

Brought Forward

R

"Roll-Up Serranda" or other equally approved alu-solid powder coated aluminium solid slats roller shutter door as per manufacturer specification and design. Roller shutter door fixed to brickworks, reinforced concrete or structural steel.

- 53 Manually operated 'charcoal finish' roller shutter door with perforated slats to suite overall opening 1360 x 910mm high. Door Type D11. Tenderer's are referred to Architect's drawings annexed to these Bills of Quantities, Architect's drawing No. UKU - A - 1003 - SP9, annexed to these bills of quantities.

No

1

- 54 Manually operated 'charcoal finish' roller shutter door with solid slats to suite overall opening 1500 x 2134mm high. Door Type D14. Tenderer's are referred to Architect's drawings annexed to these Bills of Quantities, Architect's drawing No. UKU - A - 1003 - SP9, annexed to these bills of quantities.

No

2

SWING GATE

Heavy Duty Swing Gate

- 55 Heavy duty swing gate with overall size 4250 x 3000mm including Flatex 345 mesh welded between 12 x 12mm solid square bars welded onto 100 x 50 x 3mm rectangular tubing frame and 2mm thick steel plate welded between 12 x 12mm solid square bars, fixed to 100 x 100 x 5mm square tubing post with 200 x 200 x 5mm base plate to be secured in 300 x 300 x 300mm concrete block footing and to brick columns (including excavations and concrete to footings). Complete with cell type bow handles welded to steel frame, and heavy duty type 4 cell hinges as per drawing, and heavy duty steel barrel bolt with catch and padlock welded to gate frames, and heavy duty barrel bolts with 12mmØ x 30mm pin welded to gate frame to keep bolts open including 200 x 100 x 5mm base plate with 16mmØ x 30mm deep holes drilled into concrete for barrel bolts and fixed onto concrete with 4xM10 expansion bolts. Door Type D12 Tenderer's are referred to Architect's drawings annexed to these Bills of Quantities, Architect's drawing No. UKU - A - 1003 - , annexed to these bills of quantities.

No

1

STEEL LOCKERS

Carried Forward

R

Bill No. 11
Metalwork

201

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M.B SS

Brought Forward				R
<u>Three tier three door steel lockers (Code: LOC003), epoxy powder coated with flush fitting doors, for padlock. To comply with BS EN ISO 9001-2000 requirements. Colour, admiral grey.</u>				
56	300 x 450 x 1800mm high steel lockers	No	25	
<u>PINNING BOARDS</u>				
<u>Anodized aluminium framed felt pinning board plugged and screwed to walls with counter sunk brass screws and cupped washers</u>				
57	Pinning board, size 1500 x 900mm high (SN26). Tenderer's are referred to Architect's drawing No. UKU - A - 7001 - 9, annexed to these bills of quantities.	No	6	
<u>SUNDRIES</u>				
58	Galvanised spiral intersecting cross type razor wire (barbed wire) with 3 to 5 clips on every to neighbour coil loop. Tenderer's are referred to Architects drawing No. 132002 UKU - A - 1003 - SP3 , annexed to these bills of quantities.	m	755	
59	Uni-Angle 914 x 610 x 1829mm high galvanised steel shelving with maximum load of 120kg UDL. Product Code (USS-BG-G-1.8-610-6). Tenderer's are referred to Architect's drawing No. UKU - A - 3000 - SP20, annexed to these bills of quantities.	No	13	
60	30mm diameter stainless steel grade 304 hand cuff rail fixed to wall with 4 x M10 full threaded bolts, chemically anchored in wall, through 150 x 150 x 6mm stainless steel base plate @1m intervals. Tenderer's are referred to Architect's drawing No. UKU - A - 1007- , annexed to these bills of quantities.	m	9	
61	Blinds Premium (G2) 2400 Roller blind colour Riviera - Grey with stainless steel chain mechanism with right/ left hand side chain control (to be confirmed on site), size between 2450mm wide x 2300mm drop, face fixed in accordance with manufacturer's recommendations.	No	93	
62	Library steel ladder for 120mm sliding bracket kit size 400 x 3000mm long, installed all in accordance to specialist	No	1	
Carried to Summary				R
Bill No. 11 Metalwork				

202



Item No	Unit	Quantity	Rate	Amount
<u>BILL NO. 12</u>				
<u>PLASTERING</u>				
<u>(CPAP WORK GROUP NO. 142 UNLESS OTHERWISE STATED)</u>				
<u>PREAMBLES</u>				
The descriptions given in the various items below are not necessarily full and complete and reference must be made to the "General Preambles for Trades 2017" as published by the Association of South African Quantity Surveyors", and Supplementary Preambles for further description and amplification of work in this section				
<u>SUPPLEMENTARY PREAMBLES</u>				
<u>Method</u>				
The method to be used shall be either the monolithic method or the bonded method				
<u>Laying</u>				
Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels				
Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels				
After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and latence shall then be removed and the surface steel trowelled or power floated				
<u>SELF LEVELLING SCREED</u>				
Carried Forward			R	
Bill No. 12 Plastering				

203



M.B SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
	<u>"TAL SCREEDMASTER" or other equally approved 5mm Self Levelling compound, installed in strict accordance with manufacturers instructions. To include "TAL Primer" or other equally approved.</u>			
1	On floors to receive vinyl sheeting (vinyl sheeting elsewhere measured)	m2	174	
	<u>SCREEDS</u>			
	<u>Screeds wood floated, on concrete</u>			
2	30mm Thick screeds (LI)	m2	962	
3	30mm Screed to stairs (LI)	m2	38	
4	40mm screed to falls (LI)	m2	13	
	<u>GRANOLITHIC</u>			
	<u>Untinted granolithic, on concrete</u>			
5	30mm thick on floors (LI)	m2	772	
6	30mm Grano screeds to ramps (LI)	m2	72	
7	30mm Grano screeds to stairs (LI)	m2	26	
8	30mm thick on concrete benches (LI)	m2	37	
9	75mm High coved skirting (LI)	m	79	
10	90mm High coved skirting (LI)	m	576	
	<u>INTERNAL PLASTER</u>			
	<u>One coat cement plaster steel floated on brickwork</u>			
11	On walls (LI)	m2	1 810	
12	On narrow widths (LI)	m2	124	
13	Sides of concrete benches (LI)	m2	13	
	<u>One coat cement plaster steel floated on concrete</u>			
14	On concrete walls (LI)	m2	180	
	Carried Forward			R

Bill No. 12
Plastering

204
b

MB SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

	Brought Forward		
15	On concrete soffits (LI)	m2	484
16	On concrete beams (LI)	m2	234
17	On narrow widths (LI)	m2	13
18	On concrete stair soffits and sides (LI)	m2	48
	<u>One coat cement plaster steel floated on fibre cement boards</u>		
19	On ceilings (LI)	m2	138
	<u>EXTERNAL PLASTER</u>		
	<u>One coat cement plaster steel floated on concrete</u>		
20	On concrete beams (LI)	m2	234
	<u>CORNER PROTECTORS, DIVIDING STRIPS, ETC.</u>		
21	3 x 32mm Flat section aluminium dividing strips between different floor finishes	m	36

R

Carried to Summary

Bill No. 12
Plastering

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MB SS

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
3	Circular cutting for pipe size not exceeding 100mm diameter	No	44
4	Circular cutting for pipe size exceeding 100mm	No	30
	<u>70 x 296mm Kitkat Matt black Porcelain Mosaic, fixed with approved adhesive to plaster (plaster elsewhere measured) including bonding agent, expansion joints and grout, etc.</u>		
5	On walls (LI)	m2	20
	<u>200 x 100mm Valencia Bevelled Glossy white ceramic subway wall tile backsplash, fixed with approved adhesive to plaster (plaster elsewhere measured) including bonding agent, expansion joints and grout, etc.</u>		
6	On splashback (LI)	m	13
<u>FLOOR TILING</u>			
	<u>Porcelain floor tiles (PC R 350.00/m2) excluding VAT, fixed with approved adhesive to screeds (screeds elsewhere measured) including bonding agent, expansion joints and grout, etc.</u>		
7	On floors (LI)	m2	764
8	100mm High skirting (LI)	m	924
	<u>Slip-Resistant Glazed EcoBody Porcelain floor tiles (PC R 350.00/m2) excluding VAT, fixed with approved adhesive to screeds (screeds elsewhere measured) including bonding agent, expansion joints and grout, etc.</u>		
9	On floors	m2	67
10	On treads and risers of stairs	m2	13
11	100mm High skirting	m	37

