

Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 1</u></p> <p><u>PRELIMINARIES</u></p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Meaning of terms "Tender" and "Tenderer"</u></p> <p>Any reference to the words "Tender" or "Tenderer" herein and/or in any other documentation shall be construed to have the same meaning as the words "Bid" or "Bidder"</p> <p><u>Preliminaries</u></p> <p><u>NOTES</u></p> <ol style="list-style-type: none"> 1. Second edition of June 2005) in conjunction with the Contract Data is taken to be incorporated herein. 2. The Tenderer is deemed to have taken cognizance of the above mentioned documents for the full intent and meaning of each clause. These clauses are referred to by clause number and heading only. 3. Where standard clauses or options are not applicable to this contract such modifications, corrections or supplements as are necessary, are given under each relevant clause. 4. Where any items are not used for this specific contract such items are nevertheless listed but marked not applicable in the amount column. 5. The amount of the Preliminaries to be included in each monthly payment certificate shall be assessed as an amount prorated to the value of the work duly executed in the same ratio as the preliminaries bears to the total of prices excluding any contingency sum, the amount for the Preliminaries and any amount in respect of contract price adjustment provided for in the contract. 6. Where the initial contract period is extended, the monthly charge shall be calculated on the basis as set out in (v) but taking into account the revised period for completing the works. <p style="text-align: right;">Carried to Summary</p> <p>Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL JMQS</p>			R

7. The amount or the items of the Preliminaries are adjusted to take account of the theoretical financial effect which changes in time or value (or both) have on this section. Such adjustments are based on adjustments in the following categories as recorded in the Bill of Quantities:
 - an amount which is not varied, namely Fixed
 - an amount which is varied in proportion to the contract value, namely Value Related; and
 - an amount which is varied in proportion to the construction period as compared to the initial construction period excluding revisions to the construction period for which the contractor is not entitled to adjustment in terms of the contract, namely Time Related.

8. Where no provision is made in the Bill of Quantities to indicate which of the three categories in (vii) apply or where no selection is made, the adjustments shall be based on the following breakdown:
 - 10 percent is Fixed;
 - 55 percent is Value Related
 - 35 percent is Time Related

9. The adjustment of the Preliminaries shall apply notwithstanding the actual employment of resources in the execution of the works. The contract value used for the adjustment of the Preliminaries shall exclude any contingency sum, the amount for the Preliminaries and any amount in respect of contract price adjustment provided for in the contract. Adjustments in respect of any staged or sectional completion shall be prorated to the value of each section.

10. Items not priced in these preliminaries are deemed to be included elsewhere in this bill of quantities.

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SECTION A: CORE CLAUSES

GENERAL (A1)

1 Clause 1.0
 Clause 11.2(4) is amended by replacing it with the following:
 The Contract Date is the date when the contractor receives one fully completed signed copy of this document, including the schedule of deviations (if any) as contained in the the Form of Offer and Acceptance

Fixed:.....

Value Related:.....

Time Related:.....

Item

THE CONTRACTOR'S MAIN RESPONSIBILITIES (A2)

2 Clause 2.0
 The contractor must provide and keep a copy of the NEC3 Engineering and Construction Contract - Option B: Priced contract with bill of quantities applicable to this contract and a copy of the Procurement Document on the site, to which the Project Manager and Supervisor have access at all times

Fixed:.....

Value Related:.....

Time Related:.....

Item

TIME (A3)

3 Clause 3.0

Fixed:.....

Value Related:.....

Time Related:.....

Item

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4	<p><u>TESTING AND DEFECTS (A4)</u></p> <p>Clause 4.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item	
5	<p><u>PAYMENT (A5)</u></p> <p>Clause 5.0</p> <p>Clause 50.0 is amended by the addition of the following clause: Materials and goods stored off site are not included in the amount authorised for payment</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item	
6	<p><u>COMPENSATION EVENTS (A6)</u></p> <p>Clause 6.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item	
7	<p><u>TITLE (A7)</u></p> <p>Clause 7.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item	
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RISKS AND INSURANCE (A8)

8 Clause 8.0

Fixed:.....

Value Related:.....

Time Related:.....

Item

TERMINATION (A9)

9 Clause 9.0

Fixed:.....

Value Related:.....

Time Related:.....

Item

SECTION B: MAIN OPTION CLAUSES

PRICED CONTRACT WITH BILL OF QUANTITIES (B1)

Clause 10.0

The quantities in provisional bills of quantities are a n indication of the works tobe executed and are subj ect to remeasurement

10 Clause 10.0

Fixed:.....

Value Related:.....

Time Related:.....

Item

SECTION C: DISPUTE RESOLUTION

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11	<p><u>OPTION W1 (C1)</u></p> <p>Clause 11.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
<p><u>SECTION D: SECONDARY OPTION CLAUSES</u></p>				
<p><u>X1 PRICE ADJUSTMENT FOR INFLATION (D1)</u></p>				
12	<p>Clause 12</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
<p><u>X2 CHANGES IN THE LAW (D2)</u></p>				
13	<p>Clause 13.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
<p><u>X3 MULTIPLE CURRENCIES (D3)</u></p>				
14	<p>Clause 14.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
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15	<p><u>X4 PARENT COMPANY GUARANTEE (D4)</u></p> <p>Clause 15.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
16	<p><u>X5 SECTIONAL COMPLETION (D5)</u></p> <p>Clause 16.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
17	<p><u>X6 BONUS FOR EARLY COMPLETION (D6)</u></p> <p>Clause 17.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
18	<p><u>X7 DELAY DAMAGES (D7)</u></p> <p>Clause 18.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
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19	<p><u>X12 PARTNERING (D8)</u></p> <p>Clause 19.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
20	<p><u>X13 PERFORMANCE BOND (D9)</u></p> <p>Clause 20.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
21	<p><u>X14 ADVANCE PAYMENT TO THE CONTRACTOR (D 10)</u></p> <p>Clause 21.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
22	<p><u>X15 LIMITATION OF THE CONTRACTOR'S LIABILITY FOR HIS DESIGN TO REASONABLE SKILL AND CARE (D11)</u></p> <p>Clause 22.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
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23	<p><u>X16 RETENTION (D12)</u></p> <p>Clause 23.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
24	<p><u>X17 LOW PERFORMANCE DAMAGES (D13)</u></p> <p>Clause 24.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
25	<p><u>X18 LIMITATION OF LIABILITY (D14)</u></p> <p>Clause 25.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
26	<p><u>X20 KEY PERFORMANCE INDICATORS (D15)</u></p> <p>Clause 26.0</p> <p>Fixed:.....</p> <p>Value Related:.....</p> <p>Time Related:.....</p>	Item		
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Z ADDITIONAL CONDITIONS OF CONTRACT (D16)

27 Clause 27.0

Fixed:.....

Value Related:.....

Time Related:.....

Item

SECTION E: CONTRACT DATA

CONTRACT DATA (E1)

28 Clause 28
 Tenderers are referred to Part C1.2 Contract Data for variables pertaining to this contract

Fixed:.....

Value Related:.....

Time Related:.....

Item

SECTION F: SPECIFIC PRELIMINARIES

PART C3.1 SCOPE OF WORKS PLANT AND MATERIALS (4.2)

29 Materials, Samples and Shop drawings (4.2.2)

Fixed:.....

Value Related:.....

Time Related:.....

Item

30 Instruction Manuals and Guarantees (4.2.3)

Fixed:.....

Value Related:.....

Time Related:.....

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31	Training staff of the Employer (4.2.4) Fixed:..... Value Related:..... Time Related:.....	Item		
<u>SITE ESTABLISHMENT (4.5)</u>				
32	Facilities provided by the contractor - site office and storage stores (4.5.2) Fixed:..... Value Related:..... Time Related:.....	Item		
33	Other Facilities and Services - Water, Electricity, Ablution and Telecommunication services/facilities (4.5.4) Fixed:..... Value Related:..... Time Related:.....	Item		
34	Notice Boards (4.5.7) Fixed:..... Value Related:..... Time Related:.....	Item		
35	Survey control and Setting out of the works (4.10) Fixed:..... Value Related:..... Time Related:.....	Item		
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MANAGEMENT OF THE WORKS (5.1)

36 Planning and programming (5.1.3)

Fixed:.....

Value Related:.....

Time Related:.....

Item

37 Software application for programming (5.1.4)

Fixed:.....

Value Related:.....

Time Related:.....

Item

38 Testing, completion, commissioning and correction of defects (5.1.11)

Fixed:.....

Value Related:.....

Time Related:.....

Item

39 Recording of weather (5.1.12)

Fixed:.....

Value Related:.....

Time Related:.....

Item

40 Management meetings (5.1.15)

Fixed:.....

Value Related:.....

Time Related:.....

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41	Daily records (5.1.18) Fixed:..... Value Related:..... Time Related:..... <u>HEALTH AND SAFETY (5.2)</u>	Item	
42	Health and safety requirements (5.2.1) Fixed:..... Value Related:..... Time Related:.....	Item	
43	Protection of the Public (5.2.2) Fixed:..... Value Related:..... Time Related:.....	Item	
44	Barricades and lighting (5.2.3) Fixed:..... Value Related:..... Time Related:.....	Item	
45	Measures against disease and epidemics (5.2.5) Fixed:..... Value Related:..... Time Related:.....	Item	

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46 Aids awareness (5.2.6)
Fixed:.....
Value Related:.....
Time Related:.....
Item

ENVIRONMENTAL MANAGEMENT PROGRAMME

It is required of the contractor to thoroughly study the Environmental Management Programme Specification (attached herewith under part C3 - Scope of Works) that must be read together with and is deemed to be incorporated under this Section of the bills of quantities

47 Compliance to Environmental Management Programme (EMPR)/ Environmental Authorisation (EA) and Water Use License (WUL) (5.3.1)
Fixed:.....
Value Related:.....
Time Related:.....
Item

48 Rehabilitation Measures (including hydro seeding/ revegetation) (5.3.2)
Fixed:.....
Value Related:.....
Time Related:.....
Item

49 Waste management and disposal (including obtaining safe disposal slips from disposal facilities/ service providers); (5.3.3)
Fixed:.....
Value Related:.....
Time Related:.....
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50 Provision of chemical toilets (if no municipal connection)
 (5.3.4)

Fixed:.....

Value Related:.....

Time Related:.....

Item

51 Removal of excess spoil from site (if any). (5.3.5)

Fixed:.....

Value Related:.....

Time Related:.....

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<u>Filling</u>				
Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any multiple handling of material				
<u>Excavations</u>				
<u>SITE CLEARANCE ETC</u>				
<u>User Note:</u>				
Where the value is of significance, the removal of hedges etc shall be given separately in meters or in number				
<u>EXCAVATION</u>				
<u>Excavate in earth not exceeding 2m deep below natural, elevated or reduced ground level for</u>				
1	Trenches	m3	367	
<u>SUNDRIES</u>				
<u>Extra over trench and hole excavations in earth for excavation in</u>				
2	Extra over excavations in earth for trenches and holes for excavations in soft rock	m3	37	
3	Extra over excavations in earth for trenches and holes for excavations in hard rock	m3	37	
<u>Extra over all excavations for carting away</u>				
4	Extra over all excavations for carting away surplus material from excavations and/or from stockpiles on site to a dumping site to be located by the Contractor	m3	147	
<u>Risk of collapse of excavations</u>				
5	Risk of collapse of sides of excavations for trenches and holes from natural, elevated or reduced ground level to not exceeding 1,5m deep	m2	739	
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	<u>Keeping excavations free of water</u>			
6	Allow for keeping excavations free of all water other than subterranean water		Item	
	<u>FILLING, etc.</u>			
7	Backfilling from the excavations to trenches and holes compacted to 93% modified AASHTO density	m3	220	
8	Earth filling from the excavations to under floors, steps, pavings, etc compacted to 93% modified AASHTO density	m3	140	
9	Imported earth filling supplied by the Contractor and brought onto site, under floors, steps, pavings, trenches, etc. compacted to 95% modified AASHTO density	m3	360	
10	50mm thick dry, clean, washed river sand layer evenly spread over filling (elsewhere measured), levelled, watered and rammed to receive waterproof membrane (elsewhere measured) under solid floors	m2	481	
	<u>Compaction of surfaces</u>			
11	Compaction of ground surface under trenches, holes 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	210	
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 AASHTO density	m2	481	
	<u>Prescribed density tests on filling</u>			
13	Tests to determine the degree of compaction, etc. of ground or filling	No	16	
	<u>PROTECTION AGAINST TERMITES</u>			
14	To bottoms and sides of trenches, bases, etc	m2	1 061	
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15	Poisoning surface of ground or filling under floors, steps, etc. including raking out 75mm deep V-shaped channels against the walls, etc. treating with poison solution, backfilling and ramming	m2	481		
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
	<u>15MPa/20mm concrete blinding</u>				
16	Strip footing	m3	12		
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
	<u>30MPa/20mm concrete</u>				
17	In footings to walls cast against excavated surfaces, stepped and levelled	m3	94		
	<u>TEST CUBES</u>				
18	Prepare set of three 150 x 150 x 150mm concrete strength test cubes, label and send to an approved laboratory for testing, pay all charges and submit report to the Representative/Agent. Only successful tests will be paid for (<u>Provisional</u>)	No	9		
	<u>REINFORCEMENT</u>				
	<u>Steel bar reinforcement to structural concrete work</u>				
19	Various diameter steel reinforcing bars	t	15.04		
	<u>MASONRY</u>				
	<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class 1 mortar</u>				
20	One brick wall	m2	149		
21	One and half brick wall	m2	7		
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22	345mm cavity brick walls comprising two half brick skins with 115mm wide cavity, complete with and including concrete infill, reinforcement, mesh, brickforce and wall ties in beam filling as per Architect's and Engineer's drawings	m2	208		
	<u>Brick reinforcement</u>				
23	Brick reinforcement 75mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	4 892		
24	Brick reinforcement 150mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	1 752		
25	Brick reinforcement 225mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	82		
	<u>FACE BRICKWORK</u>				
	<u>External facings in approved Pampas Satin face bricks (FBS) pointed with square recessed horizontal and vertical joints</u>				
26	Extra over ordinary brickwork for facing and pointing in stretcher bond	m2	47		
27	Brick on edge coping	m	24		
	<u>External facings in approved Platinum Travertine face bricks (FBX) pointed with square recessed horizontal and vertical joints</u>				
28	Extra over brickwork for face brickwork	m2	30		
29	Extra over brickwork for brick-on-edge coping	m	1		
	<u>MOVEMENT JOINTS ETC</u>				
30	Movement joint filler with debonding properties of 10mm softboard built in vertically between brickwork and concrete joints not exceeding 300mm high	m	451		
31	Movement joint of 10mm jointex built in vertically between brickwork	m2	24		
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Formwork

Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use. The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.

