

Item No	Quantity	Rate	Amount
<p><b><u>SECTION NO. 1</u></b></p> <p><b><u>BILL NO. 1</u></b></p> <p><b><u>PRELIMINARIES</u></b></p> <p><b><u>BUILDING AGREEMENT AND PRELIMINARIES</u></b></p> <p>The JBCC Series 2000 Edition 4.1 Code 2101 March 2005 2005 edition prepared by the Joint Building Contracts Committee, shall be the agreement, amended as hereinafter described</p> <p>The Preliminaries for use with the JBCC Series 2000 Principal Building Agreement (May 2005 edition) prepared by the Joint Building Contracts Committee, shall be deemed to be incorporated in these bills of quantities</p> <p>Contractors are referred to the above-mentioned documents for the full intent and meaning of each clause thereof</p> <p>These clauses are hereinafter referred to by clause number and heading only. Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading and such modifications, corrections or supplements shall take precedence notwithstanding anything contrary contained in the above-mentioned documents</p> <p>Where any item is not relevant to this specific contract such item is marked N/A, signifying "not applicable"</p> <p>Notwithstanding anything to the contrary contained in any of the contract documents including the Principal Building Agreement and the Preliminaries, the provision of the "Preliminaries" as hereinafter set forth shall prevail and shall take precedence</p>			
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**PREAMBLES FOR TRADES**

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

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

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

**GENERAL**

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

**SECTION A - PRINCIPAL BUILDING AGREEMENT**

**Definitions (A1)**

1 Definitions and interpretation (clause 1)

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

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	<b><u>Objective and Preparation (A2 to A14)</u></b>		
2	Offer acceptance and performance (clause 2) F:..... V:..... T:.....	Item	
3	Documents (clause 3) F:..... V:..... T:.....	Item	
4	Design responsibility (clause 4) F:..... V:..... T:.....	Item	
5	Employer's agents (clause 5) F:..... V:..... T:.....	Item	
	The principal agent shall:		
	- monitor and control progress and scheduling		
	- monitor all contract conditions, and		
	- coordinate the efforts of the employer's agents, the contractor and subcontractors		
	The powers conferred on the principal agent in terms of this clause and/or the exercising of these powers shall not be construed as removing or diminishing any of the obligations of the Contractor in terms of the Principal Building Agreement, whether financial, contractual or otherwise, nor shall the exercising of these powers create any privity of contract as between the Employer or his agents on the one part and the Contractor or subcontractors or suppliers on the other part		
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	<b>Brought Forward</b>		R
	The principal agent reserves the right to attend and participate in all contractor/subcontractor's meetings, to invite other employer's agents to attend such meetings at his discretion and to converse and chair any such meetings if the contractor is derelict in his duty in arranging such meetings to the degree of frequency and comprehensiveness dictated in the opinion of the project manager by the circumstances and exigencies of the construction process		
6	Site representative (clause 6)  F:..... V:..... T:.....	Item	
7	Compliance with regulations (clause 7)  F:..... V:..... T:.....	Item	
8	Works risk (clause 8)  F:..... V:..... T:.....	Item	
9	Indemnities (clause 9)  F:..... V:..... T:.....	Item	
10	Works insurances (clause 10)  F:..... V:..... T:.....	Item	
11	Liability insurances (clause 11)  F:..... V:..... T:.....	Item	
12	Effecting insurance (clause 12)  F:..... V:..... T:.....	Item	
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	Brought Forward		R
13	NO CLAUSE	N/A	
14	Security (clause 14) F:..... V:..... T:.....	Item	
<b><u>Execution (A15-A23)</u></b>			
15	Preparation for and execution of the works (clause 15) F:..... V:..... T:.....	Item	
16	Access to the works (clause 16) F:..... V:..... T:.....	Item	
17	Contract instructions (clause 17) F:..... V:..... T:.....	Item	
18	Setting out of the works (clause 18) F:..... V:..... T:.....  The contractor shall notify the principal agent if any encroachments of adjoining foundations, buildings, structures, pavements, boundaries, etc exist in order that the necessary arrangements may be made for the rectification of any such encroachments	Item	
19	Assignment (clause 19) F:..... V:..... T:.....  The contractor shall not cede his rights or delegate his obligations in terms of this agreement unless specifically called for by the employer	Item	
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	<b>Brought Forward</b>		R
20	Nominated subcontractors (clause 20) F:..... V:..... T:.....	Item	
21	Selected subcontractors (clause 21) F:..... V:..... T:.....	Item	
	Written proof is required from subcontract tenderers at tendering that they can meet the JBCC Selected Subcontract Agreement or other tender agreements and provide security in terms of the agreement. If the above is not provided the tender may not be accepted		
	All amounts allowed under Provisional Amounts are intended to be awarded to Selected Subcontractors		
22	Employer's Direct Contractors (clause 22) F:..... V:..... T:.....	Item	
23	Contractor's Domestic Sub-Contractors (Clause 23) F:..... V:..... T:.....	Item	
	<b><u>Completion (A24-A30)</u></b>		
24	Practical completion (clause 24) F:..... V:..... T:.....	Item	
25	Works completion (clause 25) F:..... V:..... T:.....	Item	
26	Final completion (clause 26) F:..... V:..... T:.....	Item	
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	<b>Brought Forward</b>		R	
27	Latent defects liability period (clause 27) F:..... V:..... T:.....	Item		
28	Sectional completion (clause 28) F:..... V:..... T:.....	Item		
29	Revision of date of practical completion (clause 29) F:..... V:..... T:.....	Item		
	The removal and replacement of materials and/or workmanship that do not conform to specification or drawings shall not constitute grounds for an extension of the construction period nor for an adjustment to the contract sum (clause 29.3)			
30	Penalty for non-completion (clause 30) F:..... V:..... T:.....	Item		
	<b><u>Payment (A31 - A35)</u></b>			
31	Interim payment to the contractor (clause 31) F:..... V:..... T:.....	Item		
32	Adjustment to the contract value (clause 32) F:..... V:..... T:.....	Item		
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	Where prices are submitted by the contractor or nominated/selected subcontractors during the progress of the works in respect of contract instructions or in regard to a claim under the terms of the contract and notwithstanding the fact that such prices may be used in an interim payment certificate, there is to be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the final certificate, it will be in writing		
33	Recovery of expense and loss (clause 33)  F:..... V:..... T:.....	Item	
34	Final account and final payment (clause 34)  F:..... V:..... T:.....	Item	
	The employer shall not pay any interest on amounts payable to the contractor for one hundred and forty two (142) days after the date of issue of the certificate of practical completion		
	The employer shall, however, pay interest to the contractor at the rate stipulated in clause 34.11 on any amounts payable to the contractor more than one hundred and forty two (142) days after the date of issue of the certificate of practical completion but only for such period as the settlement of the final account is delayed by the non-performance of the principal agent or the employer or his agents. In evaluating non-performance for purposes of this clause a reasonable time shall be allowed to the employer or his agents to respond to any matter brought to his/their attention and which may affect the settlement of the final account		
35	Payment to other parties (clause 35)  F:..... V:..... T:.....	Item	
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	Brought Forward		R
	<b><u>Cancellation (A36-A39)</u></b>		
36	Cancellation by employer - contractor's default (clause 36) F:..... V:..... T:.....	Item	
37	Cancellation by employer - loss and damage (clause 37) F:..... V:..... T:.....	Item	
38	Cancellation by contractor - employer's default (clause 38) F:..... V:..... T:.....	Item	
39	Cancellation - cessation of the works (clause 39) F:..... V:..... T:.....	Item	
	<b><u>Dispute (A40)</u></b>		
40	Dispute Settlement (clause 40) F:..... V:..... T:.....	Item	
	<b><u>Substitute Provisions (A41)</u></b>		
41	State clauses (Clause 41) F:..... V:..... T:.....	Item	
	Information necessary for the completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder		
	<b>Carried Forward</b>		R
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	Brought Forward		R
<b><u>THE SCHEDULE</u></b>			
Information necessary for completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder			
42	Pre-tender information (clause 42)  F:..... V:..... T:.....	Item	
<b><u>42.1 CONTRACTING AND OTHER PARTIES</u></b>			
42.1.1 Employer: THE MVULA TRUST			
42.1.2 Principal Agent: Kutlo Consulting Engineers			
<b><u>42.2 CONTRACT DETAILS</u></b>			
42.2.1 Works Description: Construction of sanitation facilities			
42.2.2 Site Description: as per the information on the tender data			
42.2.3 Work or installations by direct contractors:  N/A			
42.2.4 This agreement is for a government contract where there are specific options that are applicable to a <b>State</b> organ only  Yes			
<b>Carried Forward</b>			R
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<b>Brought Forward</b>		R
42.2.5 Date on which possession of the site is intended to be given:  As per the information provided in the Tender Data		
42.2.6 Period for the commencement of the works after the contractor takes possession of site:  7 DAYS		
42.2.7 For the works <b>as a whole</b> . Intended date of practical completion and the penalty per calendar day  Intended Date of Practical Completion: <i>As per the information provided in the Tender Data</i>  Penalty Amount: <i>The penalty per <b>calendar day</b> shall be 7.5 cents per R100 of the Tendered Amount (inclusive of value added tax)</i>		
42.2.8 For the works in <b>sections</b> : Intended date of practical completion and the penalty per calendar day  N/A		
42.2.9 The <b>law</b> applicable to this <b>agreement</b> shall be that of  South Africa (country)		
<b>Carried Forward</b>		R
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<b>42.3 INSURANCES</b>		
42.3.1 Contract works insurance to be effected by:		
<i>Contractor:</i>		
<i>For the Sum of R Contract Amount + 10.00 %</i>		
<i>With a deductible of - to be determined by the contractor</i>		
42.3.2 Supplementary insurance is required	No	
42.3.3 Public liability insurance to be effected by:		
<i>Contractor:</i>		
<i>For the Sum of R 5 000 000-00</i>		
<i>With a deductible of - to be determined by the contractor</i>		
<b>42.4 DOCUMENTS</b>		
42.4.1 Waivers of <b>contractors lien</b> or right of continuing possession is required	Yes	
42.4.2 Number of construction document copies to be supplied to the <b>contractor</b> free of charge:		
3 Number of		
42.4.3 <b>Bills of Quantities/Lump sum document</b> schedule of rates drawn up in accordance with:		
"Standard System of Measuring Builders' Work"		
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<b>Brought Forward</b>				R
42.4.4 On acceptance of the tender the bills of quantities/lump sum document is to be submitted within  <b>5 working days</b>  <i>The priced bills of quantities must be handed in with the tender</i>				
42.4.5 JBCC Engineering General Conditions are to be included in the <b>contract documents</b> :	<i>No</i>			
42.4.6 The contract value is to be adjusted using escalation adjustment indices	<i>No</i>			
Where <b>JBCC CPAP</b> is to be used	<i>Base Month</i>	<b>N/A</b>		
42.4.7 Details of changes made to the provision of JBCC standard documentation:  Part 1 - Contract Data completed by Employer				
<b><u>SECTION B: PRELIMINARIES</u></b>				
<b><u>Definitions and interpretation (B1)</u></b>				
43	Definition and interpretation (B1.1 - B1.4.6)  F:..... V:..... T:.....		Item	
<b><u>Documents (B2)</u></b>				
44	Checking of documents (B2.1)  F:..... V:..... T:.....		Item	
<b>Carried Forward</b>				
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	<b>Brought Forward</b>		R
45	Provisional bills of quantities (B2.2) F:..... V:..... T:.....	N/A	
46	Availability of construction documentation (B2.3) F:..... V:..... T:.....	Item	
47	Interests of agents (B2.4) F:..... V:..... T:.....	Item	
48	Priced documents (B2.5) F:..... V:..... T:.....	Item	
49	Tender submission (B2.6) F:..... V:..... T:.....	Item	
50	Defined works area (B3.1) F:..... V:..... T:.....	Item	
	<b><u>The site (B3)</u></b>		
51	Geotechnical investigation (B3.2) F:..... V:..... T:.....	Item	
52	Inspection of the site (B3.3) F:..... V:..... T:.....	Item	
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	<b>Brought Forward</b>		R
	Existing premises occupied (B3.4) F:..... V:..... T:..... Specific requirements: The contractor shall also comply with the additional requirements with regard to the Coronavirus pandemic in terms of all Covid-19 legislation, regulations and guidelines.		
	Previous work - dimensional accuracy (B3.5) F:..... V:..... T:.....		
	Previous work - defects (B3.6) F:..... V:..... T:.....		
53	Services - known (B3.7) F:..... V:..... T:.....	Item	
54	Services - unknown (B3.8) F:..... V:..... T:.....	Item	
55	Protection of trees etc (B3.9) F:..... V:..... T:.....	Item	
56	Articles of value (B3.10) F:..... V:..... T:.....	Item	
	<b>Carried Forward</b>		R
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	Brought Forward		R
	<b><u>Management of contract (B4)</u></b>		
57	Inspection of adjoining properties etc (B3.11) F:..... V:..... T:.....	Item	
58	Management of the works (B4.1) F:..... V:..... T:.....	Item	
59	Programme for the works (B4.2) F:..... V:..... T:.....	Item	
60	Progress meetings (B4.3) F:..... V:..... T:.....	Item	
61	Technical meetings (B4.4) F:..... V:..... T:.....	Item	
62	Labour and Plant records (B4.5) F:..... V:..... T:.....	Item	
	<b><u>Samples, Shop Drawings and Manufacturer's Instructions (B5)</u></b>		
63	Samples of materials (B5.1) F:..... V:..... T:.....	Item	
64	Workmanship samples (B5.2) F:..... V:..... T:.....	Item	
	<b>Carried Forward</b>		R
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	<b>Brought Forward</b>		R
65	Shop drawings (B5.3) F:..... V:..... T:.....	Item	
66	Compliance with Manufacturer's Instructions (B5.4) F:..... V:..... T:.....	Item	
<b><u>Temporary works and plant (B6)</u></b>			
67	Deposits and fees (B6.1) F:..... V:..... T:.....	Item	
68	Enclosure of the works (B6.2) F:..... V:..... T:.....	Item	
69	Advertising (B6.3) F:..... V:..... T:.....	Item	
70	Plant, equipment, sheds and offices (B6.4) F:..... V:..... T:.....	Item	
71	Main notice board (B6.5) F:..... V:..... T:.....	Item	
72	Subcontractors' notice board (B6.6) F:..... V:..... T:.....	N/A	
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	<b>Brought Forward</b>		R
	<b><u>Temporary services (B7)</u></b>		
73	Location (B7.1) F:..... V:..... T:.....	Item	
74	Water (B7.2) <b>Option [A] shall apply</b> F:..... V:..... T:.....	Item	
75	Electricity (B7.3) <b>Option [A] shall apply</b> F:..... V:..... T:.....	Item	
76	Telecommunication facilities (B7.4) F:..... V:..... T:.....	Item	
77	Ablution facilities (B7.5) <b>Option [A] shall apply</b> F:..... V:..... T:.....	Item	
	<b><u>Prime cost amounts (B8)</u></b>		
78	Responsibility for prime cost amounts (B8.1) F:..... V:..... T:.....	Item	
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	<b><u>Attendance on N/S Subcontractors (B9)</u></b>		
79	General attendance (B9.1) F:..... V:..... T:.....	Item	
80	Special attendance (B9.2) F:..... V:..... T:.....	Item	
81	Commissioning - Fuel, water and power (B9.3) F:..... V:..... T:.....	Item	
	<b><u>Financial aspects (B10)</u></b>		
	Statutory taxes, duties and levies (B10.1) F:..... V:..... T:.....	Item	
82	Payment of preliminaries (B10.2) <b style="text-align: right;">Option [B] shall apply</b> F:..... V:..... T:.....	Item	
83	Adjustment of preliminaries (B10.3) <b style="text-align: right;">Option [A] shall apply</b> F:..... V:..... T:.....	Item	
84	Payment certificate cash flow (B10.4) F:..... V:..... T:.....	Item	
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	Brought Forward		R
	<b>General (B11)</b>		
85	Protection of works (B11.1) F:..... V:..... T:.....	Item	
86	Protection/isolation of existing/sectionally occupied works (B11.2) F:..... V:..... T:.....	Item	
87	Security of the Works (B11.3) F:..... V:..... T:.....	Item	
88	Notice before covering work (B11.4) F:..... V:..... T:.....	Item	
89	Disturbance (B11.5) F:..... V:..... T:.....	Item	
90	Environmental Disturbance (B11.6) F:..... V:..... T:.....	Item	
91	Works cleaning and clearing (B11.7) F:..... V:..... T:.....	Item	
92	Vermin (B11.8) F:..... V:..... T:.....	Item	
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	Brought Forward		R
93	Overhand work (B11.9) F:..... V:..... T:.....	Item	
94	Instruction manuals and guarantees (B11.10) F:..... V:..... T:.....	Item	
95	As built information (B11.11) F:..... V:..... T:.....	Item	
96	Tenant Installations (B11.12) F:..... V:..... T:.....	Item	
<b><u>Schedule of variables (B12)</u></b>			
97	Pre-tender information (B12.1) F:..... V:..... T:.....	Item	
	12.1.1 Provisional bills of quantities (B2.2) The quantities are provisional: <span style="float: right;">No</span>		
	12.1.2 Availability of construction documentation (B2.3) Construction documentation is not complete <span style="float: right;">No</span>		
	12.1.3 Interest of agents (B2.4)		
	12.1.4 Defined works area (B3.1)		
	12.1.5 Geotechnical investigation (B3.2) <span style="float: right;">N/A</span>		
<b>Carried Forward</b>			
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	<b>Brought Forward</b>		R
12.1.6 Existing premises occupied (B3.4)			
12.1.7 Previous work - dimensional accuracy (B3.4)			
12.1.8 Previous work - defects (B3.5)			
12.1.9 Services - known (B3.7)			
12.1.10 Protection of trees (B3.9)			
All trees should be protected and only on instruction of the Principal Agent may any trees be removed			
12.1.11 Inspection of adjoining properties (B3.11)			
12.1.12 Enclosure of the works (B6.2)			
12.1.13 Offices (B6.4.3)			
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 (B6.5)			
	YES		
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	<b>Brought Forward</b>	R
12.1.15 Subcontractors notice board (B6.6) A notice board is required	Yes	
12.1.16 Water (B7.2) Alternative Selected: A		
12.1.17 Electricity (B7.3) Alternative selected: A		
12.1.18 Telecommunications (B7.4)		
12.1.19 Ablution facilities (B7.5) Alternative selected: A		
12.1.20 Protection of existing/sectionally occupied works (B11.2)		
12.1.21 Special attendance (B9.2)  Subcontractor (1) details:  N/A		
12.1.22 Protection of the works (B11.1)  N/A		
12.1.23 Disturbance (B11.5)  N/A		
12.1.24 Environmental Disturbance (B11.6)  N/A		
<b><u>Post tender information (B12.2)</u></b>		
12.2.1 Payment of preliminaries Alternative selected: B		
12.2.2 Adjustment of preliminaries Alternative selected: A		
	<b>Carried Forward</b>	R
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	12.2.3 Additional agreed preliminaries items N/A		
	<b><u>SECTION C: SPECIFIC PRELIMINARIES</u></b>		
	Any special items to meet the particular circumstances of a specific project are embodied in this section. Where required for an aspect of the works to be executed according to a design by a consulting engineer, a recital of the headings to the individual clauses of the JBCC Engineering General Conditions are included		
98	<b>Site instructions</b>  Instructions issued on site are to be recorded in triplicate in a site instruction book which is to be maintained on site by the contractor  F:..... V:..... T:.....	Item	
99	Black economic empowerment and training  F:..... V:..... T:.....	Item	
100	Proprietary branded products  F:..... V:..... T:.....	Item	
101	<b>Testing of flat roof waterproofing for watertightness</b>  Flat roof waterproof areas shall be prepared with small sand dykes around them of a size and enclosing an area approved by the principal agent, flooded with water and kept "ponded" for at least 36 hours as a test to ensure the watertightness of the waterproofing and before any further construction work is carried out above the waterproofing  F:..... V:..... T:.....	Item	
	<b>Carried Forward</b>		R
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	<b>Brought Forward</b>		R
	The contractor shall take delivery of, handle, store, use, apply and/or fix all proprietary branded products in strict accordance with the manufacturers' instructions after consultation with the manufacturer's authorised representative		
102	Contract instructions F:..... V:..... T:.....	Item	
	Contract instructions issued on site are to be recorded in triplicate in a contract instruction book which is to be supplied and maintained on site by the contractor		
103	Labour record F:..... V:..... T:.....	Item	
	At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number and descriptions of tradesmen and labourers employed by him and all subcontractors on the works each day of that week		
104	Plant record F:..... V:..... T:.....	Item	
	At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools used on the works each day of that week		
105	Guarantees F:..... V:..... T:.....	Item	
	<b>Carried Forward</b>		R
	Section No. 1 PRELIMINARIES AND GENERALS Bill No. 1 Ps & Gs <b>KUTLO CONSULTING ENGINEERS</b>		

