural Steelwork

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Section 2 - Building Works
Bill No. 10
Structural Steelwork

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 11

METALWORK

- -

PREAMBLES

The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained

The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Descriptions of bolts, anchors, etc:

Descriptions of bolts shall be deemed to include nuts and washers

Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete

Items described as "holed for bolt(s)" shall be deemed to exclude the bolts, unless otherwise described

Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres

Fixing:

Unless otherwise described, descriptions of items shall be deemed to include for fixing to brickwork or concrete

Where items are described as "bolted", the bolts are measured elsewhere as stated in clause N.7 of the Model Preambles

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 11
Metalwork

Item No		Quantity	Rate	Amount
	- -			
	ALUMINIUM WINDOWS, DOORS, ETC			
	Aluminium windows, doors, etc:			
	The successful tenderer shall be responsible for the complete design work including determining required section sizes and fixing details, all subject to the Principal Agent approval			
	Doors, windows, etc shall be designed and constructed to withstand wind pressures of 1,1kn/m2 (unfactored) and 1,5kn/m2 (factored)			
	All calculations shall be submitted to the Principal Agent for approval			
	Doors and windows shall comply with AAAMSA design criteria			
	Glazing shall comply with SAGGA regulations. Glass thicknesses shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings			
	Doors and windows shall be supplied with protective tape and plastic which shall be removed only once surrounding trades have been completed			
	The following certificates shall be provided prior to commencement of site work:			
	1 A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product			
	2 A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively			
	3 A copy of the relevant Performance Compliance Report from the system suppliers			
	4 A copy of the relevant Safiera Energy Rating Certification			
	Carried Forward to Trade Summary		R	
	Section 2 - Building Works Bill No. 11 Metalwork			

Item No		Quantity	Rate	Amount
	5 A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process			
	6 A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 10400-N, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked			
	7 A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years			
	All windows and door joints must be sealed to the inside with "Dow Corning" silicone during manufacturing			
	All dimensions shall be verified on site before commencing the work and a full set of shop drawings showing all relevant details shall be submitted to the Architect for his approval, prior to the manufacture of the units			
	Sizes			
	Where sizes are given these are nominal sizes			
	Ironmongery			
	The tenderer must allow in his pricing for supply and fixing of ALL ironmongery			
	Heavy duty high quality fittings must be allowed for and samples will be required for approval by the Principal Agent			
	Carried Forward to Trade Summary		R	
	Section 2 - Building Works Bill No. 11 Metalwork			

Item No			Quantity	Rate	Amount
	References:				
	References in descriptions of windows, doors, etc refer to the respective types of windows, doors, etc detailed on the Architect's drawings and accompanying these bills of quantities				
	Tenderers are to price the following items in conjunction with the above Architect's drawings, etc and no claim arising from brevity of descriptions in these bills of quantities, of items shown on the Architect's drawings, etc shall be entertained				
	ALUMINIUM WINDOWS				
	Powder coated casement units, complete with subframes, ironmongery, glass, coverstrips and sealing all round on both sides with approved polysulphide or similar approved sealant:				
	Single glazing				
1	Window 3721 x 1496mm high (GW003)	No	1		
2	Window 4822 x 496mm high (GW002)	No	1		
3	Window 4822 x 2250mm high (GW102, 103)	No	2		
4	Window 1600mm diameter (GW104)	No	1		
	ALUMINIUM DOORS, FRAMES, ETC				
	Powder coated door units complete with coupling mullions, glass and glazing, pvc gaskets, woolpile draught seals, packing pieces, coverstrips, ironmongery and sealing all round on both sides with polysulphide or similar approved sealant:				
	Single glazing				
5	Single door 900 x 2596mm high including toplight (GW004)	No	1		
6	Single door 900 x 2850mm high including toplight (GW006, 007)	No	2		
	Aluminium slats				
7	Single door 900 x 2100mm high (GF001-003)	No	3		
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 11 Metalwork				

Item No			Quantity	Rate	Amount
8	Single door 900 x 2850mm high including glazed toplight (GW005)	No	1		
	ALUMINIUM SHOPFRONTS				
	Powder coated shopfronts, complete with subframes, ironmongery, glass, coverstrips and sealing all round on both sides with polysulphide or similar approved sealant:				
	Single glazing				
9	Shopfront 4822 x 2596mm high including door (GW001)	No	1		
	Double glazing				
10	Shopfront 4621 x 3000mm high including door (GW101)	No	1		
	STEEL ROLLER SHUTTERS, ETC				
	Powdercoated aluminium slatted roller shutter with push button control, bottom rail with overhead box, guides, ancillary components including end plates, guide rails, etc, fixed to steel columns and beams, the shutter controlled by security mounted key switch with light beams:				
11	Electrically operated slatted roller shutter for 4 x 5.2m high opening, including electrical connection and commissioning (electrical isolator by others) (RSD01, 02, 03)	No	3		
12	Ditto, but 8 x 6m high (RSD04)	No	1		
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Section 2 - Building Works
Bill No. 11
Metalwork

Section 2 - Building Works

Bill No. 11

Metalwork

TRADE SUMMARY

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Section 2 - Building Works
Bill No. 11
Metalwork

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 12

PLASTERING

- -

PREAMBLES

The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained

The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Moisture tests:

Before any finishes, coverings, etc are applied to screeds, plastering, etc or any other in-situ finish, moisture tests are to be carried out to the complete satisfaction of the Principal Agent to ensure that these surfaces have the correct moisture content for the finish to be applied

Labours, etc

Labours such as fair, rounded and chamfered edges, trowel cuts, throats, V-joints, angles, etc shall be deemed to be included in the descriptions

Sample Panels

A sample panel size 1m x1m, of each of the various plaster type wall and floor finishes in this contract, shall be prepared for the approval of the Principal Agent and the cost of the sample panel(s) shall be deemed to be included in the overall costs of the relevant wall and floor finishes