Bill No. 13
Tiling

Carried Forward

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
	<u>Ceramic floor tiles (PC R 350.00/m2) excluding VAT, fixed with approved adhesive to screeds (screeds elsewhere measured) including bonding agent, expansion joints and grout, etc.</u>		
12	On floors	m2	131
13	100mm High skirting	m	132
	<u>Non-slip mosaic tiles (PC R 1500.00/m2) excluding VAT fixed with approved adhesive on waterproofing surface on top of screeds (waterproofing and screeds elsewhere measured) including bonding agent, expansion joints and grout, etc.</u>		
14	To Shower walls (LI)	m2	2
15	To shower floors (LI)	m2	13
	<u>SUNDRIES</u>		
16	10mm Aluminium straight edge trim	m	310
Carried to Summary			R

Bill No. 13
Tiling

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(Signature)

M.B SS

	Unit	Quantity	Rate	Amount
BILL NO. 14				
PLUMBING & DRAINAGE				
(CPAP WORK GROUP NO. 148 UNLESS OTHERWISE STATED)				
PREAMBLES				
The descriptions given in the various items below are not necessarily full and complete and reference must be made to the "General Preambles for Trades 2017" as published by the Association of South African Quantity Surveyors", and Supplementary Preambles for further description and amplification of work in this section				
SUPPLEMENTARY PREAMBLES				
Sealing of edges				
Outer edges of sinks, basins, baths, urinals, etc. are to be sealed against adjacent surfaces with silicone				
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				
uPVC pressure pipes and fittings				
Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints				
High density polyethylene (HDPE) pipes and fittings				
Pipes shall be type IV and of the class specified with Plasson or Alprene compression fittings				
Carried Forward				R
Bill No. 14 Plumbing and Drainage (Provisional) <div style="float: right; font-size: 2em; font-weight: bold;">209</div>				

Carried Forward

Bill No. 14
Plumbing and Drainage (Provisional)

209



M.B SS

Brought Forward

R

Polycorp polypropylene pipes

Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with Fast-Fuse heat welded thermoplastic or where so described Polylock compression fittings. 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.

Copper pipes

Pipes shall be hard drawn and half-hard Maksal pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard) Class 2 (Half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be Cobra Watertech type. Capillary solder fittings shall comply with ISO 2016.

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

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing" and only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained.

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.

Carried Forward

R

Bill No. 14
Plumbing and Drainage (Provisional)

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Brought Forward

R

Paper wrapping to pipes

Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings

Densyl petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd

Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with overlaps. Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including mastic, tape, Lay flat sheeting, securing of same, etc.

Prices for wrapping of pipes shall include for all work as described to couplings in the length.

Excavations

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

"Intermediate material" and "hard material" 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: SABS 1200 L : Medium-pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches, etc. shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding

Carried Forward

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Bill No. 14
Plumbing and Drainage (Provisional)

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Brought Forward

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Flush pans

Flush pans shall have straight or side outlets and "P" or "S" traps as necessary

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

Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable

General

Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc. are given separately) Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends.

Descriptions of pipes laid in and including trenches and inspection chambers, catchpits, etc. shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 95% Mod AASHTO density.

Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc. are given separately).

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

As-built drawings

Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as built drawings elsewhere)

(CPAP WORK GROUP NO. 148 UNLESS OTHERWISE STATED)

RAINWATER DISPOSAL

Carried Forward

R

Bill No. 14
Plumbing and Drainage (Provisional)

212

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
<u>1.6mm Gauge aluminium gutter box</u>			
1	250 x 200mm High purpose made box Gutter	m	601
2	Extra over gutter box for stopped end	No	12
3	Extra over gutter box for corner	No	70
4	Extra over gutter box for outlet	No	85
<u>0.9mm Pre-coated aluminium seamless rainwater downpipes colour brown with baked enamel finish, including holder butts, etc.</u>			
5	100 x 100mm Rainwater downpipes	m	383
6	Extra on rainwater pipe for bend	No	170
7	Extra on rainwater pipe for shoe	No	85
<u>(CPAP WORK GROUP NO. 148 UNLESS OTHERWISE STATED)</u>			
<u>SANITARY FITTINGS</u>			
<u>WC</u>			
8	"Entree" or other equally approved closed couple suite, Vitreous China, size 650 x 360 x 760mm (Code: ECCS)	No	26
9	"Betten" or other equally approved valve 15 x 15mm std valve rnd handle DZR and braid SATAS jaswic 350mm (Code: 350DZRBSAV3)	No	26
<u>Wash hand Basin</u>			
10	"LAVE Stephane" or other equally approved basin under counter 495 x 400 x 195mm (Code: LSBU)	No	21
11	"Borras demorar" or other equally approved metering angled pillar tap (Code: BMMTPL)	No	42
12	"Betten" or other equally approved angle valve 15 x 15mm Qtr Rnd Handle DZR (Code: DZRBSAV4)	No	42
13	"Brevik" or other equally approved basin waste slotted brass Cp 32mm (Code: BV32BS)	No	21
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Bill No. 14 Plumbing and Drainage (Provisional)			

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R

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
14	"Sunridge" or other equally approved bottle trap standard type 32 x 40mm (Code: BVBT)	No	21	
<u>Wash hand Basin</u>				
15	"Lave style" or other equally approved wall hung wash hand basin (Code: LSBW)	No	5	
16	"Borras demorar" or other equally approved metering angled pillar tap (Code: BMMTPL)	No	10	
17	"Betten" or other equally approved angle valve 15 x 15mm Qtr Rnd Handle DZR (Code: DZRBSAV4)	No	10	
18	"Brevik" or other equally approved basin waste slotted brass cp 32mm (Code: BV32BS)	No	5	
19	"Sunridge" or other equally approved bottle trap standard type 32 x 40mm (Code: BVBT)	No	5	
<u>WC (Paraplegic)</u>				
20	"LAVE Ella" or other equally approved rimless wall hung pan (Code: LERWHP)	No	3	
21	"Cobra" or other equally approved FMI-100 back entry exposed flush valve and C-FMS-80 Extended Handle	No	3	
<u>Wash hand basin (Paraplegic)</u>				
22	"Vaal Sanitaryware" or other equally approved hibiscus vitreous china lavatory basin colour white, size 510 x 405mm with one tap hole including integrated overflow (Code: 7023)	No	3	
23	"Borras medico" or other equally approved basin pillar tap hot (Code: BMM01-H)	No	3	
24	"Borras medico" or other equally approved basin pillar tap cold (CODE: BMM01)	No	3	
25	GH angle valve bau 15 x 15mm	No	6	
26	"Brevik" or other equally approved basin waste slotted brass cp 32mm (Code: BV32BS)	No	3	
27	"Sunridge" or other equally approved bottle trap standard type 32 x 40mm (Code: BVBT)	No	3	
Carried Forward				R


Bill No. 14
Plumbing and Drainage (Provisional)

