

Item No	Quantity	Rate	Amount
<p><u>SECTION NO. 1</u></p> <p><u>BILL NO. 1</u></p> <p><u>PRELIMINARIES</u></p> <p><u>BUILDING AGREEMENT AND PRELIMINARIES</u></p> <p>The JBCC Principal Building Agreement prepared by the Joint Building Contract Committee shall be the applicable building agreement, amended as hereinafter described</p> <p>The ASAQS Preliminaries (November 2007 edition) published by the Association of South African Quantity Surveyors for use with the said JBCC Agreement shall be deemed to be incorporated in these bills of quantities</p> <p>Contractors are referred to the above mentioned documents for the full intent and meaning of each clause thereof</p> <p>These clauses are hereinafter referred to by clause number and heading only. Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading and such modifications, corrections or supplements shall take precedence notwithstanding anything contrary contained in the above mentioned documents</p> <p>Where any item is not relevant to this specific contract such item is marked N/A, signifying "not applicable"</p> <p><u>PRICING OF PRELIMINARIES</u></p> <p>Should Option A, as set out in clause B10.3.1 hereinafter be used for the adjustment of preliminaries then each item priced is to be allocated to one or more of the three categories Fixed, Value Related or Time Related and the respective amounts entered in the spaces provided under each item</p> <p style="text-align: right;">Carried to Collection</p> <p>Section 1: Preliminaries Bill No. 1 Preliminaries C2.2 Pricing Data</p>			R

Items not priced in these Preliminaries shall be deemed to be included elsewhere in these Bills of Quantities.

SECTION A: JBCC PRINCIPAL BUILDING AGREEMENT

Objective and preparations

1	Clause 2.0 - Offer acceptance and performance obligations F:..... V:..... T:.....	Item	
2	Clause 3.0 - Documents F:..... V:..... T:.....	Item	
3	Documents (Clause 3).is deleted and substituted with: 'This tender is for Government. No Payment Guarantee will be provided F:..... V:..... T:.....	Item	
4	Clause 5.0 - Employer's agents F:..... V:..... T:.....	Item	
5	Clause 6.0 - Contractor's site representative F:..... V:..... T:.....	Item	
6	Clause 7.0 - Compliance with laws and regulations F:..... V:..... T:.....	Item	

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Without limiting the generality of the provisions of clause 7.0, the contractor's attention is drawn to the provisions of the Construction Regulations, 2003 issued in terms of the Occupational Health and Safety Act, 1993. 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 specifications.

The contractor's particular attention is drawn to the OHS Specification referred to in annexures of these documents. The Contractor will be required before commencing the work on site to furnish the Principal Agent with an OHS Plan for this project indicating what steps he is going to take to comply with this OHS specification and indeed that he has made allowances for compliance with this document within his tender price. Failure to do so will render his tender liable for disqualification.

7	Clause 8.0 - Works risk F:..... V:..... T:.....	Item	
8	Clause 9.0 - Indemnities F:..... V:..... T:.....	Item	
9	Clause 10.0 - General insurances F:..... V:..... T:.....	Item	
10	Clause 11.0 - Special insurances F:..... V:..... T:.....	Item	
11	Clause 12.0 - Effecting insurances F:..... V:..... T:.....	Item	

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12	<p>Clause 14.0 - Security</p> <p>F:..... V:..... T:.....</p> <p><u>Execution</u></p>	Item	
13	<p>Clause 15.0 - Preparation for and execution of the works</p> <p>The contractor shall take note that the area of works is within an Biopark precinct and will be occupied and in full use during the duration of the Works. All care has to be taken to reduce noise, interruptions and disturbance during operating hours. Necessary arrangements to be made for work outside normal working hours.</p> <p>F:..... V:..... T:.....</p>	Item	
14	<p>Clause 16.0 - Site and access</p> <p>F:..... V:..... T:.....</p>	Item	
15	<p>Clause 17.0 - Contract instructions</p> <p>F:..... V:..... T:.....</p>	Item	
16	<p>Clause 18.0 - Setting out of the works The contractor shall notify the principal agent if any encroachments of adjoining foundations, buildings, structures, pavements, boundaries, etc. exist in order that the necessary arrangements may be made for the rectification of any such encroachments.</p> <p>F:..... V:..... T:.....</p>	Item	
17	<p>Clause 19.0 - Temporary works and plant</p> <p>F:..... V:..... T:.....</p>	Item	
18	<p>Clause 19.1.1 - Enclosure of the works</p> <p>F:..... V:..... T:.....</p>	Item	
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19	Clause 19.1.2 - Office accommodation Meeting room for 12 people to be provided, and 1 dedicated habitable consultants office and 4 seater round table, with power, internet F:..... V:..... T:.....	Item	
20	Clause 19.2 - Notice boards F:..... V:..... T:.....	Item	
21	Clause 20.0 - Nominated subcontractors F:..... V:..... T:.....	Item	
22	Clause 21.0 - Selected subcontractors F:..... V:..... T:.....	Item	
23	Clause 22.0 - Employer's direct contractors F:..... V:..... T:.....	Item	
24	Clause 23.0 - Contractor's domestic subcontractors F:..... V:..... T:.....	Item	
	<u>Completion</u>		
25	Clause 24.0 - Practical completion F:..... V:..... T:.....	Item	
26	Clause 25.0 - Works completion F:..... V:..... T:.....	Item	
27	Clause 26.0 - Final completion F:..... V:..... T:.....	Item	
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28	<p>Clause 27.0 - Latent defects liability period</p> <p>Clause 27.0 is amended by the addition of the following</p> <p>The Contractor shall attend to defects during the Defects Liability Period on a progressive basis, to the satisfaction of the Principal Agent and will not be permitted to wait until the end of the Defects Liability Period or until the amount of defects accumulates in order to attend to a comprehensive list of defects.</p> <p>F:..... V:..... T:.....</p>	Item	
29	<p>Clause 29.0 - Revision of date for practical completion</p> <p>The removal and replacement of materials and/or workmanship which do not conform to specification or drawing shall not constitute grounds for the extension of the construction period nor for the adjustment of the contract value (Clause 29.3)</p> <p>F:..... V:..... T:.....</p> <p><u>Payment</u></p>	Item	
30	<p>Clause 31.0 - Interim payment</p> <p>Materials and goods stored off site shall not be included in the amount authorised for payment.</p> <p>F:..... V:..... T:.....</p>	Item	
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31 Interim payment to the contractor (Clause 31)

The inclusion of materials and goods stored off site in the amount authorised for payment in terms of clause 31.3 shall be at the sole discretion of the principal agent and such inclusion shall only be considered upon the provision, by the contractor, of an approved guarantee issued by a registered commercial bank.

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

Clause 31.9 is amended as follows:

'Payment shall be subject to the Employer giving the Contractor a Tax Invoice for the amount due. The Employer undertakes to ensure compliance with the administrative requirements of Sections 20 (2) and 21 (4) of the Value Added Tax Act (Act 89 of 1991). The Contractor agrees to the adoption of the self invoicing procedures and undertakes not to issue any tax invoices, debit or credit notes in respect of any transaction included in the Tax Invoices issued by the Employer. The above clauses shall constitute a written agreement between the parties as required in terms of the Value Added Tax Act (Act 89 of 1991).

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

Item

32 Clause 32.0 - Adjustment to the contract value

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

Item

33 Clause 34.0 - Final account and final payment.

Clause 34.1 is amended as follows:

The principal agent shall prepare a final account for submission to the contractor within Sixty (60) working days.

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

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34	<p>Clause 35.0 - Payment to other parties</p> <p>F:..... V:..... T:.....</p> <p><u>Termination</u></p>	Item	
35	<p>Clause 36.0 - Termination by employer - contractor's default</p> <p>F:..... V:..... T:.....</p>	Item	
36	<p>Clause 37.0 - Termination by employer - loss and damage</p> <p>F:..... V:..... T:.....</p>	Item	
37	<p>Clause 38.0 - Termination by contractor - employer's default</p> <p>F:..... V:..... T:.....</p>	Item	
38	<p>Clause 39.0 - Termination - cessation of the works</p> <p>F:..... V:..... T:.....</p> <p><u>Dispute</u></p>	Item	
39	<p>Clause 40.0 - Settlement of disputes</p> <p>F:..... V:..... T:.....</p> <p><u>Contract agreement</u></p>	Item	
40	<p>Clause 41.0 - Post tender provisions</p> <p>The required post tender information shall be inserted in the post tender provisions after consultation with the contractor</p>	Item	
41	<p>PRE-TENDER INFORMATION</p> <p>Clause 42.0</p> <p>Tenderers are referred to the document C1.2 refer to Notes to Tenderers (EC) for variables pertaining to this contract</p> <p>F:..... V:..... T:.....</p>	Item	
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The required information of the contracting parties and the amount of the accepted contract sum shall be inserted in the contractual agreement for signature of the agreement by the contracting parties

Information necessary for completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder

CONTRACTING AND OTHER PARTIES (Clause 42.1)

Employer:

Physical address:

Telephone:

Facsimile:

Principal Agent:

Physical address:

Telephone:

Facsimile:

CONTRACT DETAILS (Clause 42.2)

Clause 42.2.1

Works Description: The addition of a second floor onto an existing building. The additional space of 656m2 will consist of a new second floor with labs, ablution facilities, balconies and supporting facilities (lift, etc), and a concrete roof.

