

0.53mm Thick zinc / aluminium colour coated finish - Ultra steel AZ200 spelter G550 top coat (Non standard colour to Architect's approval) and backing coat (Non standard colour to Architect's approval), fixed to steel purlins (measured elsewhere) by approved brackets all in strict accordance with manufacturer's specification. Colours and type to Architect's approval (0, 0, H4, H5, H6)

21 Hip capping 550mm girth three times bent along girth and notched on site to suit profile. Complete with metal and poly closers

m 6

NOTE: The following items shall be deemed to fall into Work Group No. 134 for JBCC CPAP

**GALVANISED STEEL COLUMNS AND BEAMS**

Welded columns in single lengths with flat base cap, bearer and connection plates, bolted to concrete

22 100 x 100 x 4mm Square hollow section column

t 0.76

**GALVANISED STEEL TRUSSES**

Welded roof trusses of angle rafters, tie beams, rails, struts, braces, cleats, etc and flat bearer, gusset and connection plates, bolted to steel

23 100 x 55 IPE H-Section beam

t 0.35

24 100 x 50 x 20 x 2mm Cold formed lipped channel

t 0.74

NOTE: The following items shall be deemed to fall into Work Group No. 152 for JBCC CPAP

**PAINTWORK ETC. TO NEW WORK**

**ON METAL SURFACES**

"Sigma" or other equal and approved

One coat Sigma Zinc 160 @ 60 - 80 µm, one coat Sigma Cover 410 @ 125 - 150 µm, and two coats Sigma Sigmadur 550 @ 50 - 60 µm

25 Structural steel members (Provisional)

m2 112

Carried to Collection

Section No. 4  
Bill No. 2  
COVERED WALKWAYS, CANOPIES, ETC.

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

Section No. 4

Bill No. 2

COVERED WALKWAYS, CANOPIES, ETC.

**COLLECTION**

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Section No. 4

Bill No. 2

COVERED WALKWAYS, CANOPIES, ETC.

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SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION

Item No		Quantity	Rate	Amount
	<b><u>SECTION NO. 4</u></b>			
	<b><u>BILL NO. 3</u></b>			
	<b><u>DRY STACK RETAINING WALLS, FENCING, ETC. (PROVISIONAL)</u></b>			
	<b><u>SUBJECT TO ESCALATION AS INDICATED BELOW</u></b>			
	The Tenderer is referred to the relevant Clauses in the separate document General Preambles for Trades (2017 Edition)			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	Any reference to trade names in the Bills of Quantities or Architect's specification or drawings shall deem to mean "or similar and approved"			
	<b><u>THE FOLLOWING IN DRY STACK RETAINING WALLS, FENCING, ETC.</u></b>			
	<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP</u></b>			
	<b><u>EXCAVATION, ETC.</u></b>			
	<b><u>Excavation in earth or compacted filling not exceeding 2m deep</u></b>			
1	Trenches (LI)	m3	684	
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>			
2	Soft rock (LI)	m3	68	
3	Hard rock (LI)	m3	34	
	<b><u>Risk of collapse of excavations</u></b>			
4	Sides of trench and hole excavations not exceeding 1,5m deep (LI)	m2	410	
	<b>Carried to Collection</b>			R
	Section No. 4 Bill No. 3 YARD WALLS, FENCING, ETC.			

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SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION

**CARTING AWAY**

**Extra over all excavations for carting away**

5	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	684
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**FILLING, ETC.**

**G7 filling supplied and carted on site by the Contractor, compacted in layers not exceeding 150mm to 95% Mod. AASHTO density**

6	Behind dry stack retaining walls	m3	325
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**Selected granular fill compacted to 96% Mod AASHTO density**

7	Behind dry stack wall in small pockets	m3	141
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**Riversand fill compacted to 100% Mod AASHTO density**

8	Behind dry stack wall	m3	700
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**WEED KILLERS, INSECTICIDES, ETC**

**Soil insecticide in accordance with SANS 5859**

9	To bottoms and sides of trenches and holes (Certificate to be supplied before payment is made)	m2	410
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**NOTE: The following items shall be deemed to fall into Work Group No. 110 for JBCC CPAP**

**CONCRETE, FORMWORK AND REINFORCEMENT**

**UNREINFORCED CONCRETE**

**20MPa/19mm mass concrete**

10	In concrete infill and bedding to top layer of dry stack walling (LI)	m3	25
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**REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES**

Carried to Collection

Section No. 4  
Bill No. 3  
YARD WALLS, FENCING, ETC.

