

Item No	SECTION No 2	Quantity	Rate	Amount
	Bill No 4			
	CONCRETE, FORMWORK AND REINFORCEMENT			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>UNREINFORCED CONCRETE</u>			
	<u>20MPa / 19mm concrete</u>			
1	Aprons cast in panels	m3	11	
2	Extra over concrete apron for thickening size 150mm deep, 200mm top and tapering to 100mm at bottom including all excavation to 100mm, backfilling, etc	m	129	
3	Ramps	m3	0.5	
4	Extra over concrete in ramps for thickening 238mm deep and approximately 400mm wide top and tapering to 230mm at the bottom including all excavations, backfilling, etc	m	4	
	<u>REINFORCED CONCRETE</u>			
	<u>25MPa / 19mm Concrete</u>			
5	In worktops	m3	0.4	
6	Stairs, landings and stringer beams, etc	m3	3	
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CONCRETE SUNDRIES

Finishing top surfaces of concrete with a wood float

7	Surface beds, slabs, etc	m2	3
8	Apron, ramps, etc to falls	m2	169

ROUGH FORMWORK

Rough formwork to sides

9	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	185
10	Riser not exceeding 300mm high	m	41
11	Raking and stepped outer edge of stairs 300mm wide extreme	m	21

Rough formwork to soffits

12	Slabs	m2	3
13	Raking stairs	m2	15

MOVEMENT JOINTS

Saw cut joints

14	6 x 30mm Saw cut joint in concrete floors	m	50
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Two layers of 3mm tempered hardboard movement joint between horizontal concrete and brick surfaces

15	Not exceeding 300mm wide	m	6
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Expansion joints with bitumen impregnated soft board between vertical concrete surfaces

16	10mm Joints not exceeding 300mm high or wide	m	100
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Expansion joints with bitumen impregnated soft board between vertical concrete and brick surfaces

17	12mm Joints not exceeding 300mm high	m	903
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Item No		Quantity	Rate	Amount
	SECTION No 2			
	Bill No 5			
	MASONRY			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>SUPERSTRUCTURE</u>			
	<u>Brickwork of NFP bricks (14MPa nominal compressive strength) in class I mortar</u>			
1	Piers	m3	0.3	
2	Half brick walls	m2	6	
3	Half brick walls in concrete lining	m2	19	
4	One brick walls	m2	99	
	<u>Precast concrete breeze blocks according to SANS 10400 standards</u>			
5	Size 250 x 250 x 90mm built into one brick wall	m2	3	
	<u>BRICKWORK SUNDRIES</u>			
	<u>Sundries</u>			
6	Extra for building brickwork to over sailing face with each course projecting 62mm	m2	2	
	<u>Reinforced precast concrete lintels</u>			
7	Standard 110mm wide x 75mm high approved reinforced precast concrete lintel not exceeding 3m long, with ends built into brickwork in cement mortar including propping	m	18	
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	<u>Steel bar reinforcement</u>		
8	6mm Diameter mild steel bars built in horizontally	m	7
9	8mm Diameter mild steel bars built in horizontally	kg	178
	<u>Brickwork reinforcement</u>		
10	75mm Wide reinforcement built in horizontally	m	126
11	150mm Wide reinforcement built in horizontally	m	589
	<u>Turning pieces</u>		
12	110mm Wide turning piece to lintels, etc	m	3
13	220mm Wide turning piece to lintels, etc	m	115
	<u>FACE BRICKWORK</u>		
	<u>"Middelwit Fynbos Geel / Rooi" face bricks to (SANS 10400 B/BB1 and BB2 according to NBR) class FBS in stretcher bond with polished 10 x 6mm deep square recessed joints in both directions</u>		
14	Extra over brickwork for face brickwork (Provisional)	m2	236
15	Extra over brickwork for brick-on-edge header course lintel	m	1
16	Extra over brickwork for brick-on-edge header course lintel above opening	m	115
	<u>Brick-on-edge header course lintels, copings, sills, etc of "Middelwit Fynbos Geel / Rooi" face bricks to (SANS 10400 B/BB1 and BB2 according to NBR) class FBS pointed with recessed joints on all exposed faces</u>		
17	Coping on top of one brick wall to walkways	m	183
18	Coping on top of one brick wall	m	50
19	Sill 180mm wide, set sloping at 15 degrees and slightly projecting from wall face including all cutting and pointing to top and front edge	m	1
20	Pointing only to end of half brick wall	m	7

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21	Pointing only to soffit of brick lintel half brick wide	m	1
	<u>PAVING</u>		
	<u>222 x 106 x 50mm Paving bricks (SANS 1575) as per "Corobrik" laid in stretcher bond with 1:4 (cement : river sand) 5mm joints on 20mm thick river sand bed with sand swept into joints including preparation of ground or filling</u>		
22	Paving in stretcher bond	m2	191

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WATERPROOFING TO ROOFS, BASEMENTS, ETC

"Derbigum SP" membrane or similar approved 4mm thick polyester dual reinforced fill bonded waterproofing system finished with two coats bituminous aluminium paint, with a 10 year maintenance free guarantee all in accordance with the materials supplied and methods recommended by Derbigum South Africa (Pty) Limited

Prices must include for all laps, cutting and waste, and for ensuring that all surfaces are free from dust and grit

Gradings and screeds are measured separately

6	To screeded concrete roof including up or down turns	m2	189
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Fibre glass membrane 450g per square meter fixed with "UPE 1299" white chemical resistant resin to screeded balconies to receive floor tiles

Prices must include for all laps, cutting and waste, and for ensuring that all surfaces are free from dust and grit

Gradings and screeds are measured separately

7	To screeded concrete balconies including up or down turns	m2	302
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Prepare and apply two coats bitumen based aluminium paint

8	On concrete roof including up or down turns	m2	44
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"Bituthene 3000" waterproofing according to the Engineer's specification (refer to Engineer's inspection report 1.1.3.1)

9	To vertical brickwork	m2	4
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JOINT SEALANTS, ETC

Silicone sealing compound including backing cord, bond breaker, primer, etc

10	Joint sealant between aluminium door or aluminium window frame and external face brick surround	m	36
11	Joint sealant between steel door or steel window frame and external face brick surround	m	10
12	Joint sealant between steel door or steel window frame and external face brick surround	m	651

Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc

13	12 x 20mm In expansion joints in vertical surfaces of concrete and brickwork, including raking out expansion joint filler as necessary	m	903
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SECTION No 2

Bill No 7

ROOF COVERINGS, ETC

PREAMBLES

For preambles see "Specification of materials and methods to be used - PW 371-A"

PROFILED METAL SHEETING AND ACCESSORIES

Accredited roof covering specialist inspection report

1 Accredited roof covering specialist to inspect the roof sheeting installed and issue a report to the Engineer

Item

Roof covering remedial work

2 Remedial work to roof covering as per report from accredited roof covering specialist

Item

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 Roof Coverings
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	CARPENTRY AND JOINERY			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>ROOFS, ETC</u>			
	<u>ITC accredited roof timber truss inspection report</u>			
1	ITC accredited timber roof specialist to inspect the roofs and issue a report to the Engineer	Item		
	<u>Roof timber truss remedial work</u>			
2	Remedial work to roof timber trusses as per report from ITC accredited roof timber truss specialist	Item		
	<u>Design and erection/installation certificates</u>			
3	Design certificate indicating the licensed programme used, SANS 10163 specifications adhered to, general procedures and loadings adopted, sizes and grading of timber components, details, etc	Item		
4	Erection guarantee certificate after the whole completed roof truss structure have been inspected, all defective work have been taken out and made good, etc to the full satisfaction of the representative/agent	Item		
	<u>EAVES, VERGES, ETC</u>			
	<u>Fibre cement</u>			
5	10 x 225mm Fascias and barge boards, including galvanised steel H-profile jointing strips	m	31	
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DUCT LOUVRES

Saligna hardwood

6	22mm Saligna hardwood strips 100mm high screwed to mild steel sub-frame (measured elsewhere) with texan screws with 10mm gaps between slats	m	176
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FLOORS AND SKIRTINGS

Wrought meranti

7	19 x 76mm Skirting with rounded top edge nailed to brick walls including 25mm meranti quadrant	m	325
8	19 x 76mm Skirting with rounded top edge nailed to brick walls including 25mm meranti quadrant	m	278

TIMBER SPACERS

Wrought softwood

9	19 x 38mm Timber spacers to hold glass in position in mild steel window frame	m	12
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VERTICAL BLINDS

All runners to be wheeled and fitted with individual clutch mechanisms

All runners to be connected by stainless steel spacer links

Tilt mechanism to be operated by nylon ball chain through a reduction gear inside a fully enclosed end cap

Slats to be 90mm wide and fabric slats to be ultrasonically sealed

Slats may not be glued

Vertical blinds with anodized aluminium head rail 45mm wide x 25mm high

10	Fixed to plastered walls to inside of steel windows	m2	114
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DOORS, ETC

Semi-solid hardwood door with masonite facings with 16mm thick solid hardwood edging all round

11	40mm Door 813 x 1932mm high	No	3
12	40mm Door 813 x 1932mm high	No	2
13	40mm Door 813 x 2032mm high	No	7
14	40mm Door 912 x 2032mm high	No	1
15	40mm Double door 1136 x 2032mm high	No	1
16	40mm Double door 1511 x 2032mm high	No	1

Solid hardwood door with masonite facings with 16mm thick solid hardwood edging all round hung to steel frames

17	44mm Door 813 x 2032mm high	No	5
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Solid hardwood door with matching masonite backing (SANS 10400 S/SS4 according to NBR) hung to steel frames

18	44mm Door 813 x 2032mm high	No	5
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Solid hardwood door out of 102 x 44mm vertical and horizontal styles with 200 x 44mm push- and kick plate with solid hardwood panel at bottom and panel on top to accommodate glass panel

19	44mm Door 813 x 2032mm high	No	2
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SHELVING

Approved

20	16mm White melamine shelving with PVC edging 450mm wide, screwed from under side to steel brackets (steel brackets elsewhere)	m	137
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FITTINGS

Hardwood seats

32mm Saligna hardwood

21	210mm Diameter seat with rounded edges, screwed to steel with four 40mm long wood screws	No	6
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50mm Wrought hardwood