Clause 42.2.2

Site Description:

Clause 42.2.3

Work or Installations by Others: Yes

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Clause 42.2.4

This Agreement is for a State Contract :- Yes

Payment will be made for materials and goods:- Yes

Dispute resolution :- Mediation (in terms of 40.4) followed by litigation.

Arbitration rules as recommended by the Association of Arbitrators (SA) :- N/A

Clause 42.2.5

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

Clause 42.2.6

Period for the commencement of the works after the contractor takes possession of the site :- See Notes to Tenderers

Clause 42.2.7

Intended date of practical completion and the penalty per calendar day for the works as a whole :-

Penalty amount R 4 750.00 per calendar day

Clause 42.2.8

Intended dates of practical completion and the penalties per calendar day for the works in sections : N/A

Clause 42.2.9

The law applicable to this agreement shall be that of - South Africa.

INSURANCES

Clause 42.3.1

Contract works insurance to be effected by Contractor for the sum of: Contract Sum plus 20%

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With a deductible of : to be determined by the Contractor but not greater than the maximum of R50,000.00 as stipulated by the Municipality.

Clause 42.3.2

Supplementary insurance is required : **YES**

SASRIA insurance required to be effected by the Contractor for the amount of: Contract Sum plus 20% (with a deductible to be determined by the Insurance company issuing the policy).

Clause 42.3.3

Public liability insurance to be effected by the Contractor

For the amount of: R 5 million

With a deductible of: R2,500.00

DOCUMENTS (Clause 42.4)

Clause 42.4.1

Waiver of the contractor's lien is required :- **YES**

Clause 42.4.2

Number of construction document copies to be supplied to the Contractor free of charge :- 3"

Clause 42.4.3

Specification drawn up in accordance with :-

Standard System of Measuring Building Work - Sixth Edition including all amendments.

SECTION B: JBCC PRELIMINARIES

Documents

42 Clause 2.1 - Checking of documents

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

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43	Clause 2.2 - Provisional bills of quantities F:..... V:..... T:.....	Item	
	<u>Previous work and adjoining properties</u>		
44	Clause 3.1 - Previous work - dimensional accuracy F:..... V:..... T:.....	Item	
45	Clause 3.2 - Previous work - defects F:..... V:..... T:.....	Item	
46	Clause 3.3 - Inspection of adjoining properties F:..... V:..... T:.....	Item	
	<u>Samples, shop drawings and manufacturer's instructions</u>		
47	Clause 4.1 - Samples of materials F:..... V:..... T:.....	Item	
48	Clause 4.2 - Workmanship samples F:..... V:..... T:.....	Item	
49	Clause 4.3 - Shop drawings F:..... V:..... T:.....	Item	
50	Clause 4.4 - Compliance with manufacturer's instructions F:..... V:..... T:.....	Item	
	<u>Temporary services</u>		
51	Clause 6.1 - Water F:..... V:..... T:.....	Item	
52	Clause 6.2 - Electricity F:..... V:..... T:.....	Item	
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53	Clause 6.3 - Telecommunication facilities F:..... V:..... T:.....	Item	
54	Clause 6.4 - Ablution facilities F:..... V:..... T:.....	Item	
<u>General</u>			
55	Clause 9.1 - Protection of the works F:..... V:..... T:.....	Item	
56	Clause 9.2 - Protection/isolation of existing/sectionally occupied works F:..... V:..... T:.....	Item	
57	Clause 9.3 - Security of the works F:..... V:..... T:.....	Item	
58	Clause 9.4 - Notice before covering work F:..... V:..... T:.....	Item	
59	Clause 9.5 - Disturbance F:..... V:..... T:.....	Item	
60	Clause 9.6 - Environmental disturbance F:..... V:..... T:.....	Item	
61	Clause 9.7 - Works cleaning and clearing F:..... V:..... T:.....	Item	
62	Clause 9.8 - Vermin F:..... V:..... T:.....	Item	
63	Clause 9.9 - Overhand work F:..... V:..... T:.....	Item	
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Schedule of variables

Information necessary for elections and completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder. Where no information is given it shall mean that no specific requirements are expected or that the clause is not relevant to this specific contract

- 10.1 - Provisional bills of quantities [clause 2.2]
Yes

- 10.2 - Availability of construction documentation [clause 2.3]
Construction documentation is complete
Yes

- 10.3 - Previous work - dimensional accuracy [clause 3.1]

- 10.4 - Previous work - defects [clause 3.2]

- 10.5 - Inspection of adjoining properties [clause 3.3]

- 10.6 - Water [clause 7.2]

Option B (by employer - free of charge) *no*

- 10.7 - Electricity [clause 7.3]

Option B (by employer - free of charge) *no*

- 10.8 - Telecommunications [clause 7.4]

Telephone *no*
Facsimile *no*
E-mail *no*

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<p>10.9 - Ablution facilities [clause 7.5] Option A (by contractor)</p> <p style="text-align: right;">yes</p> <p>10.10 - Protection of the works [clause 9.1]</p> <p>10.11 - Protection/isolation of existing/sectionally occupied works [clause 9.2] Protection/isolation is required</p> <p style="text-align: right;">No</p> <p>10.12 - Disturbance [clause 9.5]</p> <p style="text-align: right;">Yes</p> <p>10.13 - Environmental disturbance [clause 9.6]</p> <p style="text-align: right;">Yes</p>				
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SUMMARY OF CATEGORIES

Category : Fixed R.....

Category : Value R.....

Category : Time R.....

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<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 1</u></p> <p><u>ALTERATIONS</u></p> <p>NOTE:The Standard Preambles and the Notes in the various trade bills are to, and do, apply equally to this section.-----</p> <p>Tenderers are advised to visit the site and to inspect the works in conjunction with the drawings in order to ascertain the exact nature and extent of the work to be done. The work is to be carried out in sections in accordance with the Architect's instructions in such a manner as to cause the minimum of nuisance and delay and the various sections are to be handed over for occupation as soon as they are completed and Tenderers must allow accordingly for this in their pricing.</p> <p>Old materials, if sound and suitable and approved by the Architect, may be re-used in the new structure. This applies particularly to timber which may be re-used for joists, bracing, fittings, etc and broken bricks and other similar material which may be used as filling and hardcore.</p> <p>When pricing, Tenderers are to allow as follows:</p> <p>Where door and window openings, etc, are specified to be filled in, or where jambs, cills, etc are specified to be built up, brickwork shall be of hard burnt clay stock bricks in 5.1 cement mortar unless otherwise specified, cut, toothed and bonded into existing brickwork and pinned up as required with slates or other hard materials. Brickwork built to fair face or in facings is to be of bricks and pointed to match existing. Plaster is to be 5.1 cement plaster unless otherwise specified.</p> <p>Where lintols are specified as precast concrete the prices are to include for breaking out brickwork over for and inserting precast prestressed cement concrete (30MPa) lintol with 230mm bearing on each end size 108 x 75mm deep for each half brick thickness of wall.</p> <p style="text-align: right;">Carried to Collection</p> <p>Section 2: Main Building Bill No. 1 Alterations C2.2 Pricing Data</p>			R

TEMPORARY BARRICADES, SCREENS, ETC

Temporary barricades, screens, roofs, etc including removal

1	Drywall barricade 4m high of galvanised steel channel section rails and studs covered on one side with 12,7mm gypsum plasterboard and finished with two coats interior quality PVA emulsion paint, including corners, ends, etc	m	83
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Break down and remove brickwork, etc

2	One brickwall	m2	6
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Breaking up and removing reinforced concrete, including cutting off and removing reinforcement and making good finishes all around

3	2.55 x 1.97m opening through 255mm thick slab	No	1
4	3.00 x 2.79m opening through 255mm thick slab	No	1
5	1.2 x 1.2m opening through 255mm thick surface bed	No	6

