

Item No		Quantity	Rate	Amount
	<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.	m2	870	
2	Stripping average 200mm thick layer of topsoil and stockpiling on site.	m2	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.	m3	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.	m3	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.	m3	120	
	Carried Forward		R	
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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.	m3	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.	m2	641
<u>Prescribed density tests on filling:</u>			
8	Modified AASHTO Density test.	No	6
<u>WATER RETICULATION</u>			
<u>WATER SUPPLY IN GROUND</u>			
<u>HDPE 100PN 12.5 pressure pipes:</u>			
9	32mm pipes laid in depths not exceeding 1m including excavation, bedding, backfilling, compaction and disposal of surplus material.	m	150
10	40mm Pipes laid in depths not exceeding 1m including excavation, bedding, backfilling, compaction and disposal of surplus material.	m	90
<u>Extra over (PN12.5) HDPE piping for fittings:</u>			
11	32mm Bend.	No	22
12	32mm Adaptor.	No	16
13	40mm Bend.	No	29
14	32mm Tee.	No	13
15	40mm Tee.	No	13
Carried Forward			R
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Brought Forward			R
<u>WATER SUPPLY FROM WASTE WATER TREATMENT SYSTEM</u>			
<u>HDPE 100PN 12.5 pressure pipes:</u>			
16	32mm pipes laid in depths not exceeding 1m including excavation, bedding, backfilling, compaction and disposal of surplus material.	m	120
<u>Extra over (PN12.5) HDPE piping for fittings:</u>			
17	32mm Bend.	No	35
18	32mm Adaptor.	No	19
19	32mm Tee.	No	23
<u>TAPS, VALVES, ETC</u>			
20	32mm "Cobra" Ball Valve complete with adaptors for HDPE pipe.	No	9
21	32mm Non-return valve.	No	7
<u>Municipal connection</u>			
<u>Sundries:</u>			
22	Allow for amount of R35 000.00 (Thirty Five Thousand Rand) for municipal water connection to be used at the discretion of the Principal Agent and deducted in whole or in part if not required.	Item	
<u>Testing:</u>			
23	Testing water pipe system.	Item	
<u>SEWER RETICULATION</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>			
Carried Forward			R
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<p style="text-align: center;">Brought Forward</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>uPVC pipes and fittings</u></p> <p><u>Soil, waste and vent pipes and fittings shall be solvent weld jointed.</u></p> <p><u>Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings.</u></p> <p><u>Excavations:</u></p> <p><u>No claim for rock excavation will be entertained unless the Contractor has timeously notified the quantity surveyor thereof prior to backfilling.</u></p> <p><u>Soft rock and hard rock shall be as defined in Earthworks.</u></p> <p><u>Laying, backfilling, bedding, etc of pipes:</u></p> <p><u>Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions.</u></p> <p><u>Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L :</u></p> <p><u>Descriptions of pipes laid in trenches:</u></p> <p><u>Descriptions of pipes laid in and including trenches and of inspection chambers, catch pits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 95% Mod AASHTO density and disposal of surplus material on site</u></p> <p><u>Descriptions of catchpits, junction boxes, manholes, etc:</u></p> <p><u>Descriptions of catchpits, junction boxes, manholes, etc, shall be deemed to include for compaction, disposal of surplus excavated material to a dumping site located by the contractor, risk of collapse and keeping excavations free from water.</u></p> <p style="text-align: center;">Carried Forward</p> <p>Section No. 1 Bill No. 1 THAKAZELA PRIMARY SCHOOL EXTERNAL WORKS Thakazela Primary School External Works BOQ.</p>	<p style="text-align: center;">R</p>
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Brought Forward			R
<u>Density testing on filling:</u>			
<u>Rates for filling, etc. shall include for all density and soil type testing to prove that the specified compaction is achieved. When additional testing is done on instruction of the Principal Agent and these tests are successful, they will be paid for additionally.</u>			
<u>BULK SEWER RETICULATION</u>			
<u>Heavy duty (Class 34) PVC-U sewer and drain pipes</u>			
24	110mm Pipes laid in and including trenches not exceeding 1m deep	m	350
25	110mm Pipes laid in and including trenches exceeding 1m but not exceeding 2m deep	m	350
<u>Extra over heavy duty (Class 34) PVC-U sewer and drain pipes for fittings</u>			
26	110mm Bend	No	18
27	160mm Bend	No	12
28	110mm Rodding eye	No	4
29	160 x 110mm Reducing junction	No	7
<u>PRE-CAST CONCRETE MANHOLES</u>			
<u>Pre-cast concrete circular inspection chambers including pre-cast concrete cover slabs, covers and channels in benching</u>			
30	Manhole 1000mm diameter not exceeding 1m deep.	No	6
31	Manhole 1000mm diameter exceeding 1m and not exceeding 2m deep.	No	6
<u>SUNDRIES</u>			
Carried Forward			R
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Brought Forward			R
<u>Earthworks</u>			
32	Selected granular filling Class 'B' supplied by the Contractor in bedding under pipes.	m3	18
