

Item No		Quantity	Rate	Amount R
	<u>SECTION No. 5</u>			
	<u>BILL No. 1</u>			
	<u>EXTERNAL WORKS (PROVISIONAL)</u>			
	<u>MODEL PREAMBLES</u>			
	<u>The tenderer is referred to the "Model Preambles for Trades 2008" for supplementary and comprehensive expansion of descriptions, appropriate provision for which shall be deemed to have been included in all relevant rates</u>			
	<u>THE FOLLOWING IN PLATFORMS, ETC.</u>			
	<u>Site Clearance, ETC</u>			
1	Allow for clearing the area of the site to be built upon of all grass, weeds, shrubs, trees with trunks not exceeding 200mm girth, debris, etc., including grubbing up all roots, scoffling up as required and cart away all vegetation and debris.	m ²	870	
2	Stripping average 200mm thick layer of topsoil and stockpiling on site.	m ²	700	
	<u>Open face excavation not exceeding 2m deep:</u>			
3	Excavate to cut in open face, not exceeding 2m deep to reduce levels and grade to fill and compact to 93% mod AASHTO density at optimum moisture content.	m ³	60	
	<u>Extra over all excavations for carting away:</u>			
4	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor.	m ³	135	
	<u>Earth filling from excavated material</u>			
5	Dig, load and remove filling selected from spoil heaps on site and deposit as filling in platforms including spreading and compacting to cambers and falls in layers not exceeding 150 mm thick to a minimum of 95% Modified AASHTO dry density.	m ³	120	
	Carried Forward		R	
	SECTION 1 - EXTERNAL WORKS			
	Bill No. 1			
	External works			
	Phembukuthula External Works			

Brought Forward			R
<u>Filling supplied by the contractor to form platforms</u>			
6	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	35
<u>Surface Preparation:</u>			
7	Trim and level off surface of ground (excavated or filled under this Contract) including excavating or filling, ripping and scarifying as necessary and compacting the whole area for a depth of 300mm to a density of at least 90% Mod. AASHTO maximum density, part to falls.	m ²	641
<u>Prescribed density tests on filling:</u>			
8	Modified AASHTO Density test.	No	6
<u>THE FOLLOWING IN WALKWAYS</u>			
<u>Excavation not exceeding 2m deep</u>			
9	Reducing levels and depositing excavated material in prescribed stock piles on site.	m ³	195
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
10	Off site to a dumping site to be found by the Contractor.	m ³	195
<u>Filling supplied by the contractor under walkways</u>			
11	G7 Base course material compacted to 98% Mod AASHTO density	m ³	65
12	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	65
<u>Rip and Re - compact insitu material on site compacted to 93% Mod. AASHTO density:</u>			
13	Under floors,etc.	m ²	425
Carried Forward			R
SECTION 1 - EXTERNAL WORKS			
Bill No. 1			
External works			
Phembukuthula External Works			

Brought Forward				R
<u>Prescribed density tests on filling:</u>				
14	In-situ dry density test.	No	6	
<u>Approved brand of anti-termite soil poison applied by a Registered Pest Control Company and guaranteed against termite infestation for ten years:</u>				
15	Treat filling under paving with 'Chlordane Heptachlor Aldrin' or equal approved.	m ²	425	
<u>Concrete Paving Blocks</u>				
<u>Paving of 50mm thick 200x100mm 25MPa Bevel Bond paver blocks grey in colour in herringbone pattern on and including 20mm thick sand bed with dry filler sand swept and vibrated into joints all laid on subgrade (elsewhere measured) conforming to SABS 1200D degree of accuracy I:</u>				
16	Paving to walkway areas, etc laid to falls.	m ²	425	
<u>Kerbing</u>				
<u>Precast or in situ mass concrete (25 MPa - 19 mm stone) kerbs cast in convenient lengths with exposed faces finished smooth from the mould and all salient angles rounded, jointed and pointed in 1:3 cement mortar, including excavations, formwork, etc.</u>				
17	Figure 8B (300 x 275 x 175mm) semi mountable kerb laid in lengths not exceeding 1000mm on a well rammed earth bottom or base course.	m	120	
18	Ditto but circular on plan.	m	18	
<u>THE FOLLOWING IN ONE BRICK WALL (GARDEN WALL)</u>				
<u>Excavation in earth not exceeding 2m deep:</u>				
19	Trenches.	m ³	45	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS Bill No. 1 External works Phembukuthula External Works				

