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PASSENGER RAIL AGENCY
OF SOUTH AFRICA

**ELECTRICAL AND MINOR WORKS
AT
VEREENIGING STATION**

SCOPE, SPECIFICATIONS AND SCHEDULE OF QUANTITIES

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PART A: GENERAL BUILDING WORKS SCHEDULE OF QUANTITIES

PROVISIONAL SCHEDULE OF QUANTITIES

GENERAL BUILDING WORK AT KAALFONTEIN STATION

	<u>Description</u>	<u>Unit</u>	<u>QTY</u>	<u>Rate</u>	<u>Amount</u>
	<u>BILL NO. 1</u>				
	<u>ALTERATION (PROVISIONAL)</u>				
	REMOVAL OF THE EXISTING				
	Taking out and removing piping, sanitary fittings, etc including disconnection piping from fittings				
1	WC completely pan and cistern	No.	4	R -	R -
2	150 liter geyser	No.	1	R -	R -
3	Gutters and down pipes	m	100	R -	R -
	Taking out and removing doors including ironmongery from steel frame , etc				
4	Doors including locks	No.	2	R -	R -
	Taking out and removing steel manhole frames				
5	500 x 500mm steel manhole frames and preparation of surfaces (removed frames to be returned to the employer)	No.	15	R -	R -
	Taking out and removing glass, putty, etc				
6	Glass from steel windows including cleaning out rebates, removing putty and preparation for new glass	m ²	5	R -	R -
	Taking down and removing ceiling				
7	Rhino board including cornices, brandering, jointing stripe, etc	m ²	100	R -	R -
Carried to final summary					R -
	<u>Description</u>	<u>Unit</u>	<u>QTY</u>	<u>Rate</u>	<u>Amount</u>
	<u>BILL NO. 2</u>				
	<u>IRONMONGERY</u>				
	<u>LOCKS</u>				
	<u>Supply and install</u>				
1	Ultra-security large heavy duty locks.	No.	10	R -	R -

2	Indicator door lock chrome plated	No.	10	R	-	R	-
3	SABS approved 3 lever locks including chrome plated zinc handles suitable for external doors	No.	10	R	-	R	-
4	5-lever security gate lock	No.	20	R	-	R	-

Carried to final summary R -

	<u>Description</u>	<u>Unit</u>	<u>QTY</u>	<u>Rate</u>	<u>Amount</u>		
	<u>BILL NO. 3</u>						
	<u>CARPENTRY AND JOINERY</u>						
	<u>DOORS</u>						
	44mm thick interior grade flush solid core timber single door with 3 mm thick commercial ply on both sides with consolidated edges fitted and complying with SABS 545 in pressed steel frame. All painted in accordance with architects colour schedule.						
1	813 x 2032 x 44mm single interior leaf solid core	No.	10	R	-	R	-
	44mm thick exterior grade flush solid core timber single door with 3 mm thick commercial ply on both sides with consolidated edges fitted and complying with SABS 545 in pressed steel frame. All painted in accordance with architects colour schedule.						
2	813 x 2032 x 44mm single exterior leaf solid core	No.	2	R	-	R	-
	<u>Level G3 bullet resistant Anti-bandit door, complete with 100 x 50 x 3mm gauge mild steel rectangular frame and 25 x 25 x 3mm MS anlg e rebates, overall size 930 x 2100mm high in powder coating and or galvinised cladding with peep hole, supplied with a 6 pin tumbler key system, mortice dead lock with an additional heavy duty magnetic lock and striker including key switch and surface mounted casing, 6 Amp power supply, push buttons and interlock system, heavy duty aluminium continuous hinge, aluminium slam bar with heavy duty door closer and D-style pull</u>						

