Item No		Quantity	Amount	

BILL NO. 1
PRELIMINARIES AND GENERALS

BUILDING AGREEMENT AND PRELIMINARIES

The **JBCC** Principal Building Agreement (Edition 6.2 - May 2018) prepared by the Joint Building Contracts Committee shall be the applicable building agreement, amended as hereinafter described

The **JBCC** Principal Building Agreement **contract data** form an integral part of this **agreement**

The **JBCC** General Preliminaries (May 2018) published by the Joint Building Contracts Committee for use with the **JBCC** Principal Building Agreement (Edition 6.2 - May 2018) shall be deemed to be incorporated in these **bills of quantities**, amended as hereinafter described

The **contractor** is deemed to have referred to the abovementioned documents for the full intent and meaning of each clause

The clauses in the abovementioned documents are hereinafter referred to by clause number and heading only

Where any item is not relevant to this **agreement** such item is marked N/A signifying "not applicable"

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

PREAMBLES FOR TRADES

The General Preambles for Trades 2017 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

Supplementary preambles and/or specifications are incorporated in these **bills of quantities** to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles

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The **contractor's** prices for all items throughout these **bills of quantities** shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications

STRUCTURE OF THIS PRELIMINARIES BILL

Section A : A recital of the headings of the individual clauses in the aforementioned **JBCC** Principal Building Agreement

Section B : A recital of the headings of the individual clauses in the aforementioned **JBCC** General Preliminaries

Section C : Any special clauses to meet the particular circumstances of the project

PRICING OF PRELIMINARIES

Should the **contractor** select Option A in the **contract data** for the adjustment of **preliminaries**, the amounts entered against the relevant items in these **preliminaries** are to be divided into one or more of the three categories provided namely fixed (F), value related (V) and time related (T)

SECTION A: PRINCIPAL BUILDING AGREEMENT

Interpretation (A1-A7)

1 Clause 1.0 - Definitions and interpretation

Pricing of bills of quantities

The **contractor** is to allow opposite each item for all costs in connection therewith. All prices to include, unless otherwise stated, for all materials, fabrication, conveyance and delivery, unloading, storing, unpacking, hoisting, labour, setting, fitting and fixing in position, cutting and waste (except where to be measured in accordance with the standard system of measurement), patterns, models and templates, plant, temporary works, returning of packaging, duties, taxes (other than Value Added Tax), imposts, establishment charges, overheads, profit and all other obligations arising out of this **agreement**. Value Added Tax (VAT) is to be separately stated on the summary page of these **bills of quantities**

Items left unpriced will be deemed to be covered in prices against other items throughout these **bills of quantities** and no claim for any extras arising out of the **contractor's** omission to price any item will be entertained

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	Prices for all **construction equipment**, temporary works, services and other items shall include for the supply, maintenance, operating cost and subsequent removal and making good as necessary **Abbreviated descriptions** The items in these **bills of quantities** utilise abbreviated descriptions. It is the intention that the abbreviated descriptions be fully described when read with the applicable measuring system and the relevant preambles and/or specifications. However, should the full intent and meaning of any description not be clear, the **contractor** shall, before submission of his tender, call for a written directive from the **principal agent**, failing which it shall be assumed that the **contractor** has allowed in his pricing for materials and workmanship in terms of international best practice **Legal status of contractor** If the **contractor** constitutes a joint venture, consortium or other unincorporated grouping of two or more persons then: 1. These persons are deemed to be jointly and severally liable to the **employer** for the performance of this **agreement** 2. These persons shall notify the **employer** of their leader who has assigned authority to bind the **contractor** and each of these persons 3. The **contractor** shall not alter its composition or legal status without the prior written consent of the **employer** F:..... V:..... T:.....			
		Item		
2	Clause 2.0 - **Law**, regulations and **notices** **NHBRC levies** The **employer** shall allow for and pay any levies required by the National Home Builders Registration Council (NHBRC). The **contractor** warrants that he is registered and will maintain registration with the NHBRC for the duration of this **agreement** [2.1] F:..... V:..... T:.....	Item		
3	Clause 3.0 - Offer and acceptance F:..... V:..... T:.....	Item		
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4	Clause 4.0 - Cession and assignment F:..... V:..... T:.....	Item		
5	Clause 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) **Priced document as specification** Clause 5.4 is deemed to be deleted The **principal agent** shall decide which portion of the **priced document** may be used as a specification of **materials and goods** or methods, if any. **Electronic issue of drawings** All drawings for this project will be issued electronically and the **contractor** shall be deemed to have received such drawings on the date that such drawings have been dispatched electronically [5.6] F:..... V:..... T:.....	Item		
6	Clause 6.0 - **Employer's agents** **Delegated authority** The authority of the **principal agent** to issue **contract instructions** [17.1] and perform duties for specific aspects of the **works** is delegated to **agents** as follows [6.2]. This does not preclude the **principal agent** from issuing such **contract instructions**: 1. <u>Architect</u> 1.1 Duties [6.2] : The architect is responsible for the architectural design, functional design and quality inspection of the **works** 1.2 **Contract instructions** [6.2; 17.1] : 1.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement			
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	1.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**			
	1.2.3 The **site** [13.0]			
	1.2.4 Compliance with the **law**, regulations and bylaws [2.1]			
	1.2.5 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**			
	1.2.6 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]			
	1.2.7 Removal or re-execution of work			
	1.2.8 Removal or substitution of any **materials and goods**			
	1.2.9 Protection of the **works**			
	1.2.10 Making good physical loss and repairing damage to the **works** [23.2.2]			
	1.2.11 Rectification of **defects** [21.2]			
	1.2.12 A **list for practical completion** specifying outstanding or defective work to be rectified to achieve **practical completion**, a **list for completion** and a **list for final completion** specifying outstanding or defective work to be rectified to achieve **final completion**			
	1.2.13 Expenditure of **budgetary allowances**, **prime cost amounts** and **provisional sums**			
	1.2.14 Appointment of a **subcontractor** [14.0; 15.0]			
	1.2.15 Work by **direct contractors** [16.0]			
	1.2.16 On suspension or termination, protection of the **works**, removal of **construction equipment** and surplus **materials and goods** [29.0] ?			
	2. <u>Quantity surveyor</u>			
	2.1 Duties [6.2] :			
	The quantity surveyor is responsible for all measurements, valuations, financial assessments and all other quantity surveying and cost control functions of the **works**			
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2.2 **Contract instructions** [6.2; 17.1] :

2.2.1 No **contract instructions** delegated to the quantity surveyor ?

3. Civil and structural engineer

3.1 Duties [6.2] :

The civil and structural engineer is responsible for all aspects of civil and structural engineering design and quality inspection of the **works**

3.2 **Contract instructions** [6.2; 17.1] :

3.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement

3.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**

3.2.3 The **site** [13.0]

3.2.4 Compliance with the **law**, regulations and bylaws [2.1]

3.2.5 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**

3.2.6 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]

3.2.7 Removal or re-execution of work

3.2.8 Removal or substitution of any **materials and goods**

3.2.9 Protection of the **works**

3.2.10 Making good physical loss and repairing damage to the **works** [23.2.2]

3.2.11 Rectification of **defects** [21.2]

3.2.12 A **list for practical completion** specifying outstanding or defective work to be rectified to achieve **practical completion**, a **list for completion** and a **list for final completion** specifying outstanding or defective work to be rectified to achieve **final completion**

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	3.2.13 Expenditure of **budgetary allowances**, **prime cost amounts** and **provisional sums**			
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4. Mechanical engineer

4.1 Duties [6.2] :

The mechanical engineer is responsible for all aspects of mechanical engineering design and quality inspection of the **works** and, where appointed by the **employer** for quantity surveying services in respect of the mechanical installations, for all measurements, valuations, financial assessments and all other quantity surveying and cost control functions

4.2 **Contract instructions** [6.2; 17.1] :

4.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement

4.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**

4.2.3 Compliance with the **law**, regulations and bylaws [2.1]

4.2.4 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**

4.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]

4.2.6 Removal or re-execution of work

4.2.7 Removal or substitution of any **materials and goods**

4.2.8 Protection of the **works**

4.2.9 Making good physical loss and repairing damage to the **works** [23.2.2]

4.2.10 Rectification of **defects** [21.2]

4.2.11 A **list for practical completion** specifying outstanding or defective work to be rectified to achieve **practical completion**, a **list for completion** and a **list for final completion** specifying outstanding or defective work to be rectified to achieve **final completion**

4.2.12 Expenditure of **budgetary allowances**, **prime cost amounts** and **provisional sums**

5. Electrical engineer

Carried to Collection R

5.1 Duties [6.2] :

The electrical engineer is responsible for all aspects of electrical engineering design and quality inspection of the **works** and, where appointed by the **employer** for quantity surveying services in respect of the electrical installations, for all measurements, valuations, financial assessments and all other quantity surveying and cost control functions

5.2 **Contract instructions** [6.2; 17.1] :

5.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement

5.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**

5.2.3 Compliance with the **law**, regulations and bylaws [2.1]

5.2.4 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**

5.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]

5.2.6 Removal or re-execution of work

5.2.7 Removal or substitution of any **materials and goods**

5.2.8 Protection of the **works**

5.2.9 Making good physical loss and repairing damage to the **works** [23.2.2]

5.2.10 Rectification of **defects** [21.2]

5.2.11 A **list for practical completion** specifying outstanding or defective work to be rectified to achieve **practical completion**, a **list for completion** and a **list for final completion** specifying outstanding or defective work to be rectified to achieve **final completion**

5.2.12 Expenditure of **budgetary allowances**, **prime cost amounts** and **provisional sums**

Carried to Collection R

6. Wet services engineer

6.1 Duties [6.2] :

The wet services engineer is responsible for all aspects of wet services engineering design and quality inspection of the **works**

6.2 **Contract instructions** [6.2; 17.1] :

6.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement

6.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**

6.2.3 Compliance with the **law**, regulations and bylaws [2.1]

6.2.4 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**

6.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]

6.2.6 Removal or re-execution of work

6.2.7 Removal or substitution of any **materials and goods**

6.2.8 Protection of the **works**

6.2.9 Making good physical loss and repairing damage to the **works** [23.2.2]

6.2.10 Rectification of **defects** [21.2]

6.2.11 A **list for practical completion** specifying outstanding or defective work to be rectified to achieve **practical** completion, a **list for completion** and a **list for final completion** specifying outstanding or defective work to be rectified to achieve **final completion**

6.2.12 Expenditure of **budgetary allowances**, **prime cost amounts** and **provisional sums**

7. Fire consultant

Carried to Collection R

7.1 Duties [6.2] :

The fire consultant is responsible for all aspects of rational fire design and quality inspection of the **works**

7.2 **Contract instructions** [6.2; 17.1] :

7.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement

7.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**

7.2.3 Compliance with the **law**, regulations and bylaws [2.1]

7.2.4 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**

7.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]

7.2.6 Removal or re-execution of work

7.2.7 Removal or substitution of any **materials and goods**

7.2.8 Protection of the **works**

7.2.9 Making good physical loss and repairing damage to the **works** [23.2.2]

7.2.10 Rectification of **defects** [21.2]

7.2.11 A **list for practical completion** specifying outstanding or defective work to be rectified to achieve **practical completion**, a **list for completion** and a **list for final completion** specifying outstanding or defective work to be rectified to achieve **final completion**

7.2.12 Expenditure of **budgetary allowances**, **prime cost amounts** and **provisional sums**

8. Health and safety consultant

Carried to Collection R

	8.1 Duties [6.2] : The health and safety consultant is responsible for all aspects of health and safety of the **works**. Without derogating from the generality thereof, the health and safety consultant will perform the following specific functions and duties in respect of the health and safety aspects of the **works**. He shall: 8.1.1 Act as the **employer's agent** in terms of the Construction Regulations issued in terms of the Occupational Health and Safety Act,1993 as amended 8.1.2 Prepare and update the health and safety specification for the **works** 8.1.3 Agree with the **contractor** the health and safety plan for the **works** 8.1.4 Carry out regular audits to ensure adherence to the safety plan and compliance with the act and regulations 8.1.5 Stop the execution of the **works** where the agreed specification or plan is not adhered to?			
	F:..... V:..... T:.....	Item		
7	Clause 7.0 - Design responsibility			
	F:..... V:..... T:.....	Item		
	<u>Insurances and securities (A8-A11)</u>			
8	Clause 8.0 - **Works** risk			
	F:..... V:..... T:.....	Item		
9	Clause 9.0 - Indemnities			
	F:..... V:..... T:.....	Item		
10	Clause 10.0 - Insurances			
	F:..... V:..... T:.....	Item		
11	Clause 11.0 - **Securities** **Guarantee for payment**			
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	The **employer** shall provide to the **contractor** a **guarantee for payment** in the amount of .....(N/A).....Rand (R....(N/A).....) [11.5.1]. The **contractor** shall consequently waive his lien or right of continuing possession of the **works** [11.10]			
	Extension of waiver of lien			
	The **contractor** shall ensure that a waiver of lien is included in all subcontracts and that the **works** executed on the **site** are kept free of all liens and other encumbrances at all times [11.10]			
	F:..... V:..... T:.....	Item		
	Execution (A12 - A17)			
12	Clause 12.0 - Obligations of the **parties**			
	Office accommodation			
	The **contractor** shall provide, maintain and remove on **practical completion** air conditioned office accommodation with suitable tables and chairs for meetings to be held on the **site**. Such offices shall be kept clean and fit for use at all times [12.2.18]			
	Notice board			
	The **contractor** shall erect in a position approved by the **principal agent**, maintain and remove on **practical completion** a notice board recommended by the South African Institute of Architects and as approved by the **principal agent** listing the names and logos of the **employer**, the **contractor** and the professional consultants. No subcontractor or supplier notice boards may be erected unless permission is granted by the **principal agent** for such notice boards to be erected [12.2.18]			
	Statutory and other notices			
	The **contractor** shall submit and/or comply with all statutory and other notices that may be required by any local or other authority in order not to cause any delay to the commencement of the **works** by the **contractor**. The **contractor** shall pay all deposits or fees in this regard			
	It is, however, specifically recorded that the **employer** shall be responsible for the timeous approval of building plans by any local or other authorities and the payment of any fees or charges related thereto			
	F:..... V:..... T:.....	Item		
	Carried to Collection	R		
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13	Clause 13.0 - Setting out			
	F:..... V:..... T:.....	Item		
14	Clause 14.0 - Nominated **subcontractors**			
	F:..... V:..... T:.....	Item		
15	Clause 15.0 - Selected **subcontractors**			
	F:..... V:..... T:.....	Item		
16	Clause 16.0 - **Direct contractors**			
	Attendance on direct contractors			
	In respect of **direct contractors** the **contractor** shall:			
	1. Designate an area for the **direct contractor** to establish a temporary office and workshop and storage of equipment and materials			
	2. Allow the use of personnel welfare facilities, where provided			
	3. Provide water, lighting and single phase electric power to a position within 50m of the place where the direct contract work is to be carried out, other than fuel or power for commissioning of any installation			
	4. Permit the **direct contractor** to use erected scaffolding, hoisting facilities, etc provided by the **contractor**, in common with others having the like right, while it remains erected on the **site** [16.1]			
	F:..... V:..... T:.....	Item		
17	Clause 17.0 - **Contract instructions**			
	Site instructions			
	Instructions issued on **site** are to be recorded in a site instruction book which is to be supplied and maintained on **site** by the **contractor** ?			
	F:..... V:..... T:.....	Item		
	<u>Completion (A18 - A24)</u>			
18	Clause 18.0 - Interim completion	N/A		
	Carried to Collection	R		

19	Clause 19.0 - **Practical completion**			
	F:..... V:..... T:.....	Item		
20	Clause 20.0 - Completion in **sections**			
	F:..... V:..... T:.....	Item		
21	Clause 21.0 - **Defects** liability period and **final completion**			
	F:..... V:..... T:.....	Item		
22	Clause 22.0 - **Latent defects** liability period			
	F:..... V:..... T:.....	Item		
23	Clause 23.0 - Revision of the date for **practical completion**			
	Substitution of materials and goods			
	The removal or substitution of any **materials and goods** which do not conform to the specification or the **contract drawings** shall not constitute grounds for the extension of the **construction period** nor for the adjustment of the **contract value** [17.1.8; 23.1 & 2]			
	F:..... V:..... T:.....	Item		
24	Clause 24.0 - **Penalty** for late or non-completion			
	F:..... V:..... T:.....	Item		
	<u>Payment (A25 - A27)</u>			
25	Clause 25.0 - Payment			
	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			
	F:..... V:..... T:.....	Item		
26	Clause 26.0 - Adjustment of the **contract value** and **final account**			
	Carried to Collection	R		

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	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** [26.9.5] **Tenant installation/user requirements delayed** There is a possibility that certain works related to tenant installation/user requirements may have to be delayed and may consequently not be executed prior to **practical completion** Should the **contractor** be instructed to do so he shall execute this work under the conditions pertaining to this **agreement** on the basis that a separate amount for **preliminaries** appurtenant to this work (if applicable) is agreed to between the **contractor** and the **principal agent** and on condition that instruction to proceed with such work is given to him within a period of three (3) calendar months after the date of **practical completion** of the **works** 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**. This provision shall not preclude an adjudicator or an arbitrator appointed in terms of this **agreement** [30.6 & 7] from making a determination on costs **Claims from subcontractors** 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	Clause 27.0 - Recovery of expense and/or loss			
	F:..... V:..... T:.....	Item		
	<u>Suspension and termination (A28 - A29)</u>			
28	Clause 28.0 - Suspension by the **contractor**			
	F:..... V:..... T:.....	Item		
	Carried to Collection	R		

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29	Clause 29.0 - Termination			
	F:..... V:..... T:.....	Item		
	Dispute resolution (A30)			
30	Clause 30.0 - Dispute resolution			
	F:..... V:..... T:.....	Item		
31	**Agreement**			
	The required information of the **parties** and the amount of the **contract sum** shall be inserted in the **agreement** for signature of the **agreement** by the **parties**			
	F:..... V:..... T:.....	Item		
	Carried to Collection	R		

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32	**Contract data**			
	Tenderer's selections			
	Before submission of his tender the **contractor** is to complete the tenderer's selections in the **contract data**			
	F:..... V:..... T:.....	Item		
	SECTION B: GENERAL PRELIMINARIES			
	Definitions and interpretation (B1)			
33	Clause 1.1 - Definitions			
	F:..... V:..... T:.....	Item		
34	Clause 1.2 - Interpretation			
	F:..... V:..... T:.....	Item		
	Documents (B2)			
35	Clause 2.1 - Checking of documents			
	F:..... V:..... T:.....	Item		
36	Clause 2.2 - Provisional **bills of quantities**			
	Multiple procurement			
	These **bills of quantities** are in multiple procurement format ie the "wet trades" - earthworks, concrete, formwork and reinforcement, precast concrete, masonry, waterproofing and sub-surface drainage - are provisionally measured and the subsequent trades are **budgetary allowances** and/or **provisional sums**			
	F:..... V:..... T:.....	Item		
37	Clause 2.3 - Availability of **construction information**			
	F:..... V:..... T:.....	Item		
38	Clause 2.4 - Ordering of **materials and goods**			
	F:..... V:..... T:.....	Item		
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	Previous work and adjoining properties (B3)			
39	Clause 3.1 - Previous work - dimensional accuracy			
	F:..... V:..... T:.....	Item		
40	Clause 3.2 - Previous work - **defects**			
	F:..... V:..... T:.....	Item		
41	Clause 3.3 - Inspection of adjoining properties			
	F:..... V:..... T:.....	Item		
	The site (B4)			
42	Clause 4.1 - Handover of **site** in stages			
	F:..... V:..... T:.....	Item		
43	Clause 4.2 - Enclosure of the **works**	Item		
	F:..... V:..... T:.....			
44	Clause 4.3 - Geotechnical and other investigations			
	F:..... V:..... T:.....	Item		
45	Clause 4.4 - Encroachments			
	F:..... V:..... T:.....	Item		
46	Clause 4.5 - Existing premises occupied			
	F:..... V:..... T:.....	Item		
47	Clause 4.6 - Services - known			
	F:..... V:..... T:.....	Item		
	Management of contract (B5)			
48	Clause 5.1 - Management of the **works**			
	F:..... V:..... T:.....	Item		
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49	Clause 5.2 - Progress meetings			
	F:..... V:..... T:.....	Item		
50	Clause 5.3 - Technical meetings			
	F:..... V:..... T:.....	Item		
	Samples, shop drawings and manufacturer's instructions (B6)			
51	Clause 6.1 - Samples of materials			
	F:..... V:..... T:.....	Item		
52	Clause 6.2 - Workmanship samples			
	F:..... V:..... T:.....	Item		
53	Clause 6.3 - Shop drawings			
	F:..... V:..... T:.....	Item		
54	Clause 6.4 - Compliance with manufacturer's instructions			
	F:..... V:..... T:.....	Item		
	Deposits and fees (B7)			
55	Clause 7.1 - Deposits and fees			
	F:..... V:..... T:.....	Item		
	Temporary services (B8)			
56	Clause 8.1 - Water			
	F:..... V:..... T:.....	Item		
57	Clause 8.2 - Electricity			
	F:..... V:..... T:.....	Item		
58	Clause 8.3 - Ablution and welfare facilities			
	F:..... V:..... T:.....	Item		
	Carried to Collection	R		

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59	Clause 8.4 - Communication facilities			
	F:..... V:..... T:.....	Item		
	Prime cost amounts (B9)			
60	Clause 9.1 - Responsibility for **prime cost amounts**			
	Attendance on subcontractors (B10)			
61	Clause 10.1 - General attendance			
	F:..... V:..... T:.....	Item		
62	Clause 10.2 - Special attendance			
	General (B11)			
63	Clause 11.1 - Protection of the **works**			
	F:..... V:..... T:.....	Item		
64	Clause 11.2 - Protection/isolation of existing **works** and **works** occupied in **sections**			
	F:..... V:..... T:.....	Item		
65	Clause 11.3 - Security of the **works**			
	F:..... V:..... T:.....	Item		
66	Clause 11.4 - Notice before covering work			
	F:..... V:..... T:.....	Item		
67	Clause 11.5 - Disturbance			
	Disturbance			
	All work is to be carried out in such a manner as to cause no unacceptable or unreasonable dust, noise, vibrations, nuisance, inconvenience, annoyance and the like to the public, others, other properties and traffic in so far as they exceed the permissible limitations set by government legislation or by the local authority. Any delays, stoppages and the like arising from or in order to comply with the above will not constitute grounds for an adjustment to the **construction period** or **contract value** whatsoever.			
	F:..... V:.....T:.....	Item		
	Carried to Collection	R		

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68	Clause 11.6 - Environmental disturbance **Controlling all forms of pollution** The **contractor** shall be responsible for and take all precautions in controlling by whatever means necessary all forms of pollution emanating from the **site** during the **construction period** due inter alia to noise, artificial light, wind-blown sand, dust, deposits of mud, etc The **contractor** is to ensure that all roads which border the **site** and are used by the **contractor** during the execution of the **works** are kept clean and free of any dirt or debris caused by the execution of the **works** **Environmental management plan** The **employer** has prepared an environmental management plan (EMP). The **contractor** shall price opposite this item for compliance with all the requirements of such EMP. F:..... V:.....T:.....	Item		
69	Clause 11.7 - **Works** cleaning and clearing F:..... V:..... T:.....	Item		
70	Clause 11.8 - Vermin F:..... V:..... T:.....	Item		
71	Clause 11.9 - Overhand work F:..... V:..... T:.....	Item		
72	Clause 11.10 - Tenant installations F:..... V:..... T:.....	Item		
73	Clause 11.11 - Advertising F:..... V:..... T:.....	Item		
	Carried to Collection	R		

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	SECTION C: SPECIFIC PRELIMINARIES			
74	Warranties for materials and workmanship Where warranties for materials and/or workmanship are called for, the **contractor** shall obtain a written warranty, addressed to the **employer**, from the entity supplying the materials and/or executing the work and shall deliver same to the **principal agent** on **final completion** of the contract The warranty shall state that workmanship, materials and installation are warranted for a specific period from the date of **practical completion** and that any **defects** that may arise during the specified period shall be made good at the expense of the entity 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 execution of the **works**, in which case the responsibility for replacement shall rest entirely with the **contractor** F:..... V:..... T:.....	Item		
75	Overtime Should overtime be required to be worked for any reason whatsoever, the cost of such overtime is to be borne by the **contractor** unless the **principal agent** has specifically authorised, prior to execution thereof, that costs for such overtime are to be borne by the **employer** F:..... V:.....T:.....	Item		
76	Cooperation of the **contractor** for cost management It is specifically agreed that the **contractor** accepts the obligation of assisting the **principal agent** in implementing proper cost management. The **contractor** will be advised by the **principal agent** of all cost management procedures which will be implemented to ensure that the **contract value** does not exceed the budget F:..... V:.....T:.....	Item		
	Carried to Collection	R		

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77	Overloading The **contractor** shall take all necessary steps to ensure that no damage occurs due to overloading of any portion of the **works** or temporary works eg scaffolding, etc. The **contractor** shall submit details of his proposed loading, storage, plant erection, etc to the **principal agent** for approval prior to proceeding with such loading, storing or erecting and shall comply with and pay for the **principal agent's** requirements in connection with the provision of temporary support work, etc. Any damage caused to the **works** by overloading shall be made good by the **contractor** at his sole expense F:..... V:.....T:.....	Item		
78	Propping of floors below The **contractor** is advised that propping of floors below may be required if he wishes to use any areas of completed suspended reinforced concrete slabs for vehicle access, storage of **materials and goods** and location of plant, scaffolding, etc. The location of these areas and any necessary propping shall be approved by the **principal agent** and the cost thereof shall be borne by the **contractor** F:..... V:.....T:.....	Item		
79	Testing of flat roof waterproofing for watertightness Flat roof waterproof areas shall be flooded and kept "ponded" for at least forty eight (48) hours as a test to ensure the watertightness of the waterproofing and before any further construction work is carried out above the waterproofing F:..... V:.....T:.....	Item		
80	Health and safety Without limiting the generality of the provisions of clause 2.0, the **contractor's** attention is drawn to the provisions of the Construction Regulations issued in terms of the Occupational Health and Safety Act, 1993 as amended. 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 **contractor** shall price opposite this item for compliance with the act and the regulations and the reasonable provisions of the aforementioned health and safety specification [2.1]			
	Carried to Collection	R		