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

<b><u>25MPa/19mm mass concrete</u></b>		
11	Strip footings (LI)	m3 19
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 111 for JBCC CPAP</u></b>		
<b><u>ROUGH FORMWORK (DEGREE OF ACCURACY III)</u></b>		
<b><u>Rough formwork to sides</u></b>		
12	Edges, risers, ends and reveals not exceeding 300mm high (LI)	m 254
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 114 for JBCC CPAP</u></b>		
<b><u>REINFORCEMENT (PROVISIONAL)</u></b>		
<b><u>Fabric reinforcement</u></b>		
13	Type 245 fabric reinforcement in concrete surface beds, slabs, etc.	m2 80
14	Type 395 fabric reinforcement in concrete surface beds etc	m2 80
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 112 for JBCC CPAP</u></b>		
<b><u>PRECAST CONCRETE</u></b>		
<b><u>Dry stack wall</u></b>		
15	Geolock 400 or other equally approved dry stack wall not exceeding 1m	m2 127
16	Geolock 400 or other equally approved dry stack wall exceeding 1m and not exceeding 2m	m2 127
17	Geolock 400 or other equally approved dry stack wall exceeding 2m and not exceeding 3m	m2 105
18	Geolock 400 or other equally approved dry stack wall exceeding 3m and not exceeding 4m	m2 105

Carried to Collection

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YARD WALLS, FENCING, ETC.

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SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION

NOTE: The following items shall be deemed to fall into Work Group No. 146 for JBCC CPAP

**DRAINAGE**

**Sub-soil drainage**

19	110mm perforated subsoil drain pipe laid in long lengths bedded in 25mm stone all wrapped in 4mm bidem.	m	210
20	A2 bidem in wrapping around stone pockets	m2	700

**THE FOLLOWING IN GABIONS AND INTERLOCKING BLOCK RETAINING STRUCTURES**

NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP

**Excavation in earth not exceeding 2m deep**

21	Trenches (LI)	m3	120
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**Geotextile**

22	A2 bidim in wrapping around stone pockets	m2	700
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**Gabions of galvanised wire boxes laced together and filled with broken stone**

23	1000mm Thick retaining wall of 3 x 1 x 1m boxes properly bonded total height not exceeding 5m	m3	440
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**THE FOLLOWING IN CONCRETE RETAINING WALLS WITH BRICKWORK ABOVE GROUND**

NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP

**EXCAVATION, ETC.**

**Excavation in earth or compacted filling not exceeding 2m deep**

24	Trenches (LI)	m3	267
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Carried to Collection

Section No. 4  
Bill No. 3  
YARD WALLS, FENCING, ETC.

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

<b><u>Risk of collapse of excavations</u></b>		
25	Sides of trench and hole excavations not exceeding 1,5m deep (LI)	m2 26
26	Sides of trench and hole excavations exceeding 1,5m deep (LI)	m2 242
<b><u>CARTING AWAY</u></b>		
<b><u>Extra over all excavations for carting away</u></b>		
27	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3 78
<b><u>FILLING, ETC.</u></b>		
<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density</u></b>		
28	Backfilling to trenches, holes, etc	m3 189
<b><u>Compaction of ground surfaces</u></b>		
29	Compaction of natural or excavated ground surface under floors etc, including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density	m2 86
<b><u>WEED KILLERS, INSECTICIDES, ETC</u></b>		
<b><u>Soil insecticide in accordance with SANS 5859</u></b>		
30	To bottoms and sides of trenches etc	m2 354
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 110 for JBCC CPAP</u></b>		
<b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b>		
<b><u>UNREINFORCED CONCRETE</u></b>		
<b><u>15MPa/19mm concrete</u></b>		
31	Blinding under strip footings on excavated surfaces (LI)	m3 5

Carried to Collection

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YARD WALLS, FENCING, ETC.

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SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION

**REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES**

**25MPa/19 mm concrete**

32	Retaining wall footings (LI)	m3	45
33	Retaining walls, stepped and level (LI)	m3	35

**NOTE: The following items shall be deemed to fall into Work Group No. 111 for JBCC CPAP**

**ROUGH FORMWORK (DEGREE OF ACCURACY III)**

**Rough formwork to sides**

34	Edges, risers, ends and reveals not exceeding 300mm high or wide (LI)	m	140
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**SMOOTH FORMWORK (DEGREE OF ACCURACY II)**

**Smooth formwork to sides**

35	Retaining walls	m2	229
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**NOTE: The following items shall be deemed to fall into Work Group No. 114 for JBCC CPAP**

**REINFORCEMENT (PROVISIONAL)**

**Mild steel reinforcement**

36	Bars in various diameters	t	0.88
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**High tensile steel rod reinforcement to structural concrete work**

37	Bars in various diameters	t	7.88
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**NOTE: The following items shall be deemed to fall into Work Group No. 118 for JBCC CPAP**

**MASONRY**

Carried to Collection

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YARD WALLS, FENCING, ETC.