22	400mm Diameter seat with rounded edges, screwed to steel with six 40mm long wood screws	No	6
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Hardwood bench

Saligna

23	92 x 20mm Slats with rounded edges, screwed to steel	m	91
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24	40 x 20mm Edge screwed to timber slats	m	44
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Laminated saligna hardwood

25	200 x 32mm Back rest plugged to brickwork	m	27
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Counter tops

Tops out of 32mm thick chipboard with 1.0mm thick high pressure formica laminate on exposed surface, front leading edge to be post formed (90 degree bullnose), underside of top to be sealed with "Continuous Pressure Laminated brown backer and vapo seal", all cut edges and exposed chipboard to be sealed with one coat acrylic sealer and then with silicone

26	350mm Wide top	m	5
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27	600mm Wide top	m	22
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28	700mm Wide top	m	4
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29	742mm Wide top	m	4
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30	Extra over 32mm formica top for 90 degree bullnose edge	m	40
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31	Formica lamite finish to 32mm vertical exposed edge	m	4
32	Vertical edge 80mm high with formica lamited finish to front and 32mm wide edge	m	2
33	Vertical style 250mm high with formica lamite finish to both sides	m	5
<u>Hardwood strips (refer to OCB FU24)</u>			
34	48 x 20mm Solid maple hardwood edge in one solid length to counter-top, secured according to specialist detail	m	7
35	48 x 20mm Solid hardwood beading screwed to wall at maximum 200mm centres	m	3

Cabinets

Floor- wall and drawer units consisting of

Cabinet sides, selves and floor formed out of 16mm thick chipboard laminated on both faces in white melamine

Kick-plate formed out of 16mm thick chipboard laminated in "Renolit laminate" on front face

Doors and fronts formed out of 16mm thick chipboard laminated in "Renolit" or "Melamine" with vertical edges post formed

Drawer runners to be metal with nylon runner "Hettich" type and quality with 30kg load capacity and 100,000 cycle test guarantee

Hinges to be internal concealed "Hettich" type and quality hinges with minimum 100,000 cycle test guarantee

Wall units fixed to brickwork

36	450 x 720mm High (Code : W450) with no exposed sides (refer to OCB FU25)	No	3
37	1200 x 720mm High (Code : W1200) with one exposed side (refer to SQ FU2)	No	3

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<u>Purpose made shelf units fixed to brickwork</u>		
38	Shelve unit 580 x 720mm high divided into two shelves with one side exposed (refer to SQ FU2)	No 6
39	Shelve unit 750 x 400mm high with no exposed sides (refer to SQ FU2)	No 3
<u>Floor units including 100mm high kick plate all around</u>		
40	450 x 880mm High (Code : F450) with no exposed sides (refer to OCB FU25)	No 2
41	Drawer unit 450 x 880mm high including four drawers (Code : F450/4) with no exposed sides (refer to OCB FU25)	No 1
42	600 x 718mm High (Code : F600) with back and both sides exposed (refer to SAP FU27)	No 2
43	600 x 880mm High (Code : F600) with no exposed sides (refer to OCB FU1)	No 2
44	600 x 880mm High (Code : F600) with back exposed and no exposed sides (refer to OCB FU12)	No 1
45	Drawer unit 600 x 728mm high including three drawers (Code : F600/3) with one side exposed (refer to OCB FU4)	No 1
46	Drawer unit 600 x 728mm high including three drawers (Code : F600/3) with both sides exposed (refer to OCB FU5)	No 5
47	Drawer unit 600 x 728mm high including four drawers (Code : F600/4) with both sides exposed (refer to OCB FU27)	No 1
48	Drawer unit 600 x 880mm high including three drawers (Code : F600/3) with back exposed and no exposed sides (refer to OCB FU12)	No 1
49	1200 x 880mm High (Code : F1200) no exposed sides (refer to OCB FU1)	No 1
50	1200 x 880mm High (Code : F1200) with one exposed side (refer to SQ FU2)	No 6

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<u>Pigeon hole units</u>		
51	Pigeon holes unit 332mm wide x 880mm high with no exposed sides (refer to OCB FU26)	No 6
52	Pigeon holes unit 1147mm wide x 880mm high with no exposed sides (refer to OCB FU26)	No 1
<u>Cabinet sundries</u>		
53	Vertical 16mm chipboard style 250mm high with laminated finish both sides (refer to OCB FU27)	m 1
54	16mm Modesty panel with laminate finish to both sides	m2 4
<u>Built-in cupboards</u>		
<u>Built-in cupboards consisting of</u>		
Doors formed out of 28mm thick hollow core laminated on both faces in renolit with vertical edge post formed		
Sides and divisions formed out of 28mm thick hollow core laminated on both faces in white renolit with vertical edge post formed		
Shelves constructed out of 16mm thick chipboard laminated on both faces in white melamine (shelves longer than 750mm to be constructed out of 28mm thick hollow core)		
Fascia formed out of 28mm thick hollow core laminated on external face in white renolit		
Hinges to be external "Nylon Six" type with minimum 90kg carrying capacity		
<u>Hollow core laminated build in cupboards</u>		
55	Shelve unit 1304mm wide x 948mm high divided into four equal shelves, including fascia 1304 x 450mm high plugged to brickwork above worktop (refer to SQ FU2)	No 20

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Iron board

Approved

56 Size 450 x 1950mm long overall fixed to concrete work top (refer to SQ FU1)

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	CEILINGS, PARTITIONS AND ACCESS FLOORING			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>CEILINGS, ETC</u>			
	<u>Saligna hardwood</u>			
1	20 x 70mm Saligna hardwood cornice nailed to wall with 63mm cut steel nails at maximum 500mm centres	m	547	
	<u>NAILED UP CEILINGS</u>			
	<u>6mm "Everite Nutec" or similar approved fibre-cement boards with H-profile primed steel jointing cover strip over joints</u>			
2	Ceilings including 38 x 38mm brander at 90 degree to trusses at maximum centres of 400mm	m2	256	
3	Extra over ceiling for opening for 610 x 610mm trap door of 50 x 76mm wrought softwood rebated framing with one 38 x 38mm sawn softwood cross brander covered with ceiling board and fitted flush in opening	No	10	
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SUSPENDED CEILINGS

6mm "Everite Nutec" or similar approved fibre-cement boards with H-profile primed steel jointing cover strip over joints

4	Ceilings including 52 x 38mm branderling at 90 degree suspended 122mm below concrete soffits at maximum centres of 400mm	m2	176
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Proprietary suspended ceilings

Electrical light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance must be made accordingly for their support inclusive of any flexibility inseting out that may be required (ceiling panels have not been deducted and pricing is to take cognisance thereof)

1200 x 600mm "Owa Sandila Needled 70/N" or similar approved ceiling tiles on a T38 exposed grid. main tees at 1200mm centres and T38-600 cross tees with capping of pre-painted aluminium. "Fissured" pattern tile. installation strictly according to manufacturer's specification

5	Ceilings suspended not exceeding 1.0m below timber roof trusses	m2	350
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"Donn shadow line" wall angle cornices (Code : LSM 25) to suspended ceilings

6	Fixed between suspended ceiling and smooth plastered wall	m	419
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Ceilings, Partitions and Access Flooring

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Bill No 10				
FLOOR COVERINGS AND WALL LININGS				
<u>PREAMBLES</u>				
For preambles see "Specification of materials and methods to be used - PW 371-A"				
<u>RESILIENT FLOOR COVERINGS</u>				
<u>500 x 500mm Heavy duty commercial grade carpet tiles</u>				
1	To floors	m2	26	
2	To walls	m2	72	
<u>Semi-flexible vinyl floor tiles size 300 x 300 x 2.5mm laid using acrylic adhesive spread with notched trowel, notches to be 1.5 x 1.5mm at 4mm centres at a rate of 6 square meters per litre on cement screed (screed elsewhere), all work to be done in strict accordance with the manufacturer's specification</u>				
3	To floors	m2	614	
<u>POLISH, SEALERS, ETC</u>				
Scrub with diluted neutral detergent complying with SANS 10400 J/JJ1 and rinse thoroughly, allow to dry and apply two coats of a water based floor dressing complying with SANS 10400 J/JJ1				
<u>Two coats wax polish</u>				
4	On vinyl tiles in floor covering	m2	638	
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HANDLES, ETC

"Dorma" or similar approved

11	"SH875" stainless steel lever handle on square back plate with cylinder cut-out	Pairs	37
12	"DPH213" 350 x 32mm stainless steel "D" shaped back-to-back pull handles	Pairs	7
13	"DPH301C" 150 x 19mm stainless steel "D" shaped straight bolt through pull handle	No	4

SUNDRIES

"Dorma" or similar approved

14	"DDS-NP-018" nickel plated floor stop	No	82
15	"DHC-SS-031B" stainless steel hat and coat hook with rubber buffer	No	7

"Greenfield" or similar approved

16	Powder coated sheet metal 50 key cupboard	No	1
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FLOOR SPRINGS AND DOOR CLOSERS

"Dorma" or similar approved

17	"TS73N/EN3-4" parallel arm door closer - DELAYED CLOSING - push side fitting	No	2
18	"TS91G/EN3" slide channel door closer (Non hold open)	No	9

LETTERS, NAME PLATES, ETC

"Dorma" or similar approved

19	"DSS130" 150 x 150mm stainless steel MALE sign	No	3
20	"DSS130" 150 x 150mm stainless steel FEMALE sign	No	3
21	"DSS130" 150 x 150mm stainless steel MALE / FEMALE combination sign	No	1

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22	"DSS130" 150 x 150mm stainless steel DISABLE PERSON sign	No	1
23	"DSS138" 150 x 150mm stainless steel CLEANER sign	No	1
24	"DSS-145" stainless steel 150 x 150mm FIRE HOSE REEL sign	No	14
	<u>Approved 150 x 150 x 3mm thick PVC standard safety signage</u>		
25	"Fire extinguisher" sign plugged	No	17
26	"Arrow" sign plugged	No	25
	<u>BATHROOM FITTINGS</u>		
	<u>"Kimberley-Clark" or similar approved</u>		
27	"SE2" White lockable toilet roll dispenser code 405597, plugged	No	31
28	Soap dispenser system code 329912, fixed to wall	No	11
29	"REFLEX" towel system dispenser code 426312 (colour : white) and disposer code 426213 (colour : white), fixed to wall	No	11
	<u>"Bathroomware" or similar approved</u>		
30	"Sales Lecico 3100 Series" chrome soap dish holder code 263159F, size 130 x 142 x 54mm	No	24
	<u>GRAB RAILS</u>		
	<u>"Milqa" or similar approved architectural products</u>		
31	32mm Tube diameter satin finished stainless steel straight long leg rail, overall size 750 x 200mm (Code : LM.M.9.L.L) with 70mm circular fixing flanges at each end, three screwed with 8mm diameter stainless steel countersunk screws to plugs with matching clip-on flange cover plate	No	2