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	The **contractor** shall: 1. Comply with the health and safety specification for the **works** 2. Prepare and agree with the health and safety consultant the health and safety plan for the **works** 3. Cooperate with the health and safety consultant in all respects 4. Manage the compliance of all subcontractors with the regulations and with the health and safety plan and specification 5. Conform to the conditions contained in the **employer's** health and safety specification			
	F:..... V:..... T:.....	Item		
81	Green star building certification			
	F:..... V:.....T:.....	Item		
	C10 HIV/AIDS AWARENESS It is required of the **contractor** to thoroughly study the HIV/AIDS Specification of the DHET that must be read together with and is deemed to be incorporated under this Section of the **bills of quantities / lump sum document**. Provision for pricing of HIV/AIDS awareness is made under items C10.1 to C10.5 hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained. The **contractor** must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the **principal agent**, notwithstanding the provisions of Clause A 31.0 or any other clause to the contrary, reserves the right to delay issuing any progress **payment certificate** until the **contractor** provides satisfactory proof of compliance. The **contractor** shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.			
82	**C10.1 AWARENESS CHAMPION** Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification. F:..... V:.....T:.....	Item		
	Carried to Collection	R		
	Section No. 1 Bill No. 1 **PREPARED FOR: Raj Maharajh Associates Architects**			

83	**C10.2 AWARENESS WORKSHOPS** Selection and appointment of a competent Service Provider approved by the **principal agent**, provision of a Service Provider Workshop Plan and a suitable venue, conducting of awareness workshops by means of traditional and/or modern multi-media techniques, including follow-up courses, making available all tuition material and performing assessment procedures, all in accordance with the HIV/AIDS Specification. F:..... V:.....T:.....	Item		
84	**C10.3 POSTERS, BOOKLETS, VIDEOS, ETC.** Provision, displaying, maintaining and replacing when necessary of four plastic laminated posters, booklets and educational videos, etc. for the duration of the **construction period**, all in accordance with the HIV/AIDS Specification. F:..... V:.....T:.....	Item		
85	**C10.4 ACCESS TO CONDOMS** Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis as required for the duration of the **construction period**, all in accordance with the HIV/AIDS Specification. F:..... V:.....T:.....	Item		
86	**C10.5 MONITORING** Monitoring HIV/AIDS awareness of workers, providing the **principal agent** with access to information including making available all reports, thoroughly completed and reflecting the correct information, for the duration of the **construction period** and close out, all in accordance with the HIV/AIDS Specification. F:..... V:.....T:.....	Item		
	Carried to Collection	R		

	C11 OCCUPATIONAL HEALTH AND SAFETY ACT The **contractor** shall comply with all the requirements set out in the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993). It is required of the **contractor** to thoroughly study the Health and Safety Specification that must be read together with and is deemed to be incorporated under this Section of the **bills of quantities / lump sum document.** The **contractor** must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is compulsory. In the event of partial or total non compliance, the **principal agent**, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress **payment certificate** until the **contractor** provides satisfactory proof of compliance. The **contractor** shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment. Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained. F:..... V:.....T:.....	Item		
87	**C12 REPORTING BY CONTRACTOR** The contractor is required to complete the attached Contractors Monthly Report which is to be submitted together with the contractors payment claim. Payment of the contractor is conditional on this information being accurate and timeously provided. F:..... V:.....T:.....	Item		
	Carried to Collection	R		

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PREPARED FOR: Raj Maharajh Associates Architects

88	**C13 LOCAL LABOUR AND LOCAL BUILDING MATERIALS** It is a general requirement of this contract that persons normally resident in the locality of the works (local labour) be given preference for employment on the contract. Should adequate and appropriate labour not be available within the locality, other labour may be employed subject to satisfactory proof being provided that every reasonable endeavour has been made to employ local labour. The contractor shall identify the local community leaders with the purpose of negotiating with them regarding the utilisation of local labour in the construction process. The contractor shall furthermore give preference, wherever possible to the employment of single heads of households, women and youth. The contractor shall, in general, maximise the involvement of the local community.			
89	**C14 LOCAL BUILDING MATERIALS** Preference shall be given to the supply of materials produced or manufactured in the Western Cape Province provided that: (a) The availability of such materials shall not adversely affect the desired progress of the specific works. (b) The use of such materials shall not constitute grounds for any claim for increased cost in respect thereof. F:..... V:.....T:.....	Item		
90	**C15 DEMOLITION WORK** (Construction Regulation 12) The contractor shall, before any demolition work shall carried out, submit all method of demolition to be used. This method shall form part of the health and safety plan and file. F:..... V:.....T:.....	Item		
91	**C16 CARTING OF WATER FOR CONSTRUCTION** The contractor is to make provision to cart water onto site as there maybe no sufficient water available on site. F:..... V:.....T:.....	Item		
	Carried to Collection	R		

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PREPARED FOR: Raj Maharajh Associates Architects

92	**C17 COVID 19 PANDEMIC AND THE REGULATIONS** This specification is developed with the objective to Manage Health and Safety on the construction site with the emphasis on Health and preventing the spread and infection of and with the COVID-19 virus. This Specification is additional to the site-specific H&S Specification and do not reduce or change the contractor's responsibility regarding Health and Safety management on site. Due to the rapid changing situation this Specification shall be updated and amended as more information and other more conclusive measures are identified and verified. This specification is subject to all relevant legislative notices regarding the COVID -19 Pandemic and the regulations issued by the South African Government. F:..... V:.....T:.....	Item		
93	Broad based black economic empowerment (BBBEE) Tenders submitted will be evaluated taking into account their empowerment rating The **employer** will be monitoring the broad based black economic empowerment (BBBEE) status of the **contractor** throughout the execution of the **works** The **contractor** is to submit to the **principal agent** on an annual basis a schedule of spend, split into vendors engaged as **subcontractors** and suppliers indicating their BBBEE rating including proof of the said rating F:..... V:.....T:.....	Item		
94	Advertising rights The **employer** may elect to contract with advertising agencies for the erection of advertising hoardings, banners, wraps or the like for the duration of the contract. The **contractor** shall not prevent such an arrangement and will assist in the facilitation of same. The position and type of advertising structure to be agreed with the **principal agent** so as not to hinder the **contractor** in meeting his obligations under this **agreement** F:..... V:.....T:.....	Item		
	Carried to Collection	R		

95	Confidentiality 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		
96	Media releases All rights of publication of articles in the media, together with any advertising relating thereto or in any way connected with this project, shall vest with the **employer** The **contractor** together with his **subcontractors** shall not, without the prior written consent of the **employer**, cause any statement or advertisement connected with this project to be printed, screened or aired by the media F:..... V:.....T:.....	Item		
	SUMMARY OF CATEGORIES Category : Fixed R..... Category : Value R..... Category : Time R.....			
	Carried to Collection	R		

Section No. 1

Section 1: Preliminaries and General

Bill No. 1

Preliminaries and General

COLLECTION

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Section No. 1

Section 1: Preliminaries and General

Bill No. 1

Preliminaries and General

COLLECTION

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Carried to Final Summary		R	

Item No		Unit	Quantity	Rate	Amount	
	BUILDING WORKS					
	ALTERATIONS					
	NOTE: The Tenderer is referred to appropriate Clauses in the separate document 'Model Preambles for Trades' (2008 Edition) and to the Supplementary Preambles which are incorporated hereunder before pricing this Bills of Quantities.					
	Supplementary Preambles					
	Materials from the alterations					
	Materials recovered from the alterations (except where described as to be re-used or handed over to the Representative/Agent) will become the property of the Contractor, such materials shall not be re-used in new work without written permission from the Representative/Agent					
	Materials described as "removed" shall be removed from the site immediately					
	Materials described as "handed over to the Representative/ Agent" shall be carefully dismantled where necessary, neatly stored under cover on the site where directed and protected from damage, until required					
	Materials described as "set aside for re-use" shall be carefully dismantled where necessary, cleaned, neatly stored under cover and protected from damage until required for re-use. Any damage caused to such materials during removal, storage or refixing shall be made good at the Contractor's expense					
	Disposal of debris etc					
	The Contractor shall be responsible for the removal from the site of all materials, debris and rubbish resulting from the alterations					
	Carried to Collection			R		
	Section No. 2 Bill No. 1 **PREPARED FOR: Raj Maharajh Associates Architects**					

Forming new openings or altering openings in existing walls

Where new openings are formed or openings altered in existing walls, the wall above the opening shall be broken out and a new brick, in-situ concrete or prestressed concrete lintel inserted, complete with all necessary reinforcement, formwork, turning piece, etc. the jambs and portions of openings as described shall be built up with new brickwork sand stonework properly toothed and bonded to existing, cavities of hollow walls shall be closed where necessary and finishes shall be made good all round and into reveals

Building up openings

Where existing openings are given in number as built up, the existing surfaces all round shall be prepared as necessary, brickwork or sandstone brickwork properly toothed and bonded to existing, wedged up to underside of existing lintel and finishes shall be made good on both sides.

General

All demolitions work is to be carried out in accordance with the local by-laws and to requirements of the Local Health Authorities.

At completion of the works, all rooms should be cleaned thoroughly (i.e floors, glazing, sanitary ware, etc).

Carried to Collection R

Section No. 2
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

	TEMPORARY BARRICADES, SCREENS, ETC.					
	Temporary barricades, screens, etc., including removal upon completion:					
1	Dust screen 3000mm high on gravel floor, concrete floor or paving, formed of suitable timber framing with corrugated iron sheeting fixed to one side including corners, ends, etc.	m				
2	Sound absorption material to cover door size 1000 x 2100mm high overall, including all necessary posts, framing, lock, etc.	No				
	REMOVAL OF EXISTING WORK					
	Break down and remove brickwork, etc.:					
3	One brick walls.	m2				
4	Half brick walls.	m2				
	REPAIR OF STRUCTURAL CRACKS					
	Repairs of structural crack with wire mesh 13mm x 600mm as per the structural engineers specification.					
5	Clean out and repairs structural cracks in new plastered brick wall with and including wire mesh.	m				
	CLEANING OF EXISTING WORKS, ETC.					
6	Clean existing buildings of all burnt rubble and leave in a good state for the Architect and Engineer to do a thorough investigation. Cart away all burnt rubble off site to a dumping site to be located by the Contractor.		Item			
	Wash and clean walls with a similar cleaning agent:					
	Carried to Collection			R		

Section No. 2
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 2

Section 2: Building Works

Bill No. 1

Alterations

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 1** **EARTHWORKS (PROVISIONAL)** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES **Nature of ground** A soils investigation has been carried out on site by the engineer and the Geotechnical investigations report is herewith attached . Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured. ***NOTE**: Ground done up to platform level on site, therefore whatever resultant sub-base to be built from such existing conditions.* **Excavations** Foundations shall not be laid until excavations have been approved of, in writing, by the Principal Agent and/or Civil Engineer and such excavations shall not be covered until any variation has been measured.					
	Carried to Collection			R		

Blasting

No blasting will be allowed without the written permission of the Principal Agent and/or Civil Engineer.

Should blasting be necessary, the Contractor shall take every precaution to protect the Works and persons, animals and property in the vicinity of the Works. The Contractor will be held responsible for any injury or damage caused by any blasting operations and shall make good such damage at his own expense.

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 to a suitable dumping site outside the boundary of the site.

Filling

All filling material to be utilised shall be approved beforehand by the Principal Agent and/or Civil Engineer prior to ordering. A sample of 60 Kg of such proposed fill shall be made available by the contractor, with a 14 days period set aside for carrying out such sample testing.

Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection, any necessary stock piling and multiple handling of material.

Protection against termites

Soil poisoning shall be conducted with an approved registered soil poisoning material of the chlordane or aldrin type mixed with water and then applied at a rate of not less than 5 litres per square metre. The concentration of the solution shall be in accordance with the manufacturer's instructions, to the approval of the Principal Agent and/or Civil Engineer and undertaken under such supervision.

Carried to Collection R

Section No. 2
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

	***NOTE**: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No 104 for JBCC CPAP purposes*					
	EXCAVATIONS IN RETAINING WALLS					
	Excavation in earth or compacted filling not exceeding 2m deep					
1	Trenches	m3	567			
	Extra over excavations in earth for excavation in:					
2	Soft rock	m3	43			
3	Hard rock	m3	85			
	Extra over all excavations for carting away					
4	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	32			
	Risk of collapse of excavations					
5	Sides of trench and hole excavations not exceeding 1,5mm deep	m2	703			
	Keeping excavations free of water					
6	Keeping excavations free of water		Item			
	FILLING, ETC					
	Earth filling of G5 material supplied by the contractor compacted in 150mm layers compacted to 98% Mod AASHTO to density					
7	Backfilling to trenches, holes, etc	m3	1 398			
	Compaction of surfaces					
8	Compaction of ground surface to trenches, 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	538			
	Carried to Collection			R		

Section No. 2
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

	Prescribed density tests on filling					
9	"Modified AASHTO Density" test	No	40			
	SOIL POISONING AND PROTECTION AGAINST TERMITES					
	Soil insecticide					
	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/mý.					
10	To bottoms and sides of trenches, etc.	m2	768			
	SUB-SOIL DRAINAGE(CPAP Work Group No. 146)					
	uPVC soil and waste piping with seal ring joints in accordance with SABS 967 laid to falls in earth including all excavations, backfilling, etc.:					
11	19mm Selected dust free crushed stone encasing to pipes.	m3	23			
12	Coarse river sand filling sides of concrete retaining wall.	m3	296			
13	"Bidum U14" geofabric blanket wrapped around stone encasing with minimum 50mm side and 300mm end laps including stretching.	m2	230			
14	Rough formwork not exceeding 300mm high to edge of crusher stone in trenches.	m	230			
15	110mm Diameter uPVC Class 6 pipe with parallel row of 8mm diameter holes at 69mm centres laid in encasing to falls.	m	256			
	CONCRETE, FORMWORK AND REINFORCEMENT (CPAP Work Group No. 110 Unless Otherwise Stated)					
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES					
	Carried to Collection			R		

Section No. 2
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

	10MPa/19mm Concrete in:					
16	Surface blinding under footings.	m3	83			
	REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES					
	25 MPa/19mm Concrete in:					
17	Strip footing.	m3	11			
	30 MPa/19mm Concrete in:					
18	Bases.	m3	227			
19	Walls.	m3	296			
	Carried to Collection			R		

Section No. 2
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PREPARED FOR: Raj Maharajh Associates Architects

	REINFORCEMENT (CPAP Work Group No. 114 Unless Otherwise Stated)					
	Provision for Mild and High tensile steel reinforcement to structural concrete work					
20	In varying diameters.	t	67.71			
	TEST BLOCKS					
	TESTS NOTE: Should the strength required for the concrete in any portion of the structure not be attained in the test cubes, or should any concrete whatsoever be defective the portion in question is to be demolished and replaced at the expense of the Contractor.					
21	Concrete test cubes (set of three) size 150 x 150 x 150mm overall including testing. (Provisional).	No	89			
	FORMWORK					
	ROUGH FORMWORK (DEGREE OF ACCURACY II)					
	Rough formwork to sides of:					
22	Bases.	m2	205			
23	Walls in foundations.	m2	1 971			
24	Square or rectangular shaped columns in foundations.	m2	23			
	SMOOTH FORMWORK (DEGREE OF ACCURACY I)(CPAP Work Group No. 111)					
	Smooth formwork to circular columns:					
25	400mm Diameter column 500mm high in foundations.	No	35			
	BRICKWORK (CPAP Work Group No. 118 Unless Otherwise Stated)					
	Brickwork of NFX bricks in class II mortar					
26	One brick walls.	m2	36			
	Carried to Collection			R		

Section No. 2
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PREPARED FOR: Raj Maharajh Associates Architects

	Brickwork reinforcement					
27	150mm wide reinforcement built in horizontally.	m	128			
	Carried to Collection			R		
	Section No. 2 Bill No. 2 **PREPARED FOR: Raj Maharajh Associates Architects**					

Section No. 2

Section 2: Building Works

Bill No. 2

Foundations (Provisional)

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 2** **PILING (PROVISIONAL)** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES **Indemnity** The Contractor shall take full responsibility for piling work and shall guarantee that piling work will support the calculated loads laid down by the Engineer without injurious settlement. The actual length shall be determined on site by the contractor in consultation with the Engineer who will give all assistance possible. This does not in any way relieve the contractor of his responsibility or obligation to provide the specified guarantee. The contractor shall indemnify the Employer against any injury to or death of any person and all loss or damage to all structures resulting from failure of any pile. In the event of the failure of a pile the contractor shall make good such pile and all consequent damage at his own expense. The Contractor shall insure by means of a policy, approved by the Principal Agent, against risks arising out of the responsibilities, guarantees and indemnities specified. the contractor shall pay all premiums in respect of this insurance policy. The guarantee shall be for the amount and effective period as stated hereafter in this bill.					
	Carried to Collection			R		

	Scope of the work The work comprises the installation of 150 piles. The Contractor is to acquaint himself fully with the nature and scope of the work. Piles are to be installed subsequent to the site being excavated or filled to the correct levels. **Drilling** **Classification of material** "Hard rock" shall mean granite, quartzite sandstone or other rock of similar hardness, the removal of which would normally require drilling, wedging and splitting or the use of explosives. "Soft rock" shall mean hard material the removal of which warrants the use of pneumatic tools and includes hard shale, ferricite, compact ouklip and material of similar hardness. "Earth" shall mean ground other than that classified as "hard rock" and shall include made - up ground and loose stones or pieces of concrete not exceeding 0.03m3 in volume as well as hard material the removal of which would normally warrant the use of pneumatic tools and which includes hard shale, ferricite, compact ouklip and material of similar hardness. **GUARANTEES AND INSURANCE**					
1	Insurance policy against claims arising from the installation of piling up to a limit of R 5 000 000.00 per claim with no limit on the number of claims that may occur and effective for a period of 5 years from the date of completion of the contract.		Item			
	ESTABLISHMENT					
2	Transporting to and establishment on site of necessary plant for the execution of the work and removal thereof on completion.		Item			
3	Setting up plant at pile position.	No	150			
	EXCAVATION					
	Carried to Collection			R		
	Section No. 2 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

	Excavation in earth or compacted filling not exceeding 2m deep					
4	Pile caps	m3	134			
	Extra over excavations in earth for excavation in:					
5	Soft rock	m3	17			
6	Hard rock	m3	34			
	Extra over all excavations for carting away					
7	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	112			
	Back Excavation of vertical sides of excavations in earth for working space including backfilling					
8	Exceeding 500mm and not exceeding 1500mm deep for placing and removing formwork to sides of pile caps flush with excavated face	m2	319			
	Extra over back excavation in earth for working space for excavation					
9	Exceeding 500mm and not exceeding 1500mm deep for placing and removing formwork to sides of pile caps flush with excavated face, in soft rock	m2	32			
10	Ditton but in hard rock	m2	16			
	Risk of collapse of excavations					
11	Sides of trench and hole excavations not exceeding 1,5mm deep	m2	319			
	Keeping excavations free of water					
12	Keeping excavations free of water		Item			
	DRILLING					
	Drilling exceeding 10m and not exceeding 15m deep in earth below basement level:					
13	Shafts suitable for 300mm diameter piles (In No. 35 piles).	m	525			
	Carried to Collection			R		

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PREPARED FOR: Raj Maharajh Associates Architects

14	Shafts suitable for 400mm diameter piles (In No. 115 piles).	m	1 725			
15	500 x 500 x 500mm Expanded bulb at bottom of 300mm diameter pile.	No	35			
16	600 x 600 x 500mm Expanded bulb at bottom of 400mm diameter pile.	No	115			
	Drilling in strata of a more difficult character:					
17	Extra over drilling in earth for drilling in soft rock.	m3	25			
18	Extra over drilling in earth for drilling in hard rock.	m3	93			
	Extra over drilling for carting away:					
19	Surplus material from pile caps and pile shafts etc. and/or stock piles on site to a dumping site to be located by the contractor.	m3	357			
	Casings:					
20	Permanent casings to 300mm diameter pile shafts to prevent collapse of excavations, ingress of water, etc (in 3m lengths).	m	525			
21	Permanent casings to 400mm diameter pile shafts to prevent collapse of excavations, ingress of water, etc (in 3m lengths).	m	1 725			
	AUGERED IN-SITU CONCRETE PILES					
	15 MPa/19mm Concrete in:					
22	Blinding under caps.	m3	4			
	30 MPa/19mm Concrete in:					
23	Concrete in piles.	m3	159			
24	Piles caps.	m3	76			
	CONCRETE SUNDRIES					
	Carried to Collection			R		

	Finishing top surfaces of concrete smooth with a wood float				
25	Top of pile caps.	m2	108		
	TEST BLOCKS				
26	Making and testing 150 x 150 x 150mm concrete strength test cubes (Provisional).	No	51		
	FORMWORK				
	***NOTE**: Work Group No 111 for JBCC CPAP purposes*				
	Rough formwork to sides of:				
27	Sides of pile caps.	m2	327		
	REINFORCEMENT				
	High and Mild steel reinforcement in prefabricated piles:				
28	8 - 32mm Diameter bars.	t	47.80		
	EXPOSING PILES FOR INSPECTION				
29	Exposing pile for inspection including excavation 1m deep in earth and backfilling.	No	150.00		
	TRIMMING				
30	Trimming 500 x 500 x 500mm pile cap.	No	35.00		
31	Trimming 600 x 600 x 600mm pile cap.	No	115.00		
	Budgetary Allowance				
32	Allow the amount of R3,000,000.00 (Three Million Rand Only) for design development of shoring and lateral support.		Item		3 000 000.00
	Carried to Collection			R	

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PREPARED FOR: Raj Maharajh Associates Architects

Section No. 2

Section 2: Building Works

Bill No. 3

Piling

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 3** **CONCRETE, FORMWORK AND REINFORCEMENT** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES **Cement** Cement shall be Portland cement complying with the requirements of SANS Specification 471 or PC15 complying with SANS Specification 831. **Aggregates** Fine and coarse aggregates shall comply with the requirements of SANS Specification 1083. No aggregate shall be used until it has been approved. Samples having a mass of 25 Kg of the proposed aggregate may be required by the Principal Agent and/or Structural Engineer to be tested and such testing shall be conducted every three months of the concreting works or should the source of supply change. **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 structural engineer. Testing of all concrete test cubes shall be done by the Local Municipality or by the laboratory so approved by the Director: Structural Engineering Services, in accordance with SANS STM 863 (Test cubes are measured separately).					
	Carried to Collection			R		
	Section No. 2 Bill No. 4 **PREPARED FOR: Raj Maharajh Associates Architects**					

	Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (12:1), the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated. **"Foamcement " lightweight concrete** "Foamcement" lightweight concrete is to have a density of 600kg/m3 for the top 50mm and 400kg/m3 for the remaining thickness. The minimum thickness at outlets, channels, etc shall be 50mm. **"Celbeton" lightweight concrete** "Celbeton" lightweight concrete is to have a density of 1000kg/m3 for the top 20mm and 480kg/m3 for the remaining thickness. The minimum thickness at outlets, channels, etc shall be 30mm. **Formwork** Description 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. 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, etc. shall be deemed to be slabs not exceeding 255mm thick unless otherwise described by the Structural Engineer. Slabs and beams to remain propped for periods strictly in accordance with SANS 1200 G Clause 5.2.5.					
	Carried to Collection			R		
	Section No. 2 Bill No. 4 **PREPARED FOR: Raj Maharajh Associates Architects**					

	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". ***NOTE**: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No 110 for JBCC CPAP purposes* **UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES** 15MPa/19mm Concrete in:					
1	Blinding under footings and bases	m3	17			
	REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES 30 MPa/19mm Concrete in:					
2	Beams	m3	96			
3	Surface beds cast in panels on waterproofing.	m3	134			
4	Slabs	m3	1 199			
5	Stairs including landings, beams and inverted beams.	m3	45			
6	Stub columns.	m3	82			
7	Ramps.	m3	31			
	Test Blocks					
8	Making and testing set of three 150 x 150 x 150mm concrete strength test cubes	No	378			
	CONCRETE SUNDRIES					
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	Finishing top surfaces of concrete smooth with a power float					
9	Surface beds, slabs, etc	m2	3 507			
	Finishing top surfaces of concrete to an evenly ribbed non-slip surface with a "stiff broom" finish					
10	Ramps	m2	208			
	Finishing exposed surfaces of smooth formwork					
11	Hack off projections, fill in and rub down concrete walls, columns and tapered columns as necessary and leave ready for painting	m2	444			
	FORMWORK					
	ROUGH FORMWORK (DEGREE OF ACCURACY II)					
	Rough formwork to sides of:					
12	Square or rectangular columns	m2	178			
13	Sloping and stepped outer edges of steps, 350mm extreme high	m	88			
14	Edges, risers, ends and reveals not exceeding 300 mm high or wide	m	101			
15	Raking soffit of staircase.	m2	176			
	Rough formwork to:					
16	Slabs including horsing-up exceeding propped up exceeding 3,5m and not exceeding 5m high.	m2	2 232			
17	Slabs including horsing-up exceeding 8,0m but not exceeding 9,5m above bearing level.	m2	1 142			
	Rough formwork to sides and soffits :					
18	Beams propped up exceeding 3,5m and not exceeding 5,0m high	m2	440			
	Carried to Collection			R		