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

<b><u>Brickwork of NFP bricks in class II mortar</u></b>		
38	One brick walls (LI)	m2 168
<b><u>Bagging of 1:3 cement and sand mixture</u></b>		
39	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 168
<b><u>Joint forming material in movement joints</u></b>		
40	10mm Bitumen impregnated fibre board built in vertically between brick walls	m2 15
<b><u>2.5mm Galvanised brick reinforcement</u></b>		
41	150mm Wide reinforcement built in horizontally (LI)	m 1,008
<b><u>"Corobrik" or other equal and approved red clay face bricks in "Roan Satin" pointed with recessed horizontal and flush vertical joints</u></b>		
42	Extra over brickwork for face brickwork (LI)	m2 336
<b><u>THE FOLLOWING IN BOUNDARY WALLS</u></b>		
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP</u></b>		
<b><u>EXCAVATION, ETC.</u></b>		
<b><u>Excavation in earth or compacted filling not exceeding 2m deep</u></b>		
43	Trenches (LI)	m3 223
<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>		
44	Soft rock (LI)	m3 23
45	Hard rock (LI)	m3 12
<b><u>Risk of collapse of excavations</u></b>		
46	Sides of trench and hole excavations not exceeding 1,5m deep (LI)	m2 956

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YARD WALLS, FENCING, ETC.

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

**CARTING AWAY**

**Extra over all excavations for carting away**

47	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	140
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**FILLING, ETC.**

**Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density**

48	Backfilling to trenches, holes, etc. (LI)	m3	83
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**WEED KILLERS, INSECTICIDES, ETC**

**Soil insecticide in accordance with SANS 5859**

49	To bottoms and sides of trenches etc	m2	860
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**NOTE: The following items shall be deemed to fall into Work Group No. 110 for JBCC CPAP**

**CONCRETE, FORMWORK AND REINFORCEMENT**

**REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES**

**25MPa/19mm reinforced concrete**

50	Footings (LI)	m3	67
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**NOTE: The following items shall be deemed to fall into Work Group No. 111 for JBCC CPAP**

**ROUGH FORMWORK (DEGREE OF ACCURACY III)**

**Rough formwork to sides**

51	Edges, risers, ends and reveals not exceeding 300mm high or wide (LI)	m	637
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**NOTE: The following items shall be deemed to fall into Work Group No. 114 for JBCC CPAP**

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**REINFORCEMENT (PROVISIONAL)**

**High tensile steel reinforcement to structural concrete work**

52	Bars in various diameters	t	6.70	
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**NOTE: The following items shall be deemed to fall into Work Group No.112 for JBCC CPAP**

**PRECAST CONCRETE**

**Precast concrete coping finished smooth on exposed surfaces including bedding, jointing and pointing**

53	550 x 550 x 200mm Thick square coping weathered on top along one edge, with drip groove in bottom along one edge	No	165	
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**NOTE: The following items shall be deemed to fall into Work Group No. 118 for JBCC CPAP**

**MASONRY**

**Brickwork of NFP bricks in class II mortar**

54	One brick walls (LI)	m2	652	
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55	Piers (LI)	m3	63	
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**Bagging of 1:3 cement and sand mixture**

56	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	811	
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**Joint forming material in movement joints**

57	10mm Bitumen impregnated fibre board built in vertically between brick walls	m2	45	
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**2.5mm Galvanised brick reinforcement**

58	150mm Wide reinforcement built in horizontally (LI)	m	3,242	
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YARD WALLS, FENCING, ETC.

