

SCHEDULE A: ROADWORKS				SECTION 1200	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1200	<b>GENERAL REQUIREMENTS AND PROVISIONS</b>				
B12.01	<b>Relocation, protection or replacement of existing services</b>  (a) Existing services to be relocated, protected or replaced as ordered by the engineer: (i) Eskom (ii) Telkom (iii) Municipal services  (iv) Private property services  (b) Handling cost and profit in respect of B12.01(a)	Lump Sum Lump Sum Prov. Sum  Prov. Sum  %	1 1 1  1  5%	80000.00   55000.00  5%	R 80 000.00   R 55 000.00  5%
B12.02	<b>Excavation for services:</b>  a) Excavating material within the following depth ranges below ground level for the exposing of/or searching for services i) 0m to 2m (1) Soft Material (2) Hard Material  (b) Extra over item B12.02(a) for excavation by means of hand tools such as picks, crowbars and pneumatic tools or mechanical breakers in close vicinity of services where no blasting or machine excavation is permitted: (i) Soft Material (ii) Hard Material	m <sup>3</sup> m <sup>3</sup>   m <sup>3</sup> m <sup>3</sup>	180 18    Rate Only Rate Only		
B12.03	<b>Excavation of test pits and sampling thereof along the road as instructed by the engineer</b>  (a) Handling cost and profit in respect of subitem B12.03 (b) Handling cost and profit in respect of subitem B12.03(a)	Prov. Sum %	1 45 000	45000.00 5.00%	R 45 000.00 R 2 250.00
B12.04	<b>Provision for a Community Liaison Officer</b>  (a) Remuneration of CLO (b) Handling cost and profit in respect of subitem B12.04(a)	Mnth %	12 52 000	7500.00 5.00%	R 90 000.00 R 2 600.00
<b>TOTAL SECTION 1200 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 1300	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS				
B13.01	GENERAL(Smallworks) & ENGINEER'S OFFICE				
	(a) Fixed obligations	Lump Sum	1		
	(b) Value-related obligations	Lump Sum	1		
	(c) Time-related obligations	Month	12		
	<b>NB: The combined total tendered for subitems (a), (b) and (c) shall not exceed 15% of the Tender Sum</b>				
B13.02	Supply, transport to site and erect contract signboards.	No.	1		
	<b><u>SUMS STATED PROVISIONALLY</u></b>				
	Land Survey Act:				
	Appointment of and Independent Geotechnical Laboratory	Prov. Sum	1	R 85 000.00	R 85 000.00
	Appointment of an Independent Surveyor to check workmanship	Prov. Sum	1	R 55 000.00	R 55 000.00
	Percentage mark-up on above items (5.1 - 5.5) for contractors overheads, administration charge and profit	%	R 140 000.00	5%	R 7 000.00
<b>TOTAL SECTION 1300 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 1400	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1400</b>	<b>HOUSING, OFFICES AND LABORATORY FOR THE ENGINEER'S SITE PERSONNEL</b>				
<b>14.01</b>	<b>Office and laboratory</b>				
	(a) Offices (interior floor space only)	m <sup>2</sup>	40		
	(e) Ablution units	No	2		
<b>14.02</b>	<b>Office and laboratory furniture</b>				
	(a) Chairs	No	10		
	(d) Desks, complete with drawers and locks	No	5		
<b>B14.03</b>	<b>Office and laboratory fittings, installations and equipment</b>				
	(a) Items measured by number				
	(i) 220/250 volt power points	No	4		
	(iii) Double 80 watt fluorescent light fittings complete with ballast and tubes	No	2		
	(vi) Wash-hand basins complete with taps and drains	No	2		
	(x) Fire extinguishers, 9,0 kg, all purpose dry powder type, complete, mounted on wall with brackets	No	1		
	(xix) Rain gauge	No	1		
	(xx) Plan holder	No	1		
	(xxi) Floodlights complete with poles and 500Watt minimum globes	No	3		
<b>B14.03</b>	<b>(b) Prime-cost items and items paid for in a lump sum:</b>				
	(ix) Cell phones costs, including pro-rata rentals, for calls in connection with contract administration	Prov. Sum	1	R 30 000.00	R 30 000.00
	(x) Handling cost and profit in respect of sub-item B14.03(b)(ix) above	%	R 30 000.00	5%	R 1 500.00
	(xi) Laptop to the engineer	Prov. Sum	1	R 42 000.00	R 42 000.00
	(xii) Handling cost and profit in respect of sub-item B14.03(b)(xi) above	%	R 42 000.00	5%	R 2 100.00
<b>TOTAL SECTION 1400 CARRIED FORWARD TO NEXT PAGE</b>					

