

SECTION NO. 1
PRELIMINARIES

	Unit	Quantity	Rate	Amount
<u>SECTION NO.1</u>				
<u>BILL NO. 1</u>				
<u>PRELIMINARIES</u>				
<u>NOTES</u>				
<u>The works information and NEC contract conditions are to be studied carefully when pricing the items in the Bill of Quantities</u>				
<u>FIXED CHARGE ITEMS</u>				
1	Contractual requirements	Item	1	
<u>Facilities for Contractor on site:</u>				
2	Offices and storage sheds	Item	1	
3	The Contractor shall provide a Container that will be used as a temporal Kitchen/Canteen during the Construction period refers to the architecture's scope of work at 1.3.1.	Item	1	
4	Ablutions	Item	1	
5	Water, electricity and communication	Item	1	
6	Fencing for site establishment and recreational working area.	Item	1	
7	Tools and equipment	Item	1	
8	Water, electricity and communications	Item	1	
9	Access and access control	Item	1	
10	Removal of site establishment	Item	1	
11	Rehabilitate site establishment area	Item	1	
<u>Other fixed obligations:</u>				
12	(i) Health & safety obligations as per H&S specifications, including provision of risk assessments, project specific H&S plan, H&S safety file, training, medical assessments.	Lump Sum	1	
13	(ii) Compliance with COVID 19 regulations	Lump Sum	1	
<u>Time related items:</u>				
14	Contractual requirements	Months	5	
<u>Operation and maintenance of facilities on site for duration of construction except where stated</u>				
<u>Facilities for the Contractor:</u>				
15	Offices and storage	Months	5	
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	The Contractor shall provide a Container that will be used as a temporal Kitchen/Canteen during the Construction period refers to the architecture's scope of work at 1.3.1.	Months	5	
16	Handover Clean	Months	5	
17	Ablutions	Months	5	
18	Tools and Equipment	Months	5	
19	Water and electricity	Months	5	
20	Scaffolding	Months	5	
21	Supervision	Months	5	
22	Transport	Months	5	
23	Crainage	Months	5	
24	Security	Months	5	
25	IT and communications	Months	5	
26	Skips,etc	Months	5	
	<u>Other items:</u>			
27	Complying with Environmental Specifications	Months	5	
28	Complying with Health and Safety Specifications	Months	5	
29	Complying with the Industrial Relations	Months	5	
30	Compliance with COVID 19 regulations	Months	5	
	<u>Professional Services (refer to works information):</u>			
	<u>Professional Electrical Engineer/ Pr. Eng Technologist:</u>			
31	(i) ECSA Registered Electrical Engineer for the design including issuing of approved for construction (AFC) drawings, intergration with other disciplines, commisining and close-out documentations for Electrical works as detailed in the works information.	Months	5	
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32	(ii) Technical Management Packs - incl. data books, quality control documentation, operation and maintenance manuals, as-built drawings, technical monthly reports, engineering technical monthly queries, Final close out reports, etc.	Months	5	
33	(iii) Supervision for duration of construction (monitoring, quality control, etc.)	Months	5	
34	(iv) Project Progress Meetings	Months	5	
<u>Professional Mechanical Engineer/ Pr. Eng Technologist:</u>				
35	(i) ECSA Registered Mechanical Engineer for the design including issuing of approved for construction (AFC) drawings, intergration with other disciplines, commisining and close-out documentations for Electrical works as detailed in the works information.	Months	5	
36	(ii) Technical Management Packs - incl. data books, quality control documentation, operation and maintenance manuals, as-built drawings, technical monthly reports, engineering technical monthly queries, Final close out reports, etc.	Months	5	
37	(iii) Supervision for duration of construction (monitoring, quality control, etc.)	Months	5	
38	(iv) Project Progress Meetings	Months	5	
<u>Professional Civil/ Structural Engineer/ Pr. Eng Technologist:</u>				
39	(i) ECSA Registered Civil/ Structural Engineer for the design including issuing of approved for construction (AFC) drawings, intergration with other disciplines, commisining and close-out documentations for Electrical works as detailed in the works information.	Months	5	
40	(ii) Technical Management Packs - incl. data books, quality control documentation, operation and maintenance manuals, as-built drawings, technical monthly reports, engineering technical monthly queries, Final close out reports, etc.	Months	5	
41	(iii) Supervision for duration of construction (monitoring, quality control, etc.)	Months	5	
42	(iv) Project Progress Meetings	Months	5	
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SECTION NO. 2
BUILDING WORKS

Unit	Quantity	Rate	Amount
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SECTION NO. 2
BUILDING WORKS
BILL NO. 1
ALTERATIONS

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

Proprietary items or materials:

Proprietary items or materials where specified are to be of the brand specified - or other approved - by the Project Manager.

View Site:

Before submitting this tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained.

Carried to Collection

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Section No. 2
 Bill No. 1
 Alterations

	Unit	Quantity	Rate	Amount
<u>General:</u>				
The contractor shall carry out the whole of the works with as little mess and noise as possible and with a minimum of disturbance to adjoining premises and their tenants. He shall provide proper protection and provide, erect and remove when directed, any temporary tarpaulins that may be necessary during the progress of the works, all to the satisfaction of the Project Manager.				
Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc. and making good floor and wall finishes to match existing				
<u>TEMPORARY BARRIERS, SCREENS, ETC.</u>				
<u>Temporary barriers, screens, etc including removal.</u>				
1		Drywall barrier 3200mm high of galvanised steel channel section rails and studs covered on one side with 12,7mm gypsum plasterboard and finished with two coats interior quality PVA emulsion paint, including corners, ends, etc		
	m		156	
		GF-W 33 FF-W 20 FF-E 18 SF-W 33 TF-E 10 4F-W 2 4F-E 16 BF-1 8 BF-2 16		
2		Extra over for hollow core single door size 813 x 2032mm high, including steel frame, two-lever mortice lock, hinges, primer and two coats paint		
	No		47	
		GF-W 8 GF-E 7 FF-W 6 FF-E 4 SF-W 4 SF-E 6 TF-E 4 4F-W 2 4F-E 2 BF-1 2 BF-2 2		
<u>REMOVAL OF EXISTING WORK</u>				
<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u>				
<u>REMOVAL OF EXISTING WORK .</u>				
3		Allow for watering, cleaning, protection, etc. of the works to prevent any nuisance of dust, noise, pollution, etc. and supply, erect and remove on completion all temporary dust screens, signs, etc. required for the working regulation compliances. (for entire working area)		
	Item			
		I 1		
			Carried to Collection	
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Bill No. 1				
Alterations				

		Unit	Quantity	Rate	Amount
14	Heavy Duty Roller Shutter Door steel with size 4800 x 2100mm opening size locked side and wall, locks to be fitted on both sides internally finish floor level, components including end plates, guide rails, 400mm wide grinate counter top, etc. from brickwalls / concrete, etc. GF-W 1	No	1		
15	Heavy Duty/Special Sliding timber room diving panels with steel and system tracks and frame size 14800 x 3200mm high overall from brickwalls, concrete, roof, etc. GF-E 1	No	1		
16	Heavy Duty/Special projector board or screen / frame with hanger size 2250 x 3600mm high overall from brickwalls, concrete, roof, etc. GF-W 1	No	1		
17	Heavy Duty/Special video screen or television with hanger size 2250 x 3600mm high overall together with projector from brickwalls, concrete, roof, etc. GF-E 1	No	1		
18	Heavy Duty/Special Granite counter planter box (trough planter) plugged on floor size 4517 x 600 x 1200mm high, store in contractor's store, set aside for re-use and install later. GF-E 2	No	2		
19	Heavy Duty/Special Granite counter planter box (trough planter) plugged on floor size 2300 x 600 x 1200mm high store in contractor's store, set aside for re-use and install later. GF-E 2	No	2		
20	Heavy Duty cabinet plugged on floor & wall size 2500 x 600 x 2200mm high store in contractor's store, set aside for re-use and install later. RK 1	No	1		
21	1500x2700mm high blinding including sundry items, etc. store in contractor's store, set aside for re-use and install later. RK 6 <u>Taking out and removing doors, windows, etc. including thresholds, sills, etc (building up openings and making good finishes elsewhere measured)</u>	No	6		
22	Glazed Aluminium window not exceeding 2,5m². RK 1	No	1		
Carried to Collection					
Section No. 2					
Bill No. 1					
Alterations					
				R	

		Unit	Quantity	Rate	Amount
40	Aluminium shopfronts, fixed light and frame size 5000 x 3400mm high with double door size 1800 x 2300mm high and make good to receive new shopfront (new shopfront elsewhere measured). GF-W 1	No	1		
41	Aluminium shopfronts, fixed light and frame size 9000 x 3400mm high with double door size 2000 x 2300mm high and make good(new shopfront elsewhere measured). RK 1	No	1		
	<u>Hacking up/off and removing granolithic, screeds, plaster, etc. from concrete or brickwork and preparing surfaces for new screed, plaster, tile finishes, etc.:</u>				
42	Internal plaster from walls and columns. GF-W 20	m ²	20		
43	External plaster from walls, columns and beams. GF-W 13	m ²	13		
	<u>Hacking up/off and removing ceramic tiles including removing mortar bed or adhesive from concrete or brickwork and preparing surfaces for new screed, plaster, tile finish, etc.:</u>				
44	Tiles to floors including aluminium dividing strips. GF-W 522 GF-E 188 FF-W 55 FF-E 81 SF-W 100 SF-E 89 TF-E 29 4F-W 13 4F-E 24 BF-1 33 RK 63	m ²	1,197		
45	Tiles to walls. GF-W 285 BF-1 33	m ²	318		
46	Interior stone to walls. RK 21	m ²	21		
	<u>Taking out and removing piping, sanitary fittings, etc., including cutting off as necessary, disconnecting piping from fittings and making good floor and wall finishes (making good tiling and paintwork elsewhere):</u>				
47	15mm Copper piping including fittings and brackets and blanking off in walls. GF-W 5	m	5		
48	22mm Copper piping including fittings and brackets and blanking off in walls. GF-W 12	m	12		
49	28mm Copper piping including fittings and brackets and blanking off in walls. GF-W 5	m	5		
	Carried to Collection				
	Section No. 2			R	
	Bill No. 1				
	Alterations				

	Unit	Quantity	Rate	Amount
60 Walls where one brick walls removed. GF-W 14	m	14		
61 Chase for 15mm diameter pipes. GF-W 10	m	10		
62 Chase for 22mm diameter pipes. GF-W 23	m	23		
63 Chase for 28mm diameter pipes. GF-W 22	m	22		
64 Chase for 40mm diameter pipes. GF-W 33	m	33		
65 Chase for 50mm diameter pipes. GF-W 2	m	2		
66 Chase for 15mm diameter pipes including 'Menlath 213' galvanised 'Mentex' plaster mesh fixed to concrete or brickwork. GF-W 4	m	4		
67 Chase for 20mm diameter pipes including "Menlath 213" galvanised "Mentex" plaster mesh fixed to concrete or brickwork. (Provisional) GF-W 5	m	5		
68 Chase for 22mm diameter pipes including 'Menlath 213' galvanised 'Mentex' plaster mesh fixed to concrete or brickwork. GF-W 12	m	12		
<u>BUILDING UP OPENINGS</u>				
<u>Brickwork in NFP bricks in class II mortar in building up openings</u>				
69 One brick walls GF-W 3 RK 4	m ²	7		
<u>PREPARATORY WORK TO EXISTING SURFACES</u>				
<u>Preparatory work to existing surfaces:</u>				
70 Prepare existing painted walls to receive skim coat plaster. TF-E 10	m ²	10		
71 Prepare existing painted walls to receive ceramic tiles. GF-W 67 RK 67	m ²	134		
Carried to Collection			R	
Section No. 2				
Bill No. 1				
Alterations				

	Unit	Quantity	Rate	Amount
<u>OPENINGS THROUGH EXISTING WALLS ETC</u>				
<u>Breaking out for and forming plain openings through brick walls, including prestressed concrete lintels, making good cement plaster on both sides and into reveals and making good 'Prostruct ' polyurethane coating where disturbed. (making good paintwork elsewhere)</u>				
72	No	1		
Opening size 813 x 2032mm high through one brick wall for door. (door elsewhere measured). RK 1				
73	No	1		
Opening size 1500 x 1200mm high through 270mm cavity wall for folding window. (window elsewhere measured). RK 1				
74	No	1		
Opening size 900 x 2100mm high through dry wall partitioning for door. (door elsewhere measured). 4F-E 1				
<u>Breaking out for and forming plain openings through brick walls, including prestressed concrete lintels, making good cement plaster on both sides and into reveals. (making good paintwork elsewhere measured)</u>				
75	No	3		
Hole through half brickwall for pipe not exceeding 50mm diameter. GF-W 3				
76	No	2		
Hole through half brickwall for pipe exceeding 50mm not exceeding 100mm diameter. GF-W 2				
77	No	4		
Hole through half brickwall for pipe exceeding 100mm not exceeding 150mm diameter. GF-W 4				
Carried to Collection				
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Bill No. 1				
Alterations				

BILL NO. 1
ALTERATIONS
COLLECTION

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Section No. 2
Bill No. 1
Alterations

Unit Quantity Rate Amount

SECTION NO. 2
BUILDING WORKS
BILL NO. 2
EARTHWORKS

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

Trade Preambles:

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SUPPLEMENTARY PREAMBLES

Nature of ground:

The nature of the ground is assumed to be earth, but possibly interspersed with hard rock or soft rock.

Carting away of excavated material:

Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site.

Demolition:

The contractor is to visit the site, and inspect the works to be demolished and price accordingly. No claims for additional cost in regard of demoliitions will be considered.

Carried to Collection

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Section No. 2
 Bill No. 2
 Earthworks

Amount

BILL NO. 2
EARTHWORKS
COLLECTION

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Section No. 2
Bill No. 2
Earthworks

Unit Quantity Rate Amount

SECTION NO. 2
BUILDING WORKS
BILL NO. 3
CONCRETE, FORMWORK AND REINFORCEMENT

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

Trade Preambles:

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SUPPLEMENTARY PREAMBLES

Cost of tests:

The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Architect. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Architect. (Test cubes are measured separately).

Breeze Concrete:

Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (12:1), the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated.