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
<u>WC (Cell)</u>			
28	"Sunridge" or other equally approved heavy duty wall and floor mounted WC pan, Grade 304 1,6mm thick gauge stainless steel. Unit size: 560 x 380 x 460mm high. Manufactured with pressed concealed flushing rim and integral "P" trap with a 100mm outlet pipe and a 38mm back entry inlet pipe extending to 400mm. (Code: SR-WFM-PWC)	No	9
29	Approved 25mm diameter chrome flush valve for wc for concealed installation with push button actuator, 1.2 - 5.0 bar flow pressure, flow rate adjustment, including 25mm supply pipe, stop valve, flush pipe and 300mm extension pipe to wc	No	9
<u>Sink/Fountain (cell)</u>			
30	"Sunridge" or other equally approved fountain combination wash hand basin. Grade 304 1.2mm thick stainless steel. Size 417 x 304 x 107mm, with a 40mm waste outlet and is to be recessed into a 125mm single brick cavity. The basin is factory-fitted and supplied with a bib tap at the top of the unit. (CODE: SR-COMB-BIDF)	No	9
<u>Urinals</u>			
31	Urinal wall hung complete fixation, bracket, spreader and waste, "Sunridge" or other equally approved bottle trap standard type 32 x 40mm (at least one urinal to be installed at lowered height for kids) (Code: EUWH-COMP) including urinal flush pipe (Code: UFP), automatic shutoff valve for urinal RIIFO (Code: RIFV)	No	8
<u>Kitchen Sink-Single Bowl</u>			
32	"Brescia" or other equally approved single bowl sink 860 x 500mm with 52mm waste hole (Code: BS860)	No	1
33	Modern sink mixer wall type (Code: BM60)	No	1
34	"Brevik" or other equally approved bath/sink waste brass cp 40mm (Code: BV40B)	No	1
35	GH angle valve bau 15 x 10mm	No	2
36	Trap P 40 x 40mm & 2 clamps (Code: TPPT4040)	No	1
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M.B SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
<u>Kitchen Sink-Double Bowl</u>			
37	"Brescia" or other equally approved double bowl sink 1160 x 500mm with 52mm waste hole (Code: BS1160)	No	4
38	Modern sink mixer wall type CODE: BM60	No	4
39	"Brevik" or other equally approved bath/sink waste brass cp 40mm (Code: BV40B)	No	4
40	"Bretten" or other equally approved angle valve 15 x 15mm Qtr Rnd handle DZR (Code: DZRBSAV4)	No	8
41	Trap sink combo 40 x 600mm & 5 clamp (Code: TPWTC600)	No	4
<u>Kitchen Pot Sink-Double Bowl (cell)</u>			
42	1850 x 650mm Double centre bowl pot sink (Code: SR-POT-1850-DC) including 40mm 304 round tubing S/Steel legs(915mm high (Code: SR-LEGS-SET)	No	1
43	BSL solid sink mixer wall type (BSL21)	No	1
44	"Brevik" or other equally approved bath/sink waste brass cp 40mm (Code: BV40B)	No	1
45	Trap sink combo 40 x 600mm & 5 clamp (Code: TPTWTC600)	No	1
<u>Showers</u>			
46	BSL solid bath/shower mixer (Code: BSLI0)	No	6
47	"Brevik" or other equally approved shower rose 100mm single function (Code: BVSRI)	No	6
48	"Brescia" or other equally approved shower arm brass (Code: SABS1)	No	6
49	"Brescia" or other equally approved shower trap brass cp top square	No	6
50	Shallow seal and chrome plated square grating (Code: BSSTSQB)	No	6
Carried Forward			R

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Plumbing and Drainage (Provisional)

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
<u>Shower (cell)</u>				
51	Push button metering non hold open valve as prison type or other equally approved	No	9	
52	"Walcro cirs hexs" or other equally approved overhead ceiling shower with resistant sleeve	No	9	
<u>Concrete Trough (Cells)</u>				
53	"Lion" or other equally approved concrete wash through double size 1065 x 650 x 900mm (Code: SKU - 41420)	No	1	
54	"Bretten" or other equally approved garden tap (Code: BRGTH22)	No	2	
<u>Floor Drains</u>				
55	"Herbish" or other equally approved HB GT 700 under counter grease trap	No	1	
56	"Herbish" or other equally approved chemical dosing unit (Enzyme/Bio dosing for grease line) including Bio Fluid	No	1	
57	"Herbish" or other equally approved HBSD100 stainless steel floor drain connected uPVC pipes all in accordance to manufacturer's details	No	10	
58	"Herbish" or other equally approved HB 200 V (H) NW100 stainless steel floor drain connected uPVC pipes all in accordance to manufacturer's details	No	10	
59	500 x 400 x 400mm grease trap 304 grade stainless steel (Code: SR-GTR-500)	No	1	
<u>(CPAP WORK GROUP NO. 146 UNLESS OTHERWISE STATED)</u>				
<u>SANITARY PLUMBING</u>				
<u>uPVC Pipes cast into concrete slabs, concrete surface bed, fixed to soffit and walls, or chased into walls, etc. in accordance with manufacturers specifications</u>				
60	50mm Pipes (LI)	m	200	
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Plumbing and Drainage (Provisional)

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
61	110mm Pipes (LI)	m	250	
62	160mm Pipes (LI)	m	20	
<u>Extra over uPVC pipes for fittings</u>				
63	50mm Access junction (LI)	No	8	
64	110mm Access junction (LI)	No	50	
65	110 x 50mm Access junction (LI)	No	16	
66	110mm Double access junction (LI)	No	5	
67	50mm Junction (LI)	No	8	
68	110mm Junction (LI)	No	55	
69	110 x 50mm Junction (LI)	No	16	
70	110mm Double junction (LI)	No	5	
71	110 x 50mm Reducer (LI)	No	10	
72	160 x 110mm Reducer (LI)	No	15	
73	50mm Bend (LI)	No	38	
74	110mm Bend (LI)	No	140	
75	50mm End cap (LI)	No	20	
76	110mm End cap (LI)	No	50	
77	110mm Air admittance valves (LI)	No	36	
78	50mm Kimberley sockets (LI)	No	10	
79	110mm Kimberley sockets (LI)	No	10	
80	110mm Pan connector (LI)	No	38	
<u>(CPAP WORK GROUP NO. 148 UNLESS OTHERWISE STATED)</u>				
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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward

R

WATER SUPPLIES

All piping embedded into concrete or chased into walls to be twice wrapped in strong approved building paper.

Rates for surface mounted pipe shall be deemed to include all fixtures and fittings for pipes fixed to walls, in chases, and in ceilings.

Geberit Mepla or other equally approved pipes fixed to soffit and walls, or chased into walls, chased into concrete, etc. in accordance with manufacturers specifications:

81	16mm Pipes (LI)	m	10
82	20mm Pipes (LI)	m	350
83	26mm Pipes (LI)	m	250
84	32mm Pipes (LI)	m	100
85	40mm Pipes (LI)	m	150
86	50mm Pipes (LI)	m	150
<u>Extra over Mepla pipes for fittings:</u>			
87	16mm Bend (LI)	No	10
88	20mm Bend (LI)	No	300
89	26mm Bend (LI)	No	50
90	32mm Bend (LI)	No	38
91	40mm Bend (LI)	No	10
92	50mm Bend (LI)	No	5
93	16mm Coupling (LI)	No	10
94	20mm Coupling (LI)	No	80
95	26mm Coupling (LI)	No	35
96	32mm Coupling (LI)	No	33

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
97	40mm Coupling (LI)	No	15	
98	50mm Coupling (LI)	No	10	
99	20mm Tees (LI)	No	50	
100	26mm Tees (LI)	No	30	
101	32mm Tees (LI)	No	30	
102	40mm Tees (LI)	No	30	
103	50mm Tees (LI)	No	10	
104	26 x 26 x 20mm Tees (LI)	No	32	
105	26 x 20 x 20mm Tees (LI)	No	22	
106	32 x 20 x 26mm Tees (LI)	No	8	
107	32 x 26 x 26mm Tees (LI)	No	5	
108	32 x 32 x 20mm Tees (LI)	No	15	
109	32 x 32 x 26mm Tees (LI)	No	8	
110	40 x 40 x 26mm Tees (LI)	No	5	
111	40 x 40 x 32mm Tees (LI)	No	8	
112	50 x 50 x 26mm Tees (LI)	No	5	
113	50 x 50 x 32mm Tees (LI)	No	5	
114	26 x 20mm Reducer (LI)	No	10	
115	32 x 26mm Reducer (LI)	No	12	
116	40 x 26mm Reducer (LI)	No	8	
117	40 x 32mm Reducer (LI)	No	5	
118	50 x 32mm Reducer (LI)	No	8	
119	50 x 40mm Reducer (LI)	No	5	
Carried Forward				R
Bill No. 14 Plumbing and Drainage (Provisional)				
220				