	<u>handles. Door to comply to SABS 1658-1996</u>					
3	Level G3 bullet resistant anti-bandit external door	No.	1	R	-	R -
	<u>The following in modular timber cupboards, counters, duty stations, desk etc. as per Cupboard Connections Specification</u>					
	<u>Carcasses of 16mm thick particle board with both faces white melamine with white Masonite backs. Shelving of 16mm particle board, both faces white melamine and front edge in white PVC. Doors of 16mm particle board with post formed vertical edges and laminated in Renolit. Tops of 32mm particle board with post formed leading edges and laminated in high pressure decorative laminate. All butt edges and edges against walls to be sealed with silicon sealant. Hinges to be "Hettich". Drawer runners to be metal 500mm series with nylon runners or similar. All units complete with door, handles, hinges, cupboards, door, locks, barrel bolts and shelves. Floor unit complete with kick plates. (Formica tops measured elsewhere)</u>					
4	Kitchen sink floor cupboard 2000 x 600 x 900mm high with sides, bottom, back, 3 hinged doors and one drawer completely working including handles, etc. top and sink measured else where	No.	1	R	-	R -
Carried to final summary						R -
	<u>Description</u>	<u>Unit</u>	<u>QTY</u>	<u>Rate</u>		<u>Amount</u>
	<u>BILL NO. 4</u>					
	<u>PLUMBING WORK</u>					
	<u>SANITARY FITTINGS</u>					
	Supply and install					
1	Anti-vandal high traffic suite (Front flush), CC Cistern including CC Pan	No.	4	R	-	R -
2	Close coupled suite colour White , comprising 90° outlet open rim pan with matching 9 litre front single flush cistern including lid and fitments and heavy duty seat.	No.	2	R	-	R -

3	Vandal Resistant Wash Hand Basin, 330mm (w) x 310 (d) x 325mm (h). Installation as per manufacturer's specification.	No.	4	R	-	R	-
4	Ceramic wash hand basin colour White, size 510 x 405mm with one tap hole including integrated overflow and chain stay hole bolted to wall with two x 10mm bolts and including Classic floor mounted pedestal and sealed with silicone sealant where basin meets wall.	No.	3	R	-	R	-
5	Sanitary ware white vitreous china wall mounted urinal with top inlet (code 705426) or back inlet Overall size 600x385x380mm. Supplied with 38mm c.p. domical grating, a spreader(with a 20mm tread) and two hanger brackets	No.	2	R	-	R	-
6	Double bowls stainless steel double end bowl inset sink, overall size 1200 x 535mm wide with two 340 x 370 x 150mm deep bowls, fitted onto cupboard (elsewhere specified) including 38mm waste fitting and PVC traps (traps elsewhere specified).	No.	1	R	-	R	-
TAPS, VALVES, ETC							
Supply and install							
7	Exposed type flush valve with ball-o-stop, wall flange, chrome plate finish and non-hold open feature	No.	2	R	-	R	-
8	15mm tap basin pillar tap for hot and cold water	No.	8	R	-	R	-
9	15mm chrome plated deck mounted sink mixer with overarm swivel outlet and adjustable flanges, manufactured in accordance with SANS 226:2004 Type 1.	No.	1	R	-	R	-
10	Flexi connector	No.	20	R	-	R	-
11	22mm Brass Gate Valve including cast iron valve box	No.	3	R	-	R	-
12	15 Mini Ball Valve	No.	20	R	-	R	-
WASTE UNION ETC							
Supply and install							
13	Basin waste, plug, chain, stay and backnut	No.	6	R	-	R	-
TRAPS ETC							

	Supply and install						
14	38mm wash hand basin “P” trap	No.	12	R	-	R	-
	Extra over PVC pipes for fittings						
15	110mm pan connector	No	10	R		R	
16	Above the ground bend SABS 110mm x 90 ^o vent horn	No	10	R		R	
17	50mm PVC waste pipe with all the fittings	m	20	R		R	
	WATER SUPPLIERS						
	Class “O” copper pipe (Anti-vandal material)						
18	15mm pipes chased into brick walls	m	20	R	-	R	-
	Extra over class “O” copper pipes for capillary fittings (Anti – vandal material)						
19	15mm fitting	No.	5	R	-	R	-
20	15mm Tee	No.	5	R	-	R	-
	0.8mm galvanized (Anti-vandal Proof material) sheet iron						
21	150 x 100mm eaves gutter	m	100	R	-	R	-
22	Extra over 150 x 100mm eaves gutter for stopped end	No.	20	R	-	R	-
23	Extra over 150 x 100 eaves gutter for angle	No.	20	R	-	R	-
24	Extra over 150 x 100mm eaves gutter for outlet for 100 x 75mm pipe	No.	20	R	-	R	-
25	100 x 75mm rainwater pipes	m	60	R	-	R	-
26	Extra over 100 x 75mm rainwater pipe for shoe	No.	20	R	-	R	-
	Prepare, supply and install polymer concrete manhole covers and frame						
27	Type 9B MEDIUM DUTY frame and cover (frame size: 750 x 750mm, 600 x 600mm square cover) allow change of size	No.	15	R	-	R	-