19	Beams propped up exceeding 8m and not exceeding 9,5m high	m2	712			
	SMOOTH FORMWORK (DEGREE OF ACCURACY I) (CPAP Work Group No. 111)					
	Smooth formwork to circular columns:					
20	400mm Diameter column 1,50m high in foundations.	No	37			
21	400mm Diameter column 3,98m high.	No	37			
22	400mm Diameter column 4,25m high.	No	37			
23	400mm Diameter column 4.67m high.	No	37			
	Boxing in smooth formwork to form:					
24	50 x 50mm Vertical recess in side of columns.	m	101			
	Sleeves					
25	50mm Diameter PVC sleeve exceeding 250mm and not exceeding 500mm long cast into concrete	m	101			
26	150mm Diameter PVC sleeve exceeding 250mm and not exceeding 500mm long cast into concrete	m	133			
	MOVEMENT JOINTS, ETC					
	10mm Expansion joints formed of bitumen impregnated soft board					
27	Between vertical concrete and brick surfaces not exceeding 300 mm high or wide	m	165			
28	Between vertical concrete surfaces not exceeding 300 mm high or wide	m	103			
	20mm Expansion joints formed of bitumen impregnated soft board					
29	Between vertical concrete surfaces not exceeding 300 mm high or wide	m	181			
	Carried to Collection			R		

	Expansion joints with low density polystyrene board between vertical concrete and brick surfaces:					
30	10mm Joints not exceeding 300mm high	m	125			
	Saw cut joints					
31	35 x 6mm Saw cut joints in two operations in top of concrete	m	177			
	REINFORCEMENT					
	Provision for Mild and High tensile steel reinforcement to structural concrete work					
32	In varying diameters.	t	245.06			
	Fabric reinforcement with minimum 400mm wide overlaps					
33	Type Ref 193 reinforcement in concrete surface beds, slabs, etc.	m2	4 737			
	Carried to Collection			R		

Section No. 2
Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 2

Section 2: Building Works

Bill No. 4

Concrete, Formwork and Reinforcement

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 4** **MASONRY** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	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 etc** 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. Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixeal" bitumen emulsion waterproofing coating. **User note:** The above preamble generally applies for works in hot and humid coastal areas **Face bricks** Bricks shall be ordered timeously to obtain uniformity in size and colour					
	Carried to Collection			R		

Pointing

Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc

BLOCKWORK

Concrete masonry units

Blocks are to be either solid or hollow modular dense concrete masonry units having a compressive strength of 7 MPa

Wall ties for blockwork

Wall ties shall be polypropylene "Permaties" complying with BS 76377. Ties for hollow walls shall be of sufficient length to allow not less than 75mm of each end to be built into the blockwork. Ties are to be spaced at intervals of not more than 1m in the horizontal direction and not more than 400mm staggered in the vertical direction except at openings, vertical joints or ends of walls where they are to be placed vertically above each other

Blockwork

Blockwork shall comply with SABS 0145 "Concrete Masonry Construction"

Surfaces to be plastered shall have joints raked out to a depth of at least 10mm to provide a key. Cavities of hollow walls shall be kept free of mortar droppings or other undesirable matter. Every second perpend of the bottom course of the external skin of hollow walls shall be left open as a weep hole

Standard complementary blocks

Descriptions of blockwork shall be deemed to include standard complementary blocks such as corner, three-quarter, half and quarter blocks required in the construction of corners, reveals, jambs, ends, etc to solid and hollow walls and for bonding as necessary

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	DECORATIVE BLOCKS					
	Blocks shall be of approved manufacture, sound, well burnt or cured and uniform and true in size, shape and colour					
	SAMPLES					
	Samples of all masonry building units, except those for walls described as "load bearing", shall consist of a minimum of 6 units. Samples of building units to be used in walls described as "load bearing" shall consist of 30 units from every 30 000 units delivered to site					
	SUPERSTRUCTURE					
	Brickwork of NFX bricks (14 MPA nominal compressive strength) in class I mortar					
1	Half brick walls	m2	392			
2	230mm thick brick walls	m2	152			
3	280mm thick brick walls	m2	1 269			
4	One brick walls circular on plan.	m2	297			
	BRICKWORK SUNDRIES					
	Movement Joints					
5	Movement joint formed of 20mm softboard built in vertically between brickwork (Provisional).	m2	222			
	Brickwork reinforcement					
6	75mm wide reinforcement built in horizontally.	m	1 377			
7	150mm wide reinforcement built in horizontally.	m	7 367			
	Turning pieces					
8	300mm Wide turning piece to lintels, etc.	m	20			
	Carried to Collection			R		

	Pre-stressed fabricated lintels					
9	110 x 75mm Lintels in lengths not exceeding 3m (Provisional).	m	76			
	FACE BRICKWORK					
	20-30 MPa "Corobrik" or similar approved FBS (R8000/1000) clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227:2007, bedded and flush jointed in Class II mortar.					
10	Extra over brickwork for external face brickwork.	m2	711			
11	Extra over irregular curved shaped brickwork for external face brickwork.	m2	327			
12	Extra over brickwork for external face brickwork facing both bothways.	m2	63			
13	Extra over brickwork for brick-on-edge header course lintel.	m	14			
	Sundries:					
14	Construct a sample panel 2000mm long x 1500mm high of one brick wall in cement mortar faced and pointed on both sides in stretcher bond and with brick-on-edge coping to top including pointing to top and both sides and with and including necessary excavations for and including 15MPa/38mm mass concrete strip footing in a position as directed by the Representative/Agent and including demolishing and removal after completion of all brickwork.	No	1			
	BUILDERS WORK IN CONNECTION WITH ELECTRICAL INSTALLATION, ETC.					
15	Cut chase vertically or horizontally in concrete not exceeding 75mm wide for single conduit and make good.	m	133			
16	Cut chase vertically or horizontally in brickwork not exceeding 100mm wide for two conduits and make good.	m	125			
	Carried to Collection			R		

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17	Cut chase vertically or horizontally in brickwork not exceeding 400mm wide x 110mm deep for conduits and make good.	m	60			
18	150mm Deep recess for and building in of distribution board not exceeding size 600 x 900mm and make good all trades.	No	1			
	Carried to Collection			R		

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Bill No. 5
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Section No. 2

Section 2: Building Works

Bill No. 5

Masonry

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 5** **WATERPROOFING** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	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 Preparation of substrata: Screeded roof surfaces shall be firm, dry and clean. Corners shall be coved or arris rounded. All surfaces to receive Derbigum are to be fully primed with a solvent-based bitumen primer. Timber boarded roof surfaces shall be dry, clean and even. All internal angles are to receive a timber triangular fillet. Corners and edges shall be arris rounded.					
	DAMP-PROOFING OF WALLS AND FLOORS One layer of 375 micron black embossed polyethylene damp-proof course (SANS 952-1985 Type B)					
1	In walls	m2	15			
	One layer of 250 micron green polyethylene damp-proof membrane (SANS 952-1985 Type C) sealed at laps with PVC self-adhesive tape					
2	Under surface beds	m2	134			
3	Under aprons, etc.	m2	62			
	Carried to Collection			R		
	Section No. 2 Bill No. 6 **PREPARED FOR: Raj Maharajh Associates Architects**					

4	Ramps, etc.	m2	208			
	WATERPROOFING TO CONCRETE ROOFS					
	One layer Derbigum SP4 torch on waterproofing Membrane with 75mm side laps and 100mm end laps on concrete or screed surfaces, by approved specialist. Installation to carry a ten year guarantee:					
5	On sloping roofs with slopes not exceeding 25 degrees pitch.	m2	1 140			
6	On turn-ups and turn-downs exceeding 300mm girth.	m2	443			
	WATERPROOFING TO BASEMENT WALLS					
	Prime with one coat bitumen primer and one layer 4mm fully bonded waterproof membrane comprising two bitumen layers reinforced with woven spun bonded polyester fabric and coated with polyethelene film for heat bonding, laid with 100mm side and 150mm end laps					
7	On concrete basement walls.	m2	986			
	JOINT SEALANTS, ETC					
	Two-part grey/white polysulphide sealing compound applied with a caulking gun, including backing cord, bond breaker, primer, etc					
8	3 x 30mm In saw cut joints in floors	m	177			
9	5 x 10mm in joints between tiles and sanitary fitting or worktop, etc	m	20			
	Antifungal silicone sealing compound					
10	10 x 10mm In vertical expansion joints, including raking out expansion joint filler as necessary	m	125			
	Carried to Collection			R		

Section No. 2

Section 2: Building Works

Bill No. 6

Waterproofing

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 6** **CARPENTRY AND JOINERY** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES **Preambles** The Standard Preambles and the Notes in the various trade bills are to, and do, apply equally to this section. **Proprietary Products In Descriptions** Proprietary products shall be used as specified. Substitute products of similar quality and specification may only be used with prior approval by the Principal Agent **Joinery** Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes **Fixing** Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete **Decorative laminate finish** Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish.					
	Carried to Collection			R		

Section No. 2
Bill No. 7
PREPARED FOR: Raj Maharajh Associates Architects

	DOORS, ETC					
	Semi-solid doors:					
	"Swartland MDF" or similar approved horizontal hardwood door with sapele swartland bergsun and hung on steel door frames (frames elsewhere):					
1	Door size overall 813 x 2032mm high.	No	20			
2	Door size overall 964 x 2032mm high	No	2			
	FIRE DOORS					
3	Class B fire door size overall 813 x 2032mm high in accordance with SABS 1253 including pressed steel door frame to suit one brick wall complete with hoop iron anchors welded to frame, one adjustable stainless steel striking plate suitable for mortice lock, three rubber shock absorbers in rebate and one and a half pairs of 100mm heavy duty flanged hinges including preparing frame for door closer. (D6 & D7)	No	6			
4	Class B double leaf fire door size overall 1614 x 2400mm high in accordance with SABS 1253 including pressed steel door frame to suit one brick wall complete with hoop iron anchors welded to frame, one adjustable stainless steel striking plate suitable for mortice lock, three rubber shock absorbers in rebate and one and a half pairs of 100mm heavy duty flanged hinges including preparing frame for door closer	No	1			
	TIMBER CLADDING					
	Balau Timber					
5	Slatted timber cladding of 32 x 130mm wide slats at 50mm centres, screwed to steel framing including holes.	m2	128			
	Carried to Collection			R		
	Section No. 2 Bill No. 7 **PREPARED FOR: Raj Maharajh Associates Architects**					

Section No. 2

Section 2: Building Works

Bill No. 7

Carpentry and Joinery

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO: 2 **BILL NO: 7** **CEILINGS, PARTITIONS AND ACCESS FLOORING** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES **Preambles** The Standard Preambles and the Notes in the various trade bills are to, and do, apply equally to this section. **Proprietary Products In Descriptions** Proprietary products shall be used as specified. Substitute products of similar quality and specification may only be used with prior approval by the Principal Agent **Descriptions:** The sizes of all sawn and wrot timbers are to hold to the full sizes specified. South African Pine shall be referred to as Pine. All items in this section are to be fixed, unless otherwise described, by spiking to wood. Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete					
	Carried to Collection			R		

	Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as "bolted" the bolts have been given elsewhere ***NOTE: Work Group No 129 for JBCC CPAP purposes*** **SUSPENDED CEILINGS** **Note:** Electrical light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance must be made accordingly for their support inclusive of any flexibility in setting out that may be required (ceiling panels have not been deducted and pricing is to take cognisance thereof) **ACOUSTIC CEILING** "Gyptone Tile Line 4 - edge A – Activ'Air" or similar approved perforated acoustic ceiling tiles size 600 x 1200 x 12.5mm thick, rectangular edge and white finish (NCS 0500), laid on exposed demountable exposed T-24 suspension system comprising of galvanised main tees and cross tees with main tees suspended by means of galvanised hangers at centres not exceeding 1200, all in accordance with manufacturer's instruction.					
1	Ceiling suspended not exceeding 1m below concrete soffits.	m2	1 722			
	"Capco" or similar approved shadowline					
2	20mm Shadowline cornice secured to plastered wall and ceiling boarding including mitres, etc.	m	874			
	Sundries:					
	Extra over ceilings for cut outs including additional supports					
3	Extra over ceiling for opening for 80mm down lighters (Provisional).	No	124			
	Carried to Collection			R		
	Section No. 2 Bill No. 8 **PREPARED FOR: Raj Maharajh Associates Architects**					

4	Extra over ceiling for opening 600mm x 600mm light fitting (Provisional).	No	82			
5	Extra over ceiling for opening for ventilation grille/air conditioner diffuser (Provisional).	No	28			
	PARTITIONS, ETC.					
	"GypWall Classic Ultrasteel Stud Drywall Gyproc- Saint-Gobain" or similar approved partitioning shall comprise steel studding formed of 63.5mm top and bottom tracks with vertical studs at maximum 600mm centres, friction fitted or pop riveted to the top and bottom tracks with similar additional vertical studs as necessary at abutments, ends, etc and covered as described with wallboard screwed to studding with "Drywall" screws at maximum 220mm centres. Boards are to be butt jointed and finished with "Rhino" tape and "Ready mix D" jointing compound all in accordance with the manufacturer's instructions. Intersections and abutments are measured separately and descriptions shall be deemed to include any additional studs, corner beads, jointing compound, tape, etc. Skimmed and sanded down with two coats "RhinoGlide" skimmer.					
6	Partitioning 3,905mm high with bottom track plugged and top track fixed to suspended ceiling tees or gypsum board.	m	141			
7	Extra over partition 3,905mm high for vertical abutment.	No	18			
8	Extra over partition 3,905mm high for corner.	No	12			
9	Extra over partition 3,905mm high for T-intersection.	No	14			
10	Partitioning 4,325mm high with bottom track plugged and top track fixed to suspended ceiling tees or gypsum board.	m	146			
11	Extra over partition 4,325mm high for vertical abutment.	No	19			
12	Extra over partition 4,325mm high for corner.	No	21			
13	Extra over partition 4,325mm high for T-intersection.	No	12			
	Carried to Collection			R		

Section No. 2
Bill No. 8
PREPARED FOR: Raj Maharajh Associates Architects

	Insulation					
14	63mm "Isover" or similar approved mineral wool insulation blanket in cavity of dry wall partitioning, installed in strict accordance to manufacturer's detail and specification.	m2	1 186			
	Doors:					
15	Extra over partitioning for natural anodised aluminium door frame for door size 1100 x 2975mm high with one pair of 100mm aluminium hinges including additional studding, trimming, etc.	No	24			
16	Extra over partitioning for natural anodised aluminium door frame for door size 1500 x 2975mm high with one pair of 100mm aluminium hinges including additional studding, trimming, etc.	No	1			
17	Extra over partitioning for natural anodised aluminium door frame for door size 1800 x 2975mm high with one pair of 100mm aluminium hinges including additional studding, trimming, etc.	No	2			
	Carried to Collection			R		

Section No. 2
Bill No. 8
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 2

Section 2: Building Works

Bill No. 8

Ceiling, Partitions & Access Flooring

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	SECTION NO. 2					
	BILL NO. 8					
	IRONMONGERY					
	For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES					
	Finishes to ironmongery					
	Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered. CH Chromium plated. SC Satin chromium plated. SE Silver enamelled. GE Grey enamelled. AS Anodised silver. AB Anodised bronze. AG Anodised gold. ABL Anodised black. PB Polished brass. PL Polished and lacquered. PT Epoxy coated. SD Sanded. SS Stainless Steel.					
	Fixing					
	Items described as plugged shall be deemed to include screwing to fibre, plastic or metal plugs.					
	IRONMONGERY TO DOORS, FRAMES, ETC					
	LOCKS					
1	"Dorma (Code: D032D SS)" or similar approved bathroom deadlock case lockset.	No	6			
	Carried to Collection			R		

2	"Dorma (Code: DWC-006)" or similar approved WC indicator and turnknob .	No	16			
	HANDLES					
3	"Dorma (Code:DPH205 BT)" or similar approved tubular pull handle.	No	6			
4	"Dorma (Code: DPH301 C)" or similar approved pull handle.	No	16			
	LETTERS, NAME PLATES, ETC.					
	"Dorma" or similar approved					
5	"Dorma (Code: DSS-130)" or similar approved 150 x 150 x 3mm thick Stainless Steel plate engraved "Male" sign fixed to door.	No	3			
6	"Dorma (Code: DSS-131)" or similar approved 150 x 150 x 3mm thick Stainless Steel plate engraved "Female" sign fixed to door.	No	3			
7	"Dorma (Code: DSS-133 P)" or similar approved 150 x 150 x 3mm thick Stainless Steel plate engraved "Disabled" sign fixed to door.	No	2			
8	150 x 150 x 3mm thick Stainless Steel plate engraved "Directional Signage" sign fixed to wall.	No	32			
9	150 x 150 x 3mm thick Stainless Steel plate engraved "Fire Extinguisher" sign fixed to wall.	No	10			
10	150 x 150 x 3mm thick Stainless Steel plate engraved "Fire Hosereel" sign fixed to wall.	No	12			
	PUSH PLATES, KICKING PLATES, ETC.					
	1,2mm Brushed stainless steel plates (Grade 430) countersunk screwed along edges at not exceeding 200mm centres.					
11	"Dorma (Code: DPP-430-BL-SF)" or similar approved 150 x 300mm push plate.	No	2			
12	"Dorma (Code: DPP-430-BL-SF)" or similar approved 813 x 200mm push plate.	No	14			
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13	"Dorma (Code: DPP-430-BL-SF)" or similar approved 864 x 200mm push plate.	No	2			
	DOOR CLOSERS					
14	"Dorma Code: (TS73V PA DC)" or similar approved parallel arm delayed action door closer with aluminium casing.	No	6			
	GRAB RAILS, ETC.					
15	"Franke CNTX 900 ref: 359875" or similar approved 32mm diameter stainless steel grab rail including mounting brackets screwed and plugged to wall.	No	2			
16	32mm Diameter x 1162mm girth grade 304 stainless steel long leg rear rail twice bent at 90 degrees including mounting brackets screwed and plugged to wall.	No	2			
17	300mm Flushvale back rail including mounting brackets screwed and plugged to door.	No	2			
	Bathroom fitting, etc.					
18	"Encore TR3" or similar approved toilet roll holder plugged to wall in strict accordance to manufacturer's specification.	No	16			
19	"Encore" or similar approved paper towel dispenser securely plugged to wall in strict accordance to manufacturer's specification.	No	7			
20	"Encore" or similar approved manual gel soap dispenser plugged to wall/door in strict accordance to manufacturer's specification.	No	7			
21	"Encore" or similar approved waste container.	No	7			
22	"Encore" or similar approved sanitary container.	No	7			
	Sundries					
23	"Dorma (Code:DDS-SS-017)" or similar approved floor mounted door stop.	No	21			
24	"Dorma (Code:DHC-SS-031B)" or similar approved hat and coat hook with rubber buffer.	No	21			
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	MONEY PROVISION:					
	The items described hereunder cover work which is not fully defined at tender stage and which is intended to be executed by the Contractor and/or his Sub-Contractors. The amounts shown shall be used as directed by the Architect/Principal Agent and shall be deducted in whole or in part if not required.					
25	Allow the amount of R 400,000.00 (Four Hundred Thousand) for General Signage. This work shall be measured on completion and priced at agreed rates.		Item		400 000.00	
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Ironmongery

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO 9** **STRUCTURAL STEELWORK** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES 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 _____ **STRUCTURAL STEELWORK** **1. Shop drawings** The contractor will be required to prepare shop details for the work which must be submitted to the Engineer for approval before fabrication is started. Approval of shop details by the Engineer will include the following : a) Examination of member sizes for consistency with design requirements b) Examination of all connections designed and/or detailed by the fabricator, for adequacy of load trasference c) Approval of leading dimensions which are taken to include such dimensions as may influence the design (eg, depth of trusses and girders) or which may grossly affect site programme (eg, truss spans andstanchion heights)					
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Notwithstanding any approval of these details, the contractor shall remain responsible for ensuring that the dimensions, details and workmanship result in the correct assembly of the work

2. Material and workmanship

The steelwork is to be fabricated from mild steel to SABS 1431 Grade 300W. The whole of the fabrication and workmanship generally is to be in strict accordance with SABS 0162-1984 as amended. The material shall be of best quality throughout, free from loose rust or millscale, true to thickness and profile throughout and of the section and mass specified subject to a 2% tolerance for rolling margin. Consideration will be given to any detail variation which the contractor may wish to make with the view to the simplification of either fabrication, delivery or erection. Substitutions must be made at the contractor's own expense.

The contractor shall provide Works Test Certificates where so required by the Engineer.

3. Testing

The Engineer shall be at liberty to select test pieces from steelwork in the workshop or on the site and to have them tested. The expense of such tests are to be borne by the contractor if the steelwork does not comply with the standards laid down above. A provisional sum is allowed in the bill of quantities for non-destructive testing.

4. Hold down bolts

Holding down bolts and other fixing devices which are to be embedded in concrete must be supplied to the main contractor on request together with the necessary information, identification and templates.

2 mm Mild steel plate templates provided on a scale of one template for every five groups of bolts, suitably marked to ensure easy idetification are to be supplied to the principal contractor.

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Any costs incurred by subsequent repositioning of bolts, etc resulting from the contractor having failed to furnish adequate information, identification and templates will be for the contractor's account.

5. Welding

Welding shall be in accordance with SABS 044 "Welding:
Parts I, II and III"

Welding shall be carried out in a manner which will prevent any distortion of the weld or the parent section.

All welds shall have adequate root fusion and shall be free from cracks, porosity or other irregularities and any undercutting shall be made good by the deposition of additional runs of weld metal.

Any completed welds showing cracks, cavities or other efects shall be cut out and made good at the contractor's own expense.

Mild steel electrodes shall comply with SABS 455 "Covered Electrodes for Manual Arc Welding of Mild Steel and Medium High Tensile Steel".

6. Bolts

Bolts shall have well-formed heads forged from the solid. Nuts shall closely fit the bolts so that they can only just be turned by hand and at least one clear thread shall project beyond the nut when fully tightened.All bolts shall have one asher under the nuts and shall be so tightened that the threaded portion does not bear on the members connected.

Where bolt heads or nuts bear upon bevelled surfaces they shall be provided with tapered washers of 2,3 mm mean thickness to provide a seating square with the axis of the bolt.

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7. Friction grip bolts

Connections specifying high strength friction grip bolts are to be in strict accordance with SABS 094 "Bolted Friction Grip Joints in Structural Steelwork" and the bolts used are to be in accordance with BS 3139 Part 1 : 1959 "General Grade Bolts, High Strength Friction Grip Bolts for Structural Engineering".

Notwithstanding the above, the following must be rigidly adhered to :

a) Two-case hardened washers, one flat or bevelled under the head and the other flat or bevelled under the nut shall be used with each bolt.

b) Contact surfaces shall not be painted and shall be thoroughly cleaned free of dirt, oil, loose scale, burrs and other defects which are liable to reduce friction resistnace between surfaces.

c) At all times the correct torques shall be applied to the different sizes of bolts.

8. Erection

The steelwork generally is to be fabricated in the contractor's works having due regard to transport and erection facilities. He must supply all erection tackle, temporary erection bracing, erect and plumb all steelwork and supply all steel wedges and tacks as required.

Items may be detailed for delivery "piece small" or the contractor may prefabricate if he is satisfied that suitable arrangements for transport can be made.

Connections are to be designed for the forces indicated on the drawings or to the maximum capacity of the members.

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	9. Cleaning and painting All structural steel is to be thoroughly degreased to remove all grease or oil and then wire-brushed, scraped or sand-papered to remove all rust, mill-scale or surface contaminations and is to be immediately given one coatzinc chromate, allowed to dry overnight and given one coat of universal undercoat prior to delivery to site. All damaged paintwork is to be made good on site after erection is complete. (also refer to 12 below) **10. Testing of welders** Tenderers must include in their rates for the testing of any welder used on the work who has not been tested within a period of six months immediately preceding his employment on this contract. **11. Further notes** Also refer to the structural steelwork notes indicated on the Engineer's relevant structural drawings. **12. Painting/corrosion protection options** **Specification** ° All steelwork will be mechanically wire-brushed to ST3 o blast clean to SA2 ° All steelwork will receive one coat primer to DFT-75 micron					
	LIFT SHAFT, BEAMS, POSTS, ETC. Welded beams in single lengths with flat section base, top, bearer and connection plates bolted to brickwork or concrete:					
1	254 x 254 x 73 I-section universal beam including 250 x 200 x 12mm thick base plates, anchor bolts, connectors etc.	t	8.36			
2	254 x 146 x 31 I-section universal beam including 250 x 200 x 12mm thick base plates, anchor bolts, connectors etc.	t	3.04			
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3	305 x 305 x 96 I-section universal beam for curved brickwall (measured elsewhere) including 250 x 200 x 12mm thick base plates, anchor bolts, connectors etc.	t	1.54			
	GIRTS, BRACING, ETC.					
	Bracing bolted to steel					
4	76 x 2.5mm Cold formed hollow section bracing.	t	1.72			
	Bolts to columns, beams, etc					
5	M16 chemically anchored threaded rod 500mm long.	No	192			
	Budgetary Allowance					
6	Allow the amount of R300,000.00 (Three Hundred Thousand Rand Only) for design development		Item		300 000	.00
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Section 2: Building Works

Bill No. 10

Structural Steelwork (Provisional)

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 10** **METALWORK** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES DESCRIPTIONS Descriptions of bolts shall be deemed to include nuts and washers. Descriptions of expansion anchors and bolts, chemical anchors and bolts, shall be deemed to include nuts, washers and mortices in brickwork or concrete. Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described. **PREAMBLES** *For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP/ASC).* **TRADE NAMES** *No reference to trade names shall be made in these bills of quantities.*					
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General:

All glazed aluminium windows, sliding doors, doors, shopfronts, skylights, etc.. shall be designed, manufactured, supplied and installed in strict compliance with the "Association of Architectural Aluminium Manufacturers of South Africa (AAAMSA), General Specification for Architectural Aluminium and Glass Products February 2005 Edition" and SANS 10137.