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			
<u>Extra over Mepla pipes for brass compression fittings:</u>			
120	15mm Flexible service pipe 300mm girth	No	79
121	15mm Wallplate elbow	No	79
122	22mm Wallplate elbow	No	61
123	20mm Isolating valve	No	130
124	26mm Isolating valve	No	20
125	32mm Isolating valve	No	2
<u>HDPE Class 16 or other equally approved pipes fixed to soffit and walls, or chased into walls, chased into concrete, etc. in accordance with manufacturers specifications:</u>			
126	32mm Pipes (LI)	m	100
127	50mm Pipes (LI)	m	95
128	110mm Pipes (LI)	m	105
<u>Extra over HDPE Class 16 pipes for fittings:</u>			
129	32mm Bend (LI)	No	30
130	50mm Bend (LI)	No	30
131	110mm Bend (LI)	No	30
132	110mm Tees (LI)	No	20
133	110 x 110 x 32mm Tees (LI)	No	20
134	110 x 110 x 50mm Tees (LI)	No	20
<u>Extra over HDPE Class 16 pipes for brass compression fittings:</u>			
135	32mm Isolating valve	No	12
136	50mm Isolating valve	No	8

Carried Forward

Bill No. 14
Plumbing and Drainage (Provisional)

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward

R

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

Class 0 copper pipes cast into concrete slabs, concrete surface bed, fixed to soffit and walls, or chased into walls, etc. in accordance with manufacturers specifications

137	15mm Pipes (LI)	m	65
138	22mm Pipes (LI)	m	55

Extra over class 0 copper pipes for capillary fittings

139	15mm Fittings (LI)	No	43
140	22mm Fittings (LI)	No	38

Extra over copper pipes for brass compression fittings:

141	28mm Epoxy coated and lined strainer with element	No	2
142	54mm Epoxy coated and lined strainer with element	No	2
143	28mm Relux (non-return) valves	No	6
144	42mm Relux (non-return) valves	No	4
145	54mm Gate valves	No	14
146	28mm Connecting valves	No	42
147	42mm Connecting valves	No	20
148	54mm Connecting valves	No	34

Carried Forward

R

Bill No. 14
Plumbing and Drainage (Provisional)

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			
149	For the complete supply, delivery, installation and commissioning of DN 26, 130 series balancing valves with venturic device, Caleffi or other equally approved	No	4
150	Reliance cast gun metal thermostatic mixing valve 22mm BSP	No	5
151	20mm Elbow tap connector	No	10
152	20mm Adaptor with male thread	No	10
<u>ELECTRIC HEAT PUMPS, WATER HEATERS, EXPANSION VESSELS, ETC.</u>			
153	For the complete supply, delivery and installation of 5kW air to water R410 A heat pump type water heater, heating reservoir water to a temperature of between 55 - 60°C, including controller, all safety features, temperature sensor, tube in shell exchanger, High EER Scroll compressor, intergral single circulating pump set with strainer, flow switch, complete with control panel, with maximum noise level of 65dB(A), fittings, copper pipework, insulation, cladding, bends,tees, and necessary accessories as specified. ("AIRCO Model 5kW AKRS-RS 50" or other equally approved)	No	9
154	For the complete supply, delivery and installation of 200L "Kwikot" or other equally approved Superline 400 Dual high pressure electric water heater or other approved. Inner cylinder to be 1.6mm steel and thermofused porcelain enamelled for cylinder longevity and hygiene. Including insulation and cladding, pressure and temperature guages, inlet and outlet flanged connections, drain and drain piping, all safety features, supports and all necessary accessories as specified. (KWIKOT DSG-200-5 or other equally approved)	No	9
155	10L Hydroboil, 2,4 kW element rating ("ZIP" or other approved). Unit to be installed in accordance with manufacturers instructions, connected to 15mm cold water supply and electrical power supply, plugged and screwed to wall.	No	3

GAUGES AND FITTINGS

Carried Forward

Bill No. 14
Plumbing and Drainage (Provisional)

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M.B. S

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			
<u>For the supply, delivery and installation of the pressure gauges and fittings in accordance with the project specification and Standard specification for Mechanical Installation.</u>			
156	Heat Pump circulation pumps (delivery side)	No	2
157	Heat Pump circulation pumps (Inlet side)	No	2
158	Hot water return pumps (delivery side)	No	2
159	Hot water return pumps (Inlet side)	No	2
160	Thermostatic Balancing Valves 32mm diameter	No	2
<u>WATER SUPPLIES TO FIRE APPLIANCES</u>			
<u>SABS approved Black Mild Steel pipes including all holderbats and couplings in the running length with welded type fittings to be used. All pipe in wall/floor chases to be wrapped twice in brown Kraft paper. Pipes passing through opening in brickwork or slab shall be coated with DENZO Protective pipe wrapping. All pipes to be painted with one coat primer and two coats signal red.</u>			
161	25mm Pipes (LI)	m	200
162	32mm Pipes (LI)	m	120
163	40mm Pipes (LI)	m	50
164	100mm Pipes (LI)	m	350
<u>Extra over Black Mild Steel pipes for welded type fittings:</u>			
165	25mm Fittings (LI)	No	98
166	32mm Elbow (LI)	No	20
167	32 x 25mm Elbow (LI)	No	8
168	32 x 25mm Reducer (LI)	No	8
169	40mm Elbow (LI)	No	8
170	40 x 32mm Elbow (LI)	No	3

Carried Forward

Bill No. 14
Plumbing and Drainage (Provisional)

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
171	40 x 32mm Tees (LI)	No	2	
172	40 x 32mm Reducer (LI)	No	2	
173	100mm Elbow (LI)	No	26	
174	100mm Tees (LI)	No	6	
175	100 x 32mm Tees (LI)	No	13	
176	100 x 65mm Tees (LI)	No	1	
177	100 x 80mm Tees (LI)	No	1	
178	100 x 40mm Reducer (LI)	No	4	
179	100 x 80mm Reducer (LI)	No	4	
<u>SUNDRIES TO FIRE WATER SUPPLIES</u>				
180	25mm M1 Union	No	11	
181	25mm Barrel nipples	No	11	
182	25mm Stop valve	No	11	
183	32mm Stop valve	No	8	
184	40mm Stop valve	No	4	
185	100mm Stop valve	No	5	
186	25mm Coupling (LI)	No	11	
187	32mm Coupling (LI)	No	6	
188	40mm Coupling (LI)	No	7	
189	80mm Coupling (LI)	No	1	
190	100mm Coupling (LI)	No	1	
191	65mm Fire hydrant with instantaneous coupling	No	6	
192	100mm Fire hydrant with instantaneous coupling	No	1	
Carried Forward				R
Bill No. 14 Plumbing and Drainage (Provisional)				


