				R
	Brought Forward			
	TAPS, VALVES, ETC			
	"Cobra Watertech" or other equal and approved			
40	15mm Standard brass 'Plain 100-15' bibtap with flow straightener	No	2	
	TRAPS, ETC			
	Flexible rubber			
41	40 x 40mm Flexible rubber "P" trap for single bowl washtrough (elsewhere measured)	No	2	
	WATER SUPPLIES			
	Class 0 copper pipes			
42	15mm Pipes	m	15	
43	22mm Pipe	m	12	
	Extra over class 0 copper pipes for capillary fittings			
44	15mm Fittings	No	8	
45	22mm Fittings	No	6	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Bill No. 18
Braai Area

402

RJ

R-N. 13.11

Item No		Quantity	Rate	Amount
	SECTION NO. 5			
	EXTERNAL WORKS			
	BILL NO. 19			
	FENCING AND GATES			
	(CPAP WORK GROUP NO. 136 UNLESS OTHERWISE STATED)			
	The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition).			
	FENCING AND GATES, ETC.			
	MESH PANEL FENCING			
	Design, Supply and Install Clearview anticlimb galvanised steel security fencing			
1	High density anti-climbing and anti-cut pressed mesh panel fencing 3,1 x 1,8m high, formed of 3mm diameter horizontal and 4mm diameter vertical high tensile wires galvanised and marine fusion bond coating with aperture size 76,2mm x 50,8mm and reinforcing V-section ribs, bolted with vandal resistant bolts and clamping plates to 85 - 45mm Taper locking post 1,8m high including Locking Recess Mechanism at 3,390m centres with sealed end caps and 30 x 3mm x 250mm long angle section base anchors with posts (LI)	m	268	
2	High density anti-climbing and anti-cut pressed mesh panel fencing 3,1 x 0,8m high, formed of 3mm diameter horizontal and 4mm diameter vertical high tensile wires galvanised and marine fusion bond coating with aperture size 76,2mm x 50,8mm and reinforcing V-section ribs, bolted with vandal resistant bolts and clamping plates to 85 - 45mm Taper locking post 2,4m high including Locking Recess Mechanism at 3,390m centres with sealed end caps and 30 x 3mm x 250mm long angle section base anchors with posts (LI)	m	355	
	Carried Forward			R

	Brought Forward			R
	GATES, ETC.			
	The Tenderer is to refer to the Architect's Drawing number S4-500F Rev 8 (Gate Schedule) when pricing the following items.			
	Hot dipped galvanised gates			
3	Galvanised single gate size 900 x 1800mm high overall, consisting of 40 x 40mm mild steel frame, 12mm bullet hinges with invert top hinge, bolts with a 40 x 6mm mild steel flat bar to receive a weld on box lock (421M) including "Euro" profile gate lock with a 100 x 40 x 3mm flat plate covering over latch and 16mm diameter intermediate bars at 100mm centres and fixings (Gate type: SG-A)	No	7	
4	Galvanised steel double gate overall size 1800 x 1800mm high, consisting of 40 x 40mm mild steel frame, 12mm bullet hinges with invert top hinge, bolts with a 40 x 6mm mild steel flat bar to receive a weld on box lock (421M) including "Euro" profile gate lock with a 100 x 40 x 3mm flat plate covering over latch and 16mm diameter intermediate bars at 100mm centres and fixings (Gate type: SG-L)	No	1	
5	Galvanised double swing gate overall size 4000 x 1800mm high comprising of 73 x 38 x 3mm hollow section tubing frame with 12 x 12mm solid square bars fixed to frame by means of 40 x 6mm diameter hinges with "Flatex 345" Mesh including heavy duty steel barrel bolt with catch and padlock welded to frames, heavy duty barrel bolts with 12 x 300mm diameter pins welded to frames, 200 x 200 x 5mm base plates with 16 x 30mm diameter holes drilled through bolted onto concrete, 100 x 100 x 5mm square tubing posts fixed to walls and 200 x 200 x 5mm base plates fixed to concrete footings (elsewhere measured) with bolts and lugs (Gate type: SG-O)	No	1	
	Carried Forward			R

				R
	Brought Forward			
6	Galvanised double swing gate overall size 4250 x 3000mm high comprising of 100 x 50 x 3mm hollow section tubing frame with 12 x 12mm solid square bars fixed to frame by means of 40 x 6mm diameter hinges with "Flatex 345" Mesh including heavy duty steel barrel bolt with catch and padlock welded to frames, heavy duty barrel bolts with 12 x 300mm diameter pins welded to frames, 200 x 200 x 5mm base plates with 16 x 30mm diameter holes drilled through bolted onto concrete, 100 x 100 x 5mm square tubing posts fixed to walls and 200 x 200 x 5mm base plates fixed to concrete footings (elsewhere measured) with bolts and lugs (Gate type: SG-H)	No	1	
7	Galvanised steel sliding gate overall size 5500 x 2000mm high including 76 x 50 x 2mm tubing, hollow posts, including "Flatex 345" Mesh, 16mm diameter galvanised mild steel bars and (2No.) 50 x 30 x 2mm mild steel sections welded together at centre of frame, nylon heavy duty wheels, angles, plates, grooves, heavy duty gate track, commercial grade Gate Motor etc. complete. (Gate type: SG-K)	No	1	
8	Galvanised steel sliding gate overall size 5500 x 2914mm high including 76 x 50 x 2mm tubing, hollow posts, including "Flatex 345" Mesh, 16mm diameter galvanised mild steel bars and (2No.) 50 x 30 x 2mm mild steel sections welded together at centre of frame, including 2mm thick spikes to top of gate, nylon heavy duty wheels, angles, plates, grooves, heavy duty gate track, commercial grade Gate Motor etc. complete. (Gate type: SG-D)	No	2	
9	Galvanised steel sliding gate overall size 7500 x 2000mm high including 76 x 50 x 2mm tubing, hollow posts, including "Flatex 345" Mesh, 16mm diameter galvanised mild steel bars and (2No.) 50 x 30 x 2mm mild steel sections welded together at centre of frame, nylon heavy duty wheels, angles, plates, grooves, heavy duty gate track, commercial grade Gate Motor etc. complete. (Gate type: SG-N)	No	1	
10	Locking chain 500mm long with 50mm links	No	14	
11	63mm Brass five pin tumbler padlock with two keys	No	14	
	Carried Forward			R

Section No. 5
Bill No. 19
Fencing and Gates

405

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R.M. J.A.

	Brought Forward				R
	TURNSTILE, ETC				
	3 arms, full height bi-directional turnstile supplied and installed complete as per manufacturer's instructions				
12	Galvanised steel single turnstile size 1400 x 2125mm high	No	1		
	Carried Forward to Summary of Section No. 5				R

Section No. 5
Bill No. 19
Fencing and Gates

406

RJ

R.M. J.M

Item No			Quantity	Rate	Amount
	SECTION NO. 5				
	EXTERNAL WORKS				
	BILL NO. 20				
	FLAGPOLES				
	The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition).				
	EARTHWORKS (PROVISIONAL)				
	(CPAP WORK GROUP NO. 104 UNLESS OTHERWISE STATED)				
	EXCAVATION, FILLING, ETC OTHER THAN BULK				
	Excavation in earth not exceeding 2m deep				
1	Flagpole base (LI)	m3	1		
	Extra over all excavations for carting away				
2	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	1		
	CONCRETE, FORMWORK AND REINFORCEMENT				
	(CPAP WORK GROUP NO. 110 UNLESS OTHERWISE STATED)				
	REINFORCED CONCRETE				
	25MPa/19mm concrete				
3	Flagpole bases (LI)	m3	1		
	Carried Forward				R

	Brought Forward			R
	CONCRETE SUNDRIES			
	Test blocks			
4	Prepare a set of six concrete cubes each cube size 150 x 150 x 150mm for strength cubes and deliver to an approved laboratory for testing and pay all charges in connection therewith	No	1	
	ROUGH FORMWORK (DEGREE OF ACCURACY II)			
	(CPAP WORK GROUP NO. 111)			
	Rough formwork to sides			
5	Bases (LI)	m2	4	
	STRUCTURAL STEELWORK			
	(CPAP WORK GROUP NO. 134 UNLESS OTHERWISE STATED)			
	GALVANISED STEEL POSTS, CHANNELS, ETC			
	Galvanised steel Flagpole made up of steel channel supports, welded stop plates and mild steel pipes bolted to channel supports.			
6	100 x 40 x 5 x 2000mm Long galvanised channel, including (2No.) 20mm diameter drilled hole to take 200mm M20 hinge and locking pin bolt. 200 x 50 x 8mm Thick galvanised stop plate welded to steel channel. 100 x 3.5mm Thick galvanised mild steel pipe bolted to steel channel, 70 x 3mm Thick galvanised mild steel pipe bolted to 100 x 3.5mm thick galvanised mild steel pipe and 60 x 2.5mm thick galvanised mild steel pipe bolted to 70 x 3mm thick galvanised mild steel pipe, including 30mm pulley welded to top of flagpole and 70 x 3mm end cap to top of flagpole.	No	2	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Bill No. 20
Flagpoles