All descriptions shall be deemed to include transoms, mullions, etc. as per the Architect's drawings.

Design and installation:

The Sub-Contractor shall be required to design the entire installation, provide all labour, materials, equipment and services required to complete the installation as specified herein.

The Sub-Contractor shall ensure that the necessary wind pressure provisions have been incorporated within the design criteria. The Sub-Contractor shall submit his wind design criteria to the Architect for inspection.

The Sub-Contractor shall allow for expansion of glass, framing, surrounding structures, etc.

The Sub-Contractor shall allow for and produce fully detailed workshop drawings **(3 copies)** including samples of all ironmongery within 14 working days of the Main Contractors request.

Fire resistance:

The installation shall conform to the local authorities fire resistance standards.

Templates:

Templates formed of 25 x 25mm square hollow section steel are to be provided in each opening, to ensure that all windows, doors, shopfronts, skylights, etc. are built in plumb and square.

The subcontractor is to use his discretion in providing a sufficient quantity of templates as required, to complete the Works as per the Main Contractors programme.

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Grounds:

19 x 25mm Wrought SA pine grounds are to be fitted all round windows, doors, etc. Where grounds are visible they should be painted to form a shadow line.

Sealing:

Window frames are to be sealed all round, internally and externally, against the building structure with approved silicone jointing compound to prevent water ingress.

Weather seals:

All windows, doors, shopfronts, skylights, etc. are to be fitted with approved woolpile weather seals.

Ironmongery to doors:

Door leaves are to be hung on one and a half pairs of 100 x 75mm butt hinges and fitted with one spring clip door holder. In addition, double doors are to be fitted with one 150mm and one 200mm natural anodised flush lever bolt.

Tenderers shall submit full specifications of ironmongery quoted which shall include all furniture, locks, handles, butt hinges, floor spring hinges, etc.

The Sub-Contractor shall be required to submit ironmongery samples for approval prior to installation.

Sub-Contractors are to note that the approval of shop drawings does not automatically indicate acceptance of ironmongery proposals.

Prices:

All glazed aluminium windows, sliding doors, doors, shopfronts, skylights, etc. must include for all jointing, notching, cutting, etc. and for setting up and fixing in position, complete with glass, glazing beads, external cills, ironmongery, fixing brackets, lugs, bolts, timber grounds, silicone sealant, templates, etc., all as detailed and scheduled on the drawings and as necessary for the satisfactory execution of the work.

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	Factory quality control: The Sub-Contractor shall afford the Main Contractor full access to plant, shop and assembly point to view and inspect the process and method employed in the fabricating and assembly of glazed aluminium windows, sliding doors, doors, shopfronts, skylights, etc. **Protection and cleaning:** All aluminium must be protected against damage by covering with temporary casings (masking tape, plastic coatings, etc.), and against deterioration or discolouration caused by mortar, wax, paint, etc., all to the entire satisfaction of the Principal Agent. On completion, all such protection shall be removed, and work cleaned down and left in proper working order. All glazing is to be protected from damage, breakage, scratches, etc., and allowances shall be made for polishing the glass as and when instructed by the Main Contractor. **PRESSED STEEL DOOR FRAMES** 1,2mm Thick double rebated frames suitable for half brick walls complete with hoop iron anchors welded to frame, one adjustable stainless steel striking plate suitable for cylinder locks, three rubber shock absorbers in rebate and one pair of 100mm standard heavy duty brass butt hinges welded to frame:					
1	Frame for door size 813 x 2032mm high.	No	20			
2	Frame for door size 964 x 2032mm high.	No	2			
	SUNDRY GALVANIZED STEELWORK Bearers to brick linings, lintels, etc.:					
3	25 x 25 x 3mm Thick angle section framing with one leg bolted to concrete with and including M6 x 50mm bolts and other leg screw fixed to wrought wood timber frame.	m	420			
	ALUMINIUM WINDOWS, DOORS, ETC. **Work group No 140 for JBCC CPAP purposes**					
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Supplementary Preambles

Aluminium and glazing shall comply with the following specifications:

Minimum performance requirements as published by AAMSA;

Aluminium alloy extrusion	BSS 1474.
Aluminium alloy sheets	SANS 903.
Anodising	SANS 999.
Neoprene performed seals and gaskets	SATM C542
Powder coat finishing and test	SANS 1274 1578 (with a certificate available on request).

National Building Regulations Part "N", SANS 0137, SANS 0400, SANS 1263 and AAMSA Selection guide for Safety Glazing Materials: monolithic obscure and float glass thicknesses and glazing, shall comply strictly to these specifications.

DOORS, WINDOWS, ETC. to be manufactured by an approved firm of specialists, to be of the best quality and design truly square and unless otherwise described, prepared to receive glazing beads from the outside. All opening portions must fit perfectly on all faces and be so hung as to open and close freely without binding at any point. Wherever possible, all angles and intersections to be welded by electric welding, argon or arc welding. A sample window is to be submitted to the Employer for approval before the work is put in place.

The frames generally are to be for brickwork, blockwork or concrete reveals. They are to be fitted with fixing lugs of 2,8mm aluminium 13mm wide x 100mm long welded to framing, one near each corner and intermediately not more than 300mm apart to sides, top and bottom. Where concrete reveals, etc., the frames are to be countersunk holed for and fitted with the necessary screws at the centres, as for the lugs above.

Immediately after the windows, doors, etc., have been delivered on to site, they are to be thoroughly overhauled and all necessary adjustment or repairs made before they are fixed in position. Where they come into contact with brickworks, blockwork, concrete,

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steel, etc., the framing is to be treated with bituminous paint in an approved manner. The windows, doors, etc., are to be placed in their positions for building in and adjusted to open and close properly and are to be securely structured to prevent distortion whilst the brickwork and lintels, are being built.

On completion of all other work, the windows, doors, etc., are to be adjusted as necessary and rendered in a complete and satisfactory state of repair and in working order.

GLAZING

GENERAL: **All rates for doors, windows, shopfronts, etc., should include for all glazing as specified.**

GLASS AND GLAZING: All functional glass must be delivered to site, cut to size and ready for installation and must be classified to indicate grade and thickness. Labels must remain on each piece of glass until it is glazed, inspected and officially accepted in writing by the employer, thereafter, an insurance letter will follow absolving the contractor of responsibility.

FACTORY GLAZING: All glazing carried out in manufacturer's factory must be in accordance with window fabricated types. Manufacturing of frames must provide for glass, vinyl extrusions, cut-off sharp corners, these are to line up with frame/glass rebates.

GLAZING ON SITE: This is to be carried out in accordance with glass specification previously referred to. Glazing in windows must be undertaken from outside, with drawn vinyl strips, Neoprene gaskets, and not hardening "Bitumastic" putty, as described.

ADJUSTED LOUVRES: To be adjustable, complete with frame, stiles, centrally pivoted double sprung glass holders, weather beads, glass louvres, burglar proofing, etc.

SIZES: The sizes given are approximate and are not to be used for ordering purposes, but careful references must be made to the building for exact sizes. Any costs incurred for errors in this respect shall be at the contractor's expense.

All items are, unless otherwise described, measured net.

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	BUILDING IN: Windows, doors, etc. must be set up and build in complete in position in concrete or brickwork and left completely watertight and prices should include thereof. ANODISING: Anodising of aluminium sections must comply with SANS 999. Anodising must be a minimum of 25 MIKRON. POWDER-COATING: Powder-coating to SANS 1796 specifications with a test certificate available on request. **A guarantee of no less than 10 years is to be provided against peeling and discolouration. Allow for non-standard colour powder-coated aluminium as cobalt blue or similar colour.** PROTECTING: Windows, doors, etc., must, wherever practicable, be erected as near to the end of the contract period as possible to minimise the danger of damage or deterioration and all work must be protected by covering up with temporary casings against damage, deterioration or discolouration caused by mortar droppings, varnish, wax, paint, etc., all to the entire satisfaction of the Engineer. IRONMONGERY: Window and doors are to be fitted with the necessary locks, door closers, etc., as described and prices should include thereof. DESCRIPTIONS: Descriptions shall be deemed to include all components of the units i.e glass and glazing, ironmongery complete with security lock and latches as per manufacturer's specification, dust seals, timber fixing blocks, protection film, etc. **ALUMINIUM WINDOWS** Purpose made black powder coated aluminium windows complete with frames in brick openings, glazed with and including 6mm thick laminated frosted safety glass installed as per manufacturer's instructions.					
4	Window size overall 600 x 900mm high with one fixed section and one opening section.	No	14			
	ALUMINIUM DOORS					
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	Purpose made black powder coated aluminium doors complete with frames in brick openings, glazed with and including 8,76mm thick high pressure resistant safety frosted laminated glass:					
5	Double door with mullions size overall 1800 x 2975mm high (D1).	No	2			
	Purpose made black powder coated aluminium doors complete with frames in partition openings, glazed with and including 8,76mm thick high pressure resistant safety frosted laminated glass:					
6	Double door with mullions size overall 1500 x 2975mm high (D2).	No	1			
7	Single door with mullions size overall 1100 x 2975mm high (D3).	No	24			
8	Single door with mullions size overall 1200 x 2975mm high (D4).	No	2			
	ROOF LIGHTS					
	Purpose made black powder coated aluminium doors complete with frames in partition openings, glazed with and including 8,76mm thick high pressure resistant safety frosted laminated glass:					
9	Pyramidal skylight to suit opening of size overall 7,232 x 3,614mm formed of 8,76mm thick tinted acrylic perspex including natural anodised aluminium framing, with and including structural steelwork (measured elsewhere) glazing bars, etc bolted to concrete with and including expansion bolts.	No	1			
	Budgetary Allowance					
10	Allow the amount of R55,000.00 (Fifty Five Thousand Rand Only) for structural steelwork to skylight design development.		Item			55 000.00
	Budgetary Allowance					
11	Allow the amount of R9,400,000.00 (Nine Million and Four Hundred Thousand Rand Only) for design and installation of Curtain Walling.		Item			9 400 000.00
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Section 2: Building Works

Bill No. 11

Metalworks

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	SECTION NO. 2 **BILL NO. 11** **PLASTERING** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES ***NOTE**: Screed mix designs must be done by the engineer and the sand tested in a laboratory beforehand. A mechanical mixer is preferred to ensure a homogeneous smooth plaster, screed, etc. mixtures and each batch should be mixed for not less than 3 minutes. The time which elapse between the start of mixing a batch and when it is placed, should not exceed 45 minutes and during that time, the mix should be protected from drying out. Regular strength tests must be conducted to these mixes.* *A level screed must be provided and a special large wooden trowel to be used. Screeds should be inspected and tested to determine deviation from datum level and surface regularity. The strength of the screed, once it has dried-out, must be test regular using the "BRE screed tester" as well as tests to check the adhesion between screed and base.* ***NOTE**: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No 142 for JBCC CPAP purposes* **SCREEDS** 3:1 Screeds steel trowelled on concrete:					
1	40mm Thick (average) on slabs to falls to receive waterproofing.	m2	134			
	Carried to Collection			R		
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	INTERNAL PLASTER					
	One coat cement plaster minimum 15mm thick (4:1) finished smooth with a steel float including all labours:					
2	Brick vertical surfaces.	m2	3 853			
3	In narrow widths.	m2	8			
	5mm Skimmed rhinolite:					
4	Concrete soffits.	m2	3 374			
5	Concrete exposed surfaces.	m2	1 350			
	EXTERNAL PLASTER					
	One coat cement plaster mimimum 15mm thick (4:1) wood floated to receive tiles (elsewhere) including all labours:					
6	Brick vertical surfaces.	m2	639			
7	In narrow widths.	m2	3			
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Section 2: Building Works

Bill No. 12

Plastering

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 12** **TILING** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES **TRADE NAMES** Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or methods of similar quality may be used with prior written approval from the Representative / Agent **DESCRIPTIONS** 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 4:1 cement plaster backing and descriptions of tiling on concrete floors, etc shall be deemed to include 3:1 cement mortar bedding --- **WALL TILING** 300 x 600 x 8mm Ceramic wall tiles (PC R180/m² VAT excl.) fixed with an approved tile adhesive on cement screed (elsewhere) with and including 2mm grouted jointing:					
1	On walls	m2	340			
	FLOOR TILING					
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	600 x 600 x 8mm Porcelain slip resistant floor tiles (PC R200/m² VAT excl.) fixed with an approved tile adhesive on cement screed (elsewhere) and flush pointed with and including 3mm tinted waterproof jointing compound:					
2	On floors and landings	m2	3 127			
	GRANITE TOPS					
	Signature Stone Quartz vanity slabs with rounded post formed edge, fixed on to and including steel brackets (elsewhere) to falls, silicone sealants, etc including polishing the edges and cut outs edges.					
3	32mm Vanity slab 1,400 x 650mm wide, bullnosed leading edge fixed to cupboard (measured elsewhere), including silicone sealant.	No	4			
4	32mm Vanity slab 1,000 x 650mm wide, bullnosed leading edge fixed to cupboard (measured elsewhere), including silicone sealant.	No	2			
5	Extra over 32mm thick stone quartz worktop for forming sink cut-outs size overall 200 x 300mm.	No	10			
	SUNDRIES					
	Corner protectors, dividing strips, etc.:					
6	5 x 40mm Flat section brass dividing strips embedded between different floor finishes.	m	30			
7	25 x 10mm Aluminium tile-in stair nosing fixed with patent adhesive in strict accordance with the manufacturer's instructions.	m	211			
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Bill No. 13

Tiling

COLLECTION

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Section No. 2
Bill No. 13
PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 13** **PLUMBING AND DRAINAGE (PROVISIONAL)** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES **Equal and approved polypropylene pipes:** Polypropylene pipes 54mm diameter and under, shall be seamless copper coloured class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or brass compression fittings, as designed for use with copper pipes as stated. Pipes shall be firmly fixed to walls, etc. with coloured nylon snap-in pipe clips, with provision for accommodating thermal movement, jointed and fixed strictly in accordance with the manufacturer's instructions. All pipe diameters are nominal external. **Equal and approved polypropylene pipes:** Polypropylene pipes 63mm diameter and over shall be class 12 pipes jointed with cast iron "Supraclamp" running joints. Fusion welded bends, once or twice-mitred as necessary, and tees shall be factory manufactured. Fusion-welded bends and tees shall include jointing to pipes with PVC rubber ring double Z joint couplers.					
	Carried to Collection			R		
	Section No. 2 Bill No. 14 **PREPARED FOR: Raj Maharajh Associates Architects**					

Branch tees shall include flanged and bolted joints to approved branch pipes in addition and for brass compression male iron to copper straight couplers.

Reducers shall include jointing to pipes with PVC rubber ring double Z joint couplers and reducers shall be of sufficient overall length to accommodate same.

All pipes shall be jointed and fixed strictly in accordance with the manufacturer's instructions.

All pipe diameters are nominal external.

Concrete pipes:

Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings.

Vitrified clay pipes:

Pipes shall rest on solid ground and, where necessary, pockets of sufficient size shall be cut around joints to enable the jointing to be properly performed or, alternatively, pipes shall be bedded full length on and including unreinforced concrete laid in a semi-dry state immediately before pipes are laid.

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

uPVC pipes and fittings:

Soil, waste and vent pipes including fittings shall be solvent weld jointed.

uPVC pressure pipes and fittings:

Pipes for water supply shall be of the class stated.

Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings.

Pipes of 50mm 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.

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Copper pipes:

Pipes shall be hard-drawn and half-hard pipes of the class stated. 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 Approved type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground.

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.

Lead pipes and fittings

All soldered joints shall be wiped and brass unions shall be used for jointing lead to steel.

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.

Wire gratings

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

Septic tanks

Descriptions of septic tanks shall be deemed to include excavation, bedding and jointing, concrete base slabs, jointing to drains and backfilling, compaction, etc. all in accordance with the manufacturer's instructions.

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Exposed concrete surfaces

Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chambers, etc. shall be finished smooth with plaster.

Excavations

No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling.

"Soft rock" and "hard rock" shall be as defined in "Earthworks".

Laying, backfilling, bedding, etc. of pipes

Pipes shall be laid and bedded, and trenches shall be carefully backfilled in accordance with manufacturers' instructions.

Where no manufacturers' instructions exist, pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following:
SANS 1200 L : Medium-pressure pipelines.
LD : Sewers.
LE : Stormwater drainage
Pipe trenches, etc. shall be backfilled in accordance with
clauses 3, 5.5, 5.6, 5.7 and 7 of SANS 1200.
DB : 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 1200.
LB : Bedding (Pipes).
Unless otherwise described, bedding of rigid pipes shall be
class B bedding.

Flush pans

Flush pans shall have straight or side outlets and "P" or "S" traps as necessary.

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Section No. 2
Bill No. 14
PREPARED FOR: Raj Maharajh Associates Architects

	Stainless steel basins, sinks, wash troughs, urinals, etc.					
	Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable.					
	Waste unions					
	Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings.					
	Steel sectional water tanks					
	Tanks shall comply with SANS CKS 114.					
	Approved petrolatum anti-corrosion tape as per manufacturer					
	Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied with minimum 15mm lap per spiral unless otherwise described.					
	Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including all mastic, tape, "Layflat" sheeting, securing of same, etc.					
	SANITARY FITTINGS					
	White vitreous china:					
1	"Vaal Downtown (Code: 737331)" or similar approved WC suite comprising with close coupled 90º outlet open rim washdown pan and 9 litre front single cistern complete with flushing pipe, flushing mechanism and lid and fitments, fixing in position and connecting complete as per the manufacturer's instruction.	No	14			
2	"Vaal Pearl 7300SC" or similar approved Paraplegic WC suite comprising with close coupled 90º outlet open rim washdown pan and 9 litre front single cistern complete and fixing in position and connecting complete as per the manufacturer's instruction.	No	4			
	Carried to Collection			R		
	Section No. 2 Bill No. 14 **PREPARED FOR: Raj Maharajh Associates Architects**					

3	"Vaal Sweatpea (Code:705126WH)" or similar approved wall mounted top inlet urinal including 38mm chromium plated domical grating (Code:8787Z0), chromium plated top inlet spreader (Code: 7054Z0),flushvalve and fixing in position and connecting complete as per the manufacturer's instruction.	No	4			
4	"Vaal Daisy 700803" or similar approved white vitreous china lavatory wash hand basin with one tap hole including integrated overflow and chainstay hole, bolted to wall with two 10mm bolts, waste union, pvc outlet, in strict accordance with the manufacturer's instruction.	No	12			
	Approved stainless steel type 304 (18/10):					
5	"Frankie Cascade CDX671" or similar approved double end bowl inset sink complete with chromium plated waste union, chain and stay, under sink insulation, fixing in position and connecting complete as per manufacturer's instructions (taps elsewhere).	No	2			
	WASTE UNIONS, ETC					
	Chromium plated					
6	"Cobra 340" or similar approved 32mm Bottle trap.	No	16			
7	"Spazi F/2 (Code: 1120009)" or similar approved Double bowl plumbing kit.	No	1			
8	40mm Rubber P or S trap	No	4			
	TAPS, VALVES, ETC					
9	"Cobra (Code: 504-21B)" or similar approved medical elbow action pillar tap connecting complete as per manufacturers instructions.	No	2			
10	"Cobra Ledimo (Code: LO-214-15)" or similar approved basin pillar tap connecting complete as per manufacturers instructions. .	No	10			
11	"Cobra Ledimo (Code: LO-296)" or similar approved sink mixer connecting complete as per manufacturers instructions. .	No	1			
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PREPARED FOR: Raj Maharajh Associates Architects

12	"Cobra (Code: 3338ST-15)" or similar approved stop tap and connecting complete as per manufacturers instructions. .	No	21			
13	"Junior Flushmaster (Code: FJ6000)" or similar approved flush valve with non-hold open feature fixed to wall complete as per manufacturer's instructions.	No	4			
	Brass:					
14	22mm Ballostop valve.	No	48			
15	22mm Non-return valve.	No	38			
	Sundries:					
16	15mm Flexihose 450mm long.	No	46			
	SOIL AND WASTE DRAINAGE					
	For Preambles see "Model Preambles for Trades 2008" as issued by the Association of South African Quantity Surveyors.					
	NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No 124 for JBCC CPAP purposes.					
	NOTE:					
	All intersections and joints to be covered with a membrane of polythene and cast in concrete (15MPa/19). The installation of pressure pipes must be in strict accordance with the manufacturers instructions. Bedding and Filling should also be deemed to be included.					
	"Class 12" uPVC pressure piping to SABS 966					
	uPVC pipes					
17	50mm Diameter pipe.	m	105			
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18	110mm Diameter Class 9 structured wall pipe laid in ground to falls on and including Class B bedding (SABS 1200LB) and selected fill blanket, including excavation in compacted earth 1000mm wide and not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	135			
	Extra over on uPVC pipes for pressure fittings					
19	110 x 50mm BSP adaptor.	No	22			
20	50mm Bend.	No	35			
21	50mm Access bend.	No	22			
22	50mm Bend with inspection.	No	35			
23	50mm T-access junction.	No	20			
24	110mm Bend.	No	15			
25	110mm Junction with inspection eye.	No	25			
26	110mm "GI Two-way" or similar approved vent valve.	No	25			
27	110mm Pan connector.	No	25			
	Sundries					
28	Mass concrete (15MPa/19) in filling around bends, etc. including all necessary excavation, casing, backfilling, etc.	m3	3.00			
	TESTING					
29	Provide all necessary apparatus for the testing of the whole waste supply system to the satisfaction of the Principal Agent/Architect and the Authorities and leave perfect, any defective work is to be taken out and replaced at the Contractor's expense.		Item			
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	WATER SUPPLY					
	NOTE:					
	All intersections and joints to be covered with a membrane of polythene and cast in concrete (15MPa/19). The installation of pressure pipes must be in strict accordance with the manufacturers instructions. Bedding and Filling should also be deemed to be included.					
	Connections:					
30	Locate existing 75mm water reticulation pipe and connect new 32mm diameter copper water reticulation pipe including all necessary fittings, investigations, temporary sealing off, diverting, etc.		Item			
	460 Class 0 ard drawn copper tubing					
31	15mm Pipe	m	365			
32	22mm Pipe	m	205			
33	25mm Pipe	m	68			
34	32mm Pipe	m	35			
	Extra on piping for fittings.					
35	22 x 15mm Reducer.	No	35			
36	25 x 22mm Reducer.	No	12			
37	32 x 25mm Reducer.	No	18			
38	32 x 25 x 25mm Reducing tee.	No	35			
	Copper or gunmetal compression fittings including joints to copper					
39	15mm Fittings	No	20			
40	22mm Fittings	No	38			
41	28mm Fittings	No	6			
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	Section No. 2 Bill No. 14 **PREPARED FOR: Raj Maharajh Associates Architects**					

42	32mm Fittings	No	8			
	Sumps, catch-pits, inspection chambers, kerb inlets, etc.:					
43	Precast concrete standard dished gulley size 430 x 445 x 165mm high including 125mm diameter cast iron gulley head grate and uPVC gulley head with 100mm outlet and including standard gulley trap.	No	5			
44	Cut into existing manhole and connect new uPVC pipe, including alterations and benching.	No	1.00			
	TESTING					
45	Provide all necessary apparatus for the testing of the water supply system to the satisfaction of the Principal Agent/Architect and the Authorities and leave perfect, any defective work is to be taken out and replaced at the Contractor's expense.		Item			
	FIRE APPLIANCES, ETC					
	Fire extinguisher					
46	4.5Kg DCP Fire extinguisher with wall mounting bracket fitted to 600 x 150 x 19mm meranti wood backing board with rounded and smoothed edges fixed at 1200mm above FFL plugged and screwed to wall and backing plate to be dry, sound and clean and primed with one coat of wood primer and finished with two coats velvaglo satin of selected colour, sanding lightly between coats.	No	6			
47	5Kg CO2 Fire extinguisher with wall mounting bracket fitted to 600 x 150 x 19mm meranti wood backing board with rounded and smoothed edges fixed at 1200mm above FFL plugged and screwed to wall and backing plate to be dry, sound and clean and primed with one coat of wood primer and finished with two coats velvaglo satin of selected colour, sanding lightly between coats.	No	8			
	WATER SUPPLY FOR FIRE RETICULATION					
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	Galvanised Mild Steel Screwed and Socketed piping in accordance with SABS 62:					
48	32mm Diameter pipe laid in ground to falls on and including Class B bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	256			
49	32mm Diameter pipe.	m	155			
50	100 x 32mm Reducer.	No	35			
51	32mm Elbow.	No	20			
52	32mm Tee.	No	15			
53	32mm Bush.	No	35			
54	32mm Conex adaptor.	No	25			
55	100mm Elbow.	No	5			
56	100mm Tee.	No	25			
57	Approved fire hose reel, complete with 30 metre length of 19mm diameter pressure hose with chromium plated shut off nozzle and brackets, chromium plated universal mounted swivelling pulley, 25mm chromium plated hydrant valve with wheel head, fixing brackets, bolts, etc. and fix into position on face of wall, including building bolts into brickwork in cement mortar, bolting hose reel and hose guide wall, connecting up 25mm galvanised mild steel supply pipe (elsewhere) the whole to comply with the Municipal Fire Regulation.	No	4			
	HOLES, ETC					
58	Chase in wall for pipe not exceeding 50mm diameter.	m	305			
59	Hole for pipe not exceeding 50mm diameter through 220mm wall.	No	21			
60	Hole for pipe not exceeding 100mm diameter through 220mm wall.	No	25			
	Carried to Collection			R		

Section No. 2
Bill No. 14
PREPARED FOR: Raj Maharajh Associates Architects

	TESTING					
61	Provide all necessary apparatus for the testing of the whole fire water supply system and fire appliances, and allow for testing and chlorination of fire reticulation system to the satisfaction of the Principal Agent/Architect and the Authorities and leave perfect, any defective work is to be taken out and replaced at the Contractor's expense.		Item			
	Carried to Collection			R		
	Section No. 2 Bill No. 14 **PREPARED FOR: Raj Maharajh Associates Architects**					

Section No. 2

Section 2: Building Works

Bill No. 14

Plumbing and Drainage (Provisional)

COLLECTION

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Section No. 2
Bill No. 14
PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2					
	BILL NO. 14					
	GLAZING					
	For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES					
	TOPS, SHELVES, DOORS, MIRRORS, ETC					
	6mm Float glass silver-backed mirrors with polished edges, holed for and fixed with chromium plated dome capped mirror screws, with rubber buffers to plugs in brickwork or concrete					
1	Mirror size 1060 x 800mm high edge plate glass mirror on double-sided adhesive tape.	No	12			
	Frameless Balustrades with Floor Mounts					
2	1,000 x 12mm Frameless balustrade with toughened safety glass with bright polished edges supported by stainless steel floor mount brackets with stainless steel cover plates bolted to concrete floors.	m	149			
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Section No. 2
Bill No. 15
PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 15** **PAINTWORK** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	SUPPLEMENTARY PREAMBLES **TRADE NAMES** Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or methods of similar quality may be used with prior written approval from the Representative / Agent **PAINT SPECIFICATION** All materials for paintwork for which South African Bureau of Standards specifications have been published shall comply the requirements of such specifications and shall bear the standardisation mark of the South African Bureau of Standards on the container or packing. Materials for paintwork for which no SABS specifications have been published shall be of a brand and manufacture approved by the Director-General prior to its use					
	Carried to Collection			R		

DISTINCTION FOR COLOUR

Paintwork in different colours has not been measured separately, except for colours which have a value of 7 or less on the Munsell system as described above as well as for the following:

Paintwork on mouldings and bands picked out in colours differing from the surrounding paintwork of the same material

Paintwork on walls, ceilings, etc to patterns in more than one colour are described separately as "in patterned multi-colours"

Paint in dado's has not been measured separately, neither are cutting in of edges measured. Prices shall include for cutting in of contrasting colours or paints and masking as required.