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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
193	80mm Twin booster complete with non-return valve	No	1	
194	Fire blanket 1800 x 1800mm	No	1	
<u>FIRE APPLIANCES</u>				
195	Fire hose reel complete with 30m rubber hose, chromium plated stopcock, shut-off nozzle, wall bracket and cover.	No	11	
196	5kg Carbon dioxide fire extinguisher including approved bracket and meranti backing board fixed to wall	No	1	
197	4.5kg DCP portable fire extinguisher including approved bracket and meranti backing board fixed to wall	No	22	
<u>PIPE INSULATION</u>				
<u>"Geberit Mepla" or other equally approved red lagged insulation for hot water piping, neatly cut around pipe as required</u>				
198	Insulation to 16mm diameter piping and couplings including working around fittings (LI)	m	15	
199	Insulation to 20mm diameter piping and couplings including working around fittings (LI)	m	100	
200	Insulation to 26mm diameter piping and couplings including working around fittings (LI)	m	100	
201	Insulation to 32mm diameter piping and couplings including working around fittings (LI)	m	20	
<u>WATER METER</u>				
202	50mm Sealed counter semi-positive rotary piston type water meter with a body length 165mm as "Kent PSM Size 5", suitable for vertical or horizontal installation and joints to brass connectors (elsewhere measured).	No	1	
<u>SUNDRIES</u>				
203	Provide a full set of as-built drawings on completion of the installation		Item	
204	Allow for pressure testing of the plumbing and drainage system.		Item	
Carried Forward				R

Bill No. 14
Plumbing and Drainage (Provisional)

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M.B. SJ

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward

- | | |
|-----|--|
| 205 | Allow for disinfecting the system in this building in accordance with SANS 10252. |
| 206 | Testing and Commissioning of the plumbing and drainage system. |
| 207 | Guarantee and maintenance including fittings, materials and workmanship for a period of TWELVE MONTHS after date of completion and handover. |

Item

Item


Item

R

Carried to Summary

Bill No. 14
Plumbing and Drainage (Provisional)

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R

W-B SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

**Item
No**

Unit Quantity Rate Amount

BILL NO. 15

ELECTRICAL WORKS

**(CPAP WORK GROUP NO. 160 UNLESS
OTHERWISE STATED)**

PREAMBLES

The descriptions given in the various items below are not necessarily full and complete and reference must be made to the "General Preambles for Trades 2017" as published by the Association of South African Quantity Surveyors", and Supplementary Preambles for further description and amplification of work in this section

SUPPLEMENTARY PREAMBLES

Specifications, drawings, etc

Tenderers are referred to the specification and drawings annexed to 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 and drawings

Distribution boards etc

Rates for distribution boards, etc. are to include for bus bars, jumpers, neutral bars, internal wiring and connections, circuit identification markers, control gear labels, circuit legend cards and working drawings

Switches, socket outlets, etc.

Rates for switches, socket outlets, etc. are to include for screwing to outlet boxes, connecting up and cover plates

Light fittings

Rates for light fittings are to include for hanging, fixing and connecting and for lamp holders and fluorescent tubes and lamps of the type and wattage described

Carried Forward


R

Bill No. 15
Electrical Works

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[Signature]

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
<u>GENERAL ITEMS</u>			
1	Guarantee and maintenance for the complete Electrical Installation including fittings, materials and workmanship for a period of TWELVE MONTHS after date of completion and handover	Item	
2	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.	Item	
3	3 sets of as built drawings showing all conduit routes, draw boxes and positions of outlets etc.	Item	
4	Allow for final testing and Certificate of Compliance to be issued on completion of the project in addition to the detailed testing specified.	Item	
5	Allow for instructing the clients staff in the correct operation of the installation.	Item	
6	Any items not specifically listed above but required to complete the installation as per the specification and drawings (list the items) a) b) c)	Item	
7	Provide an budgetary amount of R450,000.00 power application / municipal application.	Item	450 000,00
8	Profit	%	
9	Attendance	%	
<u>SITE RETICULATION</u>			
10	Excavate not exceeding 800mm deep in soft material for cabling and cable pipe trench including bedding, backfilling, compaction and disposal of surplus material	m3 155	
11	Excavate not exceeding 800mm deep in intermediate rock material for cabling and cable pipe trench including bedding, backfilling, compaction and	m3 55	
Carried Forward			R
Bill No. 15 Electrical Works <div align="center">  229 </div>			

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			
12	Excavate not exceeding 800mm deep in hard rock material for cabling and cable pipe trench including bedding, backfilling, compaction and disposal of surplus material	m3	22
13	Earthing and bonding of cable ladder and galvanised trunking 10mm ² Cu PVC jumpers with lugs	Item	
<u>ELECTRICAL / ELECTRONIC MANHOLES</u>			
14	Supply 600 x 600 x 600mm manhole to specification complete with heavy duty manhole cover	No	6
15	Extra on last to install	No	6
16	Supply 800 x 800 x 800mm manhole to specification complete with heavy duty manhole cover	No	6
17	Extra on last to install	No	6
18	Supply 1000 x 1000 x 1000mm manhole to specification complete with heavy duty manhole cover	No	1
19	Extra on last to install	No	1
<u>SLEEVES</u>			
<u>Supply the following cable sleeves:</u>			
20	160mm uPVC sleeves	m	229
21	110mm uPVC sleeves	m	335
22	50mm uPVC sleeves	m	160
<u>Extra on last to install the following in trech</u>			
23	160mm uPVC sleeves	m	229
24	110mm uPVC sleeves	m	335
25	50mm uPVC sleeves	m	160

L.V CABLING

Carried Forward

Bill No. 15
Electrical Works

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10 55

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
<u>Supply the following 600/1000 Volt Cu PVC SWA PVC ECC cables:</u>				
26	185mm ² 4 core	m	10	
27	150mm ² 4 core	m	15	
28	120mm ² 4 core	m	35	
29	95mm ² 4 core	m	240	
30	70mm ² 4 core	m	22	
31	50mm ² 4 core	m	140	
32	35mm ² 4 core	m	105	
33	25mm ² 4 core	m	240	
34	16mm ² 4 core	m	612	
35	10mm ² 4 core	m	165	
36	6mm ² 4 core	m	112	
37	16mm ² 2 core	m	65	
38	10mm ² 2 core	m	55	
39	6mm ² 2 core	m	45	
<u>Extra on last to install in cable sleeve, ladder, tray, basket</u>				
40	185mm ² 4 core	m	10	
41	150mm ² 4 core	m	15	
42	120mm ² 4 core	m	35	
43	95mm ² 4 core	m	240	
44	70mm ² 4 core	m	22	
45	50mm ² 4 core	m	140	
Carried Forward				R
Bill No. 15 Electrical Works				

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A.B.S.S

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
46	35mm ² 4 core	m	105	
47	25mm ² 4 core	m	240	
48	16mm ² 4 core	m	612	
49	10mm ² 4 core	m	165	
50	6mm ² 4 core	m	112	
51	16mm ² 2 core	m	65	
52	10mm ² 2 core	m	55	
53	6mm ² 2 core	m	45	
<u>Termination inclusive of cable glands, lugs etc.</u>				
54	185mm ² 4 core	m	2	
55	150mm ² 4 core	m	2	
56	120mm ² 4 core	m	4	
57	95mm ² 4 core	m	8	
58	70mm ² 4 core	No	4	
59	50mm ² 4 core	No	2	
60	35mm ² 4 core	No	12	
61	25mm ² 4 core	No	6	
62	16mm ² 4 core	No	8	
63	10mm ² 4 core	No	4	
64	6mm ² 4 core	No	4	
65	16mm ² 2 core	No	8	
66	10mm ² 2 core	No	6	
67	6mm ² 2 core	No	6	
Carried Forward				R
Bill No. 15 Electrical Works				

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MBS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
<u>Supply Scotchcast cable joint for the following PVC SWA PVC ECC cables:</u>				
<u>Extra on last to install</u>				
68	95mm ² 4 core	No	1	
69	50mm ² 4 core	No	1	
70	35mm ² 4 core	No	1	
71	16mm ² 4 core	No	2	
<u>DISTRIBUTION BOARDS</u>				
<u>Supply and delivery of the following distribution boards</u>				
72	Main LV Kiosk - Single line Drawing No. 32307_401_0	No	1	
73	Extra on last to install	No	1	
74	DB-A - Single line Drawing No. 32307_402_0	No	1	
75	Extra on last to install	No	1	
76	DB-B - Single line Drawing No. 32307_403_0	No	1	
77	Extra on last to install	No	1	
78	DB-A1 - Single line Drawing No. 32307_404_0	No	1	
79	Extra on last to install	No	1	
80	DB-Inverter Load - Single line Drawing No. 32307_405_0	No	1	
81	Extra on last to install	No	1	
82	DB-AE - Single line Drawing No. 32307_406_0	No	1	
83	Extra on last to install	No	1	
84	DB-A1E - Single line Drawing No. 32307_407_0	No	1	
85	Extra on last to install	No	1	
Carried Forward				R
Bill No. 15 Electrical Works				