Brought Forward				R
<u>Extra over all excavations for carting away:</u>				
20	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m ³	25	
<u>Risk of collapse of excavations:</u>				
21	Sides of trench and hole excavations not exceeding 1,5m deep.	m ²	150	
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u>				
22	Backfilling to trenches, holes, etc.	m ³	22	
<u>Filling supplied by the contractor under strip footing</u>				
23	G7 Base course material compacted to 98% Mod AASHTO density	m ³	12	
24	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	12	
<u>Compaction of surfaces</u>				
25	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 90% Mod AASHTO density.	m ²	350	
<u>25 Mpa/19mm Concrete</u>				
26	Strip footings.	m ³	15	
<u>Test blocks:</u>				
27	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6	
<u>Reinforcement (Provisional)</u>				
28	High tensile steel reinforcement bars to structural concrete work.	t	2.00	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward				R
<u>BRICKWORK IN FOUNDATIONS.</u>				
<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in Class I mortar (Cement to be 42.5N all-purpose cement):</u>				
29	One brick walls.	m ²	37	
<u>Brickwork reinforcement:</u>				
30	230mm Wide reinforcement built in horizontally.	m	220	
31	Ditto but in foundations.	m	85	
<u>FACE BRICK</u>				
<u>Rustgold FBS/Qunu Travertine clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints, suitable for exposure zones 1-2 (Cement to be 42.5N all-purpose cement):</u>				
32	One brickwall faced on both sides.	m ²	40	
<u>Brick-on-edge header course copings, sills, etc, of "Rustgold FBS/Qunu Travertine" or equal approved face bricks pointed with recessed joints on all exposed faces, 220mm wide sill set sloping and slightly projecting:</u>				
33	230mm wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on top and both sides as described.	m	95	
<u>STORMWATER CHANNELS</u>				
<u>Excavation not exceeding 2m deep</u>				
34	Reducing levels and depositing excavated material in prescribed stock piles on site.	m ³	33	
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>				
35	Off site to a dumping site to be found by the Contractor.	m ³	33	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward			R
<u>Filling supplied by the contractor under channels</u>			
36	G7 Base course material compacted to 98% Mod AASHTO density	m ³	34
37	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	34
<u>Cast in-situ Ref 395 mesh reinforced concrete (25MPa) open stormwater channels having V-shaped waterway formed in top, finished smooth on all exposed surfaces in 3:1 cement plaster trowelled smooth and with angles rounded, cast in suitable lengths not exceeding 2m, including all formwork, moulds, shallow excavation, filling and ramming, laying to falls, bedding and pointing in 3:1 cement mortar. Concrete apron to be tinted, colour to be specified by the Engineer.</u>			
38	700 x 80mm thick V' channel 150mm deep in centre laid in position in ground in 2000mm sections including all formwork, reinforcement, expansion joints, smooth finishing to top of concrete surface etc.	m	220
39	Extra for 700mm angle	No	6
40	Extra for forming 200mm thick 700mm wide spreader with 200mm high edges fanning out to 1 960mm width at furthest end with hard burnt bricks pitching cast in ass diffusers including working off concrete to a smooth finish and draining onto natural ground with 150 - 200mm diameter loose stones.	No	6
<u>THE FOLLOWING IN DISABLED ACCESS</u>			
<u>SCREEN WALL</u>			
<u>Excavation in earth not exceeding 2m deep:</u>			
41	Trenches.	m ³	15
<u>Extra over all excavations for carting away:</u>			
42	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m ³	12
Carried Forward			R
SECTION 1 - EXTERNAL WORKS Bill No. 1 External works Phembukuthula External Works			

