

ITEM NO		QUANTITY	RATE	AMOUNT
	<p><u>BILL NO. 1</u></p> <p><u>PRELIMINARIES AND GENERAL</u></p> <p><u>MEANING OF TERMS "TENDER / TENDERER"</u></p> <p>Any reference to the words "Tender" or "Tenderer" herein and/or in any other documentation shall be construed to have the same meaning as the words "Bid" or "Bidder"</p> <p><u>PRELIMINARIES</u></p> <p>The JBCC Preliminaries Code 2103, May 2005 edition for use with the JBCC Principal Building Agreement Edition 4.1 Code 2101, March 2005 is taken to be incorporated herein. The tenderer is deemed to have referred to these documents for the full intent and meaning of each clause. These clauses are referred to by number and heading only. Where standard clauses or options are not applicable to the contract such modifications or corrections as are necessary are given under each relevant clause. Where an 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>Items not priced in these Preliminaries shall be deemed to be included elsewhere in these Bills of Quantities</p> <p><u>SECTION A: JBCC PRINCIPAL BUILDING AGREEMENT</u></p> <p><u>DEFINITIONS</u></p> <p>A1.0 DEFINITIONS AND INTERPRETATION Clause 1.0 Clause 1.1 Definition of "Commencement Date" is added:</p> <p>"COMMENCEMENT DATE" means the date that the agreement, made in terms of the Form of Offer and Acceptance, comes into effect</p> <p>Clause 1.1 Definition of "Construction Guarantee" is amended by replacing it with the following:</p> <p>"CONSTRUCTION GUARANTEE" means a guarantee at call obtained by the contractor from an institution approved by the employer in terms of the employer's construction guarantee form as selected in the schedule</p> <p>Clause 1.1 Definition of "Construction Period" is amended by replacing it with the following:</p> <p>"CONSTRUCTION PERIOD" means the period commencing on the commencement date and ending on the date of practical completion</p> <p>Clause 1.1 Definition of "Corrupt Practice" is added:</p> <p>"CORRUPT PRACTICE" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution</p> <p>Clause 1.1 Definition of "Fraudulent Practice" is added:</p> <p>"FRAUDULENT PRACTICE" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any tenderer and includes collusive practice among tenderers (prior to or after the tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the tenderer of the benefits of free and open competition</p> <p>Clause 1.1 Definition of "Interest" is amended by replacing it with the following:</p> <p>"INTEREST" means the interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be the rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999)</p> <p>Clause 1.1 Definition of "Principal Agent" is amended by replacing it with the following:</p> <p>"PRINCIPAL AGENT" means the person or entity appointed by the employer and named in the schedule. In the event of a principal agent not being appointed, then all the duties and obligations of a principal agent as detailed in the agreement shall be fulfilled by a representative of the employer as named in the schedule</p> <p>Clause 1.1 Definition of "Security" is amended by replacing it with the following:</p>			
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	<p>"SECURITY" means the form of security provided by the employer or contractor, as stated in the schedule, from which the contractor or employer may recover expense or loss</p> <p>Clause 1.6 is amended by replacing the words "prepaid registered post, telefax or e-mail" with "prepaid registered post or telefax"</p> <p>Clause 1.6.4 is amended by replacing it with the following:</p> <p>No clause Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
	OBJECTIVE AND PREPARATION		
3	<p>A2.0 OFFER, ACCEPTANCE AND PERFORMANCE Clause 2.0</p> <p>Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
4	<p>A3.0 DOCUMENTS Clause 3.0 Clause 3.2.1 is amended by replacing "14.1" with "14.0" Clause 3.7 is amended by the addition of the following: The contractor shall supply and keep a copy of the JBCC Series 2000 Principal Building Agreement and Preliminaries applicable to this contract on the site, to which the employer, principal agent and agents shall have access at all times Clause 3.10 is amended by replacing the second reference to "principal agent" with the word "employer" Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
5	<p>A4.0 DESIGN RESPONSIBILITY Clause 4.0 Clause 4.3 is amended by replacing it with the following: No clause Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
6	<p>A5.0 EMPLOYER'S AGENTS Clause 5.0 Clause 5.1.2 is amended to include clauses 32.6.3, 34.3, 34.4 and 38.5.8 Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
7	<p>A6.0 SITE REPRESENTATIVE Clause 6.0 Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
8	<p>A7.0 COMPLIANCE WITH REGULATIONS Clause 7.0 Note: A separate clause has been included in Section C : Specific Preliminaries of the bills of quantities / lump sum document for the contractor to have the opportunity to price for all the requirements of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
9	<p>A8.0 WORKS RISK Clause 8.0 Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
10	<p>A9.0 INDEMNITIES Clause 9.0 Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
11	<p>A10.0 WORKS INSURANCES Clause 10.0 Clause 10.0 is amended by the addition of the following clauses:</p> <p>10.5 Damage to the Works (a) Without in any way limiting the contractor's obligations in terms of the contract, the contractor shall bear the full risk of damage to and/or destruction of the works by whatever cause during construction of the works and hereby indemnifies and holds harmless the employer against any such damage. The contractor shall take such precautions and security measures and other steps for the protection and security of the works as the contractor may deem necessary</p> <p>(b) The contractor shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works</p> <p>(c) The employer shall carry the risk of damage to or destruction of the works and materials paid for by the employer that is the result of the excepted risks as set out in 10.6</p> <p>(d) Where the employer bears the risk in terms of this contract, the contractor shall, if requested to do so, reinstate any damage or destroyed portions of the works and the costs of such reinstatement shall be measured and valued in terms of 32.0 hereof</p> <p>10.6 Injury to Persons or loss of or damage to Properties (a) The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever arising out of or in the course of or caused by the execution of the works unless due to any act or negligence of any person for whose actions the employer is legally liable</p>	Item	1

	<p>(b) The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person, arising out of or in the course of or by reason of the execution of the works unless due to any act or negligence of any person for whose actions the employer is legally liable</p> <p>(c) The contractor shall, upon receiving a contract instruction from the principal agent, cause the same to be made good in a perfect and workmanlike manner at his own cost and in default thereof the employer shall be entitled to cause it to be made good and to recover the cost thereof from the contractor or to deduct the same from amounts due to the contractor</p> <p>(d) The contractor shall be responsible for the protection and safety of such portions of the premises placed under his control by the employer for the purpose of executing the works until the issue of the certificate of practical completion</p> <p>(e) Where the execution of the works involves the risk of removal of or interference with support to adjoining properties including land or structures or any structures to be altered or added to, the contractor shall obtain adequate insurance and will remain adequately insured or insured to the specific limit stated in the contract against the death of or injury to persons or damage to such property consequent on such removal or interference with the support until such portion of the works has been completed</p> <p>(f) The contractor shall at all times proceed immediately at his own cost to remove or dispose of any debris and to rebuild, restore, replace and/or repair such property and to execute the works</p> <p>10.7 High risk insurance In the event of the project being executed in a geological area classified as a "High Risk Area", that is an area which is subject to highly unstable subsurface conditions that might result in catastrophic ground movement evident by sinkhole or doline formation the following will apply:</p> <p>10.7.1 Damage to the works The contractor shall, from the commencement date of the works until the date of the certificate of practical completion bear the full risk of and hereby indemnifies and holds harmless the employer against any damage to and/or destruction of the works consequent upon a catastrophic ground movement as mentioned above. The contractor shall take such precautions and security measures and other steps for the protection of the works as he may deem necessary</p> <p>When so instructed to do so by the principal agent, the contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works, at the contractor's own costs</p> <p>10.7.2 Injury to persons or loss of or damage to property The contractor shall be liable for and hereby indemnifies and holds harmless the employer against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of, or caused by a catastrophic ground movement as mentioned above</p> <p>The contractor shall be liable for and hereby indemnifies the employer against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract</p> <p>10.7.3 It is the responsibility of the contractor to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.7.1 and 10.7.2. Without limiting the contractor's obligations in terms of the contract, the contractor shall, within twenty-one (21) calendar days of the commencement date but before commencement of the works, submit to the employer proof of such insurance policy, if requested to do so</p> <p>10.7.4 The employer shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the contractor's default of his obligations as set out in 10.7.1; 10.7.2 and 10.7.3. Such losses or damages may be recovered from the contractor or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the employer and the contractor and for this purpose all these contracts shall be considered one indivisible whole Fixed:_____ Value related:_____ Time related:_____ Item 1</p>	
12	A11.0 LIABILITY INSURANCES Clause 11.0 Fixed:_____ Value related:_____ Time related:_____ Item 1	
13	A12.0 EFFECTING INSURANCES Clause 12.0 Fixed:_____ Value related:_____ Time related:_____ Item 1	
14	A13.0 No clause N/A	

A14.0 SECURITY Clause 14.0 Clauses 14.1 - 14.8 are amended by replacing them with the following:

14.1 In respect of contracts with a contract sum up to R1 million, the security to be provided by the contractor to the employer will be a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT)

14.1.1 The payment reduction of the value certified in a payment certificate shall be mutatis mutandi in terms of 31.8(A)

14.1.2 The employer shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the employer complies with the provisions of 33.4 in which event the employer's entitlement shall take precedence over his obligations to refund the payment reduction security or portions thereof to the contractor

14.2 In respect of contracts with a contract sum above R1 million, the contractor shall have the right to select the security to be provided in terms of 14.3, 14.4, 14.5, 14.6, or 14.7 as stated in the schedule. Such security shall be provided to the employer within twenty-one (21) calendar days from commencement date. Should the contractor fail to select the security to be provided or should the contractor fail to provide the employer with the selected security within twenty-one (21) calendar days from commencement date, the security in terms of 14.7 shall be deemed to have been selected

14.3 Where security as a cash deposit of ten per cent (10%) of the contract sum (excluding VAT) has been selected:

14.3.1 The contractor shall furnish the employer with a cash deposit equal in value to ten per cent (10%) of the contract sum (excluding VAT) within twenty-one (21) calendar days from commencement date

14.3.2 Within twenty-one (21) calendar days of the date of practical completion of the works the employer shall reduce the cash deposit to an amount equal to three per cent (3%) of the contract value (excluding VAT), and refund the balance to the contractor

14.3.3 Within twenty-one (21) calendar days of the date of final completion of the works the employer shall reduce the cash deposit to an amount equal to one per cent (1%) of the contract value (excluding VAT) and refund the balance to the contractor

14.3.4 On the date of payment of the amount in the final payment certificate, the employer shall refund the remainder of the cash deposit to the contractor

14.3.5 The employer shall be entitled to recover expense and loss from the cash deposit in terms of 33.0 provided that the employer complies with the provisions of 33.4 in which event the employer's entitlement shall take precedence over his obligations to refund the cash deposit security or portions thereof to the contractor

14.3.6 The parties expressly agree that neither the employer nor the contractor shall be entitled to cede the rights to the deposit to any third party

14.4 Where security as a variable construction guarantee of ten per cent (10%) of the contract sum (excluding VAT) has been selected:

14.4.1 The contractor shall furnish the employer with an acceptable variable construction guarantee equal in value to ten per cent (10%) of the contract sum (excluding VAT) within twenty-one (21) calendar days from commencement date

14.4.2 The variable construction guarantee shall reduce and expire in terms of the Variable Construction Guarantee form included in the invitation to tender

14.4.3 The employer shall return the variable construction guarantee to the contractor within fourteen (14) calendar days of it expiring

14.4.4 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer shall issue a written demand in terms of the variable construction guarantee

14.5 Where security as a fixed construction guarantee of five per cent (5%) of the contract sum (excluding VAT) and a five per cent (5%) payment reduction of the value certified in the payment certificate (excluding VAT) has been selected:

14.5.1 The contractor shall furnish a fixed construction guarantee to the employer equal in value to five per cent (5%) of the contract sum (excluding VAT)

14.5.2 The fixed construction guarantee shall come into force on the date of issue and shall expire on the date of the last certificate of practical completion

14.5.3 The employer shall return the fixed construction guarantee to the contractor within fourteen (14) calendar days of it expiring