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M.B. SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
86	DB-BE - Single line Drawing No. 32307_408_0	No	1	
87	Extra on last to install	No	1	
88	DB-CSC - Single line Drawing No. 32307_410_0	No	1	
89	Extra on last to install	No	1	
90	DB-CSC-E - Single line Drawing No. 32307_411_0	No	1	
91	Extra on last to install	No	1	
92	DB-MECH E - Single line Drawing No. 32307_412_0	No	1	
93	Extra on last to install	No	1	
94	Inverter Output - Single line Drawing No. 32307_413_0	No	1	
95	Extra on last to install	No	1	
96	Inverter C/O - Single line Drawing No. 32307_415_0	No	1	
97	Extra on last to install	No	1	
COC Testing and Commissioning of the following distribution boards				
98	Main LV Kiosk - Single line Drawing No. 32307_401_0	No	1	
99	DB-A- Single line Drawing No. 32307_402_0	No	1	
100	DB-B- Single line Drawing No. 32307_403_0	No	1	
101	DB-A1- Single line Drawing No. 32307_404_0	No	1	
102	DB-Inverter Load -Single line Drawing No. 32307_405_0	No	1	
103	DB-AE--Single line Drawing No. 32307_406_0	No	1	
104	DB-A1E--Single line Drawing No. 32307_407_0	No	1	
105	DB-BE--Single line Drawing No. 32307_408_0	No	1	
106	DB-CSC--Single line Drawing No. 32307_410_0	No	1	
107	DB-CSC-E-Single line Drawing No. 32307_411_0	No	1	
Carried Forward				R

Bill No. 15
Electrical Works

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M.B SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
108	DB-MECH E--Single line Drawing No. 32307_412_0	No	1
109	Inverter Output-Single line Drawing No. 32307_413_0	No	1
110	Inverter C/O-Single line Drawing No. 32307_415_0	No	1
<u>LIGHTING AND SMALL POWER - CSC BLOCK</u>			
<u>LIGHTING</u>			
111	Supply 25mm PVC conduit surface mounted	m	412
112	Extra on last so install surface mounted	m	412
113	Supply 25mm PVC conduit	m	109
114	Extra on last so install cast-in to floor slab	m	109
115	Supply 25mm PVC conduit	m	196
116	Extra on last so install in partition wall	m	196
<u>Supply PVC insulated 1 000 V grade hard drawn copper wire drawn into trunking/conduit and coloured as per phase</u>			
117	Supply 2.5mm ²	m	3 111
118	Extra on last to install	m	3 111
119	Supply 2,5mm ² PVC insulated surfix cable	m	312
120	Extra on last to install	m	312
121	Extra on last to terminate inclusive of glands etc.	No	24
122	Supply single lever 1 way 16 amp "Crabtree Classic" or other equally approved light switch in 100 x 50/50mm galvanised box inclusive of cover	No	18
123	Extra on last to install	No	18
124	Supply 2 lever 1 way 16 amp "Crabtree Classic" or other equally approved light switch or other in 100 x 50/50mm galvanised box inclusive of cover	No	4
Carried Forward			R

Bill No. 15
Electrical Works

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[Signature]

SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
125	Extra on last to install	No	4	
126	Supply Two lever 2 way 16 amp "Crabtree Classic" or other equally approved light switch in 100 x 50/50mm galvanised box inclusive of cover	No	4	
127	Extra on last to install	No	4	
128	Supply three lever 1 way 16 amp "Crabtree Classic" or other equally approved light switch in 100 x 50/50mm galvanised box inclusive of cover	No	2	
129	Extra on last to install	No	2	
130	Supply single level IP65 rotary switch complete with 50 x 50/50mm conduit box	No	1	
131	Extra on last to install	No	1	
132	Supply 6 amp unswitched socket outlet (yellow)	No	240	
133	Extra on last to install	No	240	
134	Supply 65mm PVC round box for 25mm conduit	No	212	
135	Extra on last to install	No	212	
136	Supply 65mm 3 way PVC round draw box	No	36	
137	Extra on last to install	No	36	
138	Supply 20A Photocell inclusive of bulkhead enclosure	No	4	
139	Extra on last to install	No	4	
140	Supply occupancy sensor - "Province Lighting (PS-PIR3)" or other equally approved flush mounted, white with 360 degree detection angle	No	4	
141	Extra on last to install	No	4	
142	Supply P8000 trunking complete with cover plate to soffit	m	196	
143	Extra on last to install	m	196	
144	Supply P8000 crossover	No	10	
Carried Forward				R

Bill No. 15
Electrical Works

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
145	Extra on last to install	No	10	
146	Supply install P8000 elbow	No	8	
147	Extra on last to install	No	8	
148	Supply P8000 Tee-piece	No	10	
149	Extra on last to install	No	10	
150	Supply P8000 4-way piece	No	9	
151	Extra on last to install	No	9	
152	Supply install P8000 end caps	No	44	
153	Extra on last to install	No	44	
<u>SMALL POWER</u>				
154	Supply 20mm PVC conduit surface mounted	m	312	
155	Extra on last to install	m	312	
156	Supply 20mm PVC conduit cast-in slab	m	91	
157	Extra on last to install	m	91	
158	Supply 20mm PVC conduit in partition wall	m	188	
159	Extra on last to install	m	188	
160	Supply 25mm PVC conduit surface mounted	m	308	
161	Extra on last to install	m	308	
162	Supply 25mm PVC conduit cast-in to floor slab	m	515	
163	Extra on last to install	m	515	
164	Supply 25mm PVC conduit in partition wall	m	601	
165	Extra on last to install	m	601	
166	Supply 32mm PVC conduit surface mounted	m	311	
Carried Forward				R

Bill No. 15
Electrical Works

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward					
167	Extra on last to install	m	311		
168	Supply 32mm PVC conduit cast-in to floor slab	m	476		
169	Extra on last to install	m	476		
170	Supply 32mm PVC conduit in partion wall	m	314		
171	Extra on last to install	m	314		
<u>PVC insulated 1 000 V grade hard drawn copper wire drawn into trunking/conduit and coloured as per phase</u>					
172	Supply 2.5mm ²	m	1 550		
173	Extra on last to install	m	1 550		
174	Supply 4.0mm ²	m	6 157		
175	Extra on last to install	m	6 157		
176	Supply 6.0mm ²	m	909		
177	Extra on last to install	m	909		
178	Supply 2,5mm ² PVC insulated surfix cable	m	369		
179	Extra on last to install	m	369		
180	Extra on last to terminate inclusive of glands etc.	No	22		
181	Supply single switch socket outlet, with euro combo outlet in 100 x 100/50mm PVC conduit box "Crabtree Classic" or other equally approved	No	46		
182	Extra on last to install	No	46		
183	Supply 20A Three UPS switch socket outlet installed in power skirting / floor box	No	16		
184	Extra on last to install	No	16		
185	Supply 20A Three pin dedicated switch socket outlet installed in power skirting / floor box	No	28		
186	Extra on last to install	No	28		