Formwork to soffits of (solid) slabs etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described

Formwork to sides of bases, pile caps, ground beams, etc, will only be measured where it is prescribed by the engineer for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Foundations"

CONCRETE

UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

15MPa/20mm concrete blinding

1	Surface bed	m3	24
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REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

30MPa/19mm concrete

2	Thickened slab on waterproofing	m3	9
3	Surface beds in panels on waterproofing	m3	48

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<u>REINFORCED CONCRETE CAST AGAINST FORMWORK</u>				
4	Slabs, including beams and inverted beams	m3	176	
<u>TEST CUBES</u>				
<u>Concrete test cubes</u>				
5	Prepare set of three 150 x 150 x 150mm concrete strength test cubes, label and send to an approved laboratory for testing, pay all charges and submit report to the Representative/Agent. Only successful tests will be paid for (<u>Provisional</u>)	No	22	
<u>CONCRETE SUNDRIES</u>				
<u>Finishing top surfaces of concrete smooth with a wood float</u>				
6	Surface beds, slabs, etc	m2	481	
<u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u>				
<u>Rough formwork to soffits and sides</u>				
7	Soffits of slabs and beams propped up exceeding 1.5m high and not exceeding 3.5m high	m2	683	
8	Soffits of slabs and beams propped up exceeding 6.0m high and not exceeding 7.5m high	m2	42	
9	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	355	
<u>MOVEMENT JOINTS ETC</u>				
10	10mm saw cut joints	m	50	
11	10mm construction joints	m	27	
<u>REINFORCEMENT</u>				
<u>Steel bar reinforcement to structural concrete work</u>				
12	Various diameter steel reinforcing bars	t	37.28	
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FABRIC REINFORCEMENT

13 Mesh reinforcement with mesh reference number 395 laid in surface bed, slab, etc. with 300mm wide side and end laps (measured net)

m2

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Section No. 2

Bill No. 2

CONCRETEWORK, FORMWORK & REINFORCEMENTS (PROVISIONAL)

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BUILDING WORKS

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**CONCRETEWORK, FORMWORK & REINFORCEMENTS (PR
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	<p><u>BILL No. 3</u></p> <p><u>MASONRY</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>BRICKWORK</u></p> <p><u>Sizes in descriptions</u></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><u>Linings to concrete</u></p> <p>Descriptions of linings to concrete, unless otherwise described, shall be deemed to include wire ties</p> <p><u>Reinforced brick lintels</u></p> <p>Lintels shall bear at least 160mm onto adjacent walling. Where such bearing cannot be obtained due to the proximity of adjacent openings the lintel shall be continuous</p>			
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Face bricks

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

Pointing

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

SAMPLES

Samples of all masonry building units, shall consist of a minimum of 6 units

STONEMWORK

Slate, marble, granite, etc

Slate, marble, granite, etc is to be best quality stone from an approved quarry, free from cracks and other defects and equal to samples to be submitted to and approved by the architect. Each stone is to hold its full size, square to the back and to be set on its natural quarry bed

Setting out

Care shall be exercised in setting out the work, the preparation of templates and the checking of the detail drawings. All measurements shall be taken on the site where necessary and the full size setting out of each course shall be done at the yards so as to ensure the proper fitting of each stone

Before putting any work in hand the contractor is to submit to the architect for his approval details of the manner in which he proposes to set out the slabs and joints in all wall facings, pavings, sills, treads, etc together with samples of grain or pattern matching

Face labours

Face labours are to match samples to be submitted to and approved by the architect Arrises are to be clean and sharp except to treads and thresholds where they are to be slightly rounded

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Bedding and jointing

Slate, marble, granite and other floor paving and wall linings are to be bedded solidly on the mortar thicknesses described and are to have tightly fitting butt joints unless otherwise stated Where stonework is to be fixed with adhesive, the adhesive is to be "TAL Goldstar/Bond" (mixed 20kg/5 litre) for external use or where white or light coloured marble is used, "TAL Goldstar" for internal use or other approved. The contractor will be liable for any defects to the slate, marble and granite arising from the use of the adhesive

Where soffit linings are suspended the suspension system must be concealed and must be submitted to the architect for approval before work commences Where tolerance screws are required these are to be stainless steel expanding bolt type with matching stainless steel bracket and PVC clad dowel with nuts and washers etc

Damaged work

Any damaged stonework shall be discarded and replaced at the contractor's expense. No touching up will be permitted except in exceptional cases, with the architect's consent

Descriptions

Descriptions of stonework shall be deemed to include preparatory work, labours to backs, beds and joints, templates, mortices for bolts etc and for hoisting and setting in position, bedding, jointing and pointing, casing and protecting from injury and cleaning down at completion Descriptions of recessed pointing to stonework shall be deemed to be square recessed, hollow recessed, weathered pointing, etc

TESTING OF MORTAR, ETC

- | | | | |
|---|---|------|--|
| 1 | Allow for the testing of cement sample by an approved laboratory (<u>Provisional</u>) | Item | |
| 2 | Allow for the testing of 25kg fine aggregate (sand) sample by an approved laboratory (<u>Provisional</u>) | Item | |
| 3 | Allow for the testing of mortar test cubes by an approved laboratory (<u>Provisional</u>) | Item | |

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BRICKWORK

Brickwork of NFX bricks (14 MPa nominal compressive strength) in class 1 mortar

4	Piers	m3	
5	Half brick wall	m2	294
6	Half brick linings to outer skin of one brick wall forming, edge to 255mm concrete slab	m2	24
7	Half brick wall in beamfilling	m2	40
8	One brick wall	m2	621
9	One brick wall in beam filling and gables	m2	79
10	One and half brick wall	m2	19
11	280mm maxi cavity brick walls comprising two half brick skins with 60mm wide cavity, complete with and including concrete infill, mesh, reinforcement, brickforce and wall ties as per Architect's and Engineer's drawings	m2	1 038
12	280mm maxi cavity brick walls comprising two half brick skins with 60mm wide cavity, complete with and including concrete infill, mesh, reinforcement, brickforce and wall ties in beam filling as per Architect's and Engineer's drawings	m2	169
13	345mm maxi cavity brick walls comprising two half brick skins with 115mm wide cavity, complete with and including concrete infill, fabric mesh, reinforcement, brickforce and wall ties as per Architect's and Engineer's drawings	m2	1 038
14	345mm maxi cavity brick walls comprising two half brick skins with 115mm wide cavity, complete with and including concrete infill, mesh, reinforcement, brickforce and wall ties in beam filling as per Architect's and Engineer's drawings	m2	169

BRICKWORK SUNDRIES

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<u>Joint forming material in movement joints (Provisional)</u>			
15	10mm jointex built in vertically between brick skins	m2	143
<u>Slip joints between horizontal brick surfaces including two layers of three-ply malthoid on bearing surfaces</u>			
16	Slip joint not exceeding 300mm wide	m2	119
<u>Prestressed fabricated lintels (Provisional)</u>			
17	100 x 70mm Lintels in lengths not exceeding 3m	m	333
18	100 x 70mm Lintels in lengths exceeding 3m long and not exceeding 4.5m	m	96
19	100 x 70mm Lintels in lengths exceeding 6m and not exceeding 7.5m	m	52
<u>Brickwork reinforcement</u>			
20	13mm Chicken wire mesh in patches, fixed to brickwork	m2	624
21	Brick reinforcement 75mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	20 221
22	Brick reinforcement 150mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	4 593
<u>Galvanised hoop iron cramps, ties, etc</u>			
23	30 x 1,6mm Wall tie 500mm long with both ends built into brickwork	No	217
<u>SUNDRIES</u>			
24	230mm Wide turning piece to lintels etc	m	361
<u>FACE BRICKWORK</u>			
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<u>External facings in approved Pampas Satin face bricks (FBS) pointed with square recessed horizontal and vertical joints</u>					
25	Extra over brickwork for face brickwork	m2	497		
26	Extra over brickwork for brick-on-edge header course lintels pointed on both faces and 220mm soffit	m	480		
27	Extra over brickwork for brick-on-edge header course cill slightly sloping	m	88		
28	Extra over brickwork for brick-on-edge coping	m	48		
<u>External facings in approved Platinum Travertine face bricks (FBX) pointed with square recessed horizontal and vertical joints</u>					
29	Extra over brickwork for face brickwork	m2	780		
30	Extra over brickwork for brick-on-edge header course lintels pointed on both faces and 220mm soffit	m	162		
31	Extra over brickwork for brick-on-edge header course cill slightly sloping	m	81		
32	Extra over brickwork for brick-on-edge coping	m	181		
<u>NUTEC-CEMENT/FIBRE-CEMENT WINDOW SILLS</u>					
33	150mm x 15mm thick wide fibre cement window sills firmly bedded in 4:1 cement mortar set flat and slightly projecting 10mm from wall edge	m	88		
<u>SAMPLE PANEL</u>					
34	Construct a facebrick sample panel 2m long x 1,5m high of one brick wall in cement mortar faced and pointed on both sides in stretcher bond and with brick-on-edge coping to top and both sides including necessary excavations for and including 15Mpa/38mm mass concrete strip footing in a position as directed by the Representative/Agent and including demolishing and removal after completion of all brickwork	No	1		
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	<p><u>BILL No. 4</u></p> <p><u>WATERPROOFING</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371"</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Waterproofing</u></p> <p>Waterproofing of roofs, basements, etc, shall be laid under a ten year guarantee by an approved applicator. Waterproofing to roofs shall be laid to even falls to outlets, etc, with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs</p> <p><u>DAMPPROOFING OF WALLS AND FLOORS</u></p> <p><u>One layer of 375 micron embossed polyolefin damp proof course complying with SANS 952, type B</u></p>			
1	Dpc in brickwall	m2	194	
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	<u>One layer of 250 micron waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape", complying with SANS 952, type C</u>				
2	Under surface beds, ramp, etc	m2	481		
	<u>Waterproofing to Shower Floors and Walls</u>				
	<u>"Thoroseal® FX100 elastomeric" waterproofing or equal approved undre coat and two final coats all in accordance with manufacturer's recommendations</u>				
3	On concrete shower floors	m2	10		
	<u>"Tal Superflex" waterproofing slurry or or equal approved</u>				
4	On shower walls	m2	40		
	<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC</u>				
	<u>4mm Derbigum SP, torch-on type, fully bonded waterproofing (Material and workmanship guaranteed for ten years)</u>				
5	On flat floors not exceeding 25 degrees from the horizontal	m2	102		
6	Additional membrane 100mm girth at turn-ups and sealing top edge into groove with mastic waterproofing	m	113		
7	Additional membrane at 75mm diameter outlet	No	4		
	<u>4mm WPC Protech 4E, torch-on type, fully bonded waterproofing (Material and workmanship guaranteed for ten years)</u>				
8	On flat floors not exceeding 25 degrees from the horizontal	m2	105		
9	Additional membrane 100mm girth at turn-ups and sealing top edge into groove with mastic waterproofing	m	60		
10	Additional membrane at 75mm diameter outlet	No	4		
	<u>PROTECTIVE ROOFING PAINT</u>				
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<u>Two coats "Silvakote" bituminous aluminium paint</u>					
11	On trafficable roof	m2	102		
<u>Two coats WPC Roofcote solar reflective bituminous aluminium paint</u>					
12	On non-trafficable concrete roofs	m2	105		
<u>JOINT SEALANTS ETC</u>					
<u>Coloured silicone sealing compound including backing cord, bond breaker, primer, etc</u>					
13	In isolation joints in floors including raking out expansion joint filler as necessary	m	451		
14	In vertical expansion joints between brickworks including raking out expansion joint filler as necessary	m	13		
15	In construction joints in floors	m	50		
16	In sawcut joints in floors	m	27		
<u>PROTECTIVE STONE DRESSING</u>					
<u>20mm crusher stone dressing evenly spread with larger stones around outlets</u>					
17	50mm thick on waterproofing to flat roofs	m2	105		
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	<p><u>BILL No. 5</u></p> <p><u>ROOF COVERINGS, ETC.</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>Straight cutting</u></p> <p>Descriptions of all roof coverings are deemed to include for all straight cutting</p> <p>Note</p> <p>The Contractor is to submit a certificate signed by the merchant, stating that the galvanised roof covering supplied complies with the required thickness specified</p> <hr style="width: 20%; margin-left: auto; margin-right: auto;"/> <p><u>PROFILED METAL SHEETING AND ACCESSORIES</u></p> <p><u>"Concealed Fix Klip-Lok 700 or equal approved" Chromadek finished 0,5mm thick light industrial Z450 spelter steel sheeting and accessories fixed to steel purlins as per structural engineer.as per architect. Roof structure to engineer's specification</u></p>			
1	Roof coverings with pitches not exceeding 25 degrees	m2	423	
2	Butt ridge capping 350mm girth	m		
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3	Head wall flashings to Architect's drawings	m	168	
4	<u>Lamdaboard high density closed cell Polyisocyanurate insulation colour white with Kraft facing, fixed concurrent with roof covering over purlins with "H" bar joiners screw fixed at 1200mm centres with 5mm gap between boards butt-joined over purlins</u>	m2	423	
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	<p><u>BILL No. 6</u></p> <p><u>CARPENTRY AND JOINERY</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>Joinery Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc</p> <p>Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes</p> <p>Fixing Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete</p> <p>Decorative laminate finish Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish</p> <p><u>ROOFS, ETC</u></p> <p><u>Plate nailed timber roof truss construction</u></p>			
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Plate nailed timber trusses shall be of approved design and manufacture and constructed with softwood structural timber by manufacture and constructed with softwood structural timber by a truss Fabricator holding a current Certificate of Competence awarded by the Institute of Timber Construction

Each roof trusses shall have all its members accurately cut and closely butted together and rigidly fixed by CSIR approved patented galvanized metal spiked pressed on both sides of each intersection by an approved connectors, precision method, all in accordance with the manufacturer's instructions