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 12
Plastering

Item No		Quantity	Rate	Amount
	GRANOLITHIC			
	Method: The method to be used shall be either the monolithic method or the bonded method			
	Preparation: For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic			
	Mix: Unless otherwise described, granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic			
	Panels: Granolithic shall be laid in panels not exceeding 14m² for monolithic finishes, not exceeding 9,5m² for bonded finishes and not exceeding 6m² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints			
	Carried Forward to Trade Summary		R	

Item No			Quantity	Rate	Amount
	Laying:				
	Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels				
	Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be throughly compacted and lightly wood floated to the required levels				
	After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated				
	Curing, seasoning and protection:				
	Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying				
	CEMENT PLASTER				
	Unless otherwise described, cement plaster shall be taken to mean Class 1 cement plaster i.e. 1:4 cement:sand plaster (common cement)				
	- -				
	GRANOLITHIC				
	Untinted granolithic, on concrete:				
1	Average 40mm thick in silo and mill pit floors with upper surface to falls	m2	309		
	SCREEDS				
	Screeds wood floated, on concrete:				
2	30mm Thick on floors and landings	m2	85		
	INTERNAL PLASTER				
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 12 Plastering				

Item No			Quantity	Rate	Amount
	Cement plaster steel trowelled, on brickwork:				
3	On walls	m2	449		
4	On narrow widths	m2	15		
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Section 2 - Building Works
Bill No. 12
Plastering

Section 2 - Building Works

Bill No. 12

Plastering

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Section 2 - Building Works
Bill No. 12
Plastering

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 13

TILING

- -

PREAMBLES

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SUPPLEMENTARY PREAMBLES

Fixing:

Unless described as "fixed with adhesive to plaster (plaster elsewhere)", descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors, etc shall be deemed to include 1:3 cement plaster bedding

Tiling described as "fixed with adhesive on power floated concrete" shall be deemed to include for approved tiling key-coat

Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the "Tal Goldstar" or similar approved range of products as recommended by the manufacturer of the tiles

- -

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 13
Tiling

Item No			Quantity	Rate	Amount
	WALL TILING				
	600 x 600 x 8mm Porcelain tiles (Allow a Prime Cost Amount of R250/m2 delivered to site) fixed with adhesive to plaster (plaster elsewhere) and flush pointing with tinted grout:				
1	On walls	m2	63		
	FLOOR TILING				
	600 x 600 x 8mm Porcelain floor tiles (Allow a Prime Cost Amount of R250/m2 delivered to site) fixed with adhesive to screeds and flush pointing with and including tinted grout:				
2	On risers 165mm high of cut tiles	m	18		
3	On treads 280mm wide of cut tiles	m	18		
4	Skirting 100mm high stepped over treads and risers	m	12		
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Section 2 - Building Works
Bill No. 13
Tiling

Section 2 - Building Works

Bill No. 13

Tiling

TRADE SUMMARY

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Section 2 - Building Works
Bill No. 13
Tiling

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 14

PLUMBING AND DRAINAGE

- -

PREAMBLES

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The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Wire gratings:

Descriptions of gutter outlets, etc shall be deemed to include wire balloon gratings

Stormwater channels:

Descriptions of channels shall be deemed to include necessary excavation, surface preparation, compaction, etc and disposal of surplus material on site

Carried Forward to Trade Summary R

Item No		Quantity	Rate	Amount
	Stainless steel basins, sinks, wash troughs, urinals, etc:			
	Stainless steel for economy basins, domestic sinks and worktops shall be Type 430 (17/0)			
	Stainless steel for urinals, basins, quality sinks, wash troughs, institutional equipment, etc shall be Type 304 (18/8)			
	Stainless steel for laboratory sinks, photographic equipment, etc shall be Type 316 (18/8)			
	Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable			
	Sealing of edges:			
	Outer edges of sinks, basins, baths, urinals, etc are to be sealed against adjacent surfaces with approved mildew resistant silicone sealant and prices must include therefor			
	uPVC pipes and fittings:			
	Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings			
	Soil, waste and vent pipes and fittings shall be solvent weld jointed or sealed with butyl rubber rings			
	uPVC pressure pipes and fittings:			
	Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings			
	Pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints			
	High density polyethylene (HDPe) pipes and fittings:			
	Pipes shall be type IV and of the class specified with "Plasson" or "Alprene" compression fittings			
	Carried Forward to Trade Summary		R	

Item No		Quantity	Rate	Amount
	"Polycop" polypropylene pipes: Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or where so described "Polylock" compression fittings Pipes shall be firmly fixed to walls, etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions **Copper pipes:** Pipes shall be hard drawn and half-hard "Maksal" pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), Class 2 (half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition **Reducing fittings:** Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm, only the largest end or branch size is given. Should the Contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm, all sizes are given and no claims for extra bushes, reducers, etc will be entertained			
	Carried Forward to Trade Summary		R	
	Section 2 - Building Works Bill No. 14 Plumbing and Drainage			

Item No		Quantity	Rate	Amount
	Fixing of pipes: Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls, etc casting in, building in or suspending not exceeding 1m below suspension level **Paper wrapping to pipes:** Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings **Disinfection of water pipework:** Water pipework is to be disinfected at completion in accordance with SANS 1200L (provision for disinfection elsewhere) **"Densyl" petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd.:** Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with suitable overlaps Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including mastic, tape, "Layflat" sheeting, securing of same, etc Prices for wrapping of pipes shall include for all work as described to couplings in the length **Laying, backfilling, bedding, etc of pipes:** Pipes shall be laid and bedded in accordance with manufacturers' instructions and trenches shall be carefully backfilled			
	Carried Forward to Trade Summary		R	