Carried Forward

Bill No. 15
Electrical Works

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			
187	Supply 20A Three pin normal switch socket outlet in installed in power skirting / floor box	No	28
188	Extra on last to install	No	28
189	Supply 20A Three pin euro switch socket outlet in installed in power skirting / floor box	No	28
190	Extra on last to install	No	28
191	Supply blank cover plate	No	40
192	Extra on last to install	No	40
193	Supply 65mm PVC round box for 25mm conduit	No	159
194	Extra on last to install	No	159
195	Supply 100 x 50/50mm PVC conduit boxes for AC controller	No	155
196	Extra on last to install	No	155
197	Supply P9000 trunking complete with cover plate to soffit	m	96
198	Extra on last to install	m	96
199	Supply P9000 crossover	No	10
200	Extra on last to install	No	10
201	Supply P9000 elbow	No	10
202	Extra on last to install	No	10
203	Supply P9000 Tee-piece	No	8
204	Extra on last to install	No	8
205	Supply P9000 end caps	No	20
206	Extra on last to install	No	20
207	Supply P9000 4-way piece	No	4
208	Extra on last to install	No	4

R

Carried Forward

R

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
209	Supply 10A single phase isolator for extraction	No	8	
210	Extra on last to install	No	8	
211	Supply 20A single phase isolators for aircon supply	No	12	
212	Extra on last to install	No	12	
213	Supply 20A single phase isolators for hydroboil / kitchen equipment	No	10	
214	Extra on last to install	No	10	
215	Supply 20A single phase isolators for hand drier power supplies	No	8	
216	Extra on last to install	No	8	
217	Supply 30A single phase isolators	No	14	
218	Extra on last to install	No	14	
219	Supply 30A single phase isolators	No	9	
220	Extra on last to install	No	9	
221	Supply 30A single phase weather proof isolator for aircon supply.	No	4	
222	Extra on last to install	No	4	
223	Supply 40A single phase weather proof isolator for aircon	No	8	
224	Extra on last to install	No	8	
225	Supply 30A three phase isolators for aircon supply	No	14	
226	Extra on last to install	No	14	
227	Supply 40A three phase isolators for aircon supply	No	4	
228	Extra on last to install	No	4	
229	Supply 40A three phase weather proof isolator for aircon supply	No	2	
Carried Forward				R
Bill No. 15 Electrical Works				

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MB SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			
230	Extra on last to install	No	2
231	Supply 16A weather proof switch socket outlet	No	5
232	Extra on last to install	No	5
233	Supply "Cabstrut" or other equally approved Corporate connection system complete with: 2 x Normal S.S.O (SANS 164-1) (white / white toggle) 2 x Normal Euro S.S.O (SANS 164-2) (white / white toggle) 2 x Essential S.S.O (SANS 164-1) (white / red toggle) 4 x RJ45 outlets	No	1
234	Extra on last to install	No	1
235	Supply 20A single phase isolators for aircon on power skirting (cord-grip isolator)	No	10
236	Extra on last to install	No	10
<u>TELEPHONE AND DATA</u>			
237	Supply Krone RJ 11 telephone outlets installed in power skirting	No	33
238	Extra on last to install	No	33
239	Supply Krone RJ 45 data outlets installed in power skirting inclusive of cradle and cover plate	No	33
240	Extra on last to install	No	33
<u>SENSORS AND RELAYS</u>			
<u>DEMAN master unit relays / Slave units or other equally approved</u>			
241	Alux Controller Alux M6 Master unit - AluxM6A10	No	15
242	Extra on last to install	No	15
243	Alux Controller Alux M7 Master unit - AluxM7A10	No	8
244	Extra on last to install	No	8
245	Alux Slave Alux S1 unit - AluxS1A11	No	4

Carried Forward

Bill No. 15
Electrical Works

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M.B SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
246	Extra on last to install	No	4	
247	Alux Slave Alux S2 unit - AluxS2A10	No	4	
248	Extra on last to install	No	4	
<u>LIGHTING AND SMALL POWER - OFFICES AND CELL BLOCK</u>				
<u>LIGHTING</u>				
249	Supply 25mm PVC conduit surface mounted	m	314	
250	Extra on last so install surface mounted	m	314	
251	Supply 25mm PVC conduit	m	95	
252	Extra on last so install cast-in to floor slab	m	95	
253	Supply 25mm PVC conduit	m	196	
254	Extra on last so install in partition wall	m	196	
<u>Supply PVC insulated 1 000 V grade hard drawn copper wire drawn into trunking/conduit and coloured as per phase</u>				
255	Supply 2.5mm ²	m	5 145	
256	Extra on last to install	m	5 145	
257	Supply 2,5mm ² PVC insulated surfix cable	m	322	
258	Extra on last to install	m	322	
259	Extra on last to terminate inclusive of glands etc.	No	12	
260	Supply single lever 1 way 16 amp "Crabtree Classic" or other equally approved light switch in 100 x 50/50mm galvanised box inclusive of cover	No	18	
261	Extra on last to install	No	18	
262	Supply 2 lever 1 way 16 amp "Crabtree Classic" or other equally approved light switch or other in 100 x 50/50mm galvanised box inclusive of cover	No	2	
Carried Forward				R

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
263	Extra on last to install	No	2	
264	Supply Two lever 2 way 16 amp "Crabtree Classic" or other equally approved light switch in 100 x 50/50mm galvanised box inclusive of cover	No	2	
265	Extra on last to install	No	2	
266	Supply three lever 1 way 16 amp "Crabtree Classic" or other equally approved light switch in 100 x 50/50mm galvanised box inclusive of cover	No	1	
267	Extra on last to install	No	1	
268	Supply single level IP65 rotatry switch complete with 50 x 50/50mm conduit box	No	35	
269	Extra on last to install	No	35	
270	Supply 6 amp unswitched socket outlet (yellow)	No	252	
271	Extra on last to install	No	252	
272	Supply 65mm PVC round box for 25mm conduit	No	312	
273	Extra on last to install	No	312	
274	Supply 65mm 3 way PVC round draw box	No	406	
275	Extra on last to install	No	406	
276	Supply 20A Photocell inclusive of bulkhead enclosure	No	8	
277	Extra on last to install	No	8	
278	Supply occupancy sensor - "Province Lighting (PS-PIR3)" or other equally approved flush mounted, white with 360 degree detection angle	No	88	
279	Extra on last to install	No	88	
280	Supply P8000 trunking complete with cover plate to soffit	m	276	
281	Extra on last to install	m	276	
282	Supply P8000 crossover	No	4	
Carried Forward				R
Bill No. 15 Electrical Works				

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M.B SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
283	Extra on last to install	No 4	
284	Supply install P8000 elbow	No 6	
285	Extra on last to install	No 6	
286	Supply P8000 Tee-piece	No 2	
287	Extra on last to install	No 2	
288	Supply P8000 4-way piece	No 7	
289	Extra on last to install	No 7	
290	Supply install P8000 end caps	No 4	
291	Extra on last to install	No 4	
<u>SMALL POWER</u>			
292	Supply 20mm PVC conduit surface mounted	m 97	
293	Extra on last to install	m 97	
294	Supply 20mm PVC conduit cast-in slab	m 41	
295	Extra on last to install	m 41	
296	Supply 20mm PVC conduit in partition wall	m 67	
297	Extra on last to install	m 67	
298	Supply 25mm PVC conduit surface mounted	m 504	
299	Extra on last to install	m 504	
300	Supply 25mm PVC conduit cast-in to floor slab	m 92	
301	Extra on last to install	m 92	
302	Supply 25mm PVC conduit in partition wall	m 313	
303	Extra on last to install	m 313	
304	Supply 32mm PVC conduit surface mounted	m 617	
Carried Forward			R

Bill No. 15
Electrical Works

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M.B. SS

Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)