	<p>14.5.4 The payment reduction of the value certified in a payment certificate shall be in terms of 31.8 (A) and 34.8</p> <p>14.5.5 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer shall be entitled to issue a written demand in terms of the fixed construction guarantee or may recover from the payment reduction or may do both</p> <p>14.6 Where security as a cash deposit of five per cent (5%) of the contract sum (excluding VAT) and a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT) has been selected:</p> <p>14.6.1 The contractor shall furnish the employer with a cash deposit equal in value to five per cent (5%) of the contract sum (excluding VAT) within twenty-one (21) calendar days from commencement date</p> <p>14.6.2 Within twenty-one (21) calendar days of the date of practical completion of the works the employer shall refund the cash deposit in total to the contractor</p> <p>14.6.3 The payment reduction of the value certified in a payment certificate shall be mutatis mutandi in terms of 31.8(A)</p> <p>14.6.4 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer may issue a written notice in terms of 33.4 or may recover from the payment reduction or may do both</p> <p>14.7 Where security as a payment reduction of ten per cent (10%) of the value certified in the payment certificate (excluding VAT) has been selected:</p> <p>14.7.1 The payment reduction of the value certified in a payment certificate shall be mutatis mutandi in terms of 31.8(B)</p> <p>14.7.2 The employer shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the employer complies with the provisions of 33.4 in which event the employer's entitlement shall take precedence over his obligations to refund the payment reduction or portions thereof to the contractor</p> <p>14.8 Payments made by the guarantor to the employer in terms of the fixed or variable construction guarantee shall not prejudice the rights of the employer or contractor in terms of this agreement</p> <p>14.9 Should the contractor fail to furnish the security in terms of 14.2, the employer, in his sole discretion and without notification to the contractor, is entitled to change the contractor's selected form of security to that of a ten per cent (10%) payment reduction of the value certified in the payment certificate (excluding VAT), whereafter 14.7 shall be applicable Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
16	<p>EXECUTION</p> <p>A15.0 PREPARATION FOR AND EXECUTION OF THE WORKS Clause 15.0 Clause 15.1.1 is amended by replacing it with: No clause Clause 15.1.2 is amended by replacing it with: The security selected in terms of 14.0</p> <p>Clause 15.1 is amended by the addition of the following clause: 15.1.4 An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within twenty-one (21) calendar days of commencement date</p> <p>Clause 15.2.1 is amended by replacing it with the following clause:</p> <p>Give the contractor possession of the site within ten (10) working days of the contractor complying with the terms of 15.1.4 Fixed:_____ Value related:_____ Time related:_____</p>	Item	1
17	A16.0 ACCESS TO THE WORKS Clause 16.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
18	A17.0 CONTRACT INSTRUCTIONS Clause 17.0 Clause 17.1.11 is amended by deleting the words "and the appointment of nominated and selected subcontractors" Fixed:_____ Value related:_____ Time related:_____	Item	1
19	A18.0 SETTING OUT OF THE WORKS Clause 18.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
20	A19.0 ASSIGNMENT Clause 19.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
21	A20.0 NOMINATED SUBCONTRACTORS Clause 20.0 Clause 20.1.3 is amended by replacing it with the following: No clause Note: See item B9.1 hereinafter for adjustment of attendance on nominated subcontractors executing work allowed for under provisional sums Fixed:_____ Value related:_____ Time related:_____	Item	1

22	A21.0 SELECTED SUBCONTRACTORS Clause 21.0 Clause 21 is amended by replacing it with: No clause Fixed:_____ Value related:_____ Time related:_____	Item	1
23	A22.0 EMPLOYER'S DIRECT CONTRACTORS Clause 22.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
24	A23.0 CONTRACTOR'S DOMESTIC SUBCONTRACTORS Clause 23.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
	COMPLETION		
25	A24.0 PRACTICAL COMPLETION Clause 24.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
26	A25.0 WORKS COMPLETION Clause 25.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
27	A26.0 FINAL COMPLETION Clause 26.0 Clause 26.1.2 is amended by inserting "#" next to 26.1.2 Fixed:_____ Value related:_____ Time related:_____	Item	1
28	A27.0 LATENT DEFECTS LIABILITY PERIOD Clause 27.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
29	A28.0 SECTIONAL COMPLETION Clause 28.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
30	A29.0 REVISION OF DATE FOR PRACTICAL COMPLETION Clause 29.0 Clause 29.2.5 is amended by replacing it with: No clause Fixed:_____ Value related:_____ Time related:_____	Item	1
31	A30.0 PENALTY FOR NON-COMPLETION Clause 30.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
	PAYMENT		
32	A31.0INTERIM PAYMENT TO THE CONTRACTOR Clause 31.0		
	Clause 31.5.2 is amended by replacing "14.7.1" with "14.0"		
	Clause 31.8 is amended by replacing it with the following two alternative clauses:		
	Alternative A 31.8(A) Where a security is selected in terms of 14.1; 14.5 or 14.6, the value of the works in terms of 31.4.1 and materials and goods in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:		
	31.8(A).1 Ninety-five per cent (95%) of such value in interim payment certificates issued up to the date of practical completion		
	31.8(A).2 Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of practical completion and up to but excluding the date of final completion		
	31.8(A).3 Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 34.6		
	31.8(A).4 One hundred per cent (100%) of such value in the final payment certificate in terms of 34.6 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate		
	Alternative B		
	31.8(B) Where security as a payment reduction in terms of 14.7 has been selected, the value of the works in terms of 31.4.1 and materials and goods in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:		
	31.8(B).1 Ninety per cent (90%) of such value in interim payment certificates issued up to the date of practical completion		
	31.8(B).2 Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of practical completion and up to but excluding the date of final completion		
	31.8(B).3 Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 34.6		
	31.8(B).4 One hundred per cent (100%) of such value in the final payment certificate in terms of 34.6 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate		

	Clause 31.12 is amended by deleting the following:		
	Payment shall be subject to the employer giving the contractor a tax invoice for the amount due Fixed:_____ Value related:_____ Time related:_____	Item	1
33	A32.0 ADJUSTMENT TO THE CONTRACT VALUE Clause 32.0 Clauses 32.5.1, 32.5.4 and 32.5.7 are amended by the addition of the following at the end of the sentence: "due to no fault of the contractor" Fixed:_____ Value related:_____ Time related:_____	Item	1
34	A33.0 RECOVERY OF EXPENSE AND LOSS Clause 33.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
35	A34.0 FINAL ACCOUNT AND FINAL PAYMENT Clause 34.0 Clause 34.1 is amended by removing "#" next to 34.1 Clause 34.2 is amended by inserting "#" next to 34.2 Clause 34.8 is amended by deleting the words "where security as a fixed construction guarantee in terms of 14.4 has been selected or where payment reduction has been applied in terms of 14.7.1" Clause 34.13 is amended by replacing "seven (7) calendar days" with "twenty-one (21) calendar days" and deleting the words "subject to the employer giving the contractor a tax invoice for the amount due" Fixed:_____ Value related:_____ Time related:_____	Item	1
36	A35.0 PAYMENT TO OTHER PARTIES Clause 35.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>CANCELLATION</u>		
37	A36.0 CANCELLATION BY EMPLOYER - CONTRACTOR'S DEFAULT Clause 36.0 Clause 36.1 is amended by the addition of the following clauses: 36.1.3 refuses or neglects to comply strictly with any of the conditions of contract 36.1.4 estate being sequestrated, liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa 36.1.5 in the judgement of the employer, has engaged in corrupt or fraudulent practices in competing for or in executing the contract Clause 36.3 is amended by removing the reference to "No clause" and replacing the words "principal agent" with "employer"		
	Clause 36.0 is amended by the addition of the following clause:		
	36.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever Fixed:_____ Value related:_____ Time related:_____	Item	1
38	A37.0 CANCELLATION BY EMPLOYER - LOSS AND DAMAGE Clause 37.0 Clause 37.3.5 is amended by replacing "ninety (90)" with "one hundred and twenty (120)"		
	Clause 37.0 is amended by the addition of the following clause: 37.5 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever Fixed:_____ Value related:_____ Time related:_____	Item	1
39	A38.0 CANCELLATION BY CONTRACTOR - EMPLOYER'S DEFAULT Clause 38.0 Clause 38.5.4 is amended by replacing "ninety (90)" with "one hundred and twenty (120)" Clause 38.0 is amended by the addition of the following clause:		
	38.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever Fixed:_____ Value related:_____ Time related:_____	Item	1
40	A39.0 CANCELLATION - CESSATION OF THE WORKS Clause 39.0 Clause 39.3.5 is amended by the addition of the following at the end of the sentence: "within one hundred and twenty (120) working days of completion of such a report" Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>DISPUTE</u>		

41	A40.0 DISPUTE SETTLEMENT Clause 40.0 Clause 40.2.2 is amended by replacing "one (1) year" with "three (3) years" Clause 40.6 is amended by removing the reference to: No clause Clause 40.7.1 is amended by replacing "(10)" with "(15)" and by the addition of the following: Whether or not mediation resolves the dispute, the parties shall bear their own costs concerning the mediation and equally share the costs of the mediator and related costs Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>SUBSTITUTE PROVISIONS</u>		
42	A41.0 STATE CLAUSES Clause 41.0 Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>CONTRACT VARIABLES</u>		
43	A42.0 THE SCHEDULE Clause 42.0Tenderers are referred to the Contract Data (EC) for variables pertaining to this contractFixed:_____ Value related:_____ Time related:_____	Item	1
	<u>SECTION B: JBCC PRELIMINARIES</u>		
	<u>B1.0DEFINITIONS AND INTERPRETATION</u>		
44	B1.1 Definitions and interpretation See also clause A1.0 of Section A for additional and/or amended definitions which shall apply equally to this Section Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>B2.0DOCUMENTS</u>		
45	B2.1 Checking of documents Fixed:_____ Value related:_____ Time related:_____	Item	1
46	B2.2 Provisional bills of quantities Fixed:_____ Value related:_____ Time related:_____	Item	1
47	B2.3 Availability of construction documentation Fixed:_____ Value related:_____ Time related:_____	Item	1
48	B2.4 Interests of agents Fixed:_____ Value related:_____ Time related:_____	Item	1
49	B2.5 Priced documents Fixed:_____ Value related:_____ Time related:_____	Item	1
50	B2.6 Tender submission Clause 2.6 is amended by replacing "JBCC Form of Tender" with "Form of Offer and Acceptance (EC)" Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>B3.0THE SITE</u>		
51	B3.1 Defined works area Fixed:_____ Value related:_____ Time related:_____	Item	1
52	B3.2 Geotechnical investigation Fixed:_____ Value related:_____ Time related:_____	Item	1
53	B3.3 Inspection of the site Fixed:_____ Value related:_____ Time related:_____	Item	1
54	B3.4 Existing premises occupied Fixed:_____ Value related:_____ Time related:_____	Item	1
55	B3.5 Previous work - dimensional accuracy Fixed:_____ Value related:_____ Time related:_____	Item	1
56	B3.6 Previous work - defects Fixed:_____ Value related:_____ Time related:_____	Item	1
57	B3.7 Services - known Fixed:_____ Value related:_____ Time related:_____	Item	1
58	B3.8 Services - unknown Fixed:_____ Value related:_____ Time related:_____	Item	1
59	B3.9 Protection of trees Fixed:_____ Value related:_____ Time related:_____	Item	1
60	B3.10 Articles of value Fixed:_____ Value related:_____ Time related:_____	Item	1
61	B3.11 Inspection of adjoining properties Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>B4.0MANAGEMENT OF CONTRACT</u>		
62	B4.1 Management of the works Fixed:_____ Value related:_____ Time related:_____	Item	1

63	B4.2 Programme for the works Fixed: _____ Value related: _____ Time related: _____	Item	1
64	B4.3 Progress meetings Fixed: _____ Value related: _____ Time related: _____	Item	1
65	B4.4 Technical meetings Fixed: _____ Value related: _____ Time related: _____	Item	1
66	B4.5 Labour and plant records Fixed: _____ Value related: _____ Time related: _____	Item	1
	<u>B5.0 SAMPLES, SHOP DRAWINGS AND MANUFACTURERS' INSTRUCTIONS</u>		
67	B5.1 Samples of materials Fixed: _____ Value related: _____ Time related: _____	Item	1
68	B5.2 Workmanship samples Fixed: _____ Value related: _____ Time related: _____	Item	1
69	B5.3 Shop drawings Fixed: _____ Value related: _____ Time related: _____	Item	1
70	B5.4 Compliance with manufacturers' instructions Fixed: _____ Value related: _____ Time related: _____	Item	1
	<u>B6.0 TEMPORARY WORKS AND PLANT</u>		
71	B6.1 Deposits and fees Fixed: _____ Value related: _____ Time related: _____	Item	1
72	B6.2 Enclosure of the works Fixed: _____ Value related: _____ Time related: _____	Item	1
73	B6.3 Advertising Fixed: _____ Value related: _____ Time related: _____	Item	1
74	B6.4 Plant, equipment, sheds and offices Fixed: _____ Value related: _____ Time related: _____	Item	1
75	B6.5 Main notice board Fixed: _____ Value related: _____ Time related: _____	Item	1
76	B6.6 Subcontractors' notice board Fixed: _____ Value related: _____ Time related: _____	Item	1
	<u>B7.0 TEMPORARY SERVICES</u>		
77	B7.1 Location Fixed: _____ Value related: _____ Time related: _____	Item	1
78	B7.2 Water Fixed: _____ Value related: _____ Time related: _____	Item	1
79	B7.3 Electricity Fixed: _____ Value related: _____ Time related: _____	Item	1
80	B7.4 Telecommunication facilities Fixed: _____ Value related: _____ Time related: _____	Item	1
81	B7.5 Ablution facilities Fixed: _____ Value related: _____ Time related: _____	Item	1
	<u>B8.0 PRIME COST AMOUNTS</u>		
82	B8.1 Responsibility for prime cost amounts Fixed: _____ Value related: _____ Time related: _____	Item	1
	<u>B9.0 ATTENDANCE ON N/S SUBCONTRACTORS</u>		
83	B9.1 General attendance Fixed: _____ Value related: _____ Time related: _____	Item	1
84	B9.2 Special attendance Fixed: _____ Value related: _____ Time related: _____	Item	1
85	B9.3 Commissioning - fuel, water and electricity Fixed: _____ Value related: _____ Time related: _____	Item	1
	<u>B10.0 FINANCIAL ASPECTS</u>		
86	B10.1 Statutory taxes, duties and levies Fixed: _____ Value related: _____ Time related: _____	Item	1
87	B10.2 Payment for preliminaries Fixed: _____ Value related: _____ Time related: _____	Item	1
88	B10.3 Adjustment of preliminaries Clauses B10.3.1 and B10.3.2 are amended by replacing "within fifteen (15) working days of taking possession of the site" with "when submitting his priced bills of quantities / lump sum document" Fixed: _____ Value related: _____ Time related: _____	Item	1