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<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 2</u></p> <p><u>FOUNDATIONS</u></p> <p>The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.</p> <p><u>TRADE NAMES</u></p> <p>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</p> <p><u>NATURE OF GROUND</u></p> <p>Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above soil investigation report, and where conditions of a more difficult character are indicated, these are separately measured</p> <p><u>SUBTERRANEAN WATER</u></p> <p>The information on subterranean water is included in the soils investigation report attached to the back of these bills of quantities</p> <p><u>CART AWAY OF EXCAVATED MATERIAL</u></p> <p><u>FILLING</u></p> <p>All fill material shall be approved by the Representative / Agent.</p> <p><u>EXCAVATION, FILLING, ETC</u></p>			
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<u>Excavation in earth exceeding 2m and not exceeding 4m deep</u>					
1	Lift base	m3	10		
2	Bases	m3	13		
<u>Extra over excavations for excavation in material of a difficult nature</u>					
3	Soft rock	m3	2		
4	Hard rock	m3	1		
<u>Extra over all excavations for carting away</u>					
5	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	10		
<u>Risk of collapse of excavations</u>					
6	Sides of trench and hole excavations not exceeding 1500mm deep	m2	18		
<u>Keeping excavations free of water</u>					
7	Keeping excavations free of water			Item	
<u>FILLING, ETC</u>					
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 100% Mod AASHTO density</u>					
8	Backfilling to trenches, holes, etc	m3	8		
<u>Earth filling supplied by the contractor compacted to 100% Mod AASHTO density</u>					
9	Backfilling to trenches, holes, etc	m3	8		
<u>Coarse river sand filling supplied by the contractor</u>					
10	Under floors etc	m3	1		
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<u>Compaction of surfaces</u>					
11	Compaction of ground surface under floors, etc, including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 100% Mod AASHTO density	m2	5		
<u>Prescribed density tests on filling</u>					
12	"Modified AASHTO Density" test	No	1		
<u>SOIL POISONING AND PROTECTION AGAINST TERMITES</u>					
<u>Termite soil insecticide applied by a Registered Pest Control company and guaranteed against termite infestation as per drawing OOG-001E</u>					
13	Under floors, etc including forming and poisoning shallow furrows against foundation walls, etc and filling in furrows and ramming	m2	51		
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<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 3</u></p> <p><u>CONCRETE, FORMWORK & REINFORCEMENT</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.</p> <p><u>TRADE NAMES</u></p> <p>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</p> <p><u>FORMWORK TO BASES, PILE CAPS, ETC</u></p> <p>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</p> <p>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.</p> <p>Formworks to soffits of solid etc shall be deemed to be slabs not exceeding 250mm thick unless otherwise described</p>			
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<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES (PROVISIONAL)</u>					
1	Bases.	m3	5		
2	Columns	m3	2		
<u>REINFORCED CONCRETE</u>					
<u>25 MPa/19mm Concrete in</u>					
3	Slab	m3	163		
4	Roof Slab	m3	125		
5	Beams	m3	44		
6	Columns	m3	25		
7	Shear Walls, including dowelling	m3	35		
8	Wall shaft	m3	23		
9	Lift base	m3	5		
10	Stairs	m3	2		
<u>CONCRETE SUNDRIES</u>					
<u>Finishing top surfaces of concrete smooth with a wood float and finish to a broomed non-slip surface</u>					
11	Slabs, etc to falls	m2	1 250		
<u>TEST BLOCKS</u>					
12	Making and testing 150 x 150 x 150mm concrete strength test cube and submit report to the Representative / Agent (only successful tests will be paid for)	No	68		
<u>SMOOTH FORMWORK (DEGREE OF ACCURACY 1)</u>					
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<u>Smooth formwork to soffits</u>				
13	Slabs propped up exceeding 3,5m and not exceeding 5m high	m2	625	
14	Beams propped up exceeding 3,5m and not exceeding 5m high	m2	98	
15	Stairs with sloping soffits	m2	10	
16	Landing Soffits	m2	12	
<u>Smooth formwork to circular columns</u>				
17	300mm Diameter column 4080mm high	No	7	
<u>Smooth formwork to sides</u>				
18	Rectangular Columns	m2	117	
19	Beams	m2	315	
20	Walls	m2	252	
21	Inner face of shaft walls	m2	81	
22	Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	175	
23	Sloping and stepped outer edges of stairs not exceeding 300mm high extreme	m	6	
<u>Smooth formwork to form</u>				
24	Opening exceeding 1m and not exceeding 2m girth through not exceeding 300mm slab	No	2	
<u>MOVEMENT JOINTS, ETC</u>				
<u>Saw cut joints</u>				
25	4 x 30mm Saw cuts in top of concrete	m	313	
<u>REINFORCEMENT</u>				
Carried to Collection				R
Section 2: Main Building Bill No. 3 Concrete, Formwork & Reinforcement C2.2 Pricing Data				

<u>Mild steel reinforcement to structural concrete work</u>					
26	10mm Diameter bars	t	0.03		
<u>High tensile steel reinforcement to structural concrete work</u>					
27	All Diameter bars	t	94.57		
28	12mm Diameter bars	t	1.05		
29	16mm Diameter bars	t	2.78		
Carried to Collection				R	

Section 2: Main Building
 Bill No. 3
 Concrete, Formwork & Reinforcement
C2.2 Pricing Data

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Section 2: Main Building

Bill No. 3

Concrete, Formwork & Reinforcement

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Bill No. 3

Concrete, Formwork & Reinforcement

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BILL NO. 4</u>			
	<u>MASONRY</u>			
	<u>PREAMBLES</u>			
	The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Sizes in descriptions</u>			
	Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick			
	<u>Reinforced brick lintels</u>			
	Lintels shall bear at least 160mm onto adjacent walling. Where such bearing cannot be obtained due to the proximity of adjacent openings the lintel shall be continuous			
	<u>SUPERSTRUCTURE</u>			
	<u>Cement brick: Stock brick 14MPa nominal compressive strength in Class I mortar.</u>			
1	One brick walls	m2	57	
2	280mm Hollow walls of two half brick skins including all necessary wire ties	m2	939	
	<u>BRICKWORK SUNDRIES</u>			
	<u>Brickwork reinforcement</u>			
3	75mm Wide reinforcement built in horizontally	m	193	
	Carried to Collection			R
	Section 2: Main Building Bill No. 4 Masonry C2.2 Pricing Data			

**THE INNOVATION HUB
UPGRADE OF BIOPARK PHASE 1C BUILDING**

4	150mm Wide reinforcement built in horizontally	m	282		
	<u>Concrete prestressed fabricated lintels</u>				
5	110 x 75mm Lintels in lengths not exceeding 3m	m	40		
6	110 x 75mm Lintels in lengths exceeding 4.5m and not exceeding 6.0m	m	25		
	<u>Turning pieces</u>				
7	110mm Wide turning piece to lintels, etc	m	40		
8	140mm Wide turning piece to lintels, etc	m	25		
	<u>Galvanised hoop iron cramps, ties, etc</u>				
9	40 x 1,6mm "Tibond" wall tie strips shot pinned to concrete and with ties bent out and built into brickwork	No	2 348		
	<u>Extra labour and material in building cavity of hollow wall solid</u>				
10	Splayed mortar fillet one course high in 50mm cavity of hollow wall	m	224		
11	Close 50mm cavity of hollow wall horizontally with one course of brickwork	m	224		
12	Close 50mm cavity of hollow wall vertically with brickwork	m	58		
	<u>FIBRE-CEMENT WINDOW SILLS</u>				
	<u>Natural grey sills in single lengths bedded in class 1 mortar including metal fixing lugs etc</u>				
13	600 x 220mm Wide sills set sloping and slightly projecting	m	3		
14	1800 x 220mm Wide sills set sloping and slightly projecting	m	5		
	Carried to Collection				
	Section 2: Main Building Bill No. 4 Masonry C2.2 Pricing Data			R	

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Section 2: Main Building

Bill No. 4

Masonry

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Section 2: Main Building

Bill No. 4

Masonry

C2.2 Pricing Data

Item No	Quantity	Rate	Amount
<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 5</u></p> <p><u>WATERPROOFING</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>TRADE NAMES</u></p> <p>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</p> <p><u>EXPANSION JOINT SEALANTS</u></p> <p>Polysulphide sealants, where specified, shall be approved two-pack polysulphide sealants complying with SABS specification 110 Type 2, well compacted into joint and neatly pointed</p> <p>Backing cord, where specified, shall be expanded polyethylene foam sealant backing cords of suitable diameter, compressed and fitted into joint</p> <p>Descriptions of sealants shall be deemed to include for priming joints where recommended by the manufacturer of the sealant being used with a suitable and approved primer</p> <p>All work shall be executed by an approved specialist firm in accordance with the manufacturer's instructions</p> <p style="text-align: right;">Carried to Collection</p> <p>Section 2: Main Building Bill No. 5 Waterproofing C2.2 Pricing Data</p>			R

WATERPROOFING

Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs

DAMPPROOFING OF WALLS AND FLOORS

One layer approved 375 micron embossed black polyethylene damp proof course

1	In walls	m2	66
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4mm "Derbigum SP" fully bonded waterproofing:

2	On lift pit base	m2	23
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3	On walls at lift pit	m2	81
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WATERPROOFING TO ROOFS, BASEMENTS, ETC

4mm "Derbigum SP" fully bonded waterproofing:

4	On flat roofs not exceeding 25 degrees from the horizontal	m2	625
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5	On tops and sides of inverted beams	m2	102
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6	On lift pit base	m2	23
---	------------------	----	----