PROFILED SURFACES

Painting of profiled surfaces are measured over the flat area, unless otherwise described

PROTECTION AGAINST CORROSION

Prices for painting structural steelwork are to include for corrosion protection as PW 371 clause 18.9.1 (c). See "Metalwork" for 18.9.1(a) (b) and (d)

STRUCTURAL STEELWORK

All damaged paint areas are to be repaired in accordance with the original specification after completion of erection

All paint to structural steelwork is to be sourced from an approved paint manufacturer and to be applied in accordance with the manufacturers specifications

All bolts are to be degreased prior to erection and painted after erection

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Carried to Collection R

Section No. 2
Bill No. 16
PREPARED FOR: Raj Maharajh Associates Architects

	PAINT, ETC TO NEW WORK					
	ON FLOATED PLASTER					
	Prepare, stop and apply one coat alkaline resistant plaster primer, one coat universal undercoat and two coats "Dulux Weather Guard" or similar approved acrylic PVA paint, colour to Architect's or Clients choice.					
1	On internal plastered walls, columns, recessed bands, etc.	m2	3 591			
	Prepare, stop and apply one coat alkaline resistant primer, one coat universal undercoat and two coats "Dulux Weatherguard: 93YY 89/012" or similar approved paint, colour to Architect's or Clients choice.					
2	On external plastered walls, columns, recessed bands, etc.	m2	642			
	METAL					
	Prepare, touch up factory primer and apply one coat universal undercoat and two full coats high gloss enamel paint, colour to Architect's or Clients choice.					
3	On door frames.	m2	94			
	WOOD					
	Prepare, stop and apply one coat "Dulux" or similar approved wood primer, one coat universal undercoat and two coats "Dulux" or similar approved eggshell paint, colour to Architect's or Clients choice.					
4	On general surfaces on doors.	m2	336			
	Prepare and apply two coats fibre reinforced acrylic copolymer waterproofing compound on galvanised steel:					
5	Structural steel members.	m2	838			
	Carried to Collection			R		

Section No. 2
Bill No. 16
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 2

Section 2: Building Works

Bill No. 16

Paintwork

COLLECTION

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Section No. 2
Bill No. 16
PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 2 **BILL NO. 17** **BUILDER'S WORK IN CONNECTION WITH SPECIAL SERVICES (PROVISIONAL)** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	ELECTRICAL INSTALLATION					
1	75mm PVC sleeve pipe and excavations not exceeding 1m deep	m	250			
2	110mm PVC sleeve pipe and excavations not exceeding 1m deep	m	250			
3	Extra for 75mm bend	No	12			
4	Extra for 100mm bend	No	12			
5	Excavate in earth for and build manhole with one brick side on and including a 100mm thick 20MPa/19mm mass concrete base projecting 100mm under wall for face all round, including finishing in 3:1 cement plaster on inside, with 100mm thick 20MPa/19mm mass concrete slab over finished on all exposed surfaces in untinted granolithic with angles rounded with opening for and including 600 x 600mm cast iron double seal heavy duty manhole cover and frame with a mass of 75kg, laid in cement and sealed in tallow; size internally 0,6 x 0,6 x 0,9m deep	No	2			
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	Section No. 2 Bill No. 17 **PREPARED FOR: Raj Maharajh Associates Architects**					

Section No. 2

Section 2: Building Works

SECTION SUMMARY - Section 2: Building Works

Section No. 2

PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 3					
	BILL NO. 1					
	EXTERNAL WORK					
	For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	TEMPORARY BARRICADES, SCREENS, ETC.					
1	Dust screen 3000mm high on gravel floor, concrete floor or asphalt, formed of suitable timber framing with corrugated iron sheeting fixed to one side including corners, ends, etc.	m	256			
2	Sound absorption material to cover door size 1000 x 2100mm high overall, including all necessary posts, framing, lock, etc.	No	2			
	BULK EARTHWORKS					
	Site clearance					
3	Allow for digging up and removing all rubbish, debris, vegetation etc., hedges, shrubs and trees not exceeding 200mm girth measured 1m above ground level, including carting away all material to a dumping site to be located by the contractor.	m2	2 432			
	Open face excavation in earth over sloping site exceeding not exceeding 2m deep and depositing excavated material in prescribed stock piles on site					
4	Open face excavation	m3	3 498			
	Open face excavation in earth over sloping site exceeding 2m and not exceeding 4m deep and depositing excavated material in prescribed stock piles on site					
5	Open face excavation	m3	3 463			
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Section No. 3
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

	Extra over bulk excavation in earth for excavation in					
6	Soft rock	m3	676			
7	Hard rock	m3	2 029			
	Extra over all excavations for carting away					
8	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	6 961			
	Extra over back excavation in earth for working space for excavation in soft rock material					
9	Exceeding 0.50m and not exceeding 1.50m deep for placing and removing formwork to walls, concrete footing, etc., 200mm away from excavated face	m2	320			
10	Exceeding 1.50m and not exceeding 3.00m deep for placing and removing formwork to walls, concrete footing, etc., 200mm away from excavated face	m2	533			
	Extra over back excavation in earth for working space for excavation in hard rock material					
11	Exceeding 0.50m and not exceeding 1.50m deep for placing and removing formwork to walls, concrete footing, etc., 200mm away from excavated face	m2	320			
12	Exceeding 1.50m and not exceeding 3.00m deep for placing and removing formwork to walls, concrete footing, etc., 200mm away from excavated face	m2	533			
	Risk of collapse of excavations					
13	Sides of trench and hole excavations not exceeding 1,5m deep	m2	320			
14	Sides of trench and hole excavations exceeding 1,5m deep	m2	533			
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Section No. 3
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

	Keeping excavations free of water					
15	Keeping excavations free of water		Item			
	De-watering of seepage water and water from other sub-soil sources					
16	Dewatering system for removal of seepage water and water from other subterranean sources in the excavations designed and executed by the contractor including all temporary pipes, drainage sumps, silt trap, connections, well points, etc.		Item			
	Soil insecticide					
	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/mý.					
17	Under platforms, etc. including forming and poisoning shallow furrows, etc. filling in furrows and ramming	m2	1 779			
	STANDBY GENERATOR BASE (generator measured elsewhere)					
	EARTHWORKS					
	EXCAVATION, FILLING, ETC					
	Excavation in earth not exceeding 2m deep					
18	Trenches.	m3	13			
	Extra over trench and hole excavations in earth for excavation in					
19	Soft rock.	m3	1			
20	Hard rock.	m3	4			
	Carried to Collection			R		

	Extra over all excavations for carting away					
21	Surplus material from excavations to a dumping site to be located by the Contractor.	m3	2			
	Risk of collapse of excavations					
22	Sides of trench and hole excavations not exceeding 1500mm deep.	m2	26			
	Keeping excavations free of water					
23	Keeping excavation free of all water other than subterranean water.		Item			
	FILLING, ETC					
	Earth filling of G5 material supplied by the contractor or compacted in 150mm layers compacted to 95% Mod AASHTO to density.					
24	Under floors, steps, aprons, pavings, etc.	m3	10			
25	150mm Thick selected natural gravel with C4 base course for stabilising with ordinary portland cement at the rate of 2.5% by volume, supplied by the Contractor and spread, level, water and compact to 100% modified AASHTO density and trim to level.	m3	10			
	Compaction of surfaces					
26	Compaction of ground surface under floors, etc, including scarifying for a depth of 150mm, breaking down oversizematerial, adding suitable material where necessary and compacting to 93% Mod AASHTO density.	m2	47			
	TESTS NOTE: Should the MOD AASHTO maximum density test strength required for the filling works in any portion of the structure not be attained in the tests, or should any backfill whatsoever be defective the portion in question is to be demolished and replaced at the expense of the Contractor.					
	Carried to Collection			R		
	Section No. 3 Bill No. 1 **PREPARED FOR: Raj Maharajh Associates Architects**					

	Prescribed density tests on filling					
27	"Modified AASHTO Density" test.	No	2			
	SOIL POISONING					
	All soil poisoning and insecticides to be applied under a five year guarantee by an approved firm of Specialist. Soil insecticides shall comply with the *SABS Specification 1165*. Wotk shall becarried out in accordance with The application of soil insecticides for the protection of buildings - *SABS code of Practice 0124*					
	Casting of concrete floors to start within 24 hours after the application of soil poisoning.					
	Pest control applicators must provide the following: • Proof of pesticides and insecticides (data sheets). • Toxicants must be registered with the Department of Agriculture. • Proof that they are qualified to perform the work. • Five year guarantee certificate.					
	Soil insecticide					
	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/mý.					
28	Under floors, etc including forming and poisoning shallow furrows etc and filling in furrows and ramming.	m2	26			
29	To bottoms and sides of trenches, etc.	m2	13			
	CONCRETE, FORMWORK AND REINFORCEMENT					
	REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES					
	30 MPa/19mm Concrete in:					
30	Raft foundations.	m3	12			
	Carried to Collection			R		

Section No. 3
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

31	Aprons cast to falls.	m3	6			
	SMOOTH FORMWORK (DEGREE OF ACCURACY 1)					
	Smooth formwork to sides of:					
32	Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	28			
	MOVEMENT JOINTS, ETC					
	Movement joints, etc					
33	12mm Bitumen impregnated fibre board built in vertically between concrete surfaces	m	22			
	REINFORCEMENT					
	Mild Steel Bar Reinforcement To Structural Concrete Work					
34	10mm Diameter bars.	t	0.01			
	High Tensile Steel Bar Reinforcement To Structural Concrete Work					
35	12mm Diameter bars.	t	4.11			
	Fabric reinforcement					
36	Mesh reinforcement with mesh reference number 193 laid in concrete aprons, etc with 300mm wide side and end laps (measured nett).	m2	25			
	TEST BLOCKS					
	TESTS NOTE: Should the strength required for the concrete in any portion of the structure not be attained in the test cubes, or should any concrete whatsoever be defective the portion in question is to be demolished and replaced at the expense of the Contractor.					
37	Concrete test cubes (set of three) size 150 x 150 x 150mm overall including testing. (Provisional).	No	6			
	Carried to Collection			R		

	CONCRETE SUNDRIES					
	Finishing top surfaces of concrete smooth with a steel trowel					
38	Surface beds, slabs, etc.	m2	47			
	WATERPROOFING					
	DAMP PROOFING TO WALLS AND FLOORS					
	One layer of "USB Green" or similar approved 250 micron damp proof sheeting bearing SABS 952-1:2010 , laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls, and lapped with "Brickgrip SABS" or similar approved DPC, strictly in accordance with the manufacturers specification.					
39	Under surface beds.	m2	26			
40	Aprons, ramps, etc. to falls.	m2	25			
	PLASTERING					
	SCREEDS					
	3:1 Screeds steel trowelled on concrete:					
41	30mm Thick on floors and landings to receive epoxy self levelled screed (elsewhere).	m2	24			
	CATCH WATER EARTH BERMS					
	Woven Polypropylene prefilled 25kg Sandbags laid piled on ground with and including earth filling obtained from excavations and/or stockpiles on site including hauling, spread, level, water and compact to 90% Mod. AASHTO density in layers not exceeding 150mm thick.					
42	Berm at not exceeding 60 degree slope.	m3	146			
	Stabilisation:					
43	Extra over filling to berm for stabilisation with ordinary portland cement at the rate of 1.5% by volume or mass.	m3	146			
	Carried to Collection			R		

Section No. 3

Section 3: External Works (Provisional)

Bill No. 1

General Siteworks

COLLECTION

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Section No. 3
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 3 **BILL NO. 2** **ROADS, PARKING, ETC** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	General Wherever possible abridged descriptions have been used for those items in this Bill which appear under the main trade headings in subsequent Bills. The full descriptions of these items in the Preambles, as referred to above, to the various trade bills are to, and do apply equally to this section The descriptions are generally in accordance with the most recent edition of The Standard System for Measuring Building Work.Special reference is made to SABS 1200 specifications for civil worksSpecial reference is made to Specifications and details of Department of Public Works Drainage Detail (December 1998) Special reference is made to Specifications of Materials and Methods to be used of Department of Public Works (DP 371) **Protection of existing services** The contractor must make allowance against the relevant items for the following: (a) Necessary care to be taken when excavating near existing services in or across the path of excavations (b) Protection and maintaining such service in operation by means of temporary supports or shoring as necessary (c) Delays and disruption of the progress of the work due to the existence of the service (d) Repairs necessitated by damage caused by the contractor					
	Carried to Collection			R		

	Type and quality of material supplied by the Contractor The type and quality of imported materials G3, G4, G5 & G7 supplied by the contractor must comply with TRH 14 "Guidelines for road and construction materials" issued by CSIR Where sand is substituted for imported material type G7, or where sand is in situ, the compaction is to be 100% Mod AASHTO density to a depth of 400mm for in-situ sand.					
	BASEMENT PAVING **EARTHWORKS (CPAP Work Group No. 104)** Base course:					
1	150mm Thick earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% Mod AASHTO density	m3	186			
2	150mm Thick selected natural gravel (Type G5 from commercial sources) supplied by the Contractor and spread, level, water and compact to 98% modified AASHTO density and trim to level.	m3	186			
	Stabilisation:					
3	Extra over 150mm base course for stabilising with ordinary portland cement at the rate of 5% by volume.	m2	1 241			
	Compaction of surfaces:					
4	Rip and scarify top surface of excavated area to a depth of 150mm and compact to 95% modified AASHTO density.	m2	1 241			
	Tests:					
5	Modified AASHTO density tests.	No	42			
	Soil insecticide:					
	Carried to Collection			R		
	Section No. 3 Bill No. 2 **PREPARED FOR: Raj Maharajh Associates Architects**					

	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/mý.					
6	Under paving, etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming.	m2	1 241			
	PAVING (CPAP Work Group No. 112)					
	Concrete block paving composed of 60mm thick interlocking precast concrete G blocks bedded on and including 25mm thick bed of river sand:					
7	Paving to pavements, sidewalks, etc. to falls including any consequent cutting.	m2	1 241			
	Road marking paint on paving:					
8	Line 100mm wide	m	90			
9	Line 300mm wide	m	18			
10	Numeral or letter 300mm high	No	8			
11	Traffic sign, numeral or letter 1,3m high	No	8			
12	Traffic arrow straight 3,7m long	No	8			
	Carried to Collection			R		

Section No. 3
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 3

Section 3: External Works (Provisional)

Bill No. 2

Roads and Pathways

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 3 **BILL NO. 3** **STORMWATER DRAINAGE, SOIL DRAINAGE AND WATER SUPPLY** For Preambles see "Model Preambles for Trades 2017" and supplementary preambles as specified in the trades.					
	STORMWATER DRAINAGE (CPAP Work Group No. 146) uPVC pressure piping to SABS 966 with solvent welded joints (Diameters given are outside diameters):					
1	200mm Diameter Class 9 structured wall pipe laid in ground to falls on and including Class B bedding (SABS 1200LB) and selected fill blanket, including excavation in compacted earth 1000mm wide exceeding 1000mm but not exceeding 2000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	17			
2	250mm Diameter Class 9 structured wall pipe laid in ground to falls on and including Class B bedding (SABS 1200LB) and selected fill blanket, including excavation in compacted earth 1000mm wide exceeding 1000mm but not exceeding 2000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	65			
3	300mm Diameter Class 9 structured wall pipe laid in ground to falls on and including Class B bedding (SABS 1200LB) and selected fill blanket, including excavation in compacted earth 1000mm wide exceeding 1000mm but not exceeding 2000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	56			
	Carried to Collection			R		
	Section No. 3 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

	Extra on uPVC pipes for fittings:					
4	200mm Bend.	No	3			
5	200mm Access bend.	No	2			
6	200mm Junction.	No	3			
7	200mm Access junction.	No	2			
8	250mm Bend.	No	2			
9	250mm to 200mm Reducer.	No	3			
10	250mm Access bend.	No	5			
11	250mm Junction.	No	3			
12	250mm Access junction.	No	2			
13	300mm to 250mm Reducer.	No	5			
14	300mm Bend.	No	3			
15	300mm Access bend.	No	5			
16	300mm Junction.	No	2			
17	300mm Access junction.	No	4			
	Sumps, catch-pits, inspection chambers, kerb inlets, etc.:					
18	Excavate in compacted earth for and build stormwater canal size 800 x 600mm (average) deep internally with 25Mpa concrete sides on and including 25Mpa concrete base 200mm thick with ref 245 mesh reinforcing, with and including top inlet formed of 510mm wide type RS40 floor grating on and including 50 x 50 x 3mm angle iron support frame, with and including a 25mm diameter diagonally laid pipe spaced at 1000mm centre to centre, including all formwork, reinforcing with and including backfilling around in 150mm layers selected fill compacted to 95% Mod AASHTO density, compacting, etc.	m	31			
	Carried to Collection			R		
	Section No. 3 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

19	Excavate in compacted earth for and build grid inlet catchpit size 600 x 600mm externally with deep internally with 25Mpa concrete sides on and including 25Mpa concrete base 200mm thick with ref 245 mesh reinforcing, with and rebated and holed for and including square stormwater grating and 'Saint Gobain" or similar approved 450 x 450mm grate and frame, reinforcing with and including G5 backfilling around in 150mm layers selected fill, with stabilising with ordinary portland cement at the rate of 5% by volume, compacted to 95% Mod AASHTO density, compacting, etc.	No	5			
20	19mm Selected dust free crushed stone encasing to pipes.	m3	1			
21	"Bidum U14" geofabric blanket wrapped around stone encasing with minimum 50mm side and 300mm end laps including stretching.	m2	3			
	<u>The following in stormwater attenuation pond including necessary planking and strutting and keeping excavation dry</u>					
	<u>Bulk Earthworks</u>					
22	Excavate in earth not exceeding 2m deep including trimming sides, levelling and consolidating bottom, small part return, fill in and ram, remainder deposit on site where directed.	m3	123			
23	Extra over excavations in earth for soft rock.	m3	12			
24	Extra over excavations in earth for hard rock.	m3	37			
25	Off site to a dumping site to be located by the Contractor.	m3	106			
26	Allow for risk of collapse to sides of excavations exceeding 1500mm deep.	m2	70			
27	Allow for keeping excavations free of water.		Item			
	Carried to Collection			R		
	Section No. 3 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

28	Backfilling with material obtained from the excavations and/ or prescibed stock piles on site compacted in layers not exceeding 150mm thick to 90% Modified AASHTO density at optimum moisture content, including shaping to falls as required, all necessary hand compacting, etc.	m3	17			
	Concrete, formwork and reinforcement					
	Concrete:					
	Unreinforced concrete cast against excavated surfaces					
	10mPa/15mm Concrete in:					
29	Surface blinding	m3	2			
	Reinforced concrete					
	25mPa/19mm Concrete in:					
30	Surface bed layed in falls.	m3	4			
31	Slabs.	m3	7			
	Concrete sundries					
32	Strike off and cure to top of concrete	m2	25			
	Finishing top surfaces of concrete smooth with wood trowel:					
33	Surface beds, slabs, etc.	m2	25			
	Formwork:					
34	General formwork to soffit of slab including removal through two opening size 450 x 600mm	m2	25			
35	Formwork to edge of slab not exceeding 300mm high	m	20			
36	Box for and form rebate opening size 400 x 600mm through 255mm slab for manhole and frame	No	2			
37	400 x 600mm Heavy duty cast iron manhole cover and frame complying with SABS 1115.	No	2			
	Carried to Collection			R		

Section No. 3
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

	Reinforcement					
38	Steel rod reinforcement of varying diameters to the bottom, walls and slab.	t	1.22			
	Masonry					
	Brickwork in NFX clay bricks (14 Mpa nominal compressive strength) in Class II mortar					
39	Half brick wall	m2	9			
40	One brick wall	m2	8			
41	345mm wall	m2	38			
	Plaster					
	One coat cement plaster minimum 15mm thick (4:1) finished smooth with a steel float including all labours:					
42	Brick vertical surfaces.	m2	110			
	Sundries					
43	Form opening size 110mm diameter through one brick wall and render all round in cement plaster	No	1			
44	Form opening size 200mm diameter through 345mm brick wall and render all round in cement plaster	No	1			
45	Form opening size 300mm diameter through 345mm brick wall and render all round in cement plaster	No	2			
	Waterproofing					
46	250 Micron polythylene dampproof membrane and laying over top of geofabric membrane	m2	25			
47	One layer "Derbigum Cover Grade CG3" or similar approved one layer CG4 torch on waterproofing Membrane with 300mm side laps and 300mm end laps on concrete or screed surfaces, by approved specialist. Installation to carry a ten year guarantee to external walls.	m2	45			
	Carried to Collection			R		

Section No. 3
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PREPARED FOR: Raj Maharajh Associates Architects

	Screed:					
48	30mm Thick screed on slab to falls.	m2	25			
	Cast iron covers, grating, etc.					
49	Double seal manhole cover and frame, type 8A, size 450 x 600mm x 72kg	No	2			
50	Lifting key for manhole cover	No	2			
	SOIL DRAINAGE					
	uPVC class 34 pipes					
51	160mm uPVC class 34 sewer drainage pipes laid in trenches exceeding 1m not exceeding 2m deep including excavation, bedding, backfilling and compaction and disposal of surplus material.	m	117			
	Extra on uPVC pipes for fittings:					
52	160mm Bend.	No	8			
53	160mm Access bend.	No	2			
54	160mm Junction.	No	3			
55	160mm Access junction.	No	2			
	THE FOLLOWING IN PRE-FEBRICATED MANHOLES:					
	Carried to Collection			R		

Section No. 3
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PREPARED FOR: Raj Maharajh Associates Architects

	Excavate in compacted earth for and including circular manhole formed 1000mm diameter x 150mm thick 25MPa/19mm mass concrete bottom of manholes shaft formed of 1000 diameter precast concrete rings with joints sealed with "Expandite Butyl 300", with and including "Denso" sealant on the outside as root inhibitor with and including precast concrete spacer slab with opening for and including heavy duty concrete manhole cover lockable lid set in cement mortar and sealed in tallow and with fine mass concrete 25 MPa/19mm benching in bottom floated smooth with falls to and including 150mm vitrified clay channels and finished on all exposed surface with 25mm thick granolithic with angles rounded, including all necessary excavation, backfilling, carting away, dewatering, formwork, etc.					
56	Manhole exceeding 1000mm but not exceeding 1500mm deep.	No	1			
	Sundries					
57	Cut into existing precast concrete manhole for pie exceeding 100mm and not exceeding 200mm diameter including flexible coupling and make good.	No	1			
58	Extra over excavations in earth for pipe trenches, chambers, etc. for excavations in hard rock.	m3	2			
	Connections, etc.					
59	Provide the sum of R50,000.00 (Fifty Thousand Rand) for connection to existing sewer line.	No	1			
	WATER RETICULATION					
	uPVC class 9 pipes					
60	90mm Diameter Class 12 pipe laid in ground to falls on and including Class B bedding (SABS 1200LB) and selected fill blanket, including excavation in compacted earth not exceeding 2000mm deep and backfilling to 90% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	545			
	Carried to Collection			R		