Brought Forward				R
<u>Risk of collapse of excavations:</u>				
43	Sides of trench and hole excavations not exceeding 1,5m deep.	m ²	18	
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u>				
44	Backfilling to trenches, holes, etc.	m ³	9	
<u>Filling supplied by the contractor under strip footing</u>				
45	G7 Base course material compacted to 98% Mod AASHTO density	m ³	13	
46	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	12	
<u>Compaction of surfaces</u>				
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 90% Mod AASHTO density.	m ²	7	
<u>25 Mpa/19mm Concrete</u>				
48	Strip footings.	m ³	1	
<u>Test blocks:</u>				
49	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6	
<u>Reinforcement (Provisional)</u>				
50	High tensile steel reinforcement bars to structural concrete work.	t	20.00	
<u>BRICKWORK IN FOUNDATIONS.</u>				
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

	Brought Forward			R
	<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in Class I mortar (Cement to be 42.5N all-purpose cement):</u>			
51	One brick walls.	m ²	65	
	<u>BRICKWORK IN SUPERSTRUCTURE</u>			
	<u>Brickwork reinforcement:</u>			
52	230mm Wide reinforcement built in horizontally.	m	55	
53	Ditto but in foundations.	m	65	
	<u>FACE BRICK</u>			
	<u>Rustgold FBS/Qunu Travertine clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints, suitable for exposure zones 1-2 (Cement to be 42.5N all-purpose cement):</u>			
54	One brickwall faced on both sides.	m ²	22	
	<u>Brick-on-edge header course copings, sills, etc, of "Rustgold FBS/Qunu Travertine" or equal approved face bricks pointed with recessed joints on all exposed faces, 220mm wide sill set sloping and slightly projecting:</u>			
55	230mm wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on top and both sides as described.	m	55	
	<u>ACCESS RAMPS</u>			
	<u>Excavation not exceeding 2m deep</u>			
56	Reducing levels and depositing excavated material in prescribed stock piles on site.	m ³	9	
	<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
57	Off site to a dumping site to be found by the Contractor.	m ³	9	
	Carried Forward			R
	SECTION 1 - EXTERNAL WORKS			
	Bill No. 1			
	External works			
	Phembukuthula External Works			