Brought Forward					R
305	Extra on last to install	m	617		
306	Supply 32mm PVC conduit cast-in to floor slab	m	51		
307	Extra on last to install	m	51		
308	Supply 32mm PVC conduit in partition wall	m	196		
309	Extra on last to install	m	196		
<u>PVC insulated 1 000 V grade hard drawn copper wire drawn into trunking/conduit and coloured as per phase</u>					
310	Supply 2.5mm ²	m	1 150		
311	Extra on last to install	m	1 150		
312	Supply 4.0mm ²	m	8 456		
313	Extra on last to install	m	8 456		
314	Supply 6.0mm ²	m	2 097		
315	Extra on last to install	m	2 097		
316	Supply 2,5mm ² PVC insulated surfix cable	m	121		
317	Extra on last to install	m	121		
318	Extra on last to terminate inclusive of glands etc.	No	11		
319	Supply single switch socket outlet, with euro combo outlet in 100 x 100/50mm PVC conduit box "Crabtree Classic" or other equally approved	No	44		
320	Extra on last to install	No	44		
321	Supply 20A Three pin UPS switch socket outlet installed in power skirting / floor box	No	12		
322	Extra on last to install	No	12		
323	Supply 20A Three pin dedicated switch socket outlet installed in power skirting / floor box	No	342		
324	Extra on last to install	No	342		
Carried Forward					R

Bill No. 15
Electrical Works

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(Signature)

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward					R
325	Supply 20A Three pin normal switch socket outlet in installed in power skirting / floor box	No	171		
326	Extra on last to install	No	171		
327	Supply 20A Three pin euro switch socket outlet in installed in power skirting / floor box	No	171		
328	Extra on last to install	No	171		
329	Supply blank cover plate	No	12		
330	Extra on last to install	No	12		
331	Supply 65mm PVC round box for 25mm conduit	No	413		
332	Extra on last to install	No	413		
333	Supply 100 x 50/50mm PVC conduit boxes for AC controller	No	69		
334	Extra on last to install	No	69		
335	Supply P9000 trunking complete with cover plate to soffit	m	413		
336	Extra on last to install	m	413		
337	Supply P9000 crossover	No	2		
338	Extra on last to install	No	2		
339	Supply P9000 elbow	No	2		
340	Extra on last to install	No	2		
341	Supply P9000 Tee-piece	No	2		
342	Extra on last to install	No	2		
343	Supply P9000 end caps	No	2		
344	Extra on last to install	No	2		
345	Supply P9000 4-way piece	No	2		
346	Extra on last to install	No	2		
Carried Forward					R
Bill No. 15 Electrical Works					

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**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward				R
347	Supply 10A single phase isolator for extraction	No	22	
348	Extra on last to install	No	22	
349	Supply 20A single phase isolators for aircon supply	No	16	
350	Extra on last to install	No	16	
351	Supply 20A single phase isolators for hydroboil / kitchen equipment	No	15	
352	Extra on last to install	No	15	
353	Supply 20A single phase isolators for hand drier power supplies	No	21	
354	Extra on last to install	No	21	
355	Supply 30A single phase isolators	No	16	
356	Extra on last to install	No	16	
357	Supply 30A single phase isolators	No	21	
358	Extra on last to install	No	21	
359	Supply 30A single phase weather proof isolator for aircon supply	No	9	
360	Extra on last to install	No	9	
361	Supply 40A ("WACO" or other equally approved) locakable toggle single phase weather proof isolator for aircon supply	No	69	
362	Extra on last to install	No	69	
363	Supply 30A three phase isolators for stove	No	3	
364	Extra on last to install	No	3	
365	Supply 40A three phase isolators for cooker	No	4	
366	Extra on last to install	No	4	
367	Supply 40A three phase weather proof isolator for aircon supply	No	2	
Carried Forward				R

Bill No. 15
Electrical Works

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M.B SS

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
368	Extra on last to install	No 2	
369	Supply 16A weather proof switch socket outlet	No 2	
370	Extra on last to install	No 2	
371	Supply "Cabstrut" or other equally approved Corporate connection system complete with: 2 x Normal S.S.O (SANS 164-1) (white / white toggle) 2 x Normal Euro S.S.O (SANS 164-2) (white / white toggle) 2 x Essential S.S.O (SANS 164-1) (white / red toggle) 4 x RJ45 outlets	No 8	
372	Extra on last to install	No 8	
373	Supply ("WACO" or other equally approved) photocell enclosure	No 15	
374	Extra on last to install	No 15	
<u>TELEPHONE AND DATA</u>			
375	Supply Krone RJ 11 telephone outlets installed in power skirting	No 171	
376	Extra on last to install	No 171	
377	Supply Krone RJ 45 data outlets installed in power skirting inclusive of cradle and cover plate	No 171	
378	Extra on last to install	No 171	
<u>SENSORS AND RELAYS</u>			
<u>DEMAN master unit relays / Slave units or other equally approved</u>			
379	Alux Controller Alux M6 Master unit - AluxM6A10	No 24	
380	Extra on last to install	No 24	
381	Alux Controller Alux M7 Master unit - AluxM7A10	No 12	
382	Extra on last to install	No 12	
383	Alux Slave Alux S1 unit - AluxS1A11	No 33	

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Electrical Works


Carried Forward

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M.B.S

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

	Brought Forward			R
384	Extra on last to install	No	33	
385	Alux Slave Alux S2 unit - AluxS2A10	No	12	
386	Extra on last to install	No	12	
<u>SOLAR PHOTOVOLTAIC INSTALLATION</u>				
387	Supply 550 Watt Solar Panel (Tier 1 or other equally approved)	No	180	
388	Extra on last to install on purpose made brackets	No	180	
389	Supply aluminium purpose made brackets for mounting of solar panels (16 panels per frame)	No	11	
390	Extra on last to install	No	11	
391	Sundries for the complete installation of panels		Item	
392	Supply 6mm ² Cu PVC 1800V DC UV stablised cable	m	2 122	
393	Extra on last to install	m	2 122	
394	Supply 4mm ² black/Red Cu PVC 1800V DC UV stablised cable	m	128	
395	Extra on last to install	m	128	
396	Supply DC combiner boxes consisting of 2 No. 40 Amp 2P DC circuit breakers for each string, 4 No. Class Type 2, 1500V DC 8/20µs 50 kA surge protection device	No	6	
397	Extra on last to install	No	6	
398	Supply on load 2 pole 40A DC isolators	No	4	
399	Extra on last to install	No	4	
400	Supply Schneider PM 5320 complete with CT's, PT fuses in existing Main LV Board	No	2	
401	Extra on last to install	No	2	
402	Provision for final testing and Certificate of Compliance to be issued on completion of the project in addition to the detailed testing specified.		Item	
<u>Carried Forward</u>				
<div> Bill No. 15 Electrical Works </div> <div> 249 </div> <div>  </div>				
<div align="right"> R </div>				

**Samora Machel New Police Station
Portion 01 of STAND 8972 (Samora Machel)**

Brought Forward			R
403	Supply 60A 10KA single phase circuit breaker in existing main LV panel (CBI, Schneider, ABB or other equally approved)	No	1
404	Extra on last to install	No	1
405	Supply 40A 10KA single phase circuit breaker in existing distribution board (CBI, Schneider, ABB or other equally approved)	No	6
406	Extra on last to install	No	6
407	Supply Class II Surge protection 20KA 4 pole with intergral health indicators in existing distribution board	No	3
408	Extra on last to install	No	3
409	Supply 60A 3 way break before make rotary switch	No	2
410	Supply AVD Lith Ex 9L Lithium fire extinguisher or other equally approved	No	4
411	Extra on last to install	No	4
<u>Supply the following "Canadian Solar, Sunsynk / Deye / Victron" or other equally approved hybrid / grid tied inverter complete with battery monitoring system, LCD screen, charge controller enclosure to be IP54 rated, 50Hz 230V Single phase with reverse polarity Protection, Insulation Resistor Detection Residual Current monitoring Unit, Output over current protection, Output Shorted protection, Surge protection. Inverter to have <3% THD and <0.5% input current - DC current injection. Complete with 10 year warrantee.</u>			
412	50 kW hybrid inverter, Deye 3 phase or other equally approved complete with MPPT	No	2
413	Extra on last to install	No	2

RACK MOUNTED BATTERIES

Carried Forward

R

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Electrical Works

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M.B SS