7	On walls at lift pit	m2	81
---	----------------------	----	----

PROTECTIVE ROOFING PAINT

Two coats "Silvakote" bituminous aluminium paint

8	On waterproofing to roofs	m2	727
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JOINT SEALANTS, ETC

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Bill No. 5
Waterproofing
C2.2 Pricing Data

Two-part grey polysulphide sealing compound applied with a caulking gun, including backing cord, bond breaker, primer, etc

9	In joints between frames and walls	m	313	
10	3 x 30mm In saw cut joints in floors	m	208	

Carried to Collection

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Bill No. 5
Waterproofing
C2.2 Pricing Data

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Bill No. 5

Waterproofing

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Bill No. 5

Waterproofing

C2.2 Pricing Data

Item No	Quantity	Rate	Amount
<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 6</u></p> <p><u>CARPENTRY AND JOINERY</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Treatment against insect pests</u></p> <p>Rates for all timber shall be deemed to include for treatment against insect pests</p> <p>All softwood for this job shall be treated to combat and prevent the spread of certain insect pests in accordance with Government Gazette Notice No R451 of 28 March 1969 and any amendments thereto. Proof of treatment shall be lodged with the Employer prior to the use of any timber in the works.</p> <p><u>Fixing</u></p> <p>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete</p> <p>Items described as "plugged" shall be deemed to include for screwing to fibre, plastic or metal plugs at not exceeding 600mm centres or shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete.</p> <p>Descriptions are to be deemed to include for nails, screws, plugs, adhesives, holes, sin- kings, pelleting, etc</p> <p style="text-align: right; margin-right: 50px;">Carried to Collection</p> <p>Section 2: Main Building Bill No. 6 Carpentry and Joinery C2.2 Pricing Data</p>			<hr/> R <hr/>

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

DOORS

Solid flush doors with commercial veneer on both sides hung to timber frames

1	40mm thick Commercial Veneer flush panel door, size 813 x 2032mm high	No	7	R
Carried to Collection				

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 Bill No. 6
 Carpentry and Joinery
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Bill No. 6

Carpentry and Joinery

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Bill No. 6

Carpentry and Joinery

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 7</u></p> <p><u>METALWORK</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.</p>			
	Carried to Collection			R
	<p>Section 2: Main Building Bill No. 7 Metalwork C2.2 Pricing Data</p>			

SUPPLEMENTARY PREAMBLES

Descriptions

Descriptions of bolts shall be deemed to include nuts and washers.
 Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.
 Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described.

Certificates

Prior to the commencement of any site work, the following certificates should be provided:

1. A copy of relevant AAMSA Performance Certificate from the manufacturer/contractor supplying the architectural aluminium product
2. A Certificate of Conformance confirming that all anodizing or powder coating has been processed in strict accordance with SABS 999:1998 and SABS 1976:2001 respectively.
3. A Powder Guarantee of no less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process and may only be applied by an approved powder applicator
4. A Certificate of Conformance that glazing has been installed in accordance with SABS 0137 ensuring that safety glass glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing material has been permanently marked
5. A Warranty from the manufacturer of the laminate safety glass and/or hermetically sealed glazing units warranting the products against delamination and colour degradation for a period of not less than 5 years

ALUMINIUM WINDOWS, DOORS, ETC

Note: All tenderers should allow for standard ironmongery items. All ironmongery items shall be approved by Principal Agent

Carried to Collection

Section 2: Main Building
 Bill No. 7
 Metalwork
C2.2 Pricing Data

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Note: All dimensions to be checked on site prior to construction. Clear silicone joints between window frames and brickwork. Aluminium frames shall be factory wrapped in protective plastic covering and shall be removed once building works are complete.

Natural anodised aluminium window with 6mm tinted safety glass to SABS standards. Including Setting Up, Building In, Filling Back Of Frame with cement mortar and structural silicone all round and secret fixed glazing beads on one side

1	(W01) Natural anodised Aluminium Window with stainless concealed friction stays, size 600 x 900mm high with opening window sections	No	5
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2	(W02) Natural anodised Aluminium Window with stainless concealed friction stays, size 1800 x 900mm high with opening window sections	No	3
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Natural anodised aluminium door frame with 6mm obscure safety glass to SABS standards. Including Setting Up, Building In, Filling Back Of frame with cement mortar and structural silicone all round and secret fixed glazing beads on one side

3	Natural anodised aluminium double door, size 1790 x 2090mm high overall Glazed with glass or similar approved.	No	6
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4	Natural anodised aluminium left opening three panel sliding folding door, size 1790 x 2390mm high overall Glazed with glass or similar approved.	No	10
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Natural anodised aluminium shopfront with 6mm tinted safety glass to SABS standards. Including Setting Up, Building In, Filling Back Of Frame with cement mortar and structural silicone all round and secret fixed glazing beads on one side

5	(SF01) Shopfront size 3600 x 3590mm high	No	5
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6	(SF02) Shopfront size 4500 x 3590mm high	No	1
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7	(SF03) Shopfront size 1800 x 3590mm high	No	4
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Section 2: Main Building
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8	(SF04) Shopfront size 2100 x 3590mm high	No	1	
9	(SF05) Shopfront size 1000 x 3600mm high	No	4	
<u>BALUSTRADING</u>				
<u>Stainless Steel (Balcony)</u>				
Stainless steel 50 x 25 RHS posts, installed by means of core drilling and fixing with cementitious grout, floor to post intersection concealed by means of a laser cut cover flange, post holed through to receive 1 number, 25 diameter intermediate rails at 100mm centres, 50mm diameter top Mild steel rails attached to posts by means of a 16 diameter pin and connector disk, all angle deviations to be by means of on-site mitre joints				
10	1100mm high Horizontal	m	63	
<u>Stainless Steel (Stair 1 and 2)</u>				
Stainless steel 50 x 25 RHS posts, installed by means of core drilling and fixing with cementitious grout, floor to post intersection concealed by means of a laser cut cover flange, post holed through to receive 1 number, 25 diameter intermediate rails at 100mm centres, 50mm diameter top Mild steel rails attached to posts by means of a 16 diameter pin and connector disk, all angle deviations to be by means of on-site mitre joints				
11	1100mm high Horizontal	m	4	
12	1100mm high Raking	m	10	
13	Extra over for L-intersection	No	4	
Carried to Collection				R
Section 2: Main Building Bill No. 7 Metalwork C2.2 Pricing Data				

Stainless Steel Hand rails(Stair 1 and 2)

Stainless steel 50 x 25 RHS posts, installed by means of core drilling and fixing with cementitious grout, floor to post intersection concealed by means of a laser cut cover flange, post holed through to receive 1 number, 25 diameter intermediate rails at 100mm centres, 50mm diameter top Mild steel rails attached to posts by means of a 16 diameter pin and connector disk, all angle deviations to be by means of on-site mitre joints

14	1100mm high Horizontal	m	4
15	1100mm high Raking	m	10
16	1100mm high Horizontal	m	4

Stainless Steel Rails (2st floor Double volume space)

Stainless steel 50 x 25 RHS posts, installed by means of core drilling and fixing with cementitious grout, floor to post intersection concealed by means of a laser cut cover flange, post holed through to receive 1 number, 25 diameter intermediate rails at 100mm centres, 50mm diameter top Mild steel rails attached to posts by means of a 16 diameter pin and connector disk, all angle deviations to be by means of on-site mitre joints

17	1100mm high Horizontal	m	6
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Metalwork

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Metalwork

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BILL NO. 8</u>			
	<u>PLASTERING</u>			
	<u>PREAMBLES</u>			
	The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Plaster on concrete</u>			
	Plaster described as "on brickwork" shall be deemed to include for small portions of plaster on concrete flush with brickwork and prices should include for all the necessary preparatory work.			
	<u>SCREEDS</u>			
	<u>3:1 Screeds on concrete</u>			
1	30mm Thick on floors and landings	m2	625	
	<u>3:1 Screeds on concrete</u>			
2	50mm Thick (average) on roofs graded to falls and currents.	m2	625	
	<u>Self levelling Epoxy screed</u>			
3	Self levelling Epoxy screed on floors	m2	551	
	<u>GRANOLITHIC</u>			
	<u>Untinted granolithic on concrete (degree of accuracy grade III)</u>			
4	12mm Thick on floors	m2	76	
	Carried to Collection			R
	Section 2: Main Building Bill No. 8 Plastering C2.2 Pricing Data			

5	19 x 75mm untinted granolithic skirting with 25mm rounding. Skirting to extend 6mm beyond finished wall surface	m	65	
<u>INTERNAL PLASTER</u>				
<u>Cement plaster on brickwork</u>				
6	On walls	m2	1 093	
7	On narrow widths	m2	7	
<u>EXTERNAL PLASTER</u>				
<u>Cement plaster on brickwork</u>				
8	On walls	m2	714	
9	On narrow widths	m2	7	
<u>CORNER PROTECTORS, DIVIDING STRIPS, ETC.</u>				
10	Flat section aluminium Structural movement joint covers fixed to floor joint	m	28	
Carried to Collection				R