The design, manufacture and transportation of the roof trusses, bracing, etc. shall be under the control of a registered Structural Engineer in accordance with SABS 0160 and SABS 0163, who shall, after erection, provide a certificate confirming that the design, manufacture, transportation, erection and bracing has been carried out in accordance with this specification

The design shall include for all live loads, wind loads and dead loads imposed by roof covering, purlins, ceilings, etc

Fully detailed shop drawings of all trusses, etc., indicating sizes, bracing, loading, etc., shall be submitted to the Representative/Agent for approval prior to fabrication

Erection shall be carried out in accordance with the procedures and recommendations of the manual "The Erection and Bracing of Timber Roof Trusses" published by the Institute for Timber Construction and the Council for Scientific and Industrial Research or as detailed by the designer

Prices for roof trusses and bracing shall include design and preparation of shop drawings

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The dimensions in the descriptions of the roof construction are nominal and actual measurements are to be obtained from the Representative/Agent and/or the site before design or fabrication of roof trusses commences

Allow for the preparation and submission of the following documents in respect of all buildings

- | | | | | |
|---|---|--|------|--|
| 1 | Detailed shop drawings indicating truss sizes, truss positions, bracings, details, etc. to be submitted for approval prior the commencement of any fabrication | | Item | |
| 2 | Design certificate indicating the licensed programme used, SABS specifications adhered to, general procedures and loadings adopted, sizes and grading of timber components, details, etc. | | Item | |
| 3 | Erection guarantee certificate after the whole completed roof truss structure have been inspected, all defective work have been taken out and made good, etc. to the full satisfaction of the Principal Agent | | Item | |

ROOF TRUSS CONSTRUCTION

- | | | | | |
|---|---|----|-----|--|
| 4 | Roof construction, mono-pitch roof truss complete as a full set with and including trusses, beams, battens and purlins, measured flat (See Architectural drawings) - Main House Roofs | m2 | 448 | |
|---|---|----|-----|--|

SUNDRIES

Sawn Softwood (Grade 5)

- | | | | | |
|---|------------------------|---|-----|--|
| 5 | 38 x 114mm wall plates | m | 108 | |
|---|------------------------|---|-----|--|

WOOD PRESERVATIVE

- | | | | | |
|---|---|----|-----|--|
| 6 | Two coats wood preservative applied hot on wrought exposed roof timbers | m2 | 163 | |
|---|---|----|-----|--|

FACIAS, BARGE BOARDS, ETC:

Nutec or equally approved pressed fibre-cement with standard cover or jointing strips

- | | | | | |
|---|--|---|----|--|
| 7 | 10 x 225mm Fascias boards including standard jointing strips | m | 54 | |
|---|--|---|----|--|

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8	15 x 260mm Barge boards, including standard jointing strips	m	55		
	<u>SKIRTINGS</u>				
9	18 x 125mm meranti skirting S2 plugged to wall	m	689		
	<u>DOORS, DOOR FRAMES</u>				
	<u>100 x 44mm thick wooden meranti door frame for 115mm walls build/install into brickwork to manufacturer's specifications</u>				
10	Door size 813 x 2032mm	No	25		
	<u>140 x 44mm thick wooden meranti door frame for 230mm walls build/install into brickwork to manufacturer's specifications</u>				
11	Door size 813 x 2032mm	No	1		
	<u>Door and frame: Single 'Hardwood BB' door with solid fire resistant core, and hardwood frame with double top and bottom rails, and hinge blocks and lock blocks to both sides.</u>				
	<ul style="list-style-type: none"> • <u>Class E timber fire door; single leaf single action.</u> • <u>Exposure: E - Class I (Exterior) as per SANS 545.</u> • <u>Performance: HD - Heavy Duty Door as per SANS 545</u> • <u>Details as per Architect's drawings</u> 				
12	Pivot door with glass panel, size 2250 x 2400mm	No	4		
	<u>40mm thick single timber door with solid softwood core, and hardwood edging with hardboard cross banding and hardboard facing</u>				
	<ul style="list-style-type: none"> • <u>Timber internal door.</u> • <u>Exposure: DI - Class III (Dry Interior) as per SANS 545.</u> • <u>Performance: HD - Heavy Duty Door as per SANS 545</u> • <u>As per Architect's drawings</u> 				
13	Door size 813 x 2032mm	No	25		
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User note: The above note shall be included in the bills of quantities after confirmation of the basic design of the ceilings, lighting, air conditioning, etc

"Rhino-Drywall" partition systems

"Rhino-Drywall" partitions shall comprise 63,5mm top and bottom galvanised steel tracks with 63,5mm galvanised steel vertical studs at maximum 600mm centres, friction fitted or pop-riveted to the top and bottom tracks with similar additional vertical studs as necessary at abutments, ends, etc and covered as described with wallboard screwed to studding with "Drywall" screws at maximum 220mm centres. Boards shall be butt jointed and finished with "Rhino" tape and "Readymix D" jointing compound all in accordance with the manufacturer's instructions, complete with flat section aluminium skirtings. Intersections and abutments are measured separately and descriptions shall be deemed to include any additional studs, corner beads, jointing compound

Note: Wall paper and/or paint and varnish finishes are measured elsewhere

User note: Alternatively, wallpaper may be included in the preamble, in which case last-mentioned is not required

INSULATION

"Aerolite" insulation

1	100mm Insulation closely fitted and laid on top of brading between roof timbers, etc	m2	462	
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NAILED UP CEILINGS

Gypsum plasterboard ceiling - 6.4mm non combustible square edged gypsum board ceiling with concealed galvanised grid suspension system

2	Ceilings fixed to timber roof	m2	322	
3	Ceilings fixed to concrete soffits	m2	409	

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<u>Gypsum moisture board ceiling - 6.4mm non-combustible square edged gypsum moisture resistant board ceiling with concealed galvanised grid suspension system</u>				
4	Ceilings fixed to timber roof	m2	140	
5	Ceilings fixed to concrete soffits	m2	49	
<u>SUNDRIES</u>				
6	75mm coved gypsum cornices	m	661	
7	Extra over gypsum plasterboard ceiling for hinged pressed metal ceiling trap door size 700 x 700mm including all necessary ironmongery and 50 x 19mm hardwood fillets around opening to carry trap door in closed position, screw fix to ceiling boards and mitre corners	No	10	
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	<p><u>BILL No. 8</u></p> <p><u>IRONMONGERY</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Finishes to ironmongery</u></p> <p>Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered; CH Chromium plated; SC Satin chromium plated; SE Silver enamelled; GE Grey enamelled; AS Anodised silver; AB Anodised bronze; AG Anodised gold; ABL Anodised black; PB Polished brass; PL Polished and lacquered; PT Epoxy coated; and SD Sanded.</p> <p><u>General</u></p> <p>All prime cost and provisional amounts are net and include for delivery to site of all articles concerned</p> <p>The master key(s) is to be issued by the manufacturer direct to the architect / principal agent</p> <p><u>THE FOLLOWING IRONMONGERY FIXED TO DOORS, ETC.</u></p>			
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<u>HINGES, BOLTS, ETC</u>					
<u>Approved</u>					
1	100mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	4		
2	102x75x3mm Two Ball Bearing Butt Hinge	No	78		
3	Two point locking panic bar - Single door - Door leaf 1000mm wide x 2270mm high (3102. PHX02. PHX04) NOTE: Panic Hardware fitted to door using male/female type fixing screws	No	2		
<u>LOCKS</u>					
4	Knob cylinder profile MD SC	No	25		
5	Double cylinder profile MD SC	No	1		
<u>HANDLES</u>					
6	Tea on rose blank handles	No	26		
7	Escutcheon CF cylinder	Pairs	26.0		
<u>SUNDRIES</u>					
<u>"Union" or similar approved</u>					
8	Aluminium door stop AS	No	26		
<u>"Door closure"</u>					
9	DC cam motion closure ENB/4 Sil	No	4		
<u>BATHROOM FITTINGS</u>					
<u>Approved</u>					
10	Stainless steel toilet roll holder one per WC. Installed to Manufacturers specification with approved fittings.	No	13		
11	600mm Stainless steel towel rail. Installed to Manufacturers specification with approved fittings	No	17		
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12 Stainless steel round towel rail one per shower. Installed to Manufacturers specification with approved fittings.

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	<p><u>BILL No. 9</u></p> <p><u>METALWORK</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>Descriptions Descriptions of bolts shall be deemed to include nuts and washers Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described</p> <p><u>PRESSED STEEL DOOR FRAMES</u></p> <p><u>1.6mm Standard Pressed Mild Steel rebate frames suitable for half brick walls and fitted with three hinges per door leaf</u></p>			
1	Frame for 813 x 2032mm sinlge door	No	25	
	<p><u>1.6mm Standard Pressed Mild Steel rebate frames suitable for one brick walls and fitted with three hinges per door leaf</u></p>			
2	Frame for 813 x 2032mm single door	No	1	
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<u>Descriptions</u>				
Descriptions of bolts shall be deemed to include nuts and washers				
Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
Metalwork described as 'holed for bolt(s)' shall be deemed to exclude the bolts unless otherwise described				
<u>STEEL HANDRAILS, BALUSTRADES, ETC</u>				
<u>1000mm high stainless steel by specialist. Balustrades not to exceed 100mm c/c</u>				
3 Metal balustrades to balconies as per Architect's drawings	m	12		
4 Metal balustrades to raking stairs and landings as per Architect's drawings	m	33		
<u>WELDED SCREENS, GATES, ETC</u>				
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	<u>The following in framed and welded mild steel purpose made security grille gate and fixing in position complete</u>			
5	900 mm wide x 2100 mm high single leaf pedestrian gate (provide 2 at refuse yard) made up of: <ul style="list-style-type: none"> • END POSTS: 75 x 75 mm SHS painted mild steel posts with end caps and anti-lift rails with mild steel rebate welded to post. • GATE FRAMING: 75 x 75 mm SHS mild steel framing sections. • HINGES: 4 No. heavy duty bullet hinges fixed to RHS gate frame and post • PANEL: Cochrane Clearvu (or equal approved) pressed high density mesh standard panels with 4mm diameter high tensile wires of aperture size 76.2 mm x 12.7 mm centres. Panel reinforced with 4 x 50mm deep 'V' formation horizontal recessed bands and 2 x 75 mm 70 degree flanges along sides and 2 x 30 mm degree flanges along top and base. Clearvu panels to be fixed to gate frame by means of 25 x 25 painted mild steel fixing angles 	No	2	
6	Serranda Trestino Grille high security roller shutter door, consisting of curtain, vertical guides and overhead mechanism. Automated. Or similar product. To fit openings at ground floor entrance door and shopfront to patio.	No	1	
	<u>Serranda Trestino Grille high security roller shutter door, consisting of curtain, vertical guides and overhead mechanism. Automated. Or similar product. To fit openings at ground floor entrance door and shopfront to patio as per Architect's drawings</u>			
7	SH01 - 6070 x 2950mm high	No	4	
8	SH02 - 2340 x 2950mm high	No	4	
9	SH03 - 3350 x 2950mm high	No	4	
10	SH04 - 2340 x 2950mm high	No	4	
	<u>ALUMINIUM WINDOWS, DOORS, SHOP FRONTS, ETC</u>			
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Aluminium frames with glazing as required by SANS part N complete with glazing and ironmongery as per Architect's drawings and fixed to brickwork or concrete as per manufacturer's specification, with and including Silicon inside and outside.

Fire Rating to Fire Engineers Specification

AAAMSA certified as to performance, glazing, surface finishing, hardware, fasteners, product certification and, when required, energy rating. anodising: SANS 999.

Powder coating: SANS 1796, minimum thickness for all areas: 0,06 mm.

SANS 10155 Accuracy in Buildings.

Sealing: All corners mitred to form close joints, fixed with stainless self tapping screws to AAMSA standards. All aluminium joints to be sealed 100%. Whole unit to be sealed with silicon, after installation. Seal with matching silicone sealer between the aluminium and building structure, to be airtight. Contractors shall allow for a maximum 10x10mm fillet of clear silicone sealant to the external perimeter of all window units.

Glazing to be according to window and door schedules

Colour: Charcoal, and as per Architect's drawings

11	W01 - 600 x 900mm high	No	8
12	W02 - 800 x 500mm high	No	1
13	W04 - 1400 x 1855mm high	No	4
14	W05 - 1700 x 1855mm high	No	4
15	W06 - 600 x 1445mm high	No	4
16	W07 - 2250 x 1700mm high	No	4

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17	W08 - 2350 x 1105mm high	No	8
18	W09 - 3550 x 1105mm high	No	4
19	W10 - 3550 x 575mm high	No	4
20	GW01 - 3150 x 1375mm high	No	1
21	SH01 - 6070 x 2950mm high	No	4
22	SH02 - 2340 x 2950mm high	No	4
23	SH03 - 3550 x 2950mm high	No	4
24	SH04 - 2340 x 2950mm high	No	4
25	SH05 - 2400 x 3560mm high	No	4
26	SH07 - 1600 x 2465mm high	No	4

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Aluminium frames with glazing as required by SANS part N complete with glazing and ironmongery as per Architect's drawings and fixed to brickwork or concrete as per manufacturer's specification, with and including Silicon inside and outside.

Fire Rating to Fire Engineers Specification

AAAMSA certified as to performance, glazing, surface finishing, hardware, fasteners, product certification and, when required, energy rating. anodising: SANS 999.

Powder coating: SANS 1796, minimum thickness for all areas: 0,06 mm.

SANS 10155 Accuracy in Buildings.

Sealing: All corners mitred to form close joints, fixed with stainless self tapping screws to AAMSA standards. All aluminium joints to be sealed 100%. Whole unit to be sealed with silicon, after installation. Seal with matching silicone sealer between the aluminium and building structure, to be airtight. Contractors shall allow for a maximum 10x10mm fillet of clear silicone sealant to the external perimeter of all window units.

Glazing to be according to window and door schedules

Colour: Charcoal, and as per Architect's drawings

Aluminium windows with burglar bars, 15 x 15mm solid aluminium security bars, screws fixed to aluminium window frame @ 200mm c/c max. To opening section only. Colour Charcoal.