Carried to Collection

R

Section No. 2
 Bill No. 3
 Concrete, Formwork And Reinforcement

		Unit	Quantity	Rate	Amount
	<u>Rough Formwork to Sides and Soffits:</u>				
13	Edges of roof slab propped up exceeding 3,5m and not exceeding 5m high. RK 28	m ²	28		
	<u>MOVEMENT JOINTS ETC.</u>				
	<u>Saw cut joints:</u>				
14	Saw cut joint in top of concrete formed of a 10mm x 60mm first cut not later than 1 day after casting concrete and 6mm x 20mm second cut at top of joint made 21 days after casting. RK 34	m	34		
	<u>Expansion joints with bitumen impregnated softboard between vertical concrete surfaces:</u>				
15	10mm Joints not exceeding 300mm high. RK 15	m	15		
	<u>'Sondor Jointex' closed cell expanded polyethylene between vertical concrete surfaces:</u>				
16	10mm Joints not exceeding 300mm high. RK 21	m	21		
	<u>'Sondor Jointex' closed cell expanded polyethylene between vertical concrete and brick surfaces:</u>				
17	10mm Joints not exceeding 330mm high. RK 23	m	23		
	<u>Vertical joggle construction joints through concrete including applying bond breaker to mating face and finishing joint with a nosing tool:</u>				
18	Surface beds not exceeding 300mm thick. RK 67	m	67		
	<u>REINFORCEMENT</u>				
	<u>Mild steel reinforcement to structural concrete work:</u>				
19	12mm Diameter bars. RK 1.45 CWK 1.2	Tonnes	2.65		
20	10mm Diameter bars. RK 0.51 CWK 0.21	Tonnes	0.72		
21	8mm Diameter bars. RK 0.51 CWK 0.21	Tonnes	0.72		
	<u>High tensile steel reinforcement to structural concrete work:</u>				
22	32mm Diameter bars. RK 0.51 CWK 0.21	Tonnes	0.72		
	Carried to Collection			R	
	Section No. 2				
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	Concrete, Formwork And Reinforcement				

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BILL NO. 3
CONCRETE, FORMWORK AND REINFORCEMENT
COLLECTION

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Section No. 2
Bill No. 3
Concrete, Formwork And Reinforcement

Unit Quantity Rate Amount

SECTION NO. 2
BUILDING WORKS
BILL NO. 4
MASONRY

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

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SUPPLEMENTARY PREAMBLES

BRICKWORK

Sizes in descriptions:

Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick.

Hollow walls etc:

Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.

Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats 'Brixal' bitumen emulsion waterproofing coating.

Carried to Collection

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Section No. 2
 Bill No. 4
 Masonry

Amount

BILL NO. 4
MASONRY
COLLECTION

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Carried To Section Summary

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Section No. 2
Bill No. 4
Masonry

SECTION NO. 2
BUILDING WORKS
BILL NO. 5
WATERPROOFING

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

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SUPPLEMENTARY PREAMBLES

Waterproofing:

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

DAMPPROOFING OF WALLS AND FLOORS.

One layer of 375 micron Consol Plastics Brikqrip DPC embossed damp proof course:

1	In walls.	m ²	43	
	RK 43			

One layer of 250 micron Consol Plastics Brikqrip DPC embossed damp proof course:

2	Under surface beds.	m ²	147	
	RK 147			

Carried to Collection

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Section No. 2
 Bill No. 5
 Waterproofing

	Unit	Quantity	Rate	Amount
<u>Two coats 'ABE Brixéal' bitumen emulsion waterproof coating:</u>				
3 On bagged brick walls	m ²	95		
GF-E 7 RK 88				
<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC.</u>				
<u>One layer Derbigum SP4 waterproofing membrane, with 75mm side laps and 100mm end laps, sealed to primed surface to falls and crossfalls by 'torch-fusion'. Waterproofing to be installed by an Approved Derbigum Contractor under a ten year guarantee:</u>				
4 On flat roofs	m ²	57		
RK 57				
5 On turn-ups and turn-downs exceeding 300mm girth.	m ²	28		
RK 28				
6 Additional membrane 300mm girth at internal and external angles.	m	32		
FF-W 4 RK 28				
7 Additional membrane and sealing into 80mm diameter outlet.	No	2		
RK 2				
8 Additional membrane and sealing into 100mm diameter outlet.	No	2		
RK 2				
9 Additional membrane and sealing into 150mm diameter outlet.	No	2		
RK 2				
<u>PROTECTIVE ROOFING PAINT</u>				
<u>Two coats 'Roofcote' bituminous aluminium paint:</u>				
10 On waterproofing to roofs.	m ²	57		
RK 57				
<u>JOINT SEALANTS, ETC.</u>				
<u>Approved two-part polyurethane sealing compound including backing cord, bond breaker, primer, etc:</u>				
11 10 x 60mm In saw cut joints in floors	m	23		
RK 23				
12 10 x 20mm In isolation joints in floors including raking out expansion joint filler as necessary.	m	12		
RK 12				
Carried to Collection				
Section No. 2			R	
Bill No. 5				
Waterproofing				

		Unit	Quantity	Rate	Amount
13	10 x 10mm In expansion joints in walls including raking out expansion joint filler as necessary. GF-E 78 FF-W 477 RK 80 CWK 84 <u>Clear silicone sealant applied in accordance with the manufacturers instructions:</u>	m	719		
14	In joints between ceramic sanitary ware and ceramic tiles. RK 4	m	4		
15	In joints between stainless steel sanitary ware and ceramic tiles. GF-W 1 FF-W 1 TF-E 1 RK 1	m	4		
Carried to Collection				R	
Section No. 2					
Bill No. 5					
Waterproofing					

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WATERPROOFING
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Section No. 2
Bill No. 5
Waterproofing

Unit Quantity Rate Amount

SECTION NO. 2

BUILDING WORKS

BILL NO. 6

ROOF COVERINGS

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

RIBBED METAL SHEETING AND ACCESSORIES

Supplementary Preambles:

Guarantee All material will carry a manufacturer's guarantee and an approved contractor shall lay sheeting and accessories in strict accordance with the manufacturer's specifications

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Section No. 2
Bill No. 6
Roof Coverings

Amount

BILL NO. 6
ROOF COVERINGS
COLLECTION

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Section No. 2
Bill No. 6
Roof Coverings

Unit Quantity Rate Amount

SECTION NO. 2

BUILDING WORKS

BILL NO. 7

CARPENTRY AND JOINERY

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

Joinery:

Descriptions of frames shall be deemed to include frames, transoms, mullions, rails, etc.

Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes.

Fixing:

Items described as nailed shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete.

Decorative laminate finish:

Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish.

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Section No. 2
 Bill No. 7
 Carpentry And Joinery

Amount

BILL NO. 7
CARPENTRY AND JOINERY
COLLECTION

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Section No. 2
Bill No. 7
Carpentry And Joinery

Unit Quantity Rate Amount

SECTION NO. 2

BUILDING WORKS

BILL NO. 8

CEILING PARTITIONS AND ACCESS FLOORING

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

Proprietary items or materials:

Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.

Descriptions:

Items described as nailed shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete.

Items described as plugged shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as bolted the bolts have been given.

Carried to Collection

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Section No. 2

Bill No. 8

Ceilings Partitions And Access Flooring

	Unit	Quantity	Rate	Amount
<u>CEILING TIMBERS, BEADS, INSULATION, ETC.</u>				
<u>6,4mm Gypsum plasterboard with taped joints and the whole finished with gypsum plaster trowelled to a smooth polished surface to the thickness recommended by the manufacturer.</u>				
1				
	m ²	166		
FF-W 151	RK 15			
2				
	m ²	63		
RK 63				
3	m	10		
I 10				
4	No	8		
I 8				
5	No	4		
I 4				
6	No	4		
I 4				
7	No	2		
TF-E 2				
<u>Gypsum plasterboard cornices:</u>				
8	m	324		
FF-W 246	RK 78			
<u>6,4mm Gypsum plasterboard bulkhead with taped joints and the whole finished with gypsum plaster trowelled to a smooth polished surface to the thickness recommended by the manufacturer.</u>				
9	m	4		
GF-E 4				
Carried to Collection			R	
Section No. 2				
Bill No. 8				
Ceilings Partitions And Access Flooring				

		Unit	Quantity	Rate	Amount
10	Rectangular bulkhead, 1800 mm wide x 300mm high, including standard steel brandering at 400mm centres, joined with joiner sections and hung with suspension brackets. GF-E 2	m	2		
11	Rectangular bulkhead, 2400 mm wide x 300mm high, including standard steel brandering at 400mm centres, joined with joiner sections and hung with suspension brackets. GF-W 7	m	7		
12	Rectangular bulkhead, 3000 mm wide x 300mm high, including standard steel brandering at 400mm centres, joined with joiner sections and hung with suspension brackets. GF-E 2	m	2		
13	Extra over ceiling for opening for 210mm diameter downlighter or loudspeaker. GF-W 3 GF-E 2	No	5		
14	Extra over ceiling for opening for 150mm diameter sprinkler. GF-E 2 FF-W 3 I 8	No	13		
15	Extra over ceiling for size 600 x 1200mm opening for ventilation / air conditioning diffuser. GF-E 2 FF-W 3 I 3	No	8		
	<u>'Donn' prepainted cornices to suspended ceilings:</u>				
16	47 x 35mm 'SM25' recessed shadowline cornice plugged. (code LSM 25) RK 10	m	10		
	<u>SUSPENDED CEILINGS.</u>				
	<u>Suspended ceiling panels size 600 x 1200 x 15mm thick to match existing ceiling with tegular (reveal) edge, installed on Tee (Aluminium white-colour Zinc coating, AZ 50 standard) at 1200mm c/c suspended using Hanger Strap 19mm fixed to the Main Tee. Perimeter - T Shadow Line Wall Angle to the wall using fixings at 300mm centres strictly in accordance with the manufacturers instructions:</u>				
17	Ceilings suspended not exceeding 1m below concrete soffits GF-W 141 FF-W 432	m ²	573		
	Carried to Collection				
	Section No. 2				
	Bill No. 8				
	Ceilings Partitions And Access Flooring				
				R	

		Unit	Quantity	Rate	Amount
<u>PARTITIONS ETC (CPAP Work Group No 138)</u>					
<u>'Gyproc 3200 - 3620mm high GypWall Ultrasteel Stud Drywall' steel stud partitions, consisting of stud and track system with 70 x 50mm 'Donn Drywall UltraSTEEL™' studs at 600mm centres friction fitted into head track and floor track clad on both sides with one layer of 12,5mm thick Gyproc RhinoBoard fixed with 25mm and 42mm Gyproc RhinoBoard Sharp Point Screws at 220mm centres and resilient bars to one side with all external angles to have natural anodized aluminium channels attached and all joints to be covered with RhinoTape and finished with two layers of 'RhinoGlide' applied and lightly sanded down, skimmed, well painted with three coats, 100mm thick acoustic insulation in blanket form installed vertical, leaving wall surface prepared for painting and 70mm high natural anodised aluminium skirting, all in accordance with the manufacturer's recommendations:</u>					
24	Partitioning 3620mm high with bottom track plugged and top track fixed to concrete soffit, Rhino board to be 3700mm high (Partition studs project 150mm above ceiling level).	m	255		
	GF-W 88 GF-E 114 FF-W 9 FF-E 4 SF-W 5 TF-E 3 4F-W 3 4F-E 2 BF-2 27				
25	Extra over partition 3620mm high, Rhino board to be 3700mm high for vertical abutment. (Partition studs project 150mm above ceiling level).	No	18		
	GF-W 18				
26	Extra over partition 3600mm high for corner	No	11		
	GF-W 5 GF-E 4 SF-W 1 4F-W 1				
27	Extra over partition 3600mm high for irregular corner	No	2		
	SF-W 2				
28	Extra over partition 3600mm high for T-intersection	No	12		
	GF-W 1 GF-E 11				
29	Extra over partition 3600mm high for fair end	No	96		
	GF-W 28 GF-E 54 FF-W 4 FF-E 2 SF-W 2 TF-W 2 TF-E 2 4F-E 2				
Carried to Collection					
Section No. 2				R	
Bill No. 8					
Ceilings Partitions And Access Flooring					

	Unit	Quantity	Rate	Amount
<p><u>Extra over 900 x 2035mm Partitions for 40mm semi-solid flush doors with ? veneer on both sides and hardwood edge strips to vertical edges, hung to and including standard natural anodised aluminium door frame with one pair of 100mm nylon washered aluminium hinges to each hanging stile, including additional studding, trimming, etc to partitions</u></p>				
<p>30 Door 813 x 2032mm high.</p>	No	1		
<p>I 1</p>				
<p>Section No. 2 Bill No. 8 Ceilings Partitions And Access Flooring</p>				<p style="text-align: right;">R</p>

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BILL NO. 8

CEILINGS PARTITIONS AND ACCESS FLOORING

COLLECTION

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Section No. 2
 Bill No. 8
 Ceilings Partitions And Access Flooring

SECTION NO. 2

BUILDING WORKS

BILL NO. 9

FLOOR COVERINGS

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

Proprietary items or materials:

Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.

NEEDLE PUNCH CARPET SHEETING AND TILES:

Nexus Diagonals« 500 x 500 x 8mm thick stainproof miracle fibreÖ (Polypropylene) structured needlepunch Nexbac EcoÖ SABS Class 3 fire rating grade general / medium commercial carpet tiles, colour Squirrel , all installed as per manufacturer's specifications

1	On floors and landings.	m²	1,502	
	GF-W 366 GF-E 771 FF-W 159			
	FF-E 29 SF-W 59 SF-E 89			
	TF-E 29			

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Section No. 2
 Bill No. 9
 Floor Coverings

	Unit	Quantity	Rate	Amount
<u>VINYL FLOOR COVERINGS, WALL LININGS, ETC</u>				
<u>Supply and fix 2.0mm thick x 2.0m wide Primo SD non-directional static dissipative vinyl sheeting, manufactured in accordance with EN 649 and laid in pattern over an earthed grid of aluminium tape in FloorworX No.27 acrylic conductive adhesive spread using a trowel fitted with an A2 notched blade at a rate of between 5.5m2 and 6.5m2 per litre on a previously prepared Class 1 sub-floor in accordance with SANS 10070, using a reliable self-leveller when required, including all cutting and waste. The sheeting must be rolled in both directions with an articulated 68kg three-sectional roller immediately after it has been laid into the adhesive. Joins must be butted, grooved and heat welded using the manufacturer's welding rod, ensuring that the welding rod bonds to more than 70% of the sheet thickness. After completing the installation the floor must be electrically tested for resistivity in accordance with the requirements of SANS 6160.</u>				
2	On floors.	m ²	42	
	GF-W 10 GF-E 32			
<u>ENTRANCE MATTING, ETC</u>				
<u>'Matco Trio Scraper entrance mats Colour Grey (Code: 2402)' 13mm gauge, consisting of polypropylene coarse fibre needle punch alternated with polyamide brush and drying strips, fixed in sunken mat surround (surround elsewhere measured) in accordance with the manufacturers recommendations:</u>				
3	Entrance mat size 1800 x 1200mm wide. (trimmed on site to suit recess)	No	1	
	RK 1			
<u>Epoxy:</u>				
<u>2mm thick "Sikafloor«-381 AS" (or similarlarly approved) highly chemically resistant and electrostatic conductive, applied in accordance with the manufacturer`s instructions using a serrated trowel and roller:</u>				
4	On floors and landings.	m ²	55	
	RK 55			
<u>"KIRT" aluminium diving strips:</u>				
5	"SQE150" 8 x 15mm stainless steel square edge trim.	m	24	
	RK 24			
			Carried to Collection	
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Floor Coverings				

Amount

BILL NO. 9
FLOOR COVERINGS
COLLECTION

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Section No. 2
Bill No. 9
Floor Coverings

SECTION NO. 2
BUILDING WORKS
BILL NO. 10
IRONMONGERY

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill

SUPPLEMENTARY PREAMBLES

Finishes to ironmongery:

Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered : CH Chromium plated : SC Satin chromium plated : SE Silver enamelled : GE Grey enamelled : AS Anodised silver : AB Anodised bronze : AG Anodised gold : ABL Anodised black : PB Polished brass : PL Polished and lacquered : PT Epoxy coated.

HINGES, FLOOR SPRING HINGES, BOLTS, PANIC BOLTS, ETC.