33	Selected 19mm stone supplied by the Contractor in bedding under pipes.	m3	17
34	300 x 300 x 75mm Pre-cast concrete inspection eye marker slab set in ground.	No	4
<u>Manhole covers</u>			
35	620mm dia Type 2A Heavy duty cast iron manhole to SABS 558	No	7
<u>Connection</u>			
36	Allow for connecting to Waste Water Treatment System (WWTS).		Item
<u>Testing:</u>			
37	Testing drainage system.		Item
<u>THE FOLLOWING IN WALKWAYS</u>			
<u>Excavation not exceeding 2m deep</u>			
38	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	195
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
39	Off site to a dumping site to be found by the Contractor.	m3	195
<u>Filling supplied by the contractor under walkways</u>			
40	G7 Base course material compacted to 98% Mod AASHTO density	m3	65
41	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.	m3	65
Carried Forward			R
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Brought Forward			R
<u>Rip and Re - compact insitu material on site compacted to 93% Mod. AASHTO density:</u>			
42	Under floors,etc.	m2	425
<u>Prescribed density tests on filling:</u>			
43	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>			
44	Treat filling under paving with 'Chlordane Heptachlor Aldrin' or equal approved.	m2	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>			
45	Paving to walkway areas, etc laid to falls.	m2	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>			
46	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
47	Ditto but circular on plan.	m	18
<u>THE FOLLOWING IN ONE BRICK WALL (GARDEN WALL)</u>			
Carried Forward			R
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Brought Forward				R
<u>Excavation in earth not exceeding 2m deep:</u>				
48	Trenches.	m3	45	
<u>Extra over all excavations for carting away:</u>				
49	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m3	25	
<u>Risk of collapse of excavations:</u>				
50	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	150	
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u>				
51	Backfilling to trenches, holes, etc.	m3	22	
<u>Filling supplied by the contractor under strip footing</u>				
52	G7 Base course material compacted to 98% Mod AASHTO density	m3	12	
53	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.	m3	12	
<u>Compaction of surfaces</u>				
54	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.	m2	350	
<u>25 Mpa/19mm Concrete</u>				
55	Strip footings.	m3	15	
<u>Test blocks:</u>				
56	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6	
Carried Forward				R
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Brought Forward			R
<u>Reinforcement (Provisional)</u>			
57	High tensile steel reinforcement bars to structural concrete work.	t	2,00
<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>			
58	One brick walls.	m2	37
<u>Brickwork reinforcement:</u>			
59	230mm Wide reinforcement built in horizontally.	m	220
60	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>			
61	One brickwall faced on both sides.	m2	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>			
62	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>			
63	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	33
Carried Forward			R
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Brought Forward			R
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
64	Off site to a dumping site to be found by the Contractor.	m3	33
<u>Filling supplied by the contractor under channels</u>			
65	G7 Base course material compacted to 98% Mod AASHTO density	m3	34
66	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.	m3	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>			
67	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
68	Extra for 700mm angle	No	6
69	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>			
Carried Forward			R
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Brought Forward				R
<u>Excavation in earth not exceeding 2m deep:</u>				
70	Trenches.	m3	15	
<u>Extra over all excavations for carting away:</u>				
71	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m3	12	
<u>Risk of collapse of excavations:</u>				
72	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	18	
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u>				
73	Backfilling to trenches, holes, etc.	m3	9	
<u>Filling supplied by the contractor under strip footing</u>				
74	G7 Base course material compacted to 98% Mod AASHTO density	m3	13	
75	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.	m3	12	
<u>Compaction of surfaces</u>				
76	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.	m2	7	
<u>25 Mpa/19mm Concrete</u>				
77	Strip footings.	m3	1	
<u>Test blocks:</u>				
78	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6	
Carried Forward				R
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Brought Forward			R
<u>Reinforcement (Provisional)</u>			
79	High tensile steel reinforcement bars to structural concrete work.	t	20,00
<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>			
80	One brick walls.	m2	65
<u>BRICKWORK IN SUPERSTRUCTURE</u>			
<u>Brickwork reinforcement:</u>			
81	230mm Wide reinforcement built in horizontally.	m	55