Item No		Quantity	Rate	Amount
	Where no manufacturers' instructions exist, pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following: SANS 1200L : Medium-pressure pipelines SANS 1200LD : Sewers SANS 1200LE : Stormwater drainage Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SANS 1200DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SANS 1200LB : Bedding (Pipes) Unless otherwise described, bedding of rigid pipes shall be Class B bedding **General:** Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc are given separately) Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 98% Mod AASHTO density and disposal of surplus material on site Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc are given separately) Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured) and shall have straight or side outlets and "P" or "S" traps as necessary Description of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings.			
	Carried Forward to Trade Summary		R	
	Section 2 - Building Works Bill No. 14 Plumbing and Drainage			

Item No			Quantity	Rate	Amount
	All plumbing to be done by a certified plumber registered in good standing with IOPSA				
	As-built drawings:				
	Where required, the Contractor shall prepare an updated set of as-built drawings. At completion of the contract the Contractor shall hand these drawings to the Principal Agent for reproducing onto the originals for handing over to the Employer (provision for allowance of as-built drawings elsewhere)				
	- -				
	RAINWATER DISPOSAL				
	Class 34 uPVC rainwater pipes:				
1	200mm Diameter rainwater pipes	m	144		
2	Extra over rainwater pipe for bend	No	13		
3	Extra over rainwater pipe for shoe	No	13		
	FLOOR DRAINS:				
	"Vincosteel" or similar approved grade 304 stainless steel strip drain as per drawing 25002/S60 Rev5:				
4	Strip drain of varying depths, including concrete levelling pads, threaded bars, lugs, etc cast in position complete	m	78		
5	Extra over for stainless steel floor drain / catchpit	No	9		
	Heavy duty (Class 34) uPVC sewer and drain pipes:				
6	110mm Pipes laid in and including trenches not exceeding 1m deep	m	104		
	Extra over normal duty (Class 51) uPVC sewer and drain pipes for fittings:				
7	110mm Bend	No	9		
8	110mm Long radius bend	No	9		
9	110mm Junction	No	8		
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 14 Plumbing and Drainage				

Item No			Quantity	Rate	Amount
10	110mm Rodding eye	No	4		
	SANITARY FITTINGS AND BRASSWARE				
	Take delivery, store, protect and install the following sanitary fittings:				
11	Stand pipe	No	3		
12	Wall hung WC pan including flush valve, seat, etc	No	2		
13	Wash hand basin bolted to wall, including tap, waste, trap, etc	No	2		
14	Double bowl sink, including mixer, waste, trap, etc on cupboard (cupboard elsewhere)	No	1		
15	16mm Stopcock	No	3		
16	20mm Stopcock	No	2		
	SANITARY PLUMBING				
	Design, supply and installation of the complete sanitary plumbing installation, inclusive of pipes, fittings, traps, cowls, etc up to and including connecting to the civil services (refer civil drawings indicating nearest point) - measured per sanitary fitting point:				
17	Wall hung WC pan	No	2		
18	Wash hand basin	No	2		
19	Double bowl sink	No	1		
	Testing:				
20	Testing waste pipe system		Item		

Carried Forward to Trade Summary

Section 2 - Building Works R
Bill No. 14
Plumbing and Drainage

Item No			Quantity	Rate	Amount
	WATER SUPPLIES				
	Design, supply and installation of the internal water supply (cold water only) installation inclusive of pipes, fittings, safety valves, stopcocks, etc up to and including connecting to the civil services (refer civil drawings indicating nearest point) - measured per sanitary fitting point:				
21	Stand pipe	No	3		
22	Wall hung WC pan including cistern	No	2		
23	Wash hand basin, including mixer	No	2		
24	Double bowl sink including mixer	No	1		
	Design, supply and installation of the internal water supply (hot water) installation inclusive of pipes, fittings, safety valves, stopcocks, etc up to and including connecting to the civil services (refer civil drawings indicating nearest point) - measured per sanitary fitting point:				
25	Wash hand basin, including mixer	No	2		
26	Double bowl sink including mixer	No	1		
	Testing:				
27	Testing water pipe system		Item		
	AS-BUILT DRAWINGS				
28	Provision of as-built drawings in CAD format		Item		
	SUPPLY OF SANITARY FITTINGS AND ACCESSORIES:				
29	Prime Cost Amount of Twenty Five Thousand for supplying sanitary fittings and accessories		Item		
30	Profit & attendance			%	25,000. 0
	Carried Forward to Trade Summary				
	Section 2 - Building Works Bill No. 14 Plumbing and Drainage			R	

Section 2 - Building Works

Bill No. 14

Plumbing and Drainage

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Section 2 - Building Works
Bill No. 14
Plumbing and Drainage

Item No			Quantity	Rate	Amount
	SECTION 2				
	BILL NO 15				
	PAINTWORK				
	- -				
	PREAMBLES				
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained				
	The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles				
	SUPPLEMENTARY PREAMBLES				
	PAINT SPECIFICATIONS				
	All painting shall be done in accordance with "Plascon" specifications, unless otherwise described				
	- -				
	ON INTERNAL FLOATED PLASTER SURFACES				
	One coat alkali resistant primer and two coats low odour premium quality highly washable and stain resistant acrylic emulsion paint for interior use, on:				
1	Walls	m2	445		
	ON FACE BRICKWORK SURFACES				
	Scrub down walls and apply two coats Brickseal, on:				
2	Walls	m2	320		
	Carried Forward to Trade Summary			R	
	Section 2 - Building Works Bill No. 15 Paintwork				

Item No			Quantity	Rate	Amount
	ON SMOOTH CONCRETE SURFACES				
	One coat alkali resistant primer and two coats PVA emulsion paint for interior use, including stopping blowholes, on:				
3	Concrete ceilings	m2	54		
	ON PLASTERBOARD SURFACES				
	One coat alkali resistant primer and two coats PVA emulsion paint for interior use, on:				
4	Ceilings and cornices	m2	85		
	ON WOOD SURFACES				
	Two coats oil wood primer, on :				
5	Backs of frames, linings, etc not exceeding 300mm wide	m	93		
	One coat primer, one coat alkyd based universal undercoat and two coats superior quality universal enamel paint, on:				
6	Doors	m2	7		
7	Door frames, etc	m2	3		
8	Skirtings not exceeding 300mm high	m	83		
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Section 2 - Building Works
Bill No. 15
Paintwork