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32	32mm Tube diameter satin finished stainless steel 68 degree bend general purpose rail, size 900mm (Code : LM.M.13) with 70mm circular fixing flanges at each end, three times screwed with 8mm diameter stainless steel countersunk screws to plugs with matching clip-on flange cover plate	No	2
<u>PUSH- AND KICK PLATES</u>			
<u>0.9mm Thick grade 304 stainless steel kick plate 200mm high x width of door, drilled and countersunk for screw fixing (finished size to be checked on site)</u>			
33	For door 813mm wide	No	9
34	For door 912mm wide	No	2
<u>SHELVING</u>			
<u>Wall bands, etc with standard epoxy powder coated finish</u>			
35	Wall band 2134mm long, plugged to wall	No	30
<u>PINNING BOARDS, WRITING BOARDS, PROJECTION SCREENS, ETC</u>			
<u>"Flortime Premier" or similar approved synthetic fibrous bulletin pinning board</u>			
36	Size 1500 x 1200mm high with aluminium frame fixed to brickwork	No	6
<u>"Parrot products" or similar approved magnetic white board</u>			
37	Size 1500 x 1200mm high (Code : BD0968) fixed to wall	No	2
38	Size 2500mm wide x 1250mm high x 20mm deep with a 20mm aluminium frame all around and including build in tray, fixed to wall	No	5
<u>"Parrot products" or similar approved bulletin board</u>			
39	Size 1 800 x 900mm high (Code : BD0469T) including Aluminium frame laurel, fixed to wall	No	1

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Bill No 11

Ironmongery

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Bill No 11

Ironmongery

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	METALWORK			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>BRASS</u>			
	<u>Dividing strip</u>			
1	25 x 3mm Strip cut to lengths and set on edge in floor between different floor finishes	m	41	
	<u>SUNDRY STEEL WORK</u>			
	<u>Welded frames to brickwork for benches</u>			
2	30 x 30 x 2.5mm Hollow section frames bolted to brickwork	kg	71	
3	30 x 30 x 2.5mm Hollow section bracing welded	kg	44	
4	Extra over 30 x 30 x 2.5mm hollow section for L-intersection	No	44	
5	Hole through 30 x 30 x 2.5mm hollow section for bolt	No	88	
6	12mm Expansion bolt 165mm long	No	88	
7	One coat red oxide primer, one coat universal undercoat and two coats gloss enamel	kg	116	
	<u>Hand cuff rail</u>			
8	20mm Diameter mild steel rods welded to base plate and cuff rail	m	4	
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9	50mm Diameter cold rolled round tubing (2mm wall thickness)	m	3
10	150 x 150 x 6mm Mild steel base plate with four holes for M10 bolts	No	4
11	10mm Chemical anchor bolt 65mm long	No	16
<u>Welded brackets to brickwork for drying line (refer to SQ FU3)</u>			
12	6mm Mild steel rods welded washing line frame	kg	2
13	50 x 50 x 2.5mm Mild steel square tubing	kg	26
14	50 x 50 x 2.5mm Mild steel angle section	kg	7
15	50 x 50 x 2.5mm Mild steel angle section with holes at 135mm centres to accommodate washing line wire	kg	18
16	25 x 25 x 2.5mm Mild steel square tubing in diagonal brackets	kg	4
17	Plate work in baseplates	kg	0.2
18	Extra over 50 x 50 x 2.5mm Mild steel angle section for L-intersection	No	5
19	Hole through 2.5mm steel for 10mm rawl bolt	No	22
20	Hole through 6mm steel for 10mm rawl bolt	No	16
21	10mm Rawl bolt 70mm long	No	50
22	Washing line wire with PVC covering	m	66
23	One coat red oxide primer, one coat universal undercoat and two coats gloss enamel	kg	56
<u>Welded footing for seats</u>			
24	76mm Diameter x 3.5mm thick round hollow section column 408mm long, welded to 100 x 100 x 5mm top flange and 100 x 100 x 5mm base plate four times holed for 10mm rawl bolts (refer to OCB FU24)	No	6

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25	10mm Expansion bolt 60mm long	No	24
26	100mm Diameter x 3mm thick hollow section footing 415mm long, welded to 300mm diameter x 6mm top flange and 300 x 300 x 6mm bottom flange four times holed for 12mm expansion bolts (refer to OCB FU23)	No	6
27	12mm Expansion bolt 100mm long	No	24
	<u>2mm Steel plate with 2mm perforation at 8mm centres fixed to 100 x 50 x 2.5mm mild steel channel window frame (measured elsewhere) with 6mm shaft diameter pop rivets at 150mm centres</u>		
28	U-shaped plate, size 130mm girth x 1320mm high (refer to drawing POL 2002/V1-V3 and drawing No 25140/25-OCB)	No	12
	<u>Expansion bolts to fix mild steel window frames to brickwork</u>		
29	8mm Expansion bolt 200mm long	No	30
	<u>"Franke Citimetal" or similar approved kitchen system of grade 301 (18/10) stainless steel fast track modular shelving system (refer to OCB FU15)</u>		
30	Two louvered shelf size 1498 x 500mm wide, each self with aluminium corner pieces passed over and secured to four 25mm diameter x 1,2mm thick wall post (wall post measured elsewhere)	No	10
31	Ditto, but size 1621 x 500mm wide	No	5
32	Two louvered shelf size 2206 x 500mm wide, each self with aluminium corner pieces passed over and secured to six 25mm diameter x 1,2mm thick wall post (wall post measured elsewhere)	No	5
	<u>Wall posts</u>		
33	Wall post size 25mm diameter x 1.2mm thick x 469mm high with top and end cap fixed to stainless steel shelf	No	72
34	Wall post size 25mm diameter x 1.2mm thick x 125mm high with top cap fixed to stainless steel shelf and including adjustable foot piece plugged and screwed to floor	No	18

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WELDED SCREENS, GATES, ETC

Mild steel

35	Gate size 1100 x 2235mm high overall, frame formed out of 50 x 25 x 2,5mm rectangular tubing secured against wall with eight 150 x 150 x 5mm mild steel fixing plates welded to frame and bolted against wall with two 10mm rawl bolts per fixing plate, gate formed out of 50 x 25 x 2,5mm rectangular tubing mitred at 45 degrees at corners before welding with 50 x 25 x 2,5mm rectangular tubing horizontal sections with 15 x 15mm mild steel solid square bar vertical uprights with lockset case, cell door lock (measured elsewhere) and three heavy duty bullet hinges (refer to G1 on drawing No 25140/01-RY)	No	2
36	Gate size 1100 x 2270mm high overall, frame formed out of 50 x 25 x 2,5mm rectangular tubing secured against wall with eight 150 x 150 x 5mm mild steel fixing plates welded to frame and bolted against wall with two 10mm rawl bolts per fixing plate, gate formed out of 50 x 25 x 2,5mm rectangular tubing mitred at 45 degrees at corners before welding with 50 x 25 x 2,5mm rectangular tubing horizontal sections with 15 x 15mm mild steel solid square bar vertical uprights with lockset case, cell door lock (measured elsewhere) and three heavy duty bullet hinges (refer to D15 on drawing No 25140/18-OCB)	No	2
37	Gate size 3700 x 3060mm high overall, frame formed out of 100 x 100 x 3,5mm rectangular tubing secured against wall with twelve 300 x 300 x 10mm mild steel fixing plates welded to frame and bolted against wall with two 12mm rawl bolts per fixing plate, gate formed out of 76 x 50 x 3,5mm rectangular tubing mitred at 45 degrees at corners before welding with 76 x 50 x 3,5mm rectangular tubing horizontal sections with approved high tensile metal mesh screen welded in frame secured with 16 x 16mm mild steel solid tubing beading all round welded to spot-frame complete with lockset case, cell door lock (measured elsewhere) and eight heavy duty bullet hinges (refer to D18 on drawing No 25140/18-OCB)	No	1

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<u>Purpose made hot dipped galvanised cell window screens</u>		
38	Hinged external screen for window size 850 x 950mm high formed of 40 x 40 x 5mm angle section frame with 40 x 5mm flat section intermediate rails, including "Mentex 70" or equal and approved expanded metal welded to frame and 50 x 50 x 5mm angle iron frame bolted to brickwork (refer to drawing POL 202/W1-W3)	No 1
<u>WELDED SECURITY SCREEN ROOF</u>		
<u>"Screenex" or "Bastion" or similar approved galvanised steel mesh with frame and supports (refer to drawing No S-9345-43)</u>		
39	Galvanised mesh	m2 133
40	50 x 50 x 5mm Angle section	kg 376
41	40 x 40 x 3mm Angle section	kg 269
42	90 x 90 x 6mm Angle section	kg 73
43	180 x 91 x 19mm IPE section	t 2.03
44	150 x 90 x 10mm Angle section	t 0.36
45	3mm Steel plate size 1000 x 1250mm wide welded on top of mesh, including 20mm diameter hole located in the centre of the plate	No 4
46	Hole through 6mm steel for 10mm Hilti HVA adhesive anchor	No 58
47	Hole through 10mm steel for 10mm Hilti HVA adhesive anchor	No 132
48	10mm Hilti HVA adhesive anchor	No 190
49	One coat red oxide primer, one coat universal undercoat and two coats gloss enamel	t 3.13

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STANDARD PRESSED STEEL DOOR FRAMES

	<u>1.2mm Single rebated frame suitable for half brick walls including one pair 100mm steel butt hinges</u>		
50	Frame for door 813 x 2032mm high	No	4
	<u>1.2mm Single rebated frame suitable for half brick walls including two pairs 100mm steel butt hinges</u>		
51	Frame for double door size 1136 x 2032mm high	No	1
	<u>1.2mm Double rebated frame including one pair 100mm steel butt hinges suitable for one brick walls</u>		
52	Frame for door 813 x 2032mm high	No	4