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SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION

	<u>"Corobrik" or other equal and approved red clay face bricks, in "Roan Satin" pointed with recessed horizontal and flush vertical joints</u>		
59	Extra over brickwork for face brickwork (LI)	m2	1,938
	<u>NOTE: The following items shall be deemed to fall into Work Group No. 114 for JBCC CPAP</u>		
	<u>METALWORK</u>		
	<u>Prison type anti-climb galvanized high security fencing 2m high in panel sizes 1640mm x 2 000mm including for framing capping plates, posts and bolting. Mesh panels shall be manufactured from high tensile Galfan Class A coated vertical and horizontal wires or other equally approved all in accordance with SANS 10244-2:2003 specifications.</u>		
60	Straight high security fencing	m	90
61	Pedestrian swing gate overall size 3m x 1.8m high formed of 50 x 38 x 2mm gate frame with two 75 x 75 x 3mm gate post each set in 25Mpa concrete bases size 400 x 400 x 600mm high. Complete with gate lock and hinges.	No	1
62	Prison type sliding gate, size 3600mm wide x 3000mm high, formed of 101.6 x 4.5mm galvanized frame including for mesh panel previously described complete with gate lock and hinges suitable for prisons.	No	2
	<u>Sundries</u>		
63	"Centurion Systems light industrial D10 Turbo™ 24V DC" or other equal and approved sliding gate operator, capable of handling a gate mass of 240kg - 1000kg at opening speed of 40 metres per minute with 2A 24V SM charger 2 x 7Ah battery and 2 x sets safety beams with 2 metre passive sensitive edge with anti lift cage and with P36 passive edge, complete with steel rack, including foundation plate. System to include Photon wireless infra red vehicle detection beams, installed in accordance with manufacturer's recommendations	No	2

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YARD WALLS, FENCING, ETC.

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

Section No. 4

Bill No. 3

YARD WALLS, FENCING, ETC.

**COLLECTION**

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YARD WALLS, FENCING, ETC.

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

Item No		Quantity	Rate	Amount
	<b><u>SECTION NO. 4</u></b>			
	<b><u>BILL NO. 4</u></b>			
	<b><u>STORMWATER (PROVISIONAL)</u></b>			
	<b><u>CPAP WORK GROUP NO. 146 UNLESS OTHERWISE STATED</u></b>			
	The Tenderer is referred to the relevant Clauses in the separate document General Preambles for Trades (2017 Edition)			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	Any reference to trade names in the Bills of Quantities or Architect's specification or drawings shall deem to mean "or similar and approved"			
	NOTE :All Civil works to be carried out in accordance with the standardised SANS 1200 specifications			
	<b><u>SUBSOIL DRAINAGE</u></b>			
	<b><u>Supply and lay underground uPvc Class 34 pipes including for excavation, bedding, backfilling, compaction, spoil disposal, etc.</u></b>			
1	110mm perforated subsoil drain pipe laid in long lengths bedded in 25mm stone all wrapped in 4mm bitem.	m	900	
	<b><u>PIPEWORK</u></b>			
	<b><u>Supply and lay Class 75D spigot and socket joint reinforced concrete pipes including excavation, bedding, backfilling, compaction, disposal of surplus material etc.</u></b>			
2	300mm Diameter pipe not exceeding 1m deep (LI)	m	11	
3	300mm Diameter pipe exceeding 1m and not exceeding 2m deep (LI)	m	430	
	<b>Carried to Collection</b>			R
	Section No. 4 Bill No. 4 STORMWATER DRAINAGE			R

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

4	300mm Diameter pipe exceeding 2m and not exceeding 3m deep (LI)	m	40
5	375mm Diameter pipe exceeding 1m and not exceeding 2m deep (LI)	m	11
6	375mm Diameter pipe exceeding 2m and not exceeding 3m deep (LI)	m	22
7	450mm Diameter pipe exceeding not exceeding 1m deep (LI)	m	12
8	450mm Diameter pipe exceeding 1m and not exceeding 2m deep (LI)	m	55
9	450mm Diameter pipe exceeding 2m and not exceeding 3m deep (LI)	m	17
10	450mm Diameter pipe exceeding 3m and not exceeding 4m deep (LI)	m	6
11	450mm Diameter pipe exceeding 4m and not exceeding 5m deep (LI)	m	22

**MANHOLES, KERB INLETS, CHAMBERS, ETC**

**1000mm Diameter precast concrete circular inspection chamber**

12	Inspection chamber exceeding 1m and not exceeding 2m deep to invert level (LI)	No	3
13	Inspection chamber exceeding 2m and not exceeding 3m deep to invert level (LI)	No	2

**Grid inlet 650 x 650mm on 150mm 25MPa concrete base, one brick walls, 150mm 25MPa reinforced concrete cover slab finished on exposed surfaces in untinted cement paving with angles rounded, with rebated opening for 450 x 450mm mentis grating and frame (elsewhere measured). The bottom benched up in fine 25MPa concrete including forming channel, all rendered smooth in 1:1 cement plaster.**

14	Grid inlet not exceeding 1m deep (LI)	No	3
15	Grid inlet exceeding 1m and not exceeding 2m deep (LI)	No	37

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STORMWATER DRAINAGE

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CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