Section No. 3
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

	Extra on 90mm diameter uPVC pipe for:					
61	45 Degrees Bend.	No	4			
62	90 Degrees Bend.	No	6			
63	Junction.	No	3			
64	Tee.	No	5			
65	End caps.	No	5			
	Medium class galvanised mild steel screwed and socketed water pipes					
66	80mm Diameter Class 12 pipe laid in ground to falls on and including Class B bedding (SABS 1200LB) and selected fill blanket with and including a "Densotape" or similar approved wrapping, including excavation in compacted earth not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	10			
	Extra on 80mm diameter galvanised pipe for:					
67	80mm diameter bend.	No	4			
68	100 x 80mm Diameter reducer.	No	2			
69	80 x 50mm Diameter nipple.	No	2			
70	50mm Diameter screwed flange.	No	2			
	Concrete anchor blocks and pipe surrounds:					
71	20MPa/19mm Mass concrete in thrust blocks around fittings including necessary additional excavations, formwork, etc.	m3	5			
	Carried to Collection			R		

Section No. 3
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

	Valve chambers:					
72	Valve chamber size 400 x 450 x 600mm deep internally with 50mm concrete base (20Mpa) with 500 x 500 x 75mm concrete block including 220mm brick walls in engineering bricks and 175 x 115mm cast iron frame and lid to SABS 558-65 set in 230mm thick concrete cover slab (20Mpa) including all necessary excavation, rebar, backfilling, formwork, etc.	No	6			
	Sundries:					
	Water Meter					
	Water meters must comply with SANS 1529 (various parts) and must be approved in terms of Section 18 of the Trade Metrology Act No. 77 of 1973 and Regulation 80 of Part II of the Trade Metrology Regulations, unless exempted. All meters must be tested in a SANAS accredited laboratory in compliance with the SANS 10378. This test laboratory must be owned by the manufacturer and be situated within the borders of South Africa. Meters must also be listed on the current JASWIC (Joint Acceptance Scheme for Water Services Installation Components) acceptance list. All water meters offered and accepted must be accompanied by a calibration or verification certificate as applicable when delivered. The calibrations or verification certificates must show at least the following relevant details · Date and validity of calibration or verification · Test procedure number · Accrediting authority and accreditation number · Meter make & model · Meter number · Meter nominal bore and permanent flow rate · Pressure test · Test results in the case of calibrations · Traceability · Uncertainty of measurement					
73	50mm Municipal approved water meter including all necessary adaptors, etc.	No	1			
74	Extra over excavations in earth for pipe trenching, etc. for excavation in soft rock.	m3	80			
	Carried to Collection			R		
	Section No. 3 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

75	Extra over excavations in earth for pipe trenching, etc. for excavation in hard rock.	m3	160			
	Connections, etc.					
76	Provide the sum of R50,000.00 (Fifty Thousand Rand) for connection to existing water line.	No	1			
	FIRE WATER RETICULATION(CPAP Work Group No. 148)					
	Galvanised Mild Steel Screwed and Socketed piping in accordance with SABS 62:					
77	100mm Diameter pipe laid in ground to falls on and including Class B bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	535			
	Extra on 100mm diameter galvanised pipe for:					
78	100mm Diameter bend.	No	12			
79	100 x 32mm Diameter reducer.	No	10			
	Valves and hydrants:					
80	63mm Diameter gun metal pillar type 90 degree hydrant valve with bayonet coupling and spindle for hydrant key including 100mm diameter stand pipe encased in 165mm diameter x 15mm thick GMS pipe 1m high bedded in and including 25Mpa concrete block size 300 x 300 x 500mm thick including all necessary excavations, formwork, backfilling, etc.	No	4			
81	80mm Diameter brass high pressure screw down bib tap with nozzle hose connection.	No	2			
82	80mm Diameter gate valve (RSV) and hand wheel with socket end for uPVC.	No	1			
83	80mm Diameter wheel valve.	No	6			
84	80mm Diameter galvanised elbow.	No	2			
	Carried to Collection			R		

Section No. 3
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

85	80mm Diameter gate valve.	No	2			
	Carried to Collection			R		
	Section No. 3 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

Section No. 3

Section 3: External Works (Provisional)

Bill No. 3

Stormwater Drainage, Soil Drainage and Water Supply

COLLECTION

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Section No. 3

Section 3: External Works (Provisional)

SECTION SUMMARY - Section 3: External Works (Provisional)

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1	General Siteworks	129		
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Section No. 3
PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 4					
	BILL NO. 1					
	ELECTRICAL WORKS					
	PRELIMINARIES AND GENERAL					
	NOTES					
	Allow for all preliminary and general items required to provide the electrical installation for this project, but excluding items priced elsewhere in these Bills (These amounts will be paid pro rata to the rest of the amount claimed by the contractor). The subcontractor need to be aware that the installation will be as determined by the main contractor on their program.					
	Contractual Requirements					
1	Tenderers to allow for compliance with all the conditions of the contract i.e. Health and Safety, reporting, company's overheads, administration, safety files, PPE, Working time and other work conditions as per the tender specifications, see additional contract information on the main tender documents		Item			
	Site Establishment					
2	Establish site accommodation, storage, etc.		Item			
	Insurances					
3	Tenderer to allow for insurance as stipulated in the main contract i.e. Insurances, guarantees, sureties			SUM		
	Carried to Collection			R		

Section No. 4
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

	Supervisor					
4	Tenderers to allow for a full time working supervisor during the duration of the Contract, who shall have the delegated authority to receive instructions and make decisions regarding this contract, The personnel shall have at least N3 with trade test or a Electrical Heavy current Diploma or equivalent qualifications and able to read and understand electrical drawings. The personnel shall be placed on site from the day the contractor start with the works to the day the electrical installation has been handed over and approved by the engineer and the user client, The personnel must be the first line of communication. Note that the engineer will approve the appointment.	Mos	6			
	Maintain site					
5	Maintain site, including site storage, health and safety and labour regulations, attend fortnight meetings, and produce electrical monthly report and monthly updated program	Mos	6			
	Removal of Waste					
6	Tenderers to allow for all costs associated with cleaning the site of all rubbish and waste caused by this contract and store away as directed by the client.			SUM		
	Joint Trades					
7	Tenderers to allow for all costs which may be required in order to co-ordinate an liaise with the other trade contractors			SUM		
	Additional Hours: Noted that the amount shall only be used if and when approved by the engineer or the clients representatives in writing.					
8	(a) Allow for qualified electrician hours for any electrical works that might arise on site, the rate include the electrician complete with his toolbox and all electrical basic equipment for testing and installation.	Hrs	30.00			
9	(b) Allow for electrician assistant hours for any electrical works that might arise on site	Hrs	15.00			
10	(c) Allow for general Labours	Hrs	15.00			
	Carried to Collection			R		
	Section No. 4 Bill No. 1 **PREPARED FOR: Raj Maharajh Associates Architects**					

	NOTES GENERAL ITEMS Any additional items that the Tenderer deems necessary for the successful and total completion of the portion of the work required for this Bill. Specify:					
	Carried to Collection			R		

Section No. 4
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 4

Section 4: Electrical Works

Bill No. 1

Preliminaries and General

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 4					
	BILL NO. 2					
	ELECTRICAL DISTRIBUTION					
	Supply and install Low Voltage 600/1000V PVC/PVC/SWA/PVC Cu cables installed underground sleeves, cable trays, cable ducting, conduits etc.					
	Supply cable from DB-Kiosk to DB-BSMT					
1	Supply 50mm2 4C Copper 600/1000V PVC/PVC/SWA/PVC cables in trenches, truncking or sleeves.	m	80			
2	Installation and termination the above cable	m	80			
3	Supply 25mm2 bare copper earth cable in trenches, trunking or sleeves.	m	80			
4	Install and termination the above cable	m	80			
	Supply cable from Kiosk to DB-BSMT					
5	Supply 16mm2 4C Copper 600/1000V PVC/PVC/SWA/PVC cables in trenches, trunkcing or sleeves. Sup.	m	10			
6	Installation and termination the above cable	m	10			
7	Supply 10mm2 bare copper earth cable in trenches, trunking or sleeves.	m	10			
8	Install and termination the above cable	m	10			
	Supply cable from Kiosk to DB-BSMT					
9	Supply 10mm2 4C Copper 600/1000V PVC/PVC/SWA/PVC cables in trenches, trunkcing or sleeves. Sup.	m	10			
10	Installation and termination the above cable	m	10			
	Carried to Collection			R		

11	Supply 6mm2 bare copper earth cable in trenches, trunking or sleeves.	m	10			
12	Install and termination the above cable	m	10			
	Electrical Distribution Boards					
	Supply and install new Electrical Distribution Kiosk as per the drawing, specifications and information below, Note price to include 5% allowance for changes during construction and all the distribution boards to have 30% free space for future use					
13	Supply a new free standing IP65 rated Outdoor Electrical Kiosk	No	1			
14	Installation, testing, commissioning and issue of electrical COC	No	1			
15	Supply a new wall mounted DB-BSMT	No	1			
16	Installation, testing, commissioning and issue electrical COC	No	1			
17	Supply a new wall mounted DB-GF	No	1			
18	Installation, testing, commissioning and issue electrical COC	No	1			
19	Supply a new wall mounted DB-FF	No	1			
20	Installation, testing, commissioning and issue electrical COC	No	1			
	Cable sleeves Supply and install the following cable sleeves underground, into walls, cast into concrete slabs etc. complete with bends, joints, adaptors, couplings, cutting,wastage etc. The sleeves shall be of brand Cableflex or other ofthe same quality.					
21	50mm diameter PVC cable sleeve, similar or equivalent to cable flex Sup	m	40			
22	Installation	m	40			
	Carried to Collection			R		

Section No. 4
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

	Trenches and manholes Cable trenches are to be 500mm deep, 350mm wide or as specified. Excavate in earth and set excavated material aside for re-use as filling for the following material: Rates include backfilling and bedding					
23	Excavations for cable or sleeve trenches in pickable material	m	10			
24	Excavations for cable or sleeve trenches in 'hard pickable material' (Class 2)	m	5			
25	Excavations for cable or sleeve trenches in 'rock' (Class 3).	m	5			
26	Excavations for cable or sleeve trenched in concrete, using a Jack hammer	m	5			
27	Excavations for cable or sleeve trenched in concrete, using a Jack hammer	m	5			
	Carried to Collection			R		

Section No. 4
Bill No. 2
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Section No. 4

Section 4: Electrical Works

Bill No. 2

Electrical Distribution

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 4					
	BILL NO. 3					
	BUILDING WORKS					
	Conduits and conduits boxes					
	Supply and install conduits, complete with ends, joints, adaptors, couplings, saddles, cutting, wastage etc. cast in concrete, built into or chased into brickwork, surface mounted or into division boards.					
1	Supply 20mm diameter PVC conduits.	m	600			
2	Installation.	m	600			
3	Supply 25mm diameter PVC conduits.	m	300			
4	Installation.	m	300			
5	Supply 25mm diameter PVC flexible conduits.	m	35			
6	Installation.	m	35			
7	Supply 25mm diameter galvanised steel conduits.	m	55			
8	Installation.	m	55			
9	Supply steel draw wire installed in conduits.	m	990			
10	Installation.	m	990			
11	Supply 65mm diameter PVC draw box c/w covers	m	20			
12	Installation.	m	20			
13	65mm diameter galvanized steel draw box c/w covers.	m	45			
14	Installation.	m	45			
15	Supply 100 x 100 x 50 galvanized steel conduit box recessed in wall.	m	5			
	Carried to Collection			R		

16	Installation.	m	5			
17	Supply 100 x 100 x 50 galvanized steel conduit box surface mounted.	m	15			
18	Installation.	m	15			
19	Supply 100 x 100 x 50 galvanized steel conduit box surface mounted.	m	40			
20	Installation.	m	40			
21	Supply 100 x 50 x 50 galvanized steel conduit box surface mounted.	m	5			
22	Installation.	m	5			
	CONDUCTORS .					
	Supply and install 600/1000V PVC insulated conductors into conduit, trucking, underground sleeves, power skirting including identification labels, terminating, wastage etc					
23	Supply 1.5mm2 conductors	m	700			
24	Installation.	m	700			
25	Supply 2.5mm2 conductors	m	630			
26	Installation.	m	630			
27	Supply 4 mm2 conductors	m	150			
28	Supply 2.5mm2 bare conductors	m	75			
29	Installation.	m	75			
	WIRING CHANNELS					
	Carried to Collection			R		

	Supply and installation of wiring channels installed complete with hangers, dome lid, beam clamps, cover plates and caps, elbows, cover plate with earth connections and cut of holes for the conduit and light installation					
30	127mm x 76mm P9000 galvanized wiring channel Sup. No.	m	150			
31	Installation	m	150			
	HEAVY DUTY CABLE TRAYS The supply of all galvanized trays, bends, joints, reducing sections, cross pieces and risers, together with all expanding bolts, threaded rod, braces, channels and straps required and the installation of the trays suspended from or fixed to the building structure. Tenderers should note that the trays are measured in running metre and allowance should be made in the unit prices for all bends, reducing sections, etc.					
32	300mm wide	m	100			
33	Installation	m	100			
34	300mm wide bend	m	1			
35	Installation	m	1			
	POWERSKIRTING Supply and installation of white painted steel power skirting installed against the wall or ceiling of the building structure, complete with end caps, bends, Tees, socket outlet cover, cover plates, earth connections and cut out holes for conduit entries along the run					
36	2-Channel pvc power skirting with cover plates, joints, tees, end caps, splices and fixing to structure	m	250			
37	Installation	m	250			
	SWITCH SOCKETS OUTLETS FOR FLUSH OR SURFACE INSTALLATION					
	Carried to Collection			R		

	Supply and installation of sockets installed in flush and galvanized draw boxes, complete with socket fixing screws, cover plates and labelling.					
38	16 A 3-pin single switch socket with cover plate	No	10			
39	Installation	No	10			
40	16 A 3-pin double switch socket with cover plate	No	10			
41	Installation	No	10			
42	16 A 3-pin single dedicated switch socket with cover plate	No	5			
43	Installation	No	5			
44	5A round 3-pin switched socket	No	190			
45	Installation	No	190			
	SWITCH SOCKETS FOR POWER SKIRTING COMPLETE WITH FIXING SCREWS, COVER PLATES AND LABELS AS SPECIFIED.					
46	16 A 3-pin +Euro socket (combo outlet) single switch socket with cover plate	No	140			
47	Installation	No	140			
48	Supply 16A 3-Pin UPS (Blue) Single Switched Socket Outlet flush- mounted on the power skirting	No	40			
49	Installation	No	40			
50	Single 16A 3-Pin Dedicated (Red) Switched Socket Outlet flush- mounted on the power skirting complete with steel cover.	No	50			
51	Installation	No	50			
52	RJ45 Telephone & Data outlet on Cradle	No	140			
53	Installation	No	140			
	SWITCHES AND ISOLATORS FOR FLUSH OR SURFACE INSTALLATION					
	Carried to Collection			R		

Section No. 4
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	Supply and installation of the flush mounted isolating switches for single and three phase power points, in 100 x 100 x 50mm galvanized or enamelled draw box, complete with cover plate, fixing screws and labels as specified					
54	20A double pole isolating switch with cover plate	No	18			
55	Installation	No	18			
56	20A three phase pole isolating switch with cover plate	No	5			
57	Installation	No	5			
58	30A three phase isolating switch with cover plate	No	4			
59	Installation	No	4			
60	40A three phase isolating switch with cover plate	No	2			
61	Installation	No	2			
62	30A three-phase isolating switch complete with weatherproof "York Box" (IP65)	No	4			
63	Installation	No	4			
	LIGHT SWITCHES					
	Supply and installation of the light switches installed in 100 x 50 x 50mm deep galvanized draw box, complete with fixing screws, cover plates and labels as specified					
64	16 A single lever one-way with cover plate	No	55			
65	Installation	No	55			
66	16 A one lever two-way with cover plate	No	4			
67	Installation	No	4			
68	Ceiling mounted ultrasonic occupancy sensor	No	28			
69	Installation	No	28			
	LUMINARIES					
	Carried to Collection			R		

	Supply and install luminaries as specified complete with all lamps and control gear, and other fittings and accessories etc. for complete installation					
70	Type A: 30W 600x600mm Recessed IP40 LED plate @4000K similar or equivalent to Rubicon Lighting Theia.	No	80			
71	Installation	No	80			
72	Type A: 30W 600x600 Recessed Emergency Backup LED plate @4000K similar or equivalent to Rubicon Lighting Theia.	No	70			
73	Installation	No	70			
74	Type B1: 30W IP40 Round Diffused LED down lighter in Die-cast housing similar or equivalent to Rubicon Lighting Aegeon HL 170	No	40			
75	Installation	No	40			
76	Type B1: 30W Emergency Battery back up IP40 Round Diffused LED down lighter in Die-cast housing similar or equivalent to Rubicon Lighting Aegeon	No	20			
77	Installation	No	20			
78	Type B1: 12W Round Diffused LED down lighter similar or equivalent to Rubicon Lighting Ariel	No	40			
79	Installation	No	40			
80	Type F1: Surface Mounted IP66 55W 4000K LED weatherproof light fitting with polycarbonate diffuser, with non-corrosive housing similar or equivalent to Regent Nimbus	No	18			
81	Installation	No	18			
82	Type F1: Emergency Surface Mounted IP66 45W 4000K LED weatherproof light fitting with polycarbonate diffuser, with non-corrosive housing similar or equivalent, 1 hour lithium ion battery backup light output to Regent Nimbus	m	10			
83	Installation	m	10			
	Carried to Collection			R		
	Section No. 4 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

	ELECTRICAL BONDING					
84	Bonding building, roof to earth and water pipes and other conductive material as specified Supplied		Item			
	Carried to Collection			R		
	Section No. 4 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

Section No. 4

Section 4: Electrical Works

Bill No. 3

Building Works

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 4					
	BILL NO. 4					
	TESTING AND COMMISSIONING					
	TESTING AND COMMISSIONING					
1	Testing the operation of the entire installation including switching, tripping, earth and bonding, fault levels at each DB and all the other test required to issue the electrical COC	No	1			
	AS-BUILT DRAWINGS					
2	Supply all the As-Built drawings on a PDF and AutoCAD drawings to the engineer.	No	1			
	CLOSE OUT FILE					
3	Supply a close out file with all the operation and maintenance manuals of each item installed, test reports, COCs and all the items required for record keeping Item	No	1			
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Section No. 4
Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 4					
	BILL NO. 5					
	FIRE DETECTION INSTALLATION					
	DISTRIBUTION KIODKS AND EQUIPMENTS					
	Allow for the supply, delivery and site offloading, placing in position, erection, fixing, commissioning, testing and handover of all active and passive equipment required in the indicated positions to provide the specified Fire Detection System solution, inclusive of all smaller items not included elsewhere but required under this heading.					
	DETECTORS & BREAK GLASS UNITS					
	Addressable Optical Smoke Detectors including base.					
1	Supply	EA	80			
2	Install	EA	80			
	Addressable Heat Detectors including base.					
3	Supply	EA	4			
4	Install	EA	4			
	Addressable Red Break glass Unit (Manual Call Point)					
5	Supply	EA	6			
6	Install	EA	6			
	Audible & Visual Alarm Sounders					
7	Supply	EA	6			
8	Install	EA	6			
	Short circuit Isolators					
	Carried to Collection			R		
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9	Supply	EA	2			
10	Install	EA	2			
	Connect Input/Output loop interference units for the interface with VRV System.					
11	Supply	EA	3			
12	Install	EA	3			
	Fire Alarm Panel					
	Supply, delivery, installation, testing, commissioning and handing over of a complete Fire Panel, complete with all equipment. Note: Rates to include PSU, Battery back-up, dial out facility					
	ZP3 4-Loop (addressable, 120+ items per line)					
13	Supply	EA	1			
14	Install	EA	1			
	PH 120 Cabling (Fire Resistant)					
15	Supply	EA	400			
16	Install	EA	400			
	Block Plan - Laminated in aluminium frame as minimum including labelling and marking on all devices and equipment					
17	Supply	EA	3			
18	Install	EA	3			
	Ziton Addressable Fire Relay (I/O Modules)					
19	Supply	EA	3			
20	Install	EA	3			
	Carried to Collection			R		

Section No. 4
Bill No. 5
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21	Inspect, set, programme, test, commission and certify the fire alarm system as specified including training of operation to end user together with 1 set of systems operation and maintenance manual.	LS	1			
22	Supply 3 sets of As-built drawings, including a schematic drawing, on print and 1 set electronic copy on USB	LS	1			
	NOTES					
	GENERAL PROVISION					
	Any other item that the Tenderer deems necessary to price under this Bill to provide the full service as intended by the specifications. (Specify)					
	Carried to Collection			R		

Section No. 4
Bill No. 5
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Section No. 4

Section 4: Electrical Works

Bill No. 5

Fire Detection Installation

COLLECTION

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Section No. 4

Section 4: Electrical Works

SECTION SUMMARY - Section 4: Electrical Works

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 5					
	BILL NO. 1					
	MECHANICAL WORKS					
	PRELIMINARIES AND GENERAL					
	NOTES					
	Allow for all preliminary and general items required to provide the mechanical installation for this project, but excluding items priced elsewhere in these Bills (These amounts will be paid pro rata to the rest of the amount claimed by the contractor). The subcontractor need to be aware that the installation will be as determined by the main contractor on their program.					
1	Technical Submissions			SUM		
2	Workshop Drawings			SUM		
3	Transport			SUM		
4	Rigging			SUM		
5	Compliance With Health and Safety Regulations			SUM		
6	Attendance			SUM		
7	Training			SUM		
8	Operating & Maintenance Manuals and As Built Drawings (Hard & Soft Copies)	No	4			
9	Testing and Commissioning c/w Pressure Testing for all systems			SUM		
10	Allow for the guarantee of the complete installation for a period of 12 months.			SUM		
	Carried to Collection			R		

Section No. 5
Bill No. 1
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11	Allow for the maintenance of the complete installation for a period of 12 months.			SUM		
12	Allow for the provision of electrical certificate of compliance for all mechanical related work.			SUM		
13	Scaffolding			SUM		
14	Mark up for the 20% Local SMME			SUM		
15	Management of 20% Local SMME works			SUM		
16	Allow for the maintenance of the complete installation for a period of 12 months.			SUM		
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Section No. 5
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 5

Section 5: Mechanical Works

Bill No. 1

Preliminaries and General

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 5					
	BILL NO. 2					
	VENTILATION SYSTEMS					
	VENTILATION FANS					
	Supply, deliver and install the following ventilation fan complete with electrical connection to isolator, control box, flexible connections, including hangers, supports, brackets, anti-vibration mountings, electrical connections and all necessary accessories.					
1	Type FAF1 - 200 L/s @ 250Pa	No	4			
2	Type FAF2 - 450 L/s @ 250Pa	No	1			
3	Type FAF3 - 350 L/s @ 250Pa	No	1			
4	Type EF1 - 270 L/s @ 200Pa	No	3			
	Sound Attenuators matching the fan capacities for the following					
5	Type FAF1 - 200 L/s @ 250Pa	No	4			
6	Type FAF2 - 450 L/s @ 250Pa	No	1			
7	Type FAF3 - 350 L/s @ 250Pa	No	1			
8	Type EF1 - 270 L/s @ 200Pa	No	3			
	Speed Controllers for the following fans, including Installation and Electrical connections					
9	Type FAF1 - 200 L/s @ 250Pa	No	4			
10	Type FAF2 - 450 L/s @ 250Pa	No	1			
11	Type FAF3 - 350 L/s @ 250Pa	No	1			
12	Type EF1 - 270 L/s @ 200Pa	No	3			
	Carried to Collection			R		
	Section No. 5 Bill No. 2 **PREPARED FOR: Raj Maharajh Associates Architects**					

	On/Off Starter complete with overload protection for the following fans.					
13	N/A	No			RATE ONLY	
	WALL & CEILING VENTILATION FANS (XPELAIR)					
	Wall fans, connected to light switch, wall sleeve and electrical connection					
14	Type (Window wall)	No			RATE ONLY	
15	Type F5 (Ceiling mounted)	No			RATE ONLY	
	Supply, deliver, install and commissioning of the following grilles, weather louvres, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.					
	Grilles, disc valves, louvres and diffusers					
16	G1 - (300x200)mm Weather Louvre with wall sleeve and wire mesh (Epoxy coated and painted to Architects detail, Trox AWK Type).	No	4			
17	G2 - (500x300)mm Weather Louvre with wall sleeve and wire mesh (Epoxy coated and painted to Architects detail, Trox AWK Type).	No	2			
18	D1 - Disc Valve	No	26			
19	D2 - Disc Valve	No	2			
20	D3 - Diffuser (constant volume)	No	18			
21	SD1 - Swirl Diffuser (complete with other accessories)	No	38			
22	SD2 - Diffuser (constant volume complete with other accessories)	No	14			
23	Flexible ducting; in 1.5m lengths including clamps and sealer (D1)	No	38			
24	Flexible ducting; in 1.5m lengths including clamps and sealer (D2)	No	14			
	Carried to Collection			R		
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25	Flexible ducting; in 1.5m lengths including clamps and sealer (Disc Valve)	No	26			
26	Type FAF3 - 350 L/s @ 250Pa	No			RATE ONLY	
27	Type EF1 - 270 L/s @ 200Pa	No			RATE ONLY	
28	Installation and termination the above cable	m			RATE ONLY	
29	Supply 10mm2 bare copper earth cable in trenches, trunking or sleeves.	m			RATE ONLY	
30	Install and termination the above cable	m			RATE ONLY	
	Supply cable from Kiosk to DB-BSMT					
31	Supply 10mm2 4C Copper 600/1000V PVC/PVC/SWA/PVC cables in trenches, trunking or sleeves. Sup.	m			RATE ONLY	
32	Installation and termination the above cable	m			RATE ONLY	
33	Supply 6mm2 bare copper earth cable in trenches, trunking or sleeves.	m			RATE ONLY	
34	Install and termination the above cable	m			RATE ONLY	
	Electrical Distribution Boards					
	Supply and install new Electrical Distribution Kiosk as per the drawing, specifications and information below, Note price to include 5% allowance for changes during construction and all the distribution boards to have 30% free space for future use					
35	Supply a new free standing IP65 rated Outdoor Electrical Kiosk	No				
36	Installation, testing, commissioning and issue of electrical COC	No				
37	Supply a new wall mounted DB-BSMT	No				
38	Installation, testing, commissioning and issue electrical COC	No				
39	Supply a new wall mounted DB-GF	No				
	Carried to Collection			R		
	Section No. 5 Bill No. 2 **PREPARED FOR: Raj Maharajh Associates Architects**					