ELECTRIC WATER HEATERS						
Supply, deliver and install Electrical geysers with all other accessories						
28	150L 600i dual electric water heater Geyser completely with 2350 x 650mm tray, etc.	No.	1	R	-	R -
29	600kpa pressure control valve	No.	2	R	-	R -
30	Relieve/safety valve	No.	2	R	-	R -
31	Vacuum breaker	No.	2	R	-	R -
32	Drain cock	No.	2	R	-	R -
Carried to final summary						R -
<u>BILL NO.5</u>						
<u>CEILING WORK</u>						
<u>RHINO BOARD CEILING</u>						
<u>SUPPLEMENTARY PREAMBLES</u>						
<u>Description</u>						
Items described as “nailed” shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete						
Items described as “plugged” shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as “bolted”, bolts priced elsewhere						
6.4mm “Rhino” gypsum plasterboard with H-type pressed steel jointing						
1	Ceiling including 38 x 38mm sawn softwood Brande ring at maximum 450mm centers in one direction including painting	m ²	50	R	-	R -
“Rhino” gypsum plasterboard cornice						
2	75mm coved cornices	m	50	R	-	R -

3	<p><u>Ceiling trap door</u></p> <p>Extra over ceiling for 700 x 700mm trap door of 38 x 50mm wrought softwood rebated framing with one 38 x 38mm sawn softwood cross brander covered with ceiling board and fitted flush opening</p>	No.	1	R	-	R -
4	<p><u>EAVES, VERGES</u></p> <p>Everite flexit pressed nulec cement</p> <p>Eaves soffit covering 1500mm wide 5mm thick sheets including 50 x 50mm sawn softwood brandering along the edges and centre and at ends of sheet, with open joints</p>	m	50	R	-	R -
Carried to final summary						R -
<p><u>BILL NO.6</u></p> <p><u>METAL WORK</u></p> <p>SECURITY GATES</p> <p>Supply and install Burglar door</p> <p>900 x 2100mm high Heavy duty Burglar door and frame with 16mm steel round bar and 40 x 40 x 2.5mm square tubing</p> <p><u>2.4M RIPPER RAZOR MESH FENCING</u></p> <p>Posts: Round hot dip 3300mm H galvanized tubing post 76 x 76 x 1.6mm. To be 6m at 6m center's</p> <p>Panels: 2.40m high x 6m wide galvanized panels</p> <p>Foundation: Foundation pits to be 300mm x 300mm x 650mm deep, Concrete strength to be 30Mpa Base plates and anchor bolts to be used for fences that need to be erected and fixed on concrete walls and parapets. And hi-tensile anti vandal shear nuts to be used</p> <p>Steel: Finish to be hot dipped galvanized to comply with SABS 763 Specifications and must be painted on request. Steel sections shall</p>		<u>Unit</u>	<u>QTY</u>	<u>Rate</u>		<u>Amount</u>
1		No.	10	R	-	R -

2	<p>comply with the requirements of CKS 82</p> <p>Ripper razor mesh 2400 x 6m Stay 2.4m x 38 x 1.6m Y standard 2450m Plain wire 3.15mm LG (50Kg) 810m Plain wire 1.6mm LG (50Kg) 3175m</p> <p>Supply and erect 2.4m high galvanized Razor sharp diamond mesh erected as a complete security fencing as per specification briefly discuss above. All the installation to be done as per manufactures specification</p>	m	100	R	-	R -
Carried to final summary						R -
1	<p><u>BILL NO.7</u></p> <p><u>TILING</u></p> <p>WALL TILING</p> <p>Matt Full Bodied Porcelain tiles, size 600 x 300mm x 12mm fixed to internal wall plaster backing with TAL tile adhesive mixed with TAL bonding liquid in lieu of water with joints continuous in both directions and grouted with TAL tile grout, excess grout on the surface to be cleaned with water as work proceeds.</p> <p>On walls</p>	m ²	5	R	-	R -
Carried to final summary						R -
1	<p><u>BILL NO. 8</u></p> <p><u>GLAZING</u></p> <p><u>GLAZING TO STEEL WITH PUTTY</u></p> <p>4mm clear float glass</p> <p>Panes exceeding 0.1m² and 0.5 m²</p>	m ²	5	R	-	R -
Carried to final summary						R -
	<u>BILL NO. 9</u>	<u>Unit</u>	<u>QTY</u>	<u>Rate</u>		<u>Amount</u>