408

Item No			Quantity	Rate	Amount
	SECTION NO. 5				
	EXTERNAL WORKS				
	BILL NO. 21				
	ELEVATED WATER TANK SUPPORT				
	The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition).				
	EARTHWORKS (PROVISIONAL)				
	(CPAP WORK GROUP NO. 104 UNLESS OTHERWISE STATED)				
	EXCAVATION OTHER THAN BULK				
	Excavation in earth not exceeding 2m deep				
1	Bases (LI)	m3	21		
	CARTING AWAY				
	Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk)				
2	Off site to be located by the contractor	m3	21		
	EARTH FILLING, ETC				
	Note: All filing whether obtained from the excavations, from stockpiles or by the contractor from an outside source must be selected and approved by the Structural / Civil Engineers				
	Imported G2 filling supplied by the contractor compacted to 98% Mod AASHTO density				
3	Under floors, steps, pavings, etc (LI)	m3	5		
	Carried Forward			R	

	Brought Forward			R
	KEEPING EXCAVATIONS FREE OF WATER			
	Keeping excavations free of water			
4	Keeping excavations free of all water other than subterranean water		Item	
	COMPACTION			
	Compaction of surfaces			
5	Compaction of ground surfaces 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 (LI)	m2	32	
	TESTS			
	Prescribed density tests on filling			
6	Modified AASHTO Density test	No	1	
7	"Field Density" test including "Optimum Moisture Content" (four readings per test)	No	1	
	SOIL POISONING			
	Soil insecticide in accordance to SANS 5859			
8	Under floors, etc., including forming and poisoning shallow furrows against foundation walls, etc., filling in furrows and ramming	m2	32	
	CONCRETE, FORMWORK AND REINFORCEMENT			
	(CPAP WORK GROUP NO. 110 UNLESS OTHERWISE STATED)			
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES			
	10MPa Concrete			
9	Surface blinding under footings, bases, etc. (LI)	m3	2	
	Carried Forward			R

				R
	Brought Forward			
	REINFORCED CONCRETE CAST AGAINST/ON FORMWORK			
	30MPa/19mm concrete			
10	Bases (LI)	m3	26	
	CONCRETE SUNDRIES			
	Test blocks			
11	Prepare a set of six concrete cubes each cube size 150 x 150 x 150mm for strength cubes and deliver to an approved laboratory for testing and pay all charges in connection therewith	Sets	1.00	
	ROUGH FORMWORK (DEGREE OF ACCURACY III)			
	(CPAP WORK GROUP NO. 111)			
	Rough formwork to sides			
12	Bases (LI)	m2	18	
	REINFORCEMENT (PROVISIONAL)			
	(CPAP WORK GROUP NO. 114)			
	Mild steel reinforcement to structural concrete work			
13	8mm Diameter bars (LI)	t	0.50	
14	10mm Diameter bars (LI)	t	0.60	
	High tensile steel reinforcement to structural concrete work			
15	10mm Diameter bars (LI)	t	0.50	
16	12mm Diameter bars (LI)	t	0.60	
	Carried Forward			R

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411

				R
	Brought Forward			
	STRUCTURAL STEELWORK			
	(CPAP WORK GROUP NO. 134 UNLESS OTHERWISE STATED)			
	GALVANISED STEEL COLUMNS, BEAMS, CHANNELS, ETC			
	Welded columns in single lengths with flat section base, top, bearer and connection plates bolted to concrete			
17	I-Section 254 x 146 x 37.2kg/m for columns, etc.	t	7.58	
	Welded bracing, etc. with flat section connection plates bolted to steel			
18	70 x 70 x 10mm x L-section bracing	t	0.34	
19	75 x 75 x 6mm x L-section bracing	t	3.15	
20	400 x 400 x 25mm Thick base plate	t	0.93	
21	20mm Diameter round bars	t	0.07	
22	50mm diameter x 8mm Thick flat section welded to beams	t	0.30	
	GALVANIZED BOLTS, ETC			
	Bolts to columns, beams, trusses, including anchor plates, etc.			
23	M16 high tensile bolts (Class 8.8)	t	0.06	
24	M24 HD "U" anchor bolts approximately 1600mm long (Class 8.8)	No	9	
	STEEL FLOORS, STAIRS, ETC			
	Welded and bolted suspended floor and stairs			
25	10mm Thick plate floor panels	t	1.81	
	Carried Forward			R

	Brought Forward			R
	SUNDRIES			
	Grout, etc			
26	20mm Thick non-shrink grout	m2	1.44	
	METALWORK			
	(CPAP WORK GROUP NO. 136 UNLESS OTHERWISE STATED)			
	GALVANISED STEEL BALUSTRADES, ETC			
	Galvanised mild steel balustrade			
27	50mm Diameter ball type galvanised steel tubular horizontal balustrade, 1000mm high formed with hollow section continuous top rail, continuous intermediate rail and stanchions at 1500mm centres, bolted to chequered plate (elsewhere measured)	m	28	
	TANKS, ETC			
	Hot-dip galvanised steel sectional water tanks etc.			
28	Supply, deliver and install 4 880 x 4 880 x 3 660mm high galvanised pressed steel tank fabricated from 4.5mm thick durable steel panels, treated with corrosion resistant coating internally and externally including necessary fittings, inlets, outlets, over flow drainpipes, connections etc. Tank placed 15m above ground level on steel tank stand (elsewhere measured) including all necessary certificates.	No	1	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Bill No. 21
Elevated Water Tank Support

413

Item No			Quantity	Rate	Amount
	SECTION NO. 5				
	EXTERNAL WORKS				
	BILL NO. 22				
	LANDSCAPING, ETC (CPAP WORK GROUP NO. 104 UNLESS OTHERWISE STATED)				
	The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition).				
	LANDSCAPING				
	SOIL IMPROVEMENT AND FERTILISING				
	Move and spread topsoil from commercial source on site				
1	In 100mm thick layer (LI)	m3	95		
	Compost - Reliance 30mm medium coarse or equal approved				
2	In 100mm thick layer (LI)	m3	95		
	Supply, spread and mix fertiliser				
3	At 100g/m2 (LI)	kg	95		
	SOIL PREPARATION				
4	Preparation and fine grading of planting areas (LI)	m2	252		
	Carried Forward			R	

				R
	Brought Forward			
	PLANTING			
	Trees - Supply, deliver and plant			
	Excavate hole size 1000 x 1000 x 1000 mm deep in pickable material for tree, fertilise excavated soil with 30g fertilizer and 2 kg manure and mix well before commencing with planting and plant tree including backfilling, carting away surplus material, etc. and stabilising tree until established.			
5	Kei apple tree 1800 mm high (LI)	No	6	
6	Leadwood tree 1000 mm high (LI)	No	2	
7	Yellow tree 1000mm high (LI)	No	4	
8	Aloe ferox 1000mm high (LI)	No	6	
9	Crossberry tree 1000mm high (LI)	No	5	
	Shrubs - Supply, deliver and plant			
10	Kalanchoe longiflora 300mm high (LI)	No	10	
11	Gazania regens 300mm high (LI)	No	10	
	Lawn - Supply, deliver and plant			
12	Cynodon Dactylon or other approved roll on lawn including rolling (LI)	m2	252	
	Rocks - Supply, deliver and lay			
13	Natural rock boulders 1500mm high (LI)	No	1	
14	Natural rock boulders 500mm high (LI)	No	2	
15	Coarse aggregate for rock garden (LI)	m3	4	
	Maintenance			
16	Allow for the maintenance including application of fertilizer and weed killer, watering and rolling, nurturing and maintenance including supervision for a period of (3) months from date of acceptance of completed works		Item	
	Carried Forward			R