82	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>			
83	One brickwall faced on both sides.	m2	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>			
84	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>			
Carried Forward			R
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Brought Forward			R
<u>Excavation not exceeding 2m deep</u>			
85	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	9
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
86	Off site to a dumping site to be found by the Contractor.	m3	9
<u>Filling supplied by the contractor under floors, aprons, etc</u>			
87	G7 Base course material compacted to 98% Mod AASHTO density	m3	4
88	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.	m3	4
<u>Coarse river sand filling supplied by the contractor:</u>			
89	Under floors etc.	m3	6
<u>Compaction of surfaces:</u>			
90	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.	m2	80
<u>Prescribed density tests on filling:</u>			
91	In-situ dry density test.	No	2
<u>Reinforced 25Mpa/19mm Concrete:</u>			
92	Ramps, Landings, etc.	m3	22
<u>Finishing top surfaces of concrete smooth with a wood float:</u>			
93	Surface beds, slabs, etc to falls and currents.	m2	80
Carried Forward			R
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Brought Forward			R
<u>Test blocks:</u>			
94	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>			
95	12mm Joints not exceeding 300mm high.	m	65
<u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u>			
96	10 x 12mm In movement joints in floors or walls including raking out expansion joint filler as necessary.	m	65
<u>Fabric reinforcement:</u>			
97	REF. 395 fabric reinforcement in concrete surface beds, slabs, etc.	m2	85
<u>Waterproofing under Surface beds</u>			
98	350 Micron USB orange polyethylene dampproof membrane in accordance with SABS 952 Type C laid on sand bed (elsewhere measured).	m2	85
<u>THE FOLLOWING IN ACCESS DRIVEWAY, ETC.</u>			
<u>Excavation not exceeding 2m deep</u>			
99	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	190
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
100	Off site to a dumping site to be found by the Contractor.	m3	190
<u>Filling supplied by the contractor under driveways</u>			
101	G7 Base course material compacted to 98% Mod AASHTO density	m3	90
Carried Forward			R
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Brought Forward			R
102	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.	m3	90
	<u>Rip and Re - compact insitu material on site compacted to 93% Mod. AASHTO density:</u>		
103	Under floors,etc.	m2	450
	<u>Prescribed density tests on filling:</u>		
104	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>		
105	Treat filling under paving with 'Chlordane Heptachlor Aldrin' or equal approved.	m2	450
	<u>150-175mm diameter bollards</u>		
106	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>		
107	Trenches.	m3	14
	<u>Risk of collapse of excavations:</u>		
108	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	40
	<u>Keeping excavations free of water:</u>		
109	Keeping excavations free of all water other than subterranean water.	Item	
Carried Forward			R
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Brought Forward			R
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
110	Off site to a dumping site to be found by the Contractor.	m3	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>			
111	Behind walls with selected backfilling supplied by the Contractor compacted to 98% Mod ASSHTO density	m3	5
<u>Compaction of surfaces</u>			
112	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.	m2	14
<u>15Mpa/19mm unreinforced concrete</u>			
113	Surface blinding under footings and bases.	m3	1
<u>30Mpa/19mm reinforced concrete</u>			
114	Strip footings.	m3	3
115	Cavity walls.	m3	2
<u>Test blocks:</u>			
116	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	3
<u>Fabric reinforcement:</u>			
117	REF. 395 fabric reinforcement in concrete infill, strip footings.	m2	22
<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in Class I mortar (Cement to be 42.5N all-purpose cement):</u>			
118	One brickwalls in foundations	m2	10
Carried Forward			R
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Brought Forward				R
119	One brick walls	m2	12	
	<u>Brickwork reinforcement:</u>			
120	230mm Wide reinforcement built in horizontally.	m	85	
	<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>			
121	Extra over brickwork for face brickwork externally.	m2	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>			
122	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>			
123	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.</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>			
124	19mm Stone.	m3	2	
	<u>THE FOLLOWING IN STORMWATER DRAINAGE, APRONS ETC.</u>			
	<u>STORMWATER APRONS</u>			
Carried Forward				R
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Brought Forward			R
<u>Excavation not exceeding 2m deep</u>			
125	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	15
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
126	Off site to a dumping site to be found by the Contractor.	m3	15