	<b>Brought Forward</b>		R
	<p>Where guarantees are called for, the contractor shall obtain a written guarantee, addressed to the employer, from the firm supplying the materials and/or doing the work and shall deliver same to the principal agent on the certified completion of the contract. The guarantee shall state that workmanship, materials and installation are guaranteed for a specified period from the date of certified completion of the contract, and that any defects that may arise during the specified period shall be made good at the expense of the firm supplying the materials and/or doing the work, upon written notice from the principal agent to do so. This guarantee will not be enforced if the work is damaged by defects in the construction of the building in which case the responsibility for replacement shall rest entirely with the contractor. The principal agent shall be the sole judge of the cause responsible for defects in the work and his decision shall be final and binding in terms of clause 40.2 of the agreement</p>		
106	<p>Overtime</p> <p>F:..... V:..... T:.....</p> <p>Should overtime be required to be worked for any reason whatsoever, the costs of such overtime are to be borne by the contractor unless the principal agent has specifically authorised, in writing, prior to execution thereof, that costs for such overtime are to be borne by the employer</p>	Item	
107	<p>Co-operation of contractor for cost management</p> <p>F:..... V:..... T:.....</p>	Item	
	<b>Carried Forward</b>		R
	<p>Section No. 1          PRELIMINARIES AND GENERALS          Bill No. 1          Ps &amp; Gs  <b>KUTLO CONSULTING ENGINEERS</b></p>		

	<b>Brought Forward</b>		R
108	<p>It is specifically agreed that the contractor accepts the obligation of assisting the professional consultants in implementing proper cost management. The contractor will be advised by the principal agent of all cost management procedures which will be implemented to ensure that the final building cost does not exceed the budget. The quantity surveyor undertakes to make available to the contractor all budgetary allowances and cost assessments/reports to enable the proper procedures to be implemented and the contractor will attend all cost plan review and cost management meetings. The contractor undertakes to extend these procedures in regard to all subcontractors</p> <p>Occupational Health and Safety Specification</p> <p>F:..... V:..... T:.....</p> <p>The contractor shall comply with all the requirements set out in the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993)</p> <p>It is required of the contractor to thoroughly study the Health and Safety Specification that must be read together with and is deemed to be incorporated under this Section of the bills of quantities / lump sum document.</p> <p>The contractor must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.</p>	Item	
	<b>Carried Forward</b>		R
	<p>Section No. 1            PRELIMINARIES AND GENERALS            Bill No. 1            Ps &amp; Gs  <b>KUTLO CONSULTING ENGINEERS</b></p>		

	<b>Brought Forward</b>		R
	<p>Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause, as well as the clauses that follow hereafter and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced under these clauses and no additional claims in this regard shall be entertained.</p> <p>The contractor shall also comply with the additional requirements with regard to the Coronavirus pandemic in terms of all Covid-19 legislation, regulations and guidelines. It is explicitly pointed out that all requirements of the aforementioned are deemed to be priced under this clause and the specific related clauses hereafter and no additional claims in this regard shall be entertained.</p>		
109	<p>Occupational Health and Safety Specification</p> <p>F:..... V:..... T:.....</p>	Item	
	<p>Preparation of contractor's site specific health and safety plan, including compliance with Covid-19 legislation, regulations and guidelines</p>		
110	<p>Occupational Health and Safety Specification</p> <p>F:..... V:..... T:.....</p>	Item	
	<p>Principal contractor's initial obligations in respect of the Health and Safety Act, Construction Regulations and Covid-19 regulations, etc</p>		
111	<p>Occupational Health and Safety Specification</p> <p>F:..... V:..... T:.....</p>	Item	
	<b>Carried Forward</b>		R
	<p>Section No. 1            PRELIMINARIES AND GENERALS            Bill No. 1            Ps &amp; Gs  <b>KUTLO CONSULTING ENGINEERS</b></p>		

	<b>Brought Forward</b>		<b>R</b>
	Principal contractor's time related obligations in respect of the Health and Safety Act, Construction Regulations and Covid-19 regulations, etc		
112	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of reflective vests		
113	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of hard hats		
114	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of protective footwear		
115	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of earplugs		
116	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of dust masks		
	<b>Carried Forward</b>		<b>R</b>
	Section No. 1 PRELIMINARIES AND GENERALS Bill No. 1 Ps & Gs <b>KUTLO CONSULTING ENGINEERS</b>		

	<b>Brought Forward</b>		R
117	Provision of personal protective equipment (PPE) F:..... V:..... T:.....  Provision of gloves	Item	
118	Provision of personal protective equipment (PPE) F:..... V:..... T:.....  Provision of high visibility overalls to SARTSM Chapter 13 Level 3	Item	
119	Provision of personal protective equipment (PPE) F:..... V:..... T:.....  Provision of SANS approved ear defenders	Item	
120	Provision of personal protective equipment (PPE) F:..... V:..... T:.....  Provision of face masks (Covid -19)	Item	
121	Provision of personal protective equipment (PPE) F:..... V:..... T:.....  Provision of face shields (Covid -19)	Item	
122	Provision of personal protective equipment (PPE) F:..... V:..... T:.....  Provision of gloves (Covid -19)	Item	
	<b>Carried Forward</b>		R
	Section No. 1 PRELIMINARIES AND GENERALS Bill No. 1 Ps & Gs <b>KUTLO CONSULTING ENGINEERS</b>		

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	<b>Brought Forward</b>		<b>R</b>
123	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of hand sanitiser (min 70% alcohol), foot press stands and paper towels (Covid -19)		
124	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of covered refuse bins and refuse bags and waste (including hazardous) management (Covid -19)		
125	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of digital infrared non-contact body thermometer (Covid -19, minimum of two per site entrance)		
126	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of perspex screens for office staff (Covid -19, minimum size 600 x 500mm)		
127	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of signage, including Covid -19 related signage		
128	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	<b>Carried Forward</b>		<b>R</b>
	Section No. 1 PRELIMINARIES AND GENERALS Bill No. 1 Ps & Gs <b>KUTLO CONSULTING ENGINEERS</b>		

	<b>Brought Forward</b>		R
	Provision of full time construction health and safety officer (SACPCMP Registered)		
129	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Medical certificates and medical surveillance including initial (baseline) medical examinations, periodic examinations, and exit examinations		
130	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Medical screenings, examinations, etc in terms of Covid-19 regulations		
131	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Induction training, including Covid-19 training		
132	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Provision of first aid boxes to GSR requirements		
133	Provision of personal protective equipment (PPE) F:..... V:..... T:.....	Item	
	Noise monitoring including establishment of noise zones (plant), audiograms (personnel), etc		
	<b>Carried Forward</b>		R
	Section No. 1 PRELIMINARIES AND GENERALS Bill No. 1 Ps & Gs <b>KUTLO CONSULTING ENGINEERS</b>		



	<b>Brought Forward</b>		R
134	Provision of personal protective equipment (PPE)  F:..... V:..... T:.....  Submission of health and safety file	Item	
135	HIV/AIDS Awareness  F:..... V:..... T:.....  It is required of the contractor to thoroughly study the HIV/AIDS Specification (PW 1544) of the Department that must be read together with and is deemed to be incorporated under this Section of the bills of quantities / lump sum document. Provision for pricing of HIV/AIDS awareness is made under items C11.1 to C11.5 hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained.  The contractor must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A 31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.	Item	
	<p><b><u>SUMMARY OF CATEGORIES</u></b></p> Category : Fixed R..... Category : Value R..... Category : Time R.....		
	<b>Carried to Final Summary</b>		R
	Section No. 1 PRELIMINARIES AND GENERALS Bill No. 1 Ps & Gs <b>KUTLO CONSULTING ENGINEERS</b>		

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 1</u></b>			
	<b><u>ALTERATIONS AND DEMOLITIONS</u></b>			
	<u>View site</u>			
	Before submitting his tender the tenderer shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials salvageable from the alterations. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained			
	<u>Explosives</u>			
	No explosives whatsoever may be used for alteration purposes unless otherwise stated			
	<b><u>TEMPORARY BARRIERS, SCREENS, ETC</u></b>			
	<u>Temporary barriers, screens, etc including removal</u>			
1	Dust screen 2m high from ground suitable timber framing with shade net sheeting stapled on one side, including corners, ends, etc	m	150	
	<b><u>REMOVAL OF EXISTING WORK</u></b>			
	<b><u>Taking out and removing doors, windows, etc from brickwork to be demolished</u></b>			
2	Timber single door not exceeding 2,5m2	No	22	
	<b><u>Taking out and removing doors, windows, etc including thresholds, sills, etc (building up openings elsewhere)</u></b>			
3	Security door size 813 x 2 032mm high from brick walls	No	6	
	<b><u>Taking out/off and removing glass and mirrors</u></b>			
4	Glass from steel windows, including cleaning out rebates and preparing for new glass	m2	4	
	<b>Carried Forward</b>			R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 1 ALTERATIONS AND DEMOLITIONS <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
<b><u>Taking out and removing sundry joinery work, fittings, etc</u></b>			
5	Fascia board	m	40
<b><u>Hacking up/off and removing granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screed, plaster, tile finishes, etc</u></b>			
6	30mm cement screed from floors	m2	40
<b><u>Taking out and removing piping, sanitary fittings, etc including disconnecting piping from fittings and making good floor and wall finishes (making good tiling and paintwork elsewhere)</u></b>			
7	Gutters and down pipes including brackets	m	20
8	Vitreous china WC pan with cistern	No	22
9	Vitreous china urinals	No	4
10	Vitreous china basin	No	12
<b><u>Taking out and removing fencing including poles, concrete, etc</u></b>			
11	Fencing including poles and gates.	m	1,900
<b><u>REPAIR AND SERVICING OF EXISTING</u></b>			
<b><u>Repair and servicing of existing doors</u></b>			
12	Inspect and service steel door frames 813 x 2032 mm high including replacing striking plates and leave in good working order.	No	22
Carried Forward			R
Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 1 ALTERATIONS AND DEMOLITIONS <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<b><u>Servicing of existing steel windows including thoroughly cleaning down of all dirt, scale and general contamination from all surfaces, pulleys, handles, rods, openers, catches, etc, and servicing and lubricating all moving parts, carefully removing all paint, from and polishing all brass ware and replacing of damaged or missing screws, nuts, etc (replacement of ironmongery, removal of glass, etc else where measured)</u></b>			
13	Window size 533 x 654mm high	No	12	
14	Window size 1 022 x 654mm high	No	6	
	<b><u>Sealing of existing roof</u></b>			
15	Carefully examine existing entire roof area ,locate leaks with particular attention given to roof leaks where marks are visible on walls and ceilings, locate holes, solder, replace defective screws using longer screws where necessary	m2	110	
	<b><u>CLEANING OF EXISTING SURFACES</u></b>			
16	Clean existing facebrick walls surfaces with a high pressure water spray to remove all debris and oil ,inspect recessed joints and fill with mortar where necessary to achieve flush joints.	m2	192	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 1 ALTERATIONS AND DEMOLITIONS <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 2</u></b>			
	<b><u>PLASTERING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>CEMENT SCREEDS TO CONCRETE</u></b>			
	<u>Screeds to steel trowelled, on concrete:</u>			
1	30mm thick on floors	m2	40	
	<b><u>FLOOR AND WALLS SEALERS</u></b>			
	<u>Minimum two coats approved epoxy coat:</u>			
2	On screed	m2	105	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 2 IN SITU FINISHES <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 3</u></b>			
	<b><u>CARPENTRY AND JOINERY</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>EAVES, VERGES, ETC.</u></b>			
	<u>Pressed fibre-cement</u>			
1	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	40	
	<b><u>DOORS, ETC.</u></b>			
	<u>Wrought meranti doors hung to steel frames</u>			
2	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	20	
3	44mm Purpose made Framed batten door 900 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	2	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 3 CARPENTRY AND JOINERY <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 4</u></b>			
	<b><u>IRONMONGERY</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>CATCHES, CABIN, HOOKS, ETC</u></b>			
	<u>Approved</u>			
1	150mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	6	
	<b><u>LOCKS</u></b>			
	<u>Approved</u>			
2	Three lever mortice lock set plugged	No	16	
3	Indicator lockset	No	18	
	<b><u>HANDLES</u></b>			
	<u>Aluminium Pull Handle</u>			
4	Set of two, 300mm pull handles fixed back to back on doors	No	2	
	<b><u>DOORSTOPS</u></b>			
	<u>Approved</u>			
5	38mm Diameter rubber door stop plugged	No	24	
	<b><u>DOOR CLOSERS AND FLOOR SPRINGS</u></b>			
	<b>Carried Forward</b>			R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 4 IRONMONGERY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward				R
	<b><u>Yale or equal approved</u></b>				
6	Y202RC or equal approved heavy duty door closer with cover fixed to metal	No	2		
	<b><u>LETTERS, NAMEPLATES, ETC.</u></b>				
	<b><u>"Union" or similar approved</u></b>				
7	75 x 150mm Natural anodised aluminium plate with male or female symbol	No	6		
	<b><u>"Vaal Paragon" or similar approved</u></b>				
8	32mm Type 9 back grab rail 800mm long plugged	No	2		
9	32mm Type 8 side grab rail 900mm girth plugged	No	2		
	<b><u>BATHROOM FITTINGS</u></b>				
	<b><u>"Kimberley-Clark" or Simlilar</u></b>				
10	"Kimberly Clark" SQ2 code 405607B white lockable toilet roll holder	No	16		
	<b>Carried Forward to Summary of Section No. 2</b>				R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 4 IRONMONGERY <b>KUTLO CONSULTING ENGINEERS</b>				



Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 5</u></b></p> <p><b><u>METALWORK</u></b></p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p>For preambles see "Specifications of materials and methods to be used - PW 371"</p> <p><b><u>WELDED SCREENS, GATES, ETC</u></b></p> <p><u>Steel gates and frames</u></p>			
1	<p>Single gate and frame 813 x 2032mm high of 25 x 25x 2mm hollow section frame and 25 x 25x 2mm hollow section horizontal middle rail filled in with 12 x 12mm square section vertical rails at 75mm centres and fitted with a pair of suitable hinges welded to frame and with locking mechanism for padlock all in and including outer frame of 25 x 25 x 2mm hollow section welded frame bolted to brickwork.</p>	No	6	
	<p><b>Carried Forward to Summary of Section No. 2</b></p>			R
	<p>Section No. 2            ALTERATIONS AND DEMOLITIONS            Bill No. 5            METALWORK  <b>KUTLO CONSULTING ENGINEERS</b></p>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 6</u></b>			
	<b><u>GLAZING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>GLAZING TO STEEL WITH PUTTY</u></b>			
	<u>6.38mm Obscure safety glass</u>			
1	Panes not exceeding 0,1 m2	m2	7	
	<b><u>Mirrors</u></b>			
2	Stainless steel or equal approved mirror size 350 x 400m plugged to wall with chrome plated screws.	No	1	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 6 GLAZING <b>KUTLO CONSULTING ENGINEERS</b>			

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 7</u></b>			
	<b><u>PLUMBING AND DRAINAGE (PROVISIONAL)</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>SANITARY FITTINGS</u></b>			
	<b><u>White glazed fireclay or vitreous china coupling with SABS specification 497 in</u></b>			
1	Vaal semi close suite with 90 degree wash down pan (code VAA-772402WH) and matching vandal proof 6 litre Hibiscus cistern complete with front flush push button, lid, fitments and heavy duty solid white double flap toilet seat	No	22	
2	"Flatback" wall urinal with spreader and waste union including approved urinal flush valve	No	4	
3	Vaal "Pearl Paraplegic" semi close couple boxed suite with 90 degree washdown pan (code VAA-730103WH) and matching vandal proof 6 litre purpose made cistern complete with side-flush lever and purpose made urea seat, lid, fitments and heavy duty solid white double flap toilet seat, including F14C cranked rail and F16C cistern rail.	No	2	
4	"Vaal hibiscus" wash hand basin bolted to wall including all fittings and necessary pipework	No	2	
	<b><u>WASTE UNIONS, ETC.</u></b>			
5	32 mm Chromium plated basin waste union	No	2	
	<b><u>TRAPS, ETC.</u></b>			
6	40 x 50mm Rubber butyl deep seal "P" or "S" trap	No	2	
	<b><u>TAPS, VALVES, ETC.</u></b>			
	<b>Carried Forward</b>			R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 7 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

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Brought Forward			R
<b><u>"Cobra Watertech" or other equal approved</u></b>			
7	15mm elbow action tap plugged	No	8
8	15mm gate valve plugged	No	24
9	19mm chrome plated push button taps to wash troughs	No	4
<u>Sundires</u>			
10	Stainless-steel SHE-BIN plugged to walls	No	2
<b><u>SANITARY PLUMBING</u></b>			
<u>uPVC Pipes</u>			
11	50mm Pipes	m	90
12	50mm Pipes laid in and including trenches under floors	m	48
<u>Extra over uPVC pipes for fittings</u>			
13	50mm Bend	No	36
14	50mm IE Bend	No	28
15	50mm Vent valve	No	17
16	110mm Access bend	No	33
17	110mm Junction	No	18
18	100mm Access junction	No	17
19	110mm Reducing junction	No	18
20	110mm GI two way vent valve	No	20
21	110mm IE bend	No	4
22	110mm Pan connector	No	28
<b>Carried Forward</b>			R
Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 7 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<u>TESTING:</u>			
23	Testing waste pipe system		Item	
	<b><u>WATER SUPPLIES</u></b>			
	<u>HDPE pressure pipes class 12:</u>			
24	25mm Pipes laid in and including trenches not exceeding 1m deep	m	114	
25	35mm Pipes laid in and including trenches not exceeding 1m deep	m	38	
	<u>Extra over HDPE pressure pipes for "plascon" fittings:</u>			
26	25mm Copper elbow adaptor	No	9	
27	35mm Copper elbow adaptor	No	9	
	<u>CLASS O copper pipes:</u>			
28	15mm Pipes	m	105	
29	22mm Pipes	m	85	
	<u>Extra over class O copper pipes for capillary fittings:</u>			
30	15mm Fittings	No	22	
31	22mm Fittings	No	22	
	<u>TESTING:</u>			
32	Testing water pipe system		Item	
<b>Carried Forward to Summary of Section No. 2</b>				R
Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 7 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>				

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 8</u></b>			
	<b><u>PAINTWORK</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>ON FIBRE-CEMENT</u></b>			
	<u>Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint</u>			
1	On fascias and barge boards	m2	16	
	<b><u>ON WOOD</u></b>			
	<u>Undercoat and minimum 2 coat gloss enamel</u>			
2	On doors (Internal)	m2	67	
3	On doors (External)	m2	20	
	<b><u>ON METAL</u></b>			
	<u>Undercoat and minimum 2 coat gloss enamel</u>			
4	On door frames	m2	44	
5	On gates (Measured over the full flat area of both sides)	m2	20	
6	On gutters and down pipes	m	40	
	<u>Spot priming defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel</u>			
7	On windows with burglar bars	m2	40	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 ALTERATIONS AND DEMOLITIONS Bill No. 8 PAINTING <b>KUTLO CONSULTING ENGINEERS</b>			

**SECTION SUMMARY - ALTERATIONS AND DEMOLITIONS**

Bill No		Page No	Amount
1	ALTERATIONS AND DEMOLITIONS	36	
2	IN SITU FINISHES	37	
3	CARPENTRY AND JOINERY	38	
4	IRONMONGERY	40	
5	METALWORK	41	
6	GLAZING	42	
7	PLUMBING AND DRAINAGE	45	
8	PAINTING	46	
	<b>Carried to Final Summary</b>		R
	Section No. 2 ALTERATIONS AND DEMOLITIONS <b>KUTLO CONSULTING ENGINEERS</b>		

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 1</u></b>			
	<b><u>EARTHWORKS</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>SITE CLEARANCE</u></b>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush and trees not exceeding 200mm girth, etc.	m2	50	
2	Stripping average 100mm thick layer of top soil and stockpiling on site.	m2	50	
	<b><u>EXCAVATION, FILLING, ETC</u></b>			
	<u>Excavation in earth not exceeding 2m deep</u>			
3	Trenches	m3	20	
	<u>Extra over trench and hole excavations in earth for excavation:</u>			
4	Soft rock	m3	4	
5	Hard rock	m3	2	
	<u>Extra over all excavations for carting away:</u>			
6	Surplus material from excavations and/or stock piles on site to a dumping site to be allocated by the Contractor	m3	5	
	<u>Risk of collapse of excavations</u>			
7	Sides of trench and hole excavation not exceeding 1,5m deep.	m2	75	
	<b>Carried Forward</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 1 EARTHWORKS <b>KUTLO CONSULTING ENGINEERS</b>			



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<b>Brought Forward</b>			R
	<u>Keeping excavations free of water.</u>		
8	Keeping excavations free of water other than subterranean water	Item	
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% Mod AASHTO density</u>		
9	Under floors, steps, pavings, etc.	m3	5
10	Backfilling to trenches, holes, etc.	m3	10
	<u>Compaction of surfaces</u>		
11	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod <b>AASHTO</b> density	m2	33
12	Compaction of ground surface to aprons, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod <b>AASHTO</b> density	m2	27
	<u>Earth filling supplied by the contractor under parking areas, roadways, etc</u>		
13	Sub-base course of G5 material in accordance with SABS 1200 DM, compacted to 93% Mod AASHTO density	m3	11
	<u>Prescribed density tests on filling</u>		
14	Modified AASHTO Density tests	No	4
<b>Carried Forward</b>			R
Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 1 EARTHWORKS <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<b><u>SOIL POISONING</u></b>			
	<u>Soil insecticide</u>			
15	Under floors, etc including forming and poisoning shallow furrows against foundation walls, etc, filling in furrows and ramming.	m2	25	
16	To bottom of concrete aprons	m2	22	
17	<b>To</b> bottoms and sides of trenches, etc.	m2	75	
<b>Carried Forward to Summary of Section No. 3</b>				
Section No. 3				R
BUILDING WORKS: MD2 (WATERBORNE) + 2UR				
Bill No. 1				
EARTHWORKS				
<b>KUTLO CONSULTING ENGINEERS</b>				

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 2</u></b>			
	<b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>UNREINFORCED CONCRETE, ETC</u></b>			
	<u>25Mpa/19mm Concrete</u>			
1	Strip footings	m3	6	
2	Aprons cast in panels	m3	3	
3	Ramp	m3	3	
4	Extra over concrete in surface beds for thickening 85mm deep the bottom including all excavation, backfilling etc.	m	25	
5	Thickening down the edge of apron 150mm deep, 200mm top and tapering to 100mm at bottom including all excavations, formwork, backfilling, etc	m	25	
	<b><u>REINFORCED CONCRETE, ETC</u></b>			
	<u>25Mpa/19mm Concrete</u>			
6	Slabs	m3	3	
	<b><u>CONCRETE SUNDRIES</u></b>			
	<u>Finishing top surfaces of concrete smooth with a wood float</u>			
7	Aprons and pavings to falls	m2	22	
	<b>Carried Forward</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 2 CONCRETE, FORMWORK AND REINFORCEMENT <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
	<u>Finishing top surfaces of concrete smooth with a steel trowel</u>		
8	Surface beds, slabs, etc.	m2	33
	<b><u>TEST CUBES</u></b>		
9	Allow for preparing a set of three test cubes each size 150 x 150 x 150mm, sending them to an approved testing laboratory for testing and paying all charges in connection therewith.	No	4
	<b><u>FORMWORK</u></b>		
	<u>Rough formwork to sides:</u>		
10	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	28
	<b><u>REINFORCEMENT</u></b>		
	<u>Mesh Reinforcement (measure nett)</u>		
11	Mesh ref. No. 395 fabric reinforcement fixed horizontal in surface beds	m2	25
<b>Carried Forward to Summary of Section No. 3</b>			R
Section No. 3			
BUILDING WORKS: MD2 (WATERBORNE) + 2UR			
Bill No. 2			
CONCRETE, FORMWORK AND REINFORCEMENT			
<b>KUTLO CONSULTING ENGINEERS</b>			

Item No	Quantity	Rate	Amount
<p><b><u>BILL NO. 3</u></b></p> <p><b><u>BRICKWORK</u></b></p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p>For preambles see "Specifications of materials and methods to be used - PW 371"</p> <p><b><u>BRICKWORK</u></b></p> <p>Sizes in descriptions</p> <p>Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick</p> <p>Hollow walls etc</p> <p>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.</p> <p>Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixéal" bitumen emulsion waterproofing coating.</p> <p>User note: The above preamble generally applies for works in hot and humid coastal areas</p> <p>Face bricks</p> <p>Bricks shall be ordered timeously to obtain uniformity in size and colour</p> <p><u>Pointing</u></p> <p>Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc</p>			
<b>Carried Forward</b>			R
<p>Section No. 3            BUILDING WORKS: MD2 (WATERBORNE) + 2UR            Bill No. 3            MASONRY  <b>KUTLO CONSULTING ENGINEERS</b></p>			

	Brought Forward			R
	<b><u>SAMPLES</u></b>			
	<p>Samples of all masonry building units, except those for walls units. Samples of building units to be used in walls described as "load bearing" shall consist of 30 units from every 30 000 units delivered to site described as "load bearing", shall consist of a minimum of 6</p>			
	<b><u>FOUNDATIONS</u></b>			
	<b><u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u></b>			
1	One brick walls	m2	29	
	<b><u>FACE BRICKWORK</u></b>			
	<p>Face bricks (purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with flush horizontal and vertical joints</p>			
2	Extra over brickwork for face brickwork in foundation	m2	9	
	<b><u>SUPERSTRUCTURE</u></b>			
	<b><u>FACE BRICKWORK</u></b>			
	<p>Face bricks (purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with flush horizontal and vertical joints</p>			
3	Half brickwork for face brick walls pointed both sides	m2	16	
4	One brickwork for face brick walls pointed both sides	m2	82	
5	Half brickwork for face brickwork in beamfilling	m2	9	
6	Fair raking and cutting	m	8	
	<b>Carried Forward</b>			R
	<p>Section No. 3            BUILDING WORKS: MD2 (WATERBORNE) + 2UR            Bill No. 3            MASONRY            KUTLO CONSULTING ENGINEERS</p>			

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<b>Brought Forward</b>			R
<u>Brick-on-edge header course coping, sills, etc. of face bricks (purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with recessed joints on all exposed faces</u>			
7	Extra over brickwork for brick-on-edge header course lintels pointed on two sides and 110mm soffit	m	9
8	Face brick-on-edge window sill 220mm wide pointed on two side and on top and set at a angle	m	11
9	Fair cutting and fitting around pipe not exceeding 100mm diameter.	No	3
<b><u>BRICKWORK SUNDRIES</u></b>			
<u>Brick reinforcement</u>			
10	75mm Wide reinforcement built in horizontally	m	78
11	150mm Wide reinforcement built in horizontally	m	404
<u>Turning pieces</u>			
12	220mm Wide turning piece to lintel etc	m	6
<u>Galvanised wire ties etc</u>			
13	6mm Diameter roof tie 2m girth bent double with one end fixed to timber and other built into brickwork	No	30
<u>Prestressed fabricated lintels</u>			
14	Pair of 110 x 75mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	10
<u>Ventillation bricks</u>			
15	Set of two 22 x 155mm high terra cotta clay vermin proof air bricks including making good reveals and gauze	No	8
<b>Carried Forward to Summary of Section No. 3</b>			R
Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 3 MASONRY <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 4</u></b>			
	<b><u>WATERPROOFING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>DAMP-PROOFING OF WALLS AND FLOORS</u></b>			
	<u>One layer 375mm micron embossed damp proof course</u>			
1	In walls	m2	7	
	<u>One layer of 250 micron waterproof sheeting and sealed at overlaps with pressure sensitive tape</u>			
2	Under surface beds	m2	25	
	<b><u>FLOOR AND WALLS SEALERS</u></b>			
	<u>"Secomastic" non setting mastic sealant applied cold with a hand pressure caulking gun and leave perfectly watertight.</u>			
3	Around steel windows and door frames.	m	22	
	<b>Carried Forward to Summary of Section No. 3</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 4 WATERPROOFING <b>KUTLO CONSULTING ENGINEERS</b>			



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 5</u></b>			
	<b><u>ROOF COVERINGS</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	NOTE : Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 124 for CPAP formula purposes			
	<b><u>PROFILED METAL SHEETING AND ACCESSORIES</u></b>			
	<b><u>0,6mm "Kliplok" roof sheeting in chromadek finish fixed to timber purlins (elsewhere)</u></b>			
1	Roof covering with pitch not exceeding 25 degrees	m2	32	
	<u>Sundries</u>			
2	12" Thermal resistance sisalition laid on purlins	m2	32	
	<b><u>RAINWATER DISPOSAL</u></b>			
	<b><u>Aluzink seamless metal gutters:</u></b>			
3	100 x 100 x 0.6mm Standard rainwater gutters fixed with gutters brackets	m	8	
4	75 x 100 x 0.6mm Thick galvanised rainwater downpipes fixed to wall	m	8	
5	Extra over rainwater pipe for eaves offset	No	2	
6	Extra over for closed ends	No	2	
7	Ditto ,for shoe	No	2	
	<b>Carried Forward to Summary of Section No. 3</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 5 ROOF COVERINGS <b>KUTLO CONSULTING ENGINEERS</b>			

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 6</u></b>			
	<b><u>CARPENTRY AND JOINERY</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>ROOFS, ETC.</u></b>			
	<u>Sawn softwood</u>			
1	38 x 114mm Rafters in lengths exceeding 3,9m and not exceeding 6,6m	m	36	
2	50 x 76mm Purlins in lengths exceeding 3,9m and not exceeding 6,6m	m	28	
3	76 x 38mm Wall plates	m	14	
	<u>Sundries</u>			
4	Two coats creosote on sawn timbers	m2	5	
5	6mm Diameter galvanised wire tie 3000mm girth wrapped around rafter and purlin with ends tied together	No	30	
6	Hurricane clips	No	30	
	<b><u>EAVES, VERGES, ETC.</u></b>			
	<u>Pressed fibre-cement</u>			
7	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	25	
	<b>Carried Forward</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 6 CARPENTRY AND JOINERY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward		R
	<b><u>DOORS, ETC.</u></b>		
	<u>Wrought meranti doors hung to steel frames</u>		
8	44mm Purpose made Framed batten door 813 x 1882mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	2
9	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	2
10	44mm Purpose made Framed batten door 900 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	1
	<b>Carried Forward to Summary of Section No. 3</b>		R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 6 CARPENTRY AND JOINERY <b>KUTLO CONSULTING ENGINEERS</b>		

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 7</u></b>			
	<b><u>IRONMONGERY</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>CATCHES, CABIN, HOOKS, ETC</u></b>			
	<u>Approved</u>			
1	150mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	3	
	<b><u>LOCKS</u></b>			
	<u>Approved</u>			
2	Three lever mortice lock set plugged	No	2	
3	Indicator lockset	No	2	
	<b><u>HANDLES</u></b>			
	<u>Aluminium Pull Handle</u>			
4	Set of two, 300mm pull handles fixed back to back on doors	No	1	
	<b><u>DOORSTOPS</u></b>			
	<u>Approved</u>			
5	38mm Diameter rubber door stop plugged	No	5	
	<b><u>DOOR CLOSERS AND FLOOR SPRINGS</u></b>			
	<b>Carried Forward</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 7 IRONMONGERY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward				R
	<b><u>Yale or equal approved</u></b>				
6	Y202RC or equal approved heavy duty door closer with cover fixed to metal	No	1		
	<b><u>LETTERS, NAMEPLATES, ETC.</u></b>				
	<b><u>"Union" or similar approved</u></b>				
7	75 x 150mm Natural anodised aluminium plate with male or female symbol	No	3		
	<b><u>"Vaal Paragon" or similar approved</u></b>				
8	32mm Type 9 back grab rail 800mm long plugged	No	1		
9	32mm Type 8 side grab rail 900mm girth plugged	No	1		
	<b><u>BATHROOM FITTINGS</u></b>				
	<b><u>"Kimberley-Clark" or Simlilar</u></b>				
10	"Kimberly Clark" SQ2 code 405607B white lockable toilet roll holder	No	3		
<b>Carried Forward to Summary of Section No. 3</b>					R
Section No. 3					
BUILDING WORKS: MD2 (WATERBORNE) + 2UR					
Bill No. 7					
IRONMONGERY					
<b>KUTLO CONSULTING ENGINEERS</b>					