Section No. 5
Bill No. 22
Landscaping, Etc

415

RJ

				R
	Brought Forward			
	PRECAST CONCRETE (CPAP WORK GROUP NO. 112 UNLESS OTHERWISE STATED)			
	Precast concrete bollards			
17	250 x 250 x 1200mm High precast concrete bollard (Finish: Grey Polished) cast in 600 x 600 x 200mm high concrete footing, including all necessary excavations, concrete, formwork, reinforcement, etc. all to engineers design and approval	No	9	
	Precast concrete furniture			
18	1800 x 900 x 1000mm high concrete table (Colour: Grey), all in accordance with the Architects Drawing number S4-601 Rev 2 (LI)	No	2	
19	1800 x 500 x 500mm high concrete bench (Colour: Grey), all in accordance with the Architects Drawing number S4-601 Rev 2 (LI)	No	11	
20	1200 x 300 x 60mm Thick concrete grass blocks laid to falls (Colour: Natural Concrete) (LI)	m2	8	
21	500 x 500 x 500mm high concrete block seating (Colour: Grey), all in accordance with the Architects Drawing number S4-601 Rev 2 (LI)	No	14	
22	400 x 400 x 1000mm high precast concrete drinking fountain (Colour: Grey) including 500 x 500mm square flat grating with frame, tap, pipes and fittings etc., all in accordance with the Architects Drawing number S4-610 (LI)	No	1	
	Carried Forward			R

				R
	Brought Forward			
	PLANTER BOX (ALL TRADES) (PROVISIONAL)			
	The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition)			
	EARTHWORKS (PROVISIONAL) (CPAP WORK GROUP NO. 104 UNLESS OTHERWISE STATED)			
	EXCAVATIONS, ETC			
	Excavation in earth not exceeding 2m deep			
23	Holes (LI)	m3	21	
	Extra over excavation in earth for excavation in			
24	Soft rock	m3	2	
25	Hard rock	m3	4	
	Risk of collapse of excavations			
26	Sides of trench excavations not exceeding 1,5m deep (LI)	m2	36	
	Keeping excavations free of water			
27	Allow for keeping excavations free of water other than subterranean water		Item	
	Compaction of surfaces			
28	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density (LI)	m2	38	
	Carried Forward			R

				R
	Brought Forward			
	Prescribed density tests on filling			
29	"Modified AASHTO Density" test	No	7	
30	"Field Density" test including "Optimum Moisture Content" (four readings per test)	No	7	
	CARTING AWAY			
	Extra over all excavations for carting away			
31	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	21	
	EARTH FILLING, ETC			
	Note: All filing whether obtained from the excavations, from stockpiles or by the contractor from an outside source must be selected and approved by the Structural / Civil Engineers			
	Imported G6 filling supplied by the contractor compacted to 92% Mod AASHTO density			
32	Backfilling to trenches, holes, etc. (LI)	m3	4	
	Imported G7 filling supplied by the contractor compacted to 92% Mod AASHTO density			
33	Under floors, steps, pavings, etc. (LI)	m3	8	
	SOIL POISONING			
	Soil insecticide			
34	To bottoms and sides of trenches, etc	m2	38	
	CONCRETE, FORMWORK AND REINFORCEMENT (CPAP WORK GROUP NO. 110 UNLESS OTHERWISE STATED)			
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES			
	10MPa Concrete			
35	Surface blinding under footings and bases. (LI)	m3	2	
	Carried Forward			R

Section No. 5
Bill No. 22
Landscaping, Etc

418

RJ

				R
	Brought Forward			
	REINFORCED CONCRETE CAST ON/IN FORMWORK			
	25MPa/19mm Stone			
36	Bases (LI)	m3	9	
37	Surface beds, etc. (LI)	m3	1	
	TEST CUBES			
38	Prepare a set of six concrete cubes each cube size 150 x 150 x 150mm for strength cubes and deliver to an approved laboratory for testing and pay all charges in connection therewith	No	6	
	CONCRETE SUNDRIES			
	Finishing top surfaces of concrete with a wood float			
39	Surface beds, slabs, etc.	m2	12	
	ROUGH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111 UNLESS OTHERWISE STATED)			
	Rough formwork to sides			
40	Bases (LI)	m2	16	
	SMOOTH FORMWORK (DEGREE OF ACCURACY I)			
	Smooth formwork to sides			
41	Edges, risers, ends and reveals not exceeding 300mm high or wide (LI)	m	26	
	Boxing in smooth formwork to form			
42	25 x 25mm Chamfer along edges at corners (LI)	m	26	
	Carried Forward			R

Section No. 5
Bill No. 22
Landscaping, Etc

RJ 419
R.M. J.M

				R
	Brought Forward			
	MOVEMENT JOINTS, ETC			
	Isolation joints with 10mm polystyrene between vertical concrete and brick surfaces			
43	10mm Joints not exceeding 300mm high	m	24	
	Slip joints between horizontal concrete and brick surfaces with two layers of 3 ply malthoid sealed with sealant (elsewhere measured)			
44	Not exceeding 300mm wide	m	26	
	REINFORCEMENT(CPAP WORK GROUP NO. 114 UNLESS OTHERWISE STATED)			
	High tensile steel reinforcement to structural concrete work			
45	10mm Diameter bars	t	4.20	
46	12mm Diameter bars	t	4.20	
	Fabric reinforcement			
47	Type 193 fabric reinforcement in concrete surface beds, ramps, etc (LI)	m2	12	
	MASONRY(CPAP WORK GROUP NO. 116 UNLESS OTHERWISE STATED)			
	BRICKWORK IN FOUNDATIONS			
	Brickwork of NFX (14 MPa nominal compressive strength) clay imperial bricks in cement mortar			
48	Half brick walls (LI)	m2	8	
49	One brick wall (LI)	m2	11	
	BRICKWORK SUNDRIES			
	Galvanised brickwork reinforcement			
50	75mm Wide reinforcement built in horizontally (LI)	m	112	
51	230mm Wide reinforcement built in horizontally (LI)	m	140	
	Carried Forward			R

Section No. 5
Bill No. 22
Landscaping, Etc

RJ

4.20

				R
	Brought Forward			
	BRICKWORK IN SUPERSTRUCTURE			
	Brickwork of NFP Bricks in Class II mortar			
52	Half brick walls (LI)	m2	17	
53	One brick wall (LI)	m2	37	
	BRICKWORK SUNDRIES			
	Bagging of 1:3 cement and sand mixture			
54	On outer face of inner skin of brick walls including any additional labour required in raising wall in two separate skins and working around wire ties and / or brick reinforcing fabric (LI)	m2	37	
	Galvanised brickwork reinforcement			
55	75mm Wide reinforcement built in horizontally (LI)	m	56	
56	230mm Wide reinforcement built in horizontally (LI)	m	140	
	Joint forming material in movement joints			
57	10mm Polystyrene built in vertically between brick skins	m2	3	
	Concertina ties built into brickwork and pins shot fired into brick/concrete wall			
58	30 x 1,2mm Galvanised steel strap wall ties (LI)	No	70	
	FACE BRICKWORK			
	"Corobrik Autumn Wheat Travertine" or other equal and approved face bricks in stretcher bond with concave mortar joints			
59	Extra over brickwork for face brickwork (LI)	m2	37	
	Carried Forward			R

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421

	Brought Forward			R
	WATERPROOFING (CPAP WORK GROUP NO. 120 UNLESS OTHERWISE STATED)			
	DAMPPROOFING OF WALLS AND FLOORS			
	One layer 375 micron embossed polyethylene damp proof course (SANS 952-1985 type B)			
60	Under surface beds	m2	38	
	Two coats bitumen emulsion waterproof coating			
61	On bagged brick walls (LI)	m2	37	
	JOINT SEALANTS, ETC			
62	10 x 10mm In isolation joints in walls	m	24	
63	2mm Thick x 225mm wide in slip joints between horizontal concrete and brick surfaces	m	26	
	CARPENTRY AND JOINERY			
	(CPAP WORK GROUP NO. 126 UNLESS OTHERWISE STATED)			
	PANELLING			
	Wrought meranti			
64	50 x 13mm Thick Natural Rhino Wood slatted horizontal cladding fixed to 38 x 38mm hardwood substructure fixed to wall and concrete seating (LI)	m2	10	
	Carried Forward			R

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422

				R
	Brought Forward			
	LIGHT POLE BASES			
	EARTHWORKS (PROVISIONAL) (CPAP WORK GROUP NO. 104 UNLESS OTHERWISE STATED)			
	EXCAVATION, FILLING, ETC OTHER THAN BULK			
	Excavation in earth not exceeding 2m deep			
65	Bases (LI)	m3	11	
	Extra over all excavations for carting away			
66	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	11	
	Keeping excavations free of water			
67	Keeping excavations free of all water other than subterranean water		Item	
	CONCRETE, FORMWORK AND REINFORCEMENT (CPAP WORK GROUP NO. 110 UNLESS OTHERWISE STATED)			
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES			
	10MPa/19mm concrete			
68	Surface blinding under footings and bases (LI)	m3	1	
	REINFORCED CONCRETE (CPAP WORK GROUP NO. 110 UNLESS OTHERWISE STATED)			
	25MPa/19mm concrete			
69	Bases (LI)	m3	11	
	Carried Forward			R