<u>Filling supplied by the contractor under floors, aprons, etc</u>			
127	G7 Base course material compacted to 98% Mod AASHTO density	m3	4
128	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.	m3	4
<u>Coarse river sand filling supplied by the contractor:</u>			
129	Under floors etc.	m3	1
<u>Compaction of surfaces:</u>			
130	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.	m2	28
<u>Prescribed density tests on filling:</u>			
131	In-situ dry density test.	No	3
<u>Reinforced 25Mpa/19mm Concrete:</u>			
132	Surface beds cast in panels on waterproofing.	m3	3
133	Edge thickening	m3	2
Carried Forward			R
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Brought Forward				R
<u>Finishing top surfaces of concrete smooth with a wood float:</u>				
134	Surface beds, slabs, etc to falls and currents.	m2	28	
<u>Test blocks:</u>				
135	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>				
136	12mm Joints not exceeding 300mm high.	m	18	
<u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u>				
137	10 x 12mm In movement joints in floors or walls including raking out expansion joint filler as necessary.	m	18	
<u>Fabric reinforcement:</u>				
138	REF. 395 fabric reinforcement in concrete surface beds, slabs, etc.	m2	28	
<u>Waterproofing under Surface beds</u>				
139	350 Micron USB orange polyethylene dampproof membrane in accordance with SABS 952 Type C laid on sand bed (elsewhere measured).	m2	28	
<u>STORMWATER CHANNELS</u>				
<u>Excavation not exceeding 2m deep</u>				
140	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	78	
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>				
141	Off site to a dumping site to be found by the Contractor.	m3	78	
Carried Forward				R
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Brought Forward			R
<u>Filling supplied by the contractor under channels</u>			
142	G7 Base course material compacted to 98% Mod AASHTO density	m3	25
143	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.	m3	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>			
144	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
145	Extra for 700mm angle	No	2
146	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>			
147	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>			
148	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	54
Carried Forward			R
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Brought Forward			R
<u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u>			
149	Off site to a dumping site to be found by the Contractor.	m3	54
<u>Filling supplied by the contractor under floors, aprons, channels etc</u>			
150	G7 Base course material compacted to 98% Mod AASHTO density	m3	18
151	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.	m3	18
<u>Coarse river sand filling supplied by the contractor:</u>			
152	Under floors etc.	m3	6
<u>Compaction of surfaces:</u>			
153	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.	m2	120
<u>Prescribed density tests on filling:</u>			
154	In-situ dry density test.	No	3
<u>Reinforced 25Mpa/19mm Concrete:</u>			
155	Surface beds cast in panels on waterproofing.	m3	18
<u>Finishing top surfaces of concrete smooth with a wood float:</u>			
156	Surface beds, slabs, etc to falls and currents.	m2	120
<u>Test blocks:</u>			
157	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	6
Carried Forward			R
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Brought Forward				R
	<u>Expansion joints with bitumen impregnated softboard between vertical concrete or brick surfaces:</u>			
158	12mm Joints not exceeding 300mm high.	m	60	
	<u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u>			
159	10 x 12mm In movement joints in floors or walls including raking out expansion joint filler as necessary.	m	60	
	<u>Fabric reinforcement:</u>			
160	REF. 617 fabric reinforcement in concrete surface beds, slabs, etc.	m2	120	
	<u>THE FOLLOWING IN SUB-SOIL DRAINAGE, ETC.</u>			
	<u>Site Clearance, ETC</u>			
161	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	60	
	<u>Excavation in earth not exceeding 2m deep:</u>			
162	Trenches.	m3	9	
	<u>Extra over all excavations for carting away:</u>			
163	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m3	9	
	<u>Risk of collapse of excavations:</u>			
164	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	36	
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u>			
165	Backfilling to trenches, holes, etc.	m3	4	
Carried Forward				R
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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>				
166	19mm Stone.	m3	3	
<u>Membrane</u>				
167	Geofabric filter blanket wrapped around stone with 150mm side and 300mm end laps, including stitching.	m2	36	
<u>Keeping excavations free of water:</u>				
168	Keeping excavations free from mud and all water including subterranean sources.		Item	
<u>Compaction of surfaces</u>				
169	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.	m2	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>				
170	110mm uPVC pipe.	m	30	
<u>Extra for:</u>				
171	110mm Tee.	No	3	
172	110mm Y junction.	No	2	
<u>THE FOLLOWING IN SOAKAWAY</u>				
<u>Site Clearance, Etc</u>				