16	Grid inlet exceeding 2m and not exceeding 3m deep (LI)	No	3
17	Grid inlet exceeding 3m and not exceeding 4m deep (LI)	No	1
18	Grid inlet exceeding 4m and not exceeding 5m deep (LI)	No	1
<b><u>Cast iron gratings, covers, etc.</u></b>			
19	550mm Diameter SABS Type 2B heavy duty cast iron manhole cover and frame with rotating lock system, with frame bedded in 3:1 cement mortar and cover sealed in tallow	No	6
20	450 x 450mm Mentis RS40 recta grid hot dipped galvanised including 50 x 50 x 5mm angle frame fixed in concrete with 20 x 5mm lugs at 300mm centre to centres	No	50
<b><u>CAST INSITU STORMWATER CHANNELS</u></b>			
<b><u>V-Drains</u></b>			
21	Mass concrete 25Mpa 20mm stone in open v-shaped channel extreme size 600mm wide x 200mm thick including for all preparation of ground surfaces, compaction, earthworks, concrete, formwork, mesh 245, and steel trowel finish to exposed surfaces	m	25
22	Extra over for angles, intersections, and ends	No	5
<b><u>THE FOLLOWING IN GRASS STORMWATER CHANNELS</u></b>			
<b><u>Stormwater grass channels</u></b>			
23	Excavate to form stormwater channel with 45 degree sloping sides 2m wide at bottom of channel and not exceeding 1000mm deep, with 150mm layer from excavations compacted to 93% Mod AASHTO density and 150mm layer of topsoil to receive natural occurring grass (LI)	m	45
24	Excavate to form stormwater channel with 45 degree sloping sides 3m wide at bottom of channel and not exceeding 1000mm deep, with 150mm layer from excavations compacted to 93% Mod AASHTO density and 150mm layer of topsoil to receive natural occurring grass (LI)	m	140

**Carried to Collection**

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STORMWATER DRAINAGE

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

25	Natural occurring grass to stormwater channel (LI)	m2	580
<b><u>TESTS, ETC.</u></b>			
26	Provide all necessary apparatus, etc for and test the whole of the Stormwater Drainage system to the satisfaction of the Representative/Agent, rectify all defective work free of charge and leave in perfect order		Item
<b><u>THE FOLLOWING IN DETENTION POND</u></b>			
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP</u></b>			
<b><u>EXCAVATIONS ETC</u></b>			
<b><u>Excavation in earth not exceeding 2m deep within basement</u></b>			
27	Not exceeding 2m deep (LI)	m3	110
<b><u>Extra over all excavations for carting away</u></b>			
28	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	110
<b><u>Risk of collapse of excavations</u></b>			
29	Sides of trench and hole excavations exceeding 1,5m deep (LI)	m2	74
<b><u>KEEPING EXCAVATIONS FREE OF WATER</u></b>			
<b><u>Keeping excavations free of water</u></b>			
30	Keeping excavations free of all water other than subterranean water		Item
<b><u>SOIL POISONING</u></b>			
<b><u>Soil insecticide in accordance with SANS 1165</u></b>			
31	Under floors, etc., including forming and poisoning shallow furrows against foundation walls, etc., filling in furrows and ramming	m2	140

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STORMWATER DRAINAGE

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**NOTE: The following items shall be deemed to fall into Work Group No. 110 for JBCC CPAP**

**UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES**

**20MPa/150mm concrete**

32	Surface beds cast in panels on waterproofing (LI)	m3	30
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**Finishing top surfaces of concrete smooth with a power float**

33	Surface beds, slabs, etc. (LI)	m2	140
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**Fabric reinforcement**

34	Type 617 fabric reinforcement horizontally in concrete surface beds etc	m2	140
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**Smooth formwork to sides**

35	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	55
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**WATERPROOFING (PROVISIONAL)**

**NOTE: The following items shall be deemed to fall into Work Group No. 120 for JBCC CPAP**

**DAMPPROOFING OF WALLS AND FLOORS**

**One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape**

36	Under surface beds (LI)	m2	140
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**THE FOLLOWING IN STILLING POND**