PAINTWORK

For preambles see “Model Preambles for Trades” 2008 edition published by the Association of South African Quantity Surveyors

SUPPLEMENTARY PREAMBLES

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 a suitable filler and finished smooth

PAINTWORK, ETC TO PREVIOUSLY PAINTED WORK

ON FLOATED PLASTER

One coat professional plaster primer and two coats contractors matt white interior quality acrylic PVA paint

1	On ceiling and cornices	m ²	100	R	-	R	-
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ON WOOD

One coat wood primer, one Universal Undercoat and two coats Professional Gloss Enamel

2	On Doors	m ²	70	R	-	R	-
	<u>ON METAL</u>						
	One coat zinc chromate primer, one Undercoat and two coats Professional Gloss Enamel						
3	On rails, bars, window frames, door frames, burglar gates, gates, gutters and down pipes	m ²	150	R	-	R	-
				Carried to final summary		R	-

FINAL SUMMARY
GENERAL BUILDING AT VEREENIGING STATION

	STATION NAME	PAGE	AMOUNT	
1	Alterations	3	R	-
2	Ironmongery	3 to 4	R	-
3	Carpentry and Joinery	4 to 5	R	-
4	Plumbing work	5 to 8	R	-
5	Ceiling work	8 to 9	R	-
6	Metal works	9 to 10	R	-
7	Tiling	10	R	-
8	Glazing	10	R	-
9	Paint work	10 to 12	R	-
SUB TOTAL			R	-
ADD VAT @ 15%			R	-
TOTAL			R	-

Guarantee clause

All material supplied and installed by the contractor to have a minimum of 12 month guarantee, both guarantee certificate from the supplier and from the contractor for installation in company letter head and signed by the management to accompany the invoice. NB: No payment will be processed without valid two guarantee certificate mentioned above

ANNEXURE B: ELECTRICAL WORK SCHEDULE OF QUANTITIES

PROVISIONAL SCHEDULE OF QUANTITIES

Electrical work at Vereeniging Station

	<u>Description</u>	<u>Unit</u>	<u>QTY</u>	<u>Rate</u>	<u>Amount</u>
	<p>OCCUPATIONAL HEALTH AND SAFETY</p> <p>The contractor shall comply with all the requirements set out in the Construction Regulations, issued under The Occupational Health & Safety Act no 85 of 1993.</p> <p>Safety file shall be provided by the contractor prior to commencement of work.</p> <p>The contractor shall carry out the works with as little noise and mess as possible. All rubble shall be taken away from site on a daily basis.</p> <p>Note: All designated items should comply with local content threshold.</p> <p><u>Schedule of Quantities</u></p> <p>Unless otherwise stated the description of each item shall be deemed to include manufacturing, conveying, and delivering, unloading, storing, unpacking, hoisting, setting, fitting and fixing in position, cutting, waste, patterns, plant, temporary works, establishment charges, profit and other obligations arising out of the conditions of contract</p> <p><u>BILL NO. 1</u></p> <p><u>ALTERATIONS (PROVISIONAL)</u></p> <p><u>REMOVAL OF EXISTING WORK</u></p> <p>Taking out and removing electrical work</p>				
1	4ft 2 x 36w fluorescent weatherproofed/bulk head/subway fixtures completely	No.	200	R -	R -
	Carried to final summary				R -