Dormakaba:

1	'Dormakaba DBB-SS009' 102 x 75 x 3mm stainless steel hinge.	No	15
	GF-E 3 RK 12		
2	A 1040 100mm Aluminium Sinkless Hinge, Centre Pin With Standard Alignment Grooving For Easy Fitment.	Pairs	36
	GF-W 30 GF-E 6		

Carried to Collection

Section No. 2
 Bill No. 10
 Ironmongery

R

	Unit	Quantity	Rate	Amount
3 'Dormakaba DFB-SC-180' 153mm satin chrome manual flush bolt with heel. FF-W 4	No	4		
4 'Dormakaba DFB-SC-180' 153mm satin chrome manual flush bolt with heel with keep let into concrete. FF-W 4	No	4		
5 Galvanised Barrel Bolt, 150mm Long Fitted To Bottom Of Inactive Doorleaf. GF-E 1 FF-W 2	No	3		
<u>Alufab:</u>				
6 'Alufab 2040' 200mm aluminum anodised sickless hinges, centre pin. GF-W 15 GF-E 30 FF-E 3 SF-W 9 4F-E 3 BF-1 6	No	66		
7 'Alufab M1519N' 150mm natural anodised aluminium flush bolt. GF-W 12 GF-E 9 RK 3	No	24		
<u>CATCHES, CABIN HOOKS, ETC.</u>				
<u>Halstead:</u>				
8 'Halstead 166' 200mm Stain Chrome on brass cabin hook and eye including 100 x 100 x 75mm chamfered hardwood block twice oiled and plugged. GF-W 5 GF-E 10 FF-W 1 FF-E 1 SF-W 3 4F-E 1 BF-1 2	No	23		
9 'Halstead' 200mm satin chromed cabin hook and eye, including 100 x 100 x 75mm chamfered meranti block twice oiled and plugged. GF-E 1 FF-W 2	No	3		
<u>LOCKS.</u>				
<u>Dormakaba:</u>				
10 'Dormakaba D037D SS' stainless steel cylinder deadlock, case dimensions 116.5 x 78mm, forend dimesions 168 x 22mm, backset 57mm. GF-W 2 GF-E 3 FF-W 1	No	6		
11 'Dormakaba D038RNP' Rebate conversion kit for euro-profile locks D036S, D037D. GF-E 1 FF-W 1	No	2		
12 'Dormakaba D036S SS' stainless steel cylinder sash lock, case dimensions 116.5 x 78mm, forend dimesions 168 x 22mm, backset 57mm, centres 61mm. GF-W 13 GF-E 15 FF-W 11 FF-E 2 SF-W 3 4F-W 1 4F-E 3 BF-1 2 RK 1	No	51		
Carried to Collection				
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Bill No. 10				
Ironmongery				

		Unit	Quantity	Rate	Amount
13	'Dormaka DHK004201' Satin nickel 43mm half knob cylinder. GF-W 5 GF-E 10 FF-W 1 FF-E 1 SF-W 3 4F-E 1 BF-1 2	No	23		
14	'Dormaka DCE-002 SS' Stainless Steel round cylinder escutcheon. GF-W 5 GF-E 9 FF-W 3 FF-E 1 SF-W 2 4F-E 1 BF-1 1	Pairs	22		
15	'Dormakaba DSC104301MK' Satin nickel 43mm five pin Euro-profile knob cylinder master keyed, cylinders stamped accordingly with corresponding door numbers, three keys with tags required per cylinder. GF-E 1 FF-W 2	No	3		
16	'Dormakaba DKC106601' 66mm five pin Euro-profile knob cylinder master keyed, cylinders stamped accordingly with corresponding door numbers, three keys with tags required per cylinder. GF-W 2 GF-E 3 FF-W 3 FF-E 1 SF-E 2 TF-E 1 RK 1	No	13		
17	'Dormakaba EMC 1200 ALH' sinlge electromagnetic lock with 1200 ibf (5338N) holding force, surface-mounted, with lock status sensor and red/ gree LED indicator (19860504). GF-W 2 GF-E 1 FF-W 1	No	4		
18	'Dormakaba DDC106601MK' Satin nickel 66mm five pin Euro-profile knob cylinder master keyed, cylinders stamped accordingly with corresponding door numbers, three keys with tags required per cylinder. GF-W 9 GF-E 5 FF-W 9 FF-E 1 4F-W 1 4F-E 2 RK 1	No	28		
19	'Dormakaba DDC106600MK' Brass 66mm five pin Euro-profile double cylinder master keyed, cylinders stamped accordingly with corresponding door numbers, three keys with tags required per cylinder. GF-W 1	No	1		
20	'Basket' iseo ISEO 35mm Backset Hooklock. GF-W 2 GF-E 1 FF-W 3 FF-E 1 SF-E 2 TF-E 1 RK 1	No	11		
Carried to Collection					
Section No. 2				R	
Bill No. 10					
Ironmongery					

		Unit	Quantity	Rate	Amount
<u>Kimberly-Clark®:</u>					
46	'Kimberly-Clark® (code SA426135)' Professional Plus wall mounted waste bin, plugged to wall with stainless steel screws.	No	2		
	GF-W 2				
<u>Chairman Industries:</u>					
47	'Franke' CNTXBR 750 x 260mm stainless steel disabled grab rail. (code 359912)	No	4		
	GF-W 1 FF-W 3				
48	'Franke' CNTX700A Stainless steel angle disabled grab rail. (code 359877)	No	4		
	GF-W 1 FF-W 3				
<u>SUNDRIES.</u>					
<u>Dormakaba:</u>					
49	'Dormakaba L + Z Bracket 1200' for EMC 1200 ALH (19860525).	No	4		
	GF-W 2 GF-E 1 FF-W 1				
50	'Dormakaba DDS-SS-017' floor mounted door stop plugged.	No	79		
	GF-W 25 GF-E 12 FF-W 38				
	FF-E 1 4F-W 1 4F-E 2				
51	'Dormakaba DDH-SS-020' stainless steel wall buffer plugged.	No	8		
	GF-W 1 FF-W 3 RK 4				
52	'Dormakaba DPS-SS-032' Dust proof strike.	No	21		
	GF-W 6 GF-E 6 FF-W 9				
53	6mm Diameter steel dowel 100mm long in and including mortice in timber and brickwork or concrete.	No	41		
	GF-W 6 GF-E 1 FF-W 26				
	RK 8				
<u>Arufab:</u>					
54	'Alufab H469' 600mm extension rod.	No	8		
	GF-W 2 GF-E 4 FF-W 2				
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Ironmongery					

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IRONMONGERY
COLLECTION

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Section No. 2
Bill No. 10
Ironmongery

Unit Quantity Rate Amount

SECTION NO. 2

BUILDING WORKS

BILL NO. 11

STRUCTURAL STEELWORK

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

Proprietary items or materials:

Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.

Descriptions:

Descriptions of bolts shall be deemed to include nuts and washers.

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

Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.

Steel mass will be calculated according to the tables issued by the SA Institute of Steel Construction.

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Section No. 2
 Bill No. 11
 Structural Steelwork

	Unit	Quantity	Rate	Amount
<u>SHOP DRAWINGS</u>				
<p>The Sub-Contractor shall prepare his own shop details. Immediately on receipt of the Engineer's drawings, the Sub-Contractor shall satisfy himself that the design drawings contain all the information required for the preparation of the shop details. The said shop details and other drawings shall be submitted in duplicate to the Engineer for approval at least 1 week before commencement of fabrication. The Sub-Contractor's drawings shall be complete in every respect (including welding details which shall be fully described) and shall be checked by the Sub-Contractor prior to submission. One copy of each drawing will be retained by the Engineer and, within 1 week after the date of receipt by the Engineer, the other copy will be returned to the Sub-Contractor with the Engineer's comments or written approval, as the case may be. Before the commencement of fabrication, the Sub-Contractor shall obtain from the Engineer approval of the shop drawings, in writing. The approval given by the Engineer relates to structural adequacy and does not absolve the Sub-Contractor from the responsibility for dimensional accuracy.</p>				
1	Item			
		1		
2	Item			
		1		
<u>HOT DIPPED GALVANISED STEEL COLUMNS AND BEAMS</u>				
<u>Welded columns in single lengths with flat section base, top, bearer, stiffner and connection plates bolted to steel and concrete:</u>				
3	Tonnes	1.16		
		RK 1.16		
4	Tonnes	1.02		
		RK 1.02		
5	Tonnes	1.32		
		CWK 1.32		
6	Tonnes	3.23		
		RK 3.23		
7	Tonnes	1.32		
		CWK 1.32		
<u>Bolts to columns, beams, etc:</u>				
8	Tonnes	2.00		
		RK 2		
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Bill No. 11				
Structural Steelwork				
			R	

		Unit	Quantity	Rate	Amount
9	High tensile Grade 8.8 bolts RK 2	Tonnes	2.00		
10	M20 holding down bolt 606mm long with 70 x 70 x 12mm plate welded 10mm up on one end with two nuts and washers. RK 108	No	108		
11	M20 Anchor bolts. RK 22	No	22		
12	M16 150mm long chemical anchor. RK 8	No	8		
13	M20 150mm long chemical anchor. RK 6	No	6		
	<u>Bolts to trusses, purlins, beams, etc:</u>				
14	Grade 4.8 bolts. RK 0.95	Tonnes	0.95		
15	High tensile Grade 8.8 bolts. RK 1.23	Tonnes	1.23		
	<u>HOT DIPPED GALVANISED STEEL PURLINS, GIRTS, BRACING, ETC.</u>				
	<u>Purlins and girts bolted to steel:</u>				
16	100 x 100 x 6mm Lid channel purlins. RK 3.23	Tonnes	3.23		
17	150 x 75 x 6mm Lipped channel section purlins. RK 1	Tonnes	1.00		
18	200 x 75 x 6mm Lipped channel section purlins. CWK 9.45	Tonnes	9.45		
	<u>Welded bracing etc with flat section connection plates bolted to steel:</u>				
19	Angle section bracing. FF-E 0.82 CWK 0.78	Tonnes	1.60		
20	High tensile Grade 8.8 bolts. FF-E 0.86	Tonnes	0.86		
	Carried to Collection				
	Section No. 2				
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	Structural Steelwork				
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Amount

BILL NO. 11
STRUCTURAL STEELWORK
COLLECTION

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Section No. 2
Bill No. 11
Structural Steelwork

Unit Quantity Rate Amount

SECTION NO. 2
BUILDING WORKS
BILL NO. 12
METALWORK

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

Proprietary items or materials:

Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.

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.

Carried to Collection

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Section No. 2
 Bill No. 12
 Metalwork

	Unit	Quantity	Rate	Amount
<p><u>Powder coating</u></p> <p>All powder coating shall be executed only by applicators approved by the powder manufacturers & shall be executed strictly in conformance with sabs 1796 manufacturer to provide powder coat samples for architect’s approval prior to ordering.</p> <p><u>General</u></p> <p>Glazing shall be executed in strict conformance with glass manufacturer’s recommendations & all in accordance with the national building Regulations Part N, SABS 0137, SABS 1263 & AAAMSA selection guide for safety glazing materials.</p> <p><u>Structural glazing</u></p> <p>In case of structural glazing written proof is to be provided that all stages of fabrication & installation have been executed with disciplined quality assurance in accordance with the relevant parts of SABS ISO 9000.</p> <p><u>Safety glazing</u></p> <p>All safety glazing materials (individual panes) shall be permanently marked. Such marking to be visible after glazing.</p> <p><u>Compliance</u></p> <p>All materials, glazing & sealing to comply with SANS 10400.</p> <p><u>Prior to the commencement of any site work, the following certificates should be provided:</u></p> <ol style="list-style-type: none"> 1. A copy of relevant AAAMSA performance certificate from the manufacturer / contractor supplying the architectural aluminium product. 2. A certificate of conformance confirming that all anodizing or powder coating has been processed in strict accordance with SABS 999:1998 and SABS 1976:2001 respectively. 3. A powder guarantee of no less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process and may only be applied by an approved powder applicator. 4. A certificate of conformance that glazing has been installed in accordance with SABS 0137 ensuring that safety glass glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing material has been permanently marked. 				
<p>Section No. 2 Bill No. 12 Metalwork</p>			<p>Carried to Collection</p>	<p>R</p>

	Unit	Quantity	Rate	Amount
<p><u>60 - 80 micron aluminium epoxy powder coated shopfronts complete with head, bottom rails, mullions, side rails, frames, sub frames, ironmongery, glass, sealing, etc and fixing to brickwork or concrete as per the manufacturer's instructions:</u></p> <p><u>Ground Floor work area 0.1:</u></p>				
11	No	6		
<p>Shopfront size 2440 x 3400mm high with single door size 950 x 2100mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.</p> <p>GF-E 6</p>				
12	No	1		
<p>Shopfront 4320 x 3400mm high with single door size 950 x 2325mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.</p> <p>GF-E 1</p>				
13	No	2		
<p>Shopfront 1805 x 3400mm high with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.</p> <p>GF-E 2</p>				
<p><u>Ground Floor work area 0.2:</u></p>				
14	No	1		
<p>Shopfront 7700 x 3400mm high with single door size 950 x 2325mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.</p> <p>GF-E 1</p>				
15	No	1		
<p>Shopfront 10 000 x 3400mm high with 2 x single doors, each door size 950 x 2090mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.</p> <p>GF-E 1</p>				
<p><u>Ground Floor work area 0.4:</u></p>				
16	No	1		
<p>Shopfront 3010 x 3400mm high with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.</p> <p>GF-W 1</p>				
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		Unit	Quantity	Rate	Amount
17	Shopfront 3795 x 3400mm high with single door size 950 x 2325mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. GF-W 1	No	1		
18	Shopfront 4000 x 3400mm high with single door size 950 x 2325mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. GF-W 1	No	1		
19	Shopfront 7920 x 3400mm high with one double swing door size 1246 x 2325mm high overall in two equal leaves, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc. GF-W 1	No	1		
20	Shopfront 5000 x 3400mm high with one double swing door size 1800 x 2100mm high overall in two equal leaves, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc. GF-W 1	No	1		
	<u>Basement work area B1:</u>				
21	Shopfront 4390 x 2200mm high with single door size 950 x 2100mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. BF-1 2	No	2		
22	Shopfront 6600 x 2100mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. BF-1 1	No	1		
	<u>Ground Floor work area 0.5:</u>				
23	Shopfront 2540 x 3400mm high with single door size 950 x 2090mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. GF-W 1	No	1		
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	Unit	Quantity	Rate	Amount
24 Shopfront 5510 x 3400mm high with 2 x single doors, each door size 950 x 2090mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. GF-W 1 Ground Floor work area 0.6:	No	1		
25 Shopfront 5300 x 3400mm high with one double swing door size 1246 x 2325mm high overall in two equal leaves, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc. GF-W 1 Fourth Floor work area 4.2:	No	1		
26 Shopfront 3268 x 3400mm high with single door size 950 x 2090mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. 4F-E 1	No	1		
27 Shopfront 3661 x 3400mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. 4F-E 1 Third Floor work area 3.2:	No	1		
28 Shopfront 2222 x 3400mm high with one double swing door size 1607 x 2040mm high overall in two leaves, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. TF-E 1	No	1		
29 Shopfront 5020 x 3400mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. TF-E 1 Second Floor work area 2.1:	No	1		
30 Shopfront 7602 x 3400mm high with single door size 950 x 2090mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. SF-W 1	No	1		
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		Unit	Quantity	Rate	Amount
<u>Second Floor work area 2.2:</u>					
31	Shopfront 2222 x 3400mm high with one double swing door size 1637 x 2040mm high overall in two leaves, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.	No	1		
	SF-E 1				
32	Shopfront 5015 x 3400mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete	No	1		
	SF-E 1				
<u>Second Floor work area 2.3:</u>					
33	Shopfront 3660 x 3400mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete	No	1		
	SF-E 1				
34	Shopfront 2435 x 3400mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete	No	1		
	SF-E 1				
35	Shopfront 1500 x 3400mm high with one double swing door size 1500 x 2325mm high overall in two leaves, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.	No	1		
	SF-E 1				
<u>Second Floor work area 2.4:</u>					
36	Shopfront 3470 x 3400mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete	No	1		
	SF-W 1				
37	Shopfront 3575 x 3400mm high with single door size 950 x 2325mm high overall, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete.	No	1		
	SF-W 1				
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	Unit	Quantity	Rate	Amount
45 Shopfront 5100 x 2300mm high with a folding window size 5100 x 1500 mm high overall, shopfront and window glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) etc., installed complete. RK 1	No	1		
46 Shopfront 3700 x 1650mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) etc., installed complete RK 2	No	2		
47 Shopfront 1000 X 2300mm high glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) etc., installed complete RK 3	No	3		
48 Shopfront 3818 x 3400mm high with one double swing door size 1500 x 2100mm high overall in two leaves, shopfront and door glazed with Clear laminated safety glass, including self-adhesive, sandblast vinyl (plain) at 2100mm high etc., installed complete. RK 1	No	1		
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Metalwork

SECTION NO. 2
BUILDING WORKS
BILL NO. 13
PLASTERING

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SCREEDS:

Screeds on concrete:

	Unit	Quantity	Rate	Amount
1 30mm Thick on floors and landings.	m ²	587		
GF-W 248 GF-E 94 FF-E 52				
SF-W 41 4F-W 36 4F-E 28				
BF-1 33 RK 55				
2 Average 75mm thick on floors to falls and currents.	m ²	63		
RK 63				
3 Average 75mm thick on roofs with upper surface to falls and currents.	m ²	57		
RK 57				

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Section No. 2
 Bill No. 13
 Plastering

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PLASTERING
COLLECTION

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Section No. 2
Bill No. 13
Plastering

SECTION NO. 2
BUILDING WORKS
BILL NO. 14
TILING

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

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.