**EXCAVATIONS ETC**

**NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP**

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<b><u>Excavation in earth not exceeding 2m deep within basement</u></b>		
37	Not exceeding 2m deep (LI)	m3 110
<b><u>GABIONS AND INTERLOCKING BLOCK RETAINING STRUCTURES</u></b>		
<b><u>Gabions of galvanised wire boxes laced together and filled with broken stone</u></b>		
38	1000mm Thick retaining wall of 3 x 1 x 1m boxes properly bonded total height not exceeding 5m	m3 180
39	300mm Thick embankment protection of 6 x 2 x 0,3m mattresses with diaphragm divisions at 1m centres, butt jointed total height not exceeding 5m	m3 35
<b><u>FILTER FABRIC</u></b>		
<b><u>Geotextile A2 bidem</u></b>		
40	Under stone filled gabion mattresses including preparing ground surface under	m2 380
<b><u>THE FOLLOWING IN RAINWATER STORAGE TANKS</u></b>		
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP</u></b>		
<b><u>EXCAVATIONS ETC.</u></b>		
<b><u>Excavation in earth for basement</u></b>		
41	Not exceeding 2m deep (LI)	m3 48
<b><u>Extra over all excavations for carting away</u></b>		
42	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3 48
<b><u>Risk of collapse of excavations</u></b>		
43	Sides of excavations not exceeding 1,5m deep (LI)	m2 84

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				Item
	<b><u>Keeping excavations free of water</u></b>			
44	Keeping excavations free of all water other than subterranean water			
	<b><u>FILLING, ETC.</u></b>			
	<b><u>Filling of natural gravel material G5 supplied by the contractor, compacted to 95% Mod AASHTO density</u></b>			
45	Under floors, steps, paving, etc.	m3	48	
	<b><u>WEED KILLERS, INSECTICIDES, ETC.</u></b>			
	<b><u>Soil insecticide in accordance with SANS 5859</u></b>			
46	Under floors, etc., including forming and poisoning shallow furrows against foundation walls, etc., filling in furrows and ramming	m2	252	
	<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 110 for JBCC CPAP</u></b>			
	<b><u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>			
	<b><u>20MPa/150mm concrete</u></b>			
47	Slabs (LI)	m3	2	
	<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 120 for JBCC CPAP</u></b>			
	<b><u>DAMPPROOFING OF WALLS AND FLOORS</u></b>			
	<b><u>One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape</u></b>			
48	Under surface beds (LI)	m2	12	
	<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 146 for JBCC CPAP</u></b>			

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Pre-coated seamless aluminium downpipes fixed to walls with pre-painted downpipe cleats using nail in anchor fixings, installed in accordance with manufactures instructions, colour to Architects approval

49	100 x 75 x 0.6mm Thick rainwater downpipes with leaf trap and first flush diverter	m	24
50	50mm Diameter over flow pipe	m	24
51	Extra over rainwater pipe for bend.	No	24

**WATER SUPPLIES**

**TAPS, VALVES, ETC**

52	20mm Tank locking tap including hose union, 3mm galvanised plate, etc. with couplings for copper	No	12
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**TANKS, ETC.**

**Polyethylene drinking water tanks**

53	10 000 Litre circular slimline tank size 840mm diameter x 2060mm high, with access lid and inlet hole and tied down with 4 No. off 4mm galvanized double strap stay wires tied to galvanized mild steel M12 eye bolt of which is to be drilled and fixed to the 4 corners of concrete supporting base.	No	12
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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

Item No		Quantity	Rate	Amount
	<b><u>SECTION NO. 4</u></b>			
	<b><u>BILL NO. 5</u></b>			
	<b><u>SOIL DRAINAGE (PROVISIONAL)</u></b>			
	<b><u>CPAP WORK GROUP NO. 146 UNLESS OTHERWISE STATED</u></b>			
	The Tenderer is referred to the relevant Clauses in the separate document General Preambles for Trades (2017 Edition)			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	Any reference to trade names in the Bills of Quantities or Architect's specification or drawings shall deem to mean "or similar and approved"			
	NOTE :All Civil works to be carried out in accordance with the standardised SABS 1200 specifications			
	<b><u>PIPEWORK</u></b>			
	<b><u>uPVC pipes Heavy duty Class 34 for use under ground with uPVC couplings including excavation, bedding material, back filling, compaction, spoil disposal, etc.</u></b>			
1	110mm Diameter pipe not exceeding 1m deep (LI)	m	100	
2	110mm Diameter pipe exceeding 1m and not exceeding 2m deep (LI)	m	220	
3	110mm Diameter pipe exceeding 2m and not exceeding 3m deep (LI)	m	50	
	<b><u>Extra over uPVC pipes for fittings</u></b>			
4	110mm Bend (LI)	No	3	
5	110mm Access bend (LI)	No	2	
6	110mm Junction (LI)	No	1	
	<b>Carried to Collection</b>			R
	Section No. 4 Bill No. 5 SOIL DRAINAGE			