Brought Forward				R
<u>Filling supplied by the contractor under floors, aprons, etc</u>				
58	G7 Base course material compacted to 98% Mod AASHTO density	m ³	4	
59	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	4	
<u>Coarse river sand filling supplied by the contractor:</u>				
60	Under floors etc.	m ³	6	
<u>Compaction of surfaces:</u>				
61	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 90% Mod AASHTO density.	m ²	80	
<u>Prescribed density tests on filling:</u>				
62	In-situ dry density test.	No	2	
<u>Reinforced 25Mpa/19mm Concrete:</u>				
63	Ramps, Landings, etc.	m ³	22	
<u>Finishing top surfaces of concrete smooth with a wood float:</u>				
64	Surface beds, slabs, etc to falls and currents.	m ²	80	
<u>Test blocks:</u>				
65	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6	
<u>Expansion joints with bitumen impregnated softboard between vertical concrete or brick surfaces:</u>				
66	12mm Joints not exceeding 300mm high.	m	65	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward				R
<u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u>				
67	10 x 12mm In movement joints in floors or walls including raking out expansion joint filler as necessary.	m	65	
<u>Fabric reinforcement:</u>				
68	REF. 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	85	
<u>Waterproofing under Surface beds</u>				
69	350 Micron USB orange polyethylene dampproof membrane in accordance with SABS 952 Type C laid on sand bed (elsewhere measured).	m ²	85	
<u>THE FOLLOWING IN ACCESS DRIVEWAY, ETC.</u>				
<u>Excavation not exceeding 2m deep</u>				
70	Reducing levels and depositing excavated material in prescribed stock piles on site.	m ³	190	
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>				
71	Off site to a dumping site to be found by the Contractor.	m ³	190	
<u>Filling supplied by the contractor under driveways</u>				
72	G7 Base course material compacted to 98% Mod AASHTO density	m ³	90	
73	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	90	
<u>Rip and Re - compact insitu material on site compacted to 93% Mod. AASHTO density:</u>				
74	Under floors,etc.	m ²	450	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward				R
<u>Prescribed density tests on filling:</u>				
75	In-situ dry density test.	No	3	
<u>Approved brand of anti-termite soil poison applied by a Registered Pest Control Company and guaranteed against termite infestation for ten years:</u>				
76	Treat filling under paving with 'Chlordane Heptachlor Aldrin' or equal approved.	m ²	450	
<u>150-175mm diameter bollards</u>				
77	2100mm long tanalith treated gum pole planted 800mm deep including excavations, cartaways, concrete base etc.	No	67	
<u>THE FOLLOWING IN RETAINING WALLS, ETC.</u>				
<u>Excavation in earth not exceeding 2m deep</u>				
78	Trenches.	m ³	14	
<u>Risk of collapse of excavations:</u>				
79	Sides of trench and hole excavations not exceeding 1,5m deep.	m ²	40	
<u>Keeping excavations free of water:</u>				
80	Keeping excavations free of all water other than subterranean water.		Item	
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>				
81	Off site to a dumping site to be found by the Contractor.	m ³	14	
<u>Filling with approved clean, hard, dry decomposed dolerite filling supplied and carted onto site by the Contractor, compacted to a density of at least 95% Mod. AASHTO maximum density:</u>				
82	Behind walls with selected backfilling supplied by the Contractor compacted to 98% Mod ASSHTO density	m ³	5	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward			R
<u>Compaction of surfaces</u>			
83	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 90% Mod AASHTO density.	m ²	14
<u>15Mpa/19mm unreinforced concrete</u>			
84	Surface blinding under footings and bases.	m ³	1
<u>30Mpa/19mm reinforced concrete</u>			
85	Strip footings.	m ³	3
86	Cavity walls.	m ³	2
<u>Test blocks:</u>			
87	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	3
<u>Fabric reinforcement:</u>			
88	REF. 395 fabric reinforcement in concrete infill, strip footings.	m ²	22
<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in Class I mortar (Cement to be 42.5N all-purpose cement):</u>			
89	One brickwalls in foundations	m ²	10
90	One brick walls	m ²	12
<u>Brickwork reinforcement:</u>			
91	230mm Wide reinforcement built in horizontally.	m	85
Carried Forward			R
SECTION 1 - EXTERNAL WORKS			
Bill No. 1			
External works			
Phembukuthula External Works			