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 8</u></b>			
	<b><u>METALWORK</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>PRESSED STEEL DOOR FRAMES</u></b>			
	<u>1,2mm Single rebated frames suitable for half brick walls</u>			
1	Frame for door 813 x 2032mm high	No	2	
	<u>1,6mm Double rebated frames suitable for one brickwalls</u>			
2	Frame for door 813 x 2032mm high	No	2	
3	Frame for door 900 x 2032mm high	No	1	
	<b><u>STEEL WINDOWS, DOORS, ETC</u></b>			
4	Window type NE1, 533 x 654mm high including burglar bars	No	5	
5	Window type NE 7,1022 x 654mm high including burglar bars	No	2	
	<b><u>WELDED SCREENS, GATES, ETC</u></b>			
	<b>Carried Forward</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 8 METALWORK <b>KUTLO CONSULTING ENGINEERS</b>			

	<b>Brought Forward</b>			R
	<u>Steel gates and frames</u>			
6	Single gate and frame 813 x 2032mm high of 25 x 25x 2mm hollow section frame and 25 x 25x 2mm hollow section horizontal middle rail filled in with 12 x 12mm square section vertical rails at 75mm centres and fitted with a pair of suitable hinges welded to frame and with locking mechanism for padlock all in and including outer frame of 25 x 25 x 2mm hollow section welded frame bolted to brickwork.	No	3	
7	Single gate and frame 900 x 2032mm high of 25 x 25x 2mm hollow section frame and 25 x 25x 2mm hollow section horizontal middle rail filled in with 12 x 12mm square section vertical rails at 75mm centres and fitted with a pair of suitable hinges welded to frame and with locking mechanism for padlock all in and including outer frame of 25 x 25 x 2mm hollow section welded frame bolted to brickwork.	No	1	
	<b>Carried Forward to Summary of Section No. 3</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 8 METALWORK <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 9</u></b>			
	<b><u>PLASTERING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>CEMENT SCREEDS TO CONCRETE</u></b>			
	<u>Screeds to steel trowelled, on concrete:</u>			
1	30mm thick on floors	m2	25	
	<b><u>FLOOR AND WALLS SEALERS</u></b>			
	<u>Minimum two coats approved epoxy coat:</u>			
2	On screed	m2	25	
	<b>Carried Forward to Summary of Section No. 3</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 9 IN SITU FINISHES <b>KUTLO CONSULTING ENGINEERS</b>			



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 10</u></b>			
	<b><u>PLUMBING AND DRAINAGE (PROVISIONAL)</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<u>Soil drainage uPVC pipes:</u>			
1	100mm Pipes vertically or ramped to cleaning eyes etc (no excavation)	m	15	
2	110mm Pipes laid in and including trenches not exceeding 1m deep	m	34	
	<u>Extra over uPVC pipes for fittings:</u>			
3	110mm Bend	No	4	
4	110mm Junction	No	4	
5	110mm Access junction	No	4	
	<u>Pre-cast concrete gulleys:</u>			
6	150mm Gulley not exceeding 2000mm deep	No	1	
	<u>Gratings, covers, etc</u>			
7	110mm Roding eye	No	1	
8	100mm ABC cast iron cleaning eye cover	No	1	
	<u>Sundries:</u>			
9	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock	m3	0.5	
10	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock	m3	0.3	
	<b>Carried Forward</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<b><u>FITTINGS</u></b>			
	<b><u>White glazed fireclay or vitreous china coupling with SABS specification 497 in</u></b>			
11	Vaal semi close suite with 90 degree wash down pan (code VAA-772402WH) and matching vandal proof 6 litre Hibiscus cistern complete with front flush push button, lid, fitments and heavy duty solid white double flap toilet seat	No	2	
12	"Flatback" wall urinal with spreader and waste union including approved urinal flush valve	No	2	
13	Vaal "Pearl Paraplegic" semi close couple boxed suite with 90 degree washdown pan (code VAA-730103WH) and matching vandal proof 6 litre purpose made cistern complete with side-flush lever and purpose made urea seat, lid, fitments and heavy duty solid white double flap toilet seat, including F14C cranked rail and F16C cistern rail.	No	1	
14	"Vaal hibiscus" wash hand basin bolted to wall including all fittings and necessary pipework	No	1	
	<b>Carried Forward</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
<b><u>WATER SUPPLIES</u></b>			
<u>PCC Wash Trough</u>			
15	Supply and install pre-cast concrete double wash-trough, complete with all necessary pipework including soakaway size 1000 x 1000 x 1000mm covered with "bidim"	No	1
<b><u>WASTE UNIONS, ETC.</u></b>			
16	32 mm Chromium plated basin waste union	No	1
<b><u>TRAPS, ETC.</u></b>			
17	40 x 50mm Rubber butyl deep seal "P" or "S" trap	No	1
<b><u>TAPS, VALVES, ETC.</u></b>			
<b><u>"Cobra Watertech" or other equal approved</u></b>			
18	15mm elbow action tap plugged	No	1
19	15mm gate valve plugged	No	6
20	19mm chrome plated push button taps to wash troughs	No	2
<b><u>SANITARY PLUMBING</u></b>			
<u>uPVC Pipes</u>			
21	50mm Pipes	m	11
22	50mm Pipes laid in and including trenches under floors	m	8
<u>Extra over uPVC pipes for fittings</u>			
23	50mm Bend	No	2
24	50mm IE Bend	No	2
25	50mm Vent valve	No	1
<b>Carried Forward</b>			R
Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

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<b>Brought Forward</b>			R
26	110mm Access bend	No	1
27	110mm Junction	No	2
28	100mm Access junction	No	1
29	110mm Reducing junction	No	2
30	110mm GI two way vent valve	No	4
31	110mm IE bend	No	4
32	110mm Pan connector	No	4
<u>TESTING:</u>			
33	Testing waste pipe system		Item
<b><u>WATER SUPPLIES</u></b>			
<u>HDPE pressure pipes class 12:</u>			
34	25mm Pipes laid in and including trenches not exceeding 1m deep	m	34
35	35mm Pipes laid in and including trenches not exceeding 1m deep	m	8
<u>Extra over HDPE pressure pipes for "plascon" fittings:</u>			
36	25mm Copper elbow adaptor	No	9
37	35mm Copper elbow adaptor	No	9
<u>CLASS O copper pipes:</u>			
38	15mm Pipes	m	15
39	22mm Pipes	m	15
<b>Carried Forward</b>			R
Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<u>Extra over class O copper pipes for capillary fittings:</u>			
40	15mm Fittings	No	8	
41	22mm Fittings	No	8	
	<u>TESTING:</u>			
42	Testing water pipe system		Item	
<b>Carried Forward to Summary of Section No. 3</b>				R
Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>				



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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 12</u></b>			
	<b><u>PAINTWORK</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>ON FIBRE-CEMENT</u></b>			
	<u>Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint</u>			
1	On fascias and barge boards	m2	5	
	<b><u>ON WOOD</u></b>			
	<u>Undercoat and minimum 2 coat gloss enamel</u>			
2	On doors (Internal)	m2	7	
3	On doors (External)	m2	7	
	<b><u>ON METAL</u></b>			
	<u>Undercoat and minimum 2 coat gloss enamel</u>			
4	On door frames	m2	8	
5	On gates (Measured over the full flat area of both sides)	m2	7	
6	On gutters and down pipes	m	6	
	<u>Spot priming defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel</u>			
7	On windows with burglar bars	m2	10	
	<b>Carried Forward to Summary of Section No. 3</b>			R
	Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR Bill No. 12 PAINTWORK <b>KUTLO CONSULTING ENGINEERS</b>			

Bill No	SECTION SUMMARY - BUILDING WORKS: MD2 (WATERBORNE) + 2UR	Page No	Amount
1	EARTHWORKS	50	
2	CONCRETE, FORMWORK AND REINFORCEMENT	52	
3	MASONRY	55	
4	WATERPROOFING	56	
5	ROOF COVERINGS	57	
6	CARPENTRY AND JOINERY	59	
7	IRONMONGERY	61	
8	METALWORK	63	
9	IN SITU FINISHES	64	
10	PLUMBING AND DRAINAGE	69	
11	GLAZING	70	
12	PAINTWORK	71	
<b>Carried to Final Summary</b>			R
Section No. 3 BUILDING WORKS: MD2 (WATERBORNE) + 2UR <b>KUTLO CONSULTING ENGINEERS</b>			



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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 1</u></b>			
	<b><u>EARTHWORKS</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>SITE CLEARANCE</u></b>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush and trees not exceeding 200mm girth, etc.	m2	60	
2	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	60	
	<b><u>EXCAVATION, FILLING, ETC</u></b>			
	<u>Excavation in earth not exceeding 2m deep</u>			
3	Trenches	m3	20	
	<u>Extra over trench and hole excavations in earth for excavation:</u>			
4	Soft rock	m3	5	
5	Hard rock	m3	2	
	<u>Extra over all excavations for carting away:</u>			
6	Surplus material from excavations and/or stock piles on site to a dumping site to be allocated by the Contractor	m3	5	
	<u>Risk of collapse of excavations</u>			
7	Sides of trench and hole excavation not exceeding 1,5m deep.	m2	118	
	<b>Carried Forward</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 1 EARTHWORKS <b>KUTLO CONSULTING ENGINEERS</b>			

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<b>Brought Forward</b>			R
	<u>Keeping excavations free of water.</u>		
8	Keeping excavations free of water other than subterranean water		Item
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% Mod AASHTO density</u>		
9	Under floors, steps, pavings, etc.	m3	5
10	Backfilling to trenches, holes, etc.	m3	10
	<u>Compaction of surfaces</u>		
11	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod <b>AASHTO</b> density	m2	25
12	Compaction of ground surface to aprons etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod <b>AASHTO</b> density	m2	21
	<u>Earth filling supplied by the contractor under parking areas, roadways, etc</u>		
13	Sub-base course of G5 material in accordance with SABS 1200 DM, compacted to 93% Mod AASHTO density	m3	11
	<u>Prescribed density tests on filling</u>		
14	Modified AASHTO Density tests	No	6
<b>Carried Forward</b>			R
Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 1 EARTHWORKS <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<b><u>SOIL POISONING</u></b>			
	<u>Soil insecticide</u>			
15	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming.	m2	25	
16	To bottom of concrete aprons	m2	22	
17	<b>To</b> bottoms and sides of trenches, etc.	m2	78	
<b>Carried Forward to Summary of Section No. 4</b>				
Section No. 4				R
BUILDING WORKS: FD4 (WATERBORNE)				
Bill No. 1				
EARTHWORKS				
<b>KUTLO CONSULTING ENGINEERS</b>				

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 2</u></b>			
	<b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>UNREINFORCED CONCRETE, ETC</u></b>			
	<u>25Mpa/19mm Concrete</u>			
1	Strip footings	m3	7	
2	Aprons cast in panels	m3	3	
3	Ramp	m3	1	
4	Extra over concrete in surface beds for thickening 85mm deep the bottom including all excavation, backfilling etc.	m	25	
5	Thickening down the edge of apron 150mm deep, 200mm top and tapering to 100mm at bottom including all excavations, formwork, backfilling, etc	m	22	
	<b><u>REINFORCED CONCRETE, ETC</u></b>			
	<u>25Mpa/19mm Concrete</u>			
6	Slabs	m3	3	
	<b>Carried Forward</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 2 CONCRETE, FORMWORK AND REINFORCEMENT <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward					
<b><u>CONCRETE SUNDRIES</u></b>					
<u>Finishing top surfaces of concrete smooth with a wood float</u>					
7	Aprons and pavings to falls	m2	22		
<u>Finishing top surfaces of concrete smooth with a steel trowel</u>					
8	Surface beds, slabs, etc.	m2	25		
<b><u>TEST CUBES</u></b>					
9	Allow for preparing a set of three test cubes each size 150 x 150 x 150mm, sending them to an approved testing laboratory for testing and paying all charges in connection therewith.	No	6		
<b><u>FORMWORK</u></b>					
<u>Rough formwork to sides:</u>					
10	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	28		
<b><u>REINFORCEMENT</u></b>					
<u>Mesh Reinforcement (measure nett)</u>					
11	Mesh ref. No. 395 fabric reinforcement fixed horizontal in surface beds	m2	25		
<b>Carried Forward to Summary of Section No. 4</b>					
Section No. 4					
BUILDING WORKS: FD4 (WATERBORNE)					
Bill No. 2					
CONCRETE, FORMWORK AND REINFORCEMENT					
<b>KUTLO CONSULTING ENGINEERS</b>					
				R	

Item No	Quantity	Rate	Amount
<b><u>BILL NO. 3</u></b>			
<b><u>BRICKWORK</u></b>			
<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
For preambles see "Specifications of materials and methods to be used - PW 371"			
<b><u>BRICKWORK</u></b>			
Sizes in descriptions			
Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick			
Hollow walls etc			
Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.			
Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixéal" bitumen emulsion waterproofing coating.			
User note: The above preamble generally applies for works in hot and humid coastal areas			
Face bricks			
Bricks shall be ordered timeously to obtain uniformity in size and colour			
<b><u>Pointing</u></b>			
Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc			
<b>Carried Forward</b>			R
Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 3 MASONRY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<b><u>SAMPLES</u></b>			
	Samples of all masonry building units, except those for walls units. Samples of building units to be used in walls described as "load bearing" shall consist of 30 units from every 30 000 units delivered to site described as "load bearing", shall consist of a minimum of 6			
	<b><u>FOUNDATIONS</u></b>			
	<b><u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u></b>			
1	One brick walls	m2	29	
	<b><u>FACE BRICKWORK</u></b>			
	<u>Face bricks (purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with flush horizontal and vertical joints</u>			
2	Extra over brickwork for face brickwork in foundation	m2	9	
	<b><u>SUPERSTRUCTURE</u></b>			
	<b><u>FACE BRICKWORK</u></b>			
	<u>Face bricks (purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with flush horizontal and vertical joints</u>			
3	Half brickwork for face brick walls pointed both sides	m2	16	
4	One brickwork for face brick walls pointed both sides	m2	90	
5	Half brickwork for face brickwork in beamfilling	m2	10	
6	Fair raking and cutting	m	8	
	<b>Carried Forward</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 3 MASONRY <b>KUTLO CONSULTING ENGINEERS</b>			

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<b>Brought Forward</b>			R
<u>Brick-on-edge header course coping, sills, etc. of face bricks (purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with recessed joints on all exposed faces</u>			
7	Extra over brickwork for brick-on-edge header course lintels pointed on two sides and 110mm soffit	m	9
8	Face brick-on-edge window sill 220mm wide pointed on two side and on top and set at a angle	m	11
9	Fair cutting and fitting around pipe not exceeding 100mm diameter.	No	5
<b><u>BRICKWORK SUNDRIES</u></b>			
<u>Brick reinforcement</u>			
10	75mm Wide reinforcement built in horizontally	m	79
11	150mm Wide reinforcement built in horizontally	m	411
<u>Turning pieces</u>			
12	220mm Wide turning piece to lintel etc	m	8
<u>Galvanised wire ties etc</u>			
13	6mm Diameter roof tie 2m girth bent double with one end fixed to timber and other built into brickwork	No	30
<u>Prestressed fabricated lintels</u>			
14	Pair of 110 x 75mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	10
<u>Ventillation bricks</u>			
15	Set of two 22 x 155mm high terra cotta clay vermin proof air bricks including making good reveals and gauze	No	8
<b>Carried Forward to Summary of Section No. 4</b>			R
Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 3 MASONRY <b>KUTLO CONSULTING ENGINEERS</b>			



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 4</u></b>			
	<b><u>WATERPROOFING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>DAMP-PROOFING OF WALLS AND FLOORS</u></b>			
	<u>One layer 375mm micron embossed damp proof course</u>			
1	In walls	m2	7	
	<u>One layer of 250 micron waterproof sheeting and sealed at overlaps with pressure sensitive tape</u>			
2	Under surface beds	m2	25	
	<b><u>FLOOR AND WALLS SEALERS</u></b>			
	<u>"Secomastic" non setting mastic sealant applied cold with a hand pressure caulking gun and leave perfectly watertight.</u>			
3	Around steel windows and door frames.	m	24	
	<b>Carried Forward to Summary of Section No. 4</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 4 WATERPROOFING <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 5</u></b>			
	<b><u>ROOF COVERINGS</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	NOTE : Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 124 for CPAP formula purposes			
	<b><u>PROFILED METAL SHEETING AND ACCESSORIES</u></b>			
	<b><u>0,6mm "Kliplok" roof sheeting in chromadek finish fixed to timber purlins (elsewhere)</u></b>			
1	Roof covering with pitch not exceeding 25 degrees	m2	32	
	<u>Sundries</u>			
2	12" Thermal resistance sisalition laid on purlins	m2	32	
	<b><u>RAINWATER DISPOSAL</u></b>			
	<b><u>Aluzink seamless metal gutters:</u></b>			
3	100 x 100 x 0.6mm Standard rainwater gutters fixed with gutters brackets	m	9	
4	75 x 100 x 0.6mm Thick galvanised rainwater downpipes fixed to wall	m	9	
5	Extra over rainwater pipe for eaves offset	No	2	
6	Extra over for closed ends	No	2	
7	Ditto ,for shoe	No	2	
	<b>Carried Forward to Summary of Section No. 4</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 5 ROOF COVERINGS <b>KUTLO CONSULTING ENGINEERS</b>			