27	W02 - 800 x 500mm high	No	4
28	W03 - 1400 x 500mm high	No	4

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CORNER PROTECTORS

29 30 x 30 x 4mm angle steel weather bar including ancors
at 300mm centres fixed to edge of floor

m

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	<p><u>BILL No. 10</u></p> <p><u>PLASTERING</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>GRANOLITHIC</u></p> <p><u>Method</u></p> <p>The method to be used shall be either the monolithic or bonded method</p> <p><u>Preparation</u></p> <p>For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic shall then be applied immediately afterwards. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the finish</p>			
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Mix

Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SABS 1083 and be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic

Panels

Granolithic shall be laid in panels not exceeding 14m² for granolithic finishes, not exceeding 9,5m² for bonded finishes and not exceeding 6m² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width. Joints between panels shall be positioned, where possible, over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with small V-joints

Laying

Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels

Bonded granolithic shall be applied to the slab after applying a 1:1 sand and cement slurry brushed over the surface and allowed to partially set before applying the granolithic, thoroughly compacted and lightly wood floated to the required levels

After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened, any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated

Curing, seasoning and protection

Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying

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	<u>Colour</u>				
	Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour				
	<u>SPECIALIST PLASTER WALL COVERINGS</u>				
	<u>General</u>				
	All specialist plaster wall coverings shall be executed in strict accordance with the manufacturer's instructions				
	<u>SCREEDS</u>				
	<u>Screeds on concrete</u>				
1	25-75mm thick on floors and landings	m2	931		
2	Average 80mm Thick on concrete roofs to falls and currents	m2	105		
	<u>GRANOLITHIC</u>				
	<u>Untinted granolithic on concrete</u>				
3	50mm thick on floors and landings	m2	6		
4	75mm high coved skirting	m	11		
	<u>INTERNAL PLASTER</u>				
	<u>One coat 1:4 cement plaster on brickwork finished with steel trowel, 12-15mm thick</u>				
5	On walls	m2	2 824		
6	Underside of concrete slab	m2	653		
7	On narrow widths	m2	118		
	<u>Cement plaster rendering coat with gypsum skim plasterfinishing coat, on brickwork</u>				
8	On walls	m2	2 824		
9	Underside of concrete slab	m2	653		
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10	On narrow widths <u>Plaster the entire ceiling with 3 to 6mm lightweight hemi-hydrate gypsum plaster the same day the board has been erected.</u>	m2	118
11	On gypsum board ceilings <u>EXTERNAL PLASTER</u> <u>One coat 1:4 cement plaster on brickwork finished with steel trowel, 12-15mm thick</u>	m2	511
12	On soffits of slabs	m2	649

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	<p><u>BILL No. 11</u></p> <p><u>TILING</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>Descriptions Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding</p> <p>All prime cost and provisional amounts are net and include for delivery to site of all articles concerned</p> <p><u>WALL TILING</u></p> <p><u>300 x 600 mm glazed ceramic wall tiles UNION TILES "NOTTING HILL IVORY" code SKU: 1SAMUNH11A7LA fixed with adhesive to plaster (plaster elsewhere measured) and flush pointed with tinted waterproof jointing compound</u></p>			
1	On walls	m2	400	
2	On narrow widths	m2	35	
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600 x 600 mm full colour body porcelain tiles UNION TILES "MURANO WHITE" fixed with adhesive to plaster (plaster elsewhere measured) and flush pointed with tinted waterproof jointing compound

3	On walls	m2	417
4	On narrow widths	m2	35
5	Circular cutting	m	826

FLOOR TILING

FF.03 - First Grade Ceramic Slip Resistant interior floor tile (PC amount of R250.00/m² supplied and delivered to site), with a MOHS 8 or better. Water absorption rate of 0 to 0.05% and a PEI Abrasion Resistance Rating of 4 or better. Size and colour to be confirmed

6	To floors and landings with joints continuous in both directions	m2	9
7	to steps	m2	
8	Skirting 100mm high tile skirting	m	18

FF.04 - 1200 x 600 mm full colour body porcelain tiles glazed, Union Tiles Inpura Grey or similar approved fix with adhesive to bedding (bedding elsewhere) and flush pointed with tinted jointing compound

9	To floors and landings with joints continuous in both directions	m2	452
10	Skirting 100mm high tile skirting	m	428

FF.05 - 200x400 and 35mm thick Bosun Flag stones in colour Flagstone White and Flagstone Black. See drawings for pattern. Use manufacturer approved stone sealant.

11	To floors and landings with joints continuous in both directions	m2	66
12	to steps	m2	33

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13	Skirting 100mm high tile skirting	m	72
	<u>FF.06 - 500 x 500mm Vinyl Tiles Flooring BELGOTEX FORTITUDE. Colour "Nefrtiti"</u>		
14	To floors and landings with joints continuous in both directions	m2	114
15	On narrow widths	m2	35
16	114 x 19mm high timber skirting	m	119
	<u>FF.07 - Belgotex INFLUENCE 4m wide ±6.5mm heavy residential Fusionbac broadloom is manufactured from Stainproof Miracle Fibre</u>		
17	To floors and landings with joints continuous in both directions	m2	58
18	50mm aluminium skirting in powder coat matt black	m	72
	<u>SUNDRIES</u>		
19	50 x 50 x 2mm thick natural anodised angle set aluminium to skirting	m	898
20	Stainless steel tile-in corner protector 30 x 30 x 10mm brushed finish	m	5
21	Aluminium angle edges with suitable flexible infill, brass	m	16
22	External aluminium straight edge as by KIRK Marketing (Code: 686) or similar approved	m	29
23	M-trim aluminium tile stairnosing to suit tile (Code: ATIN100) or similar approved	m	103
24	F138 PVC Expansion Joints (12mm tile)	m	89

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	<u>PREAMBLES</u>			
	For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works			
	Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.			
	Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.			
	Project specific document			
	<u>RAINWATER DISPOSAL</u>			
	<u>Galavanised iron gutter to approved profile and colour</u>			
1	100X100X0,8mm thick watertight seamless pre-painted aluminium ogee gutters, fixed to timber roof trusses or fascias, etc, colour finish to match roof sheeting	m	55	
2	Extra over gutter for stop ends	No	18	
3	75mm diameter rainwater downpipe fixed to wall	m	73	
4	Extra over gutter for 75mm diameter rainwater downpipe for outlet	No	18	
5	Extra over 75mm diameter rainwater downpipe for outlet	No	18	
6	Extra over 75mm diameter rainwater downpipe for eaves offset	No	18	
7	Extra over 75mm diameter rainwater downpipe for shoe	No	18	
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SANITARY FITTINGS

"Vaal Sanitaryware" or Equal Approved

8	<p>Colour Vaal Sanitaryware vitreous china 'Entice' 90° outlet back inlet rimless back-to-wall pan, with quality thermoset soft-close Entice slimline seat (8523Z100) and 2 x seat hinges (8852Z100). Compatible with concealed cistern, duct cistern or concealed flush valve. Designed to flush effectively on 4.5L. Mounted to floor with pan floor mounting bracket (8447Z000). Finish: White.</p> <p>Geberit Sigma Concealed Cistern 8cm, 6/3 litres for installation in masonry walls, for use with floor-standing WC pans only. Flow rate set to 4.5 litres.</p> <p>Geberit actuator plate Sigma30 for stop-and-go single flush, screwable vandal-resistant fixing: white / bright chrome / white. Material: Die-cast zinc. Colour: White Alphine</p>	No	11
9	<p>Vaal Quail rectangular underslung vanity basin, with integrated overflow. The basin has an unglazed contact surface area and is designed for fixing under vanity slab or in a bathroom cabinet using four hanger brackets (code 8125ZO). 528x345X186. Cabinet to have granite top</p>	No	17
10	<p>Trevi Cathalea White Acrylic Freestanding Bath - 1700 x 740mm</p>	No	4
11	<p>Franke Quineline 1200L x 500W mm double bowl inset sink with Satin Finish with 90mm basket strainer waste set</p>	No	4
12	<p>Franke STELLA SVX110-40 SVX 110-40 WK 3 1/21B WOF WL. SKU: 1990044. GTIN: 6006978210858 (Sink prep bowl)</p>	No	4
<u>"Duras" or Equal Approved</u>			
13	<p>Wash Trough & Slop hoper</p>	No	4

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<u>Taps</u>				
14	Hansgrohe Decor Single lever basin mixer 100 without waste set. ComfortZone 100 · spout height: 94 mm · maximum flow rate at 3 bar: 5 l/min · ceramic cartridge · temperature limitation adjustable · suitable for continuous flow water heaters · connection type: G ½ connections · connection dimension: DN15	No	17	
15	Hansgrohe Raindance E Overhead shower 360 1jet EcoSmart 9 l/min with shower arm. This shower head uses up to 40% less water than our conventional showers. · consists of: overhead shower, shower arm · shower head size: 360 x 190 mm · spray type: RainAir · ball-joint: overhead shower angle adjustable · material spray disc: metal · shower arm length 390 mm · maximum flow rate at 3 bar: 9 l/min · flow rate RainAir spray (at 3 bar): 9 l/min · minimum flow pressure: 1,5 bar · spray disc removable for cleaning · installation: wall · connection thread G ½ · connection dimension: DN15 · suitable for continuous flow water heaters	No	9	
16	Hansgrohe Decor Single lever shower mixer for concealed installation · 1 function · maximum flow rate at 3 bar: 29 l/min · min. operating pressure: 1 bar · max. operating pressure: 10 bar · connection type: basic set	No	9	
17	Hansgrohe Decor Single lever bath mixer for exposed installation · 2 functions · projection: 172 - 179.5 mm · centre distance: 150 ± 12 mm · spray type mixer: normal spray · maximum flow rate at 3 bar: 22 l/min · ceramic cartridge · temperature limitation adjustable · diverter with automatic resetting · suitable for continuous flow water heaters · connection dimension: DN15 · connection type: s-shaped connections · min. operating pressure: 1 bar · max. operating pressure: 10 bar	No	4	
18	Hansgrohe Decor 260mm swivel spout chrome single lever kitchen mixer. Hansgrohe Decor 260mm swivel spout chrome single lever kitchen mixer. Maximum flow rate at 3 bar: 7 l/min. Connection type: G ½ connections. Add: water saving insert: Neoperl WC BS 04 - 6L per minute spray/cascade	No	4	
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19	Hansgrohe Decor Single lever kitchen mixer 160, 1jet. · swivel range 360° · connection dimension: DN15 · maximum flow rate at 3 bar: 7 l/min · ceramic cartridge · connection type: G ½ connections · not suitable for continuous flow water heaters	No	4
20	Cobra 108-20 Hose Bib Tap. Installed to Manufacturers specification with approved fittings and connectors. Provide 1 per unit at patio, one outside Guard House and one at Fire Pit Area.	No	6
<u>SHOWER SCREEN</u>			
<u>Full floor to ceiling height frameless glass shower screen with stainless steel fixings to side walls and floor as per Architect's drawings</u>			
21	Size 900 x 885mm long, including shower doors	No	4
22	Size 1000mm long, including shower doors	No	1
23	Size 1680mm long, including shower doors	No	4

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BUILDING WORKS

Bill No. 12

PLUMBING AND DRAINAGE (PROVISIONAL)

JMQS

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Item No		Quantity	Rate	Amount
	<u>BILL No. 13</u>			
	<u>GLAZING</u>			
	<u>PREAMBLES</u>			
	For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works			
	Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.			
	Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.			
	Project specific document			
	<u>GLAZING TO STEEL WITH PUTTY</u>			
	<u>5mm clear float glass</u>			
1	5mm Clear float glass in squares not exceeding 0,1 square metre in area (removal elsewhere)	m2		
	<u>5mm Obscure float glass</u>			
2	Panes exceeding 0,1m2 and not exceeding 0,5m2	m2		
	<u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u>			
	<u>Silvered float glass: Fasten glass mirrors with chromium plated mirror screws to wall and allow 3 mm air space at back for ventilation. 1000 x 500mm mirror above every basin</u>			
3	Mirror, size 1000 x 500mm high	No	17	
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Item No		Quantity	Rate	Amount
	<p><u>BILL No. 14</u></p> <p><u>PAINTWORK</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>DESCRIPTIONS</u></p> <p>Descriptions of paintwork shall be deemed to include for all cutting in</p> <p><u>PREPARATORY WORK TO NEW WORK</u></p> <p><u>PAINT SPECIFICATIONS</u></p> <p>All painting shall be done in accordance with "Plascon-Evans" specifications</p> <p><u>PAINT TO NEW WORK ETC.</u></p> <p>Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth</p>			
	Carried to Summary			R
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PAINT ON PLASTERED WALLS

Prepare and applying one coat of Professional Gypsum and Plaster Primer (PP 700) to achieve a continuous film (allow 16 hours to dry) and finish with two coats of Plascon Double Velvert (VEL/TDV) to achieve complete obliteration (allowing 2 hours drying between coats). Colour to Architect's specifications

1	On internal plastered walls	m2	2 942	
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SMOOTH CONCRETE SURFACES WITH

Prepare and apply one coat of Professional Gypsum and Plaster Primer (PP 700) to achieve a continuous film (allow 16 hours to dry) finish Coats: Apply two full coats of Plascon Professional Super Matt (PEM 900/TSA) to achieve complete obliteration (allowing 1 hour drying between coats)

2	On plastered ceilings and slab edges	m2	653	
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ON PLASTERBOARD, ETC

Prepare and apply ne coat of Professional Gypsum and Plaster Primer (PP 700) to achieve a continuous film (allow 16 hours to dry) and finish with two full coats of Plascon Professional Super Matt (PEM 900/TSA) to achieve complete obliteration, allowing 1 hour drying between coats

3	On ceilings including cornices	m2	462	
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ON FIBRE-CEMENT

Preparing, priming nailheads and cover strips with primer, filling and applying one universal undercoat and two coats exterior quality 'Plascon Super Acrylic PVA' paint

4	On fascias and barge boards	m2	60	
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5	On sills	m2	22	
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METAL SURFACES WITH