89	B10.4 Payment certificate cash flow Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>B11.0GENERAL</u>		
90	B11.1 Protection of the works Fixed:_____ Value related:_____ Time related:_____	Item	1
91	B11.2 Protection / isolation of existing / sectionally occupied works Fixed:_____ Value related:_____ Time related:_____	Item	1
92	B11.3 Security of the works Fixed:_____ Value related:_____ Time related:_____	Item	1
93	B11.4 Notice before covering work Fixed:_____ Value related:_____ Time related:_____	Item	1
94	B11.5 Disturbance Fixed:_____ Value related:_____ Time related:_____	Item	1
95	B11.6 Environmental disturbance Fixed:_____ Value related:_____ Time related:_____	Item	1
96	B11.7 Works cleaning and clearing Fixed:_____ Value related:_____ Time related:_____	Item	1
97	B11.8 Vermin Fixed:_____ Value related:_____ Time related:_____	Item	1
98	B11.9 Overhand work Fixed:_____ Value related:_____ Time related:_____	Item	1
99	B11.10 Instruction manuals and guarantees Fixed:_____ Value related:_____ Time related:_____	Item	1
100	B11.11 As built information Fixed:_____ Value related:_____ Time related:_____	Item	1
101	B11.12 Tenant installations Fixed:_____ Value related:_____ Time related:_____	Item	1
	<u>B12.0SCHEDULE OF VARIABLES</u>		
102	B12.1 Schedule of variables Fixed:_____ Value related:_____ Time related:_____	Item	1
	<p>This schedule contains all variables referred to in this document and is divided into pre-tender and post-tender categories. The pre-tender category must be completed in full and included in the tender documents. Both the pre-tender and post-tender categories form part of these Preliminaries</p> <p>Spaces requiring information must be filled in, shown as "not applicable" or deleted and not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross-referenced to the applicable clause of the schedule. Key cross reference clauses are italicised in [] brackets</p> <p>12.1 PRE-TENDER INFORMATION 12.1.1 Provisional bills of quantities [2.2]The quantities are provisionalYES</p> <p>12.1.2 Availability of construction documentation [2.3] Construction documentation is completeNO</p> <p>12.1.3Interests of agents [2.4]Details: NIL</p> <p>12.1.4Defined works area [3.1]Details: As per Architect's detail</p> <p>12.1.5 Geotechnical investigation [3.2] Details: Available on request from the Engineer</p> <p>12.1.6Existing premises occupied [3.4]Specific requirements: Not Applicable</p> <p>12.1.7Previous work - dimensional accuracy [3.5]Details: As above item</p> <p>12.1.8Previous work - defects [3.6]Details: As above item</p> <p>12.1.9 Services - known [3.7] Details: Details available on request from the Engineer</p> <p>12.1.10Protection of trees [3.9]Specific requirements: Not applicable</p> <p>12.1.11 Inspection of adjoining properties [3.11] Specific requirements: Contractor carry out their own inspection and report if they identify any concerns</p> <p>12.1.12Enclosure of the works [6.2]Specific requirements:</p>		

12.1.13 Offices [6.4.3] Specific requirements: The contractor shall provide, maintain and remove on completion of the works an office for the exclusive use of the principal agent, minimum size 4 x 3 x 3m high internally, suitably insulated and ventilated, provided with electric lighting and fitted with boarded floor, desk, chair, drawing stool, drawing board and lock-up drawers for drawings. The office shall be kept clean and fit for use at all times

12.1.14 Main notice board [6.5] Specific requirements: Drawing to be issued

12.1.15 Subcontractors' notice board [6.6] A notice board is required - No ☐

12.1.16 Water [7.2] Option A (by contractor) YES Option B (by employer - free of charge) NO Option C (by employer - metered) ☒ NO

12.1.17 Electricity [7.3] Option A (by contractor) YES Option B (by employer - free of charge) NO Option C (by employer - metered) ☒ NO

12.1.18 Telecommunications [7.4] Telephone - BY CONTRACTOR YES Facsimile - BY CONTRACTOR ☒ YES E-mail - BY CONTRACTOR ☒ YES

12.1.19 Ablution facilities [7.5] Option A (by contractor) YES Option B (by employer) ☒ NO

12.1.20 Protection of existing/sectionally occupied works [11.2] Protection is required ☒ YES

12.1.21 Special attendance [9.2] ☒ Not Applicable

12.1.22 Protection of the works [11.1] Specific requirements: Not Applicable

12.1.23 Disturbance [11.5] Specific requirements: The contractor shall keep the site, structures, well watered during operations to prevent dust and shall provide and erect and remove on completion of the works all necessary temporary dust screens all to the satisfaction of the principal agent

12.1.24 Environmental disturbance [11.6] Specific requirements: See Environmental Management Plan available upon request from Zutari Consulting Engineers

12.2 POST-TENDER INFORMATION

12.2.1 Payment of preliminaries [10.2] Option A (prorated) NO Option B (calculated) ☒ YES

12.2.2 Adjustment of preliminaries [10.3] Option A (three categories) ☒ NO Option B (detailed breakdown) ☒ YES

12.2.3 Additional agreed preliminaries items Details: NIL

SECTION C: SPECIFIC PRELIMINARIES

Section C contains specific preliminary items which apply to this contract except where N/A (Not Applicable) appears against an item

C1.0 CONTRACT DRAWINGS The drawings issued with the tender documents do not comprise the complete set but serve as a guide only for tendering purposes and for indicating the scope of the work to enable the tenderer to acquaint himself with the nature and extent of the works and the manner in which they are to be executed Should any part of the drawings not be clearly understood by the tenderer he shall, before submitting his tender, obtain clarification in writing from the principal agent Fixed: _____ Value related: _____ Time related: _____ Item 1

C2.0 GENERAL PREAMBLES The document "Specification of Materials and Methods to be used (PW371)" is obtainable on the Department's website (<http://www.publicworks.gov.za/> under "Consultants Guidelines"), and shall be read in conjunction with the bills of quantities / lump sum document and be referred to for the full descriptions of work to be done and materials to be used Fixed: _____ Value related: _____ Time related: _____ Item 1

GENERAL PREAMBLES

105	<p>The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors is designed to support and extend the abbreviated descriptions utilised in these bills of quantities by inter alia referring to SANS construction standards. Where such preambles are not applicable (eg where BS or Euro construction standards are applicable or the design consultants provide other preambles/specifications for insertion), users are to ensure that the abbreviated descriptions when read in conjunction with the Standard System of Measuring Building Work (seventh edition) for works within South Africa or the Standard Method of Measuring Building Work for Africa 2015 (first edition) for works elsewhere in Africa, represent the full description by extending the abbreviated bills of quantities descriptions and/or by inserting appropriate preambles or specifications</p>					
106	<p>C3.0 TRADE NAMES Wherever a trade name for any product has been described in the bills of quantities / lump sum document, the tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the principal agent being obtained prior to the closing date for submission of tenders If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for Fixed: _____ Value related: _____ Time related: _____</p>	Item	1			
	<p>C4.0 IMPORTED MATERIALS AND EQUIPMENT Where imported items are listed in the tender documents, the tenderer shall provide all the information called for, failing which the price of any such item, materials or equipment shall be excluded from currency fluctuations. (refer to Schedule of Imported Materials and Equipment to be completed by tenderer) Notwithstanding any provisions elsewhere regarding the adjustment of contract prices, the price of any item, material or equipment listed in terms of this clause shall be excluded from the Contract Price Adjustment Provisions (if applicable) Fixed: _____ Value related: _____ Time related: _____</p>	Item	1			
	CARRIED FORWARD TO FINAL SUMMARY			<table border="1"> <tr> <td>R</td> <td>-</td> </tr> </table>	R	-
R	-					

<u>BILL NO. 1</u>				
<u>EARTHWORKS (PROVISIONAL)</u>				
<u>PREAMBLES</u>		QTY	RATE	AMOUNT
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)				
<u>CPAP ADJUSTMENT</u>				
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 104 for Contract Price Adjustment Provisions				
<u>SUPPLEMENTARY PREAMBLES</u>				
<u>Nature of ground</u>				
A Soils Investigation has been carried out on the site by the Engineer and the report is annexed to these bills of quantities.				
<u>Carting away of excavated material</u>				
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.				
<u>Filling</u>				
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 and any necessary multiple handling of material.				
<u>Testing</u>				
Prices for filling are to include for all necessary density tests in accordance with SABS 1200D				
<u>SITE CLEARANCE ETC</u>				
<u>Site Clearance</u>				
1	Digging up and removal of rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc m ²	800		
	Remove and grub large trees and tree stumps, of girth around the trunk 1m high above ground level including grubbing of roots, filling of holes and compaction to 90% Mod AASHTO density.			
2	Tree exceeding 500mm and not exceeding 1000mm girth No	2		
3	Tree exceeding 1000mm and not exceeding 2000mm girth No	2		
4	Tree exceeding 2000mm and not exceeding 3000mm girth No	2		
	Remove topsoil to nominal depth of 150mm and stockpile.			

	<u>EXCAVATION, FILLING, ETC</u>				
	Excavation in earth not exceeding 2m deep in confined spaces				
5	Reduced levels under floors	m ³	300		
6	Trenches	m ³	110		
7	Holes	m ³	14		
	<u>Extra over excavations in earth for excavation in:</u>				
8	Soft rock	m ³	85		
9	Hard rock	m ³	8		
	<u>Extra over all excavations for carting away:</u>				
10	Surplus material from excavations and / or stock piles on site to a dumping site to be located by the contractor.	m ³	370		
	<u>Risk of collapse of excavations:</u>				
11	Side of trenches and holes excavations not exceeding 1,5m deep	m ²	60		
12	Ditto, but from ground level to exceeding 1,5m	m ²	100		
	<u>Keeping excavations free of water:</u>				
13	Keeping excavations free from mud and all water including subterranean sources.	Item	1		
	Imported G7 filling , selected and supplied by the contractor, including depositing in layers not exceeding 150mm thick and compacting to 98% modified AASHTO dry density to trenches, holes, etc				
14	Backfilling to trenches, holes, etc	m ³	150		
15	Under floors, steps, pavings, etc	m ³	75		
	Imported G5 filling , selected and supplied by the contractor, including depositing in layers not exceeding 150mm thick and compacting to 98% modified AASHTO dry density to trenches, holes, etc				
16	Under floors, steps, pavings, etc	m ³	70		

	<u>Coarse river sand filling supplied by the contractor</u>			
17	Under floors etc	m ³	50	
	<u>Compaction of surfaces</u>			
18	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 93% Mod AASHTO density.	m ²	410	
	<u>Prescribed density tests on filling</u>			
19	Allow for compaction tests by an approved laboratory to determine density of filling material	No	45	
	Soil insecticide with Approved brand of ant-termite soil poison applied by a Registered Pest Control Company and guaranteed against termite infestation for ten years:			
20	Under floors, etc, including forming and poisoning shallow furrows against foundation walls, etc, filling in furrows and ramming	m ²	60	
21	To bottom and sides of trenches	m ²	450	
	Carried forward to Summary			
				R -

<u>BILL NO. 2</u>				
<u>CONCRETE, FORMWORK AND REINFORCEMENT (PROVISIONAL)</u>				
<u>PREAMBLES</u>		QTY	RATE	AMOUNT
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)				
<u>CPAP ADJUSTMENT</u>				
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 110, 111 and 114 for Contract Price Adjustment Provisions				
<u>Costs of tests.</u>				
The costs of making, storing and testing of concrete test cubes as required under clause 7 ' of Tests of SABS 1200 G shall include the cost of providingcube moulds necessary for the purpose, for testing costs and for submitting reports on the tests for the Engineer. The testing shall be undertaken by a an independent firm or institution nominated by the contractor to the approval of the Engineer. (Tets cubes are measured separately).				
<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
15Mpa/19mm Concrete				
1	Surface blinding under footings and bases m³	100		
<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
30MPa/20mm concrete				
2	Strip footings to walls m³	70		
<u>REINFORCED CONCRETE</u>				
30MPa/20mm concrete				
3	Surface beds, on waterproofing m³	60		
4	Suspended slabs m³	150		
5	Roof slabs m³	80		
6	Columns m³	50		
7	Beams m³	20		
8	Cavity walls m³	75		
9	Stair cases m³	45		
10	(a)Allow one million and five hundred thousand (R 1 500 000) for micro pilling foundation sum	1	1 500 000,00	
	(b) Contractor charge to allow for handling costs & profit %			