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 6</u></b>			
	<b><u>CARPENTRY AND JOINERY</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>ROOFS, ETC.</u></b>			
	<u>Sawn softwood</u>			
1	38 x 114mm Rafters in lengths exceeding 3,9m and not exceeding 6,6m	m	36	
2	50 x 76mm Purlins in lengths exceeding 3,9m and not exceeding 6,6m	m	28	
3	76 x 38mm Wall plates	m	14	
	<u>Sundries</u>			
4	Two coats creosote on sawn timbers	m2	25	
5	6mm Diameter galvanised wire tie 3000mm girth wrapped around rafter and purlin with ends tied together	No	30	
6	Hurricane clips	No	30	
	<b><u>EAVES, VERGES, ETC.</u></b>			
	<u>Pressed fibre-cement</u>			
7	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	30	
	<b><u>DOORS, ETC.</u></b>			
	<b>Carried Forward</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 6 CARPENTRY AND JOINERY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward		R
	<u>Wrought meranti doors hung to steel frames</u>		
8	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	1
9	44mm Purpose made Framed batten door 813 x 1882mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	4
10	44mm Purpose made Framed batten door 900 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	2
<b>Carried Forward to Summary of Section No. 4</b>			
Section No. 4			
BUILDING WORKS: FD4 (WATERBORNE)			
Bill No. 6			
CARPENTRY AND JOINERY			
<b>KUTLO CONSULTING ENGINEERS</b>			
			R

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 7</u></b>			
	<b><u>IRONMONGERY</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>CATCHES, CABIN, HOOKS, ETC</u></b>			
	<u>Approved</u>			
1	150mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	3	
	<b><u>LOCKS</u></b>			
	<u>Approved</u>			
2	Three lever mortice lockset plugged	No	2	
3	Indicator lockset	No	4	
	<b><u>HANDLES</u></b>			
	<u>Aluminium Pull Handle</u>			
4	Set of two, 300mm pull handles fixed back to back on doors	No	1	
	<b><u>DOORSTOPS</u></b>			
	<u>Approved</u>			
5	38mm Diameter rubber door stop plugged	No	7	
	<b><u>DOOR CLOSERS AND FLOOR SPRINGS</u></b>			
	<b>Carried Forward</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 7 IRONMONGERY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward				R
	<b><u>Yale or equal approved</u></b>				
6	Y202RC or equal approved heavy duty door closer with cover fixed to metal	No	1		
	<b><u>LETTERS, NAMEPLATES, ETC.</u></b>				
	<b><u>"Union" or similar approved</u></b>				
7	75 x 150mm Natural anodised aluminium plate with male or female symbol	No	3		
	<b><u>"Vaal Paragon" or similar approved</u></b>				
8	32mm Type 9 back grab rail 800mm long plugged	No	1		
9	32mm Type 8 side grab rail 900mm girth plugged	No	1		
	<b><u>BATHROOM FITTINGS</u></b>				
	<b><u>"Kimberley-Clark" or Simlilar</u></b>				
10	"Kimberly Clark" SQ2 code 405607B white lockable toilet roll holder	No	5		
<b>Carried Forward to Summary of Section No. 4</b>					R
Section No. 4					
BUILDING WORKS: FD4 (WATERBORNE)					
Bill No. 7					
IRONMONGERY					
<b>KUTLO CONSULTING ENGINEERS</b>					

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 8</u></b>			
	<b><u>METALWORK</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>PRESSED STEEL DOOR FRAMES</u></b>			
	<u>1,2mm Single rebated frames suitable for half brick walls</u>			
1	Frame for door 813 x 2032mm high	No	4	
	<u>1,6mm Double rebated frames suitable for one brickwalls</u>			
2	Frame for door 813 x 2032mm high	No	2	
3	Frame for door 900 x 2032mm high	No	1	
	<b><u>STEEL WINDOWS, DOORS, ETC</u></b>			
4	Window type NE1, 533 x 654mm high including burglar bars	No	6	
5	Window type NE 7,1022 x 654mm high including burglar bars	No	3	
	<b><u>WELDED SCREENS, GATES, ETC</u></b>			
	<u>Steel gates and frames</u>			
6	Single gate and frame 900 x 2032mm high of 25 x 25x 2mm hollow section frame and 25 x 25x 2mm hollow section horizontal middle rail filled in with 12 x 12mm square section vertical rails at 75mm centres and fitted with a pair of suitable hinges welded to frame and with locking mechanism for padlock all in and including outer frame of 25 x 25 x 2mm hollow section welded frame bolted to brickwork.	No	3	
	<b>Carried Forward to Summary of Section No. 4</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 8 METALWORK KUTLO CONSULTING ENGINEERS			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 9</u></b>			
	<b><u>PLASTERING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>CEMENT SCREEDS TO CONCRETE</u></b>			
	<u>Screeds to steel trowelled, on concrete:</u>			
1	30mm thick on floors	m2	25	
	<b><u>FLOOR AND WALLS SEALERS</u></b>			
	<u>Minimum two coats approved epoxy coat:</u>			
2	On screed	m2	25	
	<b>Carried Forward to Summary of Section No. 4</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 9 IN SITU FINISHES <b>KUTLO CONSULTING ENGINEERS</b>			



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 10</u></b>			
	<b><u>PLUMBING AND DRAINAGE (PROVISIONAL)</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<u>Soil drainage uPVC pipes:</u>			
1	100mm Pipes vertically or ramped to cleaning eyes etc (no excavation)	m	15	
2	110mm Pipes laid in and including trenches not exceeding 1m deep	m	34	
	<u>Extra over uPVC pipes for fittings:</u>			
3	110mm Bend	No	4	
4	110mm Junction	No	4	
5	110mm Access junction	No	4	
	<u>Pre-cast concrete gulleys:</u>			
6	150mm Gulley not exceeding 2000mm deep	No	2	
	<u>Gratings, covers, etc</u>			
7	110mm Roding eye	No	1	
8	100mm ABC cast iron cleaning eye cover	No	1	
	<u>Sundries:</u>			
9	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock	m3	0.5	
10	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock	m3	0.3	
	<b>Carried Forward</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<b><u>FITTINGS</u></b>			
	<b><u>White glazed fireclay or vitreous china coupling with SABS specification 497 in</u></b>			
11	Vaal semi close suite with 90 degree washdown pan (code VAA-772402WH) and matching vandal proof 6 litre Hibiscus cistern complete with front flush push button, lid, fitments and heavy duty solid white double flap toilet seat	No	4	
12	Vaal "Pearl Paraplegic" semi close couple boxed suite with 90 degree washdown pan (code VAA-730103WH) and matching vandal proof 6 litre purpose made cistern complete with side-flush lever and purpose made urea seat, lid, fitments and heavy duty solid white double flap toilet seat, including F14C cranked rail and F16C cistern rail.	No	1	
13	"Vaal hibiscus" wash hand basin bolted to wall including all fittings and necessary pipework	No	1	
	<b>Carried Forward</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

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<b>Brought Forward</b>			R
	<u>PCC Wash Trough</u>		
14	Supply and install pre-cast concrete double wash-trough, complete with all necessary pipework including soakaway size 1000 x 1000 x 1000mm covered with "bidim"	No	2
	<b><u>WASTE UNIONS, ETC.</u></b>		
15	32 mm Chromium plated basin waste union	No	1
	<b><u>TRAPS, ETC.</u></b>		
16	40 x 50mm Rubber butyl deep seal "P" or "S" trap	No	1
	<b><u>TAPS, VALVES, ETC.</u></b>		
	<b><u>"Cobra Watertech" or other equal approved</u></b>		
17	15mm elbow action tap plugged	No	1
18	15mm gate valve plugged	No	6
19	19mm chrome plated push button taps to wash troughs	No	2
	<u>Sundires</u>		
20	Stainless-steel SHE-BIN plugged to walls	No	5
	<b><u>SANITARY PLUMBING</u></b>		
	<u>uPVC Pipes</u>		
21	50mm Pipes	m	25
22	50mm Pipes laid in and including trenches under floors	m	26
	<u>Extra over uPVC pipes for fittings</u>		
23	50mm Bend	No	4
24	50mm IE Bend	No	4
	<b>Carried Forward</b>		R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>		

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<b>Brought Forward</b>			R
25	50mm Vent valve	No	3
26	110mm Access bend	No	5
27	110mm Junction	No	5
28	100mm Access junction	No	5
29	110mm Reducing junction	No	6
30	110mm GI two way vent valve	No	5
31	110mm IE bend	No	5
32	110mm Pan connector	No	5
<u>TESTING:</u>			
33	Testing waste pipe system		Item
<u><b>WATER SUPPLIES</b></u>			
<u>HDPE pressure pipes class 12:</u>			
34	25mm Pipes laid in and including trenches not exceeding 1m deep	m	49
35	35mm Pipes laid in and including trenches not exceeding 1m deep	m	18
<u>Extra over HDPE pressure pipes for "plascon" fittings:</u>			
36	25mm Copper elbow adaptor	No	15
37	35mm Copper elbow adaptor	No	15
<u>CLASS O copper pipes:</u>			
38	15mm Pipes	m	30
39	22mm Pipes	m	30
<b>Carried Forward</b>			R
Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<u>Extra over class O copper pipes for capillary fittings:</u>			
40	15mm Fittings	No	10	
41	22mm Fittings	No	10	
	<u>TESTING:</u>			
42	Testing water pipe system		Item	
<b>Carried Forward to Summary of Section No. 4</b>				R
Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>				

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 11</u></b>			
	<b><u>GLAZING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>GLAZING TO STEEL WITH PUTTY</u></b>			
	<u>4mm Obscure safety glass</u>			
1	Panes not exceeding 0,1 m2	m2	6	
	<b><u>Mirrors</u></b>			
2	Stainless steel or equal approved mirror size 350 x 400m plugged to wall with chrome plated screws.	No	1	
	<b>Carried Forward to Summary of Section No. 4</b>			R
	Section No. 4			
	BUILDING WORKS: FD4 (WATERBORNE)			
	Bill No. 11			
	GLAZING			
	<b>KUTLO CONSULTING ENGINEERS</b>			

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 12</u></b>			
	<b><u>PAINTWORK</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>ON FIBRE-CEMENT</u></b>			
	<u>Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint</u>			
1	On fascias and barge boards	m2	5	
	<b><u>ON WOOD</u></b>			
	<u>Undercoat and minimum 2 coat gloss enamel</u>			
2	On doors (Internal)	m2	14	
3	On doors (External)	m2	7	
	<b><u>ON METAL</u></b>			
	<u>Undercoat and minimum 2 coat gloss enamel</u>			
4	On door frames	m2	12	
5	On gates (Measured over the full flat area of both sides)	m2	7	
6	On gutters and down pipes	m	15	
	<u>Spot priming defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel</u>			
7	On windows with burglar bars	m2	7	
	<b>Carried Forward to Summary of Section No. 4</b>			R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) Bill No. 12 PAINTWORK <b>KUTLO CONSULTING ENGINEERS</b>			

Bill No	SECTION SUMMARY - BUILDING WORKS: FD4 (WATERBORNE)	Page No	Amount
1	EARTHWORKS	75	
2	CONCRETE, FORMWORK AND REINFORCEMENT	77	
3	MASONRY	80	
4	WATERPROOFING	81	
5	ROOF COVERINGS	82	
6	CARPENTRY AND JOINERY	84	
7	IRONMONGERY	86	
8	METALWORK	87	
9	IN SITU FINISHES	88	
10	PLUMBING AND DRAINAGE	93	
11	GLAZING	94	
12	PAINTWORK	95	
	<b>Carried to Final Summary</b>		R
	Section No. 4 BUILDING WORKS: FD4 (WATERBORNE) <b>KUTLO CONSULTING ENGINEERS</b>		



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Item No		Quantity	Rate	Amount
	<b><u>BILL NO.1</u></b>			
	<b><u>EARTHWORKS</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>SITE CLEARANCE</u></b>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush and trees not exceeding 200mm girth, etc.	m2	90	
2	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	90	
	<b><u>EXCAVATION, FILLING, ETC</u></b>			
	<u>Excavation in earth not exceeding 2m deep</u>			
3	Trenches	m3	26	
	<u>Extra over trench and hole excavations in earth for excavation</u>			
4	Soft rock	m3	6	
5	Hard rock	m3	3	
	<u>Extra over all excavations for carting away:</u>			
6	Surplus material from excavations and/or stock piles on site to a dumping site to be allocated by the Contractor	m3	15	
	<u>Risk of collapse of excavations</u>			
7	Sides of trench and hole excavation not exceeding 1,5m deep.	m2	69	
	<b>Carried Forward</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 1 EARTHWORKS <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
	<u>Keeping excavations free of water.</u>		
8	Keeping excavations free of water other than subterranean water		Item
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% Mod AASHTO density</u>		
9	Under floors, steps, pavings, etc.	m3	5
10	Backfilling to trenches, holes, etc.	m3	16
	<u>Earth filling supplied (G7) by contractor compacted to 93% Mod AASHTO density</u>		
11	Under floors, steps, pavings, etc.	m3	13
	<u>Compaction of surfaces</u>		
12	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 <b>AASHTO</b> density	m2	43
13	Compaction of ground surface to pits etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod <b>AASHTO</b> density	m2	34
14	Compaction of ground surface to aprons etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod <b>AASHTO</b> density	m2	34
	<u>Prescribed density tests on filling</u>		
15	Modified AASHTO Density tests	No	10
	<b><u>SOIL POISONING</u></b>		
	<b>Carried Forward</b>		R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 1 EARTHWORKS <b>KUTLO CONSULTING ENGINEERS</b>		

	Brought Forward			R
	<u>Soil insecticide</u>			
16	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming.	m2	39	
17	To bottoms and sides of trenches, etc.	m2	63	
18	To bottom of concrete aprons	m2	25	
<b>Carried Forward to Summary of Section No. 5</b>				R
Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 1 EARTHWORKS <b>KUTLO CONSULTING ENGINEERS</b>				

Item No		Quantity	Rate	Amount
	<b><u>BILL NO.2</u></b>			
	<b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>UNREINFORCED CONCRETE, ETC</u></b>			
	<u>25Mpa/19mm Concrete</u>			
1	Strip footings	m3	8	
2	Aprons cast in panels	m3	3	
3	Ramp	m3	1	
4	Extra over concrete in surface beds for thickening 85mm deep the bottom including all excavation, backfilling etc.	m	35	
5	Thickening down apron on edge 110mm deep x 200mm wide	m	35	
	<b><u>REINFORCED CONCRETE, ETC</u></b>			
	<u>25Mpa/19mm Concrete</u>			
6	Slabs	m3	6	
	<b><u>CONCRETE SUNDRIES</u></b>			
	<u>Finishing top surfaces of concrete smooth with a wood float</u>			
7	Aprons and pavings to falls	m2	29	
	<b>Carried Forward</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 2 CONCRETE,FORMWORK AND REINFORCEMENT <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward		R
<b><u>TEST CUBES</u></b>		
8	Allow for preparing a set of three test cubes each size 150x150x150mm, sending them to an approved testing laboratory for testing and paying all charges in connection therewith.	8
	<u>Finishing top surfaces of concrete smooth with a steel trowel</u>	
9	Surface beds, slabs, etc.	36
<b><u>FORMWORK</u></b>		
	<u>Rough formwork to sides:</u>	
10	Edges, risers, ends and reveals not exceeding 300mm high or wide	28
<b><u>REINFORCEMENT</u></b>		
	<u>Mesh Reinforcement (measure nett)</u>	
11	Mesh ref. No. 395 fabric reinforcement fixed horizontal in surface beds	36
<b>Carried Forward to Summary of Section No. 5</b>		R
Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 2 CONCRETE, FORMWORK AND REINFORCEMENT <b>KUTLO CONSULTING ENGINEERS</b>		

Item No	Quantity	Rate	Amount
<b><u>BILL NO.3</u></b>			
<b><u>BRICKWORK</u></b>			
<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
For preambles see "Specifications of materials and methods to be used - PW 371"			
<b><u>BRICKWORK</u></b>			
Sizes in descriptions			
Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick			
Hollow walls etc			
Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.			
Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixéal" bitumen emulsion waterproofing coating.			
User note: The above preamble generally applies for works in hot and humid coastal areas			
Face bricks			
Bricks shall be ordered timeously to obtain uniformity in size and colour			
<b><u>Pointing</u></b>			
Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc			
<b>Carried Forward</b>			R
Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 3 MASONRY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<b><u>SAMPLES</u></b>			
	<p>Samples of all masonry building units, except those for walls units. Samples of building units to be used in walls described as "load bearing" shall consist of 30 units from every 30 000 units delivered to site described as "load bearing", shall consist of a minimum of 6</p>			
	<b><u>FOUNDATIONS</u></b>			
	<b><u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u></b>			
1	One brick walls	m2	34	
	<b><u>FACE BRICKWORK</u></b>			
	<p>Face bricks (Purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with flush horizontal and vertical joints</p>			
2	Extra over brickwork for face brickwork in foundation	m2	7	
	<b><u>SUPERSTRUCTURE</u></b>			
	<b><u>FACE BRICKWORK</u></b>			
	<p>Face bricks (Purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with flush horizontal and vertical joints</p>			
3	Half brickwork for face brick walls pointed both sides	m2	31	
4	One brickwork for face brick walls pointed both sides	m2	96	
5	Extra over brickwork for face brickwork in beamfilling	m2	10	
6	Fair raking and cutting	m	8	
	<b>Carried Forward</b>			R
	<p>Section No. 5            BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN            Bill No. 3            MASONRY            KUTLO CONSULTING ENGINEERS</p>			