Section 2: Main Building
Bill No. 8
Plastering
C2.2 Pricing Data

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Plastering

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Bill No. 8

Plastering

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BILL NO. 9</u>			
	<u>TILING</u>			
	<u>PREAMBLES</u>			
	The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	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 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding			
	<u>FLOOR TILING</u>			
	<u>Ceramic floor tiles (allow a PC of R 450/m2 excluding VAT), size 330 x 330mm, fixed to wood floated 1:4 cement and sand screed with tile adhesive (elsewhere specified). 3mm diagonal joints continuous in both directions grouted with tile grout with minimum 5mm expansion joints at perimeter.</u>			
1	On floors and landings	m2	20	
	<u>EDGE TRIMS, ETC</u>			
2	Natural anodised aluminium straight edge trim to tile external corners	m	17	
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	Section 2: Main Building Bill No. 9 Tiling C2.2 Pricing Data			

Item No	Quantity	Rate	Amount
<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 10</u></p> <p><u>PLUMBING AND DRAINAGE (PROVISIONAL)</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>uPVC pipes and fittings:</u></p> <p>Soil, waste and vent pipes and fittings shall be solvent weld jointed</p> <p><u>Copper pipes:</u></p> <p>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 "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground</p> <p><u>Fixing of pipes</u></p> <p>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</p> <p><u>Lead pipes and fittings</u></p> <p>All soldered joints shall be wiped and brass unions shall be used for jointing lead to steel</p>			
Carried to Collection			R
<p>Section 2: Main Building Bill No. 10 Plumbing and Drainage (Provisional) C2.2 Pricing Data</p>			

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

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: SABS 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 SABS 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 SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding

Stainless steelbasins, sinks, wash troughs, urinals, etc.

Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable

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 Bill No. 10
 Plumbing and Drainage (Provisional)
C2.2 Pricing Data

	<u>Waste unions</u>				
	Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings				
	<u>User note:</u>				
	Please note the rate for butt weldings is deemed to be included in all fittings				
	<u>SOIL DRAINAGE</u>				
	<u>uPVC class 16 heavy duty pipes</u>				
1	110mm Pipes vertically or ramped to cleaning eyes etc (no excavation)	m		18	
	<u>Extra over heavy duty uPVC pipes for fittings</u>				
2	110mm Bend	No		4	
3	110mm Junction	No		2	
4	110mm Access bend	No		4	
5	110mm Access junction	No		2	
6	110mm Reducing junction	No		4	
	<u>PVC gulleys</u>				
	<u>Sundries</u>				
7	Testing soil drainage system			Item	
	<u>SANITARY FITTINGS</u>				
8	WC suite: Locally manufactured vitreous china close coupled suite, colour: White, overall size 540 x 358 x 845mm high with Thermoset Soft-Close seat, comprising 90° outlet closed rim wash down pan with matching 6 litre cistern top dual flush cistern including fittings.	No		4	
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	Section 2: Main Building Bill No. 10 Plumbing and Drainage (Provisional) C2.2 Pricing Data				

9	White C.I. Porcelain Enamelled whb: On half concealed supports. Set with 31 mm chromium plated whb outlet, with plug, chain, anchor and 32mm back nut complete. Provide one chromium plated pillar tap as approved. Provide black soft rubber P trap.	No	2		
10	Toilet paper holder: Satin finished stainless steel 4 toilet roll dispenser, size 144 x 145 x 610mm, plugged and screwed to the wall with stainless steel screws.	No	2		
11	Soap dispenser: Satin finished stainless steel soap dispenser, size 200 x 85 x 140mm high with 1 litre capacity, front push button, cylinder lock and standard key, plugged and screwed to the wall with stainless steel screws..	No	2		
12	Hand dryer: Satin finished stainless steel automatic hands-free hand dryer, size 280 x 207 x 245mm high with 2 vandal proof lock screws and key wrench, plugged and screwed to the wall with stainless steel screws, 200 W motor connected to 230/240-volt power supply.	No	2		
<u>WASTE UNIONS, ETC</u>					
13	32mm Basin waste union	No	2		
14	32mm CP waste and overflow complete with flexible connections, etc.	No	2		
<u>TRAPS ETC</u>					
15	40 mm Butyl rubber deepseal "P" trap	No	2		
16	32 x 40mm Chromium plated bottle trap	No	2		
<u>TAPS, VALVES, ETC</u>					
17	Single lever CP pillar tap basin mixer with temperature control cartridge	No	2		
18	15 x 350mm Flexi connector	No	4		
<u>SANITARY PLUMBING</u>					
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Section 2: Main Building Bill No. 10 Plumbing and Drainage (Provisional) C2.2 Pricing Data					

**THE INNOVATION HUB
UPGRADE OF BIOPARK PHASE 1C BUILDING**

	<u>uPVC pipes</u>				
19	50mm Pipes	m	8		
20	50mm Pipes chased into brick walls	m	50		
21	110mm Pipes	m	25		
	<u>Extra over uPVC pipes for fittings</u>				
22	50mm Bend	No	15		
23	50mm Access bend	No	15		
24	50mm Junction	No	15		
25	50mm Access junction	No	15		
26	50mm Access tee	No	15		
27	50mm End cap	No	10		
28	50mm Female adaptor	No	10		
29	50mm Two-way vent valve	No	4		
30	50mm Male adaptor	No	15		
31	110mm Bend	No	10		
32	110mm Access bend	No	10		
33	110mm Socket	No	10		
34	110mm Junction	No	10		
35	110mm Reducer	No	10		
36	110mm Reducing junction	No	10		
37	110mm Access junction	No	10		
38	110mm Two-way vent valve	No	5		
39	110mm Pan connector	No	2		
	Carried to Collection				R
	Section 2: Main Building Bill No. 10 Plumbing and Drainage (Provisional) C2.2 Pricing Data				

			Item		
	<u>Sundries</u>				
40	Testing water pipe system				
	<u>WATER SUPPLIES</u>				
	<u>Class "O" copper pipes:</u>				
41	15mm Pipes chased in brickwork	m	38		
42	22mm Pipes chased in brickwork	m	28		
43	22mm Pipes	m	18		
44	28mm Pipes	m	18		
	<u>Extra over class "O" copper pipes for capillary fittings</u>				
45	15mm Fittings	No	26		
46	22mm Fittings	No	15		
47	28mm Fittings	No	10		
	<u>Copper flexible service pipes</u>				
48	15mm Service pipe 340mm girth	No	4		
	<u>Sundries</u>				
49	20mm Full way stop cock	No	2		
	<u>Sundries</u>				
50	80mm Meter and valve box including brick chamber below not exceeding 1000mm deep internally	No	1		
	<u>ELECTRICAL WATER HEATERS</u>				
	<u>Approved</u>				
51	100 Litre horizontal type high presure electric hot water geyser including tray, connections to watersupply and overflow fixed in roof space in accordance with the manufacturers specifications	No	1		
	Carried to Collection				R
	Section 2: Main Building Bill No. 10 Plumbing and Drainage (Provisional) C2.2 Pricing Data				

TESTING

52 Testing water pipe system

Item

Carried to Collection

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Section 2: Main Building
Bill No. 10
Plumbing and Drainage (Provisional)
C2.2 Pricing Data

Section No. 2

Section 2: Main Building

Bill No. 10

Plumbing and Drainage (Provisional)

COLLECTION

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Section 2: Main Building

Bill No. 10

Plumbing and Drainage (Provisional)

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 11</u></p> <p><u>GLAZING</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.</p> <p><u>MIRRORS</u></p> <p><u>6mm Silvered float glass copper backed mirrors with polished edges holed for and fixed with chromium plated dome capped mirror screws with foam backing strip all round to plugs in walls</u></p>			
1	Mirrors 1150 x 550mm high	No	2	
	Carried Forward to Summary of Section No. 2			R
	<p>Section 2: Main Building</p> <p>Bill No. 11</p> <p>Glazing</p> <p>C2.2 Pricing Data</p>			

Item No	Quantity	Rate	Amount
<u>SECTION NO. 2</u>			
<u>BILL NO. 12</u>			
<u>PAINTWORK</u>			
<u>PREAMBLES</u>			
The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>DESCRIPTIONS</u>			
Descriptions of paintwork shall be deemed to include for all cutting in			
<u>PREPARATORY WORK TO EXISTING WORK</u>			
<u>Previously painted plastered surfaces</u>			
Surfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth			
<u>Previously painted metal surfaces</u>			
Surfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal			
<u>Previously painted wood surfaces</u>			
Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth			
<u>PAINTWORK, ETC TO NEW WORK</u>			
Carried to Collection			R
Section 2: Main Building Bill No. 12 Paintwork C2.2 Pricing Data			