	<u>Test blocks</u>			
11	Making and testing of 150x150x150mm concrete strength test cubes (Provision)	No.	50	
	<u>FINISHING TOP OF SURFACE OF CONCRETE</u>			
	Finishing top surfaces of concrete smooth with a wood float			
12	Surface beds, suspended slabs, ground slabs, roof slabs, etc	m²	2 346	
	Finishing top surfaces of concrete smooth with a steel float			
13	Surface beds, suspended slabs, ground slabs, roof slabs, etc	m²	1 500	
	<u>Charmfers at corners</u>			
14	19 x 19mm triangular fillet at corners formed of unreinforced concrete steel trowelled	m	450	
	<u>MOVEMENT JOINT ETC</u>			
	Expansion joints with bitumen impregnated soft board between vertical concrete and brick surfaces			
15	10mm Joints not exceeding 300mm high	m	300	
	Saw-cut joints sealed with two part flexible polyurethane joint sealant			
16	6 x 30mm Saw-cut joints in top of concrete	m	100	
	<u>SMOOTH AND FAIR FORMWORK (DEGREE OF ACCURACY II)</u>			
	Smooth formwork to sides			
17	Beams propped to a height exceeding 3,5m and not exceeding 5m	m²	100	
18	Walls with total height exceeding 3,5m and not exceeding 5m above bearing level	m²	8	
	<u>ROUGH FORMWORK (DEGREE OF ACCURACY III)</u>			
	Rough formwork to sides			
19	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	500	
	Permanent Formwork			
20	Soffit of slabs	m2	1 000	
	<u>REINFORCEMENT (PROVISIONAL)</u>			
	High tensile steel			
21	High tensile steel reinforcement bars to structural concrete work.	t	25,00	
	Fabric reinforcement			
22	Type Ref. 245 in concrete surface beds, slabs, etc	m²	2350	
	Carried forward to Summary			
				R -

<u>BILL NO. 3</u>		QTY	RATE	AMOUNT
<u>MASONRY</u>				
<u>PREAMBLES</u>				
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)				
<u>CPAP ADJUSTMENT</u>				
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 118 for Contract Price Adjustment Provisions				
Sizes in descriptions				
Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick				
Hollow walls				
Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.				
Face bricks				
Bricks shall be ordered timeously to obtain uniformity in size and colour.				
Pointing				
Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc				
<u>BRICKWORK IN FOUNDATIONS</u>				
Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
<u>FOUNDATIONS (PROVISIONAL)</u>				
1	Half brick walls(LI)	m²	50	
2	One brick walls(LI)	m²	200	
<u>SUPERSTRUCTURE</u>				
Brickwork of NFP bricks in class II mortar				
3	Half brick walls(LI)	m²	220	
4	One brick walls(LI)	m²	940	

	<u>BRICKWORK AND BLOCKWORK SUNDRIES</u>			
5	115mm Wide reinforcement built in horizontally	m	430	
6	230mm Wide reinforcement built in horizontally	m	5 000	
7	Ditto, but in foundations (Provisional)	m	1 000	
	Turning pieces			
8	110mm Wide turning piece to lintels	m	40	
9	230mm Wide turning piece to lintels	m	200	
	Galvanised wire ties etc			
10	4mm Diameter roof tie 2m girth bent double, with one end built into brickwork and other end fixed to timber	No	100	
	<u>FACEBRICK</u>			
	Facebrick wall with 10mm raked joints to later specifications			
11	Extra over brickwork for face brickwork externally	m ²	100	
12	One brickwork for face brickwork	m ²	840	
13	Half brick walls	m ²	120	
14	Fair raking cutting	m	36	
15	345mm thick cavity brick walls made of two leafs of 110mm wall with 135mm concrete fill (concrete elsewhere measured somewhere	m ²	300	
	Brick-on-edge header course copings, sills etc. of face brick as described			
16	Internal Sills	m	100	
	Modcon Coping Type 002a Window Cill secured to brickwork in accordance with the manufacturer's specification & detail			
17	Coping Type 270x65x50x1.000m long	m	100	
18	Coping Type 150 x 65 x 50 x 1.200m long	m	50	
19	Coping Type 295 x 50 x 35 x 1.000m long	m	20	
20	Coping Type 380 x 105 x 75 x 1.200m long	m	75	
	Carried forward to Summary			
				R -

BILL NO. 4				
WATERPROOFING				
PREAMBLES		QTY	RATE	AMOUNT
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)				
CPAP ADJUSTMENT				
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 120 for Contract Price Adjustment Provisions				
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				
DAMP PROOFING OF WALLS AND FLOORS				
One layer of 375 micron "Gundle plastic Brikgrip DPC" embossed damp proof course				
1	In walls m ²	100		
One layer of 250 micron Gundle plastic "USB Green" waterproofing sheeting sealed at laps with "Gunplas" pressure sensitive tape.				
2	Under surface beds m ²	1 500		
4mm "Derbigum SP4" or equal and approved fully bonded waterproofing system carried out strictly in accordance with the manufacturer's instructions and under a Ten Year Insurance Backed Guarantee on materials and workmanship (On Concrete).				
3	On concrete roof slab m ²	450		
Silicone sealing compound				
4	In joints between window frames and brickwork m	300		
Carried forward to Summary				
				R -

<u>BILL NO. 5</u>				
<u>CARPENTRY AND JOINERY</u>				
<u>PREAMBLES</u>		QTY	RATE	AMOUNT
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)				
<u>CPAP ADJUSTMENT</u>				
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 126 for Contract Price Adjustment Provisions				
<u>SUPPLEMENTARY PREAMBLES</u>				
Fixing				
Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", the bolts have been given elsewhere				
Joinery				
Descriptions of frames shall be deemed to include frames, transomes, rails, etc.				
Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts.				
Decorative thermosetting plastic laminate covering				
Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish.				
<u>BALUSTRADE WALL, WALL CLADDING AND CUPBOARDS</u>				
1	Allow for one hundred and fifth thousand (R150 000) for the Supply and installation of Carpentry and Joinery sum	1	150 000,00	
	Contractor charge to allow for handling costs & profit for the above item %			
2	Allow for four Million (R4 000 000) Supply and installation of Laboratory furniture and fittings sum	1	4 000 000,00	
	Contractor charge to allow for handling costs & profit for the above item %			
<u>DOORS, ETC</u>				
3	Class A fire door, size 900 x 2100mm (D2) No	3		
4	Hollow core door, size 900 x 2100mm (D6) No	1		
Carried forward to Summary				R -

BILL NO. 6

CEILINGS, PARTITIONS AND ACCESS FLOORING

PREAMBLES

For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)

CPAP ADJUSTMENT

Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 129 for Contract Price Adjustment Provisions

SUSPENDED CEILINGS

Proprietary suspended ceilings

Hangers, suspension grids, "lay-in" panels, etc are to be in accordance with the manufacturers' recommendations

Flush plastered gypsum plasterboard suspended ceilings

Ceilings shall comprise 12,5mm gypsum plasterboard boards screwed to and including screw-up suspension grid consisting of main tees at 1 200mm centres and galvanised steel capped cross tees at 400mm centres and with tape fixed over joints and the whole finished with gypsum plaster trowelled to a smooth polished surface

The grid shall be suspended by means of galvanised steel L-section hangers at suitable centres, securely shot-pinned or screwed to concrete, steel or wood

Flush plastered gypsum plasterboard suspended bulkheads

Bulkheads shall comprise galvanised steel studding of 63,5mm top and bottom tracks with vertical studs at maximum 400mm centres, pop-riveted to the top and bottom tracks with similar additional vertical studs as necessary at abutments, ends, etc and covered as described with plasterboard screwed to studding with drywall screws at maximum 300mm centres. Boards shall be butt jointed and finished with tape and jointing compound and the whole finished with gypsum plaster trowelled to a smooth polished surface to the thickness recommended by the manufacturer.

Descriptions shall be deemed to include any additional studs at ends and intersections, corner beads, cornices at junctions with ceilings, jointing compound, tape, etc

		QTY	RATE	AMOUNT
1	AMF thermatex exposed grid system ceiling, tiles size 1200x600mm with a thickness of 15mm , white in colour	m2	600	
2	Gypsum plasterboard ceiling fixed to a concealed grid system, joints to be closed off with ceiling tape, edges to receive a shadowline, ceiling to skimmed and painted to Architects specification	m ²	500	
2	Gypsum plasterboard ceiling fixed to concealed grid system, joints to be closed off	No	10	

	Cornices, perimeter trims, etc to suspended ceilings			
3	Cornices	m	300	
	PARTITIONS			
	DRYWALL			
4	Partitioning 3,090mm high with floor track fixed to floor and head track fixed to soffit	m	100	
5	Extra over partition 3,090mm high for vertical abutment	No	4	
6	Extra over partition 3,090mm high for T-junction	No	5	
7	Extra over partition for noggins for electrical and plumbing, 400mm long x 200mm wide noggins	No	5	
	Carried forward to Summary			
				R -

BILL NO. 7

FLOOR COVERINGS, WALL LININGS, ETC

PREAMBLES

For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)

Sheeting is to be laid in pressure-sensitive or acrylic adhesive (as approved by flooring manufacturer), with a notched trowel at the rate of 5.5 to 6.5 m²/litre on a previously prepared Class 1 sub-base The sheet is to be rolled in both directions with a 68 kg three-sectional metal floor roller, during the course of the installation, immediately after the sheeting is laid in the adhesive. Factory edges of vinyl sheeting are to be removed before laying if recommended by manufacturer (10 to 20 mm) . Joints are to be butted, grooved to about half the depth of the sheet, (about 1 mm) and heat welded, with a welding rod. The finished width of the weld should be a width of 3 mm, and ensure a minimum 70% bond with the sheeting "All in accordance with the manufacturer's spec. No concave or convex joints allowed "The joints must finish flush with the sheeting. No open joints will be accepted. All welds to be glazed and checked prior to polishing. No cross-joints allowed. (Note: No stripping to PuR finished floors as this will damage the sheeting.)

Welding between 2 coloured vinyls to be neatly done and according to the strict recommendations and specifications of the manufacturer. All in accordance to the floor finish layout.

Skirting to be finished with extruded capping strip (or clip-on capping strip with backing) to be supplied and fixed with manufacturer approved contact adhesive spread evenly and quickly onto both material and wall surface. Ensure that no gaps remain between the wall, the skirting and the floor.

CPAP ADJUSTMENT

Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 130 for Contract Price Adjustment Provisions

FLOOR COVERINGS

1	Fin floor-agt effect AC5/W33-V4 ural, plant size 1195 x189 x 12mm Laminate floor with sand transitions	m ²	210
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2	Polished concrete floors (Vuka flow 400 Nominal 2mm Epoxy flooring)	m ²	700
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SKIRTINGS, NOSINGS, ETC

3	90mm high pine bullnose skirting with 5mm shadowline fixed to wall with skirting adhesive and painted with gloss enamel black skirting from vis to mouldings or similar approved gaps between wall/ floor & skirting to be sealed with paintable silicone	m	230
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4	Aluminium contractor retro-fit nosing with ridged pvc infill, code aprm25r from m-trim	m	150
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5	Fin floor- Aluminium transition strip, colour to sand	m	30
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NHLS LABORATORY
BILL OF QUANTITY[illegible]

<u>BILL NO. 8</u>				
<u>IRONMONGERY</u>				
<u>PREAMBLES</u>		QTY	RATE	AMOUNT
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)				
<u>CPAP ADJUSTMENT</u>				
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 132 for Contract Price Adjustment Provisions				
<u>SUPPLEMENTARY PREAMBLES</u>				
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				
<u>LOCKS</u>				
<u>"APPROVED"</u>				
1	Oslo- Tube lever handle on rose with escutcheons, stainless steel , 19mm diameter pair	No	37	
2	pair	No	36	
3	QS2301 - Cranked D Handle, Back -to-back, stainless, 30x300x330mm each	No	8	
4	QS4405- Narrow style cylinder escutcheon, stainless steel, 6mm, pair	No	3	
5	pair	No	6	
6	QS400/1-Panic push bar, one point locking , EN1125 and EN1634 rated, stainless steel, 900mm, each	No	3	
7	QS6001-Adjustable roller bolt, stainless steel, 40mm backset, each	No	3	
8	QS8535/1- Narrow style latch and cylinder lock, stainless steel, 35mm backset, 85mm	No	34	
9	QS6055/5- Bathroom latch lock and deadbolt, stainless steel , 55mm backset, 60mm centre, each	No	1	
10	QS8535/4- Narrow style dead bolt loc k , stainless steel , 35mm backset , 85mm centre, each	No	7	
11	QS0035-Dead lock, stainless steel, 35mm backset , each	No	7	
12	QS1104SN- Double cylinder with 3 keys, satin nickel, 66mm , each	No	36	