Section 2 - Building Works

Bill No. 15

Paintwork

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Section 2 - Building Works
Bill No. 15
Paintwork

Item No		Quantity	Rate	Amount

SECTION 2

BILL NO 16

BUILDER'S WORK IN CONNECTION WITH SPECIALIST INSTALLATIONS

- -

PREAMBLES

The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained

The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Prices for chases, holes, openings, sleeves, etc through or into brickwork, concrete, etc must include for making good same as well as any disturbed work or finshes in all other trades, unless otherwise described

Making good finishes:

Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary

- -

Carried Forward to Trade Summary R

Section 2 - Building Works
Bill No. 16
Builder's Work in connection with Specialist Installations

Item No			Quantity	Rate	Amount
	SLEEVES				
	PVC sleeves for pipes not exceeding 100mm diameter:				
1	Sleeve not exceeding 250mm long and built through one-brick wall	No	6		
	PVC sleeves for pipes exceeding 100mm and not exceeding 200mm diameter:				
2	Sleeve not exceeding 250mm long and built through one-brick wall	No	4		
3	Ditto, but sleeve exceeding 250mm and not exceeding 500mm long	No	4		
	CORE DRILLING, ETC				
	Core drilling through reinforced concrete :				
4	100mm Diameter hole through not exceeding 300mm wall	No	5		
5	Ditto, but 150mm diameter hole	No	4		
6	Ditto, but 200mm diameter hole	No	3		
	Carried Forward to Trade Summary			R	

Section 2 - Building Works
Bill No. 16
Builder's Work in connection with Specialist Installations

Bill No. 16

Builder's Work in connection with Specialist Installations

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Section 2 - Building Works
Bill No. 16
Builder's Work in connection with Specialist Installations

SECTION 2 – Building Works
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Section 2 - Building Works

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Item No		Quantity	Rate	Amount

SECTION 3

BILL NO 1

EXTERNAL WORK

(ALL TRADES)

- -

PREAMBLES

The Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained

The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles

SUPPLEMENTARY PREAMBLES

Nature of ground:

The nature of the ground is assumed to be gravel, therefore "earth", but possibly interspersed with "soft rock" or "hard rock"

Should the Contractor encounter any "soft" or "hard" rock in the excavations, he shall immediately notify the Engineer who shall be the sole arbiter as to what constitutes "soft" or "hard" rock for final account purposes

Subterranean water:

No subterranean water is expected

Carried Forward to Trade Summary R

Section 3 - Site Works
Bill No. 1
External Work

Item No			Quantity	Rate	Amount
	Excavation for working space in rock:				
	Notwithstanding clause 11 of the Standard System of Measuring Building Work, excavation for working space in rock will be measured in cubic metres to the extent executed and given as "extra over" bulk excavation or trench and hole excavation as the case may be				
	Carting away of excavated material:				
	Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site				
	Filling:				
	Notwithstanding the reference to prescribed multiple handling in Clause 1 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any necessary multiple handling of material				
	Testing:				
	Prices for backfilling to trenches and holes only are to include for all necessary density tests in accordance with SANS 1200D				
	Maintenance period:				
	The maintenance period to civil works such as roads, parking and related earthworks shall be twelve calender months				
	- -				
	SITE CLEARANCE, ETC				
	Site clearance:				
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth and depositing material at a dumping site located by the contractor	m2	17,000		
2	Stripping average 150mm thick layer of top soil and depositing material at a dumping site located by the contractor	m3	1,940		
	Carried Forward to Trade Summary			R	
	Section 3 - Site Works Bill No. 1 External Work				

Item No			Quantity	Rate	Amount
	BULK EXCAVATION, FILLING, ETC				
	EXCAVATIONS, ETC				
	Open face excavation in earth over sloping site:				
3	Open face excavation to fill (fill elsewhere measured)	m3	1,250		
4	Open face excavation to spoil (spoil elsewhere measured)	m3	7,500		
	Extra over bulk excavations in earth for excavation in:				
5	Soft rock	m3	875		
6	Hard rock	m3	350		
	Extra over all excavations for carting away:				
7	Surplus material from excavations and/or stock piles on site to a dumping site situated maximum 500m from the building site	m3	7,500		
	Keeping excavations free of water:				
8	Keeping excavations free of water other than subterranean water		Item		
	FILLING, ETC				
	Earth filling obtained from the excavations, compacted to 95% Mod AASHTO density:				
9	Over site to make up levels from cut (cut elsewhere measured)	m3	1,250		
	G8 filling material supplied by the Contractor, compacted to 93% Mod AASHTO density (100% for sand):				
10	Over site to make up levels	m3	7,250		
	Additional tests if required by the Engineer:				
11	"Modified AASHTO Density" test	No	30		
12	"DCP" probe test	No	25		
	Carried Forward to Trade Summary				
	Section 3 - Site Works Bill No. 1 External Work			R	