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<b>Brought Forward</b>			R
	<u>Brick-on-edge header course coping, sills, etc. of face bricks (Purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with recessed joints on all exposed faces</u>		
7	Extra over brickwork for brick-on-edge header course lintels pointed on two sides and 110mm soffit	m	13
8	Face brick-on-edge window sill 220mm wide pointed on two side and on top and set at a angle	m	13
9	Fair cutting and fitting around pipe not exceeding 100mm diameter.	No	9
	<b><u>BRICKWORK SUNDRIES</u></b>		
	<u>Brick reinforcement</u>		
10	75mm Wide reinforcement built in horizontally	m	102
11	150mm Wide reinforcement built in horizontally	m	523
	<u>Turning pieces</u>		
12	220mm Wide turning piece to lintel etc	m	8
	<u>Galvanised wire ties etc</u>		
13	6mm Diameter roof tie 2m girth bent double with one end fixed to timber and other built into brickwork	No	33
	<u>Prestressed fabricated lintels</u>		
14	Pair of 110 x 75mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	10
	<u>Ventillation bricks</u>		
15	Set of two 22 x 155mm high terra cotta clay vermin proof air bricks including making good reveals and gauze	No	10
	<b>Carried Forward to Summary of Section No. 5</b>		R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 3 MASONRY <b>KUTLO CONSULTING ENGINEERS</b>		



Item No		Quantity	Rate	Amount
	<b><u>BILL NO.4</u></b>			
	<b><u>WATERPROOFING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>DAMP-PROOFING OF WALLS AND FLOORS</u></b>			
	<u>One layer 375mm micron embossed damp proof course</u>			
1	In walls	m2	9	
	<u>One layer of 250 micron waterproof sheeting and sealed at overlaps with pressure sensitive tape</u>			
2	Under surface beds	m2	36	
	<b><u>FLOOR AND WALLS SEALERS</u></b>			
	<u>"Secomastic" non setting mastic sealant applied cold with a hand pressure caulking gun and leave perfectly watertight.</u>			
3	Around steel windows and door frames.	m	24	
	<b>Carried Forward to Summary of Section No. 5</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 4 WATERPROOFING <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO.5</u></b>			
	<b><u>ROOF COVERINGS</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	NOTE : Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 124 for CPAP formula purposes			
	<b><u>PROFILED METAL SHEETING AND ACCESSORIES</u></b>			
	<b><u>0,6mm "Kliplok" roof sheeting in chromadek finish fixed to timber purlins (elsewhere)</u></b>			
1	Roof covering with pitch not exceeding 25 degrees	m2	60	
	<u>Sundries</u>			
2	12" Thermal resistance sisalation laid on purlins	m2	60	
	<b><u>RAINWATER DISPOSAL</u></b>			
	<b><u>Aluzink seamless metal gutters:</u></b>			
3	100 x 100 x 0.6mm Standard rainwater gutters fixed with gutters brackets	m	11	
4	Extra over for closed ends	No	2	
5	75 x 100 x 0.6mm Thick galvanised rainwater downpipes fixed to wall	m	9	
6	Extra over rainwater pipe for eaves offset	No	2	
7	Ditto ,for shoe	No	2	
	<b>Carried Forward to Summary of Section No. 5</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 5 ROOF COVERINGS <b>KUTLO CONSULTING ENGINEERS</b>			

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO.6</u></b>			
	<b><u>CARPENTRY AND JOINERY</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>ROOFS, ETC.</u></b>			
	<u>Sawn softwood</u>			
1	38 x 114mm Rafters in lengths exceeding 3,9m and not exceeding 6,6m	m	52	
2	76 x 38mm Wall plates	m	19	
3	50 x 76mm Purlins in lengths exceeding 3,9m and not exceeding 6,6m	m	61	
	<u>Sundries</u>			
4	Two coats creosote on sawn timbers	m2	14	
5	6mm Diameter galvanised wire tie 3000mm girth wrapped around rafter and purlin with ends tied together	No	39	
6	Hurricane clips	No	39	
	<b><u>EAVES, VERGES, ETC.</u></b>			
	<u>Pressed fibre-cement</u>			
7	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	38	
	<b><u>DOORS, ETC.</u></b>			
	<b>Carried Forward</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 6 CARPENTRY AND JOINERY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward		R
	<u>Wrought meranti doors hung to steel frames</u>		
8	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	3
9	44mm Purpose made Framed batten door 813 x 1 883mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	5
10	44mm Framed ledged and braced batten door 900 x 2032mm high of 44 x 100mm top rail and stiles, 20 x 100mm bottom rail and 20 x 100mm middle ledge and braces, filled in with 20 x 76mm tongued and grooved V-jointed one side boarding and covered on other side with 4mm plywood with hardwood veneer to match door let into and including rebates all round and splayed 50 x 76mm weather bar (D3)	No	1
<b>Carried Forward to Summary of Section No. 5</b>			
Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 6 CARPENTRY AND JOINERY <b>KUTLO CONSULTING ENGINEERS</b>			
			R

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO.7</u></b>			
	<b><u>IRONMONGERY</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>CATCHES, CABIN, HOOKS, ETC</u></b>			
	<u>Approved</u>			
1	150mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	3	
	<b><u>LOCKS</u></b>			
	<u>Approved</u>			
2	Three lever mortice lockset plugged	No	3	
3	Indicator lockset plugged	No	5	
	<b><u>HANDLES</u></b>			
	<u>Aluminium Pull Handle</u>			
4	Set of two, 300mm pull handles fixed back to back on doors	No	1	
	<b><u>DOORSTOPS</u></b>			
	<u>Approved</u>			
5	38mm Diameter rubber door stop plugged	No	9	
	<b><u>DOOR CLOSERS</u></b>			
	<b>Carried Forward</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 7 IRONMONGERY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<u>"Dorma" or equal approved</u>			
6	Dormakaba EN 2-4 Parallel Arm DELAYED ACTION Door Closer. Push Side Fixing (Parallel Arm Bracket Included) EN2 750-850, EN3 850-950, EN4 950-1100. Code TS73V PA DC - PAB - SL	No	1	
	<b><u>LETTERS, NAMEPLATES, ETC.</u></b>			
	<u>"Union" or similar approved</u>			
7	75 x 150mm Natural anodised aluminium plate with male or female symbol	No	4	
	<u>"Vaal Paragon" or similar approved</u>			
8	32mm Type 9 back grab rail 800mm long plugged	No	1	
9	32mm Type 8 side grab rail 900mm girth plugged	No	1	
	<b><u>BATHROOM FITTINGS</u></b>			
	<b><u>"Kimberley-Clark" or Simlilar</u></b>			
10	"Kimberly Clark" SQ2 code 405607B white lockable toilet roll holder	No	5	
	<b><u>Sundries</u></b>			
11	Brushed stainless steel She bin approximately 330 x 280 x 180mm plugged	No	6	
	<b>Carried Forward to Summary of Section No. 5</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 7 IRONMONGERY <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO.8</u></b>			
	<b><u>METALWORK</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>WELDED SCREENS, GATES, ETC</u></b>			
	<u>Steel gates and frames</u>			
1	Purpose made square hallow section mild steel security gate, size 914 x 2032mm High	No	1	
2	Purpose made square hallow section mild steel security gate, size 813 x 2032mm High	No	3	
	<b><u>PRESSED STEEL DOOR FRAMES</u></b>			
	<u>1,2mm Single rebated frames suitable for half brick walls</u>			
3	Frame for door 813 x 2032mm high	No	5	
	<u>1,6mm Double rebated frames suitable for one brickwalls</u>			
4	Frame for door 813 x 2032mm high	No	2	
5	Frame for door 914 x 2032mm high	No	1	
	<b><u>STEEL WINDOWS, DOORS, ETC</u></b>			
6	Window type NE1, 533 x 654mm high including burglar bars	No	7	
7	Window type NE 7,1022 x 654mm high including burglar bars	No	3	
	<b><u>SUNDRIES ETC</u></b>			
	<b>Carried Forward</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 8 METALWORK <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<u>Cage,etc</u>			
8	She bin cages ,to fit 330 x 280 x180mm width, she bin to be able to open including pad locking mechanism, complete, etc	No	6	
<b>Carried Forward to Summary of Section No. 5</b>				
Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 8 METALWORK <b>KUTLO CONSULTING ENGINEERS</b>				R



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 9</u></b>			
	<b><u>PLASTERING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>CEMENT SCREEDS TO CONCRETE</u></b>			
	<u>Screeds to steel trowelled, on concrete:</u>			
1	30mm thick on floors	m2	34	
	<b><u>FLOOR AND WALLS SEALERS</u></b>			
	<u>Minimum two coats approved epoxy coat:</u>			
2	On screed	m2	34	
	<b>Carried Forward to Summary of Section No. 5</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 9 IN SITU FINISHES <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 10</u></b>			
	<b><u>PLUMBING AND DRAINAGE (PROVISIONAL)</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<u>Soil drainage uPVC pipes:</u>			
1	100mm Pipes vertically or ramped to cleaning eyes etc (no excavation)	m	25	
2	110mm Pipes laid in and including trenches not exceeding 1m deep	m	56	
	<u>Extra over uPVC pipes for fittings:</u>			
3	110mm Bend	No	6	
4	110mm Junction	No	6	
5	110mm Access junction	No	6	
	<u>Pre-cast concrete gulleys:</u>			
6	150mm Gulley not exceeding 2000mm deep	No	2	
	<u>Gratings, covers, etc</u>			
7	110mm Roding eye	No	2	
8	100mm ABC cast iron cleaning eye cover	No	2	
	<u>Sundries:</u>			
9	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock	m3	1	
10	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock	m3	1	
	<b>Carried Forward</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<b><u>FITTINGS</u></b>			
	<b><u>White glazed fireclay or vitreous china coupling with SABS specification 497 in</u></b>			
	<u>"Vaal" or equal approved</u>			
11	"Daisy" code 774010 vitreous china semi-close coupled 90° outlet open rim washdown pan with "Walcro 107C HP" or equal approved flushing valve complete with lid, fitments and heavy duty seat	No	5	
12	"Protea Paraplegic" code 7502 vitreous china pan with "Walcro 103 (LHS) HT" or equal approved flushing valve with elbow lever complete with lid, fitments and heavy duty seat	No	1	
13	450 x 290mm "Bantam" cloakroom hand basin complete with single punched tapholes fixed to wall with and including two number 10mm bolts	No	5	
	<b>Carried Forward</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

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<b>Brought Forward</b>			R
	<u>PCC Wash Trough</u>		
14	Supply and install pre-cast concrete double wash-trough, complete with all necessary pipework including soakaway size 1000 x 1000 x 1000mm covered with "bidim"	No	1
	<b><u>WASTE UNIONS, ETC.</u></b>		
15	32 mm Chromium plated basin waste union	No	1
	<b><u>TRAPS, ETC.</u></b>		
16	40 x 50mm Rubber butyl deep seal "P" or "S" trap	No	2
	<b><u>TAPS, VALVES, ETC.</u></b>		
	<b><u>"Cobra Watertech" or other equal approved</u></b>		
17	15mm elbow action tap plugged	No	1
18	15mm gate valve plugged	No	7
19	19mm chrome plated push button taps to wash troughs	No	4
	<b><u>SANITARY PLUMBING</u></b>		
	<u>uPVC Pipes</u>		
20	50mm Pipes	m	49
21	50mm Pipes laid in and including trenches under floors	m	63
	<u>Extra over uPVC pipes for fittings</u>		
22	50mm Bend	No	3
23	50mm IE Bend	No	4
24	50mm Vent valve	No	2
25	110mm Access bend	No	2
	<b>Carried Forward</b>		R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>		

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		<b>Brought Forward</b>		<b>R</b>
26	110mm Junction	No	3	
27	100mm Access junction	No	2	
28	110mm Reducing junction	No	3	
29	110mm GI two way vent valve	No	6	
30	110mm IE bend	No	6	
31	110mm Pan connector	No	6	
<u>TESTING:</u>				
32	Testing waste pipe system		Item	
<b><u>WATER SUPPLIES</u></b>				
<u>HDPE pressure pipes class 12:</u>				
33	32mm Pipes laid in and including trenches not exceeding 1m deep	m	86	
34	50mm Pipes laid in and including trenches not exceeding 1m deep	m	53	
<u>Extra over HDPE pressure pipes for "plascon" fittings:</u>				
35	32mm Fittings	No	5	
36	50mm Fittings	No	5	
37	32mm Reducer	No	5	
38	50mm Reducer	No	5	
39	32mm Bend	No	5	
40	50mm Bend	No	5	
41	50mm Threaded adaptor	No	3	
<b>Carried Forward</b>				<b>R</b>
Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>				

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Brought Forward			R
<u>CLASS O copper pipes:</u>			
42	15mm Pipes	m	45
43	22mm Pipes	m	60
<u>Extra over class O copper pipes for capillary fittings:</u>			
44	15mm Fittings	No	13
45	22mm Fittings	No	13
<u>TESTING:</u>			
46	Testing water pipe system		Item
<b>Carried Forward to Summary of Section No. 5</b>			R
Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 10 PLUMBING AND DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 11</u></b>			
	<b><u>GLAZING</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>GLAZING TO STEEL WITH PUTTY</u></b>			
	<u>6.38mm Obscure safety glass</u>			
1	Panes not exceeding 0,1 m2	m2	8	
	<b><u>Stainless steel</u></b>			
2	Stainless steel mirror size 350 x 400m plugged to wall with chrome plated screws.	No	1	
	<b>Carried Forward to Summary of Section No. 5</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 11 GLAZING <b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 12</u></b>			
	<b><u>PAINTWORK</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	For preambles see "Specifications of materials and methods to be used - PW 371"			
	<b><u>ON FIBRE-CEMENT</u></b>			
	<u>Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint</u>			
1	On fascias and barge boards	m2	7	
	<b><u>ON WOOD</u></b>			
	<u>Undercoat and minimum 2 coat gloss enamel</u>			
2	On doors (Internal)	m2	17	
3	On doors (External)	m2	10	
	<b><u>ON METAL</u></b>			
	<u>Undercoat and minimum 2 coat gloss enamel</u>			
4	On door frames	m2	16	
5	On gates (Measured over the full flat area of both sides)	m2	10	
6	On gutters and down pipes	m	16	
	<u>Spot priming defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel</u>			
7	On windows with burglar bars	m2	13	
	<b>Carried Forward to Summary of Section No. 5</b>			R
	Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN Bill No. 12 PAINTWORK <b>KUTLO CONSULTING ENGINEERS</b>			



**SECTION SUMMARY - BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBOR**

Bill No		Page No	Amount
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11	GLAZING	119	
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<b>Carried to Final Summary</b>			R
Section No. 5 BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORN <b>KUTLO CONSULTING ENGINEERS</b>			

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO 1</u></b>			
	<b><u>PAVED WALKWAYS</u></b>			
	<b><u>EARTHWORKS</u></b>			
	<u>Site clearance</u>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	650	
2	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	650	
	<b><u>Earthworks</u></b>			
	<u>Open face excavation in earth over sloping site</u>			
3	Open face excavation to form platforms under parking areas, roads, etc and dispose in prescribed stock piles on site	m3	195	
	<u>Extra over trench and hole excavations in earth for excavation:</u>			
4	Soft rock	m3	10	
5	Hard rock	m3	5	
	<u>Extra over all excavations for carting away</u>			
6	Surplus material from stock piles on site to a dumping site to be located by the Contractor	m3	195	
	<b><u>Earth filling supplied by the contractor compacted to 93% Mod AASHTO density</u></b>			
7	Subbase course of G5 material in 150mm layer, compacted to 93% Mod AASHTO density	m3	390	
	<b>Carried Forward</b>			R
	Section No. 6 EXTERNAL WORKS Bill No. 1 PAVED WALKWAY <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
<u>Compaction of surfaces</u>			
8	Compaction of ground surface under pavings, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m2	650
<u>Additional tests required by the engineer (Refer to Supplementary Preambles for contractor's tests: SABS 1200)</u>			
9	"Modified AASHTO Density" test	No	20
<u>Paving of type 60mm interlocking precast concrete paving blocks with butt joints including 50mm thick river sand bed with sand swept into joints, including preparation of ground or filling</u>			
10	Paving to parking areas etc to falls, including necessary straight edge blocks	m2	650
<u>Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasiem 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m<sup>2</sup></u>			
11	Under paving etc	m2	650
<u>Kerbs, etc</u>			
<u>Precast concrete finished smooth on exposed surfaces including bedding, jointing and pointing</u>			
12	Fig 7 kerb with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, etc	m	424
<u><b>STEEL HANDRAILS, BALUSTRADES, ETC</b></u>			
Carried Forward			R
Section No. 6 EXTERNAL WORKS Bill No. 1 PAVED WALKWAY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward			R
	<u>Welded handrails to walkways and ramps</u>			
13	Horizontal welded balustrade 1 000mm high formed of 50 x 50 x 3mm thick square hollow section top and bottom rails, with uprights formed of 50 x 50 x 3mm thick square hollow section steel at 986mm centres, the balustrade with two cross members formed of 50 x 25 x 3mm thick hollow section and welded to 75 x 75 x 3mm thick columns at 1 500mm centres	m	40	
14	Raking welded balustrading 1 000mm high formed of 50 x 50 x 3mm thick square hollow section top and bottom rails, with uprights formed of 50 x 50 x 3mm thick square hollow section steel at 986mm centres, the balustrading with two cross members formed of 50 x 25 x 3mm thick hollow section and welded to 75 x 75 x 3mm thick columns at 1 500mm centres	m	50	
15	100 x 100 x 5mm Thick base plate, four times holed and welded to bottom of posts (e/m)	No	50	
16	Extra over last for closed end to 50 x 50mm rails	No	10	
17	M16 x 100mm expansion bolt	No	100	
<b>Carried Forward to Summary of Section No. 6</b>				R
Section No. 6 EXTERNAL WORKS Bill No. 1 PAVED WALKWAY <b>KUTLO CONSULTING ENGINEERS</b>				