13	QS1108SN/EM - Knob cylinder with oval knob with emergency release - no keys , satin nickel, 65mm, each	No	2		
14	QS1102SN-Single cylinder with 3 keys, satin nickel, 40mm,each	No	11		
15	QS1108SN- Knob cylinder with 3 keys, satin nickel, 66mm, each	No	1		
16	QS920-Rack and cam pinion door closer with slide channel , non-hold open , stainless steel , 60x39mm , each	No	5		
17	QS700DA/1-Delayed action door closer, EN1154 fire rated, size 2-3 with desi..., silver painted, 60x39mm, each	No	20		
18	QS7703-Universal slide channel only - stainless steel , 540x30x20mm,each	No	2		
19	QS763-Fire door coordinator, stainless steel , 1320mm ,each	No	1		
20	QS4413-Ring pull, stainless steel steel, 63x44mm,each	No	10		
21	QS4492-Dust excluding socket, stainless steel , 25x39mm, each	No	19		
22	QS4422SS-Hooded doorstop , stainless steel ,40mm diameter, each	No	46		
23	QS4410-WC indicator bolt and thumb turn with coin release, stainless steel , 50mm diameter, each	No	1		
24	QS4434-Hat and Coat hook with rubber stop, stainless steel, 90 x70mm , each	No	1		
Carried forward to Summary				R	-

<p><u>BILL NO. 9</u></p> <p><u>METALWORK</u></p> <p><u>PREAMBLES</u></p> <p>For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)</p> <p><u>CPAP ADJUSTMENT</u></p> <p>Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 136 and 149 for Contract Price Adjustment Provisions</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>General</p> <p>Screens shall be the Window Wall system as supplied by HBS Aluminium Systems. Manufacture shall be in accordance with the current manuals as provided by HBS Aluminium Systems All aluminium work must comply with the latest edition of publications of Messer AAAMSA An AFSA Certificate of Conformance in respect of product finishes must be obtained.</p> <p>Materials</p> <p>Material shall be of 6063T6 aluminium alloy with a minimum structural wall thickness of 1.8mm. Outer frame to infill panels will be a nominal depth of 166 or 111mm.</p> <p>Construction</p> <p>and continuous sub-Sill. Infill panels are to be constructed from double cavity tubular profiles, forming a wet cavity with drainage slots to allow for transom drainage to the exterior. All glazing rebates to be 25mm. Joints of the infill panels shall be notched and screwed to spigots with No 8 stainless steel screws. Where required, a 111mm or 166mm Split mullion assembly must be used to couple infill panels together, still making allowance for all thermal and dynamic movement. Door panels within the screens to have a 4-edge door rebate with gasket seal all round.</p> <p>Installation</p> <p>All aluminium work to be done in strict accordance to the manufacturers specifications by a specialist firm. All openings to be checked on site before any materials are ordered or manufacture of window and door frames. Panel-by-panel installation from Inside or from Outside the building. All aluminium frame works to be provided with a continuous silicone seal around all construction openings.</p> <p>Hardware</p> <p>All sashes to have mechanical Corner Connectors, wind locks and multi-point locking handles. Sashes not to exceed 1700mm wide by 1200mm high as per specification. Friction stay to suit max weight and size of Sash. Door hardware shall be compatible with the system and will take cognisance of the finish specification of the applicable area. See Hardware Schedule for door.</p>	QTY	RATE	AMOUNT
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	Finish			
	Sections will be painted in accordance with SABS1578, parts 1 & 2. Powdercoat, and anodised aluminium, should be protected to prevent any damage or stain by cement, etc. All powder coating to be 25 micron thick and shall be executed in strict adherence to SABS 999			
	Glazing			
	Glass thickness should be in accordance with SANS 10400 and designed by a competent person. Glazing is to be carried out in accordance with SABS 0137, with particular attention to size limitations, packing and setting blocks. Thicknesses from 6-28mm.			
	Structural Performance			
	System shall meet or exceed the requirements of SANS613 and the design loading determination by SABS 0160 for this application. Deflection of structural members shall not exceed L/175 or L/240 as applicable.			
	Thermal Performance			
	System shall comply with SANS204 in applications where Fenestration makes up more than 15% of Floor area. U-value with Air filled glazing units = 3.36 For U-values below 3.38 use Argon or Krypton gas filled glazing units.			
	<u>DOOR FRAMES, DOORS, WINDOWS, ETC</u>			
	Aluminium windows			
1	Window overall size approximately 2500 x 1400 as per drawing number 013 (W1) No	1		
2	Window overall size approximately 2900 x 1785 as per drawing number 013 (W2) No	2		
3	Window overall size approximately 2800 x 1785 as per drawing number 013 (W3) No	1		
4	Window overall size approximately 3000 x 1785 as per drawing number 013 (W4) No	2		
5	Window overall size approximately 350 x 3485 as per drawing number 013 (W5) No	9		
6	Window overall size approximately 600 x 3485 as per drawing number 013 (W6) No	4		
7	Window overall size approximately 350 x 3485 as per drawing number 013 (W7) No	5		
8	Window overall size approximately 600 x 3485 as per drawing number 013 (W8) No	7		
9	Window overall size approximately 900 x 3485 as per drawing number 013 (W9) No	6		
10	Window overall size approximately 600 x 2975 as per drawing number 013 (W10) No	3		
11	Window overall size approximately 500 x 2975 as per drawing number 013 (W11) No	2		
12	Window overall size approximately 350 x 2975 as per drawing number 013 (W12) No	2		

	Aluminium Doors				
	Aluminium door frame able to withstand wind pressures of 600Pa in accordance with SANS 613, Surface to receive 50-80pm charcoal grey powder coating for architectural applications , applied by a certified markholder of SANS 1274				
13	(D3)	No	1		
14	Aluminium door size 1500 x 2725 as per drawing number 013 (D4)	No	2		
15	Aluminium door size 1500 x 2725 as per drawing number 013 (D5)	No	3		
16	Aluminium door size 900 x 2725 as per drawing number 013 (D6)	No	1		
	Frosted glazing shall be executed strictly in conformance with manufacturer's recommendations and all in accordance with the natural building regulations parts B,B,T SANS 10137, SANS 10400 and SANS 1263 fitted in accordance with wispeco casement 28 system, plugged and screwed to brickwork or concrete				
17	Aluminium door size 900 x 2725 as per drawing number 013 (D7)	No	6		
18	Aluminium door size 900 x 2725 as per drawing number 013 (D8)	No	4		
19	Aluminium door size 900 x 2725 as per drawing number 013 (D9)	No	2		
20	Aluminium door size 900 x 2725 as per drawing number 013 (D10)	No	4		
21	Aluminium door size 900 x 2725 as per drawing number 013 (D11)	No	2		
	Clear glazing shall be executed strictly in conformance with manufacturer's recommendations and all in accordance with the natural building regulations parts B,B,T SANS 10137, SANS 10400 and SANS 1263 fitted in accordance with wispeco casement 28 system, plugged and screwed to brickwork or concrete				
22	Aluminium door size 900 x 2725 as per drawing number 013 (D12)	No	10		
23	Aluminium door size 900 x 2725 as per drawing number 013 (D13)	No	2		
	Aluminium Louvre				
24	Aluminium Louvre size 3600 x 680 as per drawing number 013 (LV1)	No	5		
25	Aluminium Louvre size 3000 x 680 as per drawing number 013 (LV2)	No	2		
26	Aluminium Louvre size 3000 x 2295 as per drawing number 013 (LV3)	No	1		

	Aluminium Shopfront			
	manufacturer's recommendations and all in accordance with the natural building regulations parts B,B,T SANS 10137, SANS 10400 and SANS 1263 fitted in accordance with wispeco casement 28 system, plugged and screwed to brickwork or concrete. Glazing code to later specification			
27	Aluminium shopfront SF1 per drawing number 013	No	1	
28	Aluminium shopfront SF2 as per drawing number 013	No	1	
29	Aluminium shopfront SF3 as per drawing number 013	No	3	
30	Aluminium shopfront SF4 as per drawing number 013	No	2	
31	Aluminium shopfront SF5 as per drawing number 013	No	3	
32	Aluminium shopfront SF6 as per drawing number 013	No	1	
33	Aluminium shopfront SF7 as per drawing number 013	No	1	
34	Aluminium shopfront SF8 as per drawing number 013	No	1	
35	Aluminium shopfront SF9 as per drawing number 013	No	1	
	<u>Roller Shutter door</u>			
37	Perforated motorised roller shutter door by Maxidor or similar approved (4800 x 2295)	No	1	
	<u>STEEL DOOR FRAMES:</u>			
	Steel door frame for 220mm wide wall			
38	Frame for door size 900 x 2100mm high	No	3	
	Steel door frame for 110mm wide wall			
39	Frame for door size 900 x 2100mm high	No	1	
	Carried forward to Summary			
				R -

<u>BILL NO. 10</u>				
<u>PLASTERING</u>				
<u>PREAMBLES</u>		QTY	RATE	AMOUNT
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)				
<u>CPAP ADJUSTMENT</u>				
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 142 for Contract Price Adjustment Provisions				
<u>SCREEDS</u>				
The screed mix must consist of 1 part cement to 3 parts sand. Both sand and stone must comply with SABS 1083. Cement must comply with SANS 50197-1:2000 and achieve strength of 25mPa. No dry mix is permitted. The screed must be laid to a minimum of 25mm thick (preferably 40mm thick) with a wood trowelled finish where self-levelling compound is to be laid. Cube samples of the screed mix must comply when tested in accordance with SANS 5861-3:1994. The dry, cured (min. 14 days) screed must also be tested using a BRE screed tester, with one test per 20 to 25m ² and to 3 to 5m intervals on corridors.Strength category A: max 3mm				
1	30mm Thick on floors and landings(LI) m ²	1 005		
<u>EXTERNAL PLASTER</u>				
Plaster exterior walls with 1:4 cement sand plaster with wood float finish and approved plaster sand.				
2	On walls(LI) Provisional m ²	80		
3	On narrow widths(LI) m ²	16		
<u>INTERNAL PLASTER</u>				
Plaster interior walls with 1:4 cement sand plaster with steel trowel finish and approved plaster sand. Plaster RhinoLite smooth coat according to the instructions of the manufacturer.				
4	On walls(LI) m ²	2 000		
5	On narrow widths(LI) m ²	200		
6	One coat "RhinoLite" skim plaster to gypsum board surfaces, finished smooth with a steel trowel to m ²	410		
Carried forward to Summary				
				R -

<u>BILL NO. 11</u>				
<u>TILING</u>				
<u>PREAMBLES</u>		QTY	RATE	AMOUNT
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)				
<u>CPAP ADJUSTMENT</u>				
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 144 for Contract Price Adjustment Provisions				
<u>SUPPLEMENTARY PREAMBLES</u>				
Fixing				
Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding				
Tiling described as "fixed with adhesive on power floated concrete" shall be deemed to include for approved tiling key-coat				
Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts as recommended by the manufacturer of the tiles				
<u>FLOOR TILING</u>				
"Tile Africa" 600 x 600mm Tatum silver hardbody tiles on tile adhesive with 3mm joints & grouting to be grey in colour 30 som excl wastage				
1	On floors m ²	264		
Tile Africa" 600 x 600mm silkstone grey slip resistant hardbody tiles on tiles on tile adhesive with 3mm joints & grouting to be grey in colour 36 some excl wastage				
2	on floors m ²	84		
"Tile Africa" 100 x 100mm Tatum silver hardbody tiles on tile adhesive with 5mm Joints & grouting to be grey in colour				
3	On floors m ²	2		

	SKIRTINGS, NOSINGS, ETC			
4	Tile Africa 100 x 600mm Tatum silver hardbody tile skirting on tile adhesive, with 3mm joints & grouting to be grey in colour tile skirting to have alumunium straight edge trim, code ase100 on top, all around from m- trim	m	170	
5	Tile Africa 100 x 600mm silkstone grey slip resistant tile skirting on tile adhesive, with 3mm joints & grouting to be grey in colour tile skirting to have alumunium straight edge trim, code ase100 on top, all around from m- trim	m	80	
	WALL TILING			
	Tile Africa-300 x 600mm Tatum anthacite hardbody tiles on tile adhesive, with 3mm joints & grouting to be white in colour			
6	On walls	m ²	320	
	Corner Protector			
7	M-Trim- Aluminum retro fit corner protector to be 1,2m high, size 50x50x2m, code ACP502 Fixed in accordance to the manufacturer's specification	m	200	
	Carried forward to Summary			
				R -