Brought Forward				R
	<u>Rustgold FBS/Qunu Travertine clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints, suitable for exposure zones 1-2 (Cement to be 42.5N all-purpose cement):</u>			
92	Extra over brickwork for face brickwork externally.	m ²	12	
	<u>Brick-on-edge header course copings, sills, etc. of "Rustgold FBS/Qunu Travertine" or equal Architect approved clay face brick size 222 x 106 x 73mm, pointed with recessed joints on all exposed faces:</u>			
93	220mm Wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on top and both sides as described.	m	20	
	<u>Openings in Walls etc.</u>			
94	Leave or form 32mm weephole through one brick wall	No	30	
	<u>Membranes</u>			
	<u>Geofabric filter blanket wrapped around stone with 300mm side and 300mm end laps, including stitching.[m2 24 65.00 1 560.00 14/12/2022 12:30:44]</u>			
	<u>Earth filling 300 x 300mm section of 19mm thick stone material surrounding 110mm uPVC pipe, supplied by the contractor compacted to 98% Mod AASHTO density:</u>			
95	19mm Stone.	m ³	2	
	<u>THE FOLLOWING IN STORMWATER DRAINAGE, APRONS ETC.</u>			
	<u>STORMWATER APRONS</u>			
	<u>Excavation not exceeding 2m deep</u>			
96	Reducing levels and depositing excavated material in prescribed stock piles on site.	m ³	15	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward				R
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>				
97	Off site to a dumping site to be found by the Contractor.	m ³	15	
<u>Filling supplied by the contractor under floors, aprons, etc</u>				
98	G7 Base course material compacted to 98% Mod AASHTO density	m ³	4	
99	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	4	
<u>Coarse river sand filling supplied by the contractor:</u>				
100	Under floors etc.	m ³	1	
<u>Compaction of surfaces:</u>				
101	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 90% Mod AASHTO density.	m ²	28	
<u>Prescribed density tests on filling:</u>				
102	In-situ dry density test.	No	3	
<u>Reinforced 25Mpa/19mm Concrete:</u>				
103	Surface beds cast in panels on waterproofing.	m ³	3	
104	Edge thickening	m ³	2	
<u>Finishing top surfaces of concrete smooth with a wood float:</u>				
105	Surface beds, slabs, etc to falls and currents.	m ²	28	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward			R
<u>Test blocks:</u>			
106	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6
<u>Expansion joints with bitumen impregnated softboard between vertical concrete or brick surfaces:</u>			
107	12mm Joints not exceeding 300mm high.	m	18
<u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u>			
108	10 x 12mm In movement joints in floors or walls including raking out expansion joint filler as necessary.	m	18
<u>Fabric reinforcement:</u>			
109	REF. 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	28
<u>Waterproofing under Surface beds</u>			
110	350 Micron USB orange polyethylene dampproof membrane in accordance with SABS 952 Type C laid on sand bed (elsewhere measured).	m ²	28
<u>STORMWATER CHANNELS</u>			
<u>Excavation not exceeding 2m deep</u>			
111	Reducing levels and depositing excavated material in prescribed stock piles on site.	m ³	78
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
112	Off site to a dumping site to be found by the Contractor.	m ³	78
<u>Filling supplied by the contractor under channels</u>			
113	G7 Base course material compacted to 98% Mod AASHTO density	m ³	25
Carried Forward			R
SECTION 1 - EXTERNAL WORKS			
Bill No. 1			
External works			
Phembukuthula External Works			

Brought Forward			R
114	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	25
	<u>Cast in-situ Ref 395 mesh reinforced concrete (25MPa) open stormwater channels having V-shaped waterway formed in top, finished smooth on all exposed surfaces in 3:1 cement plaster trowelled smooth and with angles rounded, cast in suitable lengths not exceeding 2m, including all formwork, moulds, shallow excavation, filling and ramming, laying to falls, bedding and pointing in 3:1 cement mortar. Concrete apron to be tinted, colour to be specified by the Engineer.</u>		
115	700 x 80mm thick V' channel 150mm deep in centre laid in position in ground not exceeding 2000mm sections including all formwork, reinforcement, expansion joints, smooth finishing to top of concrete surface etc.	m	236
116	Extra for 700mm angle	No	2
117	Extra for forming 200mm thick 700mm wide spreader with 200mm high edges fanning out to 1 960mm width at furthest end with hard burnt bricks pitching cast in ass diffusers including working off concrete to a smooth finish and draining onto natural ground with 150 - 200mm diameter loose stones.	No	2
	<u>Sundries:</u>		
118	Create earth berm for stormwater control with in situ material 1,5m wide at base x 500mm high	m	50
	<u>THE FOLLOWING IN STORMWATER DISH DRAIN, ETC.</u>		
	<u>Excavation not exceeding 2m deep</u>		
119	Reducing levels and depositing excavated material in prescribed stock piles on site.	m ³	54
Carried Forward			R
SECTION 1 - EXTERNAL WORKS			
Bill No. 1			
External works			
Phembukuthula External Works			