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CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

7	110mm Access junction (LI)	No	1
<b><u>Sundries</u></b>			
8	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in intermediate rock (LI)	m3	150
9	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock (LI)	m3	75
10	Mass concrete Class C encasing to horizontal pipes (LI)	m3	26
11	Mass concrete Class C encasing to vertical pipes (LI)	m3	5

**MANHOLES, ETC**

**Precast concrete manholes, 1000mm internal diameter, complete including all necessary excavations, precast manholes rings, in situ concrete bottom slabs (size 1280mm diameter) laid to falls (min thickness of slab 150mm and maximum thickness 350mm) with 20mm thick concrete topping, 150mm thick heavy duty precast cover slab, channels, finishes, step irons at 300mm centres, cast iron double seal manhole cover and frame (cover and frame elsewhere measured), etc. all joints sealed with 1:3 cement sand mix caulked in ring joints**

12	Manhole not exceeding 1m deep (LI)	No	5
13	Manhole exceeding 1m and not exceeding 2m deep (LI)	No	20
14	Manhole exceeding 2m and not exceeding 3m deep (LI)	No	5
15	Manhole exceeding 3m and not exceeding 4m deep (LI)	No	5

**Gratings, covers, etc**

16	560mm Diameter SABS Type 4A heavy duty cast iron double seal manhole cover and frame, with frame bedded in 3:1 cement mortar and cover sealed in tallow (LI)	No	35
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**THE FOLLOWING IN SOAK AWAY (ALL TRADES PROVISIONAL)**

**NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP**

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

<b><u>Excavation in earth or compacted filling not exceeding 2m deep</u></b>		
17	Holes (LI)	m3 100
<b><u>Extra over all excavations for carting away</u></b>		
18	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3 80
<b><u>Risk of collapse of excavations</u></b>		
19	Sides of trench and hole excavations exceeding 1,5m deep (LI)	m2 272
<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density</u></b>		
20	Backfilling to trenches, holes, etc. (LI)	m3 20
<b><u>Approved crushed stone filling supplied and carted on by the Contractor, compacted in layers not exceeding 150mm to 95% Mod. AASHTO density</u></b>		
21	Filling to trenches, holes, etc	m3 80
<b><u>Geotextile</u></b>		
22	A2 bidem in wrapping around stone pockets	m2 400
<b><u>Subsoil drainage</u></b>		
23	110mm perforated subsoil drain pipe laid in long lengths bedded in 25mm stone all wrapped in 4mm bidem.	m 100
<b><u>Testing</u></b>		
24	Pressure testing drainage pipe system	Item
25	Testing drainage system for open flow by means of drawing a badger through system	Item

**THE FOLLOWING IN EVAPOTRASPIRATION  
(ALL TRADES PROVISIONAL)**

**NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP**

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**SOUTH AFRICAN POLICE SERVICES  
CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

<b><u>Excavation in earth or compacted filling not exceeding 2m deep</u></b>		
26	Holes (LI)	m3 1,380
<b><u>Extra over all excavations for carting away</u></b>		
27	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3 1,380
<b><u>Risk of collapse of excavations</u></b>		
28	Sides of trench and hole excavations exceeding 1,5m deep (LI)	m2 444
<b><u>Approved G9 filling supplied and carted on by the Contractor, compacted in layers not exceeding 150mm to 93% Mod. AASHTO density</u></b>		
29	Fill to platform	m3 4,950
<b><u>GRASSING, ETC</u></b>		
<b><u>Ground preparation</u></b>		
30	Cultivation and preparation of areas to be planted including "Cannas" or other equal and approved water-thirsty shrubs	m2 2,750
<b><u>Topsoil supplied by the contractor, including spreading and levelling</u></b>		
31	In plant beds, grassed areas and holes for trees, shrubs, etc	m3 560
<b><u>Grassing of rolls approximately 50mm thick</u></b>		
32	"Kikuyu" grass over site	m2 2,750

**THE FOLLOWING IN SEPTIC TANK (ALL TRADES PROVISIONAL)**

The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition)

**NOTE: The following items shall be deemed to fall into Work Group No. 104 for JBCC CPAP**

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CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION

**EXCAVATION OTHER THAN BULK**

**Excavation in earth not exceeding 2m deep**

33	Holes (Tank) (LI)	m3	46
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**Excavation in earth exceeding 2m and not exceeding 4m deep**

34	Holes (Tank) (LI)	m3	9
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**Back excavation of vertical sides of excavation in earth for working space including backfilling compacted to 98% Mod. AASHTO density**