40	Installation, testing, commissioning and issue electrical COC	No				
41	Supply a new wall mounted DB-FF	No				
42	Installation, testing, commissioning and issue electrical COC	No				
	Cable sleeves Supply and install the following cable sleeves underground, into walls, cast into concrete slabs etc. complete with bends, joints, adaptors, couplings, cutting,wastage etc. The sleeves shall be of brand Cableflex or other ofthe same quality.					
43	50mm diameter PVC cable sleeve, similar or equivalent to cable flex Sup	m				
44	Installation	m				
	Trenches and manholes Cable trenches are to be 500mm deep, 350mm wide or as specified. Excavate in earth and set excavated material aside for re-use as filling for the following material: Rates include backfilling and bedding					
45	Excavations for cable or sleeve trenches in pickable material	m				
46	Excavations for cable or sleeve trenches in 'hard pickable material' (Class 2)	m				
47	Excavations for cable or sleeve trenches in 'rock' (Class 3).	m				
48	Excavations for cable or sleeve trenched in concrete, using a Jack hammer	m				
	Carried to Collection			R		

Section No. 5
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 5

Section 5: Mechanical Works

Bill No. 2

Ventilation System

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 5					
	BILL NO. 3					
	AIR CONDITIONING					
	VARIABLE REFRIGERANT					
	SYSTEMS - R410A (Heat Recovery Systems)					
1	VRF 1: Supply, deliver and install condenser units as per project drawings (VRF1). Total sensible cooling = 39.7 kW Total sensible heating = 35.0 kW			SUM		
	Supply, deliver and install in ceiling hide away units and round flow ceiling cassette type units as per project drawings.					
2	GF:AC FCU2: SC = 7.7 kW, SH = 6.5 kW, Q = 142 l/s	No	2			
3	GF:CC1: SC = 2.7 kW, SH = 2.0 kW, Q = 142 l/s	No	9			
4	Supply, deliver and install refrigerant piping system complete with all pipes, insulation, fittings, junctions, trunking, hangers and special items required for complete installation	m	75			
5	BS Boxes for complete system	No	11			
6	Supply, deliver and install all uPVC condensate piping for complete installation and terminating in traps at nearest gully/drain	No	55			
7	Supply, deliver and install all electrical wiring, trunking and connections to isolators per point			SUM		
	Carried to Collection			R		

Section No. 5
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

8	Supply, deliver and install electrical distribution board complete and including switchgear, cabling to units, cable trays, connections, terminations, and all work required for complete installation			SUM		
9	Supply, deliver and install hard-wired controllers, control wiring, central controllers, thermostats and all work required for the complete installation			SUM		
10	Commission complete installation with manufacturer requirement and team			SUM		
11	VRF 2: Supply, deliver and install condenser units as per project drawings (VRF2), Total sensible cooling = 60.2 kW Total sensible heating = 45.4 kW			SUM		
12	GF:AC FCU2: SC = 10.6 kW, SH = 7.5 kW, Q = 630 l/s	No	2			
13	GF:CC2: SC = 3.3 kW, SH = 2.2 kW, Q = 141 l/s	No	2			
14	GF:CC3/4: SC = 5.4 kW, SH = 4.3 kW, Q = 250 l/s	No	6			
15	Supply, deliver and install refrigerant piping system complete with all pipes, insulation, fittings, junctions, trunking, hangers and special items required for complete installation	m	73			
16	BS Boxes for complete system	No	10			
17	Supply, deliver and install all uPVC condensate piping for complete installation and terminating in traps at nearest gully/drain	m	49			
18	Supply, deliver and install all electrical wiring, trunking and connections to isolators per point	No	10			
	Carried to Collection			R		

Section No. 5
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

19	Supply, deliver and install electrical distribution board complete and including switchgear, cabling to units, cable trays, connections, terminations, and all work required for complete installation	No	1			
20	Supply, deliver and install hard-wired controllers, control wiring, central controllers, thermostats and all work required for the complete installation	No	10			
21	Commission complete installation with manufacturer requirement and team			SUM		
22	VRF 3: Supply, deliver and install condenser units as per project drawings (VRF3), Total sensible cooling = 32.0 kW Total sensible heating = 25.2kW			SUM		
23	FF:AC FCU1: SC = 7.7 kW, SH = 6.5 kW, Q = 420 l/s	No	1			
24	FF:CC1: SC = 2.7 kW, SH = 2.0 kW, Q = 142 l/s	No	9			
25	FF:CC2: SC = 2.5 kW, SH = 1.9 kW, Q = 142 l/s	No	2			
26	Supply, deliver and install refrigerant piping system complete with all pipes, insulation, fittings, junctions, trunking, hangers and special items required for complete installation			SUM		
27	BS Boxes for complete system			SUM		
28	Supply, deliver and install all uPVC condensate piping for complete installation and terminating in traps at nearest gully/drain			SUM		
29	Supply, deliver and install all electrical wiring, trunking and connections to isolators per point.			SUM		
	Carried to Collection			R		

Section No. 5
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

30	Supply, deliver and install electrical distribution board complete and including switchgear, cabling to units, cable trays, connections, terminations, and all work required for complete installation			SUM		
31	Supply, deliver and install hard-wired controllers, control wiring, central controllers, thermostats and all work required for the complete installation			SUM		
32	Commission complete installation with manufacturer requirement and team			SUM		
33	VRF 4: Supply, deliver and install condenser units as per project drawings (VRF4), Total sensible cooling = 59.9 kW Total sensible heating = 47.2kW			SUM	RATE ONLY	
34	FF:FCU2: H/A SC = 8.3 kW, SH = 7.1 kW, Q = 630 l/s	No	1			
35	FF:FCU3: H/A SC = 10.6 kW, SH = 8.1 kW, Q = 630l/s	No	1			
36	FF:CC2: C/C SC = 2.5 kW, SH = 1.5 kW, Q = 142 l/s	No	4			
37	FF:CC3: C/C SC = 3.3 kW, SH = 2.5 kW, Q = 200 l/s	No	2			
38	FF:CC4: C/C SC = 3.0 kW, SH = 2.0 kW, Q = 200 l/s	No	1			
39	FF:CC5: C/C SC = 5.4 kW, SH = 4.0 kW, Q = 262 l/s	No	4			
40	4F:AC2: SC = 4.6 kW, SH = 2.9 kW, Q = 240 l/s	No	2			
41	4F:AC3: SC = 3.5 kW, SH = 2.6 kW, Q = 240 l/s	No	1			
	Carried to Collection			R		

Section No. 5
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

42	Supply, deliver and install refrigerant piping system complete with all pipes, insulation, fittings, junctions, trunking, hangers and special items required for complete installation			SUM		
43	BS Boxes for complete system			SUM		
44	Supply, deliver and install all uPVC condensate piping for complete installation and terminating in traps at nearest gully/drain			SUM		
45	Supply, deliver and install all electrical wiring, trunking and connections to isolators per point.			SUM		
46	Supply, deliver and install electrical distribution board complete and including switchgear, cabling to units, cable trays, connections, terminations, and all work required for complete installation			SUM		
47	Supply, deliver and install hard-wired controllers, control wiring, central controllers, thermostats and all work required for the complete installation			SUM		
48	Commission complete installation with manufacturer requirement and team			SUM		
	<u>General (Supply Rates as per below)</u>					
49	Hard Wired Controllers mid walls	No	1		RATE ONLY	
50	Hard Wired Controllers hide always	No	1		RATE ONLY	
51	UPVC drain piping 25mm diameter	m	1		RATE ONLY	
52	UPVC drain piping 32mm diameter	m	1		RATE ONLY	
53	UPVC drain piping 50mm diameter	m	1		RATE ONLY	
	Carried to Collection			R		

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	Refrigerant piping complete with armourflex					
54	1/2"	m	1		RATE ONLY	
55	3/4"	m	1		RATE ONLY	
56	1/4"	m	1		RATE ONLY	
57	5/8"	m	1		RATE ONLY	
58	7/8"	m	1		RATE ONLY	
	Supply, deliver, install cable trays complete with threaded rods etc. to complete tray installation					
59	150mm	m	1		RATE ONLY	
60	200mm	m	1		RATE ONLY	
61	300mm	m	1		RATE ONLY	
62	450mm	m	1		RATE ONLY	
	Supply, deliver, install galvanized trunking complete with covers and fixing materials to complete tray installation					
63	76x76mm	m	1		RATE ONLY	
64	127x76mm	m	1		RATE ONLY	
	GROUND FLOOR DUCTWORK					
	For the complete supply, delivery and installation of the following internally insulated ducting in terms of the specification including brackets and hangers.					
	Carried to Collection			R		

	HIDE-AWAY UNIT (FCU1)					
65	Supply air duct connections to units including duct length, transformation and flexible duct connection and earth wire (±1200x400mm).	No	2			
66	Return air duct connections to units including duct length, transformation and flexible duct connection and earth wire (±1200x400mm).	No	2			
	Supply and install externally insulated galvanized ducting, including brackets, hangers and supports:					
	400x300					
67	Ducting	m	4			
68	250mm diameter spigot	No	8			
69	Transfer piece	No	8			
	400x300					
70	Ducting	m	8			
71	250mm diameter spigot	No	10			
72	Transfer piece	No	2			
73	Stop end	No	2			
	250mm diameter					
74	Ducting	m	12			
75	Spigots	No	8			
76	Transfer piece	No	8			
77	Type D3 DCV diffuser	No	8			
	Return air duct with external insulation					
	Carried to Collection			R		

	1400x800x600 RA					
78	Box plenum	m	2			
79	Bend	No	2			
80	Stop end	No	2			
81	1200x600 spigot for Return air Grille	No	2			
82	Spigot for fresh air duct (250mm diameter)	No	8			
	Return Air Grille					
83	1200x600 Trox hinged return air grille in	No	4			
	DUCTWORK					
	For the complete supply, delivery and installation of the following internally insulated ducting in terms of the specification including brackets and hangers.					
	HIDE-AWAY UNIT (FCU2)					
84	Supply air duct connections to units including duct length, transformation and flexible duct connection and earth wire (±1200x400mm).	No	2			
85	Return air duct connections to units including duct length, transformation and flexible duct connection and earth wire (±1200x400mm).	No	2			
	Supply and install externally insulated galvanized ducting, including brackets, hangers and supports:					
	400x300					
86	Ducting	m	6			
87	250mm diameter spigot	No	12			
88	Transfer piece	No	12			
	Carried to Collection			R		

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	300X250					
89	Ducting	m	8			
90	250mm diameter spigot	No	12			
91	Transfer piece	No	2			
92	Stop end	No	2			
	250mm diameter					
93	Spiral ducting	m	16			
94	Spigots	No	12			
95	FIexible ducting; in 1.5m lengths including	No	12			
96	Type D3 DCV diffuser	No	12			
	Return air duct with external insulation					
	1400x800x600 RA					
97	Box plenum	m	2			
98	Bend	No	2			
99	Stop end	No	2			
100	1200x600 spigot for Return air Grille	No	2			
101	Spigot for fresh air duct (250mm diameter)	No	8			
	Return Air Grille					
102	1200x600 Trox hinged return air grille in	No	4			
	FIRST FLOOR DUCTWORK					
	For the complete supply, delivery and installation of the following internally insulated ducting in terms of the specification including brackets and hangers.					
	Carried to Collection			R		

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	HIDE-AWAY UNIT (FCU1)					
103	Supply air duct connections to units including duct length, transformation and flexible duct connection and earth wire (±1200x400mm).	No	1			
104	Return air duct connections to units including duct length, transformation and flexible duct connection and earth wire (±1200x400mm).	No	1			
	Supply and install externally insulated galvanized ducting, including brackets, hangers and supports:					
	400x300					
105	Ducting	m	2			
106	250mm diameter spigot	No	4			
107	Transfer piece	No	4			
	300X250					
108	Ducting	m	4			
109	250mm diameter spigot	No	5			
110	Transfer piece	No	1			
111	Stop end	No	1			
	250mm diameter					
112	Ducting	m	6			
113	Spigots	No	4			
114	Flexible ducting; in 1.5m lengths including	No	4			
115	Type D3 DCV diffuser	No	4			
	Return air duct with external insulation					
	Carried to Collection			R		

	1400x800x600 RA					
116	Box plenum	m	1			
117	Bend	No	1			
118	Stop end	No	1			
119	1200x600 spigot for Return air Grille	No	1			
120	Spigot for fresh air duct (250mm diameter)	No	4			
	Return Air Grille					
121	1200x600 Trox hinged return air grille in	No	2			
	DUCTWORK					
	For the complete supply, delivery and installation of the following internally insulated ducting in terms of the specification including brackets and hangers.					
	HIDE-AWAY UNIT (FCU2/FCU3)					
122	Supply air duct connections to units including duct length, transformation and flexible duct connection and earth wire (±1200x400mm).	No	2			
123	Return air duct connections to units including duct length, transformation and flexible duct connection and earth wire (±1200x400mm).	No	2			
	Supply and install externally insulated galvanized ducting, including brackets, hangers and supports:					
	400x300					
124	Ducting	m	6			
125	250mm diameter spigot	No	12			
126	Transfer piece	No	12			
	Carried to Collection			R		

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	300X250					
127	Ducting	m	8			
128	250mm diameter spigot	No	12			
129	Transfer piece	No	2			
130	Stop end	No	2			
	250mm diameter					
131	Spiral ducting	m	16			
132	Spigots	No	12			
133	Flexible ducting; in 1.5m lengths including	No	12			
134	Type D3 DCV diffuser	No	12			
	Return air duct with external insulation					
	1400x800x600 RA					
135	Box plenum	m	2			
136	Bend	No	2			
137	Stop end	No	2			
138	1200x600 spigot for Return air Grille	No	2			
139	Spigot for fresh air duct (250mm diameter)	No	8			
	Return Air Grille					
140	1200x600 Trox hinged return air grille in	No	4			
	Carried to Collection			R		

Section No. 5
Bill No. 3
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Section No. 5

Section 5: Mechanical Works

Bill No. 3

Air Conditioning

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 5					
	BILL NO. 4					
	GENERAL					
	PROVISIONAL SUMS					
1	Allow for builders work, drilling and making good of holes through slabs or walls including sleeves.	No	20			
2	Supply and install insulation to drip trays of hide away units. The insulating material 25mm thick sonic liner shall fixed to the unit with an approved adhesive that is applied over the entire surface to which the insulation is to be fixed.	No	8			
3	Supply a close out file with all the operation and maintenance manuals of each item installed, test reports, COCs and all the items required for record keeping Item	No	20			
4	Allow for painting of ducting and insulation of the Air conditioning and Ventilation installation as specified to SANS 10173. The surfaces shall be cleaned, primed, under coated and finished in high quality gloss paint.	No	1			
5	Allow for painting and labelling of equipment as specified.	No	1			
6	Allow for supply and installation of acrylic cloth and painting of foster seal over exposed refrigeration piping (200x80x400)mm	No	10			
7	Allow for Commissioning and testing the complete installation as specified.	No	1			
8	Allow for three sets of maintenance and operation manuals, including wiring diagrams, spare part lists as specified.	No	3			
9	Allow for twelve months free maintenance and guarantee.	No	1			
	Carried to Collection			R		

10	Allow for instructing the clients staff in the correct operation of the installation.	No	1			
11	Allow for preparation of "as installed drawings" and printing (3 sets).	No	3			
12	Allow for preparation of Workshop drawings and printing (3 sets).	No	1			
13	Allow for scaffolding.	No	1			
	Carried to Collection			R		

Section No. 5
Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 5

Section 5: Mechanical Works

Bill No. 4

General

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Section No. 5

Section 5: Mechanical Works

SECTION SUMMARY - Section 5: Mechanical Works

Section No. 5

PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 6					
	BILL NO. 1					
	WET SERVICES					
	PRELIMINARIES AND GENERAL					
	NOTES					
	Allow for all preliminary and general items required to provide the air conditioning installation for this project, but excluding items priced elsewhere in these Bills (These amounts will be paid pro rata to the rest of the amount claimed by the contractor, relative to the tender amount).					
	CONTRACTUAL REQUIREMENTS					
1	Tenderers to allow for compliance with all the conditions of the contract i.e. Health and Safety, reporting, company's overheads, administration, safety files, PPE, Working time and other work conditions as per the tender specifications, see additional contract information on the main tender documents		Item			
	JOINT TRADES					
2	Tenderers to allow for all costs which may be required in order to co-ordinate an liaise with the other trade Contractors, especially with the electrical contractor		Item			
	SUPERVISOR					
3	Tenderers to allow for a full time working supervisor during the duration of the contract, who shall have the delegated authority to received instructions and made decisions regarding this contract		Item			
	Carried to Collection			R		

Section No. 6
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

	SITE ESTABLISHMENT					
4	Tenderers to allow for all costs which may be required in order to place the necessary facilities on site for safe storage and orderly management purposes for the duration of the contract		Item			
	REMOVAL OF WASTE					
5	Tenderers to allow for all costs associated with cleaning the site of all rubbish and waste caused by this contract		Item			
	GENERAL ITEMS					
	Any additional items that the Tenderer deems necessary for the successful and total completion of the portion of the work required for this Bill. Specify:					
6	Subsistence and Travelling		Item			
7	Accommodation		Item			
8	Transport		Item			
9	Other		Item		RATE ONLY	
10	Health and Safety		Item			
11	COVID related sundries		Item			
	Carried to Collection			R		

Section No. 6
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 6

Section 6: Wet Services

Bill No. 1

Preliminaries and General

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 6					
	BILL NO. 2					
	HOT AND COLD WATER AND FIRE SERVICES					
1	For the complete supply, delivery and installation of a KWIKOT 150 litre geyser, complete with heating element, thermostat, drip tray, drain cock, connections, drain piping, all safety features, supports and all necessary accessories as specified.	No	1			
	Extra over for:					
2	22mm diameter copper class II overflow pipe connected to safety valve to outside of building	m	10			
3	50mm diameter uPVC drain pipe from drip tray to exterior of building	m	10			
4	For the complete supply, delivery and installation of 3.5kW air cooled recirculating heat pump type water heater suitable for connection to a geyser installation. The unit shall have a constant water supply temperature at 60°C, down to minimum ambient temperature of 2°C. The installation is to include automatic defrost cycle, hydronic change over unit, interconnecting refrigerant piping, all safety features, thermostats, circulating pumps, controls, fittings, support brackets, condensate drains (3m copper class2), supply and return water pipe connections, electrical connections to the isolator, galvanised conduit 6m and two round boxes for controller and all other necessary accessories. The unit can be of the Kwikot range, Alliance Air (Samsung) range or similar approved.	No	1			
	For the complete supply, delivery and installation of preformed snap-on insulation and metal cladding over pipes with sufficient laps, with 15mm galvanised bands and straps spaced @ 500[mm] centres for pipes and self-tapping screws spaced @ 200[mm] centres for conical or other shapes, including all necessary accessories as specified.					
	Carried to Collection			R		
	Section No. 6 Bill No. 2 **PREPARED FOR: Raj Maharajh Associates Architects**					

	20mm thick preformed snap-on insulation including 0.5mm galvanized sheet metal cladding over pipes and fittings with sufficient laps.					
5	22mm diameter	m	40			
6	10 litre HYDROBOIL: For the supply, delivery and installation of an epoxy coated Stainless Steel instant boiling water unit. Manufactured from Stainless Steel with a two-way tap, complete with twin-chamber technology, a steam-heat boost system and Power-Pulse technology. Unit to be installed in accordance with manufacturer's installation instruction manual complete with electrical and water connections, with 5 litre storage capacity and heating element, including all necessary fittings, supports, brackets and accessories as per specification.	No	2			
	For the complete supply, delivery and installation of the hot and cold water pipe service system, cutting and making good hangers, etc. valves, fittings, pipe joining and painting, insulation, etc as specified on drawings.					
	For the complete supply, delivery and installation of the pressure reducing station of the cold water supply, including all fittings and necessary accessories as specified.					
	28mm diameter					
7	Pressure reducing valve set @ 400[kPa]	No	2			
8	Strainer	No	2			
9	Non-return valve	No	2			
10	Ball valve	No	2			
	Allow for the connection of cold water connection to cold water ring main as shown on the drawings.					
11	32mm Pipes HDPE Class 16 laid in and including trenches not exceeding 1m deep.	m	5			
	Extra over HDPE pipes for compression fittings:					
12	32mm Bend	No	2			
	Carried to Collection			R		

Section No. 6
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

13	32mm Adaptor	No	2			
14	32mm Reducer	No	2			
	For the complete supply, delivery and installation of supply piping (copper piping conform to SANS 460 class 2) including all valves, fittings (capillary fittings shall conform to SANS 1067), hangers, supports, pipe sleeves, chasing into walls, wrapping in brown paper and necessary accessories as specified.					
	Piping					
15	15mm diameter	m	64			
16	22mm diameter	m	44			
17	28mm diameter	m	12			
18	35mm diameter	m	4			
	Extra over for capillary fittings					
19	15mm diameter fittings	No	38			
20	22mm diameter fittings	No	26			
21	28mm Elbow or bend	No	5			
22	28mm T-piece	No	5			
23	28mm Reducer	No	5			
24	35mm Elbow or bend	No	2			
25	35mm T-piece	No	2			
26	35mm Reducer	No	2			
	Carried to Collection			R		

	Ball-O-stop Valves including conex connections to copper piping					
27	15mm diameter	No	38			
28	22mm diameter	No	16			
29	28mm diameter	No	4			
30	35mm diameter	No	4			
	Ball Valves including conex connections to copper piping					
31	28mm diameter	No	4			
32	35mm diameter	No	3			
	Non-return valves including conex connections to copper piping					
33	22mm diameter	No	6			
34	28mm diameter	No	3			
	For the complete supply, delivery and installation of preformed snap-on insulation and metal cladding over pipes with sufficient laps, with 15mm galvanised bands and straps spaced @ 500[mm] centres for pipes and self-tapping screws spaced @ 200[mm] centres for conical or other shapes, including all necessary accessories as specified.					
	20mm thick preformed snap-on insulation over pipes with sufficient laps.					
35	22mm diameter	m	10			
	FIRE HYDRANT & HOSE REEL INSTALLATION					
	Carried to Collection			R		

Section No. 6
Bill No. 2
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	For the complete supply, delivery and installation of supply piping (GALVANIZED MEDIUM SABS 62 AS AMENDED. ALL CONNECTIONS PIPE CONNECTIONS 15 TO 50mm TO SCREWED, 65 AND LARGER TO BE GROOF END AND KLAMB-ON PIPE SYSTEM.) including all valves, fittings, hangers, brackets & supports, pipe sleeves, chasing into walls, insulation and cladding, wrapping in brown paper and necessary accessories as specified.					
	Piping					
36	25mm	m	12			
37	32mm	m	35			
38	80mm	m	50			
39	100mm	m	18			
	Elbow					
40	25mm	No	10			
41	32mm	No	6			
42	80mm	No	8			
43	100mm	No	4			
	Equal Tee					
44	25mm	No	75			
45	32mm	No			RATE ONLY	
46	80mm	No	30			
47	100mm	No	15			
	Reducing Tee					
48	80 x 25mm	No	10			
	Carried to Collection			R		

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49	100 x 50mm	No	6			
50	100 x 80mm	No	7			
51	150 x 100mm	No				
	Reducers Bush					
52	32 x 25mm	No	3			
53	80 x 25mm	No	3			
54	100 x 80mm	No	3			
55	100 x 32mm	No				
	Unions					
56	25mm	No	8			
	Sockets					
57	25mm	No	16			
58	32mm	No	4			
59	80mm	No	4			
	Klamb-on Connection					
60	80mm	No	30			
61	100mm	No	20			
	Nipples					
62	25mm	No	8			
63	32mm	No	2			
	Carried to Collection			R		

64	80mm	No	4			
	EQUIPMENT					
65	Fire hose reel complete with 30m PVC hose, Hose nozzle and CP stopcock, all fixed to wall.	No	15			
66	Fire hydrant booster duel point all fixed to piping incl. non-return valve	No	1			
67	Fire hydrant right angle all fixed to piping	No	3			
68	4,5 kg DCP STP Fire extinguisher complete with wood backboard all fixed to wall	No	16			
69	9 kg DCP STP Fire extinguisher complete with wood backboard all fixed to wall	No	4			
70	5 kg CO2 Fire extinguisher complete with wood backboard all fixed to wall	No	2			
71	Supply and install regulation type 190 x 190mm Fire Signs. Photoliminecent type framed in Aluminuim Frame	No	40			
	GENERAL ITEMS					
72	Allow for builders work, drilling and making good of holes through slabs or walls including sleeves.		Item			
73	Allow for Commissioning and testing the complete installation as specified.		Item			
74	Allow for three sets of maintenance and operation manuals, including wiring diagrams, test certificates, spare part lists as specified.		Item			
75	Mark and number valves, equipment and pipe work according to operating instructions and specification.		Item			
76	Allow for twelve months free maintenance and guarantee.		Item			
77	Allow for preparation of workshop drawings and printing.		Item			
78	Allow for instructing the clients staff in the correct operation of the installation		Item			
	Carried to Collection			R		