Brought Forward				R
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>				
120	Off site to a dumping site to be found by the Contractor.	m ³	54	
<u>Filling supplied by the contractor under floors, aprons, channels etc</u>				
121	G7 Base course material compacted to 98% Mod AASHTO density	m ³	18	
122	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	18	
<u>Coarse river sand filling supplied by the contractor:</u>				
123	Under floors etc.	m ³	6	
<u>Compaction of surfaces:</u>				
124	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 90% Mod AASHTO density.	m ²	120	
<u>Prescribed density tests on filling:</u>				
125	In-situ dry density test.	No	3	
<u>Reinforced 25Mpa/19mm Concrete:</u>				
126	Surface beds cast in panels on waterproofing.	m ³	18	
<u>Finishing top surfaces of concrete smooth with a wood float:</u>				
127	Surface beds, slabs, etc to falls and currents.	m ²	120	
<u>Test blocks:</u>				
128	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward				R
	<u>Expansion joints with bitumen impregnated softboard between vertical concrete or brick surfaces:</u>			
129	12mm Joints not exceeding 300mm high.	m	60	
	<u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u>			
130	10 x 12mm In movement joints in floors or walls including raking out expansion joint filler as necessary.	m	60	
	<u>Fabric reinforcement:</u>			
131	REF. 617 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	120	
	<u>THE FOLLOWING IN SUB-SOIL DRAINAGE, ETC.</u>			
	<u>Site Clearance, ETC</u>			
132	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m ²	60	
	<u>Excavation in earth not exceeding 2m deep:</u>			
133	Trenches.	m ³	9	
	<u>Extra over all excavations for carting away:</u>			
134	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m ³	9	
	<u>Risk of collapse of excavations:</u>			
135	Sides of trench and hole excavations not exceeding 1,5m deep.	m ²	36	
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u>			
136	Backfilling to trenches, holes, etc.	m ³	4	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward				R
<u>Earth filling 300 x 300mm section of 19mm thick stone material surrounding 110mm uPVC pipe, supplied by the contractor compacted to 98% Mod AASHTO density:</u>				
137	19mm Stone.	m ³	3	
<u>Membrane</u>				
138	Geofabric filter blanket wrapped around stone with 150mm side and 300mm end laps, including stitching.	m ²	36	
<u>Keeping excavations free of water:</u>				
139	Keeping excavations free from mud and all water including subterranean sources.		Item	
<u>Compaction of surfaces</u>				
140	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 90% Mod AASHTO density.	m ²	15	
<u>SOIL DRAINAGE</u>				
<u>110mm Diameter perforated uPVC pipe surrounded with 300 x 300mm section of 20mm stone wrapped in A3 geotextile material.</u>				
141	110mm uPVC pipe.	m	30	
<u>Extra for:</u>				
142	110mm Tee.	No	3	
143	110mm Y junction.	No	2	
<u>THE FOLLOWING IN SOAKAWAY</u>				
<u>Site Clearance, Etc</u>				
144	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m ²	12	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward				R
<u>Excavation in earth not exceeding 2m deep:</u>				
145	Holes	m ³	4	
<u>Extra over all excavations for carting away</u>				
146	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor within 5km from the building site	m ³	4	
<u>Risk of collapse of excavations</u>				
147	Sides of trench and hole excavations exceeding 1,5m deep but not exceeding 3,0m deep	m ²	16	
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 90% Mod AASHTO density</u>				
148	Backfilling to holes	m ³	2	
<u>Earth filling with stone material supplied by the contractor:</u>				
149	Stone (>63mm).	m ³	2	
<u>Membranes</u>				
<u>BidimGeotextile or equal approved, lined on all sides including the top and bottom faces.</u>				
<u>Keeping excavations free of water</u>				
150	Keeping excavations free of all water other than subterranean water	Item		
<u>THE FOLLOWING IN CULVERTS</u>				
<u>Class 50D concrete pipes:</u>				
151	450mm Diameter Concrete pipe laid in trenches not exceeding 1m deep including excavation, backfill, bedding, cart away and compaction.	m	10	
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Brought Forward			R
<u>Manholes:</u>			
152	Manhole size 600 x 600mm not exceeding 1m deep internally to invert level formed of hard burnt half brick sides in 1:3 cement mortar on and including 100mm thick mass concrete (25 MPa at 28 days in 19 mm stone) bottom reinforced with Y10 bars at 200c/c both directions and projecting 150mm beyond sides, cast on 50mm thick concrete Blinding (15Mpa) and mass concrete (15 MPa at 28 days in 12 mm stone) benching, rendered internally in 1:3 cement plaster with with C.I step irons staggered at 300c/c with 150mm thick grade 25 reinforced precast concrete manhole cover rebated for and fitted with and including cast iron double seal cover and frame type 14B in accordance with SABS 558, bedded in 1:3 cement mortar and sealed in to allow including all necessary vitrified clay channels and fittings, excavations, formwork, holes through sides for pipes, etc	No	5
<u>THE FOLLOWING IN HEADWALLS</u>			
153	Excavation not exceeding 2m deep.	m ³	2
154	Keeping excavations free from water	Item	
155	Carting away surplus excavated material	m ³	2
156	150mm layer of G7 material compacted to 95% MOD AASHTO under concrete slab.	m ³	1
157	150mm layer of G5 material compacted to 95% MOD AASHTO under concrete slab.	m ³	1
158	25Mpa/19mm Reinforced concrete in bottom slabs and footings.	m ³	1
159	Formwork to edges, risers, ends and reveals not exceeding 300mm wide or high.	m	19
160	Mesh reinforcement Ref 193 in concrete bottom slab.	m ²	7
161	One brick wall of 14 MPa NFX bricks.	m ²	4
162	230mm Wide reinforcement built in horizontally.	m	17
Carried Forward			R
SECTION 1 - EXTERNAL WORKS Bill No. 1 External works Phembukuthula External Works			