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	<p><u>Prepare and apply one coat of Plascon Metal Primer (UC 170) to achieve a continuous film (allow 36 hours to dry) and finish with two full coats of Plascon Water based Velvagio (VLW/TVW) to achieve complete obliteration (allowing 4 hours drying between coats)</u></p> <p><u>NB: if white is used, three coats might be necessary to achieve obliteration.</u></p>			
6	Gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m2	11	
	<p><u>ON WOOD</u></p> <p>Prepare and seal knots with "Plascon Woodcare Knot Seal (PK2)", apply one coat "Plascon Plaster Primer (UC56)" and two finishing coats "Plascon Vevagio (VLO)" semi-gloss velvet paint</p> <p><u>WOOD SURFACES WITH</u></p> <p><u>Prepare and apply with 1 coat primer, 1 coat universal undercoat and finish with coats: 2 coats superior quality eggshell enamel or similar approved. Colour to Architects Specification or White</u></p>			
7	On doors	m2	135	
8	On door frames	m2	22	
9	On skirtings, rails, etc not exceeding 300 mm girth	m	689	
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	<p>Section No. 2 BUILDING WORKS Bill No. 14 PAINTWORK (PROVISIONAL) JMQS</p>			

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Bill No. 14

PAINTWORK (PROVISIONAL)

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3	MASONRY (PROVISIONAL)	34	
4	WATERPROOFING (PROVISIONAL)	38	
5	ROOF COVERING (PROVISIONAL)	41	
6	CARPENTRY & JOINERY (PROVISIONAL)	46	
7	CEILING, PARTITIONINGS, ETC (PROVISIONAL)	50	
8	IRONMONGERY (PROVISIONAL)	54	
9	METALWORK (PROVISIONAL)	62	
10	PLASTERING (PROVISIONAL)	67	
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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 1</u></p> <p><u>GENERAL SITE WORKS, ETC (PROVISIONAL)</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see "Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Supplementary preambles and full descriptions of materials, items, work, etc. applicable to Section No. 3</u></p> <p>Earthworks are to be carried out in accordance with SABS 1200D subjected to the following amendments:</p> <ol style="list-style-type: none"> 1. the degree of accuracy shall be Degree II 2. the finished level tolerance in sub clause (B3) of SABS 1200D to be amended to read $\pm 25\text{mm}$ 			
	Carried to Summary			R
	<p>Section No. 3 EXTERNAL WORKS Bill No. 1 BULK EARTHWORKS (PROVISIONAL) JM QS</p>			

Welded Mesh Medium Security Fence must comply to the following:

- As per PW371-A Edition 2.0
- ISO 9001 accreditation
- SANS 10244-2
- Min 10 years anti corrosion guarantee
- Shop drawings for both gates and panels to be submitted to the PA prior to fixing for approval
- Certificate of compliance for material and installation to be issued by the manufacture and/or engineer

SITE CLEARANCE

Site clearance

1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc. Topsoil to be stockpiled off site and a portion retained for backfilling behind kerbs and for grassed areas	m2	1 450
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Taking out and removing, grubbing up roots and filling in holes

2	Tree or stump exceeding 500mm and not exceeding 1000mm girth	No	5
3	Tree or stump exceeding 1000mm and not exceeding 1500mm girth	No	5

BULK EARTHWORKS AND PLATFORMS

Compaction of surfaces (rip and scarify)

4	Compaction of ground surface under roads and parking areas including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	1 450
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Open face excavation in all materials to form platforms/terraces in earth over sloping site

5	Open face excavation	m3	4 350
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<u>Extra over excavation for:</u>				
6	Soft rock	m3	1 305	
7	Hard rock	m3	2 175	
<u>Extra over all excavations for carting away</u>				
8	Extra over all excavations for carting away surplus material from excavations and/or from stockpiles on site to a dumping site to be located by the Contractor	m3	4 350	
<u>Selected filling of G7 material supplied by the contractor compacted in layers of 150mm to 93% MOD AASHTO density</u>				
9	Over site to form platforms	m3	3 915	
<u>Selected filling of G5 material (CBR>15) supplied by the contractor compacted to 98% MOD AASHTO density</u>				
10	Over site to form platforms	m3	435	
<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 95% MOD AASHTO density	m2	1 450	
<u>Prescribed density tests on filling</u>				
12	Modified AASHTO Density test	No	22	
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	<p><u>BILL NO. 2</u></p> <p><u>GENERAL SITE WORKS, ETC (PROVISIONAL)</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see "Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Supplementary preambles and full descriptions of materials, items, work, etc. applicable to Section No. 3</u></p> <p>The Contractor is referred to for supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this section, unless specifically otherwise described</p>			
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	<p>Section No. 3 EXTERNAL WORKS Bill No. 2 BOUNDARY WALL AND FENCING WORKS (PROVISIONAL) JMQS</p>		R	

Welded Mesh Medium Security Fence must comply to the following:

- As per PW371-A Edition 2.0
- ISO 9001 accreditation
- SANS 10244-2
- Min 10 years anti corrosion guarantee
- Shop drawings for both gates and panels to be submitted to the PA prior to fixing for approval
- Certificate of compliance for material and installation to be issued by the manufacture and/or engineer

BOUNDARY WALL

Excavation

Excavate in earth not exceeding 2m deep below natural, elevated or reduced ground level for

1	Trenches	m3	461	
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Sundries

Extra over trench and hole excavations in earth for excavation in

2	Extra over excavations in earth for trenches and holes for excavations in soft rock	m3	138	
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3	Extra over excavations in earth for trenches and holes for excavations in hard rock	m3	139	
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Extra over all excavations for carting away

4	Extra over all excavations for carting away surplus material from excavations and/or from stockpiles on site to a dumping site to be located by the Contractor	m3	237	
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Risk of collapse of excavations

5	Risk of collapse of sides of excavations for trenches and holes from natural, elevated or reduced ground level to not exceeding 1,5m deep	m2	615	
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	<u>Keeping excavations free of water</u>			
6	Allow for keeping excavations free of all water other than subterranean water		Item	
	<u>Filling, etc.</u>			
7	Backfilling from the excavations to trenches and holes compacted to 90% modified AASHTO density	m3	224	
8	Imported earth filling supplied by the Contractor and brought onto site, under floors, steps, pavings, etc. compacted to 95% modified AASHTO density	m3	224	
	<u>Compaction of surfaces</u>			
9	Compaction of ground surface under trenches, holes 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	308	
	<u>Prescribed density tests on filling</u>			
10	Tests to determine the degree of compaction, etc. of ground or filling	No	10	
	<u>Protection against termites</u>			
11	To bottoms and sides of trenches, bases, etc	m2	923	
	<u>Reinforced concrete</u>			
	<u>30MPa/20mm concrete</u>			
12	In footings to walls cast against excavated surfaces, stepped and levelled	m3	138	
	<u>Test cubes</u>			
13	Prepare set of three 150 x 150 x 150mm concrete strength test cubes, label and send to an approved laboratory for testing, pay all charges and submit report to the Representative/Agent. Only successful tests will be paid for (<u>Provisional</u>)	No	11	
	<u>Reinforcement</u>			
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<u>Steel bar reinforcement to structural concrete work</u>				
14	Various diameter steel reinforcing bars	t	27.60	
<u>Masonry</u>				
15	Piers	m3	63	
16	345mm cavity brick walls comprising two half brick skins with 115mm wide cavity, complete with and including concrete infill, reinforcement, mesh, brickforce and wall ties in beam filling as per Architect's and Engineer's drawings	m2	738	
<u>Brick reinforcement</u>				
17	Brick reinforcement 75mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	8 679	
18	Brick reinforcement 150mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	8 679	
<u>Face bricks</u>				
<u>External facings in approved Platinum Travertine face bricks (FBX) pointed with square recessed horizontal and vertical joints</u>				
19	Extra over ordinary brickwork for facing and pointing in stretcher bond	m2	1 123	
20	Brick on edge coping	m	205	
<u>Movement joints, etc</u>				
21	Movement joint of 10mm impregnated fibre board built in vertically between brickwork	m2	137	
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	<u>Subsoil drainage, etc</u>				
22	Subsoil drainage complete with and including excavations, cart away, filling, concrete stones, bidim, 110mm diameter uPVC perforated pipe, 50mm diameter PVC pipe weep holes, along the fill side of retaining wall as per Engineer's drawings	m	205		
	<u>RETAINING WALL</u>				
	<u>Excavation</u>				
	<u>Excavate in earth not exceeding 2m deep below natural, elevated or reduced ground level for</u>				
23	Trenches	m3	183		
	<u>Sundries</u>				
	<u>Extra over trench and hole excavations in earth for excavation in</u>				
24	Extra over excavations in earth for trenches and holes for excavations in soft rock	m3	8		
25	Extra over excavations in earth for trenches and holes for excavations in hard rock	m3	8		
	<u>Extra over all excavations for carting away</u>				
26	Extra over all excavations for carting away surplus material from excavations and/or from stockpiles on site to a dumping site to be located by the Contractor	m3	88		
	<u>Risk of collapse of excavations</u>				
27	Risk of collapse of sides of excavations for trenches and holes from natural, elevated or reduced ground level to not exceeding 1,5m deep	m2	258		
	<u>Keeping excavations free of water</u>				
28	Allow for keeping excavations free of all water other than subterranean water		Item		
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<u>Filling, etc.</u>				
29	Backfilling from the excavations to trenches and holes compacted to 90% modified AASHTO density	m3	95	
30	Imported earth filling supplied by the Contractor and brought onto site, under floors, steps, pavings, etc. compacted to 95% modified AASHTO density	m3	31	
<u>Compaction of surfaces</u>				
31	Compaction of ground surface under trenches, holes 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	122	
<u>Prescribed density tests on filling</u>				
32	Tests to determine the degree of compaction, etc. of ground or filling	No	5	
<u>Protection against termites</u>				
33	To bottoms and sides of trenches, bases, etc	m2	524	
<u>Reinforced concrete</u>				
<u>30MPa/20mm concrete</u>				
34	In footings to walls cast against excavated surfaces, stepped and levelled	m3	55	
<u>Test cubes</u>				
35	Prepare set of three 150 x 150 x 150mm concrete strength test cubes, label and send to an approved laboratory for testing, pay all charges and submit report to the Representative/Agent. Only successful tests will be paid for (<u>Provisional</u>)	No	1	
<u>Reinforcement</u>				
<u>Steel bar reinforcement to structural concrete work</u>				
36	Various diameter steel reinforcing bars	t	11.00	
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<u>Masonry</u>					
37	Piers	m3	9		
38	495mm cavity brick walls comprising two half brick skins with 115mm wide cavity, complete with and including concrete infill, reinforcement, mesh, brickforce and wall ties in beam filling as per Architect's and Engineer's drawings	m2	362		
<u>Brick reinforcement</u>					
39	Brick reinforcement 75mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	4 257		
40	Brick reinforcement 150mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured net)	m	4 257		
<u>Face bricks</u>					
<u>External facings in approved Platinum Travertine face bricks (FBX) pointed with square recessed horizontal and vertical joints</u>					
41	Extra over ordinary brickwork for facing and pointing in stretcher bond	m2	675		
42	Brick on edge coping	m	292		
<u>Movement joints, etc</u>					
43	Movement joint of 10mm impregnated fibre board built in vertically between brickwork	m2	20		
<u>Subsoil drainage, etc</u>					
44	Subsoil drainage complete with and including excavations, cart away, filling, concrete stones, bidim, 110mm diameter uPVC perforated pipe, 50mm diameter PVC pipe weep holes, along the fill side of retaining wall as per Engineer's drawings	m	28		
<u>FENCE AND GATES</u>					
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Cochrane Clearvu Fencing or equal approved consisting of:

- **POSTS: standard cochrane taper vertical posts with end caps fixed to concrete footing at 3076 mm centres as per structural engineer's design and detail.**
- **FOOTING: concrete footing to structural engineer's design and detail.**
- **PANEL: cochrane clearvu pressed high density mesh standard panels with 4mm diameter high tensile wires of aperture size 76.2 mm x 12.7 mm centres. Panel reinforced with 4 x 50mm deep 'V' formation horizontal recessed bands and 2 x 75 mm 70 degree flanges along sides and 2 x 30 mm degree flanges along top and base.**
- **FINISH: black powdercoating.**
- **ANTI-BURROW: 600 mm clearvu mesh extension to fence if there is no plinth wall.**

45 Clearvu fencing, 2400mm high m 205

Welded on steel sliding gate consisting of 80 x 40 x 3mm rectangular tubing section frame which comprise of horizontal, top, middle, bottom and vertical side rails filled in with 40 x 40 x 3mm angle iron palisades welded to frame at approximately 100mm centers with Hilladambottom rolling gate system Cat No No 826W, top guides Cat UD 31/5500 or similar approved, angle iron tracks cast into and including concrete, 100 x 100 x 3mm square tubing columns with top mild steel closed caps and bottom ends cast into and including concrete base size 300 x 300 x 500mm deep with excavations, backfilling, cart away, concrete footing, etc complete

46 Extra over clearview fence for 6500 mm wide x 2400 mm high motorised vehicular sliding gate made up of:

- END POSTS: 75 x 75 mm SHS painted mild

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- steel posts with end caps and anti-lift rails.
- GATE FRAMING: 75 x 75 mm SHS mild steel framing sections and 50 x 75 mm RHS intermediate vertical supports. Lock hasp and staple welded to internal face of frame.
- PANEL: Cochrane Clearvu (or equal approved) pressed high density mesh standard panels with 4mm diameter high tensile wires of aperture size 76.2 mm x 12.7 mm centres. Panel reinforced with 4 x 50mm deep 'V' formation horizontal recessed bands and 2 x 75 mm 70 degree flanges along sides and 2 x 30 mm degree flanges along top and base. Clearvu panels to be fixed to gate frame by means of 25 x 25 painted mild steel fixing angles.
- WHEELS: heavy duty machined wheels with double sealed roller bearings, partially sunken into bottom rail of gate.
- FINISH: black powdercoating to mesh and gate framing to be painted black as per paint specification.
- MOTOR: Centurion Systems industrial 'A10 heavy weight' 220V AC sliding gate operator or equal approved, capable of handling a gate mass of up to 2000 kg at an opening speed of 13.6 metres per minute with Gateshox anti shock wheels and with theft-resistant cage, complete with steel rack, including foundation plate. system to include photon wireless infrared vehicle detection beams, with DC convertor battery backup module installed in accordance with manufacturers' recommendations.