173	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	12	
Carried Forward				R
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Brought Forward			R
<u>Excavation in earth not exceeding 2m deep:</u>			
174	Holes	m3	4
<u>Extra over all excavations for carting away</u>			
175	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	m3	4
<u>Risk of collapse of excavations</u>			
176	Sides of trench and hole excavations exceeding 1,5m deep but not exceeding 3,0m deep	m2	16
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 90% Mod AASHTO density</u>			
177	Backfilling to holes	m3	2
<u>Earth filling with stone material supplied by the contractor:</u>			
178	Stone (>63mm).	m3	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>			
179	Keeping excavations free of all water other than subterranean water	Item	
<u>THE FOLLOWING IN CULVERTS</u>			
<u>Class 50D concrete pipes:</u>			
180	450mm Diameter Concrete pipe laid in trenches not exceeding 1m deep including excavation, backfill, bedding, cart away and compaction.	m	10
Carried Forward			R
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Brought Forward			R
<u>Manholes:</u>			
181	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>			
182	Excavation not exceeding 2m deep.	m3	2
183	Keeping excavations free from water		Item
184	Carting away surplus excavated material	m3	2
185	150mm layer of G7 material compacted to 95% MOD AASHTO under concrete slab.	m3	1
186	150mm layer of G5 material compacted to 95% MOD AASHTO under concrete slab.	m3	1
187	25Mpa/19mm Reinforced concrete in bottom slabs and footings.	m3	1
188	Formwork to edges, risers, ends and reveals not exceeding 300mm wide or high.	m	19
189	Mesh reinforcement Ref 193 in concrete bottom slab.	m2	7
190	One brick wall of 14 MPa NFX bricks.	m2	4
191	230mm Wide reinforcement built in horizontally.	m	17
Carried Forward			R
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Brought Forward			R
192	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.	m2	4
193	220mm Wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on both sides.	m	6
194	Gabion mattress comprising of 20 to 30mm stones wrapped in A3 geotextile with voids filled with 1:3 cement/sand mortar.	m2	5
<u>THE FOLLOWING IN RAINWATER TANKS AND STANDS</u>			
<u>Excavation in earth not exceeding 2m deep:</u>			
195	Trenches.	m3	20
<u>Extra over all excavations for carting away:</u>			
196	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m3	20
<u>Risk of collapse of excavations:</u>			
197	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	7
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u>			
198	Backfilling to trenches, holes, etc.	m3	9
<u>Filling supplied by the contractor under strip footing, floors etc.</u>			
199	G7 Base course material compacted to 98% Mod AASHTO density	m3	7
200	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.	m3	7
Carried Forward			R
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Brought Forward			R
<u>Compaction of surfaces</u>			
201	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.	m2	20
<u>25 Mpa/19mm Concrete</u>			
202	Strip footings.	m3	6
<u>25 MPa/19mm Concrete:</u>			
203	Tank concrete slab.	m3	4
<u>Test blocks:</u>			
204	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>			
205	Surface beds, slabs, etc.	m2	20
<u>Rough Formwork to Sides:</u>			
206	Edges, risers, ends and reveals not exceeding 300mm high.	m	40
<u>Allens Meshco Square Mesh Fabric reinforcement:</u>			
207	Type 617 fabric reinforcement in concrete slabs.	m2	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>			
208	One brick walls.	m2	20
<u>BRICKWORK IN SUPERSTRUCTURE</u>			
Carried Forward			R
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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>				
209	One brick walls.	m2	24	
<u>Brickwork reinforcement:</u>				
210	230mm Wide reinforcement built in horizontally.	m	111	
211	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>				
212	Extra over brickwork for face brickwork externally.	m2	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>				
213	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>				
214	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	
215	Hole top of tank for 100mm pipe.	No	5	
<u>THE FOLLOWING IN SECURITY FENCING, ETC</u>				
<u>SUPPLEMENTARY PREAMBLES</u>				
Carried Forward				R
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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>			
216	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>			
217	'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>			
218	Security fence single gate, size 1 000 mm wide x 1 800 mm high.	No	1
219	Two leafed vehicular swing gate. Size 5500mm x 1800mm high.	No	1
Carried Forward			R
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Brought Forward			R
<u>Padlocks:</u>			
220	63mm Brass five pin tumbler padlock with two keys.	No	1
221	Locking chain 600mm long with 50mm links.	No	1
<u>Fence toppings:</u>			
222	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
Carried to Final Summary			R
Section No. 1			
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