Item No			Quantity	Rate	Amount
13	"Troxler" test	No	5		
	ROADWORK, PARKING AREAS AND PAVING				
	SUPPLEMENTARY PREAMBLES				
	Testing of material and filling:				
	Descriptions of earth filling, compaction, etc shall be deemed to include for all necessary testing required, in accordance with the SABS 1200 series				
	Precast concrete block road surfacing:				
	Paving shall be laid in accordance with SABS 1200 MJ, SANS 1058 and the Concrete Masonry Association's specifications				
	Paving shall be laid to herringbone pattern on 20mm thick (thickness after final compaction) clean river sand (preparation of ground or filling elsewhere)				
	Clean sand shall be swept into joints between roadstones at completion				
	ROADWORKS, ETC				
	Earth filling from commercial sources supplied by the Contractor under parking areas, roadways, etc:				
14	Sub-grade course G8 material in accordance with SABS 1200 DM, compacted to 98% Mod AASHTO density (100% for sand)	m3	823		
15	Sub-grade course G7 material in accordance with SABS 1200 DM, compacted to 98% Mod AASHTO density (100% for sand)	m3	54		
16	Sub-base course G5 material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	40		
17	Sub-base course G2 material in accordance with SABS 1200 DM, compacted to 98% Mod AASHTO density	m3	21		
	Carried Forward to Trade Summary			R	
	Section 3 - Site Works Bill No. 1 External Work				

Item No			Quantity	Rate	Amount
18	Sub-base course of cement stabilised C3 material in accordance with SABS 1200 ME and compacted to				
	97% Mod AASHTO density	m3	892		
19	Extra over C3 for cement stabilization with "PPC Sureroad"	t	55.69		
	Compaction of surfaces:				
20	Compaction of ground surface under pavings, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod				
	AASHTO density	m2	5,847		
	Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasien 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m2:				
21	Under paving, etc	m2	360		
	Bituminous premix road surfacing:				
22	40mm Thick paving to parking areas, roadways, etc including bitumen spray to base course	m2	140		
	25MPa/19mm reinforced concrete:				
23	To walkways, etc	m3	4		
	30MPa/19mm reinforced concrete:				
24	To parking areas, roadways, etc in panels between construction joints, etc	m3	871		
	Finishing top surfaces of concrete smooth with a power float:				
25	Paving to parking areas, roads, etc to falls	m2	5,487		
	"Sika Antisol-15" or similar approved curing compound at a minimum thickness of 0,2L/m2:				
26	External concrete surfaces	m2	5,487		
	Carried Forward to Trade Summary				
	Section 3 - Site Works Bill No. 1 External Work			R	

Item No			Quantity	Rate	Amount
	Rough formwork to sides:				
27	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	42		
28	Ditto, but circular-on-plan	m	18		
	Saw-cut joints:				
29	6 x 30mm Saw-cut joints in top of concrete	m	1,483		
	Horizontal construction joints through concrete including thick cement slurry to one face:				
30	Surface beds not exceeding 300mmm thick	m	403		
	Expansion joints with "Sondor Jointex" polyethylene expansion joint filler with tear-off strips in paving:				
31	10mm Joints not exceeding 300mm high	m	216		
	Fabric reinforcement:				
32	Type 193 fabric reinforcement in concrete paving, etc	m2	44		
33	Type 311 fabric reinforcement in concrete paving, etc	m2	5,442		
	Paving of 200 x 100 x 50mm Charcoal cement paving bricks with butt joints, on 20mm thick river sand bed with sand-and-cement mixture swept into joints and hosed down, including preparation of ground or filling:				
34	Paving to parking areas, etc to falls	m2	220		
35	Fair circular cutting	m	13		
	Precast concrete finished smooth on exposed surfaces, including excavation, backfilling, concrete haunching behind joints, bedding, jointing and pointing:				
36	Figure 3 kerb	m	441		
37	Ditto, but circular-on-plan	m	128		
38	Figure 3 dropped kerb	m	30		
	Carried Forward to Trade Summary			R	
	Section 3 - Site Works Bill No. 1 External Work				

Item No			Quantity	Rate	Amount
39	Figure 3/14 combination kerb	m	339		
40	Ditto, but circular-on-plan	m	84		
	"Sikaflex PRO-2HP" or equal approved polyurethane sealing compound, including backing cord, bond breaker, primer, etc:				
41	6 x 10mm In saw-cut joints	m	1,483		
42	10 x 10mm In expansion joints, including raking out expansion joint filler as necessary	m	216		
	BUDGETARY ALLOWANCE				
43	Budgetary Allowance of One Hundred Thousand Rand for additional external works	Item			100,000.00
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Section 3 - Site Works
Bill No. 1
External Work

Section 3 - Site Works

Bill No. 1

External Work

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Section 3 - Site Works
Bill No. 1
External Work

Item No		Quantity	Rate	Amount

SECTION 3

BILL NO 2

SITE SERVICES

- -

PREAMBLES

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SUPPLEMENTARY PREAMBLES

Stormwater channels:

Descriptions of channels shall be deemed to include necessary excavation, surface preparation, compaction, etc and disposal of surplus material on site

uPVC pipes and fittings:

Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings

Soil, waste and vent pipes and fittings shall be solvent weld jointed or sealed with butyl rubber rings

uPVC pressure pipes and fittings:

Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings

Pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints

Carried Forward to Trade Summary R

Section 3 - Site Works
Bill No. 2
Site Services

Item No		Quantity	Rate	Amount
	High density polyethylene (HDPe) pipes and fittings:			
	Pipes shall be type IV and of the class specified with "Plasson" or "Alprene" compression fittings			
	Reducing fittings:			
	Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm, only the largest end or branch size is given. Should the Contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm, all sizes are given and no claim for extra bushes, reducers, etc will be entertained			
	Disinfection of water pipework:			
	Water pipework is to be disinfected at completion in accordance with SABS 1200L (provision for disinfection elsewhere)			
	"Densyl" petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd.:			
	Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with suitable overlaps			
	Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including mastic, tape, "Layflat" sheeting, securing of same, etc			
	Prices for wrapping of pipes shall include for all work as described to couplings in the length			
	Laying, backfilling, bedding, etc of pipes:			
	Pipes shall be laid and bedded in accordance with manufacturers' instructions and trenches shall be carefully backfilled			
	Carried Forward to Trade Summary		R	