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47 Extra over clearview fence for a pedestrian gate, size 900mm x 2400mm high:

- END POSTS: 75 x 75 mm SHS painted mild steel posts with end caps and anti-lift rails with mild steel rebate welded to post.
- GATE FRAMING: 75 x 75 mm SHS mild steel framing sections.
- HINGES: 4 No. heavy duty bullet hinges fixed to RHS gate frame and post
- PANEL: Cochrane Clearvu (or equal approved) pressed high density mesh standard panels with 4mm diameter high tensile wires of aperture size 76.2 mm x 12.7 mm centres. Panel reinforced with 4 x 50mm deep 'V' formation horizontal recessed bands and 2 x 75 mm 70 degree flanges along sides and 2 x 30 mm degree flanges along top and base. Clearvu panels to be fixed to gate frame by means of 25 x 25 painted mild steel fixing angles.

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BOUNDARY WALL AND FENCING WORKS (PROVISIONAL)

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EXTERNAL WORKS

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BOUNDARY WALL AND FENCING WORKS (PROVISIONAL)

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	<u>BILL NO. 3</u>			
	<u>PAVING AND WALKWAYS (PROVISIONAL)</u>			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works			
	Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.			
	Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.			
	<u>Fully detailed shop drawings of all structural steel, etc., indicating sizes, bracing, loading, etc., shall be submitted to the Representative/Agent for approval prior to fabrication</u>			
	Project specific document			
	<u>PAVING</u>			
	<u>Bulk excavation in earth not exceeding 2m deep</u>			
1	To reduce levels under paving	m3	238	
	<u>Extra over all excavations for carting away</u>			
2	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	238	
	<u>Earth filling supplied by the contractor compacted to 95% Mod. AASHTO density (C4 material, stabilize with 3% 32.5N cement)</u>			
3	Under floors, steps, paving etc.	m3	238	
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	<u>Sand bedding under paving</u>				
4	20mm thick dry, clean, washed riversand layer evenly spread over filling (elsewhere measured), levelled, watered and rammed to receive waterproof membrane (elsewhere measured) under solid floors	m2	792		
	<u>Compaction of surfaces</u>				
5	Compaction of ground surface under floors etc including scarifying for a depth of 200mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density	m2	792		
	<u>Prescribed density tests on filling</u>				
6	"Modified AASHTO Density" test	No	11		
	<u>Approved soil sterilant type weedkiller applied strictly according to label specifications</u>				
7	Under paving etc	m2	792		
	<u>One layer of 250 micron "Consol Plastics Gunplas USB Green" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u>				
8	Under paving	m2	792		
	Paving is to be laid in accordance with SABS 1200 MJ, SABS 1058 and the Concrete Masonry Association's specifications				
	Paving is to be laid to herringbone pattern on and including 20mm (thickness after final compaction) clean river sand (preparation of ground or filling elsewhere)				
	Clean sand is to be swept into joints between roadstones				
	<u>Concrete 60mm interlocking paver in basket weave pattern to Civil Engineer's Specifications Colour – Granite</u>				
9	Paving to walkways, etc to falls	m2	792		
10	Fair circular cutting	m	7		
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11	<p>Kerbs fig. 3 and fig. 14 channel with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint including excavations, backfilling etc</p> <p><u>SABS 731-1987 yellow or white roadmark paint on paving at a rate of 1 litre/m2</u></p>	m	221		
12	Line 100mm wide	m	83		
13	Numeral or letter 1250mm high (GM7)	No	12		
14	Traffic arrow 1250 x 500mm wide extreme (G M4.1)	No	8		
	<p><u>CARPOTS WITH ROOF SHEETING TO SLIGHT FALLS</u></p> <p><u>Carpots comprising the following: concrete foundations for columns to be 20Mpa concrete, 500 x 500 x 600mm deep including all excavations, backfilling, compaction, carting away, etc; columns 76 x 76 x 3mm hot rolled tubing with 150 x 150 x 3mm base plates and 200 x 70 x 6mm top flanges; columns 2600mm minimum height, beams; 76 x 76 x3mm hot rolled tubing with closed ends; beams bolted to columns with two 10 x 100mm bolts and nuts at each column; purlins; 150 x 75 x 20 x3mm hot rolled lipped channels bolted to cleats on beams with 0.5mm thick chromadek finished IBRprofile roof sheeting; all steelwork cleaned with degreaser and painted with one each of red oxide and universal primer with two coats enamel paint</u></p>				
15	<p>Carpot comprising one bay, 2,5 x 5,0m on plan, including and complete as per Architect and Engineer's drawings</p> <p><u>LANDSCAPING</u></p> <p><u>Preambles</u></p> <p>The accuracy of bulk earthworks and landscaping will be in accordance with SABS 1200D and SABS 1200DM Degree II</p> <p><u>Topsoil, compost, lime and fertilizer</u></p> <p>Excavate and preserve topsoil and deposit in stockpile</p>	No	4		
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16	Topsoil obtained from prescribed stock piles on site spread and levelled over the site for grass areas including slightly wetting and rolling with light roller	m3	86		
17	Topsoil supplied by the contractor spread and levelled over the site for grass areas	m3	86		
18	Compost in plant boxes	m3	40		
	<u>Precast</u>				
19	Precast planters as per Architect's drawings	No	8		
	<u>TREES</u>				
20	Wild Olive Olea Europea 200 litre tree	No	10		
21	Tanalith treated eucalyptus fencing 1200mm high	m	79		
22	Wild Olive Olea Europea 200 litre tree	No	5		
23	Mexican Feather Grass Stipa Tenuissim	No	40		
24	Purple Fountain Grass Pennisetum Setaceum	No	40		
	<u>GRASSING, GROUND COVERS, ETC.</u>				
	<u>"Kikuyu"</u>				
25	Roots in rows	m2	286		
	<u>900X600 X 80MM thick Bosun XXL Paving Slabs Concrete pavers to Civil Engineer's Specifications Colour – Granite</u>				
26	Stepping stones	No	24		
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Bill No. 3

PAVING, WALKWAYS AND CARPORTS (PROVISIONAL)

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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 4</u></p> <p><u>TANKS AND PUMPS (PROVISIONAL)</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see "Specification of materials and methods to be used - PW 371" as published by the National Department of Public Works</p> <p><u>Fully detailed shop drawings of all structural steel, etc., indicating sizes, bracing, loading, etc., shall be submitted to the Representative/Agent for approval prior to fabrication</u></p> <p>Project specific document</p> <p><u>Filling (General)</u></p> <p>Back filling described as:</p> <p>- "filling in pipe trenches, etc.", all backfilling shall be done with approved backfilling compacted to 93%Mod. AASHTO density, unless otherwise described</p> <p><u>uPVC pipes and fittings</u></p> <p>Soil, waste and vent pipes and fittings shall be solvent weld jointed</p> <p><u>uPVC pressure pipes and fittings</u></p> <p>Pipes for water supply shall be of the class stated</p> <p>Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings</p> <p>Pipes of 50mm diameter and greater shall have sockets and spigots with push in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints</p>			
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Fixing of pipes

Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained

Exposed concrete surfaces

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

Excavations

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

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

Laying, backfilling, bedding, etc. of pipes

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

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Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following:
 SANS 1200 L : Medium-pressure pipelines
 LD : Sewers
 LE : Stormwater drainage
 Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SANS 1200
 DB : Earthworks (Pipe trenches)
 Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SANS 1200
 LB : Bedding (Pipes).
 Unless otherwise described bedding of rigid pipes shall be class B bedding

Holes for pipes

Holes for pipes, cutting and fitting around pipes, the making good thereof, etc. in brick and/or concrete sidewalls of catch pits, manholes, valve chambers, etc. shall be deemed to be included in descriptions of pipework

Tendered rates must make provision for this as no additional claims in this regard will afterwards be entertained

Mixing of concrete

No hand mixing of concrete will be allowed on site

Structural steel

Descriptions of bolts shall be deemed to include nuts and washers

Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete

All structural steel to be painted with one coat red oxide metal primer before delivery to site

BOREHOLE & TREATMENT PLANT

1 Drilling and equipping of borehole with and including water purification/treatment plant

Item

1 100 000.00

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TANKS, STANDS AND PUMPS

Tank Plinth

Excavation

Excavate in earth not exceeding 2m deep below natural, elevated or reduced ground level for

2	Trenches	m3	6	
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Sundries

Extra over trench and hole excavations in earth for excavation in

3	Extra over excavations in earth for trenches and holes for excavations in soft rock	m3	1	
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4	Extra over excavations in earth for trenches and holes for excavations in hard rock	m3	1	
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Extra over all excavations for carting away

5	Extra over all excavations for carting away surplus material from excavations and/or from stockpiles on site to a dumping site to be located by the Contractor	m3	6	
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Risk of collapse of excavations

6	Risk of collapse of sides of excavations for trenches and holes from natural, elevated or reduced ground level to not exceeding 1,5m deep	m2	7	
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Keeping excavations free of water

7	Allow for keeping excavations free of all water other than subterranean water		Item	
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Filling, etc.

8	Backfilling from the excavations to trenches and holes compacted to 90% modified AASHTO density	m3	6	
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<u>Compaction of surfaces</u>				
9	Compaction of ground surface under trenches, holes 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	12	
<u>Prescribed density tests on filling</u>				
10	Tests to determine the degree of compaction, etc. of ground or filling	No	1	
<u>Protection against termites</u>				
11	To bottoms and sides of trenches, bases, etc	m2	19	
<u>Reinforced concrete</u>				
<u>30MPa/20mm concrete</u>				
12	In footings to walls cast against excavated surfaces, stepped and levelled	m3	12	
<u>Test cubes</u>				
13	Prepare set of three 150 x 150 x 150mm concrete strength test cubes, label and send to an approved laboratory for testing, pay all charges and submit report to the Representative/Agent. Only successful tests will be paid for (<u>Provisional</u>)	No	1	
<u>Reinforcement</u>				
<u>Steel bar reinforcement to structural concrete work</u>				
14	Various diameter bars	t	2.40	
<u>1800mm high Poly 6000 coated clearvu fencing, using 3mm and 4mm wire around Tanks and Pumps</u>				
15	Fencing	m	16	
16	Single gate 1,5m wide	No	1	
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	<u>Pumps</u>				
17	Two CR3-10 pumps with 2.2kW motors connected in parallel (one pump on standby) mounted on a common base with pump able to deliver a flow of 0.5l/s at three fire hose reels (total 1.5l/s) at a maximum pressure of 300kPa, installed complete with pressure gauge, control panel, electrical installation, 50mm flanged connections, etc	No	1		
	<u>Elevated tanks and stands</u>				
18	Supply and installation of "Abeco or similar approved" 30kl pressed steel water tank complete including all excavations, concrete bases, plinths and slabs, 9m elevated steel platform, pipework, fittings, valves, connections, sterilization of tank, etc, all as per Engineer and Architect's drawings	No	2		
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Item No		Quantity	Rate	Amount
	<p><u>BILL No. 1</u></p> <p><u>ELECTRICAL INSTALLATION (PROVISIONAL)</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see "Specification of materials and methods to be used - PW 371"</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Electrical low voltage installations & wiring shall comply with 10142</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>Tenderers are advised to study the document, specifications of materials and method to be used - "PW371" as published by the National Department of Public Works before pricing this Bill.</p> <p><u>Supplementary preambles and full descriptions of materials, items, work, etc. applicable to Section No. 4</u></p> <p>The Contractor is referred to supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this section, unless specifically otherwise described</p> <p><u>Specification and drawings</u></p> <p>Tenderers are referred to the Electrical Specification and drawings annexed to these bills of quantities for full descriptions of the project specification, materials to be used, etc</p>			
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Note: All items shall be priced for whatever cost may be considered necessary for Preliminary and General items to carry out the Electrical Installation in full, as detailed in the drawings, Specifications and Schedules, which shall include, but shall not be limited, to the following:

PRELIMINARY AND GENERAL

1	Site establishment and de-establishment - including but not limited to latrines, water, generators, fuel, all safety aspects, site office, etc.	SUM
2	Providing site information to the Engineer upon request, marking up of drawing during construction and compiling of As-built drawings	SUM
3	Electrical Certificate of Compliance (COC) for the entire installation	SUM
4	Coding and Labelling of all plant and equipment, including cables and distribution boards	SUM
5	Time Related Costs 8 Month contractor period	SUM

CABLING

Wiring with the following sizes of insulated copper conductor single core/multi strand cable in surface/recessed PVC conduit as required.

All distances are to be confirmed by the contractor from the drawings provided and from site inspections.

The contractor is to use SABS approved components.