				R
	Brought Forward			
	Test blocks			
70	Prepare a set of six concrete cubes each cube size 150 x 150 x 150mm for strength cubes and deliver to an approved laboratory for testing and pay all charges in connection therewith	No	3	
	ROUGH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)			
	Rough formwork to sides			
71	Bases (LI)	m2	90	
	REINFORCEMENT (CPAP WORK GROUP NO. 114 UNLESS OTHERWISE STATED)			
	Mild tensile steel reinforcement to structural concrete work			
72	8mm Diameter bars	t	0.21	
73	10mm Diameter bars	t	0.22	
	High tensile steel reinforcement to structural concrete work			
74	10mm Diameter bars	t	0.21	
75	12mm Diameter bars	t	0.22	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Bill No. 22
Landscaping, Etc

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Item No			Quantity	Rate	Amount
	SECTION NO. 5				
	EXTERNAL WORKS				
	BILL NO. 23				
	BOREHOLE INSTALLATION				
	The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition).				
	DRILLING OF BOREHOLE				
	(CPAP WORK GROUP NO. 104 UNLESS OTHERWISE STATED)				
1	Establishment and de-establishment of drilling plant		Item		
2	Mobilization and set-up of plant at drilling position	No	1		
3	Inter hole Move (only if required for 2nd borehole)	No	1		
	Drilling				
4	254mm Diameter	m	2		
5	219mm Diameter	m	80		
6	165mm Diameter	m	280		
	Odex Drilling				
7	194mm Diameter	m	1		
	Casing				
8	Steel 219mm diameter	m	2		
9	Steel 177mm diameter	m	80		
10	uPVC 140mm diameter Class 12 (threaded, flush-fit)	m	2		
11	Installation of casing	m	80		
12	Odex shoe	No	1		
	Carried Forward			R	

				R	
	Brought Forward				
13	Gravel pack (20 Litre)	No	20		
14	Development		Item		
15	Blow yield test		Item		
16	Data recording		Item		
17	Site Supervision and reporting by registered Geohydrologist - Provisional Sum (including all disbursements & traveling)		Item		11,400.00
18	Profit		%		
19	Attendance		%		
	BOREHOLE PUMP TESTING				
	(CPAP WORK GROUP NO. 104 UNLESS OTHERWISE STATED)				
	Establishment. Plant, Set-up, Inter-hole moves and De-Establishment				
20	Establishment and De-establishment of Test Pumping facilities on site	No	1		
21	Mobilization and set-up at first borehole		Item		
22	Set-up of plant & equipment per borehole (after first)		Item		
23	Inter hole moves		Item		
	Test Pumping				
	Installation of test pump (up to 80m depth)				
24	For yields up to 10 L/s	No	2		
25	For yields greater than 10 L/s (up to 20 L/s)	m	2		
	Laying out of discharge hose				
26	Minimum distance of 150m	No	1		
27	Further than 150m	m	1		
	Carried Forward			R	

Section No. 5
Bill No. 23
Borehole Installation

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				R
	Brought Forward			
28	Dismantling and removal of test equipment		Item	
29	Stepped discharge test	Hrs	4.00	
	Stepped Discharge Test			
	Constant discharge test			
30	For yield up to 8 L/s	Hrs	24.00	
31	For yields greater than 8 L/s (up to 20 L/s)	Hrs	1.00	
32	Recovery monitoring	Hrs	24.00	
33	Borehole disinfection	No	2	
	Data Recording			
34	Electronic reporting (per/borehole) Excel format	No	1	
35	Electronic steel casing depth detection	No	1	
36	Chemical analysis (macro elements)	No	1	
37	Site Supervision and direction by registered Geohydrologist - Provisional Sum (including all disbursements & traveling)		Item	11,400.00
38	Profit		%	
39	Attendance		%	
40	Reporting, including progress and completion reports and registration for Water Use License application (WULA) with DWS, under guidance from the appointed Environmental Consultant		Item	11,000.00
41	Profit		%	
42	Attendance		%	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Bill No. 23
Borehole Installation

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SECTION SUMMARY - EXTERNAL WORKS

Carried to Final Summary R

Section No. 5

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Item No		Quantity	Rate	Amount

SECTION NO. 6

BILL NO. 1

PROVISIONAL SUMS AND BUDGETARY ALLOWANCES

SUPPLEMENTARY PREAMBLES

General

Work for which budgetary allowances are provided will be measured and valued in accordance with clause 32 of the Principal Building Agreement and deducted in whole or in part if not required without any compensation for loss or profit on the said allowances

Prime cost amounts and provisional sums are NET. Prime cost amounts include for delivery to site of all articles concerned

Provisional sums are for material and equipment supplied and installed complete by firms of specialists

Profit

Where stated, the contractor may allow for profit if required

General attendance on nominated/selected subcontractors

The item "Attendance" which follows each provisional sum for nominated/selected subcontractors' work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the nominated/selected subcontractors, the following:

1 General attendance comprising of access to the site, the provision of water, electric power and an area for establishment, the use of erected scaffolding, etc.

2 Making good in all trades and cleaning down and removal of rubbish on completion

Carried Forward R

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				R
	Brought Forward			
	Note: Tenderers are to note that the allowances listed here under are for work to be executed by the appointed principal contractor. Tenderers are to allow in their overall Preliminaries costs for this scope of work as no additional Preliminaries will be entertained once this scope of work is realised. The Employer reserves the right to execute this work in part or in whole or omit the entire scope			
	PROVISIONAL SUMS AND BUDGETARY ALLOWANCES			
	POWER APPLICATION			
1	Provide the sum of R 550 000 (Five Hundred and Fifty Thousand Rand) for Power Application	Item		550,000.00
2	Profit	%		
3	Attendance	%		
	ESKOM POWER LINE DEVIATION			
4	Provide the sum of R 250 000 (Two Hundred and Fifty Thousand Rand) for Eskom Power Line Deviation	Item		250,000.00
5	Profit	%		
6	Attendance	%		
	WATER FILTRATION SYSTEM			
7	Provide the sum of R 250 000 (Two Hundred and Fifty Thousand Rand) for Water Filtration System	Item		250,000.00
8	Profit	%		
9	Attendance	%		
	Carried to Final Summary			R

Section No. 6
Bill No. 1
Provisional Sums and Budgetary Allowances

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Item No			Quantity	Rate	Amount
	SECTION NO. 7				
	BILL NO. 1				
	PROJECT ASSESSMENT SCHEME (PROVISIONAL)				
	SUPPLEMENTARY PREAMBLE				
	Tenderer is advised to carefully price this section of the **bills of quantities** in conjunction with C1.2: Contract Data, C2.1: Pricing Assumptions and C3: Scope of Work incorporated in the tender documents for this tender				
	The profit and attendance priced herein under is inclusive of associated costs to the contractor for implementation. The profit and attendance % is to remain unchanged for the duration of contract - refer to C2.1 Pricing Assumptions				
	TARGETED ENTERPRISE DEVELOPMENT CPG				
	Enterprise Development of Targeted Enterprise or JV Partners				
1	Needs Analysis and Enterprise Development Plan per Targeted Enterprise	No	3	5,000.00	15,000.00
2	Monitoring and Interim reporting per Targeted Enterprise (Enterprise Development Co-ordinator and mentor)	PerQ	8	60,000.00	480,000.00
3	Project Completion report per Targeted Enterprise	No	3	5,000.00	15,000.00
	Carried Forward			R	510,000.00

			R
	Brought Forward		
	TARGETED ENTERPRISE DEVELOPMENT CPG (CONTINUED)		
	Enterprise Development of Targeted Enterprise or JV Partners		
	Tenderer is advised to carefully price the profit and attendance % based on the items 1 to 3 of page 343		
4	Profit	%	
5	Attendance	%	
	CONTRACT SKILLS DEVELOPMENT GOALS - CSDG		
	The following allowance will be subject to adjustment based on the notional cost (see Table 3) as per Government Gazette No. 48491 of 28 April 2023 as amended in line with the training opportunity agreed with the **employer**.		
6	Minimum Contract Skills Development Goal (CSDG) (0.5% x "Sub total A" on the Final Summary)	%	
7	Profit	%	
8	Attendance	%	
	Carried to Final Summary		R

Section No. 7
Bill No. 1
Project Assessment Scheme (Provisional)