NOSINGS, JOINT COVERS, PROTECTORS, ETC.

Wall edge protectors:

1 Type ETR 608 PVC regular tiling trim 21mm wide x 6mm high with type 01 finish.

GF-W 21 FF-W 31

Unit	Quantity	Rate	Amount
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m	52		
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Carried to Collection

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Section No. 2
 Bill No. 14
 Tiling

	Unit	Quantity	Rate	Amount
<u>'M Trim' Stainless Steel straight edge trim:</u>				
2	'M Trim' Stainless Steel straight edge trim 12mm high (code SSE120) to suit tiling 8 to 9mm thick, fixed with adhesive to treads and risers.	m	38	
	GF-W 18 TF-E 10 RK 10			
<u>CERAMIC WALL TILING</u>				
<u>Allow the prime cost of R450.00 (Four Hundred and Fifty Rand) net per square metre for ceramic tiles supplied and delivered to site and add for taking delivery, storage, fixed with adhesive and flush pointed with tinted jointing compound mortar, waste and profit. (plaster elsewhere measured)</u>				
3	On walls.	m ²	79	
	GF-W 8 TF-E 10 RK 61			
4	On narrow widths.	m ²	5	
	RK 5			
5	Fair exposed cutting and fitting around pipe etc not exceeding 100mm internal diameter.	No	21	
	GF-W 3 TF-E 3 RK 15			
<u>PORCELAIN FLOOR TILING</u>				
<u>Allow the prime cost of R500.00 (Five Hundred Rand) net per square metre for porcelain tiles supplied and delivered to site and add for taking delivery, storage, fixed with adhesive and flush pointed with tinted jointing compound mortar, waste and profit. (plaster elsewhere measured)</u>				
6	On floors and landings.	m ²	634	
	GF-W 248 GF-E 94 FF-E 52			
	SF-W 41 4F-W 13 4F-E 13			
	BF-1 33 RK 140			
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TILING
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Tiling

Unit Quantity Rate Amount

SECTION NO. 2

BUILDING WORKS

BILL NO. 15

PLUMBING AND DRAINAGE

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

Project particular specifications:

The specifications particular to this project are included in C3.2 Particular Specifications included in Envelope A Volume 1 of 2 of the tender documents. The Contractor is to take cognisance of them when pricing the relevant items in the Bill of Quantities as no extras arising out of their failure to do so will be entertained.

Proprietary items or materials:

Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.

'Polycop' polypropylene pipes:

Polypropylene pipes 54mm diameter and under shall be seamless copper coloured class 16 pipes jointed with 'Fast-fuse' heat welded thermoplastic or brass compression fittings as designed for use with copper pipes as stated.

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Section No. 2
 Bill No. 15
 Plumbing And Drainage

	Unit	Quantity	Rate	Amount
<p>Pipes shall be firmly fixed to walls etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions.</p> <p>All pipe diameters are nominal external.</p> <p><u>'Polylink' polypropylene pipes:</u></p> <p>Polypropylene pipes 63mm diameter and over shall be class 12 pipes jointed with cast iron 'Supraclamp' running joints.</p> <p>Fusion welded bends, once or twice mitred as necessary, and tees shall be factory manufactured.</p> <p>Fusion welded bends and tees shall include jointing to pipes with PVC rubber ring double X joint couplers.</p> <p>Branch tees shall include flanged and bolted joints to 'Polycop' branch pipes in addition and for brass compression male iron to copper straight couplers.</p> <p>Reducers shall include jointing to pipes with PVC rubber ring double Z joint couplers and reduces shall be of sufficient overall length to accommodate same.</p> <p>All pipes shall be jointed and fixed strictly in accordance with the manufacturer's instructions.</p> <p>All pipe diameters are nominal external.</p> <p><u>Concrete pipes:</u></p> <p>Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings.</p> <p><u>Vitrified clay pipes etc:</u></p> <p>Pipes shall rest on solid ground and, where necessary, pockets of sufficient size shall be cut around joints to enable the jointing to be properly performed or, alternatively, pipes shall be bedded full length on and including unreinforced concrete laid in a semi-dry state immediately before pipes are laid.</p> <p><u>uPVC pipes and fittings.</u></p> <p>Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings.</p> <p>Soil, waste and vent pipes and fittings shall be solvent weld jointed.</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>				
Carried to Collection			R	
<p>Section No. 2 Bill No. 15 Plumbing And Drainage</p>				

	Unit	Quantity	Rate	Amount
<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>				
<p><u>Copper pipes:</u></p>				
<p>Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be 'Cobra Watertech' type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground.</p>				
<p><u>Fixing of pipes</u></p>				
<p>Unless specifically otherwise stated, descriptions of pipes shall be deemed to include for fixing to walls etc. casting in, building in or suspending not exceeding 1m below suspension level.</p>				
<p><u>Lead pipes and traps:</u></p>				
<p>All soldered joints shall be wiped and brass unions shall be used for jointing lead to steel.</p>				
<p><u>Reducing fittings:</u></p>				
<p>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.</p>				
<p><u>Wire gratings:</u></p>				
<p>Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings.</p>				
<p><u>Septic tanks:</u></p>				
<p>Descriptions of septic tanks shall be deemed to include excavation, bedding and jointing, concrete base slabs, jointing to drains and backfilling, compaction, etc all in accordance with the manufacturer's instructions.</p>				
<p><u>Exposed concrete surfaces:</u></p>				
<p>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.</p>				
<p style="text-align: right;">Carried to Collection</p>			R	
<p>Section No. 2</p>				
<p>Bill No. 15</p>				
<p>Plumbing And Drainage</p>				

	Unit	Quantity	Rate	Amount
<p><u>Excavations:</u> 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'.</p> <p><u>Laying, backfilling, bedding, etc of pipes:</u> Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions. Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clause 3, 5.5, 5.6, 5.7 and 7 of SAB.</p> <p><u>Flush pans:</u> Flush pans shall have straight or side outlets and 'P' or 'S' traps as necessary. Descriptions of WC pans and bidets are deemed to include setting in silicone sealant and screwing to timber or plugging and screwing to concrete floor. Cisterns are to be plugged and brass screwed to walls.</p> <p><u>Stainless steel basins, sinks, wash troughs, urinals, etc:</u> Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable.</p> <p><u>Waste unions:</u> Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings.</p> <p><u>Steel sectional water tanks:</u> Tanks shall comply with SABS CKS 114.</p> <p><u>'Densyl' petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd:</u> Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied with minimum 15mm lap per spiral unless otherwise described. Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including all mastic, tape, 'Layflat' sheeting, securing of same, etc. Prices for wrapping of pipes shall include for all work as described to couplings in the length.</p>				
<p style="text-align: right;">Carried to Collection</p> <p>Section No. 2 Bill No. 15 Plumbing And Drainage</p>			R	

	Unit	Quantity	Rate	Amount
<u>RAINWATER DISPOSAL (CPAP Work Group No 148)</u>				
<u>'Watertite' pre painted externally and internally with 'Color-Tech G4' high performance non-fluorinated polymer modified long chain hydro-carbon paint aluminium concealed fixed in strict accordance with the manufacturer's instructions:</u>				
<u>Covered Walkway.</u>				
1	m	100		
150 x 125mm x 0,8mm thick ogee seamless eaves gutters. CWK 100				
2	No	10		
Extra over 150 x 125mm eaves gutter for stop end. CWK 10				
3	No	10		
Extra over 150 x 125mm eaves gutter for angle. CWK 10				
4	m	15		
75 x 100mm x 0,6mm Thick rainwater pipes. CWK 15				
5	No	10		
Extra over 75 x 100mm rainwater pipe for shoe. CWK 10				
<u>Recreational Building</u>				
6	m	14		
3mm Thick x 862mm girth rectanuglar shaped box gutter including stiffener's, four times bent along length fixed to steel purlins and structural steel support in strict accordance with the manufacturer's instructions. RK 14				
7	No	1		
Extra over 862mm girth rectangular-shaped gutter for 350 x 350 x 150mm deep drop out box with outlet for outlet for 250 x 250mm aluminium rainwater pipe including joining to rainwater pipe. RK 1				
8	m	3		
3mm Thick x 250 x 250mm Rectuangular rainwater pipes. RK 3				
9	No	1		
Extra over 250 x 250mm rectangular rainwater pipes for shoes. RK 1				
<u>Saint-Gobain Fullbore cast iron outlets:</u>				
10	No	4		
80mm Vertical outlet with dome grating. RK 4				
11	No	3		
100mm Vertical outlet with dome grating. RK 3				
12	No	2		
80mm 45 Degree outlet with dome grating. RK 2				
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Plumbing And Drainage				

		Unit	Quantity	Rate	Amount
13	100mm 45 Degree outlet with dome grating. RK 2	No	2		
14	150mm Vertical outlet with dome grating. RK 4	No	4		
<u>SANITARY FITTINGS</u>					
<u>'Geberit Sanitaryware' wash hand basins:</u>					
15	'Geberit Selnova' (GEB-500.305.01.1) wall-hung white washhand basin size 800 x 240 x 550mm colour white with one centre taphole integrated overflow and chainstay hole, mounted to wall on and including two bolts (Code: 8448Z0). RK 1	No	1		
<u>'Geberit Sanitaryware' urinals:</u>					
16	'Geberit' (Code: GEB-500.344.01.1) wall hung back inlet urinal for concealed control rear entry colour white with chromium plated back inlet spreader (Code: 7054Z2), 38mm chromium plated domical grating (Code: 8787Z0) hung on and including two hanger brackets (Code: 8127Z0) RK 2	No	2		
17	'Geberit' (Code: SKU-115.211.TD.1) wall hung glass urinal division colour white with brushed and anodised brackets fixed to walls. GF-W 1 FF-W 3	No	4		
<u>'Geberit Sanitaryware' WC suites:</u>					
18	'Geberit' white vitreous china wall hung washdown suite (product code GEB-204000000) comprising 90° outlet open rim pan with back inlet with Geberit icon soft close toilet seat with metal hinges (product code GEB-574130000) and 'Geberit Kombifix' element for wall hung wc, 108cm, 'Sigma' concealed cistern 12cm (product code GEB-110.360.00.5) , 'Geberit' dual flush 'Sigma 01' actuator plate (Article No 115.770.21.5) in shiny chrome finish, fitments, etc., concealed flush valve, protection cover for service opening and flush pipe, fitted on and including bolt-throughthe- wall bracket (product code 8084Z0) bolted to brick wall RK 1	No	1		
<u>'Blanco' stainless steel domestic inset sinks:</u>					
19	'Blanco' LAR-BL00204059 double end bowl inset sink (Code LAR-BL00204059) and drainer unit, size 1160 x 500mm overall with two bowls 410 x 343 x 167mm, including two 90mm waste outlets (Code 3000651), built into worktop. (Worktop elsewhere) GF-W 1 TF-E 1 RK 1	No	3		
				Carried to Collection	R
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Bill No. 15					
Plumbing And Drainage					

	Unit	Quantity	Rate	Amount
<u>Kwikot or equal approved</u>				
<u>Electric domestic water heater, c/w all pipe work, valves, gauges, drip tray, vacuum breakers, shut-off valve on cold water side, multi valve (pressure-temperature control valve c/w piping to drain), thermostat, self sacrificing anode, power wiring from isolator. Installed according to the specifications of the manufacturer.</u>				
80	No	4		
200L Electric Water Heater				
GF-W 1 GF-E 1 TF-E 1				
RK 1				
<u>FIRE APPLIANCES ETC.</u>				
<u>'Chubb':</u>				
81	No	16		
4,5kg Chemical dry powder fire extinguisher including backing board.				
Un/A 16				
<u>SLEEVES.</u>				
<u>Plastic sleeves for pipes not exceeding 100mm diameter.</u>				
82	No	21		
Sleeve exceeding 250mm and not exceeding 500mm long cast into concrete beam.				
FF-W 21				
<u>Plastic sleeves for pipes exceeding 100mm and not exceeding 200mm diameter:</u>				
83	No	21		
Sleeve exceeding 250mm and not exceeding 500mm long cast into concrete beam.				
FF-W 21				
<u>HOLES ETC.</u>				
<u>Core drilling of hole for pipe not exceeding 50mm diameter:</u>				
84	No	2		
270mm Reinforced concrete slab, beam, wall, etc.				
FF-W 2				
<u>Core drilling of hole for pipe exceeding 50mm and not exceeding 100mm diameter:</u>				
85	No	2		
270mm Reinforced concrete slab, beam, wall, etc.				
FF-W 2				
<u>Core drilling of hole for pipe exceeding 100mm and not exceeding 150mm diameter:</u>				
86	No	2		
270mm Reinforced concrete slab, beam, wall, etc.				
FF-W 2				

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Bill No. 15
Plumbing And Drainage

BILL NO. 15
PLUMBING AND DRAINAGE
COLLECTION

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Section No. 2
Bill No. 15
Plumbing And Drainage

SECTION NO. 2
BUILDING WORKS
BILL NO. 16
GLAZING

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

TRADE PREAMBLES

Trade Preambles:

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

TOPS, SHELVES, DOORS, MIRRORS, ETC.