STEEL WINDOWS, DOORS, ETC

	<u>Install new peg and stay</u>		
53	To opening sections of windows	No	38
	<u>Purpose made mild steel windows out of 100 x 50 x 2.5mm channel with 16mm diameter burglar bars fixed to frame at 80mm centres</u>		
54	Window frame 1032 x 1320mm high (refer to SAPS drawing POL2006/V1 - V3)	No	3

STEEL DOORS, ETC

	<u>Purpose made hot dipped galvanised cell doors</u>		
55	Door with steel grill gate, size 1018 x 2020mm high overall, including all ironmongery according to the SAPS 5-STAR specification (refer to drawing POL 2006/D1a, D1-D5)	No	1

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STEEL LOUVRES, ETC

Louvre unit manufactured out of RFX 7 residential steel window sections with type "LD" fixed sheet metal louvres with expanded metal mesh backing and fly screen

56 Size 740 x 1845mm high No 2

DUCT FRAMES

Mild steel angle sections welded at corners to form sub-frame for saligna hardwood strips (elsewhere measured) in duct covers

57 25 x 25 x 2.5mm Angle section m 76

LOCKERS

"Waltons" or similar approved powder coated sheet metal two compartment lockers Type 540721K-2/Compartment locker size 1800 x 300 x 450mm

58 Two compartment locker size 1800 x 300 x 450mm, fixed to brickwork No 24

GUN SAFES

"Austen Safe" SABS or similar approved gun safe

59 "BS2027K" handgun safe fixed to wall No 20

ALUMINIUM WINDOWS, DOORS, ETC

Purpose made natural anodised aluminium window frames glazed with 6.4mm clear laminated safety glass with glazing beads by specialist to SANS 10400 N/NN1 according to NBR

60 Window frame 1324 x 1148mm high (refer to W19 drawing No 25140/16-OCB) No 1

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Purpose made natural anodised aluminium window frames with fixed glazing panels secured in 76 x 32mm flat back aluminium frame, fitted with 8.5mm sound reduced one-way glass (glazing to be factory fitted)

61	Window frame 2700 x 1500mm high (refer to W17 drawing No 25140/16-OCB)	No	1
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BALUSTRADE AND HANDRAILS

Mild steel

62	Handrail manufactured out of 50 x 25 x 2.5mm mild steel rectangular tubing columns and vertical / horizontal sections with diagonal styles out of 25 x 25 x 2.5mm sections, all mitre at angles before welding, with vertical styles out of 12 x 12mm mild steel solid square sections at equal centres as indicated, balustrade fixed to floor with 100 x 100 x 5mm mild steel fixing plate welded to column and bolted to concrete floor with four M10 rawl bolts (refer to drawing No 25140/07-SQ)	m	45
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63	Hand rail manufactured out of 38mm diameter round hollow section tubing with 125mm long x 15mm diameter solid round bars welded at 750mm centres ground into wall with epoxy grout, including 25mm diameter round cover plate 3mm thick welded against solid round bar	m	13
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	PLASTERING			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>SCREEDS</u>			
	<u>Screeds steel trowelled on concrete</u>			
1	20mm Thick on floors and landings	m2	157	
2	20mm Thick on treads and risers of stairs	m2	21	
3	30mm Thick on floors and landings	m2	38	
4	Average 40mm thick on floors to falls	m2	154	
5	Average 40mm thick on floors to falls	m2	9	
	<u>2mm Thick self levelling non-slip epoxy screed. no metallic additives. including primer applied to manufacturer's specification</u>			
6	On floors and landings	m2	792	
7	On screed to falls	m2	302	
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GRANOLITHIC

Untinted granolithic on concrete

8	15mm Thick on slabs	m2	3
9	20mm Thick on bench slabs	m2	14
10	40mm Thick on floors and landings	m2	114
11	Granolithic skirting 19mm thick rounded (1:4 cement mix) with "V" joints 75mm above finished floor level, skirting to project 6mm from finished wall, fall with arris top edge	m	670
12	15mm Thick on vertical side of slab 100mm high with rounded edge	m	8

INTERNAL PLASTER

One coat 5:1 cement plaster 13mm thick steel trowelled on concrete

13	On ceilings	m2	655
14	On raking soffits of stairs	m2	15

One coat 5:1 cement plaster 15mm thick steel trowelled on brickwork

15	On walls	m2	142
16	On walls to receive tiles	m2	98

One coat high strength 4:1 cement plaster 20mm thick steel trowelled on brickwork

17	On walls	m2	180
18	On narrow widths	m2	10

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	TILING			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>WALL TILING</u>			
	<u>152 x 152 x 4mm Johnson's first grade white glazed tiles (SANS 10400 K/KK4 according to NBR) fixed to wood floated plaster with approved tile adhesive in square patterns and joints grouted with white tile grouting or similar approved</u>			
1	On walls	m2	212	
2	On walls in isolated panels	m2	2	
3	In narrow widths not exceeding 300mm high or wide	m	5	
	<u>FLOOR TILING</u>			
	<u>Full body mosaic tiles in 300 x 300mm sheets fixed with adhesive and flush pointed with tinted waterproof jointing compound</u>			
4	On shower floors	m2	9	
	<u>240 x 240 x 11mm Unglazed extruded ceramic tiles as "NCI" or similar approved, bedded in 1:3 cement mortar with 8mm joints pointed in suitable coloured cement jointing material according to manufacturer's specification, including movement joints at max 4.0m centres with approved filler and elastic joining material</u>			
5	On floors and landings	m2	349	
6	To treads and risers of stairs	m2	22	
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	<u>300 x 300 x 10mm Class 3 unglazed ceramic floor tiles fixed with adhesive and flush pointed with tinted waterproof jointing compound</u>		
7	On floors and landings	m2	38
8	In skirting 150mm high	m	271
	<u>Unglazed extruded ceramic bullnose tile as "NCI" code 1156 or similar approved, size 240 x 150 x 11mm bedded in 1:3 cement mortar against wall with 8mm joints pointed in suitable coloured cement jointing material according to the manufacturer's specification, including movement joints at maximum 4.0m centres with approved filler and elastic jointing material</u>		
9	In skirting against face brick walls	m	285
10	In skirting to treads and risers of stairs against face brick walls	m	16
	<u>Aluminium L-trim edge (Provisional)</u>		
11	8mm Aluminium strip / edge to all vertical and horizontal tile edges	m	86
12	10mm Aluminium strip / edge to all vertical and horizontal tile edges	m	86

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Bill No 15

**PLUMBING AND DRAINAGE
(PROVISIONAL)**

PREAMBLES

For preambles see "Specification of materials and methods to be used - PW 371-A"

SUPPLEMENTARY PREAMBLES

General

Descriptions of pipes laid in and including trenches and of inspection chambers, catch pits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 93% "Mod AASHTO" density and disposal of surplus material on site

Descriptions of copper service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes

Descriptions of wc pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors separately measured)

Descriptions of channels shall be deemed to include all necessary excavation and disposal of surplus material

Excavations

Prices for all excavations must include for necessary staging and for the risk of collapse of excavation side and also keeping excavations free from water

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

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

Laying, backfilling, bedding, etc of pipes

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

Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following:

- SANS 1200L : Medium-pressure pipelines
- SANS 1200LD : Sewers
- SANS 1200LE : Stormwater drainage

Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SANS 1200DB : Earthworks (Pipe trenches)

Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200LB : Bedding (Pipes)

Unless otherwise described bedding of rigid pipes shall be class B bedding

Compacting

Filling for all types of pipes described as "under solid floors, etc." shall be done with approved backfilling and compacted to 93% "Mod AASHTO" density, unless otherwise described

Stainless steel basins, sinks, wash troughs, urinals, etc

Stainless steel used for the manufacturing of urinals, basins, quality sinks, wash troughs, institutional equipment, etc. shall be type 304 (18/8)

Waste unions

Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings

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Sealing of abutments

All sanitary fittings abutting walls, tiled surfaces, vanity slabs, work tops, etc. to be sealed watertight with an approved silicon sealant along all joints

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

uPVC pipes and fittings

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 or sealed with butyl rubber rings

Copper pipes

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

Copper pipes are to be installed in accordance with the latest revision of the code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copperflux composition

Fixing of pipes

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

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Reducing fittings

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

Disinfection of water pipework

All water pipework is to be cleaned and sterilized in accordance with SANS 10252

Timber backing boards

Descriptions for fire extinguishers shall be deemed to include hardwood backboard with exposed edges chamfered and finished with three coats approved satin gloss polyurethane varnish

Testing

Descriptions for the testing of plumbing and drainage installations shall be deemed to cater for all testing apparatus, labour, etc. and shall be done strictly as directed by and in accordance to the Principal Agent's instructions, including for retesting after taking out and making good all defective work to his entire satisfaction

RAINWATER DISPOSAL

0.8mm "Brownbuilt" or similar approved standard box gutter with "Chromadek" finish on one side

1	127 x 140mm Eaves gutters	m	61
2	Extra over 127 x 140mm eaves gutter for outlet for 100mm diameter pipe	No	14
3	100mm Diameter rainwater downpipes	m	102
4	Extra over 100mm diameter rainwater downpipe for shoe	No	14

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5	Extra over 100mm diameter downpipe for 600mm eaves or plinth offset	No	14
	<u>Full-bore outlet</u>		
6	Cast in 170mm concrete slab	No	8
	<u>STORMWATER DRAINAGE</u>		
	<u>Grid inlet</u>		
7	1460 x 1460mm Grid inlet not exceeding 1m deep with heavy duty 600 x 450mm "Besaans du Plessis 2898" or similar approved cast iron stormwater grating and frame cast in concrete, complete including brickwork, earthworks, concrete and reinforcing (refer to drawing No C5293-31)	No	2
	<u>uPVC drain pipes (SANS 791) normal duty with socket and rubber ring type including bedding in accordance with SANS 1200</u>		
8	110mm Pipes laid in and including trenches not exceeding 1m deep	m	100
	<u>SANITARY FITTINGS</u>		
	<u>"Vaal" or similar approved</u>		
9	Vitreous china "Tuscany" basin (code 7006) with one tap hole for "Cobra" mixer unit and waste, overflow and chain stay hole (measured elsewhere) through the centre semi-punched tap hole, complete with pedestal and mounting brackets	No	26
10	White "Hygia" ceramic fireclay hospital basin (code 703611), size 585 x 435mm with two tap holes and screwed to walls with and including two screws with chromium plated caps (code 8513Z0) and sealed with silicone sealant where basin meets wall	No	2
11	"Aquasave" vitreous china low level wash down suite (code 755199) with solid hard plastic toilet seat and lid as "A1 de Lux" (SANS 10400 P/PP4 according to NBR), including 9 litre cistern as "Vaal 710536" with chrome plated side-flush lever	No	26