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FINAL SUMMARY

Section No		Page No		Amount
1	PRELIMINARIES	40		
2	NEW BUILDINGS	136		
3	ELECTRICAL INSTALLATION	159		
4	MECHANICAL INSTALLATION	194		
5	EXTERNAL WORKS	340		
	SUB-TOTAL A		R	
6	PROVISIONAL SUMS AND BUDGETARY ALLOWANCES	342		
	SUB-TOTAL B		R	
7	PROJECT ASSESSMENT SCHEME (PROVISIONAL)	344		
	SUB-TOTAL C		R	
	ADD: PROVISION FOR ESCALATION (PROVISIONAL)	Item		9,976,799.09
	SUB-TOTAL D		R	
	ADD: VALUE ADDED TAX @ 15%		R	
	Carried to Form of Tender		R	

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CONSTRUCTION OF MSINSINI NEW POLICE STATION: KWAZULU NATAL PROVINCE

BID: 19/1/9/1/37 TB (25)

PART C:

CONTRACT

Part C3

Scope of Work

C3: SCOPE OF WORKS

JBCC Series 2000

CONTENTS

Document reference	Document title	No. of Pages
C3	SCOPE OF WORKS	23

C3: SCOPE OF WORKS

JBCC Series 2000

Project	:	Construction of New Msinsini Police Station:KwaZulu-Natal Province		
Employer	:	South African Police Service	**Reference**	: 19/1/9/1/37TB (25)

C3.1. DESCRIPTION OF THE WORKS

C3.1.1. Employer's objectives

The South African Police Service endeavors to complete the Construction of New Mnsisini Police Station.

In addition to the above, the project aims to achieve the following:

a) to provide a minimum Contract Participation Goal (CPG) of 05 % of the total contract value and develop targeted enterprises by the main or lead partner contractors

b) to train learners in Occupational qualifications, trade qualification, work integrated learners – P1 and P2 learners, professional candidates (which ever is applicable after award of the tender

c) to deliver public infrastructure using labour-intensive methods in accordance with EPWP Guidelines

d) Small, Micro and Medium Enterprises (SMME's) involvement of at least 30% of the contract value to be sourced from within a specified range from the project site.

The **employer** intends to appoint a suitable **contractor** to construct facilities and amenities as per the **employer** 's specifications

The general intent of this contract is that the **contractor** shall procure all items necessary to construct and complete the **works** in accordance with the terms of this contract, in a workmanlike and expeditious manner

C3.1.2. Overview of the works

Works included in this contract comprise the construction of a new police station on a green-field site with services that include .

The total approximate site area is 10,000 m²

The aproximate construction areas (including wall footprint):

Ground Floor:	1,876m²
Lower Ground:	303m²
Upper Ground:	303m²
Living Quarters Upper:	213m²

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Living Quarters Lower:	213m²
Service Area:	134m²
TOTAL (approx):	**3,042m²**

In addition to the requirements specified, the design will ensure that the buildings comply with the national building regulations and standards of the country (SANS), the legal, safety, and health requirements, and should observe sustainable design principles

The extent of the works is detailed below, and the portion of the work relevant to the successful bidder of this document has also been stated below

C3.1.3. Extent of the works

The following is the high-level scope for the project:

a) Demolition of existing structure & site works including the removal of extensive vegetation including eucalyptus and other trees.

b) Civil & Structural Works Including:

- Extensive earthworks
- Access road, including intersection to main road.
- Shuttered and precast concrete retaining walls.
- Asphalting & paving of the access road, walkways, pathways, etc.
- Drainage as required.:
- Shuttered in-situ concrete retaining works, suspended slabs, suspended ramps, columns & related.
- Structural steelwork & related.
- Elevated Sectional steel tank & related civil & fire infrastructure
- Certified timber roof structure & related.

c) Construction of a NEW Community Service Centre & related including the following functionality to meet the SAPS Needs Assessmnet:

- Community Service Area including CSC counter, statements areas, Victim Friendly Area, etc.
- Offices for VisPol, POP, Detectives Offices, CMAC, CSC Commander, Station Commander, Management, etc.
- Boardroom, parade room, change rooms, members ablutions, public ablutions & related supplementary facilities.
- Stationery store, road-block store, cleaners store & other related storage areas.
- Docket filing areas, Evidence stores, Archive areas & related.

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- Cleaners facilities & all sundry areas as outlined in the SAPS Needs AssessmentHolding cells & associated.
- 10 bed-sitter type residential units, in double storey configuration.Covered car wash-bay and paved & asphalt parking for state and private vehicles.
- Fencing, gates, perimeter wall, and related infrastructure such as refuse areas
- Provision of specialist archive fittings & specialist cabinetry & joinery fabricated using solid timber, high density cubicle board, particle board & engineered stone.
- Provision and fitment of specialist fittings, finishes, windows, and steelwork relating to detention of suspects (bars, gates, mesh ceilings, etc).
- Provision of specialist security infrastructure including specialist strong-rooms and safe doors, bullet-proof glass, pay-windows, and related.
- Provision of standard steel framed solid-flush-panel & FLB doors, transformer-room doors, RSD doors, pressed steel doors, and specialist fire & escape doors.
- Steelworks, including balustrading, gates and other non-detention related items.
- Instillation of drop-in and skimmed ceilings & plastered soffits,
- Instillation of sheet vinyl, granolithic flooring, and other high specialization flooring systems.
- Instillation of Aluminium, windows, shop-fronts, and curtain walls
- Application of polyurethane waterproofing systems, ensuring conditions for manufacturer guarantees.
- Fitment of rotational-locking concealed fix roofing systems in compliance with requirements to obtain watertight and material guarantees.
- Instillation of specialist security sanware and fittings.
- Plastering & extensive facebrick work, including brick beams & dog-toothing.
- Tiling & plumbing work associated with ablution facilities.
- Fire and directional signage
- Landscaping, paving & planting as required.

d) General Mechanical works including:

- Airconditioning, extraction, and dehumidification

e) General Electrical work including:

- Connection to Eskom Infrastructure

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- Gate automation, access control, fire & intruder detection
- Internal first fix and final fix electrical
- Generator, Solar panels & related.

C3.1.4. Location of the works

See C4: Site Information

C3.2. WORKS SPECIFICATION

C3.2.1. Applicable national and international standards

The following, but not limited to, national specifications even though not bound apply to this document, refer to purpose written specifications for all national standards:

a) Occupation Health and Safety Act, 1993
b) SANS 10400: National Building Regulations
c) SANS 10400-XA: Energy Usage in Buildings
d) SANS 10400-X: Environmental sustainability
e) SANS 1186-1: Symbolic safety signs - Part 1: Standard signs and general requirements
f) SANS 10142: The wiring pf premises (part 1 & 2)
g) SANS 10389-1: Exterior lighting Part 1 Artificial lighting of exterior areas for work and safety
h) SANS 10389-2: Exterior lighting Part 2 Exterior security lighting
i) SANS 1765: Low voltage switchgear and control gear assemblies (distribution boards) with rated short circuit withastand strength up to and including 10kA
j) SANS 10313: Protection against lightning - physical damage to structures and life hazard
k) SANS 62305: Protection against lightning
l) SANS 62040: Uninterruptible Power Systems (UPS)
m) SANS 10252-1: Water Supply Installations for Buildings
n) SANS 10252-2: Drainage Installations for building
o) Local Municipality by laws & requirements
p) SAPS Project Five Star 2012 Specifications for New and Existing Police Cell
q) All SANS standards relating to Construction Quality & building accuracy.