Section 3 - Site Works
Bill No. 2
Site Services

Item No		Quantity	Rate	Amount
	Where no manufacturers' instructions exist, pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following: SABS 1200L : Medium-pressure pipelines SABS 1200LD : Sewers SABS 1200LE: Stormwater drainage Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200LB : Bedding (Pipes) Unless otherwise described, bedding of rigid pipes shall be Class B bedding **General:** Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 98% Mod AASHTO density and disposal of surplus material on site Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc are given separately) **As-built drawings:** Where required, the Contractor shall prepare an updated set of as-built drawings. At completion of the contract the Contractor shall hand these drawings to the Principal Agent for reproducing onto the originals for handing over to the Employer (provision for allowance of as-built drawings elsewhere) - **STORMWATER DRAINAGE**			
	Carried Forward to Trade Summary		R	

Section 3 - Site Works
Bill No. 2
Site Services

Item No			Quantity	Rate	Amount
	Class 100D concrete pipes with spigot and socket joints with rubber rings:				
1	300mm Pipes laid in and including trenches not exceeding 1m deep	m	45		
2	Ditto, but exceeding 1m and not exceeding 2m deep	m	28		
3	375mm Pipes laid in and including trenches not exceeding 1m deep	m	39		
4	Ditto, but exceeding 1m and not exceeding 2m deep	m	86		
5	450mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	55		
6	600mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	155		
7	675mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	10		
	Heavy duty (Class 34) uPVC stormwater pipes:				
8	110mm Pipes laid in and including trenches not exceeding 1m deep	m	55		
9	160mm Pipes laid in and including trenches not exceeding 1m deep	m	33		
10	Ditto, but exceeding 1m and not exceeding 2m deep	m	21		
	Sumps, catchpits, inspection chambers, etc including concrete kerbs or precast concrete cover slabs (gratings and covers elsewhere):				
11	300 x 300mm Brick catchpit not exceeding 1000mm deep internally	No	4		
12	410 x 1400mm Brick catchpit not exceeding 1000mm deep internally including lintol over centre	No	2		
13	Kerb catchpit/inlet 1500mm long not exceeding 1000mm deep internally including transition kerb, in-situ cover, steel, mesh, etc complete	No	3		
14	Ditto, but 2500mm long	No	3		
	Carried Forward to Trade Summary			R	

Section 3 - Site Works
Bill No. 2
Site Services

Item No			Quantity	Rate	Amount
15	1000mm Diameter precast concrete circular inspection chamber not exceeding 1000mm deep internally with lower portion around haunching built in 220mm brickwork, complete	No	7		
16	Ditto, but exceeding 1000mm and not exceeding 2000mm deep internally	No	3		
	Cast iron gratings, covers, etc:				
17	300 x 300mm Light duty dished grating and frame	No	4		
18	450 x 600mm Heavy duty dished grating and frame	No	4		
19	600 x 600 EN124 D400 Manhole cover and frame	No	10		
	Sundries:				
20	Carefully excavate for and cutting into side of existing 675mm drain pipe for building a manhole over, including connecting pipe to new manhole (manhole elsewhere measured)	No	1		
	Testing:				
21	Testing stormwater drainage system		Item		
	SLEEVES FOR ELECTRICAL AND TELEPHONE CABLES, ETC				
	Class 6 uPVC pipes:				
22	110mm pipes laid in and including trenches not exceeding 1m deep	m	55		
23	Set of two 110mm pipes laid side-by-side in and including trenches not exceeding 1m deep	m	40		
24	Ditto, but set of six	m	25		
25	Set of two 160mm pipes laid side-by-side in and including trenches not exceeding 1m deep	m	20		
	Extra over Class 6 uPVC pipes for fittings:				
26	110mm Long radius bend	No	25		
27	160mm Long radius bend	No	13		
	Carried Forward to Trade Summary			R	

Section 3 - Site Works
Bill No. 2
Site Services

Item No			Quantity	Rate	Amount
	Draw wires:				
28	1,6mm Galvanised steel draw wires in pipes	m	325		
	Inspection chambers:				
29	600 x 600mm Brick inspection chamber not exceeding 1000mm deep internally, including precast concrete cover slab (cover elsewhere)	No	4		
30	450 x 450mm Medium duty manhole cover and frame	No	4		
	SOIL DRAINAGE				
	Heavy duty (Class 34) uPVC sewer and drain pipes:				
31	110mm Pipes laid in and including trenches not exceeding 1m deep	m	96		
32	160mm Pipes laid in and including trenches not exceeding 1m deep	m	5		
33	Ditto, but exceeding 1m and not exceeding 2m deep	m	44		
34	Ditto, but exceeding 2m and not exceeding 3m deep	m	207		
	Extra over heavy duty (Class 34) uPVC sewer and drain pipes for fittings:				
35	110mm Bend	No	20		
36	110mm Slow bend	No	12		
37	160mm Bend	No	15		
38	110mm Junction	No	9		
39	160mm Junction	No	5		
40	110mm Rodding eye	No	5		
	Precast concrete circular inspection chambers including precast concrete cover slabs (cast iron covers and frames elsewhere) and channels in benching:				
41	1000mm Diameter inspection chamber exceeding 1m and not exceeding 2m deep	No	2		
	Carried Forward to Trade Summary			R	
	Section 3 - Site Works Bill No. 2 Site Services				

Item No			Quantity	Rate	Amount
42	Ditto, but exceeding 2m and not exceeding 3m deep	No	2		
	Cast iron covers, etc:				
43	600 x 450mm EN124 D400 manhole cover and frame	No	4		
	Testing:				
44	Testing soil drainage system		Item		
	WATER SUPPLIES				
	Class 12 uPVC pressure pipes with rubber ring joints:				
45	75mm Pipes laid in and including trenches not exceeding 1m deep	m	135		
	Extra over class 12 uPVC pressure pipes for uPVC pressure fittings with rubber rings:				
46	50mm Bend	No	5		
47	75mm Bend	No	1		
	Extra over class 12 uPVC pressure pipes for cast iron pressure fittings:				
48	75mm Flanged valve	No	1		
	Sundries:				
49	Unreinforced concrete in thrust blocks in trenches at bends, tees, etc including extra excavation, formwork, etc	m3	0.4		
	Disinfecting:				
50	Disinfecting water pipe system		Item		
	Testing:				
51	Testing water pipe system		Item		
	FIRE APPLIANCES, ETC				
52	100mm 2500 KPa pressure gauge syphon and stopcock, including tapped hole in steel pipe	No	2		
	Carried Forward to Trade Summary			R	