ON FLOATED PLASTER

Prepare, stop and apply one coat alkaline resistant primer, one coat universal undercoat and two coats PVA acrylic emulsion paint

1	On internal plastered walls	m2	1 093
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Prepare, stop and apply one coat alkaline resistant primer, one coat universal undercoat and two coats External use PVA acrylic emulsion paint

2	On external plastered walls	m2	714
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ON FIBRE-CEMENT

Prepare, stop and apply one coat alkali resistant primer and two full coats acrylic emulsion paint for exterior use

3	On sills, rails, etc. not exceeding 300mm girth	m	8
---	---	---	---

ON METAL

Prepare, touch up factory primer and apply one coat universal undercoat and two full coats high gloss enamel paint

4	On door frames	m2	3
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ON WOOD

Prepare, stop and apply one coat wood primer and two coats Eggshell enamel paint

5	On doors	m2	54
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ON CONCRETE

Prepare, stop and apply one coat wood primer and two coats Eggshell enamel paint

6	On Concrete surface	m2	417
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Carried to Collection

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Section 2: Main Building
Bill No. 12
Paintwork
C2.2 Pricing Data

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Section 2: Main Building

Bill No. 12

Paintwork

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Section 2: Main Building

Bill No. 12

Paintwork

C2.2 Pricing Data

Item No	Quantity	Rate	Amount
<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 13</u></p> <p><u>PROVISIONAL SUMS ETC</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the Model Preambles for Trades (2008 edition) as issued by the Association of South African Quantity Surveyors before pricing this bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Work executed by direct contractors</u></p> <p>Work listed under the heading "DIRECT CONTRACTORS WORK" will commence during the execution of this contract and the contractor shall allow free access to the site for these direct contractors. The contractor shall prepare a programme in conjunction with these direct contractors in order to complete the work successfully. The direct contractors will be regarded as nominated sub-contractors but payment will not be made to them via the contractor. The estimated values of these contracts are listed to enable the contractor to determine profit and attendances, if required</p> <p><u>General</u></p> <p>Unless otherwise described, all prime cost amounts and provisional sums exclude the cash discount of 5% and include for delivery to site of all articles concerned. All prime cost amounts and provisional sums are net and include for delivery to site of all articles concerned</p> <p><u>Preliminaries</u></p> <p>The contractor is referred to the Preliminaries for further amplification of "Prime Cost Amounts and Provisional Sums"</p>			
Carried to Collection			R
<p>Section 2: Main Building Bill No. 13 Provisional Sums C2.2 Pricing Data</p>			

Ironmongery

1	Provide the sum of R 12 100.00 (Twelve Thousand One Hundred Rand) for Ironmongery	Item	12 100.00
2	Add for profit upon above, if required.	Item	
3	Attend upon the above if required.	Item	

Aluminium Sun Protection Louvres/ Screens

4	Provide the sum of R 300 000.00 (Three Hundred Thousand Rand) for Aluminium Adjustable Louvres	Item	300 000.00
5	Add for profit upon above, if required.	Item	
6	Attend upon the above if required.	Item	

Bathroom Accessories

7	Provide the sum of R 10 000.00 (Ten Thousand Rand) for Bathroom Accessories	Item	10 000.00
8	Add for profit upon above, if required.	Item	
9	Attend upon the above if required.	Item	

Cat Ladder

10	Provide the sum of R 60 000.00 (Sixty Thousand Rand) for Cat Ladder	Item	60 000.00
11	Add for profit upon above, if required.	Item	
12	Attend upon the above if required.	Item	

Rainwater Goods

13	Provide the sum of R 160 000.00 (One Hundred and Sixty Thousand Rand) for Rainwater Goods	Item	160 000.00
14	Add for profit upon above, if required.	Item	
15	Attend upon the above if required.	Item	

Carried to Collection

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Section 2: Main Building
Bill No. 13
Provisional Sums
C2.2 Pricing Data

**THE INNOVATION HUB
UPGRADE OF BIOPARK PHASE 1C BUILDING**

<u>Furniture</u>			
16	Provide the sum of R 180 000.00 (One Hundred and Eighty Thousand Rand) for Furniture	Item	180 000.00
17	Add for profit upon above, if required.	Item	
18	Attend upon the above if required.	Item	
<u>Lift Installation</u>			
19	Provide the sum of R 810 000 for Lift installation	Item	810 000.00
20	Add for profit upon above, if required.	Item	
21	Attend upon the above if required.	Item	
<u>Piling</u>			
22	Provide the sum of R 400 000 for Lift installation	Item	400 000.00
23	Add for profit upon above, if required.	Item	
24	Attend upon the above if required.	Item	
<u>Sealing off existing laboratory space</u>			
25	Provide the sum of R 50 000 for Sealing off existing laboratory space to the underside of the steel roof 4m high	Item	50 000.00
26	Add for profit upon above, if required.	Item	
27	Attend upon the above if required.	Item	
<u>Provide experiential work opportunities and training towards trade competencies for designated persons</u>			
28	Allow the sum of R 265,000.00 (Two Hundred and Sixty Five Thousand Rand) for training allowance paid to approved training providers in terms of formal training. Training to be executed complete by an approved training provider.	Item	265 000.00
Carried to Collection			R
Section 2: Main Building Bill No. 13 Provisional Sums C2.2 Pricing Data			

Community Liaison Officer

29 Provide the amount of R 68 000.00 (Sixty Eight Thousand Rands) for employment of Community Liaison Officer. (Allowance for R 8000 per month and R500 cellphone allowance)

Item

68 000.00

Carried to Collection

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Section 2: Main Building
Bill No. 13
Provisional Sums
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Section No. 2

Section 2: Main Building

Bill No. 13

Provisional Sums

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Provisional Sums

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Section 2: Main Building

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4	Masonry	32	
5	Waterproofing	36	
6	Carpentry and Joinery	39	
7	Metalwork	45	
8	Plastering	48	
9	Tiling	49	
10	Plumbing and Drainage (Provisional)	57	
11	Glazing	58	
12	Paintwork	61	
13	Provisional Sums	66	
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	Section 2: Main Building C2.2 Pricing Data		

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>BILL NO. 3</u>			
	<u>EXTERNAL ELECTRICAL CONNECTION</u>			
	<u>External Electrical connection</u>			
1	Provisional Sum of R2,090,475.00 for All Municipal Connection Related Cost		SUM	
2	Upgrade of Existing Main Kiosk	Item		
3	Install above	No	1	
4	Upgrade of Existing Main Distribution Board including re-wiring and additional breaker (200A&40A)	Item		
5	Install above	No	1	
	<u>Cables</u>			
	All Cables Rate Shall Include Cables Terminations and Joints			
6	120mm ² 4-core XPLE cu cable + 70 BCEW	m	200	
7	Install above	No	200	
8	185mm ² 4-core XPLE cu cable + 95 BCEW	m	600	
9	Install above	No	600	
	<u>Sleeves</u>			
	High-density polyethylene (HDPE) flexible sleeve piping laid in trench (trench and backfilling measured elsewhere) Including Joints			
10	160mmØ	m	50	
11	Install above	No	50	
	Carried to Collection			R
	Section 3: Electrical Installation Bill No. 1 External Electrical Connection C2.2 Pricing Data			

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Section 3: Electrical Installation
Bill No. 1
External Electrical Connection

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Section 3: Electrical Installation
Bill No. 1
External Electrical Connection
C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 4</u>			
	<u>BILL NO. 1</u>			
	<u>LOW VOLTAGE SUPPLY</u>			
	NOTES:			
	Distribution Boards should be installed according to SANS 10142 and SANS 10400			
	<u>Supply and installation of a weatherproof pre-manufactured low voltage distribution board, complete with sheetmetal tray, frames, sub-frames, busbars, legend card, circuit breakers, fuses, relay, volt-meter, ammeter, transformer, earth leakage unit, timer, switch, etc.</u>			
	<u>Distribution Board Second Floor</u>			
1	Bottom entry surface mounted distribution kiosk Wired as per drawing PHG-SF_DB-01 SCHEMATIC DIAGRAM	Item		
2	Install above	Item		
3	200A, 6kA SABS Approved Circuit Breaker	Item		
4	Install above	Item		
5	100A, 6kA, 3Pole SABS Approved Circuit Breaker for Lift	Item		
6	Install above	Item		
7	60A, 6kA, 3Pole SABS Approved Circuit Breaker	Item		
8	Install above	Item		
9	40A, 6kA, 3Pole SABS Approved Circuit Breaker	Item		
10	Install above	Item		
11	20A, 6kA, 1Pole SABS Approved Circuit Breaker	Item		
	Carried to Collection		R	
	Section 3: Electrical Installation Bill No. 2 Low Voltage Supply C2.2 Pricing Data			