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12	Solid hard plastic toilet seat and lid as "A1 de Lux" (SANS 10400 P/PP4 according to NBR) fitted on "Aguasave" vitreous china low level wash down suite (code 755199)	No	3
13	"Lavetera" size 385 x 380 x 600mm vitreous china wall mounted urinal with top inlet, chrome plated grating and spreader, complete with "Springbok" automatic and 4,5 litre symphonic cistern with flush pipe and fittings	No	2
14	"Quatri Style 900" size 900 x 900mm porcelain enamel steel shower tray (code 2002) with anti-slip floor and corner waste outlet <u>"Protea" or similar approved</u>	No	1
15	"Protea" paraplegic vitreous china floor mounted paraplegic wash down suite as code 750200 with solid hard plastic toilet seat and lid as "A1 de Lux" (SANS 10400 S/SS5 according to NBR), including 110mm PVC P-trap and 9 litre cistern as "Vaal" code 710536 with chrome plated purpose made side-flush lever mounted on wall adjacent to cistern <u>"Citimetal" or similar approved stainless steel</u>	No	2
16	Blanket wash through size 1200 x 465 x 400mm deep manufactured from grade (18/10) stainless steel, complete with 40mm centre waste outlet and 40mm square gallows bracket with flanked legs	No	3
17	Model "Si" grade 304 (18/10) stainless steel centre bowl catering sink, size 1200 x 650mm with high integral splash back to the rear and 50 x 10mm turndown with a beaded edge on the remaining sides, underside sprayed with vermin proof bitumastic sound deadening and supported with a 30 x 30 x 3mm framework and galvanized mild steel backing sheet fitted onto 38mm diameter round stainless steel detachable legs with adjustable flanged foot pieces bowl size 500 x 500 x 230mm deep <u>"Franke" or similar approved</u>	No	1
18	"Kitchen Systems" (t/a Citimetal) grade 304 (18/10) 1,2mm thick stainless steel model "Rondo R380E" round wash hand basin size 380mm diameter (code 325301) including 38mm waste with overflow	No	2

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19	Wall and floor mounted shrouded stainless steel WC pan without WC lid, including 20mm brushed chrome "Econoflush" front access junior concealed toilet flush master with integral shut-off valve, box, stainless steel faceplate and chrome plated pushbutton assembly, complete with flush pipes, elbow and pan connector (refer to KF4.213)	No	1
20	Stainless steel recessed type drinking fountain wash hand basin with 20mm brushed chrome "Econoflush" front access junior concealed urinal "Flushmaster" with integral shut-off valve, box, stainless steel faceplate and chrome plated push bottom assembly, complete with flush pipe and elbow (refer to KF8.112)	No	1
<u>WASTE UNIONS, ETC</u>			
<u>"Cobra Watertech" or similar approved</u>			
21	40mm "Cobra 316" unslopped waste and plug with chain	No	38
22	40mm Chrome plated heavy pattern slotted sink waste union, no chair or stay (code 310)	No	2
23	50mm Rough brass screwed male shower waste with 75mm diameter chrome plated grating	No	4
<u>TRAPS, ETC</u>			
<u>"Cobra Watertech" or similar approved</u>			
24	40mm "360CP" Bottle trap	No	10
25	40mm Chrome plated deep seal bottle trap with outlet for 40mm PVC (code 365/40)	No	2
26	40mm Rough brass shallow seal shower P-trap with FI outlet and chrome plated grating (code 373)	No	1
27	40mm Rough brass shallow seal bath P-trap with FI outlet and two cleaning eyes (code 370)	No	4
28	40mm Shower P-trap with chrome plated grating	No	4
29	50mm Chrome plated urinal bottle trap	No	2

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	<u>"Marley" or similar approved</u>		
30	40mm Flexi butyl rubber trap with reseal P-trap	No	29
	<u>TAPS, VALVES, ETC</u>		
	<u>"Cobra Watertech" or similar and approved</u>		
31	15mm "Stella" basin mixer	No	29
32	Chrome plated, pillar type elbow action medical mixer (code 515-21) with connections adjustable from 155mm to 200mm	No	3
33	15mm Chrome plated elbow action pillar-type mixer with "Swan neck" swivel spout outlet (code 8513Z0) manufactured in accordance with SANS 226 : 2004 Type 2 (BS 5412)	No	2
34	15mm Chrome plated "Carina" wall-type sink mixer with overarm swivel outlet (code 266/041/10CA)	No	2
35	Swanneck swivel spout outlet complete	No	3
36	Wall type "Star" sink mixer (code 166/041) with overarm swivel outlet	No	2
37	15mm "Star" under wall pattern stopcock (code 128CP)	No	95
38	Under tile shower mixer (code 186)	No	24
39	Shower arm (code 027) including concorde	No	24
40	15mm Chromium plated under tile stopcock	No	60
41	Angle regulating valve "Ref 232/350"	No	31
42	Angle valve (code 3294ST)	No	66
	<u>"Vandalmater" or similar approved</u>		
43	15mm Brushed chrome plated vandal-resistant showerhead with self cleaning nozzle (refer to KP2.61)	No	9

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SANITARY PLUMBING

uPVC pipes

44	40mm Pipes	m	23
45	50mm Pipes	m	20
46	110mm Pipes	m	20
<u>Extra over uPVC pipes for fittings</u>			
47	110mm "ABC" cleaning eye in end of pipe	No	30
48	40mm Bend	No	22
49	50mm Bend	No	24
50	110mm Bend	No	13
51	40mm Junction	No	11
52	50mm Junction	No	12
53	110mm Junction	No	13
54	40mm Access bend	No	8
55	50mm Access bend	No	12
56	110mm Access bend	No	13
57	40mm Access junction	No	6
58	50mm Access junction	No	8
59	110mm Access junction	No	13
60	110mm Pan connector	No	33
61	110mm Two-way vent valve	No	33
62	"Franke" security type 550 x 360 x 410mm flange bent inwards with 250mm in/outlets	No	1

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<u>Sundries</u>			
63	300 x 300 x 50mm Precast concrete inspection eye marker slab set in ground	No	30
<u>WATER SUPPLIES</u>			
<u>Class 0 or 2 copper pipes</u>			
64	15mm Pipes	m	94
65	22mm Pipes	m	4
<u>Extra over class 0 or 2 copper pipes for capillary fittings</u>			
66	15mm Fittings	No	187
67	22mm Fittings	No	8
<u>FIRE APPLIANCES, ETC</u>			
<u>"Chubb" or similar and approved</u>			
68	580mm Metal fibre hose reel complete with mounting frame, hose guard and nozzle, 20mm fire hose 30m long with 25mm water connection as "Chubb Everyway" (SANS 10400 T/TT34 according to NBR)	No	8
69	9kg Dry powder portable fire extinguisher (SANS 10400 T/TT37 according to NBR) on 50 x 22mm hardwood backboard mounted against wall	No	38

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	ELECTRICAL INSTALLATION (PROVISIONAL)			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>LV DISTRIBUTION BOARDS</u>			
	<u>Telephone and data distribution boards complete as per specification</u>			
1	Main telephone distribution board, size 1000 x 800 x 150mm deep with 20mm thick hardwood back board and doors	No	1	
2	Telephone and data sub-distribution boards, size 400 x 400 x 150mm deep	No	4	
	<u>CONDUITS, DUCTS, SLEEVES, MANHOLES AND ACCESSORIES</u>			
	<u>General</u>			
	All items under this section will comply with SANS 1042 and in the absence of any SANS specification it will comply with the documentation forming part of this document			
	<u>Conduit and accessories</u>			
	<u>Build or chased into concrete, brickwork, etc</u>			
3	20mm Conduit	m	775	
4	25mm Conduit	m	275	
5	32mm Conduit	m	12	
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6	50mm Conduit	m	35
	<u>PVC round boxes, galvanised wall boxes, etc</u>		
7	20mm PVC round boxes	No	41
8	25mm PVC round boxes	No	4
9	100 x 50 x 50mm Galvanised boxes	No	26
10	100 x 100 x 50mm Galvanised boxes	No	15
	<u>Power skirting and accessories</u>		
	<u>Three compartment power skirting as specified</u>		
11	Two cover three compartment power skirting	m	132
12	Two cover three compartment power skirting end caps	No	8
	<u>Wire ducts</u>		
	<u>Wire ducts as specified</u>		
13	40 x 40mm deep with PVC cover (P2000)	m	6
	<u>uPVC sleeves</u>		
	<u>uPVC sleeves as specified</u>		
14	50mm uPVC sleeve	m	8
15	110mm uPVC sleeve	m	5
16	160mm uPVC sleeve	m	70
	<u>CONDUCTORS</u>		
	<u>PVC Conductors</u>		
	<u>PVC insulated copper wire installed in conduit</u>		
17	2.5mm ²	m	1 696
18	4mm ²	m	160
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19	6mm ²	m	40
20	10mm ²	m	332
<u>Earth conductors</u>			
<u>PVC insulated copper earth conductors</u>			
21	2.5mm ²	m	606
22	4mm ²	m	300
23	6mm ²	m	82
24	10mm ²	m	90
<u>Bare copper earth wire</u>			
25	2.5mm ²	m	2 270
26	4mm ²	m	80
27	6mm ²	m	150
28	16mm ²	m	12

LIGHT SWITCHES, SOCKET OUTLETS, ISOLATORS, ETC

General

All equipment must be supplied complete with cover plates and fixing screws for both the cover plate and cradle

All equipment shall comply with the relevant standard and shall carry the SANS mark