Brought Forward			R
163	Extra over brickwork for "Rustgold FBS/Qunu Travertine" clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints face brickwork externally.	m ²	4
164	220mm Wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on both sides.	m	6
165	Gabion mattress comprising of 20 to 30mm stones wrapped in A3 geotextile with voids filled with 1:3 cement/sand mortar.	m ²	5
<u>THE FOLLOWING IN RAINWATER TANKS AND STANDS</u>			
<u>Excavation in earth not exceeding 2m deep:</u>			
166	Trenches.	m ³	20
<u>Extra over all excavations for carting away:</u>			
167	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m ³	20
<u>Risk of collapse of excavations:</u>			
168	Sides of trench and hole excavations not exceeding 1,5m deep.	m ²	7
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u>			
169	Backfilling to trenches, holes, etc.	m ³	9
<u>Filling supplied by the contractor under strip footing, floors etc.</u>			
170	G7 Base course material compacted to 98% Mod AASHTO density	m ³	7
171	Over site of Selected Subgrade G5 material in accordance with SABS 1 200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m ³	7
Carried Forward			R
SECTION 1 - EXTERNAL WORKS Bill No. 1 External works Phembukuthula External Works			

Brought Forward				R
<u>Compaction of surfaces</u>				
172	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 90% Mod AASHTO density.	m ²	20	
<u>25 Mpa/19mm Concrete</u>				
173	Strip footings.	m ³	6	
<u>25 MPa/19mm Concrete:</u>				
174	Tank concrete slab.	m ³	4	
<u>Test blocks:</u>				
175	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6	
<u>Finishing top surfaces of concrete smooth with a steel trowel including adding additional cement while concrete is still green to attain a smooth, hard surface:</u>				
176	Surface beds, slabs, etc.	m ²	20	
<u>Rough Formwork to Sides:</u>				
177	Edges, risers, ends and reveals not exceeding 300mm high.	m	40	
<u>Allens Meshco Square Mesh Fabric reinforcement:</u>				
178	Type 617 fabric reinforcement in concrete slabs.	m ²	20	
<u>BRICKWORK IN FOUNDATIONS.</u>				
<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in Class I mortar (Cement to be 42.5N all-purpose cement):</u>				
179	One brick walls.	m ²	20	
<u>BRICKWORK IN SUPERSTRUCTURE</u>				
Carried Forward				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