	<u>BILL NO.2</u>	<u>Unit</u>	<u>QTY</u>	<u>Rate</u>	<u>Amount</u>
	<p><u>Supply, install test commission and hand over in good working conditions complete the Electrical system as per BoQ, specifications, IEE wiring regulations & as required by Local Electrical Authorities (NEC) for the complete project all up to the Satisfaction of the Engineer. All the material to be supplied to bear SABS mark or SABS mark of compliance.</u></p> <p><u>ELECTRICAL WORK</u></p> <p>Fluorescent fittings waterproofed fixture white including 2x58w T8 LED Fluorescent tubes and polycarbonate base with clear polycarbonate cover IP65</p>				
1	Waterproof polycarbonate LED 5ft 2 x58w T8 fluorescent fitting including 2 LED tubes	No.	120	R -	R -
2	1500m (5 foot) 58w Open channel LED Fluorescent fittings double tubes for ticket office building	No.	40	R -	R -
	Bulk head fittings				
3	Vandal proof PL 9 fittings	No.	30	R -	R -
	<u>SWITCHES</u>				
4	Day night switches	No.	4	R -	R -
5	11 kw contactors	No.	4	R -	R -
6	White 1 lever 2 way switch	No.	5	R -	R -
7	White 2 lever 1 way switch	No.	2	R -	R -
	Electrical cables				
8	25mm2 4 core cable on sleeves (priced elsewhere) for high mast	m	600	R -	R -
9	6mm2 4 core cable on sleeves (priced elsewhere) for high mast	m	500	R -	R -

10	4mm ² GP wires for stove and geyser	m	30	R	-	R	-
11	2.5mm ² GP wires (Red, white, blue, black and earth) for lights rewiring of shelters, footbridges, access points and subway in 3 phase system	m	500	R	-	R	-
12	2.5mm ² suffix cable or GP wire for plugs	m	100	R	-	R	-
13	1.5mm ² suffix cable or GP wire for lights	m	100	R	-	R	-
14	20mm galvanized SABS conduit completely with all the couplings and heavy duty U clamps	m	300	R	-	R	-
Circuit breakers or other approved							
15	10 A single circuit breaker	No.	10	R	-	R	-
16	20 A single circuit breaker	No.	10	R	-	R	-
17	40 A stove Isolator	No.	2	R	-	R	-
18	30A Air conditioner Isolator	No.	2	R	-	R	-
PLUGS							
19	4 x 4 Double plug	No.	10	R	-	R	-
20	4 x 4 single plug	No.	10	R	-	R	-
HVAC Systems							
21	Supply, install and commission new 24000 BTU split unit, inverter technology air conditioner completely with all accessories (drain pipe, amorflex, copper pipe, refrigerant, cable, communication wire, brackets, circuit breaker, isolator, etc)	No.	2	R	-	R	-
DB BOARDS							
22	Lockable fiber glass water proofed 12 way CBI DB Eaves box to be mounted on external walls for	No.	6	R	-	R	-

	platform shelters, waiting areas, access point, ablutions, etc						
23	Flush mounted min distribution board 2 x 15w completely with circuit breakers	No.	2	R	-	R	-
	<u>ELECTRICAL COMPLIANCE</u>						
	All work to comply to SANS 10142 Compliance certificate to be provided on completion Pricing to include all necessary complete connection						
24	Certificate of compliance and all other testing required including 12 month guarantee	Item	1	R	-	R	-
Carried to final summary						R	-
	<u>BILL NO. 3</u>	<u>Unit</u>	<u>QTY</u>		<u>Rate</u>		<u>Amount</u>
	<u>EARTHWORKS</u>						
	<u>EXCAVATION, FILLING, ETC</u>						
1	Cutting of tar and apply hot mix asphalt re-surfacing after cable has been laid	m ²	600	R	-	R	-
	Excavation in earth not exceeding 2m deep						
2	Trenches	m ³	500	R	-	R	-
	Earth filing obtain from the excavation and/or prescribed stock piles on site compacted to 90% Mod AASHTO density						
3	Backfilling to holes after concrete has been laid	m ³	700	R	-	R	-
Carried to final summary						R	-

FINAL SUMMARY

Electrical work at Vereeniging Station

	STATION NAME	PAGE	AMOUNT	
1	Alterations	14	R	-
2	Electrical work	15 to 17	R	-
3	Earthworks	17	R	-
SUB TOTAL			R	-
ADD VAT @ 15%			R	-
TOTAL			R	-

ANNEXURE C: FINAL SUMMARY

Minor upgrades at Vereeniging Station

	STATION NAME	PAGE	AMOUNT
1	Civil works	3 to 13	R -
2	Electrical work	14 to 19	R -
SUB TOTAL			R -
ADD VAT @ 15%			R -
TOTAL			R -