Section 3 - Site Works
Bill No. 2
Site Services

Item No			Quantity	Rate	Amount
53	80 x 65mm Brass right-angle hydrant valve with cap and chain	No	5		
54	80 x 65mm Brass double booster pump connection and Y-piece, with caps and chains	No	1		
	Fire hydrant pedestals:				
55	Unreinforced concrete hydrant pedestal 900mm high, cast around vertical pipe with bottom 300mm below ground, 300 x 300mm square at base and tapering to 200 x 200mm overall octagonal shaped top, including excavation, formwork and two coats yellow paint to exposed surfaces	No	5		
	WATER SUPPLIES TO FIRE APPLIANCES				
	Class 16 uPVC pressure pipes with rubber ring joints:				
56	110mm Pipes laid in and including trenches not exceeding 1m deep	m	417		
	Extra over class 16 uPVC pressure pipes for uPVC pressure fittings with rubber rings:				
57	110mm Bend	No	3		
58	110mm Tee	No	1		
	Extra over class 16 uPVC pressure pipes for cast iron pressure fittings:				
59	110mm Hydrant reducing tee drilled to table 16, including connecting bolts, gaskets, etc	No	5		
60	80mm Bend	No	5		
	Sundries:				
61	Unreinforced concrete in thrust blocks in trenches at bends, tees, etc, including extra excavation, formwork, etc	m3	2		
	Testing:				
62	Testing fire water pipe system		Item		
	Carried Forward to Trade Summary			R	
	Section 3 - Site Works Bill No. 2 Site Services				

Item No		Quantity	Rate	Amount
	AS-BUILT DRAWINGS			
63	Provision of as-built drawings in CAD format	Item		
	Carried Forward to Trade Summary		R	
	Section 3 - Site Works Bill No. 2 Site Services			

Section 3 - Site Works
Bill No. 2

Site Services

TRADE SUMMARY

	Page No		
Total Brought Forward from Page No	99		
	100		
	101		
	102		
	103		
	104		
	105		
	106		
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Section 3 - Site Works
Bill No. 2
Site Services

SECTION 3 -Site Works

SECTION SUMMARY

Bill No		Page No
1	External Work	98
2	Site Services	108

R

Carried Forward to Final Summary

Section 3 - Site Works

Item No		Quantity	Rate	Amount
	SECTION 4			
	BILL NO 1			
	ELECTRICAL WORK			
	- -			
	Electrical tender brought forward from BOQ in Annexure A accompanying this document:			
1	Bill No.1 - P&G	Item		
2	Bill No.2 - Medium Voltage Supply	Item		
3	Bill No.3 - Low Voltage Supply	Item		
4	Bill No.4 - Juice Plant Lighting and Power	Item		
5	Bill No.5 - Office/Ablutions: Lighting, Power and IT	Item		
6	Bill No.6 - Provisional Sums / Contingency Allowance	Item		
7	Bill No.7 - Provisional Dayworks	Item		
8	Profit and attendance on domestic subcontractor		%	
	Carried Forward to Section Summary			
	Section 4 - Electrical, Mechanical & Fire Bill No. 1 Electrical		R	

Item No		Quantity	Rate	Amount
	SECTION 4			
	BILL NO 2			
	MECHANICAL WORK			
	- -			
	Mechanical tender brought forward from BOQ in Annexure B accompanying this document:			
1	Bill No.1 - P&G	Item		
2	Bill No.2 - Evaporative Cooler	Item		
3	Bill No.3 - Juice Plant Extraction	Item		
4	Bill No.4 - Juice Plant Air Conditioning	Item		
5	Bill No.5 - Smoke Ventilation	Item		
6	Bill No.6 - General	Item		
7	Profit and attendance on domestic subcontractor		%	
	Carried Forward to Section Summary		R	
	Section 4 - Electrical, Mechanical & Fire Bill No. 2 Mechanical			

Item No		Quantity	Rate	Amount
	SECTION 4			
	BILL NO 1			
	FIRE			
	- -			
	Fire tender brought forward from BOQ in Annexure C accompanying this document:			
1	Bill No.1 - P&G			
2	Bill No.2 - Juice Plant Fire Services			
3	Bill No.3 - Hydrant Pump + Tank			
4	Bill No.4 - General			
5	Profit and attendance on domestic subcontractor			
	Carried Forward to Section Summary			
	Section 4 - Electrical, Mechanical & Fire Bill No. 3 Fire			

Item No		Quantity	Rate	Amount
	Item Item Item Item			
	%			
	R			

Section 4 - Electrical, Mechanical & Fire

SECTION SUMMARY

Bill No		Page No
1	Electrical	110
2	Mechanical	111
3	Fire	112

Carried Forward to Final Summary

Section 4 - Electrical, Mechanical & Fire

R

Item No		Quantity	Rate	Amount

SECTION 5

BILL NO 1

SUBCONTRACT AMOUNTS

- -

PREAMBLES

General:

Subcontract amounts are net.