All cables shall be compliant to SANS 1507-3 requirements and recommendations

All prices in this Section are required to exclude trenching (trenching is included in Section 3 of this bill)

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	<u>Bare copper earth conductors laid with cable in trenches or sleeve pipes and bonded to cables with plastic strapping at 2m centres</u>				
	<u>2.5mm² general purpose wire, as indicated on the schematic diagrams for light circuits (Red, Black & Insulated Earth)</u>				
6	- Supply	m	2 500		
7	- Install	m	2 500		
	<u>4 mm² general purpose wire, as indicated on the schematic diagrams for power outlets , plugs, brick lights, and mechanical units(Red, Black & Insulated Earth)</u>				
8	- Supply	m	7 500		
9	- Install	m	7 500		
	<u>6mm² general purpose wire, as indicated on the schematic diagrams for the stoves (Red, Black & Insulated Earth)</u>				
10	- Supply	m	400		
11	- Install	m	400		
	<u>4 mm² 1-phase 3-core Cu PVC SWA single phase cable compatible with SANS 1507-3 for exterior lights parking lights and to refuse area, including junction boxes, cable termination and connections</u>				
12	- Supply	m	350		
13	- Install	m	350		
	<u>10 mm² 1-phase 3-core SWA cable compatible with SANS 1507-3 from Main DB to Hybrid Inverter in each house unit, including cable termination and connections</u>				
14	- Supply	m	10		
15	- Install	m	10		
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<u>10 mm² 1-phase 3-core SWA cable compatible with SANS 1507-3 from Main Kiosk to Guardhouse DB.G, including cable termination and connections</u>			
16	- Supply	m	30
17	- Install	m	30
<u>25 mm² 1-phase 3-core SWA cable compatible with SANS 1507-3 from Main Kiosk to Main DB in each house unit , including cable termination and connections</u>			
18	- Supply	m	200
19	- Install	m	200
<u>50 mm² 3-phase 4-core SWA cable compatible with SANS 1507-3 from Eskom Connection to Main Kiosk, including cable termination and connections</u>			
20	- Supply	m	20
21	- Install	m	20
<u>25 mm² bare copper earth wire from Eskom Connection to Main Kiosk including cable termination and connections</u>			
22	- Supply	m	20
23	- Install	m	20
<u>TRENCHING, SLEEVES</u>			
<u>The Contractor shall apprise himself of all existing services and make sure that these services are not damaged during excavations</u>			
<u>Cables may not be covered before the Consulting Engineer has inspected and approved the cables and trenches. If the Contractor disregards this requirement the trenches may be re-opened at the discretion of the Consulting Engineer at the Contractor's expense.</u>			
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	<u>Concrete cable markers shall be introduced at the beginning and at the end of each cable route (for example, where a cable enters a distribution kiosk or a building), at changes in direction, at all joints and above the entrance and exit of cable sleeves along the entire route of the cable at intervals not exceeding 50 m.</u>				
24	- Supply	No	4		
25	- Install	No	4		
	<u>Power Cable Manhole - FC chamber, with bases, ports and a concrete coverslab with a hinged DMC polymer lid which is lockable including excavation of dimensions 1m wide x 1m wide x 800mm deep</u>				
26	- Supply	No	1		
27	- Install	No	1		
	<u>Data Sleeve Manhole - FC chamber, with bases, ports and a concrete coverslab with a hinged DMC polymer lid which is lockable including excavation of dimensions 600mm wide x 600mm wide x 600mm deep</u>				
28	- Supply	No	1		
29	- Install	No	1		
30	Excavation for Power Cable and Data Sleeves (500mm wide x 700mm deep) in earth for cable trenches, backfilling of trenches with 150mm of soft sifted bedding material	m3	100		
	<u>32mmØ HDPE 550kPA sleeves between data DB manholes entries chased into wall, including manufacturer approved couplings, sealing rings, end plugs and non-hardening sealant. Provide 2 x 1.6sqmm galvanised draw wires into sleeves</u>				
31	- Supply	m	200		
32	- Install	m	200		
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	<u>50mmØ HDPE sleeves for DB entries chased into wall and buried underground, including manufacturer approved couplings, sealing rings, end plugs and non-hardening sealant for each unit DB from manhole</u>				
33	- Supply	m	300		
34	- Install	m	300		
	<u>ELECTRICAL KIOSKS</u>				
	<u>All kiosks shall be provided as per the specification document</u>				
	<u>Shop drawings are required for approval by the engineer prior to manufacture of the kiosk. If requested, The Contractor shall arrange for an inspection of the kiosk by the electrical engineer on the manufacturer's premises before delivery.</u>				
	<u>All kiosks shall be mounted on a concrete plinth as per the specification document</u>				
	<u>Main Kiosk in accordance with the specification document and schematic diagram</u>				
35	- Supply	No	1		
36	- Install	No	1		
	<u>CONDUIT</u>				
	<u>All conductor tubes and fittings shall comply with the requirements of the SANS 1162.</u>				
	<u>The type of conduit and accessories shall be of the non-metallic type where chased into the wall but metallic type Bosal for within the roof space</u>				
	<u>For lighting circuits and socket outlets, the conduit used shall have an external diameter of 20mm</u>				
	<u>For data points, the conduit used shall have an external diameter of 25mm</u>				
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<u>M20 PVC conduit complete with hangers, anchors, nuts and bolts, bends, tees, elbows, junction boxes, clamps, fittings and end caps, chased 50mm wide x 40mm deep and make good - to be chased into wall and installed in floor</u>			
37	- Supply	m	3 500
38	- Install	m	3 500
<u>M20 PVC conduit round boxes with lid and screws (1-way, 2-way, 3-way, 4-way, back and side entry as required)</u>			
39	- Supply	No	360
40	- Install	No	360
<u>M25 PVC conduit complete with hangers, anchors, nuts and bolts, bends, tees, elbows, junction boxes, clamps, fittings and end caps for wiring in the roof space</u>			
41	- Supply	m	2 000
42	- Install	m	2 000
<u>M25 PVC conduit round boxes with lid and screws (1-way, 2-way, 3-way, 4-way, back and side entry as required)</u>			
43	- Supply	No	40
44	- Install	No	40
<u>1.6mm galvanised Draw Wire in all conduit and sleeves, including data sleeves and data conduit</u>			
45	- Supply	m	5 500
46	- Install	m	5 500
<u>DATA INSTALLATION</u>			
<u>32mm sleeves for data cables are covered in and Section 6 of this bill.</u>			
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Conduit is required to be run with a draw wire to each telephone/data point terminating in a round conduit box.

300mmx300mm Flush mounted Data/Telephone distribution board with metal tray, architrave frame and hinged doors and shall be flush mounted - 20mm thick soft wooded panel (fine grade pine to SANS 1359)

47	- Supply	No	5		
48	- Install	No	5		
49	Allow for provisional amount of R181 818,180 for application and connection fee for new internet fibre connection with approved service provider			Item	181 818.18
50	Add for profit			%	
51	Add for general attendance			%	

LIGHTING & SWITCHES

LIGHT FITTINGS

All cover plates must be secured with two sunken-chromed vandal proof screws.

Where not specified below, lamps to have a lifespan of at least 10,000h

Recessed/surface mounted 1,2-meter two (2) lamp fluorescent luminaries complete with Prismatic diffuser, 2 x T8 LED tubular fluorescent, cool white lamp, electronic control gear and telescopic lamp holders as specified in the SANS 1119.