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 2</u></b>			
	<b><u>STORMWATER CONTROL</u></b>			
	<b><u>SITE CLEARANCE ETC</u></b>			
	<u>Site clearance</u>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	250	
	<b><u>BULK EXCAVATION, FILLING, ETC</u></b>			
	<u>Excavation in earth</u>			
2	Excavate in earth below natural, reduced or made up ground level , not exceeding 2m deep, to reduced levels under aprons, etc	m3	30	
	<u>Extra over bulk excavation in earth for excavation in</u>			
3	Soft rock	m3	3	
4	Hard rock	m3	11	
	<u>Extra over all excavations for carting away</u>			
5	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	15	
	<u>Keeping excavations free of water</u>			
6	Keeping excavations free of all water other than subterranean water		Item	
	<u>Compaction of surfaces</u>			
7	Re-compaction of disturbed formation levels, including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	250	
	<b>Carried Forward</b>			R
	Section No. 6 EXTERNAL WORKS Bill No. 2 STORMWATER CONTROL <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
	<u>Soil poisoning</u>		
8	Treat soil under concrete rain water channels, etc. with an approved insecticide solution at the rate not less than 2 litre per 1m2	m2	250
	<b><u>Unreinforced Concrete</u></b>		
	<u>25Mpa/19mm concrete</u>		
9	25Mpa/19mm Mass concrete in V-shaped channel 2000mm wide x 75mm thick with rounded salient edges and finished on exposed surfaces with 2: 1 cement mortar, with and including one layer of ref.193 mesh reinforcement, laid to falls in panels not exceeding 2,0m long with 12mm bitumen impregnated sailboard movement joints with exposed edges raked out for a depth of 10mm and filled with bituminous compound including all necessary excavations and formwork	m	250
10	Extra for fair open end	No	20
11	Extra for fair stopped end	No	20
12	Extra for angle intersection	No	25
13	Extra over for forming 100mm thick spreader fanning out to 1200mm width at furthest end with seven (7No) concrete bricks cast in as brick-on-end diffusers in three rows including working off concrete to a smooth finish	No	1
<b>Carried Forward to Summary of Section No. 6</b>			R
Section No. 6			
EXTERNAL WORKS			
Bill No. 2			
STORMWATER CONTROL			
<b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO.3</u></b>			
	<b><u>SEPTIC TANKS, ETC.</u></b>			
	For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades			
	<b><u>SITE CLEARANCE ETC</u></b>			
	<u>Site clearance</u>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	60	
	<b><u>EXCAVATION, FILLING, ETC</u></b>			
	<u>Excavation in earth exceeding 2m and not exceeding 4m deep</u>			
2	Holes	m3	88	
	<u>Extra over all excavations for carting away</u>			
3	Extra over all excavations for carting away surplus material from excavations and/or stockpile on site to a dumping site to be located by the Contractor	m3	32	
	<u>Risk of collapse of excavations</u>			
4	Sides of trench and hole excavations exceeding 1,5m deep and not exceeding not exceeding 3m deep	m2	58	
	<u>Earth filling obtained from the excavations and /or prescribed stock piles on site including compacted to 93% Mod AASHTO density</u>			
5	Backfilling to trenches, holes, etc	m3	7	
	<u>Keeping excavations free of water</u>			
6	Keeping excavations free of all water other than subterranean water	Item		
	<b>Carried Forward</b>		R	
	Section No. 6 EXTERNAL WORKS Bill No. 3 SEPTIC TANK AND FRENCH DRAIN <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
<b><u>REINFORCED CONCRETE</u></b>			
<u>15MPa/19mm concrete</u>			
7	15Mpa in blinding	m3	1
<u>25MPa/19mm concrete</u>			
8	25Mpa in base	m3	7
9	25Mpa in slab over septic tank	m3	4
10	Concrete haunch formed below pipes	m3	0.04
<b><u>CONCRETE SUNDRIES</u></b>			
<u>Finishing top surfaces of concrete smooth with a steel trowel</u>			
11	Surface beds, slabs, etc to falls	m2	22
<u>Permanent formwork to soffits</u>			
12	Slab over septic tank	m2	22
<u>Smooth formwork to form</u>			
13	Opening not exceeding 1m girth through 170mm slab	No	2
<b><u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u></b>			
<u>Smooth formwork to sides</u>			
14	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	20
<b><u>REINFORCEMENT</u></b>			
<u>Fabric reinforcement</u>			
15	Type 888 fabric reinforcement in concrete surface beds, slabs, etc	m2	44
Carried Forward			R
Section No. 6 EXTERNAL WORKS Bill No. 3 SEPTIC TANK AND FRENCH DRAIN <b>KUTLO CONSULTING ENGINEERS</b>			



Brought Forward			R
<b><u>MASONRY</u></b>			
<u>Brickwork of NFP bricks in class II mortar</u>			
16	One brick walls	m2	69
<u>Brickwork reinforcement</u>			
17	150mm Wide reinforcement built in horizontally	m	228
<u>Face bricks (purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with flush horizontal and vertical joints</u>			
18	Extra over brickwork for face brickwork in foundation	m2	16
<b><u>BRICKWORK SUNDRIES</u></b>			
19	Leave of form 450 x 150mm high opening through a one brick wall	No	2
20	Leave or form opening through one brickwall for pipe 110mm dia	No	3
<b><u>PLASTERING</u></b>			
<u>Watertight cement plaster on brickwork</u>			
21	On walls	m2	58
<u>Screed</u>			
22	On floors	m2	22
<u>Two coats approved epoxy coats</u>			
23	On walls and floors	m2	80
<b><u>PLUMBING AND DRAINAGE</u></b>			
<u>uPVC pipes</u>			
24	110mm Pipes	m	45
Carried Forward			R
Section No. 6 EXTERNAL WORKS Bill No. 3 SEPTIC TANK AND FRENCH DRAIN <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
	<u>Extra over uPVC pipes for fittings</u>		
25	110mm Tee	No	2
	<u>Cover, etc</u>		
26	600 x 600mm Type 2A cast iron single seal manhole cover and frame	No	4
27	Lifting key for manhole cover	No	1
<b><u>FRENCH DRAINS</u></b>			
<b><u>SITE CLEARANCE ETC</u></b>			
	<u>Site clearance</u>		
28	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	20
<b><u>EXCAVATION, FILLING, ETC</u></b>			
	<u>Excavation in earth not exceeding 2m deep</u>		
29	Holes	m3	15
	<u>Extra over trench and hole excavations in earth for excavation in</u>		
30	Soft rock	m3	1
31	Hard rock	m3	1
	<u>Extra over all excavations for carting away</u>		
32	Extra over all excavations for carting away surplus material from excavations and/or stockpile on site to a dumping site to be located by the Contractor	m3	8
	<u>Risk of collapse of excavations</u>		
33	Sides of trench and hole excavations not exceeding 1,5m deep	m2	4
Carried Forward			R
Section No. 6 EXTERNAL WORKS Bill No. 3 SEPTIC TANK AND FRENCH DRAIN <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
	<u>Keeping excavations free of water</u>		
34	Keeping excavations free of all water other than subterranean water		Item
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)</u>		
35	On top of french drain as soil cover	m3	7
	<b><u>FILTER FABRIC</u></b>		
	<u>"Kaytech Engineered Fabric" or similar approved laid in strict accordance to the manufacturer's instructions</u>		
36	"Kaymat U14" or equal approved around stone filling in sub-soil drain trenches	m2	20
	<u>20mm Graded stone filling or similar approved</u>		
37	In holes	m3	5
	<u>200 - 300mm Diameter clean washed stone filling or similar approved by engineer</u>		
38	In holes	m3	15
	<b><u>WATERPROOFING</u></b>		
	<u>One layer of 250 micron "Tarkon USB Green" or equal approved waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u>		
39	On top of pipes as protection of joints	m2	15
	<b><u>ROOF SHEETING</u></b>		
	<u>Roof sheeting</u>		
40	On top of french drain	m2	15
	<u>uPVC pipes</u>		
41	110mm pipes laid in and including trenches	m	15
	<b>Carried Forward</b>		R
	Section No. 6 EXTERNAL WORKS Bill No. 3 SEPTIC TANK AND FRENCH DRAIN <b>KUTLO CONSULTING ENGINEERS</b>		

Brought Forward			R
42	160mm pipes laid in and including trenches	m	10
	<u>Extra over uPVC pipes for fittings</u>		
43	110mm End cap	No	4
44	110mm Bend	No	2
<b>Carried Forward to Summary of Section No. 6</b>			R
Section No. 6			
EXTERNAL WORKS			
Bill No. 3			
SEPTIC TANK AND FRENCH DRAIN			
<b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 4</u></b></p> <p><b><u>SEWER DRAINAGE</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><u>Wire gratings</u></p> <p>Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings</p> <p><u>Stormwater channels</u></p> <p>Descriptions of channels shall be deemed to include necessary excavation, surface preparation, compaction, etc, and disposal of surplus material on site</p> <p><u>Stainless steel basins, sinks, wash troughs, urinals, etc</u></p> <p>Stainless steel for economy basins, domestic sinks and worktops shall be Type 430 (17/0)</p> <p>Stainless steel for urinals, basins, quality sinks, wash troughs, institutional equipment, etc shall be Type 304 (18/8)</p> <p>Stainless steel for laboratory sinks, photographic equipment, etc shall be Type 316 (18/8)</p> <p>Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable</p>			
	<b>Carried Forward</b>		R	
	<p>Section No. 6            EXTERNAL WORKS            Bill No. 4            SEWER DRAINAGE  <b>KUTLO CONSULTING ENGINEERS</b></p>			

<p style="text-align: center;"><b>Brought Forward</b></p> <p><u>Sealing of edges</u></p> <p>Outer edges of sinks, basins, baths, urinals, etc are to be sealed against adjacent surfaces with approved silicone</p> <p><u>uPVC pipes and fittings</u></p> <p>Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings</p> <p>Soil, waste and vent pipes and fittings shall be solvent weld jointed or sealed with butyl rubber rings</p> <p><u>uPVC pressure pipes and fittings</u></p> <p>Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings</p> <p>Pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints</p> <p><u>High density polyethylene (HDPE) pipes and fittings</u></p> <p>Pipes shall be type IV and of the class specified with "Plasson" or "Alprene" compression fittings</p> <p><u>"Polycop" polypropylene pipes</u></p> <p>Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or where so described "Polylock" compression fittings</p> <p>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</p>	R	
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Section No. 6          EXTERNAL WORKS          Bill No. 4          SEWER DRAINAGE  <b>KUTLO CONSULTING ENGINEERS</b></p>	R	

<b>Brought Forward</b>	<b>R</b>
<p><u>Copper pipes</u></p> <p>Pipes shall be hard drawn and half-hard "Maksal" pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), Class 2 (half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016</p> <p>Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition</p> <p><u>Reducing fittings</u></p> <p>Where fittings have reducing ends or branches they are described as "reducing" and only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained</p> <p><u>Fixing of pipes</u></p> <p>Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls, etc, casting in, building in or suspending not exceeding 1m below suspension level</p> <p><u>Laying, backfilling, bedding, etc of pipes</u></p> <p>Pipes shall be laid and bedded in accordance with manufacturers' instructions and trenches shall be carefully backfilled</p>	<b>R</b>
<b>Carried Forward</b>	<b>R</b>
<p>Section No. 6 EXTERNAL WORKS Bill No. 4 SEWER DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b></p>	

<b>Brought Forward</b>	<b>R</b>
<p>Where no manufacturers' instructions exist, pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following:            SABS 1200L : Medium-pressure pipelines            SABS 1200LD : Sewers            SABS 1200LE: Stormwater drainage</p> <p>Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200DB :            Earthworks (Pipe trenches)</p> <p>Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200LB : Bedding (Pipes)</p> <p>Unless otherwise described bedding of rigid pipes shall be Class B bedding</p> <p><u>General</u></p> <p>Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc are given separately)</p> <p>Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends</p> <p>Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 93% Mod AASHTO density and disposal of surplus material on site</p> <p>Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc are given separately)</p> <p>Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured)</p>	<p><b>R</b></p>
<b>Carried Forward</b>	<b>R</b>
<p>Section No. 6            EXTERNAL WORKS            Bill No. 4            SEWER DRAINAGE  <b>KUTLO CONSULTING ENGINEERS</b></p>	



	Brought Forward			R
	<u>As-built drawings</u>			
	Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)			
	<b><u>SOIL DRAINAGE</u></b>			
	<u>Normal duty (Class 12) uPVC sewer and drain pipes</u>			
1	110mm Pipes laid in and including trenches not exceeding 1m deep	m	40	
2	110mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	30	
3	160mm Pipes laid in and including trenches not exceeding 1m deep	m	50	
4	160mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	90	
	<u>Extra over normal duty (Class 51) uPVC sewer and drain pipes for fittings</u>			
5	110mm Bend	No	8	
6	110mm Junction	No	2	
7	160mm Bend	No	8	
8	160mm Access reducing junction	No	2	
	<u>Precast concrete circular inspection chambers including precast concrete cover slabs(covers elsewhere) and channels in benching</u>			
9	1050mm Diameter inspection chamber exceeding 1000mm and not exceeding 1500mm deep internally	No	1	
	<b>Carried Forward</b>			R
	Section No. 6 EXTERNAL WORKS Bill No. 4 SEWER DRAINAGE <b>KUTLO CONSULTING ENGINEERS</b>			

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<b>Brought Forward</b>			R
10	1050mm Diameter inspection chamber exceeding 1500mm and not exceeding 2000mm deep internally	No	1
11	1050mm Diameter inspection chamber exceeding 2000mm and not exceeding 2500mm deep internally	No	2
	<u>Cast iron covers, etc</u>		
12	600 x 600 mm x 82 kg Type 9B manhole cover and frame	No	4
	<b><u>SUNDRIES</u></b>		
13	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock	m3	2
14	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock	m3	2
15	Concrete encasing to 110mm horizontal pipes	m	5
16	350 x 350 x 50mm Precast concrete inspection eye marker slab set in ground	No	4
17	100 mm Cast iron "ABC" cleaning eye, including mortar bedding around	No	4
	<u>Testing</u>		
18	Testing soil drainage system		Item
<b>Carried Forward to Summary of Section No. 6</b>			R
Section No. 6			
EXTERNAL WORKS			
Bill No. 4			
SEWER DRAINAGE			
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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 4</u></b>			
	<b><u>WATER SUPPLIES</u></b>			
	<u>Class 10 HDPE type IV pipes</u>			
1	40mm Pipes laid in and including trenches not exceeding 1m deep	m	185	
2	50mm Pipes laid in and including trenches not exceeding 1m deep	m	212	
	<u>Extra over Class 10 HDPE type IV pipes for fittings</u>			
3	40mm Fittings	No	20	
4	50mm Fittings	No	25	
5	40mm Reducer	No	6	
6	50mm Reducer	No	6	
7	40mm Bend	No	12	
8	50mm Bend	No	12	
9	50mm Threaded adaptor	No	5	
	<u>Galvanised medium steel pipes with screwed and socketed joints</u>			
10	50mm Pipes	m	48	
	<u>Extra over galvanised medium steel pipes with screwed and socketed joints for steel fittings</u>			
11	50mm Fittings	No	8	
12	50mm Bush	No	8	
13	50mm Elbow	No	8	
	<b>Carried Forward</b>			R
	Section No. 6 EXTERNAL WORKS Bill No. 5 WATER SUPPLY <b>KUTLO CONSULTING ENGINEERS</b>			

	Brought Forward				R
	<b><u>Testing</u></b>				
14	Testing of water system		Item		
	<b><u>WATER SUPPLIES TO FIRE APPLIANCES</u></b>				
	<b><u>Fire hydrant pedestals</u></b>				
	<b><u>100mm "Woodlands" or similar approved hi-efficiency hydrant set</u></b>				
15	Fire hydrant, complete, including HDPE stub with hot clipped galvanised flange and bolts	No	1		
	<b>Carried Forward to Summary of Section No. 6</b>				R
	Section No. 6				
	EXTERNAL WORKS				
	Bill No. 5				
	WATER SUPPLY				
	<b>KUTLO CONSULTING ENGINEERS</b>				