C3.2.2. Particular or generic specifications

The following purpose written (project specific) specifications are applicable to the **works** and are attached as Annexures after C4: Site Information

a) Foundations and Superstructure Specifications Document - July 2024 - Rev. 0
b) Civil Engineering Specifications Document - March 2024 - Rev.P2
c) Specification for Electrical Installation

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d) Wet Services Technical Specification
e) Fire Detection and Suppression Technical Specification
f) Fire Protection Technical Specification
g) Air-conditioning and Ventilation Installation Standard Specification

C3.2.3. Minimum Standard requirements

a) CIDB Best Practice Project Assessment Scheme (Government Gazette No.43726 of 18 September 2020)
b) Standard for Developing Skills through Infrastructure Contracts, published in Gazette Notice 48491 of 28 April 2023
c) Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, published in Gazette Notice No.36190 of 25 February 2013
d) Guidelines for the Implementation of Labour-Intensive Infrastructure Projects Under the Expanded Public Works Programme (EPWP) – Third Edition 2015

C3.3. DRAWINGS

C3.3.1. Tender Drawings

Tender drawings are provided in order to give an overview of the project. Any ambiguities shall be clarified by the tenderer with the **employer**'s **agent** prior to the submission of tenders

The drawings that form part of the tender documents shall be used for tender purposes only

Drawings for construction purposes will be issued to the appointed **contractor** during the execution of the contract

The following drawings are annexed after C4: Site Information, and form part of the contract. The drawings issued to tenderers must be regarded as provisional and preliminary for the tenderer's benefit to assess the scope generally

#	DESCRIPTION	DRAWING No.	REVISION AND DATE
1.0	**ARCHITECTURAL DRAWINGS**		
1.1	Locality Plan	S4-000	1
1.2	Site Plan	S4-100	2
1.3	Fence Plan	S4-100A	8
1.4	Roof Plan	S4-100B	6
1.5	Ground Floor Plan	S4-101	8
1.6	Refuse Area	S4-101A	5
1.7	Service & Units Floor Plan	S4-102	5
1.8	Lower Ground and First Floor Plan	S4-103	7
1.9	Landscaping Plan	S4-104	7
1.10	Floor Finishes Plan 1	S4-106	5
1.11	Floor Finishes Plan 2	S4-107	5
1.12	Internal Wall Finishes 1	S4-108	3
1.13	Internal Wall Finishes 2	S4-109	1
1.14	Security Plan 1	S4-110	2

1.15	Security Plan 2	S4-111	2
1.16	Ceiling Plan 1	S4-112	6
1.17	Ceiling Plan 2	S4-113	6
1.18	External Wall Finishes 1	S4-114	6
1.19	External Wall Finishes 2	S4-115	1
1.20	Central Passage Detail	S4-140	5
1.21	Sections	S4-200	8
1.22	Strip Sections + Details	S4-200A	8
1.23	Sections	S4-201	7
1.24	Retaining Wall Strip Sections 01	S4-202	1
1.25	Retaining Wall Strip Section 02	S4-203	1
1.26	Elevations	S4-300	7
1.27	Door Schedule	S4-500A	6
1.28	Door & Ironmongery Schedule	S4-500B	7
1.29	Window Schedule	S4-500C	7
1.30	Window Schedule	S4-500D	5
1.31	Frame Schedule	S4-500E	5
1.32	Gate Schedule	S4-500F	8
1.33	Finishes Schedule	S4-501	3
1.34	Sanware Schedule	S4-502	5
1.35	Roof Details	S4-503	2
1.36	Threshold Details	S4-504	5
1.37	CSC Area Details	S4-505	5
1.38	Brick Lintel Reinforcement Details	S4-506	1
1.39	Landscaped Courtyard Details 1	S4-600	2
1.40	Landscaped Courtyard Details 2	S4-601	2
1.41	Landscaped Courtyard Details 3	S4-602	1
1.42	Ablutions Details 01	S4-603A	7
1.43	Ablutions Details 02	S4-603B	4
1.44	Ablutions Details 03	S4-603C	4
1.45	Textured Brick Wall Details 01	S4-604	5
1.46	Textured Brick Wall Details 02	S4-605	5
1.47	Textured Brick Wall Details 03	S4-606	3
1.48	Bench Details	S4-607	5
1.49	Balustrade & Railing Details	S4-608	4
1.50	Visitor's Counter Details	S4-609	1
1.51	Drinking Fountain Details	S4-610	1
1.52	Precast Concrete Vanity Positions	S4-611	1
1.53	Signage Reference Plan	S4-612A	5
1.54	Signage Reference Plan	S4-612B	1
1.55	Signage Details	S4-612C	5
1.56	Signane Details 2	S4-612D	1
1.57	Cell Bathroom Details	S4-614	5
1.58	Carport	S4-613	1
1.59	Drainage Details	S4-650	5

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1.60	Joinery Plan Ground Floor	S4-700	7
1.61	Joinery Plan Lower Ground Floor & First Floor	S4-701	7
1.62	Joinery Details 01	S4-702	5
1.63	Joinery Details 02	S4-703	7
1.64	Joinery Details 03	S4-704	5
1.65	Archives, Dockets and Registry Joinery	S4-705	5
1.66	Cell Joinery Details	S4-706	5
1.67	Shelf Details	S4-707	7
2.0	**CIVIL ENGINEERING DRAWINGS**		
2.1	Bulk Earthworks Sections and Loffelstein Retaining Wall Details	589/MS/901	P3
2.2	Bulk Services Layout	589/MS/902	P3
2.3	Bulk Services Layout	589/MS/902	P2
2.4	Bulk Sewer Reticulation Layout	589/MS/903	P2
2.5	Bulk Water Reticulation Layout	589/MS/904	P2
2.6	Sewer and Water Typical Details	589/MS/905	P1
2.7	Sewer Septic Tank and Soakaway Details	589/MS/906	P2
2.8	Sewer Long Section	589/MS/907	P2
2.9	Bulk Stormwater Reticulation Layout	589/MS/908	P3
2.10	Bulk Stormwater Typical Details	589/MS/909	P2
2.11	Bulk Stormwater Long Section 1 of 2	589/MS/910	P2
2.12	Bulk Stormwater Long Section 2 of 2	589/MS/911	P2
2.13	Access Road Layout, Parking and Typical Details	589/MS/912	P1
2.14	Access Road, Long and Cross Sections	589/MS/913	P1
2.15	Road Markings, Sign, Plan Layout & Road Signs Schedule	589/MS/914	P1
2.16	Roadmaking	589/MS/915	P1
2.17	Bulk Earth work layout and Quantities	589/MS/900	P1
3.0	**STRUCTURAL ENGINEERING DRAWINGS**		
3.1	Police Station Building: Ground Level Foundation Layout & Details	589/100 (1 of 2)	T1
3.2	Police Station Building: Ground Level Foundation Layout & Details	589/100 (2 of 2)	T1
3.3	Administration Building: Ground Level Foundation Details	589/101 (1 of 2)	T1
3.4	Administration Building: Ground Level Retaining Wall Layout & Details	589/102 (2 of 2)	T1
3.5	Administration Building: Ground Level Surface Bed Layout	589/102 (1 of 2)	T1
3.6	Administration Building: Ground Level Surface Bed Layout	589/102 (2 of 2)	T1
3.7	Administration Building: Ground Level Surface Bed Slab Details	589/103	T1
3.8	Administration Building: Ground Level Eaves Layout & Details	589/104 (1 of 2)	T1
3.9	Administration Building: Ground Level Eaves Layout & Details	589/104 (2 of 2)	T1
3.10	Eaves Level Slab & Beam Details	589/105	T1
3.11	Administration Building: Lower Ground Level Surface Bed Layout & Details	589/106	T1
3.12	Administration Building: Ground Level Surface Bed Layout & Details	589/107	T1

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3.13	Administration Building: First-Floor Slab Layout & Details	589/108	T1
3.14	Administration Building: Eaves Level Eaves Beam Layout & Details	589/109	T1
3.15	Police Station Building: Service and Units Foundation layout & Details	589/110	T1
3.16	Service and Units Building: Lower Ground Level Surface Bed Layout & Details	589/111	T1
3.17	Service and Units Building: Ground Floor Level, First Floor Slab Layout & Details	589/112	T1
3.18	Living Quarters Building: Foundation Layouts & Details	589/113	T1
3.19	Living Quarters Building: Ground Level Surface Bed Slab Layout	589/114	T1
3.20	Living Quarters Building: First Floor Level Slab Layout Plan & Details	589/115	T1
3.21	Living Quarters Building: Roof Level Slab & Beams Layout and Details	589/116	T1
3.22	Police Station: Bin Area Foundation Layout	589/117	T1
3.23	Police Station: Bin Area Surface Bed Slab Layout and Details	589/118	T1
3.24	Police Station: Bin Area Eaves Level Layout and Details	589/119	T1
3.25	Living Quarters: Bin Area Foundations Layout	589/120	T1
3.26	Bin Area Surfaced Slab Layout & Details	589/121	T1
3.27	Police Station: Bin Area Eaves Level Layout and Details	589/122	T1
3.28	External Works: Generator Concrete Plinth	589/123	T1
3.29	External Works: Carport Foundations and Steel Frame Layout and Details	589/125	T1
3.30	Police Station Building: Overhead Grilles Layout and Details	589/126	T1
3.31	Police Station Building: Boundary Wall Typical Details	589/127	T1
3.32	Police Station Building: Planter Box Typical Details	589/128	T1
3.33	Administration building: Concrete Ramp Section and Details	589/129	T1
3.34	External Work Elevated water tank support	589/124	T1
3.35	Meter Room: Foundation layout	589/130	T1
3.36	Meter Room: Surface bed slab layout	589/131	T1
3.37	Meter Room: RC Roof slab layout	589/132	T1
3.38	External Works: New Electrical Light Pole Concrete Base Details	589/SK01	T1
3.39	External Works: Fire Water Storage Tank Ground Beam Details	589/sk02	T1
4.0	**ELECTRICAL ENGINEERING DRAWINGS**		
4.1	Site Plan-Electrical &Electronic cable and sleeves layout	23044-001	P01
4.2	Service lvl, Unit 1 & 2 Lighting	23044-102	P01
4.3	GF Power Plan	23044-200	P01
4.4	LG & FF-Power Plan	23044-201	P01
4.5	Service lvl, Unit 1 & 2 - Power Plan	23044-202	P01
4.6	GF- HVAC Power Plan	23044-220	P00
4.7	LG & FF - HVAC Power Plan	23044-221	P01