Light switches

Light switch flush mounted in 100 x 50 x 50mm deep steel conduit boxes

29	One lever one way	No	66
30	Two lever one way	No	23

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31	Three lever with two one way switches and one two way switch	No	1
32	One lever two way	No	16
33	Rotary light switch for cells	No	12
<u>Socket outlets flush mounted in power skirting</u>			
34	Single 16A 3 pin	No	39
35	Single 16A Euro	No	39
36	Single 16A 3 pin dedicated (red)	No	39
37	Single 16A 3 pin dedicated (blue)	No	10
<u>Socket outlets</u>			
<u>Socket outlet flush mounted in 100 x 100 x 50mm deep steel conduit boxes</u>			
38	Single 16A 3 pin (normal) with Euro plug combined	No	16
39	Double 16A 3 pin (normal) with Euro plug combined	No	9
40	Single 16A 3 pin (dedicated)	No	6
<u>Socket outlet installed in round conduit boxes and trunking</u>			
41	5A 3 Pin unswitched skirting sockets	No	14
<u>Isolators</u>			
<u>Isolators flush mounted in 100 x 100 x 50mm deep conduit boxes</u>			
42	30A - 3 pole	No	2
43	30A - 2 pole	No	42
44	60A - 2 pole	No	1
45	60A - 3 pole	No	1

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	<u>Isolators surface mounted water proof rotary</u>		
46	30A - 2 pole	No	14
	<u>LUMINAIRES</u>		
	<u>All luminaires complete with associated equipment and new control gear, specified lamps, diffusers, mounting brackets, etc as applicable. These items shall be delivered to site in a protective covering</u>		
	<u>Internal luminaires</u>		
47	Type A : Recessed low brightness louvre with 3 x 36W trifosfor lamps 3m captyre with 5A plug top, and electronic control gear	No	30
48	Type A (B) : Recessed low brightness louvre with 3 x 36W trifosfor lamps 3m captyre with 5A plug top, and electronic control gear with battery backup for 1 hour	No	1
49	Type A1 : Surface mounted panel light LED 60W 4000K	No	10
50	Type B : Recessed down lighter LED 18W 4000K with 3m captyre and 5A plug top	No	4
51	Type B (B) : Recessed down lighter LED 18W 4000K 3m captyre with a 5A plug top, battery backup for 1 our	No	2
52	Type C : Surface mount tamper proof LED 56W 4000K	No	28
53	Type C (B) : Surface mount tamper proof LED 56W 4000K with battery backup for 1 hour	No	5
54	Type C : Surface mount tamper proof LED 56W 4000K with night light capability	No	9
55	Type C1 : Surface mount tamper proof LED 7W 4000K	No	20
56	Type D : Surface mounted vapour proof LED 30W 4000K	No	25
57	Type E : Bulkhead ceiling mount LED 18W 4000K with white trim	No	40
58	Type E (B) : Bulkhead ceiling mount LED 18W 4000K with white trim and battery backup for 1 hour	No	2

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59	Type E1 : Bulkhead luminaire wall mount LED 7W 4000K with red diffuser	No	1
60	Type F : Bulkhead luminaire wall mounted IP65 LED 36W 4000K with black trim	No	31
61	Type H : Down lighter recessed LED 12W 4000K	No	26
62	Exit signs 9W LED with battery back up	No	6
	<u>Photo-electric daylight sensitive switch</u>		
	<u>External lighting shall be controlled by a photo-electric cell mounted in a position so that the extraneous light does not affect the operation as per schematic</u>		
63	Photo electric cells to control all the outside lights, mounted on the buildings in an empty bulkhead as specified	No	3
	<u>HAND DRIERS</u>		
	<u>Approved</u>		
64	Hand dryers as specified mounted in rooms at positions as indicated	No	10
	<u>GATE MOTORS</u>		
	<u>Approved</u>		
65	Gate motors at the swing gates of the loading area (to be controlled from the control room)	No	2
66	Spiked boom gate at the SAPS gate control	No	2
	<u>UNINTERRUPTABLE POWER SUPPLY (UPS)</u>		
	<u>Uninterruptible Power Supply unit complete with all accessories and loose items as specified in the documentation</u>		
67	10kVA UPS (Radio room)	No	1
68	15kVA UPS (Police station and cell blocks)	No	1

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HEAT PUMP

Approved

69	Supply, install and commission a 3.5kW heat pump to be integrated with the already installed 150 litre electrical geyser (pipework excluded - to be done by plumber)	No	1
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EARTHING AND BONDING

Earthing and lightning protection

The entire installation shall be earthed efficiently and effectively in accordance with the latest requirements of SANS 10142, SANS 0200, SANS 0292 and NRS 016

Earthing and lightning protection will be done by an earthing and lightning installation specialist and an earthing and lightning certificate shall be issued together with a test report for each building

70	Earthing and lightning protection to Single Quarters	No	1
71	Earthing and lightning protection to Juvenile Cell Block	No	1
72	Earthing and lightning protection to West Cell Block	No	1
73	Earthing and lightning protection to CSC Building	No	1
74	Earthing and lightning protection to Cell Block	No	1
75	Earthing and lightning protection to Lecture Room	No	1

FIRE DETECTION EVACUATION INSTALLATION

Approved

76	Analogue addressable fire detection panel as specified complete with network cards, loop drivers, etc	No	3
77	Optical smoke detector	No	41
78	Heat detector	No	2
79	Universal detector base	No	64

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80	Emergency break glass unit	No	5
81	Siren / Strobe combination with base	No	7
82	Fire cable installed within galvanised conduit (PHB 30)	m	1 980
83	Loop isolator with base	No	4
84	Input / output units	No	6
85	"REMRAD" system to connect to fire brigade	No	3

ACCESS CONTROL

Approved

86	Main controller	No	3
87	Door controller complete with power supply	No	7
88	Enrolment reader	No	2
89	WebCam	No	2
90	Enrolment desktop PC as specified and head end unit	No	1
91	Access control system software	No	2
92	Biometric fingerprint reader in weatherproof enclosure	No	3
93	Biometric fingerprint reader for indoor applications	No	8
94	Magnetic lock complete with power supply	No	7
95	Wall mounted egress button	No	5
96	Supply and installation of cable to daisy chain the door controllers	m	195
97	Supply and installation of cable between controller and field devices	m	35
	<u>Supply and installation of a magnetic door position monitor as specified to</u>		
98	Steel doors	No	2

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99	Aluminium doors	No	5
100	Ceiling mounted door alarm	No	7
<u>CCTV INSTALLATION</u>			
<u>Approved</u>			
101	Indoor, fixed, ceiling mounted dome cameras, as specified, complete with mounting accessories and power supply	No	6
102	Indoor, fixed, wall mounted cameras, as specified, complete with mounting bracket, mounting accessories and power supply	No	24
103	Indoor PTZ ceiling mounted dome cameras as specified, complete with mounting bracket, mounting accessories and power supply	No	1
104	Outdoor PTZ ceiling mounted dome cameras as specified, complete with mounting bracket, mounting accessories and power supply	No	1
105	Supply and installation of equipment cabinets to mount CCTV recording and control equipment	No	4
106	Supply and installation of 24 channel DVR units in the equipment cabinets	No	3
107	Supply and installation of system controller at security desk	No	3
108	Supply and installation of DVD Recorder for video backup	No	3
109	Supply and installation of 15" colour spot monitors	No	11
110	Supply and install 30" colour monitors in control desk for global monitoring of facility	No	11
111	Outdoor, wall mounted PTZ cameras complete with mounting bracket, mounting accessories and power supply	No	1
112	Cable work to suit system offered - Police station and cell block	No	2

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113 Cable work to suit system offered - Lecture room

No

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	MECHANICAL INSTALLATION (PROVISIONAL)			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>HOTWATER INSTALLATION</u>			
	<u>Calorifier</u>			
1	Storage type calorifier with capacity of 500 litres and a electrical heater element of 5kW complete with insulation, cladding and all connections for services	No	2	
	<u>Accessories to the calorifier</u>			
2	42mm Diameter full bore ball valve	No	2	
3	22mm Diameter full bore ball valve	No	2	
4	22mm Diameter full bore ball valve with plug	No	2	
5	100mm Diameter dial water pressure gauge	No	2	
6	100mm Diameter dial type thermometer (0 - 100 degrees C)	No	2	
7	54mm Diameter non-return valve	No	2	
8	Lockable safety valve	No	2	
9	Pop type safety valve complete with discharge pipe to outside plant room	No	2	
10	Thermal lock	No	2	
11	Hot water circulation pumps, 0,1 l/s at 5m head	No	2	
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12	Supply and Installation of 5kW heat pumps including all the accessories to make installation complete and functional	No	2
13	Supply and Installation of 10kW heat pumps including all the accessories to make installation complete and functional	No	2
14	Supply and Installation of 10kW heating elements including all the accessories to make installation complete and functional	No	2
15	Connection and programming of the heat pumps to the calorifier		Item
16	Safety valve discharge pipe, pipe size to match bore of safety valve	No	1
17	22mm Diameter x 250mm long magnesium cathode	No	1
18	Thermostatic control valve	No	1
19	22mm Diameter ball type shut-off valve	No	4
20	42mm Diameter ball type shut-off valve	No	2
<u>Piping and accessories</u>			
<u>Class 0 Copper piping to SANS 460 completely installed in roof space including running joints, bracketing and hangers</u>			
21	35mm Pipe	m	35
22	42mm Pipe	m	40
23	54mm Pipe	m	20
<u>Class 1 copper piping to SANS 460 completely installed in roof space including running joints, bracketing and hangers</u>			
24	15mm Pipe	m	10
25	22mm Pipe	m	60
26	28mm Pipe	m	35

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<u>Extra over copper piping for insulation and sheet metal cladding</u>			
27	22mm Pipe	m	60
28	28mm Pipe	m	35
29	35mm Pipe	m	35
30	42mm Pipe	m	40
31	54mm Pipe	m	20
<u>Extra over copper pipes for capillary fittings</u>			
32	15mm Elbow	No	10
33	22mm Elbow	No	5
34	28mm Elbow	No	10
35	35mm Elbow	No	12
36	42mm Elbow	No	15
37	54mm Elbow	No	5
38	22mm Equal tee	No	15
39	28mm Equal tee	No	10
40	35mm Equal tee	No	10
41	42mm Equal tee	No	10
42	54mm Equal tee	No	5
43	22mm to 15mm Reducer	No	10
44	28mm to 22mm Reducer	No	10
45	35mm to 28mm Reducer	No	10
46	42mm to 35mm Reducer	No	10
47	54mm to 42mm Reducer	No	10