Section No. 6
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79	Allow for the supply of maintenance tools.		Item			
80	Allow for preparation of "as installed drawings" and printing		Item			
81	Supply and install maximum 65mm PVC sleeve pipes in slabs exceeding 200mm but not exceeding 520mm thick.			SUM		
82	Supply and install maximum 65mm PVC sleeve pipes in brick walls exceeding 110mm but not exceeding 220mm thick.			SUM		
83	Core drilling where PVC or galvanised steel sleeves can not be used			SUM		
	Carried to Collection			R		

Section No. 6
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Section No. 6

Section 6: Wet Services

Bill No. 2

Hot and Cold Water and Fire Services

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 6					
	BILL NO. 3					
	FIRE AND DOMESTIC BOOSTER PUMPS					
	Fire Plant Room and Storage Tank					
	NOTES					
	The tenderer is to refer to the attached drawings. The main components of the pump room are reflected on these drawings and listed in the schedule below. The tenderer is to refer to the specification and familiarize himself with the requirements of the storage tank, pump room and pumping system. All additional items which the tenderer may feel are necessary to complete the installation are to be included in this section by the tenderer, in the section provided. Items not included at tender stage will have been deemed to have been included in the rates provided for the equipment scheduled below. The contractor is to note that while the plant room is to be designed and installed per ASIB 12 edition, the development is not per ASIB in its entirety.					
	Fire Hydrant					
	Electrical Driven Fire Water Jockey Pump Installation:					
1	Supply and Installation of electrical driven jockey pumps complete with electrical motor, vertical multi-stage centrifugal pump mounted on steel frame base for a capacity as specified in the specification and in accordance with SANS 10287 and as hydraulically calculated by the Contractor. Fire Hydrant Jockey Pump Duty Required per pump: 2 l/s @ 3.5 Bar (20 m/head)."			SUM		
2	Supply and installation of all valves, supervised valves, strainers, non-return valves, expansion bellows and associated equipment as per specification and detail drawings.As per ASIB 12 Edition requirements.			SUM		
	Carried to Collection			R		

3	Supply and installation of a 200 litre membrane pressure vessel complete with accessories.			SUM		
4	Supply and installation of electrical control panel to supply power and control the electrical driven jockey pumps, fully designed, supplied, tested, installed and commissioned as described by SANS 10287 and detailed specification.			SUM		
	Fire Hydrant/Sprinkler					
	Electrical Driven Fire Water Pump Installation:					
5	Supply and Installation of electrical driven fire pump complete with electrical motor, mechanical coupling, end suction centrifugal pump mounted on concrete filled steel frame base for a capacity as specified in the specification and in accordance with SANS 10287 and as hydraulically calculated by the Contractor. Fire Hydrant Booster Set Duty Required per pump: 21,5 l/s @ 6 Bar (20 m/head).			SUM		
6	Supply and installation of all valves, supervised valves, strainers, non-return valves, expansion bellows and associated equipment as per specification and detail drawings.As per ASIB 12 Edition requirements.			SUM		
7	Supply and installation of electrical control panel to supply power and control the electrical driven fire pump, fully designed, supplied, tested, installed and commissioned as described by SANS 10287 and detailed specification.			SUM		
8	Supply of Bench test certificate for electrical driven pump by an approved testing authority as required by SANS 10287			SUM		
	Fire Hydrant/Sprinkler					
	Carried to Collection			R		

Section No. 6
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

	Diesel Driven Fire Water Pump Installation:					
9	Supply and Installation of diesel driven fire pump complete with diesel motor, diesel tank, exhaust, silencer, mechanical coupling, end suction centrifugal pump mounted on concrete filled steel frame base for a capacity as specified in the specification and in accordance with SANS 10287 and as hydraulically calculated by the Contractor. Fire Hydrant Booster Set Duty Required per pump: 21,5 l/s @ 4 Bar (20 m/head)."			SUM		
10	Supply and installation of all valves, supervised valves, strainers, non-return valves, expansion bellows and associated equipment as per specification and detail drawings.As per ASIB 12 Edition requirements.			SUM		
11	Supply and installation of electrical control panel to supply power and control the diesel driven fire pump, fully designed, supplied, tested, installed and commissioned as described by SANS 10287 and detailed specification.			SUM		
12	Supply of Bench test certificate for diesel driven pump by an approved testing authority as required by SANS 10287			SUM		
	Carried to Collection			R		

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	Fire Pump Alarm Panel					
13	Supply and installation of alarm signalling device to monitor the status of the fire pump set, connected to the main Fire Control Panel. Control panel of the electric pump: • electric motor powered • pump starting request • pump running (two outputs) • start failure • mains power not available • automatic mode off. Control panel of the diesel pump: • automatic mode off • diesel engine start failure • pump running (two outputs) • control panel failure • general alarm Control panel of the jockey pump: • pump running • general alarm			SUM		
	Fire Protection Piping Installation Supply and installation of all pipe work, fittings, and associated accessories including the plant room, storage tank and civil connection point as per specification and detail drawings. As per ASIB 12 Edition requirements.					
	Supply and installation of 100DN Municipal Supply; table 16 Flange, all pipe work, fittings, and associated accessories between municipal water civil connection point and the storage tanks as per specification and detail drawings.					
14	100mm diameter medium grade, hot dipped galvanised steel	m	30			
15	Extra over for fittings including T-pieces, Elbows, Reducers, cutting, jointing, pipe couplings	No	20			
	Carried to Collection			R		

Section No. 6
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

16	Supply and installation of Y-type strainer complete with stainless steel mesh basket and flanges as per specification and detail drawings	No	1			
17	Supply and installation of a water meter to the municipal water supply within the plant room including connection to the Fire Control Panel for remote monitoring.	No	1			
18	Supply and installation of all valves, supervised valves, non-return valves and associated equipment as per specification and detail drawings.			SUM		
19	Supply and installation of solenoid valve on incoming mains supply to each division of the tank and connection to the Fire Control Panel.	No	2			
20	Supply and installation of a municipal water bypass arrangement within the plant room including pipe work, fittings, non-return valve, isolation valves and associated accessories as per specification and detail drawings			SUM		
	Supply and installation of 150DN Suction Pipe; table 16 flange, all pipe work, vortex inhibitors, fittings, and associated accessories between storage tanks and pumps as per specification and detail drawings. As per ASIB 12 Edition requirements.					
21	150mm diameter medium grade, hot dipped galvanised steel	m	10			
22	Extra over for fittings including T-pieces, Elbows, Reducers, cutting, jointing, pipe couplings	No	5			
23	supply and installation of vortex inhibitors	No	2			
24	Supply and installation of all valves, supervised valves and associated equipment as per specification and detail drawings.As per ASIB 12 Edition requirements.			SUM		
	Carried to Collection			R		

Section No. 6
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

	Supply and installation of 100DN Delivery Pipe; table 16 flange, all pipe work, fittings, and associated accessories between fire pumps and civil engineers connection points as per specification and detail drawings. As per SANS and ASIB 12 Edition requirements.					
25	100mm diameter medium grade, hot dipped galvanised steel	m	10			
26	Extra over for fittings including T-pieces, Elbows, Reducers, cutting, jointing, pipe couplings	No	22			
27	Supply and installation of Y-type strainer complete with stainless steel mesh basket and flanges as per specification and detail drawings.	No	1			
28	Supply and installation of a water meter to the delivery pipe within the plant room including connection to the Fire Control Panel for remote monitoring.	No	1			
29	supply and installation of all valves, supervised valves and associated equipment inside plant room as per specification and detail drawings.As per ASIB 12 Edition requirements.			SUM		
	Supply and Installation of 150DN pump discharge test arrangement including pipe work, orifice plates, gauges, valves and discharge pipe to storage tank as per ASIB 12 Edition requirements.					
30	150mm diameter medium grade, hot dipped galvanised steel	m	15			
31	Extra over for fittings including T-pieces, Elbows, Reducers, cutting, jointing, pipe couplings			SUM		
32	Supply and installation auto-start arrangement and associated valves, pipe work, gauges, pressure switches, water discharge pipes and fittings, etc. .As per ASIB 12 Edition requirements.			SUM		
	Carried to Collection			R		

Section No. 6
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

33	Supply and Installation of 2 off water pipe cooling circuit from water to water heat exchanger on fire pump engine to storage tank including all fittings, piping, sight glasses and bracketing. As per ASIB 12 Edition requirements.			SUM		
34	Supply and Installation of all drains pipe work from pump drip trays and suction header to drain point. As per ASIB 12 Edition requirements.			SUM		
35	Supply and Installation of overflow pipe work for each division of the storage tank including all fittings.			SUM		
36	Supply and installation of drain outlets for each division of the storage tank including all pipe work, fittings and couplings suitable for connection by flexible hose for tank drainage			SUM		
37	Supply and installation of equalising pipework between the division of the storage tank including all valves and fittings.			SUM		
38	Supply and Installation of ultrasonic level sensors within each division of the main storage tank including connection to the Fire Control Panel for remote monitoring of instantaneous water levels.			SUM		
39	Supply and Installation of four level switches within each division of the main storage tank including connection to the Control Panel for remote monitoring and to control municipal water infill solenoid valves.			SUM		
	<u>Electrical Installation</u>					
40	Supply, installation, testing and commissioning of cables, cable trays cable supports, cable ladders, cable glands, shrouds, accessories etc. for the complete fire hydrant pump installation.			SUM		
41	Supply and installation of the complete annunciator panel as described in the specification.			SUM		
42	Supply and installation of siren flashing strobe beacon system on outside wall of pump room.			SUM		
	Carried to Collection			R		

Section No. 6
Bill No. 3
PREPARED FOR: Raj Maharajh Associates Architects

	Control Panels					
43	Supply and Installation of a Fire Control Panel as detailed in the specifications.			SUM		
44	Supply and Installation of all control wiring to the 8 level switches, 2 solenoid valves, 2 ultrasonic level switches, 3 fire pumps, 2 water meters, integrated fire panel and fire control panel.			SUM		
	Plant Accessories					
45	Supply and installation of all required signage, notices, identification tags, labels etc in sprinkler pump room and at storage tank as required by the local authority, SANS and ASIB 11 Edition.			SUM		
46	Supply and installation of locking devices, such as pad locks, chains etc., Valves shall be locked in the operating position.			SUM		
47	Supply and installation of level indicator device to tank with indicators positioned inside pump room.			SUM		
48	Supply and installation of wall mounted fan to plant room.			SUM		
	General					
	Supply and installation of sectional steel tank with a capacity of 216kl. Tank to be 7.22m x 7.2m x 6m (6 x 6 x 5 panels high) complete with the internal division, required connection points for inlets, outlets and overflows, equalising pipework, Table 16 Flange connections as per specification and detail drawings. As per ASIB 12 Edition.					
49	Supply and installation of all ancillary equipment as specified in Tender Specification and Tender Drawings.			SUM		
50	Painting and identification of all fire pipe work as per SANS and ASIB 12 Edition requirements. (One coat of ETCH primer and Two coats of Signal Red A11, as per tender specification)			SUM		
	Carried to Collection			R		
	Section No. 6 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

51	Pipework Flushing as per SANS or ASIB 12 Edition requirements.			SUM		
52	Pipework Pressure Test as per SANS or ASIB 11 Edition requirements.			SUM		
53	Any other item necessary to complete installation			SUM		
54	Allowance for construction changes		Item			
55	Provisional Sum Design and Engineering Development			SUM		
56	Installation - shop drawings. Producing and supplying shop drawings for all systems and components of this installation prior to construction for approval by the Engineer			SUM		
57	Provision of Drawings and documents. Producing 3 sets of operating and maintenance manuals for all systems and components of this installation for approval by the Engineer. Producing and supplying of 3 sets of as-built drawings, in hard copy as well as electronic format, for all systems and components of this installation for approval by the Engineer.			SUM		
	Tenderer is to refer to the attached drawings. The main components of the pump room are reflected on these drawings and listed in the schedule below. The tenderer is to refer to the specification and familiarize himself with the requirements of the treatment system, storage tank, pump room and pumping system. All additional items which the tenderer may feel are necessary to complete the installation are to be included in this section by the tenderer, in the section provided. Items not included at tender stage will have been deemed to have been included in the rates provided for the equipment scheduled below					
	Carried to Collection			R		

Section No. 6
Bill No. 3
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	Domestic Water Pump Installation					
58	Supply and Installation of pump set comprising of a Booster Pump set (2 Duty & 1 Standby Pumps) and a Jockey Pump, stainless steel base frame and cast iron pump housing, isolating valve and pressure switch. This set is to include the following: Booster Pump set comprising of 2 Main Pumps (1 duty and 1 standby) & VSD drives. Control panel including dry run protection. Baseplate for pumps. S/S Suction & Discharge manifolds Non Return Valves Expansion Relief Vessel Pressure tanks. Audible High & Low level alarms. BMS Interface (BACnet/IP Protocol). Complete pump set mounted on base including commissioning and testing on site.			SUM		
59	Supply and installation of all valves, supervised valves, strainers, non-return valves, expansion bellows and associated equipment as per specification and detail drawings.			SUM		
60	Supply and installation of an electrical control panel to supply power and control the pumps, fully designed, supplied, tested, installed and commissioned as described by SANS and detailed specification.			SUM		
61	Supply and installation of ethernet cards at the Integrated Pump Control panel and link to the Domestic Control Panel for interface with the BMS (BACnet/IP Protocol) as detailed in the specification.			SUM		
	Carried to Collection			R		
	Section No. 6 Bill No. 3 **PREPARED FOR: Raj Maharajh Associates Architects**					

Section No. 6

Section 6: Wet Services

Bill No. 3

Fire and Domestic Booster Pumps

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 6					
	BILL NO. 4					
	SPRINKLERS INSTALLATION					
	SPRINKLERS PIPING					
	Pipework Med Class PEUC installed to Structure, incl. all Fixing,all to Specification					
1	25mm diameter	m	198			
2	32mm diameter	m	28			
3	40mm diameter	m	15			
4	50mm diameter	m	44			
5	65mm diameter	m	16			
6	80mm diameter	m	50			
7	100mm diameter	m	57			
8	150mm diameter	m	10			
	NOTES					
	All up to 50mm diameter Med Black screw-on fittings. All fittings 65mm diameter and larger Med Black weld on fittings					
	ELBOW & REDUCING ELBOWS					
9	25 x 15mm diameter.	No	87			
10	25mm diameter	No				
11	25mm diameter MF	No				
12	32mm diameter	No				
	Carried to Collection			R		

Section No. 6
Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

13	32 x 15mm diameter	No				
14	32 x 25mm diameter	No	6			
15	40mm diameter	No				
16	50mm diameter	No				
17	65mm diameter W.O	No	4			
18	80mm diameter W.O	No				
19	100mm diameter W.O	No	20			
20	150mm diameter W.O	No				
	<u>TEES & REDUCING TEES</u>					
21	25 x 25 x 15mm diameter	No	75			
22	32 x 25 x 15mm diameter	No	29			
23	32 x 32 x 15mm diameter	No				
24	32 x 25 x 25mm diameter	No				
25	32 x 32 x 25mm diameter	No				
26	40 x 32 x 15mm diameter	No	3			
27	40 x 32 x 25mm diameter	No	29			
28	40 x 40 x 15mm diameter	No				
29	40 x 40 x 25mm diameter	No				
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Section No. 6
Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

30	50 x 40 x 15mm diameter	No	9			
31	50 x 40 x 25mm diameter	No				
32	50 x 50 x 15mm diameter	No	9			
33	50 x 50 x 25mm diameter	No				
34	50 x 50 x 32mm diameter	No				
35	25mm diameter equal	No				
36	32mm diameter equal	No				
37	40mm diameter equal	No				
38	50mm diameter equal	No				
39	65mm diameter equal W.O	No				
40	80mm diameter equal W.O	No				
41	100mm diameter equal W.O	No	5			
42	150mm diameter equal W.O	No				
	<u>TEE OFF's</u>					
	<u>Price WO Socket</u>					
43	25 x 15mm	No				
44	100 x 50mm tee off	No	66			
	Carried to Collection			R		

Section No. 6
Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

	BUSH & REDUCING BUSHES					
45	50 x 25mm W.O reducer	No	21			
46	50 x 32mm W.O reducer	No	14			
47	50 x 40mm W.O reducer	No	7			
48	65 x 50mm W.O reducer	No				
49	65 x 80mm W.O reducer	No				
50	65 x 100mm W.O reducer	No	4			
51	80 x 100mm W.O reducer	No				
52	100 x 150mm W.O reducer	No				
	CAPS					
53	25mm	No				
54	65mm	No				
55	100mm	No	2			
	KLAMB-ON COUPLINGS					
56	65mm	No	11			
57	80mm	No				
58	100mm	No	23			
59	150mm	No				
	Carried to Collection			R		

Section No. 6
Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

	SPRINKLER HEADS					
60	68 - Deg. C - 15mm dia. Brass Upright	No	98			
61	68 - Deg. C - 15mm dia. Conventional	No				
62	141 - Deg. C - 15mm dia. Brass Conventional	No				
63	141 - Deg. C - 20mm dia. Brass Upright	No				
64	68 - Deg. C - 15mm dia. Fast Response	No				
65	68 - Deg. C - 15mm dia. CP SSP	No	9			
66	68 - Deg. C - 15mm dia. Dry Pipe Sprinkler	No				
67	White Steel Rossette	No	9			
68	1200mm Flexible SS 2nd fix connection	No	9			
69	Wire guard	No				
70	Heat collector plates/baffle plates	No				
	FIXING BRACKETS					
71	25 Fig 7 with 8mm handy bar and anchor	No	99			
72	32 Fig 7 with 8mm handy bar and anchor	No	35			
73	40 Fig 7 with 8mm handy bar and anchor	No	19			
74	50 Fig 7 with 10mm handy bar and anchor	No	16			
75	65 Fig 7 with 10mm handy bar and anchor	No				
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Section No. 6
Bill No. 4
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76	80 Fig 7 with 10mm handy bar and anchor	No				
77	100 Fig 7 with 10mm handy bar and anchor	No	38			
78	150 Fig 7 with 10mm handy bar and anchor	No				
	Painting, cleaning, degreasing, brushing, sanding, one coat primer and two coats Final Enamel					
79	Piping not exceeding 50mm diameter	m	300			
80	Piping exceeding 50mm	m	140			
	PLANT AND VALVE ROOMS					
81	150mm diameter Alarmvalve and isolating valve completely installed in Valve chamber including, spare sprinklers, and spanner spares box, signage, alarm valve. booster points, flow proving apparatus, locks and chains, pressure gauges, hydraulic alarm gong all to tender Specification		Item			
82	25mm Saunders remote Test valve	No	1			
	Carried to Collection			R		

Section No. 6
Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 6

Section 6: Wet Services

Bill No. 4

Sprinklers

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Bill No. 4
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 6

Section 6: Wet Services

SECTION SUMMARY - Section 6: Wet Services

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Section No. 6

PREPARED FOR: Raj Maharajh Associates Architects

Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 7					
	BILL NO. 1					
	PASSENGER LIFT INSTALLATION					
	PRELIMINARIES AND GENERAL					
	NOTES					
	Allow for all preliminary and general items required to provide the air conditioning installation for this project, but excluding items priced elsewhere in these Bills (These amounts will be paid pro rata to the rest of the amount claimed by the contractor, relative to the tender amount).					
1	Compliance with Health and Safety regulations.		Item			
2	Compliance with Contract Conditions over and above NEC3 Option B, as required by the Main Contractor		Item			
3	Compliance with Social Development Program		Item			
4	Accommodation and staff transport per month	No	1			
5	Technical Submittals		Item			
6	Workshop drawings – Paper and electronic	Sets	3.0			
7	As-Built Drawings – Paper and electronic	Sets	3.0			
8	Operating and Maintenance Manuals - Paper and electronic	Sets	3.0			
9	Rigging		Item			
10	Site establishment		Item			
11	Attendance per month	No	1			
12	Warranty and maintenance per month	No	12			
	Carried to Collection			R		

13	Training of Client's maintenance team	No	2			
14	Off Site Storage per month	No	3			
15	Forward Cover Rate based on R 19 to the USD		Item		RATE ONLY	
16	Commissioning		Item			
	Carried to Collection			R		

Section No. 7
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 7

Section 7: Lift Installation

Bill No. 1

Preliminaries and General

COLLECTION

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Item No		Unit	Quantity	Rate	Amount	
	SECTION NO. 7					
	BILL NO. 2					
	PASSENGER LIFT INSTALLATION					
	VERTICAL LIFTS					
	Design, manufacture, works testing, supply and deliver to site, moving into position, erection, connecting up, site testing, witness testing, proving to insurance inspectors, demonstrating to the Employer, commissioning and maintenance of the complete mechanical systems and equipment as shown on the drawings and data sheets.					
	LIFT INSTALLATIONS					
	Supply and install passenger lift for the building including the driving system and all the required accessories to make it a complete installation					
1	Carrying capacity of 8 passengers - disabled complaint. Drive System Eco-Friendly Gear less machine frequency controlled, speed up to 1.5m/s, travel height up to 8.0m, Car Width 1570, Car depth 1650, Car Height 2300 (Shaft size 1850 x 1698 x 2400(H))	No	1			
	LIFT INSTALLATIONS					
	Supply and install passenger lift for the building including the driving system and all the required accessories to make it a complete installation					
2	Carrying capacity of 10 passengers - disabled complaint. Drive System Eco-Friendly Gear less machine frequency controlled, speed up to 1.5m/s, travel height up to 8.0m, Car Width 1570, Car depth 1650, Car Height 2300 (Shaft size 1850 x 1698 x 2400(H))	No	1			
	Carried to Collection			R		

Section No. 7
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

	CONTROL					
3	Integrate Vertical lifts with fire detection system and emergency power supply		Item			
4	Allow for the electrical work related to the passenger lift		Item			
	Additional Items to be included in the above:					
5	Shaft Extension Brackets	No				
6	Intercom	No				
7	Curtain Hooks	No				
8	Any items that the contractors deems needs to be included for a complete installation. List as per below.		Item			
	Carried to Collection			R		

Section No. 7
Bill No. 2
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 7

Section 7: Lift Installation

Bill No. 2

Passenger Lift Installation

COLLECTION

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Section No. 7

Section 7: Lift Installation

SECTION SUMMARY - Section 7: Lift Installation

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2	Passenger Lift Installation	230			
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Section No. 7
PREPARED FOR: Raj Maharajh Associates Architects

Item No		Quantity	Rate	Amount	
	SECTION NO. 8				
	BILL NO 1				
	PROVISIONAL AMOUNTS				
	The following provisional sums are for work to be executed by specialists who will be regarded as domestic sub-contractors to the contractor. The contractor shall call for quotations from specialists selected by the Amahlathi Local Municipality on documents prepared by the Amahlathi Local Municipality or the relevant consultant, in accordance with the Conditions of Contract and in conjunction with the Representative/Agent and the contractor shall in consultation with the relevant consultant adjudicate the tenders. The contractor shall, upon the final decision of the Representative/Agent, appoint the successful tenderer who shall become a selected domestic sub-contractor to the contractor. Privity of contract shall not be created between the Consultant and the domestic sub-contractor by the method of selection, tender enquiry, adjudication and appointment.				
	1. The Contractor's attention is drawn specifically to the Principal Building Agreement Clause 20.0 (Nominated SubContractors), Clause 21.0 (Selected Sub-Contractors) and Clause 22 (Work by Others) and to the related Clauses in Bill No. 1 - Preliminaries.				
	2. The Contractor's attention is drawn also to the definition of attendance on Nominated or Selected Sub-Contractors and of fuel, power and water for commissioning of mechanical and other specialised installations given in the JBCC Preliminaries				
	Carried to Collection		R		

Section No. 8
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

	3. Where special attendance includes the provision of hoisting facilities for a Sub-Contractor then the Contractor shall:-			
	* Ensure that the capacities of his hoisting equipment are sufficient to deal with the masses and the quantities of the items to be hoisted,			
	* Schedule the items of availability of the hoisting equipment for each Sub-Contractor,			
	* Provide all necessary personnel to operate the hoisting equipment,			
	4. Under no circumstances may any Prime Cost - Provisional Amount, etc. be extended at an amount lower than the amount given in this Bill.			
	PROVISIONAL SUMS			
	LANDSCAPING			
1	Allow the Provisional Amount of R 100 000.00 (One Hundred Thousand Rand only) for Landscaping to be executed by a specialist sub-contractor.	Item		100 000.00
2	Allow for profit on preceding item if required.		%	
3	Allow for general attendance and making good in all trades.		%	
	JOINERY			
4	Allow the Provisional Amount of R 250 000.00 (Two Hundred and Fifty Thousand Rand only) for Landscaping to be executed by a specialist sub-contractor.	Item		250 000.00
5	Allow for profit on preceding item if required.		%	
6	Allow for general attendance and making good in all trades.		%	
	Carried to Collection		R	

Section No. 8
Bill No. 1
PREPARED FOR: Raj Maharajh Associates Architects

Section No. 8

Section 8: Provisional Sums

Bill No. 1

Provisional Sums

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6	**Section 6: Wet Services**	224		
7	**Section 7: Lift Installation**	231		
8	**Section 8: Provisional Sums**	234		
	SUB-TOTAL		R	
	CONTRACT PRICE ADJUSTMENT PROVISIONS:			
	Allow the sum of R5,600,000.00 (Five Million, Six Hundred Thousand Rand) for Contract Price Adjustment Provisions to be used as directed by the Principal Agent or deducted in whole or in part if not required.		SUM	
	SUB-TOTAL BEFORE VAT		R	
	ADD: VALUE ADDED TAX (15%)		R	
	Carried to Form of Tender		R	
	PREPARED FOR: Raj Maharajh Associates Architects			