	Brought Forward			R
	<u>Brickwork of NFP bricks (14 MPa nominal compressive strength) in Class II mortar (Cement to be 42.5N all-purpose cement):</u>			
180	One brick walls.	m ²	24	
	<u>Brickwork reinforcement:</u>			
181	230mm Wide reinforcement built in horizontally.	m	111	
182	Ditto but in foundations.	m	123	
	<u>FACE BRICK</u>			
	<u>Rustgold FBS/Qunu Travertine clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints, suitable for exposure zones 1-2(Cement to be 42.5N all-purpose cement):</u>			
183	Extra over brickwork for face brickwork externally.	m ²	24	
	<u>Brick-on-edge header course copings, sills, etc, of "Rustgold FBS/Qunu Travertine" or equal approved face bricks pointed with recessed joints on all exposed faces, 220mm wide sill set sloping and slightly projecting:</u>			
184	230mm wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on top and both sides as described.	m	40	
	<u>Plastic water tanks etc:</u>			
185	5000 Litre roto molded or equal approved plastic tank complete with lid, 15mm brass bibtap with handle suitable for locking and 4 No. galvanised stay wires 2.5m each long connected to tank, with and including 4 No. eye bolts cast into concrete.	No	5	
186	Hole top of tank for 100mm pipe.	No	5	
	<u>THE FOLLOWING IN SECURITY FENCING, ETC</u>			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	Carried Forward			R
	SECTION 1 - EXTERNAL WORKS			
	Bill No. 1			
	External works			
	Phembukuthula External Works			

Brought Forward			R
<u>Corrosion protection and Rust control:</u> <u>Posts, mesh panels for the fence and gate material shall be hot-dip galvanised and then fusion-bond epoxy powder coated (or similar). Colour to Architect's approval.</u> <u>Guarantees/Warranties:</u> <u>Ten (10) year anti-corrosion guarantee on all the fence and gate materials to be provided.</u> <u>Three (3) year anti-vandalism guarantee on all the fence and gate materials to be provided.</u> <u>Site clearance:</u>			
187	Clear site for a width 1000mm where new fencing is to be erected including removal of tree shrubs, etc not exceeding 200mm, grubbing up and roughly levelling.	m	500
<u>Fencing and posts:</u>			
188	'Wirewall' ClearVU II or equal approved fencing to match existing, high density anti-climbing and anti-cut pressed wirewall securemax 3510 system comprising 3mm horizontal and 40mm vertical diameter finished with zincal and plascoat PPA 571 charcoal 3510mm wide panel with 75 x 12.5mm aperture size including reinforcing V-section ribs, bolted with vandal resistant bolts and clamping plates to 75 x 60 x 15 x 1.5mm Lip channel taper post 2,5m high at 3510mm centres with sealed end caps and 30 x 3mm x 250mm long angle section base anchors with posts bedded in 20 MPa/19mm concrete bases size 400 x 400 x 600mm deep.	m	350
<u>Gates:</u>			
189	Security fence single gate, size 1 000 mm wide x 1 800 mm high.	No	1
190	Two leafed vehicular swing gate. Size 5500mm x 1800mm high.	No	1
Carried Forward			R
SECTION 1 - EXTERNAL WORKS Bill No. 1 External works Phembukuthula External Works			

Brought Forward				R
<u>Padlocks:</u>				
191	63mm Brass five pin tumbler padlock with two keys.	No	1	
192	Locking chain 600mm long with 50mm links.	No	1	
<u>Fence toppings:</u>				
193	100mm high toughened steel spear spike shall be affixed to panel edge, internally at 150mm intervals using anti-vandal bolts. Spike finish shall be hot dipped galvanized and fusion-bond epoxy powder coated (or similar).	m	350	
<u>Contingency</u>				
194	Allow sum of R300 000.00 for contingencies			SUM
Carried to Final Summary				R
SECTION 1 - EXTERNAL WORKS				
Bill No. 1				
External works				
Phembukuthula External Works				

Section No		Page No	Amount R
1		26	
SECTION 1 - EXTERNAL WORKS			
SUB-TOTAL			R
TOTAL CARRIED TO FORM OF TENDER			R
Phembukuthula External Works			