Subcontract amounts are for material and equipment supplied and installed complete by firms of specialists

Each subcontract amount may comprise more than one element of work. Therefore, each subcontract amount may include for work to be carried out by more than one subcontractor

Profit:

Where stated, the Contractor may allow for profit if required

General attendance on nominated/selected subcontractors:

The item "General Attendance" which follows each subcontract amount for nominated/selected subcontractors' work, shall be deemed to cover all the Contractor's costs incurred in providing free of charge to the nominated/selected subcontractors, the following:

1. Access to the site and places where the subcontract work is to be carried out, including the reasonable use of any temporary personnel hoists erected by the Contractor

2. The provision of water and lighting and of single phase electric power to a position within 50 metres of the place where the subcontract work is to be carried out but excluding water, fuel and power for commissioning of any installation

Carried Forward to Trade Summary R

Section 5 - Provisional Allowances
Bill No. 1 Subcontract
Amounts

Item No		Quantity	Rate	Amount
	3. The provision of an area for the subcontractor to establish temporary office accommodation and workshops and for the storage of plant and materials			
	4. The use of erected scaffolding belonging to the Contractor, in common with others having the like right, while it remains erected on the site			
	5. The use, at reasonable times by arrangement, of the Contractor's erected hoisting equipment			
	6. Making good in all trades and cleaning down and removal of rubbish on completion			
	Special attendance on nominated/selected subcontractors:			
	Where stated, special attendance, as set out in clause 8.1 of section B of the Preliminaries, will be described in detail in this bill			
	Builder's work:			
	Builder's work in connection with specialist services is given elsewhere in these bills of quantities			
	- -			
	Carried Forward to Trade Summary		R	
	Section 5 - Provisional Allowances Bill No. 1 Subcontract Amounts			

Item No		Quantity	Rate	Amount
	STAIRS, WALKWAYS, ETC			
1	Subcontract amount of Eight Hundred and Twenty Thousand Rand for stairs, walkways, etc	Item		820,000.00
	BOLLARDS, GOALPOSTS, PROTECTION, ETC			
2	Subcontract amount of Two Hundred Thousand Rand for bollards, goalposts, protection, etc	Item		200,000.00
	PLANT ELECTRICAL			
3	Subcontract amount of Three Million Rand for plant electrical	Item		3,000,000.00
	SMOKE DETECTION			
4	Subcontract amount of One Hundred and Fifty Thousand Rand for smoke detection	Item		150,000.00
	COLD ROOM PANELLING, DOORS, ETC			
5	Subcontract amount of One Million Four Hundred Thousand Rand for cold room panelling, doors, etc	Item		1,400,000.00
	DRYWALLS, PARTITIONS, ETC			
6	Subcontract amount of Twenty Thousand Rand for drywalls, partitions, etc	Item		20,000.00
	POLYURETHANE / EPOXY FLOORING			
7	Subcontract amount of One Million Two Hundred Thousand Rand for polyurethane / epoxy flooring	Item		1,200,000.00
	JOINERY FITTINGS, TOPS, ETC			
8	Subcontract amount of One Hundred and Twenty Thousand Rand for joinery fittings, tops, etc	Item		120,000.00
	FENCING, GATES, BOOMS, ETC			
9	Subcontract amount of Nine Hundred Thousand Rand for fencing, gates, booms, etc	Item		900,000.00
	PROFIT & ATTENDANCE			
10	Profit & attendance		%	
	Carried Forward to Trade Summary			
	Section 5 - Provisional Allowances Bill No. 1 Subcontract Amounts		R	

Section 5 - Provisional Allowances

Bill No. 1

Subcontract Amounts

TRADE SUMMARY

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Section 5 - Provisional Allowances
Bill No. 1
Subcontract Amounts

Item No		Quantity	Rate	Amount
	SECTION 5			
	BILL NO 2			
	BUDGETARY ALLOWANCES			
	- -			
	PREAMBLES			
	General:			
	A Budgetary Allowance is a sum of money included in the contract sum for work intended for execution by the Contractor, the extent of which is identified but not detailed			
	Work for which budgetary allowances are provided will be measured and valued in accordance with clause 32 of the Principal Building Agreement and deducted in whole or in part if not required without any compensation for loss or profit on the said allowances			
	Each Budgetary Allowance may comprise more than one element of work			
	- -			
	MIRRORS, ACCESSORIES, ETC			
1	Budgetary Allowance of Eight Thousand Rand for mirrors, accessories, etc	Item		8,000.00
	WATER METERS, ETC			
2	Budgetary Allowance of Eighty Thousand Rand for water meters, etc	Item		80,000.00
	ADDITIONAL PLUMBING, ETC			
3	Budgetary Allowance of Three Hundred Thousand Rand for additional plumbing, etc	Item		300,000.00
	BUILDER'S WORK IN CONNECTION WITH SPECIALIST INSTALLATIONS			
4	Budgetary Allowance of One Hundred and Thirty Thousand Rand for builders work in connection with specialist installations	Item		130,000.00
	Carried Forward to Trade Summary		R	
	Section 5 - Provisional Allowances Bill No. 2 Budgetary Allowances			

Item No		Quantity	Rate	Amount
	CONTRACT CONTINGENCIES			
5	Budgetary Allowance of One Million Rand for contract contingencies	Item		1,000,000.00
	Carried Forward to Trade Summary		R	

Section 5 - Provisional Allowances
Bill No. 2
Budgetary Allowances

Bill No. 2

Budgetary Allowances

TRADE SUMMARY

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Section 5 - Provisional Allowances
Bill No. 2
Budgetary Allowances

Section 5 - Provisional Allowances

SECTION SUMMARY

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1	Subcontract Amounts	117
2	Budgetary Allowances	120

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Section 5 - Provisional Allowances

R

FINAL SUMMARY

Section No		Page No	
1	Section 1 - Preliminaries & General	19	
2	Section 2 - Building Works	90	
3	Section 3 - Site Works	109	
4	Section 4 - Electrical, Mechanical & Fire	113	
5	Section 5 - Provisional Allowances	121	
	SUB TOTAL		R
	VALUE ADDED TAX		
	Value Added Tax [15%]		R
	Carried Forward to Form of Tender		R