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<u>Ball type shut off valves</u>			
48	15mm Valve	No	2
49	22mm Valve	No	15
50	28mm Valve	No	10
51	35mm Valve	No	4
<u>Sundries</u>			
52	Allow for compliance with Occupational Health and Safety Act and Construction Regulations 2003		Item
53	Training of client staff and operators as specified		Item
54	Guarantee and maintenance of complete equipment installation for a period of 12 months		Item
<u>HVAC INSTALLATION</u>			
<u>Wall mounted fans</u>			
55	200 l/s in laundry	No	1
<u>Wall/window mounted extract fans complete with wall sleeves, internal and external grilles and connection to power supply by others</u>			
56	BG-F2	No	2
57	BG-F3	No	1
<u>In-line tube fresh air fans complete as specified</u>			
58	BG-F1	No	3
59	BH-F1	No	1
60	BG-F4	No	1
<u>Circular sound attenuators including mounting brackets complete as specified</u>			
61	BG-SA1	No	6

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62	BH-SA1	No	2
63	BG-SA2	No	2
	<u>Non-vision door grilles, bronze anodised aluminium finish to architect's colour specification, complete with forming of opening in doors</u>		
64	BG-DG1	No	23
65	BH-DG1	No	1
66	BH-DG2	No	5
	<u>Weather louvres complete with fittings and housing</u>		
67	BG-WL1	No	3
68	BH-WL1	No	1
69	BG-WL2	No	1
70	BG-WL3	No	1
	<u>Filter banks complete with fittings and housing</u>		
71	BG-FB1	No	3
72	BH-FB1	No	1
73	BG-FB2	No	1
74	BG-FB3	No	1
	<u>Ceiling mounted diffusers with 600 x 600mm mounting plate suitable for mounting in suspended ceiling, complete with spigot box, flexible duct connection to indoor unit, white epoxy coated</u>		
75	BH-SAD1	No	3
	<u>Return air filter grilles with drop down hinged frame, complete with plenum box, flexible ducting and balancing dampers</u>		
76	BH-RAG1	No	1

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	<u>Ceiling mounted supply air diffusers with round mounting plate suitable for mounting in suspended ceiling, complete with spigot box, flexible duct connection to fresh air unit, white epoxy coated</u>		
77	BG-DV1	No	9
	<u>Un-insulated galvanised sheet metal ducting complete with balancing dampers, tap-offs, joints, duct hangers and stop ends</u>		
78	150mm Diameter ducting	m	16
79	315mm Diameter ducting	m	2
80	150 x 175mm Ducting	m	11
81	200 x 150mm Ducting	m	2
82	200 x 175mm Ducting	m	4
83	200 x 200mm Ducting	m	5
84	250 x 200mm Ducting	m	5
85	250 x 250mm Ducting	m	9
86	275 x 250mm Ducting	m	6
87	300 x 250mm Ducting	m	10
	<u>Un-insulated circular flexible ducting</u>		
88	150mm Diameter ducting	m	15
	<u>Un-insulated galvanised fittings</u>		
89	300 x 250mm 90 Degree elbow	No	1
90	WL1 to circular SA1 transformation	No	3
91	WL2 to circular SA2 transformation	No	1
92	SA2 to 300 x 250mm Transformation	No	2
93	SA1 to 150mm Diameter transformation	No	1

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94	SA1 to 150 x 200mm Transformation	No	2
	<u>Insulated galvanised sheet metal ducting complete with balancing dampers, tap-offs, joints, duct hangers and stop ends</u>		
95	200mm Diameter ducting	m	2
96	250mm Diameter ducting	m	1
97	200 x 300mm Ducting	m	3
98	350 x 300mm Ducting	m	2
99	500 x 300mm Ducting	m	2
	<u>Insulated circular flexible ducting</u>		
100	200mm Diameter ducting	m	5
	<u>Insulated galvanised fittings</u>		
101	200mm x 90 Degree elbow	No	1
102	250mm x 90 Degree elbow	No	1
103	200 x 300mm to 350 x 300mm Transformation	No	1
104	350 x 300mm to 500 x 300mm Transformation	No	1
105	500 x 300mm to AC3 Transformation	No	1
106	WL1 to circular SA1 Transformation	No	1
	<u>PVC condensate piping completely installed including brackets, hangers, fittings, u-traps at indoor units, insulation at units, all as specified</u>		
107	20mm Pipe	m	70
108	25mm Pipe	m	20
109	32mm Pipe	m	40

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<u>Sundries</u>		
110	Allow for compliance with Occupational Health and Safety Act and Construction Regulations 2003	Item
111	Training of client staff and operators as specified	Item
112	Guarantee and maintenance of complete equipment installation for a period of 12 months	Item
<u>KITCHEN EQUIPMENT</u>		
<u>"Vulcan model RE-3" or similar approved</u>		
113	1000 x 850 x 910mm High "code 3005561" three phase industrial type stove with solid plates and oven	No 1
<u>Kitchen extract system</u>		
114	Stainless steel extract canopy 1500mm long x 800mm wide and manufactured from 1,2mm thick type 304 stainless steel with 240 grit satin finish with ducting, fan, light fitting, etc	No 1
<u>Stainless steel table, complete with galvanised under shelf and 150mm splash back to the rear</u>		
115	Size 1840 x 650 x 910mm	No 2
<u>Two tier wall mounted stainless steel shelf</u>		
116	Size 3400 x 300mm	No 4
<u>Sundries</u>		
117	Preparation and submittal of shop drawings	Item
118	Three sets of complete operating and maintenance manuals for the equipment installation including "As Built Drawings"	Item
119	Allow for compliance with Occupational Health and Safety Act and Construction Regulations 2003	Item
120	Training of client staff and operators as specified	Item

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121 Guarantee and maintenance of complete equipment installation for a period of 12 months

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Item No		Quantity	Rate	Amount
	SECTION No 2			
	Bill No 18			
	GLAZING			
	<u>PREAMBLES</u>			
	For preambles see "Specification of materials and methods to be used - PW 371-A"			
	<u>GLAZING TO STEEL WINDOW FRAMES</u>			
	<u>5mm Clear floated sheet glass secured in frame with SANS 10400 N/N1 and N/NN2 according to NBR glazing putty</u>			
1	Panes exceeding 0.1m ² and not exceeding 0.5m ²	m2	3	
	<u>5mm Pacific obscured glass secured in frame with SANS 10400 N/N1 and N/NN2 according to NBR glazing putty</u>			
2	Panes exceeding 0.1m ² and not exceeding 0.5m ²	m2	2	
	<u>6mm Clear laminated shutterproof glass secured in timber frame with 22 x 16mm solid hardwood glazing beads</u>			
3	Panes exceeding 0.5m ² and not exceeding 2.0m ²	m2	1	
	<u>6.4mm Clear laminated safety glass secured in steel frame with neoprene gasket (refer to drawing POL 2006/V1-V3)</u>			
4	Panes exceeding 0.5m ² and not exceeding 2.0m ²	m2	4	
	<u>6.4mm Clear laminated safety glass secured in steel frame with SANS 10400 N/N1 and N/NN3 according to NBR glazing putty according to SAPS 5-Star specifications (refer to drawing POL 2006/W1-W3)</u>			
5	Panes exceeding 0.1m ² and not exceeding 0.5m ²	m2	3	
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	Section No 2			
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	Glazing			
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SHOWER DOORS

Standard white powder coated centre pivot shower door and frame complete with clear safety glass (factory fitted), fittings and accessories as supplied by the manufacturer fixed to tiled walls

6	Size 870 x 1 800mm high	No	12
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MIRRORS, ETC

6mm Silvered float glass copper backed mirrors with bevelled edges, holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete

7	Mirror 450 x 600mm high fixed with four No.4 chrome plated mirror screws	No	31
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Bill No 18

Glazing

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Bill No 18

Glazing

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Bill No 18

Glazing

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SECTION No 2

Bill No 19

PAINTWORK

PREAMBLES

For preambles see "Specification of materials and methods to be used - PW 371-A"

PREPARATORY WORK TO EXISTING WORK

Previously painted plastered surfaces

Surfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth

Previously painted metal surfaces

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

Previously painted wood surfaces

Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth

PAINTWORK, ETC TO NEW WORK

On untinted granolithic

"ABE" or similar approved epoxy paint finish

1	On floors	m2	126
2	On skirting, rails, etc not exceeding 300mm girth	m	670

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<u>On smooth plaster</u>		
	<u>One coat plaster primer, one filler coat and two coats acrylic PVA paint</u>	
3	On ceilings	m2 670
	<u>One coat plaster primer, one filler coat and two coats acrylic PVA paint</u>	
4	On internal walls	m2 3 974
	<u>One coat alkali resistant plaster primer, one coat universal under coat and one coat eggshell enamel</u>	
5	On internal walls	m2 154
<u>On fibre-cement</u>		
	<u>Apply one coat of asbestos primer and two coats super acrylic PVA</u>	
6	On ceilings	m2 448
	<u>Prepare and apply one universal undercoat and two coats gloss enamel paint</u>	
7	On fascias and barge boards	m2 8
<u>On metal</u>		
	<u>One coat red oxide primer (factory coated), one coat universal undercoat and two coats "Plascon" gloss enamel paint (SABS approved) colour according to the Architect's specification</u>	
8	On door frames	m2 11
9	On window frames with burglar bars	m2 8
10	On gates, grilles, burglar screens, balustrading, etc (both sides measured over the full flat area)	m2 131
11	On rails, bars, pipes, etc not exceeding 300mm girth	m 8