**THE INNOVATION HUB
UPGRADE OF BIOPARK PHASE 1C BUILDING**

12	Install above	Item	
13	Timer	Item	
14	Install above	Item	
15	10A, 6kA, 1Pole SABS Approved Circuit Breaker	Item	
16	Install above	Item	
17	63A, 6kA, 3Pole SABS Earth Leakage	Item	
18	Install above	Item	
19	100A 3phase Metering Unit	Item	
20	Install above	Item	
21	200A 3phase Metering Unit	Item	
22	Install above	Item	
23	200A, 30kA SABS Approved Bus Bar	Item	
24	Install above	Item	
25	100A, 30kA SABS Approved Bus Bar	Item	
26	Install above	Item	
27	63A, 6kA, SABS Approved Bus Bar	Item	
28	Install above	Item	
29	40KA, 3Pole SABS Approved Surge Arrestor	Item	
30	Install above	Item	
31	DB Blanks	Item	
32	Install above	Item	
33	DB Lable Booklets	Item	
34	Install above	Item	
Carried to Collection			R
Section 3: Electrical Installation Bill No. 2 Low Voltage Supply C2.2 Pricing Data			

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Section 3: Electrical Installation

Bill No. 2

Low Voltage Supply

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Section 3: Electrical Installation

Bill No. 2

Low Voltage Supply

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 4</u>			
	<u>BILL NO. 2</u>			
	<u>SOCKET OUTLET AND ISOLATOR</u>			
	NOTES:			
	Socket Outlet and Light Switch should be installed according to SANS 10142 and SANS 10400			
	<u>Supply, installation and commission of low voltage socket outlets and Isolators</u>			
	<u>Socket Outlet</u>			
1	16A Single Three-pin flash mounted socket outlet	Item		
2	Install above	Item		
3	16A Single Three-pin dedicated socket outlet on power skirting (Red)	Item		
4	Install above	Item		
5	16A Single Three-pin socket outlet mounted in power skirting	Item		
6	Install above	Item		
7	32A Industrial Plugs	Item		
8	Install above	Item		
9	RJ45 Telephone Outlet on Power skirting	Item		
10	Install above	Item		
	<u>Isolators</u>			
11	100x50 20A Single Pole Isolator	Item		
12	Install above	Item		
	Carried to Collection			R
	Section 3: Electrical Installation Bill No. 3 Socket Outlet and Isolator C2.2 Pricing Data			

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Section 3: Electrical Installation

Bill No. 3

Socket Outlet and Isolator

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Section 3: Electrical Installation

Bill No. 3

Socket Outlet and Isolator

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 4</u>			
	<u>BILL NO. 3</u>			
	<u>LIGHTING</u>			
	NOTES:			
	Lighting should be installed and wired in according to SANS 10142 and SANS 10400			
	<u>Supply, installation and comission of energy saving lights and light switches</u>			
	<u>Lighting</u>			
1	20W LED Rectangular Bulkhead Light With Opaque Acrylic Diffuser	Item		
2	Install above	No	10	
3	65W LED Vapourline light fitting	Item		
4	Install above	No	2	
5	2x22W Close Channel LED TUBE	Item		
6	Install above	No	101	
7	20W Regent Beam Ceiling mini-color charcoal	Item		
8	Install above	No	11	
9	LED Tubo 6 C210 up/down wall mounted with clear tempered glass and plate corver	Item		
10	Install above	No	4	
11	Regent F105Q to match existing silver	Item		
12	Install above	No	3	
	Carried to Collection			R
	Section 3: Electrical Installation Bill No. 4 Lighting C2.2 Pricing Data			

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Section 3: Electrical Installation

Bill No. 4

Lighting

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Section 3: Electrical Installation

Bill No. 4

Lighting

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 4</u>			
	<u>BILL NO. 4</u>			
	<u>LIGHTNING PROTECTION</u>			
	<u>Allow for complete earthing and lightning protection of the building, including bonding of the reinforcing steel and steel columns. Total cost for the provision of lightning points for the building as indicated on the layout drawings and specific drawings including testing and issuance of certificates thereof. Contractors shall allow for the installation and testing to be performed by approved specialists such as HHK.</u>			
	<u>General Soil Resistivity Tests for The Building</u>			
1	Soil Resistivity Tests		SUM	
	<u>General Testing and Certification for The Building</u>			
2	Complete earth test measurements and provide certificate of compliance for completed lightning protection installation		SUM	
	<u>Building</u>			
3	Total cost for design, supply, install and commission of lightning protection for the building based on structural construction drawings including bare copper earth wire plant earth ring, Earth Spike Complete with Terminations Clamps, Bolts, etc. Bonding Terminations and Connections Between Concrete reinforcing and Trench Earth Aluminium Air Conductor Complete with Conductor Guide, Connections to Roof Materials and Connections to trench Earth		SUM	
4	Install above		SUM	
	<u>Testing and commissioning</u>			
5	Test and Commissioning		SUM	
	Carried Forward to Summary of Section No. 3		R	
	Section 3: Electrical Installation Bill No. 5 Lightning Protection C2.2 Pricing Data			

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 4</u>			
	<u>BILL NO. 5</u>			
	<u>CABLING AND CONDUITS</u>			
	<u>The rates for cable trays shall include for hangers, splices, jointing, drilling; Conduit includes all bends, tee-pieces, joints, locknuts etc.</u>			
	<u>Cabling</u>			
1	2.5mm ² Bare Copper Earth Wire	m	1 000	
2	Install above	m	1 000	
3	2.5mm ² 3Core PVC SWA Cable	m	1 000	
4	Install above	m	1 000	
5	4mm ² Bare Copper Earth Wire	m	1 000	
6	Install above	m	1 000	
7	4mm ² 3Core PVC SWA Cable	m	1 000	
8	Install above	m	1 000	
9	6mm ² Bare Copper Earth Wire	m	1 000	
10	Install above	m	1 000	
11	6mm ² 3Core PVC SWA Cable	m	1 000	
12	Install above	m	1 000	
13	70mm ² 4-core PVC insulated cu cable + 20mm ² BCEW	m	20	
14	Install above	m	20	
	Carried to Collection			R
	Section 3: Electrical Installation Bill No. 6 Cabling and Conduits C2.2 Pricing Data			

<u>Cable Terminations</u>					
15	2.5mm ² 3Core PVC SWA Cable + 2.5mm ² Bare Copper Earth Wire	No	1		
16	Install above	No	1		
17	4mm ² 3Core PVC SWA Cable + 4mm ² Bare Copper Earth Wire	No	1		
18	Install above	No	1		
19	6mm ² 3Core PVC SWA Cable + 6mm ² Bare Copper Earth Wire	No	1		
20	Install above	No	1		
21	70mm ² 4-core PVC insulated cu cable + 50mm ² BCEW	No	1		
22	Install above	No	1		
<u>Conduits and Accessories</u>					
23	20mm Steel Conduit Pipe	m	500		
24	Install above	m	500		
25	20mm Steel Couplings	Sets	1.0		
26	Install above	Sets	1.0		
27	20mm Steel Adaptors	Sets	1.0		
28	Install above	Sets	1.0		
29	20mm Steel Saddles	Sets	1.0		
30	Install above	Sets	1.0		
31	20mm UPVC Conduit Pipe	m	1 000		
32	Install above	m	1 000		
33	20mm UPVC Couplings	Sets	10.0		
34	Install above	Sets	10.0		
Carried to Collection					
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Section 3: Electrical Installation Bill No. 6 Cabling and Conduits C2.2 Pricing Data					

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Section 3: Electrical Installation

Bill No. 6

Cabling and Conduits

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Section 3: Electrical Installation

Bill No. 6

Cabling and Conduits

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 4</u>			
	<u>BILL NO. 6</u>			
	<u>CCTV AND ACCESS CONTROL</u>			
	<u>CCTV</u>			
1	High Resolution Bullet IP 10 to 15 meters Infrared indoor Cameras	Item		
2	Install above	Item		
3	High Resolution Bullet IP 10 to 15 meters Infrared outdoor Cameras	Item		
4	Install above	Item		
5	Poax (coax+power) Cable per 100m	m	600	
6	Install above	m	600	
7	12V DC Power Cables To Connect The Cameras To RG-59	Sets	1	
8	Install above	Sets	1.0	
9	BNC Connectors and Lugs	Sets	1.0	
10	Install above	Sets	1.0	
11	12V DC Power Supply Unit with Switch Mode For Cameras (optional)	Item		
12	Install above	Item		
13	30"/30" LCD Screen	Item		
14	Install above	Item		
15	64 Channels DVR	Item		
16	Install above	Item		
	Carried to Collection			R
	Section 3: Electrical Installation Bill No. 7 CCTV and Access Control C2.2 Pricing Data			

Section No. 3
Section 3: Electrical Installation
Bill No. 7
CCTV and Access Control

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Bill No. 7
CCTV and Access Control
C2.2 Pricing Data

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Section 3: Electrical Installation