6mm float glass copper backed mirrors with 10 mm bevelled and polished edges fixed with chrome plated dome head mirror screws to wall:

1 Mirror 600 x 600mm high.
 RK 4

Unit	Quantity	Rate	Amount
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No	4		
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Section No. 2
 Bill No. 16
 Glazing

Unit Quantity Rate Amount

SECTION NO. 2
BUILDING WORKS
BILL NO. 17
PAINTWORK

<u>Key:</u>	<u>Location Description:</u>
Un/A	Unallocated
GF-W	GROUND FLOOR-WEST
GF-E	GROUND FLOOR-EAST
FF-W	FIRST FLOOR-WEST
FF-E	FIRST FLOOR-EAST
SF-W	SECOND FLOOR-WEST
SF-E	SECOND FLOOR-EAST
TF-W	THIRD FLOOR-WEST
TF-E	THIRD FLOOR-EAST
I	Item Location (Auto)
4F-W	FOURTH FLOOR-WEST
4F-E	FOURTH FLOOR-EAST
BF-1	BASEMENT FLOOR-01
BF-2	BASEMENT FLOOR-02
RK	RECREATIONAL & KITCH
CWK	COVERED WALKWAY

Trade Preambles:

TRADE PREAMBLES

For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.

SUPPLEMENTARY PREAMBLES

All work to be executed in strict accordance with the specifications of ICI Dulux (Pty) Ltd. The coating systems are as per Dulux's 'List of Decorative Paint Products' unless otherwise specified.

Primers and first coats may be thinned in accordance with the paint specifications of ICI Dulux (Pty) Ltd to aid the absorption of the paint.

All surfaces must be sound, clean and have a moisture content of less than 12%.

Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with 'Dulux Trade Bonding Liquid' plaster primer and must be overcoated within 48 hours.

Carried to Collection

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Section No. 2
 Bill No. 17
 Paintwork

	Unit	Quantity	Rate	Amount
9 On bulkheads. GF-E 14 FF-W 28 <u>Remove any loose and flaking residue by means of wire brushing, wash with 'Polycell Sugar Soap' or weak spirits of salts, open up cracks and make good with 'Polycell Mendall 90' or 'Polycell Polyfilla Exterior' filler sanded smooth, apply one coat 'Dulux Trade Moisture Tolerant Plaster Primer' and two coats 'Dulux Trade 65 Matt PVA' paint:</u> <u>ON FIBRE-CEMENT, ETC.</u> <u>Prepare surface and remove any loose material, apply one coat 'Dulux Trade Moisture Tolerant Plaster Primer' and two coats "Dulux Luxurious Silk" paint:</u>	m ²	42		
10 On interior cills not exceeding 300mm girth. RK 1 <u>ON METAL</u> <u>Clean down with galvanised iron cleaner and apply one coat galvanised iron primer, one universal under coat and two coats of 'Plascon' or equally approved super enamel paint:</u> <u>Prepare surfaces, apply two coats 'Dulux Galvanised Iron Cleaner' and two coats 'Dulux Primer fro Galvanised Iron' paint:</u>	m	1		
11 On back of door frames. GF-W 2 <u>Clean down with galvanised iron cleaner and apply one coat galvanised iron primer, one universal under coat and two coats of "Plascon" or equally approved super enamel paint:</u>	m ²	2		
12 Columns and beams. FF-W 28 RK 101 CWK 82	m ²	211		
13 On gates, grilles, burglar screens, balustrades, etc. (both sides measured over the full flat area). BF-2 4 <u>ON WOOD, WOOD BOARD</u> <u>Two coats 'Dulux Primer' for wood:</u>	m ²	4		
14 On backs of frames, linnings, etc. not exceeding 300mm wide. RK 6	m	6		
Carried to Collection			R	
Section No. 2 Bill No. 17 Paintwork				

		Unit	Quantity	Rate	Amount
15	On skirting not exceeding 300mm girth. GF-W 136 GF-E 227 FF-W 19 FF-E 9 SF-W 9 TF-E 5 4F-W 5 4F-E 4 BF-1 4 BF-2 54 RK 1	m	473		
	<u>Stop, fill, sand down and prepare wood surfaces and apply one coat 'Dulux Primer', one coat 'Dulux Trade Universal Undercoat' and two coats 'Dulux Pearlgló Waterbased Enamel' paint:</u>				
16	On doors. GF-W 43 GF-E 3 FF-W 199 RK 14	m ²	259		
17	On door frames. GF-W 15 GF-E 1 FF-W 60 RK 5	m ²	81		
	<u>PREPARATORY WORK TO PREVIOUSLY PAINTED SURFACES</u>				
	<u>Generally:</u> All work to be executed in strict accordance with the specifications of ICI Dulux (Pty) Ltd. The coating systems are as per Dulux's 'List of Decorative Paint Products' unless otherwise specified. Primers and first coats may be thinned in accordance with the paint specifications of ICI Dulux (Pty) Ltd to aid the absorption of the paint. All surfaces must be sound, clean and have a moisture content of less than 12%. Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with 'Dulux Trade Bonding Liquid' plaster primer and must be overcoated within 48 hours.				
	<u>ON FLOATED PLASTER</u> <u>Remove any loose and flaking residue by means of wire brushing, wash with 'Polycell Sugar Soap' or weak spirits of salts, open up cracks and make good with 'Polycell Mendall 90' or 'Polycell Polyfilla Exterior' filler sanded smooth apply one coat 'Dulux Trade Moisture Tolerant Plaster Primer' and two coats 'Dulux Luxurious Silk' paint:</u>				
18	On interior walls. GF-W 824 GF-E 314 FF-W 28 FF-E 40 SF-W 61 SF-E 84 TF-E 46 4F-W 85 4F-E 12 RK 47	m ²	1,541		
	Carried to Collection				
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	Unit	Quantity	Rate	Amount
<p><u>Remove any loose and flaking residue by means of wire brushing, wash with 'Polycell Sugar Soap' or weak spirits of salts, open up cracks and make good with 'Polycell Mendall 90' or 'Polycell Polyfilla Exterior' filler sanded smooth apply one coat 'Dulux Trade Moisture Tolerant Plaster Primer' and two coats 'Dulux Wallguard' paint:</u></p> <p>19 On exterior walls. RK 20</p> <p><u>ON EXISTING INTERNAL FLOATED PLASTER SURFACES</u></p> <p><u>Two coats premium quality polyurethane enamel paint</u></p>	m ²	20		
<p>20 Walls GF-W 1 SF-E 5 4F-W 3 4F-E 6 RK -5</p> <p><u>ON EXTERNAL TEXTURED PLASTER SURFACES</u></p>	m ²	10		
<p>21 Remove any loose and flaking residue by means of wire brushing, wash with 'Polycell Sugar Soap' or weak spirits of salts, open up cracks and make good with 'Polycell Mendall 90' or 'Polycell Polyfilla Exterior' filler sanded smooth apply one coat 'Dulux Trade Moisture Tolerant Plaster Primer' and two coats 'Dulux Wallguard' paint: RK 55</p> <p><u>ON INTERNAL GYPSUM PLASTER SURFACES</u></p> <p><u>One coat professional gypsum plaster primer and two coats Plascon (or equally approved) Professional Superior low sheen (Code: NEU 08) with worn wood colour or equal approved for interior use</u></p>	m ²	55		
<p>22 Dry wall partitioning. 4F-E 6</p> <p><u>ON WOOD SURFACES</u></p> <p><u>Stop, fill, sand down and prepare wood surfaces and apply one coat 'Dulux Primer', one coat 'Dulux Trade Universal Undercoat' and two coats 'Dulux Pearl glo Waterbased Enamel' paint:</u></p>	m ²	6		
<p>23 Skirtings, rails, etc not exceeding 300mm girth. GF-W 123 GF-E 197 FF-W 23 FF-E 23 SF-W 29 SF-E 50 TF-E 33 4F-W 15 4F-E 7</p>	m	500		
Carried to Collection			R	
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PAINTWORK
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SECTION NO. 2

BUILDING WORKS

SECTION SUMMARY

Bill No.

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SECTION SUMMARY

SECTION NO. 3
EXTERNAL WORKS

	Unit	Quantity	Rate	Amount
<u>SECTION NO. 3</u>				
<u>EXTERNAL WORKS</u>				
<u>BILL NO. 1</u>				
<u>ROADS, PAVING ETC</u>				
<u>TRADE PREAMBLES</u>				
<u>Trade Preambles:</u>				
For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
Where items in this Bill are identical to those in the previous Bills, the descriptions have been shortened, and the full descriptions in the Trades concerned are to be referred to for the full meaning and intent of each item				
<u>Excavation in existing bitumen paving:</u>				
Note: The removal of bitumen paving has not been measured, and forms part of the relevant excavations. No payment will be made for the removal of bitumen pavings when it forms part of areas to be excavated.				
<u>ROADS, PAVING, ETC</u>				
<u>DEMOLITIONS ETC</u>				
<u>Breaking up and removing</u>				
1		125mm Thick unreinforced concrete surface beds, paving, etc	m ²	12
2		150mm Thick average mesh reinforced concrete ramp, etc	m ²	3
3		60mm Paving blocks including all unnecessary underlayers	m ²	55
4		30mm Thick average tarmac, etc	m ²	15
5		75 x 150mm Unreinforced concrete kerbs	m	65
6		Rodding eye including all sundry items, etc.	No	1
7		Grease trap and cage including all sundry items, etc.	No	1
<u>ALTERATIONS.</u>				
<u>Saw cuts:</u>				
8		Neatly saw cut edge of existing asphalt surface to facilitate part removal thereof.	m	24
Carried to Collection				
Section No. 3				
Bill No. 1				
Roads, Paving Etc				
			R	

	Unit	Quantity	Rate	Amount
<u>EXCAVATION OTHER THAN BULK</u>				
<u>Excavation not exceeding 2m deep:</u>				
9				
Over site between buildings, retaining walls, etc to reduce levels and depositing excavated material in prescribed stock piles on site.				
	m ³	72		
<u>Extra over excavations other than bulk in earth for excavation in:</u>				
10				
Soft rock.				
	m ³	4		
11				
Hard rock.				
	m ³	2		
<u>Keeping excavations free of water:</u>				
12				
Keeping excavations free of all water other than subterranean water.				
	Item			
<u>CARTING AWAY.</u>				
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>				
13				
Off site to a dumping site to be found by the Contractor.				
	m ³	72		
<u>MASONRY.</u>				
<u>Brick Paving:</u>				
<u>Paving of Corobrik® Corocobble or Equally Approved Bevel Grey concrete paving brick manufactured in accordance with SANS 1058, size 200 x 100 x 50 x 50mm thick laid in accordance with SANS 1200 MJ and CMA Concrete Block Paving Manuals on and including 50mm thick river sand bed with dry filler sand swept and vibrated into joints, including treatment with weed killer all laid on subgrade (elsewhere measured) conforming to SABS 1200D degree of accuracy I:</u>				
14				
Paving in Herringbone pattern or running bond.				
	m ²	92		
15				
Fair circular cutting and waste to paving.				
	m	55		
<u>PRECAST CONCRETE KERBS.</u>				
<u>Precast concrete kerbing (complying with SABS 927) in 1m lengths, wet presses, placed in position, bedded and jointed in (3:1) cement mortar and flush pointed on exposed faces, including 15MPa/19mm unreinforced concrete haunching at back of each joint, excavation, backfilling, ramming, etc.:</u>				
16				
Barrier kerb (Figure 4) 150 x 250mm high.				
	m	41		
			R	
Carried to Collection				
Section No. 3				
Bill No. 1				
Roads, Paving Etc				

	Unit	Quantity	Rate	Amount
17 Barrier kerb (Figure 4) 150 x 250mm high circular on plan not exceeding 4m radius formed with 330mm lengths of straight kerb.	m	26		
Carried to Collection			R	

Section No. 3
Bill No. 1
Roads, Paving Etc

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ROADS, PAVING ETC
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Section No. 3
Bill No. 1
Roads, Paving Etc

	Unit	Quantity	Rate	Amount
<p><u>SECTION NO. 3</u> <u>EXTERNAL WORKS</u> <u>BILL NO. 2</u> <u>STORMWATER DRAINAGE</u></p> <p><u>TRADE PREAMBLES</u> <u>Trade Preambles:</u> For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u> <u>Proprietary items or materials:</u> Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.</p> <p><u>Note:</u> Where items in this Bill are identical to those in the previous Bills, the descriptions have been shortened, and the full descriptions in the Trades concerned are to be referred to for the full meaning and intent of each item</p> <p><u>SUPPLEMENTARY PREAMBLES</u> <u>Concrete pipes:</u> Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings.</p> <p><u>Exposed concrete surfaces:</u> Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster.</p> <p><u>Excavations:</u> 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'.</p> <p><u>Laying, backfilling, bedding, etc of pipes:</u> Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions.</p>				
<p>Section No. 3 Bill No. 2 Stormwater Drainage</p>			<p>Carried to Collection</p>	<p>R</p>

	Unit	Quantity	Rate	Amount
<p>Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clause 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB: Earthworks (Pipe trenches) Clause 5.7.2 will only be applicable if authorised by the Engineer in writing.</p> <p>Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200LB: Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding.</p> <p><u>Descriptions of pipes laid in trenches:</u></p> <p>Descriptions of pipes laid in trenches shall be deemed to include for carting away all surplus excavated material to a dumping site located by the contractor. Note minimum width of trench is 500mm on either side of pipe.</p> <p><u>Descriptions of catchpits, junction boxes, manholes, etc:</u></p> <p>Descriptions of catchpits, junction boxes, manholes, etc, shall be deemed to include for compaction, disposal of surplus excavated material to a dumping site located by the contractor, risk of collapse and keeping excavations free from water.</p> <p><u>Existing services:</u></p> <p>There are a number of existing services within the site boundaries, some of these are shown on the drawings. This information is not exhaustive and does not relieve the contractor of the responsibility of locating all existing services prior to construction. There are existing water, storm water, telephone, communications and electrical services on the site. Work is to be carried out without any disruption to existing services, this includes instances where newly constructed services are to be connected to existing 'live' services.</p> <p><u>Brickwork in Manholes:</u></p> <p>Brickwork in manholes to be 28 MPa in accordance with the engineers specifications.</p>				
Carried to Collection			R	
<p>Section No. 3 Bill No. 2 Stormwater Drainage</p>				

	Unit	Quantity	Rate	Amount
<u>STORMWATER CHANNELS.</u>				
<u>Precast or in-situ reinforced concrete (30Mpa) with mesh Ref 395, V- shaped stormwater channels, finished smooth on all exposed surfaces and with angles rounded, cast in suitable lengths (not exceeding 2 000mm), with bitumen applied to one edge at joints, and reinforced as necessary for handling if precast, including all formwork, reinforcing, moulds, shallow excavation, filling and ramming, laying to falls, bedding and pointing in (3:1) cement mortar:</u>				
1	m	28		
2	No	12		
<u>STORMWATER DRAINAGE.</u>				
<u>Sumps, catchpits, inspection chambers, etc.:</u>				
3	No	1		
<u>Gratings, covers, etc:</u>				
4	No	3		
5	No	1		
<u>Sundries:</u>				
6	No	2		
<u>Prescribed tests on filling:</u>				
7	No	1		
8	No	1		
9	No	4		
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Stormwater Drainage				

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BILL NO. 2
STORMWATER DRAINAGE
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Bill No. 2
Stormwater Drainage