<u>BILL NO. 12</u>			
<u>PLUMBING AND DRAINAGE (PROVISIONAL)</u>			
<u>PREAMBLES</u>	QTY	RATE	AMOUNT
For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)			
<u>CPAP ADJUSTMENT</u>			
Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 146 and 148 for Contract Price Adjustment Provisions			
<u>SUPPLEMENTARY PREAMBLES</u>			
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 and jointed and fixed strictly in accordance with the manufacturer's instructions			
All pipe diameters are nominal external			
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			
Branch tees shall include flanged and bolted joints to "Polycop" 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			
Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings			
uPVC pipes and fittings:			
Soil, waste and vent pipes and fittings shall be solvent weld jointed			

<u>RAINWATER DISPOSAL</u>			
0,6mm steel rainwater disposal system (incl. rectangular gutters & rainwater downpipes), of dimensions to accommodate for effective channeling of rainwater; all to be coated with Chromadek Z200 to match colour of roof sheeting.			
1	100 x 100mm Eaves gutters	m	60
2	Extra over square eaves gutter for outlet for 75mm pipe	No	8
3	75mm diameter galvanised rainwater downpipes	m	28
4	Extra over round rainwater pipe for bend	No	16
5	Extra over round rainwater pipe for shoe	No	8
<u>SANITARY FITTINGS</u>			
Chrome Plated Schedules			
6	1600mm Left hand sluice and sink combination with W-B106 flush valve , Trigger spray and kitchen sink Mixer from "Chilli-B" or similar approved.	No	1
7	Evox skye close coupled toilet round from tile round from "Tile Africa"	No	4
8	Cobra pause urinal from "Tile Africa"	No	2
9	Nuvo Axis rectangular counter top basin from "Tile Africa"	No	4
10	Evox bottle trap small from "Tile Africa"	No	4
11	Nuvo Arc high basin mixer chrome from "Tile Africa"	No	4
12	Stainless steel folded towel paper dispenser from "TCS hygiene" or "similar approved"	No	2
13	Stainless steel 1250ml soap dispenser from "TCS Hygiene" or" similar approved"	No	2
14	TCS rectangular wall bin-Large SS complete, plastic bags, plugs, screws "TCS Htgiene" or "similar approved"	No	2
15	Stainless steel square 2 rolls toilet roll holder from "TCS Hygiene" or "similar approved"	No	4
16	Evox skye close coupled toilet round from "Tile Africa"	No	5
17	Nuvo Axis Rectangular counter top basin from "Tile Africa"	No	6
18	Evox bottle trap small from "Tile Africa"	No	6
19	Nuvo Arch high basin mixer chrome from "Tile Africa"	No	6
20	stainless steel folded towel paper dispenser from "TCS hygiene" or "similar approved"	No	2

21	Stainless steel 1250ml soap dispenser from "TCS Hygiene" or "similar approved"	No	2		
22	TCS Rectangular wall bin - large ss complete, plastic bags, plugs, screws "TCS Hygiene" or "similar approved"	No	2		
23	Stainless steel square 2 rolls toilet roll holder from "TCS Hygiene" or "similar approved"	No	5		
24	Lecico Atlas Ccparaplegic suite (pan cistern& Mech) incl seat from "Plumlink "or "similar approved"	No	2		
25	Cobra shelter basin wall hung 495x430x190 from "Plumlink" or "similar approved"	No	2		
26	Plumline clinx pillar tap CP cold 15mm from "Plumlink" or "similar approved"	No	2		
27	Stainless steel folded towel paper dispenser from "TCS Hygiene" or "similar approved"	No	2		
28	TCS Rectangular wall bin - Large SS complete , plastic bags, plugs screws from "TCS Hygiene" or "similar approved"	No	2		
29	Stainless steel square 2 rolls toilet roll holder from "TCS Hygiene" or "similar approved"	No	2		
30	Stainless steel paraplegic grab rail CNTX par from "Chilli-B" or "similar approved"	No	2		
31	Stainless steel cistern back rail size 750 x 206- CNTXBR from "Chill-B" or "similar approved"	No	2		
32	Franze double projectline sink PLN6211160 x 460x 140mm from "Tile Africa"	No	1		
33	Nuco Arc sink mixer chrome from "Tile Africa"	No	1		
34	Evox shower waste from "Tile Africa "	No	1		
35	Body shower with eye/face shower and bowl, module- disability friendly . In stainless steel with chemical resistant red broen -lab polycoat with self- draining shower head. Eye wash with built -in FLOWFIX regulation of water flow (16l/min). Bowl in stainless steel with intergrated outlet. min .Working pressure : 1.5 bar . From Broen-Lab or Chilli-b	No	1		
36	CB-MED515 Stainless steel medical basin with 200mm splashback and CO-515/055-15 Medical Elbow Mixer from" Chill-B"	No	4		
37	Stainless steel 1250ml soap dispenser from "TCS Hygiene" or "similar approved "	No	4		
38	Stainless steel folded towel paper dispenser from "TCS Hygiene" or "similar approved"	No	4		
39	TCS Rectangular wall bin-large SS complete, plastic bags, plugs,screws from "TCS Hygiene" or "similar approved"	No	4		
40	Allow for Five Hundred thousand rands (R500 000) External Works	sum	1	500 000,00	
41	Contractor charge to allow for handling costs & profit for the above item %				
Carried forward to Summary					R -

1	<p><u>BILL NO. 13</u></p> <p><u>GLAZING</u></p> <p><u>PREAMBLES</u></p> <p>For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)</p> <p><u>CPAP ADJUSTMENT</u></p> <p>Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 150 for Contract Price Adjustment Provisions</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>Float glass</p> <p>The term "float glass" is used for monolithic annealed glass</p> <p>Laminated glass</p> <p>Laminated glass to have polyvinyl butyral (PVB) interlayer(s)</p> <p><u>GLAZING TO STEEL WITH PUTTY:</u></p> <p>4mm Clear float glass:</p> <p>Panes exceeding 0,1 m2 and not exceeding 0,5 m2.</p>			
		QTY	RATE	AMOUNT
	Carried forward to Summary			R -

BILL NO. 14

PAINTWORK

PREAMBLES

For preambles refer to "General Specification of Materials and Methods to be used for Building Contracts" (GP /ASC)

CPAP ADJUSTMENT

Unless otherwise stated all items in this bill shall be deemed to fall into Work Group 152 for Contract Price Adjustment Provisions

PREPARATORY WORK TO EXISTING WORK

New plastered walls

Ensure plastered surface to be clean and dry before painting. New plaster must be given adequate drying time (moisture content must be less than 15%) and treat with plaster primer before the first coat of paint is applied

Previously painted plastered surfaces

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

Previously painted metal surfaces

Surfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal

Previously painted wood surfaces

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

Previously painted surfaces to receive epoxy coating

Previously painted surfaces are to be stripped back to the original firm substrate by abrading, flame treatments or chemical removal, using an approved paint Remover. Once contaminants have been removed the surface is to be acid etched using an approved acid diluted 1:1 with water, applied with plastic watering can at approximately 2m/lit, removing laitance and slightly roughening the surface to give a finish similar to that of fine sandpaper. Rinse the entire surface with clean water and allow to dry; normally if well ventilated.

ON INTERNAL FLOATED PLASTER SURFACES

Prepare one coat Professional Gypsum & Plaster Primer & 2 coats of Superior Low Sheen. Final colour: TBC.

1

Walls

m²

1 500

QTY

RATE

AMOUNT

<u>ON EXTERNAL FLOATED PLASTER SURFACES</u>					
Prepare one coat of plaster primer and two coats of Superior Lowsheen paint. Colour TBC					
2	On walls	m ²	100		
<u>ON PLASTERBOARD SURFACES</u>					
Prepare one coat Professional Gypsum & Plaster Primer & 2 coats of Superior Low Sheen. Final colour: TBC.					
3	nailheads	m ²	1 005		
<u>ON FIBRE-CEMENT BOARD SURFACES</u>					
One coat primer and painted two coats enamel paint.					
4	Fascias and barge boards, including priming metal jointing strips	m ²	100		
<u>ON METAL SURFACES</u>					
One coat primer and Two coats enamel paint finish over edge (Colour: according to the architect).					
5	New rainwater gutters and downpipes	m ²	26		
6	Gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m ²	23		
7	Rails, bars, pipes, etc	m	25		
<u>ON WOOD SURFACES</u>					
One coat primer and Two coats enamel paint finish over edge (Colour: according to the architect).					
8	Timber doors and frames	m ²	50		
Carried forward to Summary					
				R	-

<u>SECTION SUMMARY-BUILDING WORKS</u>					
1	Bill No. 1 - Earthworks (Provisional)	Page	3	R	-
2	Bill No. 2 - Concrete, Formwork & Reinforcement	Page	5	R	-
3	Bill No. 3 - Masonry	Page	7	R	-
4	Bill No. 4 - Waterproofing	Page	8	R	-
5	Bill No. 5 - Carpentry and Joinery	Page	9	R	-
6	Bill No. 6 - Ceilings, Partitions and Access Flooring	Page	11	R	-
7	Bill No. 7 - Floor Coverings, Plastic Linings, etc.	Page	13	R	-
8	Bill No. 8 - Iron Mongery	Page	15	R	-
9	Bill No. 9 - Metal Work	Page	19	R	-
10	Bill No. 10 - Plastering	Page	20	R	-
11	Bill No. 11 - Tiling	Page	22	R	-
12	Bill No. 12 - Plumbing and Drainage (Provisional)	Page	25	R	-
13	Bill No. 13 - Glazing	Page	26	R	-
14	Bill No. 14 - Paintwork	Page	28	R	-
Carried Final Summary				R	-

RUSTENBURG NHLS
BILL NO 1
MECHANICAL INSTALLATIONS HVAC SYSTEMS

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	1.00	<u>HEATING, VENTILATION & AIR-CONDITIONING SYSTEM</u>				
	1.01	Air Conditioning Units				
	.01	Supply and installation of new 14,1 kW cassette inverter type heating and cooling air-conditioning unit. Rate to be inclusive of all required building work, pipework and making good.	No.	6		
	.02	Supply and installation of new 8,8 kW ceiling cassette inverter type heating and cooling air-conditioning unit. Rate to be inclusive of all required building work, pipework and making good.	No.	2		
	.03	Supply and installation of new 7,1 kW underceiling cassette inverter type heating and cooling air-conditioning unit. Rate to be inclusive of all required building work, pipework and making good.	No.	3		
	.04	Supply and installation of new 7,1 kW midwall split inverter type heating and cooling air-conditioning unit. Rate to be inclusive of all required building work, pipework and making good.	No.	1		
	.05	Supply and installation of new 5.3 kW midwall split inverter type heating and cooling air-conditioning unit. Rate to be inclusive of all required building work, pipework and making good.	No.	-		
	.06	Supply and installation of new 3.6 kW ceiling cassette split inverter type heating and cooling air-conditioning unit. Rate to be inclusive of all required building work, pipework and making good.	No.	2		
	.07	Supply and installation of new 3.6 kW mid wall split inverter type heating and cooling air-conditioning unit. Rate to be inclusive of all required building work, pipework and making good.	No.	5		
	.08	Supply and installation of new 2.6 kW midwall split inverter type heating and cooling air-conditioning unit. Rate to be inclusive of all required building work, pipework and making good.	No.	7		
	CARRIED FORWARD					
						R

BROUGHT FORWARD		R	
1.02	Fans and Ducting 01. Supply and install 315mm diameter in-line axial fresh air fan supplying 190 litres per second at 55 Pa complete with 2 sound attenuators, filter box and accessories. 02. Supply and install 315mm diameter in-line axial extraction air fan supplying 190 litres per second at 90 Pa complete with 2 sound attenuators, filter box and accessories. 03. Supply and install 315 mm diameter in-line axial extraction air fan extracting 220 litres per second at 90 Pa complete with 1 sound attenuator and accessories. 04. Supply and install 300 x 300mm galvanized externally insulated ducting complete with supports and transition pieces. 05. Supply and install 300 x 250mm galvanized externally insulated ducting complete with supports and transition pieces. 06. Supply and install 250 x 250mm galvanized externally insulated ducting complete with supports and transition pieces. 07. Supply and install internally insulated galvanized 150 mm spiral ducting rate to be complete with all required spigots and mounting accessories 08. Supply and install 300 x 250mm uninsulated galvanized ducting c/w supports and transition pieces 09. Supply and install 250 x 250mm uninsulated galvanized ducting c/w supports and transition pieces 10. Supply and install 200 x 250mm uninsulated galvanized ducting c/w supports and transition pieces 11. Supply and install 200 x 200mm uninsulated galvanized ducting c/w supports and transition pieces 12. Supply and install uninsulated galvanized 150mm diameter spiral ducting, rate to be complete with all required spigots and mounting accessories. 13. Supply and install 150mm disc valve 14. Supply 350mm x 350mm natural anodised aluminium weather louvre. 15. Supply and install 500mm x 300mm natural anodised aluminium door grille.	No. No. No. m m m m m m m m m No. No. No.	1 1 2 4 8 12 16 8 12 24 16 48 30 4 4
CARRIED FORWARD		R	