35	Not exceeding 1,5m deep, etc. 300mm away from excavated face	m2	26
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36	Exceeding 1,5m and not exceeding 3m deep, etc. 300mm away from excavated face	m2	15
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**Extra over bulk excavations in earth for excavation in**

37	Soft rock (LI)	m3	4
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38	Hard rock (LI)	m3	2
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**Extra over back excavation in earth for working space for excavation in soft rock**

39	Not exceeding 1,5m deep, etc. 300mm away from excavated face	m2	26
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40	Exceeding 1,5m and not exceeding 3m deep, etc. 300mm away from excavated face	m2	15
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**Extra over back excavation in earth for working space for excavation in hard rock**

41	Not exceeding 1,5m deep, etc. 300mm away from excavated face	m2	26
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42	Exceeding 1,5m and not exceeding 3m deep, etc. 300mm away from excavated face	m2	15
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CONSTRUCTION OF THE NEW BHOSIKI POLICE STATION**

<b><u>Extra over all excavations for carting away</u></b>		
43	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor	m3 49
<b><u>Risk of collapse of excavations</u></b>		
44	Sides of trench and hole excavations exceeding 1,5m deep (LI)	m2 41
<b><u>Keeping excavations free of water</u></b>		
45	Keeping excavations free of all water other than subterranean water.	Item
<b><u>EARTH FILLING, ETC</u></b>		
<b><u>Filling with material from the excavations compacted to a density of at least 95% Mod. AASHTO maximum density</u></b>		
46	Backfilling to trenches, holes, etc. (LI)	m3 6
<b><u>Compaction of surfaces</u></b>		
47	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 98% Mod. AASHTO density.	m2 78
<b><u>Filling supplied by the contractor under parking areas, roadways, etc</u></b>		
48	Subbase course of G5 natural gravel material, compacted to 98% Mod AASHTO density	m3 10
<b><u>Prescribed density tests on filling</u></b>		
49	"Modified AASHTO Density" test	No 3
50	"Field Density" test including "Optimum Moisture Content" (four readings per test)	No 3

**SOIL POISONING**

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Soil insecticide in accordance with SANS 5859

51 Under floors etc including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming m2 78

NOTE: The following items shall be deemed to fall into Work Group No. 110 for JBCC CPAP

UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

10MPa Concrete

52 Surface blinding under footings and bases (LI) m3 4

REINFORCED CONCRETE CAST AGAINST/ON FORMWORK

30MPa/19mm concrete

53 Tank bases (LI) m3 12

54 Slabs including beams and inverted beams (LI) m3 12

CONCRETE SUNDRIES

Finishing top surfaces of concrete smooth with a wood float

55 Surface beds, slabs, etc. (LI) m2 78

TEST BLOCKS

Test blocks

56 Making and testing set of three 150 x 150 x 150mm concrete strength test cubes (Provisional) No 9

NOTE: The following items shall be deemed to fall into Work Group No. 111 for JBCC CPAP

ROUGH FORMWORK (DEGREE OF ACCURACY II)

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<b><u>Rough formwork to sides</u></b>			
57	Edges, risers, ends and reveals not exceeding 300mm high or wide (LI)	m	34
<b><u>Rough formwork to soffits</u></b>			
58	Slabs, propped up exceeding 1.5m and not exceeding 3.5m high (LI)	m2	17
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 114 for JBCC CPAP</u></b>			
<b><u>REINFORCEMENT</u></b>			
<b><u>Mild/High tensile steel reinforcement to structural concrete work</u></b>			
59	Bars of varying diameter	t	14.50
<b><u>Core drilling hole exceeding 150mm and not exceeding 200mm diameter</u></b>			
60	Coring 160mm diameter hole through reinforced concrete exceeding 200mm and not exceeding 300mm thick including applying two coats of "SIKATOP ARMATEC 110" paint to existing rebar ends (only if instructed by Principal Agent)	No	3
<b><u>NOTE: The following items shall be deemed to fall into Work Group No. 118 for JBCC CPAP</u></b>			
<b><u>BRICKWORK</u></b>			
<b><u>FOUNDATIONS (PROVISIONAL)</u></b>			
<b><u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar</u></b>			
61	One brick walls	m2	54
62	Half brick walls	m2	12
<b><u>Coring</u></b>			
63	Coring 75mm diameter hole through reinforced concrete not exceeding 150mm thick including applying two coats of "SIKATOP ARMATEC 110" paint to existing rebar ends (only if instructed by Principal Agent)	No	8
<b>Carried to Collection</b>			
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