52	-Supply	No	4		
53	-Install	No	4		

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<u>Wall/Ceiling mounted round bulkhead luminaires complete with 20-Watt LED lamps. Similar or equal and approved to "Beka Series 30".</u>			
54	- Supply	No	4
55	- Install	No	4
<u>Wall mounted rectangular bulkhead luminaire complete with eyelid, opal lens and 20-Watt LED lamp. Similar or equal and approved to "Beka Series 40".</u>			
56	- Supply	No	4
57	- Install	No	4
<u>50mm x 180mm x 55mm 8W LED brick light, IP rating of 55 and above, similar or approved to "FUMAGALLI NINA190 BRICK LIGHT BLACK"</u>			
58	- Supply	No	36
59	- Install	No	36
<u>Wall/Ceiling mounted round bulkhead luminaire complete with 20W. Similar or equal and approved to "Beka Series 300".</u>			
60	-Supply	No	24
61	- Install	No	24
<u>Wall mounted rectangular bulkhead luminaire complete with 24W complete with opal acrylic diffuser. Similar or equal and approved to "Regent Geo".</u>			
62	-Supply	No	24
63	-Install	No	24
<u>Wall mounted LM 6 die cast aluminium and extruded aluminium, 2 x 17W LED. Similar or equal and approved to "Regent CUBICA DOUBLE"</u>			
64	- Supply	No	8
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65	- Install	No	8		
	<u>Surface mounted round downlight complete with 12W LED. Similar pr approved to "Regent Luxon Round Pro Backlight 160"</u>				
66	-Supply	No	73		
67	-Install	No	73		
	<u>45W 1200mm Ø LED Suspended light with Polycarbonate diffuser, aluminum housing and Powder coated finish. Similar or approved to "Regent Sky"</u>				
68	-Supply	No	4		
69	-Install	No	4		
	<u>Single Design Pendant Light LED Globe Circle Metal Electroplated Island Lights Bulb Base: E27, E26</u>				
70	-Supply	No	12		
71	-Install	No	12		
	<u>Black Or White Fitting: H132mm x W56mm x D127mm Reading Wall Light with ON/OFF Switch on the base complete with 1 x GU10, Max 10 Watt. similar or approved to "GU10 Spazio"</u>				
72	-Supply	No	12		
73	-Install	No	12		
	<u>LED GU10 lamp, max 10W. LM 6 die cast and extruded aluminum. Adjustable trunnion arm or spike mounted. IP65. Similar or approved to "Regent Kevo"</u>				
74	-Supply	No	8		
75	-Install	No	8		
	<u>Black Round Casper Wall Lamp, LED 8W, Metal, Warm White colour, Size: 15 x 15 x 5 cm, IP54.</u>				
76	- Supply	No	4		
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77	- Install	No	4		
	<u>21W LED bollard light. Buried version - GRP pole, IP 66. Similar or approved to "Beka Semita"</u>				
78	- Supply	No	9		
79	- Install	No	9		
	<u>21W LED wall-mount light, Wall-mount: 139xØ167, IP 66. Similar or approved to "Beka Semita Bulkhead"</u>				
80	- Supply	No	4		
81	- Install	No	4		
	<u>20W LED Floodlight, IP65</u>				
82	- Supply	No	1		
83	- Install	No	1		
	<u>Fire resistant braai area light 7W-10W LED light fitting. Suitable for fire exposure.</u>				
84	- Supply	No	4		
85	- Install	No	4		
	<u>Surface/Recessed mounted Rectangular 1200mm x 300mm LED panel luminaire, similar or equal and approved to "Regent Luxon Rectangular 1200 x 600/ 50 Watt LED Panel".</u>				
86	- Supply	No	1		
87	- Install	No	1		
	<u>LED, 201 Stainless Steel Bathroom Mirror Light or Picture Light with PC Diffuser, IP20, Colour: Black – 9W LED (Included) Colour Temp: 4000K Lumen: 540. Similar or approved to "Brightstar WB272 BLACK"</u>				
88	- Supply	No	8		
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89	- Install	No	8		
	<u>Downlight with metal body, suitable for 5W Gu10 LED lamps. Similar or approved to "Spazio 2030 DOWNLIGHT"</u>				
90	- Supply	No	8		
91	- Install	No	8		
	<u>LIGHT SWITCHES</u>				
	<u>Crabtree Classic light switch 100x50mm complete with coverplate and 100x50mm galvanised wall box (flush mount)</u>				
92	1-lever - 1 way - Supply	No	38		
93	- Install	No	38		
	<u>Crabtree Classic light switch 100x50mm complete with coverplate and 100x50mm galvanised wall box (flush mount)</u>				
	<u>1-lever, 2-way</u>				
94	-Supply	No	4		
95	-Install	No	4		
	<u>Crabtree Classic light switch 100x50mm complete with coverplate and 100x50mm galvanised wall box (flush mount)</u>				
	<u>2-lever, 1-way</u>				
96	-Supply	No	9		
97	-Install	No	9		
	<u>Crabtree Classic light switch 100x50mm complete with coverplate and 100x50mm galvanised wall box (flush mount)</u>				
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	<u>2-lever, 2-way</u>				
98	-Supply	No	8		
99	-Install	No	8		
	<u>Photoelectric Day/Night Sensors with Enclosure</u>				
100	-Supply	No	3		
101	-Install	No	3		
	<u>SMALL POWER & POWER SKIRTING</u>				
	<u>Provide Crabtree Classic socket outlet and isolators, 100x100mm complete with coverplate and 100x100mm galvanised wall box (flush mount). All socket outlets are required to have one three pin conventional plug and one RSA Euro/Diamond plug</u>				
	<u>Cover plates for socket outlets shall be of rust free metal, at least 1,2 mm thick. Paint finish shall be oven-baked enamel. The colour is as specified by the Architect or as reflected on the drawing</u>				
	<u>Single socket outlet 100mm x 100mm with diamond socket & new RSA Euro plug Flush mounted</u>				
102	- Supply	No	28		
103	- Install	No	28		
	<u>Double socket outlet 100mm x 100mm flush mounted</u>				
104	- Supply	No	44		
105	- Install	No	44		
	<u>Single socket outlet 100mm x 100mm with diamond socket, new RSA Euro and 2 USB charging points plug Flush mounted</u>				
106	- Supply	No	52		
107	- Install	No	52		
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	<u>Single socket outlet 100mm x 100mm with diamond socket & new RSA Euro plug Flush mounted in a water tight box</u>				
108	- Supply	No	9		
109	- Install	No	9		
	<u>100x100x50mm wall boxes SABS approved galvanised pressed steel for building flush into brickwork or cast into concrete work - for socket outlets</u>				
110	- Supply	No	133		
111	- Install	No	133		
	<u>100x50x50mm wall boxes SABS approved galvanised pressed steel for building flush into brickwork or cast into concrete work - for light switches</u>				
112	- Supply	No	59		
113	- Install	No	59		
	<u>Unswitched 5A Socket outlets (for lights)</u>				
114	- Supply	No	179		
115	- Install	No	179		
	<u>30A 2 Pole Isolator- for aircon and extraction fans</u>				
116	- Supply	No	20		
117	- Install	No	20		
	<u>10A 2 Pole Isolator - 100mm x 50mm Isolator flush mount (Guard house)</u>				
118	- Supply	No	2		
119	- Install	No	2		
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<u>50A 2 Pole Isolator - for stove flush mounted</u>			
120	- Supply	No	4
121	- Install	No	4
<u>DATA & SATELITE TV OUTLET</u>			
<u>Supply and Install Data outlet on wall box at 400mm AFFL or as indicated on drawings</u>			
122	- Supply	m	29
123	- Install	m	29
<u>Supply and Install Satilite TV outlet on wall box at 1200mm AFFL or as indicated on drawings</u>			
124	- Supply	No	16
125	- Install	No	16
<u>POWER SKIRTING</u>			
<u>Supply and Install N8/P801 Steel 2 Compartment Power Skirting, Easter Oak, with End Caps, Slices and Accessories</u>			
126	- Supply	m	15
127	- Install	m	15
<u>Supply and Install Power Skirting Socket Outlet and Covers, Normal white</u>			
128	- Supply	No	3
129	- Install	No	3
<u>Supply and Install Power Skirting Socket Outlet and Covers, Euro on power skirting</u>			
130	- Supply	No	3
131	- Install	No	3
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	<u>Supply and Install Power Skirting Socket Outlet and Covers, Dedicated Red</u>				
132	- Supply	No	3		
133	- Install	No	3		
	<u>Supply and Install Power Skirting RJ45 Data Outlet with Cover</u>				
134	- Supply	No	3		
135	- Install	No	3		
	<u>DISTRIBUTION BOARDS</u>				
	<u>Supply and install Distribution Boards in accordance with SANS10142</u>				
	<u>Distribution boards to comply to the requirements in the specification documents and on the schematics</u>				
	<u>Shop drawings are required to be approved prior to manufacture</u>				
	<u>DB.001 According to the specification and Schematics</u>				
136	- Supply	No	1		
137	- Install	No	1		
	<u>DB.002 According to the specification and Schematics</u>				
138	- Supply	No	1		
139	- Install	No	1		
	<u>DB.003 According to the specification and Schematics</u>				
140	-Supply	No	1		
141	- Install	No	1		
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	<u>DB.004 According to the specification and Schematics</u>				
142	Supply	No	1		
143	Install	No	1		
	<u>DB.G According to the specification and Schematics</u>				
144	- Supply	No	1		
145	- Install	No	1		
146	3-Phase meter installed inside the Kiosk	No	1		
	<u>LIGHTNING PROTECTION AND EARTHING</u>				
	<u>Supply and install lightning protection system in accordance with SANS10142-1. Copper Earthing straps to be bonded and earthed according to SANS10142.</u>				
	<u>Provide an installation in accordance with the requirements of SANS62305-3.</u>				
	<u>8m x 50mm² solid round aluminum down conductor bonded to the roof sheeting, gutters, etc. and terminating in a flush mount test point enclosure</u>				
147	- Supply	No	10		
148	- Install	No	10		
	<u>Test point enclosure with bi metallic connector, flush mounted to outside of structure</u>				
149	- Supply	No	10		
150	- Install	No	10		
	<u>3m x 50mm² stranded insulated copper conductor from lightning protection test point to earth spike, using appropriate connectors</u>				
151	- Supply	No	10		
152	- Install	No	10		
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<u>1.5m copper clad steel SABS approved earth rods with clamp driven 1.35m away from the building</u>			
153	- Supply	No	10
154	- Install	No	10
155	All additional components required to bond and to complete the lightning protection installation to achieve the required resistance values		Item
156	Lightning Resistivity Testing post installation of earth electrodes and certification of lightning protection system by external specialist		Item
157	Type B earth electrode - 50mm ² stranded bare copper conductor trenched and installed 0.5m below ground level, connected to each earth spike with an appropriate connectors		Item
158	Add for profit		%
159	Add for general attendance		%
160	Bonding using 4mm ² copper straps to all equipment such as water heaters etc. as per SANS10142-1	m	1
<u>POWER SUPPLY</u>			
161	Application and payment of necessary fees to the Electrical supply authority including transformer, metering kiosk and necessary cabling infrastructure required for a 32kVA supply		Item
162	Add for profit		%
163	Add for general attendance		%
<u>SOLAR SOLUTION</u>			
<u>The solar system must be installed by a qualified electrician in possession of a solar Green card. The final installation must be certified by a professional engineer.</u>			
<u>SOLAR PANELS</u>			
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	<u>8kW Hybrid solar inverter. NRS approved. SUNSYNK, SOLIS or other approved brand with all necessary interface modules and connections for masters & slaves , electrical cables and data communication unit,router with Ethernet connection, connectable in parallel and modularly extendable. The Inverter must include the following concepts such as (Ac and DC coupling, High efficiency, intelligent battery management for maximum battery life, charge level calculation, extreme overload capability, and battery temperature sensing and battery current measurements) - For each Unit</u>				
164	- Supply	No	4		
165	- Install	No	4		
	<u>3,6kW Hybrid solar inverter. NRS approved. SUNSYNK, SOLIS or other approved brand with all necessary interface modules and connections for masters & slaves , electrical cables and data communication unit,router with Ethernet connection, connectable in parallel and modularly extendable. The Inverter must include the following concepts such as (Ac and DC coupling, High efficiency, intelligent battery management for maximum battery life, charge level calculation, extreme overload capability, and battery temperature sensing and battery current measurements) - For Guard House</u>				
166	- Supply	No	1		
167	- Install	No	1		
	<u>675W Tier 1 Canadian Solar/JA Solar Panels. The Solar Modules will have output cables of 4mm² and have leads of of 1m in length for both anode and cathode. Similar or approved brands are acceptable at the engineers descretion</u>				
168	- Supply	No	44		
169	- Install	No	44		
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	<u>Supply and Install Aluminuim Mounting Structure suitable to the dimension of selected PV modules and PV numbers, the mounting provides a fixed inclination of the modules, plates and screws. The mounting structures must be installed structurally to be suitable to withstand all static loads (weight of modules, wind loads etc) that might occur according to the Site conditions. The mounting structure components are bonded together to guaranty potential equalization including all associated accessories for the type of roof that will be installed rated per Solar Panel</u>			
170	- Supply	No	44	
171	- Install	No	44	
	<u>4mm² single core 1000V Cu solar cable - red and black complete with cable jointing accessories</u>			
172	- Supply	m	150	
173	- Install	m	150	
	<u>4mm² Insulated Cu\ earth cable</u>			
174	- Supply	No	150	
175	- Install	m	150	
	<u>SOLAR BATTERIES</u>			
	<u>10kW Lithium Ion "Freedom Won" Batteries or similar or approved brand are acceptable at the engineers descretion. The batteries must provide high-quality and achieving superior performance, the manufacturing date must be new and suitable for every type of applications especially for solar renewable energy, designed Service Life 10 years with low internal resistance, designed to be deeply discharged. The Battery should provide benefits of being maintenance free, case flame retardant & non-hazardous. The price Includes supply, install &connect Battery temp. sensor (BTS).The contractor must submit manufacturer warranty for batteries for a period 10 years. - For each Unit</u>			
176	- Supply	No	8	
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177	- Install	No	8		
	<p><u>5kW Lithium Ion "Freedom Won" Batteries or similar or approved brand are acceptable at the engineers discretion. The batteries must provide high-quality and achieving superior performance, the manufacturing date must be new and suitable for every type of applications especially for solar renewable energy, designed Service Life 10 years with low internal resistance, designed to be deeply discharged. The Battery should provide benefits of being maintenance free, case flame retardant & non-hazardous. The price Includes supply, install & connect Battery temp. sensor (BTS).The contractor must submit manufacturer warranty for batteries for a period 10 years. - For Guard house</u></p>				
178	- Supply	No	2		
179	- Install	No	2		
	<p><u>DC Inline Fuse & MC4 connectors per string (positive & negative)</u></p>				
180	- Supply	No	18		
181	- Install	No	18		
	<p><u>Combiner boxes with Class I Surge Arrestors and DC Switch Disconnectors complete with 2 x DC disconnects 1000V and 2 x fuse disconnectors with 15A fuses</u></p>				
182	- Supply	No	5		
183	- Install	No	5		
	<p><u>15A DC isolators</u></p>				
184	- Supply	m	9		
185	- Install	No	9		
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	<u>80A AC isolators</u>				
186	- Supply	No	10		
187	- Install	No	10		
	<u>60A break/make by-pass change over switch to switch back-up load to grid supply in the event of INVERTER failure</u>				
188	- Supply	No	5		
189	- Install	No	5		
	<u>Earthing System for Battery Bank</u> <u>Supply,install,connect and operate complete independent earthing system for Battery Banks system, must be separated of the main earthing system to obtain 2 ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts , conduits and 50 mm2 flexible earthing copper wires and cables from the Negative bus bar in the battery fuse box to the electrode to complete the system as specifications and engineer instruction's and approval. The earthing should be done for each battery bank installed in each house unit</u>				
190	- Supply	No	5		
191	- Install	No	5		
	<u>Earthing System for PV System</u> <u>Supply,install,connect and operate complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2 ohm max resistance. the item includes (2 copper electrodes 15mm² driven into ground, manholes with iron cover, earth joints, clamps, ducts , conduits and 25 mm² flexible earthing copper wires and cables from the PV system components to the electrode to complete the system as specifications and engineer instruction's and approval.</u>				
192	- Supply	No	10		
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193	- Install	No	10		
	<u>Supply and Install P2000 Trunking complete with accessories</u>				
194	- Supply	m	100		
195	- Install	m	100		
196	Supply and Install ECO RUBBER waterproofing for PV system and associated equipment		Item		
	<u>Supply and Install Onesto DIN slim indication lights in each house unit DB board</u>				
197	- Supply	No	8		
198	- Install	No	8		
	<u>Supply and Install signage indicating dual electrical supply for DB in each house unit</u>				
199	- Supply	No	4		
200	- Install	No	4		
	<u>200A double pole isolator (fused) for battery disconnection</u>				
201	- Supply	No	4		
202	- Install	No	4		
	<u>100A double pole isolator (fused) for battery disconnection</u>				
203	- Supply	No	1		
204	- Install	No	4		
205	Certification of Solar Solution for each house unit and guard house	No	5		
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	<u>ELECTRIC FENCE</u>				
206	Provision of a supply and installation of Electrical fence around the boundary wall, including energiser, cabling, earthing, signage, protecting devices and certification		Item		150 000.00
207	Add for profit			%	
208	Add for general attendance			%	
	<u>CCTV SYSTEM</u>				
	<u>12 Channel NVR</u>				
209	- Supply	No	1		
210	- Install	No	1		
	<u>Infra Red 4MB avigilon bullet camera</u>				
211	- Supply	No	9		
212	- Install	No	9		
	<u>1TB Hard drive</u>				
213	- Supply	No	1		
214	- Install	No	1		
	<u>42'' Plasma Screen</u>				
215	- Supply	No	1		
216	- Install	No	1		
	<u>Cat 6 cable</u>				
217	- Supply	m	200		
218	- Install	m	200		
219	Installing and Commissioning		Item		
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220	Provide manuals and technical literature for the system and its components	Item		
221	Any additional items required for the successful completion of the above		SUM	
<u>ALARM SYSTEM</u>				
222	Provision of a supply and installation of alarm system.	Item		90 909.09
223	Add for profit		%	
224	Add for general attendance		%	
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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 1</u></p> <p><u>PROVISIONAL SUMS</u></p> <p><u>PREAMBLES</u></p> <p>For preambles see " Specification of materials and methods to be used - PW 371"</p> <p>Relevant parts of the SANS10400 Series of Standards and application of the National Building Regulations form part of the specification and shall be strictly adhered to.</p> <p>Relevant parts of the SANS2001 Series of Standards form part of the specification and shall be strictly adhered to.</p> <p>Project specific document</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Cash discount</u></p> <p>No cash discount. All provisional sums are "NET"</p> <p><u>Fuel, power and water for commissioning plant</u></p> <p>The cost of water, power and fuel for the commissioning of plant shall be borne by the Selected or Nominated Sub-contractor appointed for the relevant selected or nominated sub-contract works in terms of the conditions under which they have/are contracted for the specialist work involved</p> <p><u>Community Liaison Officer (CLO)</u></p> <p>The CLO's duties will include EPWP reporting on a monthly basis</p> <p>The Contractor must issue copies of CLO's payslips tpo the PA and IDT on a monthly basis</p>			
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Profit

Provisional sums are net and do not include builder's discount. The Contractor may allow next to "Profit" items for any profit he might consider necessary

Attendance

It will be expected from the Contractor to render all general attendance and, if specifically so described, special attendance services to each relevant Specialist, all in accordance with the Clauses set out in the "Preliminaries" section

The item "Attendance" which follows each of the provisional sums for nominated and/or selected sub-contractors' work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the Nominated and/or Selected Sub-contractors, the following:

- 1 The services as set out in the clauses in the "Preliminaries" section
- 2 Making good in all trades and cleaning down and removal of rubbish on completion

The Contractor may allow next to "Attendance" items for the recovery of such costs he might consider necessary

Also refer to the Clauses in the "Preliminaries" section for the definitions and adjustment of "Attendance" and "Special Attendance" respectively

All provisional sums cover the supply and installation of material, equipment, plant, etc., including the commissioning thereof, where applicable

Community Liaison Officer

- 1 Provide the amount of R100,000.00 (One hundred thousand rand) for community liaison officer
- 2 Allow for profit on above if required
- 3 Allow for attendance

Item

100 000.00

%

%

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Loose Furniture

- 4 Provide the amount of R820,000.00 (Eight hundred and twenty thousand rand) for loose furniture
- 5 Allow for profit on above if required
- 6 Allow for attendance

Item		820 000.00
	%	
	%	

Appliances

- 7 Provide the amount of R370,000.00 (Three hundred and seventy thousand rand) for appliances
- 8 Allow for profit on above if required
- 9 Allow for attendance

Item		370 000.00
	%	
	%	

Blinds

- 10 Provide the amount of R140,000.00 (One hundred and forty thousand rand) for blinds
- 11 Allow for profit on above if required
- 12 Allow for attendance

Item		140 000.00
	%	
	%	

Built-In Cupboards and Worktops

- 13 Provide the amount of R1 200,000.00 (One million two hundred thousand rand) for joinery and fittings
- 14 Allow for profit on above if required
- 15 Allow for attendance

Item		1 200 000.00
	%	
	%	

Sanitary plumbing

- 16 Provide the amount of R400,000.00 (Four hundred thousand rand) for sanitary plumbing
- 17 Allow for profit on above if required
- 18 Allow for attendance

Item		400 000.00
	%	
	%	

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<u>Sanitary fittings</u>			
19	Provide the amount of R50,000.00 (Fifty thousand rand) for sanitary fittings	Item	50 000.00
20	Allow for profit on above if required	%	
21	Allow for attendance	%	
<u>Staircases</u>			
22	Provide the amount of R120,000.00 (One hundred and twenty thousand rand) for staircases	Item	120 000.00
23	Allow for profit on above if required	%	
24	Allow for attendance	%	
<u>Mechanical works</u>			
25	Provide the amount of R580,000.00 (Five hundred and eighty thousand rand) for mechanical works	Item	580 000.00
26	Allow for profit on above if required	%	
27	Allow for attendance	%	
<u>Sewer, water and fire reticulation works</u>			
28	Provide the amount of R140,000.00 (One hundred and forty thousand rand) for sewer, water and fire reticulation works	Item	140 000.00
29	Allow for profit on above if required	%	
30	Allow for attendance	%	
<u>Root barriers</u>			
31	Provide the amount of R50,000.00 (Fifty thousand rand) for root barriers	Item	50 000.00
32	Allow for profit on above if required	%	
33	Allow for attendance	%	
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		Item	
	<u>Contingency sum</u>		
34	Allow the amount of R1 200,000 (One million two hundred thousand rand) for Contingencies for building work, to be used as directed by the Principal Agent and deducted in whole or in part if not required		1 200 000.00
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	Sub-Total		R	
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