4.8	GF Access Control Layout	23044-300	P01
4.9	Overall Distribution Board Schematic	23044-400	P00
4.10	Metering Kiosk DB-METERING KIOSK Single Line Diagram	23044-401	P00
4.11	Main LV Kiosk Single Line Diagram	23044-402	P00
4.12	DB - A / AE Single Line Diagram	23044-403	P00
4.13	DB - B / BE Single Line Diagram	23044-404	P00
4.14	DB - C / CE Single Line Diagram	23044-405	P00
4.15	DB - LGF / LGF-E Single Line Diagram	23044-406	P00
4.16	DB - LG / LG-ESingle Line Diagram	23044-407	P00
4.17	DB - B / BE Single Line Diagram	23044-404	P00
4.18	DB - Meter Frame Single Line Diagram	23044-409	P00
4.19	DB – GH Single Line Diagram	23044-410	P00
4.20	DB - MECH-E Single Line Diagram	23044-411	P00
4.21	Inverter Output DB Single Line Diagram	23044-412	P00
4.22	Changeover Distribution Board Single Line Diagram	23044-413	P00
4.23	DB-INVERTER LOAD Single Line Diagram	23044-414	P00
4.24	DB – Residence Single Line Diagram	23044-415	P00
4.25	Electrical Cable Schedule	23044-603	P00
4.26	Luminaire Schedule	23044-601	A
4.27	Generator Schedule	23044-602	0
4.28	GF Lightning Protection Layout	23044-900	P01
5.0	**MECHANICAL ENGINEERING DRAWINGS**		
	WET SERVICES		
5.1	Lower Ground Storey and First Storey Domestic Water Plan	D3924-DW-A0-01	0
5.2	Ground Storey Domestic Water Plan	D3924-DW-A0-02	0
5.3	Lower Ground and First Storey Sewer Plan	D3924-SW-A0-01	0
5.4	Ground Storey Sewer Plan	D0000-SW-A0-02	0
	HVAC		
5.5	Ground Floor- HVAC	D3924-ML-01	0
5.6	Lower and First Floor- HVAC	D3924-ML-02	0
	FIRE SERVICES		
5.7	Site Fire Protection Layout	D0000-MF-A0-01	0
5.8	Ground Foor Fire Protection Layout	D0000-MF-A0-02	0
5.9	Ground & Lower Ground Foor Fire Protection Layout	D0000-MF-A0-03	0
5.10	Fire Pump Room and Dedicated Fire Storage Tank Layout	D0000-MF-A1-04	0
5.11	Process Flow Diagram	D0000-MF-A1-05	0

C3.3.2. Construction Drawings

Construction drawings will, in terms of Clause 3.7 of the **JBCC** Principal Building Agreement Edition 4.1 of March 2005 be issued to the **contractor** by the **principal agent** on the commencement date and from time to time as required

The successful **contractor** will be supplied with three (3) sets of unreduced paper prints of each drawing free of charge. Any additional prints required will be for the account of the **contractor**

The **contractor** shall conform in all aspects to the drawings and specifications and to any written instructions, which the **principal agent** may provide him with during the contract

It is the **contractor**'s responsibility to ensure that work is carried out in accordance with the latest revision of the construction drawings

Only figured dimensions may be used, and the drawings shall not be scaled unless the **contractor** is so instructed by the **principal agent** in writing. The **principal agent** will upon written request provide any dimensions that may have been omitted from the drawings

Should any differences or contradictions exist in the documents or dimensions used in the documents, the **contractor** shall be responsible for obtaining clarification thereof from the **principal agent**. Such clarification shall be in writing and shall be final and binding

Should the **contractor** fail to seek clarification of any differences or contradictions, the **contractor** shall be solely liable for any costs that may arise due to his failure in this regard

C3.3.3. As-built drawings

The **contractor** shall mark up on drawings provided to him for this purpose the exact positions and details of all infrastructure, pipelines, and the like constructed under the contract, as well as the details of all existing services found during the contract. The marked-up drawings shall be handed to the **principal agent** monthly as the work progresses

C3.4. PLANT AND MATERIALS

C3.4.1. Plant and materials supplied by the employer

No plant and "free issue" materials are provided by the **employer**

C3.4.2. Materials, samples, and shop drawings

The **contractor** shall, at his own cost, supply all samples that may be required. Material or **works** not conforming to the approved samples shall be rejected. The **employer**'s **agent** reserves himself the right to submit samples to any tests to ensure that the material represented by the sample conforms to the requirements of the specifications

The recommendations of the manufacturers of patented materials must be strictly adhered to regarding the use, mixing, application, fastening, etc. thereof except when otherwise instructed in writing by the engineer

Where proprietary materials are specified, it is to indicate the quality or type of materials or articles required, and where the terms "or other approved", "or approved equivalent", or "similar approved" are used in connection with proprietary materials or articles, it is to be understood that the approval shall be at the sole discretion of the **employer**'

C3.5. ACCESS TO WORKS SITE

See item C4.5 of Part 4: Site Information

C3.6. EXISTING SERVICES

C3.6.1. Known services

Items have been allowed in the **bills of quantities** for dealing with and protecting existing services where they are known

The **contractor** shall take whatever extra precautions are required to protect all existing services from damage during the period of the contract. The **contractor** shall make use of hand excavation to expose services. Any damage to existing services indicated by the relevant service providers or other damage as a result thereof, shall be for the **contractor**'s account

The **contractor** shall engage with the **employer**, local authority and **principal agent** to identify the positions of all existing services. Such service positions must be compared to those indicated on the drawings and any additional services so located, must be brought to the attention of the **principal agent** and marked up on the drawings. These will then become known services.

All existing services shall be regarded as live and operational until otherwise advised by the responsible service provider or official

C3.6.2. Treatment of existing services

Before the **contractor** commences operations, he must discuss with and have the approval of the **employer**, authority, or owner concerned regarding the method he proposes to use for relocating or safeguarding any services and existing **works** he may encounter during construction

C3.6.3. Use of Detection Equipment

Where the presence of underground cables is suspected the **contractor** shall use such methods as necessary, including cable or metal detectors, to prevent unnecessary damage and consequent delay and cost of repair

C3.6.4. Damage to services

The **contractor** shall be responsible for any damage to such existing services and **works** in the execution of this contract and shall reimburse the **employer**, authority, or the owner concerned for any repairs required and for damages

The **contractor** shall be responsible for immediately notifying the **employer** or **employer**'s **agent** and the authorities concerned regarding any damage caused to public services and existing **works**

C3.7. ALTERATIONS, ADDITIONS, EXTENSIONS, AND MODIFICATIONS TO EXISTING WORKS

The **contractor** shall satisfy himself within 14 days of moving onto a site that the dimensional accuracy, alignment, levels, and setting out of existing structures or components thereof are compatible with the proposed works and procedures. Any discrepancies shall immediately be brought to the attention of the **principal agent** in writing where this is not the case

Failure by the **contractor** to timeously give written notice to the **principal agent** in this regard shall result in any claim for additional time and/or costs being rejected

New structures shall, as far as possible, match existing structures regarding the type of materials and finishes unless otherwise stated. The **contractor** shall provide the **employer**'s **agent** with samples of bricks, blocks, and other materials and finishes for approval at least 3 weeks prior to starting any work. Only once the **principal agent** has given approval may the **contractor** place orders for these materials

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C3.8. PERMITS AND WAY LEAVES

The **contractor** shall obtain the necessary approvals and shall be required to comply with the authorities, service providers, and landowners' / occupiers' requirements at all times

The **contractor** will be required to take cognizance of, and comply with, the general wayleave and 'permission to occupy' requirements of the authorities, service providers, and landowners/occupiers during the construction of the works

The **contractor** will be required to confirm that permission has been granted and that the authorities, service providers, landowners/ occupiers, and all affected parties have been informed of the **contractor**'s intentions before commencing work on each property