BROUGHT FORWARD		R
	15. Supply and install 300mm x 300mm white epoxy coated supply air grille, 150mm spigot.	No. 16
	16. Supply & install 300 x 250 mm fire dampers with fusible links	No. 4
1.04	<u>GENERAL</u> Operating and Maintenance manuals: .01 Prepare and supply three sets of detailed Operation and Maintenance Manuals including as-built drawings. An electronic version of the drawings shall also be supplied on compact disc in AutoCAD format. The manuals and compact disc shall be handed over to the Engineer.	- - Sum
	Development of a syllabus for maintenance and operations training 02 HVAC Systems	- - Sum
	Presentation of training course on HVAC Equipment Maintenance and Operations. 03 HVAC System	- - Sum
	<u>COMMISSIONING</u> Commissioning and testing of the installation .01 HVAC Equipment	- - Sum
TOTAL BILL NO 1 - CARRIED TO SUMMARY		R

RUSTENBURG NHLS**BILL NO 2 FIRE DETECTION**

	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
	2.	<u>FIRE DETECTION SYSTEM</u>				
	2.01	Supply, install, test and commission a complete fire detection and alarm system as per specification and local municipal by-laws. The fire detection and alarm system shall comprise of the following description and as per drawing.				
	2.02	Supply and install 25mm metal conduits for fire detection system wiring, including all round and square termination boxes and P8000 trunking.	m	420		
	2.03	Supply and install fire resistant type 1mm ² wire, interconnected between, the detectors, the break glass units, strobe light and audible alarm.	m	450		
	2.04	Supply and install 8 zone analogue addressable fire control panel complete with battery back-up system and printer as per specification. Wall mounted 1,5m above ground in area indicated on the Engineer's drawing.	No	1		
	2.05	Supply and install analogue addressable optical smoke detectors as per specification fixed to a 65mm diameter conduit box.	No	44		
	2.06	Supply and install analogue addressable rate-of rise heat detectors as per specification fixed to a 65mm diameter conduit box.	No	12		
	2.07	Supply and install optical smoke detectors or rate-of rise heat detectors with base siren/sounder warning unit as per specification fixed to a 65mm diameter conduit box, as shown on the drawing.	No	8		
	2.08	Supply and install fire signage and accessories.	-	-	Sum	
	2.09	Supply and install analogue addressable 'Red' strobe lights as per specification fixed to a 65mm diameter conduit box.	No	5		
	2.10	Supply and install Red "fire" manual call points (Breakglass Unit) as per specification fixed to a 65mm diameter conduit box.	No	3		
	2.11	Supply & Install Inert Gas Fire Suppression System for enclosed rooms including all accessories required to make the system complete				
	CARRIED FORWARD					

BROUGHT FORWARD						
		The rooms shall have the following sizes:				
		.01 Server Room 8 m³	-	-	Sum	
		.02 Archives 58 m³	-	-	Sum	
	2.12	REMRAD System				
		Supply and install REMRAD system linked to fire panel and with wireless communication link to security and emergency management systems. Installation to include one year's licence including maintenance.	No	1		
	2.13	Operation and Maintenance Manuals				
		.01 Prepare and supply three sets of detailed and Operation and Maintenance manuals including as-built drawings. An electronic version of the drawings shall also be supplied on compact disc in AutoCAD format. The manuals and compact disc shall be handed over to the Engineer.	-	-	Sum	
		Development of a syllabus for maintenance and operations training				
		.02 Complete Fire Detection and Suppression System	-	-	Sum	
		Presentation of training course on Fire Detection and Suppression Equipment Maintenance and Operations				
		.03 Complete Fire Detection and Suppression System	-	-	Sum	
	2.14	Commissioning				
		Testing and commissioning of the entire fire detection and suppression system including issuing relevant installation certificates.	-	-	Sum	
	TOTAL BILL NO 2 - CARRIED TO SUMMARY					R

RUSTENBURG NHLS
BILL NO 3
BUILDING WET SERVICES

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN- TITY	RATE	AMOUNT
	3.00	<u>PLUMBING</u>				
	3.01	Installation of domestic copper water piping systems, Class 0 SABS 460 with capillary copper fittings :				
		.01 Cold water piping installed on surface in ducts, against walls and soffits including bracketing				
		.01 35 dia	m	10		
		.02 28 dia	m	12		
		.03 22 dia	m	30		
		.04 15 dia	m	40		
		.02 Hot water piping , installed on surface in ducts, against walls and soffits, inclusive of lagging , cladding and bracketing				
		.01 22 dia	m	20		
		.02 15 dia	m	48		
		.03 Hot and cold water piping chased in walls including wrapping of pipes with builders paper, chasing and reinstatement of chased surfaces				
		.03 22 dia	m	30		
		.04 15 dia	m	60		
		.04 Capillary soldered copper fittings for tees;				
		.01 22 dia	No	80		
		.02 15 dia	No	160		
		.03 28 dia x 22 dia	No	20		
		.03 22 dia x 15 dia	No	40		
		.05 Capillary soldered copper fittings for elbows				
		.01 22 dia	No	90		
		.02 15 dia	No	110		
		Carried forward			R	

	Brought forward				R	
		.06 Shut off ball valves				
		.01 20 dia	No	20		
		.02 15 dia	No	60		
		.07 Strainers				
		.01 25 dia	No	20		
		.02 20 dia	No	16		
		.08 Non return valves				
		.01 25 dia	No	10		
		.02 20 dia	No	15		
		.03 15 dia	No	40		
	3.02	Supply and install domestic SABS approved solar geysers including shut-off valves, strainers, non-return valves expansion relief valve, safety valve and 3kW power provision (Indirect system);				
		.01 300 ltr	No	2		
		.02 200 ltr	No	-		
		.03 150 ltr	No	1		
		.04 Supply and install 150l electric geyser complete with all accessories to make installation complete.	No	1		
	3.03	Supply and installation of a 5l Hydro Boil	No	1		
	3.04	Supply and install electrically driven domestic water pump delivering 1.5l/s at 4.5 bar c/w valves, pressure switches controls etc	No	2		
	3.05	Allow for fittings to connect to main water pipe	sum	-	-	
	Carried forward				R	

	Brought forward				R	
	3.05	Supply and installation of water drainage pipe work and fittings				
		.01 uPVC piping installed on surface in ducts, against walls and soffits including bracketing				
		.01 110 dia	m	36		
		.02 50 dia	No	80		
		.02 Extra over 50 mm pipes for				
		.01 Bend	No	10		
		.02 Bend with cleaning eye	No	24		
		.03 Junction with cleaning eye	No	30		
		.04 Vent Fitting with Cowl	No	40		
		.05 Butyl resealing P-trap	No	30		
		.06 Two way vent valves	No	8		
		.03 Extra over 110 mm pipes for				
		.01 Bend	No	20		
		.02 Bend with cleaning eye	No	22		
		.03 Junction with cleaning eye	No	8		
		.04 Butyl resealing P-trap	No	10		
		.05 Two way vent valve	No	12		
	3.06	Allow for fittings to connect to main sewer pipe	sum	-	-	
	3.07	Tests and Inspection on completion of installation work				
		.01 Pressure test completed water piping installation	item	1		
	TOTAL CARRIED FORWARD TO SUMMARY				R	

RUSTENBURG NHLS**BILL NO 4:****GAS EQUIPMENT**

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN- TITY	RATE	AMOUNT
	4.00	<u>GENERAL</u>				
	4.01	<u>GAS</u>				
	.01	Supply and install 48kg LPG free standing gas cylinders to be installed in a lockable cage. LP gas cylinders are to be installed in an upright position supported and bracketed to prevent fall. Cylinders to be installed in a lockable cage to Architect's specification.	No	4		
	.02	Supply and install a 2000 x 1500 x 600mm LPG cylinder lockable cage.	No	1		
	.03	Install dia 22mm 2 way gas selector valve in the middle of the cylinders linking both gas cylinders.	No	2		
	.04	Install 4 off dia 22mm gas isolation valves outside after each gas cylinder	No	2		
	.05	Supply and install dia 75mm pvc sleeve which is required to be laid in under the concrete surface from the gas cylinders outside to the indoor position of gas stoves	m	2		
	.06	Install dia 22mm copper mains gas pipe	m	20		
	.07	Install dia 15mm copper gas pipe	m	12		
	.08	Install dia 22mm elbows	No	6		
	.09	Install dia 15mm elbows	No	12		
	.10	Dia 22mm x dia15mm x dia 22mm red tees	No	12		
	TOTAL BILL NO 4- CARRIED TO SUMMARY					

RUSTENBURG NHLS
BILL NO. 5 LIFT

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN- TITY	RATE	AMOUNT
Refer to Lift Specifications	5.00	LIFTS				
	5.01	Supply and installation of elevator complete with accessories				
	.01	1125 kg 3 stop lift for Main Building	Sum	1		
	.02	Allow for interface with Fire Detection	-	-	Sum	
	5.02	COMMISSIONING				
		Commissioning and testing of the installation				
	.01	Lifts	-	-	Sum	
	TOTAL BILL NO 5- CARRIED TO SUMMARY					R

RUSTENBURG NHLS

SUMMARY: SCHEDULE OF QUANTITIES: MECHANICAL SERVICES

BILL NO 1: AIR CONDITIONING AND VENTILATION R _____

BILL NO 2: FIRE DETECTION R _____

BILL NO 3: WET SERVICES R _____

BILL NO 4: GAS R _____

BILL NO 5: LIFT R _____

TOTAL OF SCHEDULE OF QUANTITIES: MECHANICAL SERVICES
CARRIED TO CALCULATION OF SERVICES SUMMARY R _____

NHLS
ELECTRICAL INSTALLATION BILL OF QUANTITIES

BILL No. 1: SITE RETICULATION & GENERAL INSTALLATIONS					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				R	R
1.1	DISTRIBUTION BOARDS				
	Supply and Installation of distribution boards as per attached drawing and specifications with labels, legends, danger warning signs, and green locks with master keys.				
1.1.1	Main Distribution Board MDB (Flush mounted with lockable doors)	no.	1		
1.1.2	Sub Distribution Board DB-G (Flush mounted with lockable doors)	no.	1		
1.1.3	Sub Distribution Board DB-F (Flush mounted with lockable doors)	no.	1		
1.1.4	450x450mm Telkom Distribution Board (Flush mounted with lockable doors)	no.	1		
1.2	LV DISTRIBUTION CABLES				
	Supply and installation of 600/1000V PVC/SWA/PVC/PVC copper cables installed in ground, ducts, cable trays, and ceiling voids				
1.2.1	185mm ² x 4 core copper cable (Main Supply Cable)	m	300		
1.2.2	95mm ² bare copper earth wire (BCEW)	m	300		
1.2.3	95mm ² x 4 core copper cable (DB-G Main Supply Cable)	m	30		
1.2.4	50mm ² bare copper earth wire (BCEW)	m	30		
1.2.5	25mm ² x 4 core copper cable (DB-F Main Supply Cable)	m	30		
1.2.6	16mm ² bare copper earth wire (BCEW)	m	30		
1.2.7	16mm ² x 4 core copper cable	m	20		
1.2.8	10mm ² bare copper earth wire (BCEW)	m	20		
1.2.9	10mm ² x 4 core copper cable	m	20		
1.2.10	6mm ² bare copper earth wire (BCEW)	m	20		
1.2.11	6mm ² x 4 core copper cable	m	50		
1.2.12	4mm ² bare copper earth wire (BCEW)	m	50		
1.2.13	4mm ² x 4 core copper cable	m	1600		
	CARRIED FORWARD				

BILL No. 1: SITE RETICULATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				R	R
	BROUGHT FORWARD				
1.2.14	2,5mm ² bare copper earth wire (BCEW)	m	1600		
1.2.15	4mm ² x 3 core copper cable	m	1000		
1.2.16	2,5mm ² bare copper earth wire (BCEW)	m	1000		
1.2.17	2,5mm ² x 3 core copper cable	m	100		
1.3	CABLE TERMINATIONS				
	Supply and installation of 600/1000V PVC/SWA/PVC/PVC copper cable terminations complete with lugs and earthings as required and specified				
1.3.1	185mm ² x 4 core copper cable (Main Supply Cable)	no.	2		
1.3.2	95mm ² bare copper earth wire (BCEW)	no.	2		
1.3.3	95mm ² x 4 core copper cable (DB-G Main Supply Cable)	no.	2		
1.3.4	50mm ² bare copper earth wire (BCEW)	no.	2		
1.3.5	25mm ² x 4 core copper cable (DB-F Main Supply Cable)	no.	2		
1.3.6	16mm ² bare copper earth wire (BCEW)	no.	2		
1.3.7	16mm ² x 4 core copper cable	no.	2		
1.3.8	10mm ² bare copper earth wire (BCEW)	no.	2		
1.3.9	10mm ² x 4 core copper cable	no.	2		
1.3.10	6mm ² bare copper earth wire (BCEW)	no.	2		
1.3.11	6mm ² x 4 core copper cable	no.	2		
1.3.12	4mm ² bare copper earth wire (BCEW)	no.	2		
1.3.13	4mm ² x 4 core copper cable	no.	54		
1.3.14	2,5mm ² bare copper earth wire (BCEW)	no.	54		
1.3.15	4mm ² x 3 core copper cable	no.	54		
1.3.16	2,5mm ² bare copper earth wire (BCEW)	no.	54		
1.3.17	2,5mm ² x 3 core copper cable	no.	2		
	CARRIED FORWARD				