	Unit	Quantity	Rate	Amount
<p><u>SECTION NO. 3</u> <u>EXTERNAL WORKS</u> <u>BILL NO. 3</u> <u>SOIL DRAINAGE</u></p> <p><u>TRADE PREAMBLES</u> <u>Trade Preambles:</u> For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u> <u>Proprietary items or materials:</u> Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.</p> <p><u>Note:</u> Where items in this Bill are identical to those in the previous Bills, the descriptions have been shortened, and the full descriptions in the Trades concerned are to be referred to for the full meaning and intent of each item.</p> <p><u>SUPPLEMENTARY PREAMBLES</u> <u>uPVC pipes and fittings:</u> Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings. Soil, waste and vent pipes and fittings shall be solvent weld jointed.</p> <p><u>Vitrified clay pipes etc:</u> Pipes shall rest on solid ground and, where necessary, pockets of sufficient size shall be cut around joints to enable the jointing to be properly performed or, alternatively, pipes shall be bedded full length on and including unreinforced concrete laid in a semi-dry state immediately before pipes are laid.</p> <p><u>Excavations:</u> 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'.</p>				
<p style="text-align: right;">Carried to Collection</p> <p>Section No. 3 Bill No. 3 Soil Drainage</p>			R	

	Unit	Quantity	Rate	Amount
<p><u>Laying, backfilling, bedding, etc of pipes:</u></p> <p>Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions.</p> <p>Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clause 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB: Earthworks (Pipe trenches) Clause 5.7.2 will only be applicable if authorised by the Engineer in writing.</p> <p>Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200LB: Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding.</p> <p><u>Descriptions of pipes laid in trenches:</u></p> <p>Descriptions of pipes laid in trenches shall be deemed to include for carting away all surplus excavated material to a dumping site located by the contractor.</p> <p><u>Descriptions of catchpits, junction boxes, manholes, etc:</u></p> <p>Descriptions of catchpits, junction boxes, manholes, etc, shall be deemed to include for compaction, disposal of surplus excavated material to a dumping site located by the contractor, risk of collapse and keeping excavations free from water.</p> <p><u>Precast concrete manoles:</u></p> <p>Precast concrete manholes shall be constructed using dolomitic aggregate.</p> <p><u>Step irons:</u></p> <p>Calcamite step irons are to be cast into the manhole walls as specified.</p> <p><u>Existing services:</u></p> <p>There are a number of existing services within the site boundaries, some of these are shown on the drawings. This information is not exhaustive and does not relieve the contractor of the responsibility of locating all existing services prior to construction. There are existing water, storm water, telephone, communications and electrical services on the site. Work is to be carried out without any disruption to existing services, this includes instances where newly constructed services are to be connected to existing 'live' services.</p>				
<p>Section No. 3 Bill No. 3 Soil Drainage</p>			<p>Carried to Collection</p>	<p>R</p>

	Unit	Quantity	Rate	Amount
<u>SOIL DRAINAGE</u>				
<u>Excavation, etc. for soil drainage:</u>				
1				
1	Carefully excavate by hand in small sections, to expose existing services, including backfilling to 90% Mod AASTHO density on completion.	m ³	10	
2	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in concrete, hard rock, etc.	m ³	16	
3	Backfilling to pipe trenches, chambers, etc with G7 material supplied by the contractor compacted to 90% Mod AASHTO density and stabilised with 3 percent cement.	m ³	23	
4	Granular material in bedding under and filling around pipes supplied by the contractor in accordance with SABS 1200 LB 3.1 and 3.4.2. (Bedding cradle)	m ³	32	
<u>uPVC Class PN16 Socketed sewer piping with bedding and filling in accordance with SABS 1200LB:</u>				
5	110mm Pipes vertically or ramped to cleaning eyes etc (no excavation).	m	43	
6	110mm Pipes laid in and including trenches not exceeding 1m deep.	m	110	
<u>Extra over uPVC pipes for fittings:</u>				
7	50mm Bend.	No	6	
8	110mm Bend.	No	7	
9	110mm Junction.	No	4	
10	110 x 160mm Access reducing junction.	No	6	
11	110mm Access bend.	No	8	
12	110mm Access junction.	No	6	
13	110 x 50mm Access reducing junction.	No	5	
<u>PVC gulleys:</u>				
14	110mm Gully not exceeding 1m deep with and including precast concrete gully head surround.	No	1	
Carried to Collection				
Section No. 3				
Bill No. 3				
Soil Drainage				
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	Unit	Quantity	Rate	Amount
<u>Manholes:</u>				
15				
Precast concrete inspection chamber size 1000mm internal diameter exceeding 0,5m and not exceeding 1m deep internally to invert level, including 150mm thick (25MPa/19mm) concrete cover slab with Y12 bars at 150mm centres, finished smooth with a steel float and rebated for and fitted with cast iron double seal cover and frame (cover and frame elsewhere) in accordance with SABS 558, bedded in 1:2 cement mortar and 1300mm diameter x 350mm thick (20Mpa/19mm) unreinforced concrete bottom, including cast iron step irons, concrete benching, uPVC channels and fittings, sealing joints between manhole rings with Bitu-Joint sealer, backfilling and ramming, carting away surplus excavated material, formwork, holes through sides for pipes, etc complete.				
	No	2		
<u>Gratings, covers, etc:</u>				
16				
550mm Diameter x 75kg type 4A medium duty manhole cover and frame.				
	No	2		
<u>Sundries:</u>				
17				
Unreinforced concrete encasing to 110mm horizontal pipe.				
	m	18		
<u>Desludging</u>				
18				
Clean out septic tank by desludging including removal of all debris and waste including solid waste as per Health and Safety requirements and make good on completion including disposing of all debris and waste at an authorised municipal waste disposal facility or designated area..				
	Item			
19				
Issue of Certificate of Waste Disposal.				
	Item			
20				
Backfilling to pipe trenches, chambers, etc with G7 material supplied by the contractor compacted to 90% Mod AASHTO density and stabilised with 3 percent cement. (provisional)				
	m ³	12		
21				
100mm Cast iron 'ABC' cleaning eye.				
	No	6		
<u>Prescribed tests on filling:</u>				
22				
Modified AASHTO Density test.				
	No	2		
23				
DCP test.				
	No	2		
24				
Compactibility test.				
	No	2		
			R	
Carried to Collection				
Section No. 3				
Bill No. 3				
Soil Drainage				

Amount

BILL NO. 3
SOIL DRAINAGE
COLLECTION

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Section No. 3
Bill No. 3
Soil Drainage

	Unit	Quantity	Rate	Amount
<p><u>SECTION NO. 3</u></p>				
<p><u>EXTERNAL WORKS</u></p>				
<p><u>BILL NO. 4</u></p>				
<p><u>WATER SUPPLY IN GROUND</u></p>				
<p><u>TRADE PREAMBLES</u></p>				
<p><u>Trade Preambles:</u></p>				
<p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p>				
<p><u>SUPPLEMENTARY PREAMBLES</u></p>				
<p><u>Project particular specifications:</u></p>				
<p>The specifications particular to this project are included in C3.2 Particular Specifications included in Envelope A Volume 1 of 2 of the tender documents. The Contractor is to take cognisance of them when pricing the relevant items in the Bill of Quantities as no extras arising out of their failure to do so will be entertained.</p>				
<p><u>Proprietary items or materials:</u></p>				
<p>Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.</p>				
<p><u>Note:</u></p>				
<p>Where items in this Bill are identical to those in the previous Bills, the descriptions have been shortened, and the full descriptions in the Trades concerned are to be referred to for the full meaning and intent of each item</p>				
<p><u>SUPPLEMENTARY PREAMBLES</u></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>				
<p>Carried to Collection</p>				
<p>Section No. 3</p>				
<p>Bill No. 4</p>				
<p>Water Supply In Ground</p>				

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	Unit	Quantity	Rate	Amount
<p><u>Copper pipes:</u></p> <p>Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be 'Cobra Watertech' type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground.</p> <p><u>Reducing fittings:</u></p> <p>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.</p> <p><u>Laying, backfilling, bedding, etc of pipes:</u></p> <p>Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions.</p> <p>Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clause 3, 5.5, 5.6, 5.7 and 7 of SAB.</p> <p>Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200LB: Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding.</p> <p><u>Excavations:</u></p> <p>No claim for rock excavation will be entertained unless the Contractor has timeously notified the quantity surveyor thereof prior to backfilling.</p> <p>'Soft rock' and 'hard rock' shall be as defined in 'Earthworks'.</p> <p><u>Descriptions of pipes laid in trenches:</u></p> <p>Descriptions of pipes laid in trenches shall be deemed to include for carting away all surplus excavated material to a dumping site located by the contractor.</p>				
<p style="text-align: right;">Carried to Collection</p> <p>Section No. 3 Bill No. 4 Water Supply In Ground</p>			R	

	Unit	Quantity	Rate	Amount
<p><u>Descriptions of catchpits, junction boxes, manholes, etc:</u></p>				
<p>Descriptions of catchpits, junction boxes, manholes, etc, shall be deemed to include for compaction, disposal of surplus excavated material to a dumping site located by the contractor, risk of collapse and keeping excavations free from water.</p>				
<p><u>Thrust Blocks:</u></p>				
<p>Thrust blocks for pressure pipes to be formed of Class B concrete shaped for fittings with notchings of suitable size to take fittings and with sinkings and flanges of short collar detachable joints of suitable size to allow for removing of coupling when necessary including necessary formwork, excavation, etc</p>				
<p><u>Existing services:</u></p>				
<p>There are a number of existing services within the site boundaries, some of these are shown on the drawings. This information is not exhaustive and does not relieve the contractor of the responsibility of locating all existing services prior to construction. There are existing water, storm water, telephone, communications and electrical services on the site. Work is to be carried out without any disruption to existing services, this includes instances where newly constructed services are to be connected to existing 'live' services.</p>				
<p><u>Corrosion Protection:</u></p>				
<p>All steel and cast iron fittings, specials and valves shall be fusion bonded epoxy lined and coated, film thickness 300 microns. Steel pipes and fittings shall be hot dipped galvanised and Fusion Bonded Epoxy coated and lined. The film thickness shall be 300 microns. Galvanising shall be in accordance with SABS 763. Fusion Bonded Epoxy lining and coating to be to SABS 1217, and strictly in accordance with the manufacturer's specifications. All pipes shall be inspected before and after laying, and any damage shall be made good with cold galvanising and the appropriate epoxy paint. Any on-site cutting and jointing of pipes shall be similarly treated.</p>				
<p><u>Corrosive Soil:</u></p>				
<p>All nuts, bolts, couplings, screwed threads and saddles are to be treated with a compatible primer, packed with a bitumen or tar based mastic and wrapped with 'Denso Tape'. The cost of this work shall be included in the rates tendered for supplying and fixing fittings, specials and valves.</p>				
<p>Section No. 3 Bill No. 4 Water Supply In Ground</p>				
<p>Carried to Collection</p>			R	

	Unit	Quantity	Rate	Amount
<u>Bolts for Flanges:</u>				
All cast iron valves are to be class 16 waterworks pattern with wedge gate to SABS 664 and 665, clock-wise closing with non-rising spindle, and fitted with a valve cap. Valves are to be embossed with the SABS mark, operating class and size. Flanged valves are to be drilled according to SABS 1123 (1977) table 16.				
<u>Valves:</u>				
Bolts and nuts shall comply with the standards of SABS 136 and shall be hot dipped galvanised to SABS 763 (1977)				
<u>WATER SUPPLIES IN GROUND.</u>				
<u>Excavation, etc. for water supplies:</u>				
1		Carefully excavate by hand in small sections, to expose existing services, including backfilling to 90% Mod AASTHO density on completion.	m ³	15
2		Excavation in earth not exceeding 2m deep for pipe trenches.	m ³	9
3		Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock.	m ³	3
4		Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock.	m ³	1
5		Extra over excavation for pipe trenches, chambers, etc for carting away surplus material to a dumping site to be located by the Contractor.	m ³	8
6		Backfilling to pipe trenches with material from the excavations including haulage of a maximum of 350m from perimeter of excavations or stock piles compacted to 90% Mod AASHTO density.	m ³	7
7		Backfilling to pipe trenches, chambers, etc with G7 material supplied by the contractor compacted to 90% Mod AASHTO density.	m ³	4
8		Backfilling to pipe trenches, chambers, etc with G7 material supplied by the contractor compacted to 90% Mod AASHTO density and stabilised with 3 percent cement.	m ³	3
9		Selected backfilling to pipe trenches with material from the excavations including haulage of a maximum of 350m from perimeter of excavations or stock piles in accordance with SABS 1200 LB 3.2 and 3.4.1 compacted to 90% Mod AASHTO density. (Fill blanket)	m ³	4
Carried to Collection				
Section No. 3				
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Water Supply In Ground				
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	Unit	Quantity	Rate	Amount
10				
Backfilling to pipe trenches supplied with material by the contractor in accordance with SABS 1200 LB 3.2 and 3.4.2 compacted to 90% Mod AASHTO density. (Fill blanket)	m ³	3		
11				
Selected granular material in bedding under and filling around pipes with material from the excavations including haulage of a maximum of 350m from perimeter of excavations or stock piles in accordance with SABS 1200 LB 3.1 and 3.4.1. (Bedding cradle)	m ³	2		
12				
Granular material in bedding under and filling around pipes supplied by the contractor in accordance with SABS 1200 LB 3.1 and 3.4.2. (Bedding cradle)	m ³	3		
13				
Sand filling in bedding under and filling around pipes supplied by the contractor.	m ³	3		
<u>Class 10 High density black polyethylene (HDPE) pipes:</u>				
14				
32mm Pipes laid in trenches (trenches elsewhere).	m	15		
15				
50mm Pipes laid in trenches (trenches elsewhere).	m	8		
16				
63mm Pipes laid in trenches (trenches elsewhere).	m	3		
<u>Extra over Class 10 HDPE pipes for plasson fittings:</u>				
17				
32mm to 22mm Reducer.	No	4		
18				
32mm to 28mm Reducer.	No	3		
19				
50mm to 32mm Reducer.	No	4		
20				
63mm to 50mm Reducer.	No	2		
21				
32mm 90 Degree elbow.	No	4		
22				
50mm 90 Degree elbow.	No	3		
23				
63mm 90 Degree elbow.	No	4		
24				
32mm 45 Degree elbow.	No	2		
25				
50mm 45 Degree elbow.	No	3		
26				
63mm 45 Degree elbow.	No	2		
27				
32mm Tee.	No	3		
28				
50mm Tee.	No	4		
29				
63mm Tee.	No	1		
30				
32mm Male adapter.	No	2		
Carried to Collection			R	
Section No. 3				
Bill No. 4				
Water Supply In Ground				