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 5</u></b>			
	<b><u>EQUIPPING OF EXISTING BOREHOLE AND WATER PURIFICATION</u></b>			
	<u>Upgrading of existing borehole</u>			
1	Check, inspect, upgrading, servicing of existing borehole and leave in good working order.		SUM	
	<u>Equipping of borehole</u>			
2	Water Quality Sampling and Analysis	Item		
3	Reporting	Item		
4	Pump Testing of existing borehole	Item		
	<b><u>PUMPS AND PIPING</u></b>			
	<u>Submersible pump set and appurtenant fittings as mar specification</u>			
5	Submersible pump with a duty of: Total head of 140m and flow of 1.6l/s complete with integral non-return valve, flow inducer (cooling) sleeve, complete with a suitable electric motor and automatic control box	No	1	
	<u>Class 10 HDPE type IV pipes</u>			
6	40mm Pipes laid in and including trenches not exceeding 1m deep	m	250	
	<u>Extra over Class 10 HDPE type IV pipes for fittings</u>			
7	40mm pressed steel base plate with 26mm diameter hole drilled for dipper tube	No	10	
8	40mm DN MGI barrel nipple	No	10	
9	40mm DN x 90° MGI female elbow	No	10	
	<b>Carried Forward</b>			R
	Section No. 6 EXTERNAL WORKS Bill No. 6 EQUIPPING OF BOREHOLE <b>KUTLO CONSULTING ENGINEERS</b>			

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<b>Brought Forward</b>			R
10	40 x 25 DN MGI reducing socket	No	10
11	25mm DN 'Invensys' / 'Kent' domestic water meter (refer to plan HSD1001)	No	1
12	40 x 25 DN MGI reducing bush	No	10
13	40mm cobra brass Ball valve	No	10
<u>Booster pump and appurtenant items</u>			
14	Supply and install a booster pump complete with control box and lockable steel pump cage with the followings specifications: Flow (Q)=2.3l/s ; Total dynamic head=45m	No	1
<u>Lockable steel cage</u>			
15	Lockable steel cage for booster borehole	No	1
<b><u>ELECTRICAL PUMP CONTROL PANEL (AUTOMATIC)</u></b>			
<u>Single Phase Control Panel : 0 - 5.6kw</u>			
<u>Switch Gear</u>			
16	60 Amp T/Pole Isolator ABB 5Ka	No	1
17	60 Amp S/Pole Earth Leakage ABB 5Ka	No	1
18	20 Amp T/Pole Circuit Breaker ABB 3Ka	No	1
19	25 Amp S/Pole C/B ABB 5Ka	No	1
20	Surge arrestor ABB	No	1
<u>Wires and accessories</u>			
21	10mm <sup>2</sup> 4 core electric cable	m	250
<b>Carried Forward</b>			R
Section No. 6 EXTERNAL WORKS Bill No. 6 EQUIPPING OF BOREHOLE <b>KUTLO CONSULTING ENGINEERS</b>			

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Brought Forward			R
<u>Control gear</u>			
22	1 x Float switch	No	1
23	1000mm long x 22mm dia galvanised pipes	No	1
24	Capture	No	1
25	20mm Ø CCG Box	No	1
26	Bends Bosal	No	1
27	Coupling Bosal 20mm	No	1
28	Bolts M 8 x 25mm nut & washer	No	1
29	Connector strip 5 Amp	No	1
30	Connector strip 30 Amp	No	1
<u>Reverse Osmosis System</u>			
31	Allow R400 000.00 (Four hundred thousand rands) for reverse osmosis system including shelter, testing, etc by specialist		Item
			400,000.00
32	Allow for profit on above		Item
33	Allow for attendance on the above		Item
<u>Testing and commissioning</u>			
34	Testing, commissioning and issue COC		Item
<b>Carried Forward to Summary of Section No. 6</b>			R
Section No. 6			
EXTERNAL WORKS			
Bill No. 6			
EQUIPPING OF BOREHOLE			
<b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 6</u></b>			
	<b><u>WATER TANKS AND TANK STANDS</u></b>			
	<u>Excavation in earth not exceeding 2m deep</u>			
1	Holes	m3	16	
	<u>Extra over trench and hole excavations in earth for excavation in</u>			
2	Soft rock	m3	6	
3	Hard rock	m3	4	
	<u>Extra over all excavations for carting away</u>			
4	Surplus material from excavations and/stock piles on site to the dumping site to be located by the Contractor.	m3	12	
	<u>Risk of collapse of excavations</u>			
5	Sides of trench and hole excavation not exceeding 1,5m deep.	m2	40	
	<u>Keeping excavations free of water.</u>			
6	Keeping excavations free of water.	Item		
	<u>Earth filling obtained from the excavations and / or prescribed stock piles on site compacted to 93 % Mod AASHTO density</u>			
7	Backfilling to trenches, holes, etc.	m3	8	
	<u>Soil insecticide</u>			
8	To bottoms and sides of trenches, etc.	m2	40	
	<u>25Mpa/19mm Concrete</u>			
9	Blinding	m3	6	
	<b>Carried Forward</b>		R	
	Section No. 6 EXTERNAL WORKS Bill No. 7 WATER TANK STANDS <b>KUTLO CONSULTING ENGINEERS</b>			



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Brought Forward			R
10	Bases	m3	16
	<u>Finishing top surfaces of concrete smooth with a wood float</u>		
11	On top of bases	m2	18
	<u>Water tanks, etc</u>		
	<u>Approved hot-dip galvanised steel sectional water tanks, etc.</u>		
12	100kL Tank in accordance with SABS 763, with lightweight galvanised steel roof with 500 x 500mm lockable manhole, including internal and external ladders and access ladder with safety cage; tank to be with level indicator and 75mm and 160mm pipe inlet/outlet welded to tank with gate valves to each pipe. Tank stand 6.0m high fixed onto concrete footing, excavation, etc (elsewhere measured)	No	1
<b>Carried Forward to Summary of Section No. 6</b>			R
Section No. 6			
EXTERNAL WORKS			
Bill No. 7			
WATER TANK STANDS			
<b>KUTLO CONSULTING ENGINEERS</b>			

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 7</u></b>			
	<b><u>RAIN WATER TANKS</u></b>			
	<b><u>SITE CLEARANCE ETC</u></b>			
	<u>Site clearance</u>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	37	
	<b><u>EXCAVATION, FILLING, ETC</u></b>			
	<u>Excavation in earth not exceeding 2m deep</u>			
2	Trenches	m3	12	
	<u>Extra over trench and hole excavations in earth for excavation in</u>			
3	Soft rock	m3	3	
4	Hard rock	m3	1	
	<u>Extra over all excavations for carting away</u>			
5	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	6	
	<u>Risk of collapse of excavations</u>			
6	Sides of trench and hole excavations not exceeding 1,5m deep	m2	14	
	<u>Keeping excavations free of water</u>			
7	Keeping excavations free of all water other than subterranean water	Item		
	<b>Carried Forward</b>		R	
	Section No. 6 EXTERNAL WORKS Bill No. 8 RAINWATER WATER TANKS <b>KUTLO CONSULTING ENGINEERS</b>			

Brought Forward			R
	<u>Earth filling obtained from the excavations and /or prescribed stock piles on site including compacted to 93% Mod AASHTO density</u>		
8	Backfilling to trenches, holes, etc	m3	4
	<b><u>SOIL POISONING</u></b>		
	<u>Soil poisoning mixed in accordance to supplier's specifications</u>		
9	To bottoms and sides of trenches, etc.	m2	8
	<b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b>		
	<b><u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>		
	<u>25MPa/19mm concrete</u>		
10	Strip footings	m3	4
11	Platform surface beds cast in panels	m3	2
	<b><u>FINISHING TOP SURFACE OF CONCRETE</u></b>		
	<u>Finishing top surfaces of concrete smooth with a wood float/steel trowel</u>		
12	Surface beds, slabs, etc (rainwater tanks)	m2	8
	<b><u>REINFORCEMENT</u></b>		
	<u>Fabric reinforcement</u>		
13	Type 295 fabric reinforcement in concrete surface beds, slabs, etc	m2	12
	<b>Carried Forward</b>		R
	Section No. 6 EXTERNAL WORKS Bill No. 8 RAINWATER WATER TANKS <b>KUTLO CONSULTING ENGINEERS</b>		

Brought Forward			R
<b><u>TEST CUBES</u></b>			
14	Allow for preparing a set of three concrete strength test cubes, each size 150 x 150 x 150mm, sending them to an approved Testing Laboratory for testing and paying all charges in connection therewith.	Sets	3
<b><u>BRICKWORK</u></b>			
<u>Brickwork of NFP bricks in class II mortar</u>			
15	One brick walls	m2	10
<b><u>BRICKWORK SUNDRIES</u></b>			
<u>Brickwork reinforcement</u>			
16	150mm Wide reinforcement built in horizontally	m	30
<b><u>FACE BRICKWORK</u></b>			
<u>Face bricks (Purchase price of R5 000.00/1000 delivered to site excluding VAT) pointed with flush horizontal and vertical joints</u>			
17	Extra over brickwork for face brickwork	m2	10
<u>Brick-on-edge header course copings, sills, etc of face bricks (Purchase price R5 000,00/1000 VAT excl. delivered to site) pointed with recessed joints on all exposed faces</u>			
18	Coping on top of one brick wall	m	37
<b><u>WATERPROOFING</u></b>			
<u>One layer of 375 micron Consol Plastic Brikgrip DPC" embossed damp proof course</u>			
19	In walls	m2	4
Carried Forward			R
Section No. 6 EXTERNAL WORKS Bill No. 8 RAINWATER WATER TANKS <b>KUTLO CONSULTING ENGINEERS</b>			

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<b>Brought Forward</b>			R
	<u>One layer of 250 micron "Consol Plastic USB Green" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u>		
20	Under surface beds	m2	8
<b><u>WATER SUPPLIES</u></b>			
	<u>Galvanized medium normalized mild steel piping</u>		
21	25mm Pipes laid in and including trenches not exceeding 1m deep	m	25
22	50mm Pipes laid in and including trenches not exceeding 1m deep	m	30
	<u>Extra over galvanised mild steel water supply pipes for fittings:</u>		
23	25mm Fittings.	No	15
24	50mm Elbows.	No	15
25	50mm Union.	No	15
26	50mm Reducing bush.	No	15
27	15mm "Cobra Ref. 108LK" brass hose biptap.	No	9
	<u>"Jojo" approved SANS PVC water tanks</u>		
28	5 000 Litre plastic water tank fitted onto and secured to tank platforms	No	3
<b>Carried Forward to Summary of Section No. 6</b>			R
Section No. 6			
EXTERNAL WORKS			
Bill No. 8			
RAINWATER WATER TANKS			
<b>KUTLO CONSULTING ENGINEERS</b>			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 8</u></b>			
	<b><u>WATER FOUNTAINS</u></b>			
	<b><u>Earthworks</u></b>			
	<u>Excavation in compacted building platform not exceeding 2m deep</u>			
1	Trenches	m3	8	
	<u>Extra over all excavations for carting away</u>			
2	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	8	
	<u>Compaction of surfaces</u>			
3	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	m2	8	
	<b><u>FILLING</u></b>			
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93 % Mod AASHTO density</u>			
4	Backfilling to trenches, holes, etc	m3	4	
	<b><u>Concrete, etc</u></b>			
	<u>25Mpa/19mm reinforced concrete</u>			
5	Wall	m3	3	
6	Slabs	m3	3	
	<b>Carried Forward</b>			R
	Section No. 6 EXTERNAL WORKS Bill No. 9 STAND PIPES <b>KUTLO CONSULTING ENGINEERS</b>			

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 BYSONDERHEID LAESKOOL

Brought Forward			R
	<u>Rough formwork to sides</u>		
7	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	18
8	Formwork to sides	m2	8
	<u>Mesh Reinforcement (measure nett)</u>		
9	Mesh ref. No. 395 fabric reinforcement fixed horizontal in surface beds	m2	16
	<b><u>WATER SUPPLIES</u></b>		
	<u>Class 0 copper pipes and fittings with capillary soldered type connections</u>		
10	15mm Pipes	m	62
	<u>Extra over class 0 pipes for capillary fittings</u>		
11	15mm fittings	No	15
	<u>Cobra Watertech or equal approved</u>		
12	19mm chrome plated push button taps	No	12
	<b>Carried Forward to Summary of Section No. 6</b>		
	Section No. 6		
	EXTERNAL WORKS		
	Bill No. 9		
	STAND PIPES		
	<b>KUTLO CONSULTING ENGINEERS</b>		
			R

THE MVULA TRUST  
 LPDOE 2023/2024 WATER, SANITATION AND FENCING PROGRAMME  
 BYSONDERHEID LAESKOOL

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 9</u></b>			
	<b><u>FENCING</u></b>			
	<u>Steel Palisade Fencing</u>			
	<b><u>Around School Perimeter Steel Palisade Fencing</u></b>			
1	2 400mm High palisade fencing comprising of 3m panels of 40 x 40 x 2mm angle iron welded flash with the back of the post 300mm from top of paling and 300mm from bottom of paling (350mm from ground level ),21 palings per panel consisting of 30 x 30 x 2mm steel angle iron paling 1.8m high inserted and firmly welded to the bearers at 133mm centre to centre with a "Devil Fork" effect on top and dovetail at bottom welded to 76 x 76 x 2 mm steel square tubing post with closing pyramids caps on top ,post to be 2400mm high set and casted into 600 x 600 x 600 mm deep 20 Mpa concrete.	m	1,900	
2	Pedestrian gate 1 500mm x 2 400mm High formed from 40 x 40 x 2mm welded angle iron paling; 50 x 25 x 1.6mm rectangular tubing frame; gate posts formed of 75 x 75 x 2mm steel square tubing 2400mm overall high planted into 450 x 450 x 600mm cast in 20Mpa concrete base.	No	1	
3	Sliding gate 5 000mm x 2 400mm High formed from 40 x 40 x 2mm welded angle iron paling to 76 x 38 x 2mm rectangular tubing frame, palings to be placed at 133mm from each other centre to centre with two 80mm roller coaster wheels fitted with ball bearing, the two to be provided with proper closing and guidance mechanism with track formed of 12mm steel rod welded lo 40 x 40 x 5mm angel iron fixed into a 300 x 400 x 5 000mm concrete base, gate posts on each side of gate opening with closing pyramids caps on top formed of 75 x 75 x 2mm steel square tubing 2 400mm overall height planted into 450 x 450 x 600mm cast in 20Mpa concrete base.	No	1	
	<u>PAINTWORK</u>			
	<b>Carried Forward</b>			R
	Section No. 6 EXTERNAL WORKS Bill No. 10 FENCING <b>KUTLO CONSULTING ENGINEERS</b>			



	<b>Brought Forward</b>			R
	<u>On metal</u>			
	<u>Undercoat and minimum 2 coats gloss enamel</u>			
4	Prime, apply one coat undercoat and two coats of high gloss enamel paint on steel (Measured over the full flat area of both sides according specification)	m2	9,120	
	<b><u>Around Water Tank Steel Palisade Fencing</u></b>			
5	1800mm High palisade fencing comprising of 3m panels of 40 x 40 x 2mm angle iron welded flash with the back of the post 300mm from top of paling and 300mm from bottom of paling (350mm from ground level ),21 palings per panel consisting of 30 x 30 x 2mm steel angle iron paling 1.8m high inserted and firmly welded to the bearers at 133mm centre to centre with a "Devil Fork" effect on top and dovetail at bottom welded to 76 x 76 x 2 mm steel square tubing post with closing pyramids caps on top ,post to be 2400mm high set and casted into 600 x 600 x 600 mm deep 20 Mpa concrete.	m	60	
6	Swing gate 2 000mm x 1 800mm High formed from 40 x 40 x 2mm welded angle iron paling; 50 x 25 x 1.6mm rectangular tubing frame; gate posts formed of 75 x 75 x 2mm steel square tubing 2400mm overall high planted into 450 x 450 x 600mm planted into 450 x 450 x 600mm cast in 20Mpa concrete base.	No	1	
	<b><u>PAINTWORK</u></b>			
	<u>On metal</u>			
	<u>Undercoat and minimum 2 coats gloss enamel</u>			
7	Prime, apply one coat undercoat and two coats of high gloss enamel paint on steel (Measured over the full flat area of both sides according specification)	m2	216	
	<b>Carried Forward to Summary of Section No. 6</b>			R
	Section No. 6			
	EXTERNAL WORKS			
	Bill No. 10			
	FENCING			
	<b>KUTLO CONSULTING ENGINEERS</b>			

Bill No	<u>SECTION SUMMARY - EXTERNAL WORKS</u>	Page No	Amount
1	PAVED WALKWAY	124	
2	STORMWATER CONTROL	126	
3	SEPTIC TANK AND FRENCH DRAIN	132	
4	SEWER DRAINAGE	138	
5	WATER SUPPLY	140	
6	EQUIPPING OF BOREHOLE	143	
7	WATER TANK STANDS	145	
8	RAINWATER WATER TANKS	149	
9	STAND PIPES	151	
10	FENCING	153	
	<b>Carried to Final Summary</b>		R
	Section No. 6 EXTERNAL WORKS <b>KUTLO CONSULTING ENGINEERS</b>		

Section No	<u>FINAL SUMMARY</u>	Page No	Amount
1	PRELIMINARIES AND GENERALS	33	
2	ALTERATIONS AND DEMOLITIONS	47	
3	BUILDING WORKS: MD2 (WATERBORNE) + 2UR	72	
4	BUILDING WORKS: FD4 (WATERBORNE)	96	
5	BUILDING WORKS: SFD3 + SM2 +2UR - (WATERBORNE)	121	
6	EXTERNAL WORKS	154	
	SUB TOTAL (A)		R
	Provide 10% (TEN PERCENT) on Sub-total (A) as contingency to be deducted in whole or in part if not required		R
	SUB TOTAL (B)		R
	Add Value Added Tax @ 15%		R
	<b>Carried to Form of Tender</b>		R
	<b>KUTLO CONSULTING ENGINEERS</b>		