SECTION SUMMARY - Section 3: Electrical Installation

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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 5</u>			
	<u>BILL NO. 1</u>			
	<u>SECOND FLOOR HVAC</u>			
	<u>LAB 1</u>			
	<u>AIR CONDITIONING UNIT</u>			
1	AC-SF-01-02, 5,7 kW Cooling capacity	No	2	
2	Remote Controller	No	2	
3	AC Accessories		Item	
	<u>COPPER PIPING COMPLETE WITH ARMAFLEX OR FRK INSULATION WITH ALL ACCESSORIES</u>			
4	PIPE Dia 9.52	m	6	
5	PIPE Dia 15.9	m	6	
6	Extra over pipe fittings	No	6	
	<u>ELECTRICAL WORKS</u>			
7	Electrical Works Associated with the above installations		Item	
	<u>LAB 2</u>			
8	AC-SF-01-02, 5,7 kW Cooling capacity	No	2	
9	Remote Controller	No	2	
10	AC Accessories		Item	
	<u>AIR CONDITIONING UNIT</u>			
	<u>COPPER PIPING COMPLETE WITH ARMAFLEX OR FRK INSULATION WITH ALL ACCESSORIES</u>			
11	PIPE Dia 9.52	m	7	
	Carried to Collection			R
	Section 4: Mechanical Installation Bill No. 1 Second Floor HVAC C2.2 Pricing Data			

**THE INNOVATION HUB
UPGRADE OF BIOPARK PHASE 1C BUILDING**

12	PIPE Dia 15.9	m	7	
13	Extra over pipe fittings	No	7	
	<u>ELECTRICAL WORKS</u>			
14	Electrical Works Associated with the above installations		Item	
	<u>LAB 3</u>			
	<u>AIR CONDITIONING UNIT</u>			
15	AC-SF-01-02, 5,7 kW Cooling capacity	No	2	
16	Remote Controller	No	2	
17	AC Accessories		Item	
	<u>COPPER PIPING COMPLETE WITH ARMAFLEX OR FRK INSULATION WITH ALL ACCESSORIES</u>			
18	PIPE Dia 9.52	m	15	
19	PIPE Dia 15.9	m	15	
20	Extra over pipe fittings	No	15	
	<u>ELECTRICAL WORKS</u>			
21	Electrical Works Associated with the above installations		Item	
	<u>LAB 4</u>			
	<u>AIR CONDITIONING UNIT</u>			
22	AC-SF-01-02, 5,7 kW Cooling capacity	No	3	
23	Remote Controller	No	3	
24	AC Accessories		Item	
	<u>COPPER PIPING COMPLETE WITH ARMAFLEX OR FRK INSULATION WITH ALL ACCESSORIES</u>			
25	PIPE Dia 9.52	m	11	
	Carried to Collection			R
	Section 4: Mechanical Installation			
	Bill No. 1			
	Second Floor HVAC			
	C2.2 Pricing Data			

**THE INNOVATION HUB
UPGRADE OF BIOPARK PHASE 1C BUILDING**

26	PIPE Dia 15.9	m	11
27	Extra over pipe fittings	No	11
<u>ELECTRICAL WORKS</u>			
28	Electrical Works Associated with the above installations		Item
<u>VRV OUTDOOR UNITS</u>			
29	VRV IV Outdoor, heat recovery, inverter, cooling 56 kw, Nominal, 3ph, R410a	No	1
<u>BS BOXES</u>			
30	VRV BS Boxes	No	1
31	VRV BS Boxes	No	1

Carried to Collection

R

Section 4: Mechanical Installation
 Bill No. 1
 Second Floor HVAC
C2.2 Pricing Data

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Section 4: Mechanical Installation

Bill No. 1

Second Floor HVAC

COLLECTION

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Section 4: Mechanical Installation

Bill No. 1

Second Floor HVAC

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 5</u>			
	<u>BILL NO. 2</u>			
	<u>SECOND FIRE PROTECTION</u>			
	<u>LAB 1</u>			
	<u>Fire Equipment</u>			
1	Statutory Signage	No	1	
2	Fire Extinguishers	No	1	
	<u>Integrated Smoke Detection and alarm System</u>			
3	FR20 alarm cables complete with the fittings		Item	
4	Fire/Smoke detector	No	1	
	<u>LAB 2</u>			
	<u>Fire Equipment</u>			
5	Statutory Signage	No	1	
6	Fire Extinguishers	No	1	
	<u>Integrated Smoke Detection and alarm System</u>			
7	FR20 alarm cables complete with the fittings		Item	
8	Fire/Smoke detector	No	1	
	<u>LAB 3</u>			
	<u>Fire Equipment</u>			
9	Statutory Signage	No	1	
10	Fire Extinguishers	No	1	
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	Section 4: Mechanical Installation			
	Bill No. 2			
	Second Floor Fire Protection			
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<u>Integrated Smoke Detection and alarm System</u>			
11	FR20 alarm cables complete with the fittings		Item
12	Fire/Smoke detector	No	1
<u>LAB 4</u>			
<u>Fire Equipment</u>			
13	Statutory Signage	No	1
14	Fire Extinguishers	No	1
<u>Integrated Smoke Detection and alarm System</u>			
15	FR20 alarm cables complete with the fittings		Item
16	Fire/Smoke detector	No	2
<u>PASSAGE</u>			
<u>Fire Equipment</u>			
17	Statutory Signage	No	15
18	Fire Hosereel	No	2
<u>Integrated Smoke Detection and alarm System</u>			
19	FR20 alarm cables complete with the fittings		Item
20	Fire/Smoke detector	No	4
<u>TOILETS AND KITCHEN</u>			
<u>Fire Equipment</u>			
21	Statutory Signage	No	2
<u>Integrated Smoke Detection and alarm System</u>			
22	FR20 alarm cables complete with the fittings		Item
23	Fire/Smoke detector	No	2
Carried to Collection			R
Section 4: Mechanical Installation			
Bill No. 2			
Second Floor Fire Protection			
C2.2 Pricing Data			

OTHER

**VRV IV Outdoor, heat recovery, inverter, cooling
56kw, nominal, 3ph, r410a**

Other Fire Systems

Fire Equipment

			Item
24	Fire Detection cables		
25	Sirens and Sounder Cables	m	1
26	Strobe Light cables	m	1
27	Break glass units	m	2

Carried to Collection

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Section 4: Mechanical Installation
Bill No. 2
Second Floor Fire Protection
C2.2 Pricing Data

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Section 4: Mechanical Installation

Bill No. 2

Second Floor Fire Protection

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Section 4: Mechanical Installation

Bill No. 2

Second Floor Fire Protection

C2.2 Pricing Data

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 5</u>			
	<u>BILL NO. 3</u>			
	<u>HOT WATER RETICULATION</u>			
	All piping to be water reticulation copper piping with traced joints.			
	All copper fittings to be refrigeration fittings with traced joints to piping.			
	<u>HOT WATER SERVICES</u>			
1	200 L Geysers	No	1	
	<u>Water Reticulation Piping</u>			
2	67 mm ϕ Copper piping	m	10	
3	54 mm ϕ Copper piping	m	50	
4	35 mm ϕ Copper piping	m	10	
5	22 mm ϕ Copper piping	m	10	
6	15 mm ϕ Copper piping	m	15	
	<u>Extra over copper piping for fittings.</u>			
7	67-54 mm Reducer	No	2	
8	54-42 mm Reducer	No	2	
9	42-35 mm Reducer	No	2	
10	35-22 mm Reducer	No	3	
11	22-15 mm Reducer	No	6	
12	67mm Bend	No	5	
13	54mm Bend	No	10	
	Carried to Collection			R
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**THE INNOVATION HUB
UPGRADE OF BIOPARK PHASE 1C BUILDING**

14	42mm Bend	No	3
15	22mm Bend	No	9
16	15mm Bend	No	9
17	35mm Tee	No	5
18	22mm Tee	No	5
19	15mm Tee	No	5
20	67-54 mm Reducing tee	No	5
21	54-42 mm Reducing tee	No	5
22	35-22 mm Reducing tee	No	5
23	22-15 mm Reducing tee	No	5
24	42 mm Straight coupler suitable for male or female connection	No	6
25	35 mm Straight coupler suitable for male or female connection	No	6
26	22 mm Straight coupler suitable for male or female connection	No	32
27	15 mm Straight coupler suitable for male or female connection	No	21
	<u>Valves etc. to copper piping</u>		
28	76 mm Ball valve	No	3
29	76 mm Balancing valve	No	2
30	22 mm Shut off valve	No	17
31	15 mm Shut off valve	No	4
32	76 mm Non Return Valve	No	3

Carried to Collection

R

Section 4: Mechanical Installation
Bill No. 3
Hot Water Reticulation
C2.2 Pricing Data

Section No. 4

Section 4: Mechanical Installation

Bill No. 3

Hot Water Reticulation

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Section 4: Mechanical Installation

Bill No. 3

Hot Water Reticulation

C2.2 Pricing Data

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Section 4: Mechanical Installation

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