	Unit	Quantity	Rate	Amount
31 50mm Male adapter.	No	3		
32 63mm Male adapter.	No	4		
33 32mm Female adapter.	No	4		
34 50mm Female adapter.	No	1		
35 63mm Female adapter.	No	2		
36 75 x 50mm Male adapter.	No	2		
<u>Galvanised steel pipes with screwed and socketed joints:</u>				
37 20mm Pipes.	m	20		
<u>Extra over Galvanised steel pipes with screwed and socketed joints for malleable steel fittings:</u>				
38 20mm Fittings.	No	12		
<u>Clean all surfaces with a high pressure waterwasher using a mixture of water and 'Plascon Aquasolve' degreaser, apply two inner layers with a 50 percent overlay of 'Canusa Wrapid' tape and single outer wrap with a 50 percent overlay of 'Wrapid Bond':</u>				
39 20mm Pipes.	m	12		
40 20mm Fittings.	No	3		
41 75 x 50mm Reducing tee.	No	4		
42 75 x 63mm Reducing tee.	No	3		
43 75mm Equal tee.	No	2		
<u>Valves, meters etc:</u>				
44 20mm Plain rough brass bibtap.	No	3		
45 28mm Brass gate valve.	No	2		
46 20mm Brass male/female Dole 10l/min flow contoller.	No	2		
47 'Kent Helix 4000' 100mm Water meter with flanged couplings to 110mm uPVC pipe.	No	1		
<u>Sundries:</u>				
48 Unreinforced concrete in thrust blocks in trenches at bends, tees, etc., including extra excavation, formwork, etc.	m ³	7		
Carried to Collection			R	
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Water Supply In Ground				

	Unit	Quantity	Rate	Amount
49 Cut into and temporarily stop off 75mm diameter water pipe, insert reducing tee and joint to new 50mm uPVC pipe.	No	3		
<u>Prescribed tests on filling:</u>				
50 Modified AASHTO Density test.	No	3		
51 DCP test.	No	3		
52 Compactibility test.	No	3		
<u>Testing:</u>				
53 Testing water pipe system.	Item			
Carried to Collection			R	
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BILL NO. 4
WATER SUPPLY IN GROUND
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Water Supply In Ground

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SECTION NO. 3

EXTERNAL WORKS

SECTION SUMMARY

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- 2 STORMWATER DRAINAGE
- 3 SOIL DRAINAGE
- 4 WATER SUPPLY IN GROUND

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Section No. 3
SECTION SUMMARY

SECTION NO. 4
ELECTRICAL INSTALLATION

ELECTRICAL WORKS BOQ

ELECTRICAL WORKS - BILL OF QUANTITIES



ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELECTRICAL INSTALLATION				
	PREAMBLES				
	For Preambles refer to "Model Preambles for Trades"				
	SUPPLEMENTARY PREAMBLES				
	Working Conditions:				
	The contractor is hereby made aware that the proposed work is to be executed in confined spaces				
	The contractor is to allow for all costs in this regard in the tender price				
	Specifications, drawings, etc:				
	Tenderers are referred to the specification accompanying these bills of quantities for the electrical work, for the full descriptions of the following items which are to be read and priced in conjunction with the said specification				
	Site Establishment				
1	Site Establishment and clearance at the end of the contract	Sum			
2	GUARANTEE AND MAINTENANCE				
	Guarantee and maintenance for the complete installation of electrical installation.	Sum			
3	REMOVAL OF WASTE				
	Tenderer to allow for all costs associated with cleaning the site of all rubbish and waste caused by this contract	Sum			
4	COMMISSIONING AND TESTING				
	Allow for testing and commissioning the whole of the Electrical Installation as laid down in the specification and for re-testing as may be required after the making good of all defective work to the satisfaction of the Engineer.	Sum			
5	CERTIFICATE FOR COMPLIANCE				
	Provision for the Certificate of Compliance to be issued on completion of the project.	Sum			
6	BUILDERS WORK DRAWINGS				
	Provision of Builders work layouts on AutoCAD to indicate exact positions of openings and power points.	Sum			
7	CONTRACTORS SHOP DRAWINGS				
	Contract shop drawings prepared in accordance with co-ordinated Architectural, Structural & Service layouts.	Sum			
8	PROGRAMMING OF WORKS				
	Programming of the works to run concurrently with the Builders programme.	Sum			
9	EQUIPMENT APPROVAL				
	Equipment Procurement Submissions for Engineers Approval.	Sum			
10	SCAFFOLDING				
	Provision of Scaffolding for installation of lights, etc at high level.	sum			

Carried forward:

DESCRIPTION OF WORKS: ALTERATIONS AND PARTITIONING OF THE eMENDI BUILDING INCLUDING DESIGN, SUPPLY, INSTALLATION AND COMMISING OF ELECTRICAL, MECHNANICAL, CIVIL STRUCTURAL ENGINEERING WORKS AT THE PORT OF NGQURA

Brought forward:

11	DISTRIBUTION BOARDS				
11.1	Modifications to the existing distribution boards,addition of circuit breakers including all other accessories. Refer to TPD-002-DBSPEC and Electrical Drawing	item	5		
12	LUMINAIRES AND LAMPS				
12.1	Supply,delivery and install 30W 600mmx600mm LED recessed light fitting (mounted onto the ceiling)	item	150		
12.2	Supply,delivery and install 130W Pandent light fitting	item	54		
12.3	Supply,delivery and install 2x9W LED downlighter	item	10		
13	POWER SUPPLY POINTS				
13.1	Supply,delivery and install equal or similar approved to Crabtree 20A 1Ø CORDGRIP isolator	item	4		
13.2	Supply,delivery and install equal or similar approved to Crabtree 20A 1Ø isolator	item	6		
13.4	Supply,delivery and install equal or similar approved to crabtree 60A 3Ø isolator	item	2		
13.5	Supply,delivery and install 16A Double socket outlet (installed 300mm above ground)	item	20		
13.6	Supply,delivery and install 16A Double socket outlet (installed 1350mm above ground)	item	20		
13.7	Supply,delivery and install socket box,2x16A standard socket,LAN point and data point (installed on top of the table)	item	6		
13.8	Supply,delivery and install 5A single socket outlet (installed in ceiling)	item	200		
13.9	Supply,delivery and install 16A single socket outlet (installed in power skirting)	item	115		
13.10	Supply,delivery and install 16A dedicated socket outlet (installed in power skirting)	item	115		
14	SWITCHING				
14.1	Supply,delivery and install 16A PIR occupancy sensor	item	60		
15	CABLE MANAGEMENT				
15.1	40mm Ø PVC conduit complete with all fittings and accessories	m	400		
15.2	25mm Ø PVC conduit complete with all fittings and accessories	m	1000		
16	CABLING AND WIRING				
16.1	Low Voltage 2.5 mm ² stranded house wiring for internal wiring - red	m	1500		
16.2	Low Voltage 2.5 mm ² stranded house wiring for internal wiring - white	m	1500		
16.3	Low Voltage 2.5 mm ² stranded house wiring for internal wiring - blue	m	1500		
16.4	Low Voltage 2.5 mm ² stranded house wiring for internal wiring - black	m	1500		

Carried forward:

DESCRIPTION OF WORKS: ALTERATIONS AND PARTITIONING OF THE eMENDI BUILDING INCLUDING DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING OF ELECTRICAL, MECHANICAL, CIVIL STRUCTURAL ENGINEERING WORKS AT THE PORT OF NGQURA

Brought forward:

16.5	Low Voltage 2.5 mm ² stranded house wiring for internal wiring - green/yellow	m	1500		
16.7	2,5mm ² draw wire	m	200		
16.8	4mm ² , 2 core cable, ECC, SWA, PVC copper cable	m	400		
17	CABLE TERMINATIONS				
17.1	4mm ² , 4core, ECC, SWA, PVC copper cable terminations complete with accessories	item	5		
17.2	Wiring consumable accessories including lugs, ferrules, glands, tags etc	sum	1		
18	EARTHING AND LIGHTNING				
18.1	Design, supply and installation of earthing and lighting protection	sum	1		
19	TESTING AND COMMISSIONING				
19.1	Testing and commissioning of complete installation in accordance to SANS 10142-1 including the issuing of certificate of compliance	sum	1		
	TOTAL				
20	GENERAL				
20.1	Allow a provisional sum of R200 000.00 for Sundry electrical work not covered above, to be used as directed by the Engineer and be deducted wholly or in part as required	sum	1		
Total: To be carried forward to summary					
NET TOTAL OF ELECTRICAL BOQ CARRIED TO SECTION 4 OF THE MAIN BOQ					

SECTION NO. 5
MECHANICAL INSTALLATION

MECHANICAL WORKS BOQ



(Including: Supply, Delivery, Installation and commissioning)

Item No.	Description	Unit	Quantity	Rate	Amount
	<u>MECHANICAL INSTALLATION</u>				
	PREAMBLES				
	For Preambles refer to "Model Preambles for Trades"				
	SUPPLEMENTARY PREAMBLES				
	<u>Working Conditions:</u>				
	The contractor is hereby made aware that the proposed work is to be executed in confined spaces				
	The contractor is to allow for all costs in this regard in the tender price				
	<u>Specifications, drawings, etc:</u>				
	Tenderers are referred to the specification accompanying these bills of quantities for the mechanical work, for the full descriptions of the following items which are to be read and priced in conjunction with the said specification				
	<u>Ductwork:</u>				
	Where transformations or reducers occur the larger size ductwork has been measured through the fitting. Descriptions of ductwork shall be deemed to include stiffeners, jointing materials, sealants, couplers in the running length and access/inspection panels in accordance with the specification				
	<u>Site Establishment</u>				
1	Site Establishment and clearance at the end of the contract	Sum			
2	GUARANTEE AND MAINTENANCE				
	Guarantee and maintenance for the complete installation of mechanical installation including materials and workmanship for a period of TWELVE MONTHS after date of completion	Sum			
3	REMOVAL OF WASTE				
	Tenderer to allow for all costs associated with cleaning the site of all rubbish and waste caused by this contract	Sum			
4	COMMISSIONING AND TESTING				
	Allow for testing and commissioning the whole of the Mechanical Installation as laid down in the specification and for re-testing as may be required after the making good of all defective work to the satisfaction of the Consulting Engineer.	Sum			
5	CERTIFICATE FOR COMPLIANCE				
	Provision for the Certificate of Compliance to be issued on completion of the project.	Sum			
6	BUILDERS WORK DRAWINGS				
	Provision of Builders work layouts on AutoCAD to indicate exact positions of openings and power points.	Sum			
7	CONTRACTORS SHOP DRAWINGS				
	Contract shop drawings prepared in accordance with co-ordinated Architectural, Structural & Service layouts.	Sum			
8	PROGRAMMING OF WORKS				
	Programming of the works to run concurrently with the Builders programme.	Sum			
9	EQUIPMENT APPROVAL				
	Equipment Procurement Submissions for Engineers Approval.	Sum			
11	SCAFFOLDING				
	Provision of Scaffolding for installation of equipment at high level.	sum			

Carried forward:

Brought forward:

12	OPERATION AND MAINTENANCE MANUALS Provision of Operating and Maintenance Manuals as per the Technical Specification.	Sum			
13	Project Hand-over	Sum			
	<u>Basement 2</u>				
22	Air conditioning indoor unit as per specification Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components	sum			
	Indoor air conditioning units to be repositioned to align with Architects latest partitioning drawings, System to be design, supplied, retested and recommissioned to comply to new layout and movement of equipment in identified areas.	sum			
24	Accessories All accessories needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
25	Air Terminals All air terminals needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
26	Ductwork All ductwork needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
27	Air Conditioning Outdoor Units Capacity of outdoor unites needed to be confirmed to handle new partitioned areas, tested and commissioned and confirmed with engineer.	sum			
28	Drainage piping All drainage needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum			
29	Branch Pipes All branch pipes needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum			
	All above mentioned equipment shall be of an independent acoustic sensitive ventilation and cooling system for the work area B2.2 as depicted on the Employers drawings. This system shall not exceed the 25 decibels sound level as described in 2007 AHSHRAE Handbook – HVAC Applications – Chapter 47 – Table 42: Design Guidelines for HVAC – Related to Background Sound in Rooms, for Drama theatres, concert hall and recital halls. The Contractor shall ensure that on completion the entire room with all systems on does not exceed the sound level mentioned within this paragraph.				
	END OF FIRST FLOOR MEASUREMENT				

Carried forward:

Brought forward:

	Basement 1			
22	Air conditioning indoor unit as per specification Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components	sum		
	Indoor air conditioning units to be repositioned to align with Architects latest partitioning drawings, System to be design, supplied, retested and recommissioned to comply to new layout and movement of equipment in identified areas.	sum		
24	Accessories All accessories needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
25	Air Terminals All air terminals needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
26	Ductwork All ductwork needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
27	Air Conditioning Outdoor Units Capacity of outdoor units needed to be confirmed to handle new partitioned areas, tested and commissioned and confirmed with engineer.	sum		
28	Drainage piping All drainage needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum		
29	Branch Pipes All branch pipes needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum		
	END OF FIRST FLOOR MEASUREMENT			

Carried forward:

Brought forward:

	Ground Floor			
14	Air conditioning indoor unit as per Conceptual Drawings Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components			
14.1	Concealed Ceiling Air Conditioning Indoor Unit: GF-E13	No.	1	
14.2	Concealed Ceiling Air Conditioning Indoor Unit: GF-W34	No.	1	
14.3	Concealed Ceiling Air Conditioning Indoor Unit: GF-E35	No.	1	
14.4	4-way Ceiling Cassette Indoor Unit: GF-E14a	No.	1	
14.5	4-way Ceiling Cassette Indoor Unit: GF-E14b	No.	1	
14.6	4-way Ceiling Cassette Indoor Unit: GF-E14c	No.	1	
14.7	4-way Ceiling Cassette Indoor Unit: GF-E14d	No.	1	
14.8	4-way Ceiling Cassette Indoor Unit: GF-W-36	No.	1	
15	Heat Recovery Unit			
15.1	BC-03	No.	1	
15.2	BC-04	No.	1	
16	Accessories			
16.1	Wired Remote Controllers	No.	8	
17	Air Terminals			
17.1	SAD-01 Fresh Air Diffuser with plenum box, mounting frame and adjustable damper. 200mm diameter, 600x600	No.	5	
17.2	SLD-05 Fresh Air Long Slot Diffuser with plenum box, mounting frame and adjustable damper. 150mm diameter, 900mm long	No.	2	
17.2	RAG-02 Return air grille, mounting frame and adjustable damper. 300mm diameter connection, 600x600	No.	1	
17.3	RAG-01 Return air grille, mounting frame and adjustable damper. 250mm diameter connection, 600x600	No.	2	
18	Ductwork All Ductwork to be manufactured from galvanised sheet metal and installed in accordance with SABS 1238 and SABS 0173. Round ducting to be of the spiral wound type unless indicated otherwise:			
18.1	Ø150 mm	m	20	
18.2	Transformation piece Ø250 mm to Ø150 mm - 300 mm Long	No.	4	
18.3	Ø200 mm	m	39	
18.4	Ø250 mm	m	18	
18.5	Transformation piece Ø250 mm to Ø200 mm - 300 mm Long	No.	4	
18.6	Ø300 mm	m	6	
18.7	Ø350 mm	m	4	
18.8	Transformation piece Ø350 mm to Ø200 mm - 300 mm Long	No.	1	
19	Air Conditioning Refrigerant Copper Piping. Size to be according to suppliers design	m	40	
19.1	90 degree bends	No.	40	
19.2	Stopper valves	No.	10	
20	Drainage piping PVC Piping. Size to be according to suppliers design, shall be included with all fittings and mountings, and seals and valves.	per m		
21	Branch Pipes			
21.1	Supply, deliver and install Y-Branch pipe (Outdoor)	No	4	
21.2	Supply, deliver and install Y-Branch pipe (indoor)	No.	16	
	End of First Floor Measurement			

Carried forward:

Brought forward:

Main Administration Building				
First Floor				
22	Air conditioning indoor unit as per specification Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components	sum		
	Indoor air conditioning units to be repositioned to align with Architects latest partitioning drawings, System to be design, supplied, retested and recommissioned to comply to new layout and movement of equipment in identified areas.	sum		
24	Accessories All accessories needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
25	Air Terminals All air terminals needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
26	Ductwork All ductwork needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
27	Air Conditioning Outdoor Units Capacity of outdoor units needed to be confirmed to handle new partitioned areas, tested and commissioned and confirmed with engineer.	sum		
28	Drainage piping All drainage needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum		
29	Branch Pipes All branch pipes needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum		
END OF FIRST FLOOR MEASUREMENT				

Carried forward:

Brought forward:

	Second Floor			
30	Air conditioning indoor unit as per specification Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components Indoor air conditioning units to be repositioned to align with Architects latest partitioning drawings, System to be design, supplied, retested and recommissioned to comply to new layout and movement of equipment in identified areas.	sum		
33	Accessories All accessories needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
34	Air Terminals All air terminals needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
35	Ductwork All ductwork needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum		
36	Air Conditioning Capacity of outdoor units needed to be confirmed to handle new partitioned areas, tested and commissioned and confirmed with engineer.	sum		
37	Drainage piping All drainage needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum		
38	Branch Pipes All branch pipes needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum		
	END OF SECOND FLOOR MEASUREMENT			

Carried forward:

Brought forward:

	Third Floor				
39	<u>Air conditioning indoor unit as per specification</u> Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components				
	Indoor air conditioning units to be repositioned to align with Architects latest partitioning drawings, System to be design, supplied, retested and recommissioned to comply to new layout and movement of equipment in identified areas.	sum			
41	Accessories All accessories needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
42	Air Terminals All air terminals needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
43	Ductwork All ductwork needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
44	Air Conditioning Capacity of outdoor units needed to be confirmed to handle new partitioned areas, tested and commissioned and confirmed with engineer.	sum			
45	Drainage piping All drainage needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum			
46	Branch Pipes All branch pipes needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum			
	END OF THIRD FLOOR MEASUREMENT				

Carried forward:

Brought forward:

	Forth Floor				
47	<u>Air conditioning outdoor unit as per specification</u> Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components Indoor air conditioning units to be repositioned to align with Architects latest partitioning drawings, System to be design, supplied, retested and recommissioned to comply to new layout and movement of equipment in identified areas.	sum			
50	Accessories All accessories needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
51	Air Terminals All air terminals needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
52	Ductwork All ductwork needed to be repositioned, , supplied, installed, tested and commissioned and confirmed with engineer.	sum			
53	Air Conditioning Capacity of outdoor units needed to be confirmed to handle new partitioned areas, tested and commissioned and confirmed with engineer.	sum			
54	Drainage piping All drainage needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum			
55	Branch Pipes All branch pipes needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.	sum			
	END OF FORTH FLOOR MEASUREMENT				

Carried forward:

Brought forward:

	<p>Fifth Floor</p> <p>56 <u>Air conditioning outdoor unit as per specification</u> Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components</p> <p>Indoor air conditioning units to be repositioned to align with Architects latest partitioning drawings, System to be design, supplied, retested and recommissioned to comply to new layout and movement of equipment in identified areas.</p> <p>57 Air Conditioning Capacity of outdoor units needed to be confirmed to handle new partitioned areas, tested and commissioned and confirmed with engineer.</p> <p>58 Drainage piping All drainage needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.</p> <p>59 Branch Pipes All branch pipes needed to be repositioned, supplied, installed, tested and commissioned and confirmed with engineer.</p> <p>END OF FIFTH FLOOR MEASUREMENT</p>	<p>sum</p> <p>sum</p> <p>sum</p> <p>sum</p>			
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Carried forward:

DESCRIPTION OF WORKS: ALTERATIONS AND PARTITIONING OF THE eMENDI BUILDING INCLUDING DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING OF ELECTRICAL, MECHANICAL, CIVIL STRUCTURAL ENGINEERING WORKS AT THE PORT OF NGQURA

Brought forward:

Filter, fittings, meters and all other accessories as per SANS specifications and manufacturer requirements	sum	1		
Design, drawings and documentation as per Works Information	sum	1		
Testing and Commissioning as per Works Information	sum	1		
Design, supply, installation, testing and commission of all of the above systems, as per required modification by architects drawings, shall be review by Employees Engineer for acceptance once design process has been completed. All equipment specified shall be of the same OEM as what is currently installed in the building.	sum			
END OF MAIN ADMINISTRATION BUILDING MEASUREMENT				

Carried forward:

Brought forward:

	Canteen Building HVAC System			
60	Air conditioning outdoor unit as per Conceptual Drawings Supply, deliver, rig into position if necessary, install and commission, and test air conditioning units into place with all its components			
60.1	Outdoor Unit: AC4	No.	1	
61	Air conditioning indoor unit as per Conceptual Drawings Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components			
61.1	Concealed Ceiling Air Conditioning Indoor Unit: AC1	No.	1	
61.2	Concealed Ceiling Air Conditioning Indoor Unit: AC2	No.	2	
61.3	4-way Ceiling Cassette Indoor Unit: AC3	No.	5	
62	Accessories			
62.1	Wired Remote Controllers	No.	2	
63	Air Terminals			
63.1	D1 Fresh Air Diffuser with plenum box, mounting frame and adjustable damper. 250mm diameter, 600x600	No.	2	
63.2	D2 Fresh Air Diffuser with plenum box, mounting frame and adjustable damper. 270mm diameter, 600x600	No.	2	
63.3	D3 Fresh Air Diffuser with plenum box, mounting frame and adjustable damper. 285mm diameter, 600x600	No.	2	
63.4	RAG Return air grille, mounting frame and adjustable damper. 120mm diameter connection, 300x150	No.	2	
63.5	L1 Door/Wall louvre, 600x150 mm	No.	12	
63.6	L2 Door/Wall louvre, 400x400 mm	No.	2	
64	Ductwork All Ductwork to be manufactured from galvanised sheet metal and installed in accordance with SABS 1238 and SABS 0173. Round ducting to be of the spiral wound type unless indicated otherwise.			
64.1	Ductwork for fresh air intake fan	m	3	
64.2	Transformation piece fan duct to 500x450 mm - 400mm long	No.	1	
64.3	600x500 mmm	m	1	
64.4	Ø365 mm	m	7	
64.5	300x300 mm	m	4	
64.6	Ø255 mm	m	8	
64.7	Transformation piece 600x500 mm to 500x450 mm 0 - 300mm long	No.	1	
64.8	500x450	m	2	
64.9	Ø385 mm	m	4	
64.10	330x300 mm	m	1	
64.11	Transformation piece 330x300 mm to 250x250 mm - 300mm long	No.	1	
64.12	250x250 mm	m	6	
64.13	Ø270 mm	m	4	
64.14	Transformation piece 500x450 mm to 400x350 mm - 300mm long	No.	1	
64.15	400x350 mm	m	7	
64.16	350x300 mm	m	1	
64.17	Transformation piece 350x300 mm to 360x200 mm - 300mm long	No.	1	
64.18	360x200 mm	m	4	
64.19	Ø285 mm	m	2	
65	Air Conditioning (Refrigeration) Refrigerant Copper Piping. Size to be according to suppliers design	m	42	
65.1	90 degree elbow fittings	No.	8	
65.2	Tee fittings	No.	6	
65.3	Stopper valves	No.	6	

Carried forward:

Brought forward:

66	Air Conditioning (Drainage)			
66.1	PVC Piping. Size to be according to suppliers design	m	40	
66.2	90 degree bends	No.	8	
66.3	Tee fittings	No.	6	
66.4	Stopper valves	No.	6	
67	Kitchen Ventilation			
	The ventilation for the kitchen must comply with SANS 1850.			
67.1	Installation of the existing kitchen canopy/hood and installing a ventilation system for extraction	Sum	1	
67.2	Design, supply, and Installation of make up air ventilation system.	Sum	1	
68	Ventilation Fans			
	Supply, delivery, and installation of supply and extraction fans			
68.1	F1 Extractor fan with 68 L/s capacity	No.	1	
68.2	F2 Extractor fan with 171 L/s capacity	No.	2	
68.3	F3 Fresh air supply fan with minimum of 1370 L/s capacity	No.	1	
	Filter, fittings, meters and all other accessories as per SANS specifications and manufacturer requirements	sum	1	
	Design, drawings and documentation as per Works Information	sum	1	
	Testing and Commissioning as per Works Information	sum	1	
END OF CANTEEN BUILDING HVAC MEASUREMENT				

Carried forward:

Brought forward:

Canteen Building Fire suppression and Detection					
69	Fire Protection System Supply, deliver and install the following fire protection system, complete with fire extinguishers, hose reel, hydrant, and all related signage, brackets, supports and all necessary accessories, as per the, manufacturer's recommendations.				
69.1	Fire extinguishers (4.5 kg dry chemical powder) and timber backing board, supports and all necessary accessories, as per the, manufacturer's recommendations.	No.	5		
69.2	Fire Extinguisher (9L Wet Chemical) and timber backing board, supports and all necessary accessories, as per the, manufacturer's recommendations	No.	1		
69.3	Swing Type Hose Reel with (30m hose) with supports and all necessary accessories, as per the, manufacturers recommendations	No.	1		
69.4	Fire hydrant (Tamper proof with fire cabinet to house 30m hose) with supports and all necessary accessories, as per the, manufacturers recommendations	No.	1		
69.5	150x150 mm Fire equipment signages and Photoluminescent emergency exit signages as per fire drawings including all necessary fixing accessories.	No.	14		
69.6	XP 95 optical smoke detector with mounting supports and all necessary accessories, as per the, manufacturers recommendations	No.	11		
69.7	XP 95 multi-sensor optical heat detector with mounting supports and all necessary accessories, as per the, manufacturers recommendations	No.	2		
69.8	Intelligent manual call points with mounting supports and all necessary accessories, as per the, manufacturers recommendations	No.	2		
69.9	XP95 open area sounder beacon (SONOS) with mounting supports and all necessary accessories, as per the, manufacturers recommendations	No.	3		
69.10	Valves, filter, fittings, meters and all other accessories as per SANS specifications and manufacturer requirements	sum	1		
69.11	Design, drawings and documentation as per Works Information	sum	1		
69.12	Testing and Commissioning as per Works Information	sum	1		
End of Canteen Building Fire Suppression and Detection Measurement					

Carried forward:

Brought forward:

70	Canteen Building Fire suppression and Detection Water Reticulation System:				
70.1	For the design, supply, delivery, installation testing and Commissioning of the Water reticulation system including connection pipework, supports, hangers, pipe fittings, valves, pumps and control systems as per the manufacturer's specification and recommendations. Provision shall also be made for all plinths/foundations required under the relevant plant.				
71	Pipe Lengths	m			
71.1	Pipe, DN 18: copper pipe	m	3		
71.2	Pipe, DN 28: copper pipe	m	5		
71.3	Pipe, DN 22: copper pipe	m	10		
71.4	Pipe, DN 15: copper pipe	m	7		
72	Tee fittings				
72.1	Tee, DN 28 x DN 22 x DN 15: copper pipe	No	2		
72.2	Tee, DN 22 x DN 15 x DN 22: copper pipe	No	2		
72.3	Tee, DN 15 x DN 15 x DN 15: copper pipe	No	2		
73	90 Degrees Fittings				
73.1	DN 28 x 22, 90 degree bends	No	1		
73.2	DN 22 x 15, 90 degree bends	No	1		
73.3	DN 15 x 15, 90 degree bends	No	1		
74	Isolating valves				
74.1	Isolating valve, DN 22	No	5		
74.2	Isolating valve, DN 28	No	1		
74.3	Isolating valve, DN 15	No	5		
75	Reducers				
75.1	Reducer, DN 22 x DN 15	No	1		
76	Hydroboil 15 L	No	1		
78	Filter, fittings, meters and all other accessories as per SANS specifications and manufacturer requirements	sum	1		
79	Design, drawings and documentation as per Works Information	sum	1		
80	Supply, installation, Testing and Commissioning as per Works Information	sum	1		
	End of Canteen Building Water Reticulation System				
NET TOTAL OF MECHANICAL BOQ CARRIED TO SECTION 5 OF THE MAIN BOQ					

SECTION NO. 6

STUDIO

SECTION NO. 6

STUDIO

BILL NO. 1

STUDIO

DESIGN, SUPPLY AND BUILDING/ INSTALLATION OF STUDIO:

Before submitting this tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done in the studio. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained.

Studio:

1 Design, supply, building/ installation, commissioning, testing, and handover of studio complete as detailed in the scope of works, page 5, work areas B2.2. The drawing for the size of the studio is also attached to these Bills of Quantities. Contractor to provide shop drawings for approval by the Employer before commencement of the works. (refer to Drawing No.: XHOE0006-1-100-A-LA-0001-01).

Unit

Quantity

Rate

Amount

Item

Carried to Final Summary

R

Section No. 6
Bill No. 1
Studio

SECTION NO. 7

FURNITURE

	Unit	Quantity	Rate	Amount
<p><u>SECTION NO. 7</u></p>				
<p><u>FURNITURE</u></p>				
<p><u>BILL NO. 1</u></p>				
<p><u>FURNITURE</u></p>				
<p><u>TRADE PREAMBLES</u></p>				
<p><u>Trade Preambles:</u></p>				
<p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p>				
<p>Open plan desks should not be designed as clusters to allow for flexibility in placement. Desks and Cabinets to be delivered in parts and assembled in their final locations to avoid damage during the move.</p>				
<p>Each desk cluster should include the following:</p>				
<ul style="list-style-type: none"> • 1x plug units consisting of 1 Red 3-pin; 1 Regular 3-pin; 1 regular 2-pin; 1 Network point. • 1x cable for Red plugs plus a cable to connect to the power supply • 1x cable for Regular plugs (shared by 3-pin and 2-pin) plus a cable to connect to the power supply • 1x round openings with beige pvc lining. • 1x cable trunking unit • 1x hook for Kensington Cables (Laptop locking) • 1 set of steel legs • 1x privacy screen - screen fabric Weavers World, Vulcan, Colour TBC; Desk-based screens are not to exceed 1500mm from floor level 				
<p><u>FURNITURE FITTINGS:</u></p>				
<p><u>Desks, Cabinet and Chairs:</u></p>				
<p><u>Supply, delivery and installation of new Open Plan Workstations see attached drawing no.: XHOE0006-1-900-A-LA-0001-01. (Tables with screens, Cabinets and Chairs):.</u></p>				
<p><u>Desk:</u></p>				
<p>1 Open plan office systems desk with 1600 x 750 top, finished in Coimbra laminate (or similar approved) with silver pvc edging supported on 50mmx50mm glossy white epoxy coated rectangular steel leg system. Desk system should include:</p>				
<p>Section No. 7 Bill No. 1 Furniture</p>				
<p>Carried to Collection</p>			R	

Amount

BILL NO. 1
FURNITURE
COLLECTION

Page No

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Carried To Section Summary

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Section No. 7
Bill No. 1
Furniture

Amount

SECTION NO. 7

FURNITURE

SECTION SUMMARY

Bill No.

1

FURNITURE

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Carried to Final Summary

Section No. 7
SECTION SUMMARY

R

Section No.

FINAL SUMMARY

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6	STUDIO	135
7	FURNITURE	140

SubTotal excluding Value Added Tax

ADD VAT @ 15%:

Carried to Tender

R

FINAL SUMMARY