BILL No. 1: SITE RETICULATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				R	R
	BROUGHT FORWARD				
1.5	MANHOLES AND CABLE SLEEVES				
	Supply and install cable sleeves and manholes as indicated on drawings				
1.5.1	110mmØ Kable Flex uPVC sleeves.	m	300		
1.5.2	110mmØ Kable Flex uPVC slow bend	no.	5		
1.6	TRENCHING AND BACK FILLING				
	All prices below includes the excavation of trenches and holes, separating of stones and soil, rocks etc, levelling of trench beds, refill compacting and reparation of all surfaces to the original finish (600mm deep x 300mm wide)				
1.6.1	Excavating in Earth	m3	90		
1.6.2	Excavating in Soft Rock	m3	1		Rate Only
1.6.3	Excavating in Hard Rock	m3	1		Rate Only
1.7	CABLE MARKERS AND DANGER WARNING TAPE				
	Supply and installation of cable markers and danger warning tape as specified				
1.7.1	Low voltage concrete cable route markers	no.	5		
1.7.2	Low voltage danger warning tape	m	300		
	CARRIED FORWARD				

BILL No. 1: SITE RETICULATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				R	R
	BROUGHT FORWARD				
1.8	EARTHING AND LIGHTNING PROTECTION				
1.8.1	16mm ² BCEW down conductor	m	352		
1.8.2	8mm ² Diameter Round Aluminium Ground Conductor	m	150		
1.8.3	1500mm long, 16mm ² , A grade copper earth spikes	no.	10		
1.8.4	Accessories such as ferrules, clamps, brackets, test boxes etc to make installation complete	sum	1		
1.8.5	Testing and certification of the earthing and lighting protection system including all test equipment required as well as the issuing of an earthing certification by a qualified person	sum	1		
1.9	UPS				
1.9.1	Supply and install 30kVA UPS with 30 minutes battery back up @ 0.9 power factor complete with a wrap around maintenance bypass (external bypass). The UPS must have an SNMP card and must be able to send the following alerts; common alarm, bypass active, Load on battery, and load on bypass. Note: UPS must be able to work in parallel.	no.	2		
1.9.2	Supply and install UPS paralleling kit/panel to parallel the 2 x 30kVA UPS above.	sum	1		
1.9.3	Supply operating & maintenance manuals, test & commissioning results	copie	3		
1.9.4	Supply maintenance and warranty for 12 months	sum	1		
1.10	TESTING AND COMMISSIONING				
1.10.1	Testing and commissioning of the entire low voltage network and area lighting including the provision of all test equipment required and issuing of a certificate of compliance for the installation.	sum	1		
1.10.2	Provide as built drawings for the whole electrical installation to the engineer	set	3		
	TOTAL CARRIED FORWARD TO SUMMARY				

**NHLS
ELECTRICAL INSTALLATION BILL OF QUANTITIES**

BILL No. 2: LIGHTING AND POWER INSTALLATION					
ITEM	DESCRIPTION	UNIT	QTY	RATE R	AMOUNT R
2.0	CONDUITS AND ACCESSORIES Supply and install new PVC conduit chased in walls, installed into ceiling voids, cast into concrete as specified complete with accessories.				
2.0.1	20mm diameter PVC conduits complete with accessories	m	7000		
2.0.2	25mm diameter PVC conduits complete with accessories	m	3500		
2.0.3	32mm diameter PVC conduits complete with accessories	m	210		
2.0.4	32mm diameter bosal conduits complete with accessories	m	150		
2.0.5	150x150x50mm draw box flush mounted	no.	4		
2.0.6	Electrical slab box (210x130x150mm) complete with cover	no.	27		
2.1	CONDUCTORS Supply and installation of the following PVC insulated conductors with colours as specified, into trunking and conduit including terminations on both ends, to specification				
2.1.1	1,5mm ²	m	8500		
2.1.2	2,5mm ²	m	8500		
2.1.3	4mm ²	m	6750		
2.1.4	6mm ²	m	450		
2.1.5	10mm ²	m	200		
2.1.6	2,5mm ² bare copper earth wire	m	150		
2.1.7	4mm ² bare copper earth wire	m	150		
2.1.8	6mm ² bare copper earth wire	m	100		
2.2	LIGHT SWITCHES Supply and install the following flush mounted light switches complete with wall boxes as specified and indicated on drawings				
2.2.1	1 Lever, 1 Way Light Switch	no.	6		
2.2.2	1 Lever, 2 Way Light Switch	no.	14		
2.2.3	Photocell, 10A, 240V.	no.	3		
	CARRIED FORWARD				

BILL No. 2:LIGHTING AND POWER INSTALLATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				R	R
	BROUGHT FORWARD				
2.2.4	Dual technology occupancy sensor, 10A, 240V, 50Hz.	no.	52		
2.3	POWER SKIRTING. TRUNKING CABLE TRAY & WIRE MESH				
	Supply and install the following wire ways complete with mounting accessories, tees, bends, end caps etc				
2.3.1	230mm wide perforated galvanised steel cable tray complete with mounting and suspending accessories, medium duty	m	450		
2.3.2	230mm galvanised steel cable wire mesh basket complete with mounting, splicing and suspending accessories	m	450		
2.3.3	P2000 trunking complete with mounting and suspending accessories, tees, end caps, bends etc	m	250		
2.3.4	2 cover, three compartment, galvanised steel, powder coated power skirting with mounting accessories, end caps, elbows, etc. Color: White	m	400		
2.4	SOCKET OUTLETS AND ISOLATORS				
	Supply and install the following socket outlets and isolators as specified and as indicated on drawings.				
2.4.1	Normal, white single switched socket outlet mounted on power skirting	no.	30		
2.4.2	Single, normal, switched socket outlet wall mounted	no.	10		
2.4.3	Dedicated, red single switched socket outlet mounted on power skirting	no.	80		
2.4.4	UPS, violet single switched socket outlet mounted on power skirting	no.	50		
2.4.5	Combination switched socket with 1 normal 16A outlet + 1 Euro 3 pin socket outlets	no.	145		
2.4.6	20A double pole isolator in weather proof box for AC units	no.	30		
2.4.7	20A double pole isolator in ceiling or wall mounted	no.	30		
	CARRIED FORWARD				

BILL No. 2:LIGHTING AND POWER INSTALLATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				R	R
	BROUGHT FORWARD				
2.4.8	40A double pole isolator for geysers	no.	4		
2.4.9	60A tripple pole isolator weather proof box for AC units	no.	20		
2.4.10	5A unswitched socket outlets for light fittings	no.	100		
2.4.11	16A, 2P+E Industrial Socket Outlet	no.	10		
2.4.12	32A, 3P+N+E, Caravan Plug/ Industrial Socket Outlet	no.	6		
2.4.13	Double, normal, switched socket outlet wall mounted	no.	6		
2.5	DATA AND TELEPHONE				
	Supply and installtion of data and telephone points on power skirting or wall mounted as specified and as indicated on drawings				
2.5.1	RJ45 Data points	no.	70		
2.5.2	RJ45 Telephone points	no.	70		
2.6	LIGHTING INSTALLATION				
	Supply and installation of the following light fittings, complete with lamps and electronic control gear, mounting accessories as specified and as indicated on attached drawings.				
	Batten-55W-LED By Lascon Or Similar Approved light fitting -TYPE V	no.	24		
2.6.1					
2.6.2	22W LED decorative down light fitting- Beka Rondo by Beka or similar approved - TYPE B	no.	170		
2.6.3	22W LED decorative, circular bulkhead light fitting- Beka Series 50 by Beka or similar approved - TYPE D	no.	20		
2.6.4	65W LED decorative recessed light fitting, 1200x600mm Beka Dari or similar approved - TYPE I	no.	100		
2.6.5	Same as above with 1 hour emergency battery back-up system TYPE IE	no.	30		
2.6.6	9w LED Decorative Inground LED, Type S	no.	15		
	CARRIED FORWARD				

BILL No. 2:LIGHTING AND POWER INSTALLATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				R	R
	BROUGHT FORWARD				
2.6.7	LED Linear Light 14w/m by lightnet or similar approved: Type L	no.	150		
	2.7 SCANNING OF SERVICES				
2.7.1	Provide scanning for underground services on all the cable routes and allow for exposing by hand such services	sum	1		
	2.8 INTERFACING WITH FIRE DETECTION INSTALLATION				
2.8.1	Allow for interfacing of signals from the fire detection installation with contactors in distribution boards. Fire signal shall trip the contactors in DBs during a fire shutting down the whole HVAC system	sum	1		
	TOTAL CARRIED FORWARD TO SUMMARY				

NHLS

ELECTRICAL INSTALLATION BILL OF QUANTITIES

BILL No. 3:CCTV & ACCESS CONTROL INSTALLATION					
ITEM	DESCRIPTION	UNIT	QTY	RATE R	AMOUNT R
3.0	CCTV INSTALLATION Supply, install, and install a complete CCTV installation as indicated on drawings and as per attached specifications (Avigilon system or similar approved)				
3.0.1	3.0 MP (1080p) WDR LightCatcher, 3.3-9mm f/1.3 P-iris lens, Integrated IR+ Junction box for the H4A HD Bullet, Day & Night Vision	no.	8		
3.0.2	3.0 MP WDR, LightCatcher, Day/Night, Outdoor Dome, 2.8mm f/1.2, IR + in-Ceiling Mount Adapter	no.	18		
3.0.3	8.0 MP, H5A Fisheye Dome Camera, LightCatcher, Day/Night, WDR, 1.41mm f/2.0, Next-Generation Analytics, Integrated IR	no.	2		
3.0.4	AI NVR Value, 12TB, NA ; 1U Rack Mount; Linux Operating System with Analytics kit and Duel redundant PSU	no.	1		
3.0.5	AI NVR Value, 6TB, NA ; 1U Rack Mount; Linux Operating System with Analytics kit and Duel redundant PSU	no.	1		
3.0.6	230mm galvanised steel cable wire mesh basket complete with mounting, splicing and suspending accessories	m	150		
3.0.7	Testing and commisioning of the CCTV system	sum	1		
3.0.8	Training of user personnel	sum	1		
3.0.9	Operating and maintenace manuals	copies	3		
3.0.10	As built drawings for the CCTV system	copies	3		
3.0.11	Wiring and cabling for all the cameras	Lot	1		
3.0.12	Poles and mounting accessories	Lot	1		
3.1	ACCESS CONTROL INSTALLATION				
3.1.1	Supply and install proximity card readers	no.	5		
3.1.2	Supply and install access control software complete with desk top PC in server room	sum	1		

3.1.3	Supply and install IR sensor no touch exit button	no.	5		
	CARRIED FORWARD				

BILL No. 3:CCTV & ACCESS CONTROL INSTALLATION					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				R	R
	BROUGHT FORWARD				
3.1.4	Supply and install Mylar screened twisted pair cable for access control applications	m	520		
3.1.5	Supply and install 300kg magnetic door locks complete with mounting brackets	no.	5		
3.1.6	Supply and install door controllers	no.	5		
3.1.7	Supply and install power supply units for the whole access control installation	sum	1		
3.1.8	Testing and commissioning of the entire access control installation system	sum	1		
3.1.9	HID Lumidign Biometric Finger Print Reader	no.	5		
3.1.10	Operating and maintenance manuals	copies	3		
3.1.11	Training of user personnel	sum	1		
3.1.12	Produce as built drawings for the whole access control installation	copies	3		
3.1.13	Emergency Green Breakglass Unit/Call Point re-settable type	no.	5		
3.2	CABLING				
3.2.1	Twisted Pair cable - Stranded (14/0.2mm) - 21AWG, brown and green sheath to match standard HBus wire colours	m	562		
3.2.2	Power Conductors - Stranded (24/0.2mm) - 18AWG	m	562		
	TOTAL CARRIED FORWARD TO SUMMARY				

SUMMARY

NHLS

ELECTRICAL INSTALLATION

1	Bill no. 1: Site Reticulation & General Installations	<hr/>
2	Bill no. 2: Lighting & Power Installation	<hr/>
3	Bill no. 3: CCTV & Access Control	<hr/>

TOTAL CARRIED TO FINAL SUMMARY	<hr/> <hr/>
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FINAL SUMMARY	AMOUNT
PRELIMINARIES AND GENERALS	
BUILDING WORKS	
MECHANICAL WORKS	
ELECTRICAL WORKS	
SUB -TOTAL	
CONTIGENCIES	
Allow 10% Contigencies of the measured works including the preliminaries and general, to be directed by the project manager	
SUBTOTAL	
Add Value Added Tax at the rate of 15%	
Carried to Form of Offer and Acceptance	