C3.9. MANAGEMENT OF THE WORKS

C3.9.1. Planning and programming

The programme shall be in the form of a bar chart (Gantt Chart) or similar acceptable time/activity form reflecting the proposed sequence and tempo of the various activities. The programme shall clearly indicate the critical path, the inter-dependency of activities, and the sequence in which the **contractor** proposes to construct the **works**

During the course of the contract, whenever a significant change occurs, the **contractor** shall submit a revised programme allowing the allocation of resources, to the **principal agent** for approval. The **contractor** shall update the programme whenever construction progress differs by more than a week from anticipated in the programme

C3.9.2. Quality plans and control

The onus to produce work which conforms in quality and accuracy of detail to the requirements of the specifications and drawings rests with the **contractor**, and the **contractor** shall, at his own expense, institute a quality-control system and provide experienced engineers, foremen, surveyors, materials technicians, other technicians, and technical staff, together with all transport, instruments, and equipment, to ensure adequate supervision and positive control of the **works** at all times

The costs of all supervision and process control, including testing thus carried out by the **contractor** shall be deemed to be included in the rates tendered for the related items of work

The **contractor**'s attention is drawn to the provisions of the various standardized specifications regarding the minimum frequency of testing that will be required for process control. The **contractor** shall, at his own discretion, increase this frequency where necessary to ensure adequate control

On completion of every part of the work and submission thereof to the engineer for examination, the **contractor** shall furnish the **employer**'s **agent** with the results of all relevant tests, measurements, and levels to indicate compliance with the specifications

The **contractor** shall at his own cost, supply all samples that may be required. Material or work not conforming to the approved samples shall be rejected. The engineer reserves the right to submit samples to any tests to ensure that the material represented by the sample conforms to the requirements of the specifications

No separate payment will be made for such testing by an approved independent laboratory, the costs of which will be deemed to be included in the **contractor**'s tendered rates for the various items of work requiring testing in accordance with the specifications

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The **contractor** shall provide a fortnightly progress report covering work that is the subject of a scope of works

C3.9.3. Payment Certificates

The **contractor** shall submit invoices at monthly intervals in terms of Clause 31.0 of **JBCC** Principal Building Agreement Edition 4.1 of March 2005 in respect of **works** completed during the preceding period and **materials and goods** on **site**. The work shall be measured according to the format of the **bills of quantities** and measurements should be taken together with the **employer**'s **agent** (e.g. quantity surveyor) and are subject to agreement as to the status of work completed

The **contractor** will submit his invoice, together with invoices and other supporting documentation to the **principal agent** in terms of contract

The **payment certificate** will be scrutinised by the **employer** prior to payment within the prescribed period stipulated on the contract. The **contractor** must ensure that, allowing for the time allowed for processing **payment certificates** by the **employer**, his invoice is submitted in good time to allow for the payment cycle to be met

The **contractor**'s tendered rates for the relevant items in the **bills of quantities** shall include full compensation for all possible additional costs which may arise from this, and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered

Each **payment certificate** must, where applicable, be accompanied by:

a) Monthly local content report

b) **Tax** Invoice

c) Labour intensive report

d) Contract participation and contract skills development goals reports

e) Supporting documentation for **materials and goods**

C3.9.4. Community Liaison Officer

It is the responsibility of the **contractor** to appoint a competent Community Liaison Officer (CLO) for the duration of the contract

The primary role of the CLO will be liaison and facilitation of communication which shall include

a) Represent the community and assist the **employer**, the **employer**'s **agent** and the **contractor** with communication between them and the community

b) Inform community regarding the project detail, safety precautions and programme.

c) Be available at the **site** offices when required in terms of the contract.

d) Assist with relocation of people, where applicable

e) Maintain and up-to-date record of potential employees within the community and provide the **contractor** with copies of this information

f) To identify, screen and nominate labour from the community in accordance with the **contractor**'s requirements and determine, in consultation with the **contractor**, the needs of local labour for employment and relevant technical training, where applicable.

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g) Liaise between principal **contractor** and labour regarding wages and conditions of employment.

h) Communicate daily with the principal **contractor** on labour related issues such as numbers and skills.

i) Identify possible labour disputes, unrest, strikes, etc., in advance and assist in their resolution.

j) Have a good working knowledge of the contents of the contents of the contract document regarding labour and training matters.

k) Attend all meetings at which the community and/or labour is represented or discussed.

l) Attend contract site meetings and report on community and labour issues of these meetings.

m) Co-ordinate and assist with the obtaining of information regarding the community's needs (questionnaires, etc.)

n) Inform local labour of their conditions of temporary employment, to ensure their timeous availability and to inform them they will be relieved.

o) Ensure that all labour involved in activities when tasks have been set, are fully informed of the principle of task-based work.

p) Attend disciplinary proceedings to ensure that hearings are fair and reasonable.

q) Keep a daily written record of interviews and community liaison.

r) Arrange venues for training if required.

s) Assist with the training and education of the community regarding the correct usage of the services, where applicable.

t) Any other duties that may became necessary as the works progress.

The CLO shall have no authority to issue any instructions to the **contractor**. The CLO shall be neutral to all parties and endeavor to remain impartial should any conflict arise

Responsibility for identifying a pool of suitable labour shall rest with the CLO, although the **contractor** shall have the right to choose from the pool. The **contractor** (and sub-contractors) shall have the right to determine the total number of labourers required at any one time, which may vary throughout the contract

The **contractor** shall have the right to replace labour that is not performing adequately and the replacement of any labour shall be done in conjunction with the CLO

Due cognizance must be taken of the risk of the Community Liaison Officer not being a member of the targeted community, and/or the Community Liaison Officer not being recommended by the Ward Councilor(s)

C3.10. **LABOUR-INTENSIVE WORK** **Applicable: Yes ☒ No ☐**

If yes;

Labour-intensive works shall be constructed/maintained using local workers who are temporarily employed in terms of the scope of work. Provided, however, that should adequate

and appropriate labour not be available within the locality, other labour may be employed to satisfactory proof that reasonable endeavor has been made to employ labour from the immediate locality

The **contractor** through the appointed CLO shall communicate with the local community leaders or project steering committee where applicable with purpose of negotiating with them regarding the utilization of local labour in the construction process

In this regard, the **contractor** shall furthermore give preference, wherever possible to the employment of single heads of households, women and youth. The **contractor** shall in general maximize the involvement of the local community

C3.10.1. Generic Labour-Intensive Specification

Contractors are referred to the Guidelines for the Implementation of Labour-intensive Infrastructure Projects under the Expanded Publics Works Programme (EPWP) for the generic labour-intensive specification (Hereinafter referred to as "Guideline") applicable to the contract

This specification establishes general requirements for activities which are to be executed by hand involving the following:

a) trenches having a depth of less than 1.5 metres

b) stormwater drainage

c) roads

d) sidewalks and non-motorised transport infrastructure

e) water and sanitation

Precedence

Where this specification is in conflict with any other standard or specification referred to in the C3: Scope of Works to this contract, the requirements of this specification shall prevail

Hand excavateable material

Hand excavateable material is:

a) granular materials:

i. whose consistency when profiled may in terms of table 2 be classified as very loose, loose, medium dense, or dense; or

ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

b) cohesive materials:

i. whose consistency when profiled may in terms of table 2 be classified as very soft, soft, firm, stiff and stiff / very stiff; or

ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

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i. A boulder is material with a particle size greater than 200mm, a cobble and gravel is material between 60 and 200mm

ii. A dynamic cone penetrometer is an instrument used to measure the in-situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used

Table 2: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	**DESCRIPTION**	**CONSISTENCY**	**DESCRIPTION**
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of a geological pick; requires many blows for excavation.	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

Trench excavation

All hand excavateable material in trenches having a depth of less than 1,5 metres shall be excavated by hand

Compaction of backfilling to trenches (areas not subject to traffic)

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Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers;

a) to 90% Mod AASHTO;

b) such that in excess of 5 blows of a dynamic come penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or

c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP

Excavation

All excavateable material including topsoil classified as hand excavateable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand. Any material which presents the possibility of danger or injury to workers shall not be excavated by hand

Clearing and grubbing

Grass and bushes shall be cleared by hand

Shaping

All shaping shall be undertaken by hand

Loading

All loading shall be done by hand. Haulage equipment should be selected in a manner that allows loading by hand to the greatest extent possible

Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilised for haulage

Spreading

All material shall be spread by hand

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved. Appropriate rollers should be used where higher (than can be achieved by hand) levels of compaction are required or for large areas

Grassing

All grassing shall be undertaking by sprigging, sodding, or seeding by hand

Stone pitching and rubble concrete masonry