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	<u>Black paint</u>		
12	On rails, bars, pipes, etc not exceeding 300mm girth	m	76
	<u>On wood</u>		
	<u>Two coats polyurethane varnish</u>		
13	On skirting, rails, etc not exceeding 300mm girth	m	630
	<u>Three coats polyurethane varnish</u>		
14	On fittings	m2	8
15	On cornices, rails, etc not exceeding 300mm girth	m	412
	<u>Three coats exterior polyurethane varnish</u>		
16	On duct cover strips	m2	42
	<u>Sand down and apply one coat sanding sealer plus three coats polyurethane varnish</u>		
17	On doors	m2	14
18	On saligna slatted benches	m2	22
19	On saligna slatted benches	m2	7
	<u>One undercoat and two coats "Plascon Velvaco" paint</u>		
20	On doors	m2	57
	<u>One coat oil based wood primer, one coat universal undercoat and two coats enamel paint</u>		
21	On cornices, rails, etc not exceeding 300mm girth	m	176

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<u>PAINWORK, ETC TO PREVIOUSLY PAINTED WORK</u>		
<u>On smooth plaster</u>		
<u>Prepare and apply one coat bonding liquid and two coats polyurethane velvet enamel paint</u>		
22	On ceilings	m2 195
<u>One coat plaster primer, one filler coat and two coats acrylic PVA paint</u>		
23	On internal walls	m2 901
<u>On fibre-cement</u>		
<u>One universal undercoat and two coats low gloss acrylic enamel paint</u>		
24	On sills not exceeding 300mm girth	m 39
<u>Apply one coat of asbestos primer and two coats super acrylic PVA</u>		
25	On ceilings	m2 558
<u>Prepare and one coat universal undercoat and two coats exterior acrylic PVA paint</u>		
26	On fascia boards	m2 39
<u>On metal</u>		
<u>Sand down and provide one coat red oxide, one coat rust remover, one coat universal undercoat and two coats "Plascon" gloss enamel paint (SABS approved) colour according to the Architect's specification</u>		
27	On door frames	m2 162
28	On doors, including frame	m2 188
29	On transformer room doors	m2 24
30	On window frames with burglar bars	m2 298
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31	On gates, grilles, burglar screens, balustrading, etc (both sides measured over the full flat area)	m2	374
32	On rails, bars, pipes, etc not exceeding 300mm girth	m	45
	<u>On wood</u>		
	<u>Two coats polyurethane varnish</u>		
33	On skirting, rails, etc not exceeding 300mm girth	m	26
	<u>Three coats polyurethane varnish</u>		
34	On cornices, rails, etc not exceeding 300mm girth	m	629
	<u>Sand down and apply one coat sanding sealer plus three coats polyurethane varnish</u>		
35	On doors	m2	84
	<u>One undercoat and two coats "Plascon Velvagio" paint</u>		
36	On doors	m2	247
	<u>One coat oil based wood primer, one coat universal undercoat and two coats enamel paint</u>		
37	On cornices, rails, etc not exceeding 300mm girth	m	116

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SECTION No 3

Bill No 1

**SITE WORKS (ALL TRADES)
(PROVISIONAL)**

PREAMBLES

For preambles see "Specification of materials and methods to be used - PW 371-A"

SUPPLEMENTARY PREAMBLES

Supplementary preambles and full descriptions of materials, items, work, etc applicable to Section No 3

The contractor is referred to Section No 2 for supplementary preambles and full descriptions of materials, items, work, etc which shall be regarded to be equally applicable for work described in this bill, unless specifically otherwise described

Site clearance

It will be expected from the contractor to clear the whole of the site, including along the fence route, with a mechanical grader prior to any work and/or setting out is commenced with

All rubble, rubbish, vegetable soil, shrubs, bush, trees, etc. shall be removed from the whole area and carted away off the construction site to a suitable dumping site, which has to be located by the contractor, all to the full satisfaction of the principal agent

Filling (General)

It will be, at all times, required from the contractor to apply and execute strict quality control on all filling material used

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Samples of potential fill material obtained from excavations, trench excavations, etc are to be submitted to and approved by the principal agent prior the re-use thereof as "filling"

All filling obtained from a commercial source should comply to minimum G6 standard

Should any material be found unsuitable and the use thereof be disapproved, such material shall be disposed and approved material must be sourced and imported from an approved commercial source

Filling in general shall be compacted to the prescribed percentage "Mod AASHTO" density

Back filling described as:

- **"filling in pipe trenches, etc"**, all backfilling shall be done with approved backfilling compacted to 93% "Mod AASHTO" density, unless otherwise described
- **"filling behind retaining walls, etc"**, all backfilling shall be done with approved backfilling compacted to 93% "Mod AASHTO" density, unless otherwise described

CBR and indicator tests

Density tests for monitoring filling shall be done at the minimum prescribed frequencies per each 150mm thick layer of filling placed

The contractor is to note that all necessary tests (i.e CBR and indicator tests, etc) are to be conducted for all filling material, whether obtained from the excavations or to be imported from an approved commercial source

Results of these tests are to be submitted to and approved by the principal agent prior commencement of any placement thereof and/or filling done therewith

Density tests

It will be required from the contractor to execute density tests for monitoring filling at the following minimum frequencies per each filling layer placed

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- **Filling under surface beds, aprons, channels, etc**
One test per 125m² plan area per each 150mm thick layer
- **Filling behind retaining walls**
One test per each 150mm thick layer per each 15m length of retaining wall

Results of density tests executed are to be submitted to and approval obtained from the principal agent prior commencement of any subsequent fill layers and/or other work

Tendered rates for all filling in this bill of quantities are to cater for these tests as no separate provision has been made for measurement and payment thereof

No additional claims in this regard will afterwards be entertained

Keeping excavations free from water

No separate provision has been made in this bill for measurement and payment for bailing, pumping or otherwise keeping excavations free from water during the construction process of the work measured in this bill

Therefore, tenderer are to note that their tendered rates are to cater for the above-mentioned as no claims arising out of their failure to do so will afterwards be entertained

Carting away of excessive and/or unsuitable excavated material

Descriptions for "carting away excessive or unsuitable excavated material from site" shall, unless specifically otherwise described, be deemed to include the loading and hauling of excessive or unsuitable excavated material to a suitable dumping site, which has to be located by the contractor, off the construction site

The location of the intended dumping site will be subjected to the prior written approval of the principal agent

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The contractor shall also be liable to, upon completion, to rehabilitate all areas of the site which was disturbed during the construction phase due to construction activities, temporarily dumping/spoiling of excavated material, etc. It will be required from the contractor to grade such areas to follow the adjacent ground contours and afterwards compacted to 80% "Mod AASHTO" density, all to the full satisfaction of the principal agent

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

Concrete cast in panels

All concrete aprons, channels, etc. described as "cast in panels" shall be laid in suitable size alternative panels with the length of any panel not exceeding 2m long

Holes for pipes

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

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

Pre-cast concrete paving

- **Bedding**

Bedding shall be of clean sifted sand spread and levelled to the maximum prescribed thickness. Paving blocks shall be carefully placed so as not to disturb sand bed

- **Joints between paving blocks**

Clean dry sifted plaster sand shall be worked and vibrated with a vibrator into joints between paving blocks. This process shall be repeated until all joints are properly filled. Upon completion, paving shall be cleaned by sweeping up all excess sand and washing down paving with a slow running hose

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- **Paving blocks**

Paving blocks to be approved best quality paving blocks as prescribed, even in size, shape, colour and equal to samples to be submitted to and approved by the principal agent

- **Laying pattern**

The laying pattern of paving blocks shall be as described with joint widths limited to maximum 5mm wide

- **Perpends**

All perpends are to be accurately kept. Paving work is to be carefully protected against damage and cement or mortar splashes shall be thoroughly cleaned down on completion. No oiling shall be permitted

- **General**

Special care must be taken to preserve arises and faces of paving blocks during transit and handling. Any paving blocks on the site not in accordance with the approved samples shall be rejected by the principal agent, in which case the delivery and removal of thereof shall be solely for the contractor's account

Relevant SANS 1200 Specifications

The following relevant SANS 1200 Specifications shall be regarded applicable:

- **Earth mattresses, building platforms, etc:**

SANS 1200 AA	General (Small Works)
SANS 1200 C	Site clearance
SANS 1200 DE	Earthworks (Small works)
SANS 1200 ME	Sub-base

- **Pipe beddings:**

SANS 1200 DB	Earthworks (Pipe trenches)
SANS 1200 LB	Bedding (Pipes)

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- **Pre-cast paving:**

SANS 1200 AA General (Small Works)
 SANS 1200 MJ Segmented paving

All work related to the above-mentioned elements shall be done with materials specified and in according to methods prescribed by the relevant SANS 1200 referred to

SANS 1200 Specification (General)

The SANS 1200 Specifications as referred to above were drawn up to cover activities normally encountered on civil engineering work, which is equally applicable on work scheduled hereunder for this project

All the specifications referred to above, although not issued with this bill of quantities, shall be deemed to form part of this document and shall be considered as applying to the performance of work to be completed in terms of this Section No 3

The contractor shall obtain a copies of the said specifications from the South African Bureau of Standards and be kept on site at all times

Testing of material and filling

Descriptions of earth filling, compaction, etc shall be deemed to include for all necessary testing required in accordance with the SANS 1200 series

Measurement and payment

Measurement and payment clauses as described in the above-mentioned SANS 1200 Specifications shall not apply to the work as set out in this bill

DEMOLITIONS, ETC

Demolishing and removing

1 Single storey brick structure approximately 4.0 x 3.5m on plan and 1.8m high overall, including concrete surface bed, foundations, etc (no door frames, window frames, roof structure and covering constructed)

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<u>Compaction of surfaces</u>			
10	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% "Mod AASHTO" density	m2	70
<u>SITE CLEARANCE, ETC</u>			
<u>Site clearance</u>			
11	Cleaning, clearing, removal of rubbish, debris, vegetation, hedges, shrubs, etc and dispose all rubble from the site	m2	800
<u>BULK EXCAVATION, FILLING, ETC</u>			
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site stabilized with 3.5% CEM 32.5 compacted in layers not exceeding 150mm thick to 97% "Mod AASHTO" density</u>			
12	Backfilling to trenches, holes, etc	m3	65
<u>Earth filling supplied by the contractor stabilised with 3.5% CEM 32.5 compacted in layers not exceeding 150mm thick to 97% "Mod AASHTO" density</u>			
13	Backfilling to trenches, holes, etc (LI)	m3	97
<u>Prescribed density tests on filling</u>			
14	"Modified AASHTO" density test	No	2
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