SCHEDULE A: ROADWORKS				SECTION 1400	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL SECTION 1400 BROUGHT FORWARD FROM PREVIOUS PAGE					
14.04	<b>Car ports</b>				
	(a) Car ports, as specified, at offices and laboratory buildings	No	2		
14.07	<b>Rented, hotel and other accommodation</b>				
	(a) Provisional sum for providing rented housing, hotel or other accommodation	Prov. Sum	1	R 72 000.00	R 72 000.00
	(b) Handling costs and profit in respect of subitem 14.07(a)	%	R 72 000.00	5%	R 3 600.00
B14.10	<b>Provision of photostat facilities</b>	Month	12		
TOTAL SECTION 1400 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 1500	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1500</b>	<b>ACCOMMODATION OF TRAFFIC</b>				
<b>B15.01</b>	<b>Accommodation of traffic and maintaining temporary deviations</b>				
	(a) Dluclu Street	km	1.06		
<b>B15.03</b>	<b>Temporary traffic-control facilities</b>				
	(a) Flagmen	man-day	264		
	(b) Portable STOP and GO-RY signs	No	2		
	(d) Amber flicker lights (100 W)	No			
	(e) Road signs, R-and TR-series	No	2		
	(f) Road signs, TW-series (1 500)	No	4		
	(g) Road signs, STW-, DTG-, TGS- and TG-series (excluding delineators and barricades)	m <sup>2</sup>	12.5		
	(h) Delineators				
	(i) Single (800x200)	No	10		
	(ii) Mounted back to back	No	10		
	(i) Moveable barricade/road sign combination	No	2		
	(m) Two-way communication devices	No			
	(n) Road signs, TW-series, 1500 mm Triangular sides including TIN, 1500 x 400	No	4		
	(n) Amper rotatng flashing light width magnet base as specified for engineer's use	No	2		
	(o) Provision of robot system	No			
	(p) Road signs, TW-series, 1 200 x 1 600 including TIN, 1 200 x 400	No	1		
<b>B15.04</b>	<b>Relocation of traffic-control facilities</b>				
	(a) Relocation of traffic-control facilities, excl. robot	0	1		
	(b) Relocation of robot system in excess of 100m	No			
<b>B15.10</b>	<b>Accommodation of traffic where the</b>				
	(a) Fixed penalty per occurrence	No			
	(b) Time-related penalty	hour			
<b>B15.15</b>	<b>Provision of traffic safety equipment for visitors</b>				
	(a) Safety jackets	No	10		
<b>TOTAL SECTION 1500 CARRIED FORWARD TO NEXT PAGE</b>					

SCHEDULE A: ROADWORKS				SECTION 1500	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL SECTION 1500 BROUGHT FORWARD FROM PREVIOUS PAGE					
B15.16	Provision of traffic safety				
	(a) Traffic safety officer	Month	12		
B15.17	Non-specified signage ordered by the Engineer and Site Safety officer:				
	(a) Provisional sum for non-specified signage or arrangements asordered by the Engineer	Prov. Sum	1	R 25 000.00	R 25 000.00
	(b) Handling cost and profit in respect of Item B15.17(a)	%	R 25 000.00	5.00%	R 1 250.00
TOTAL SECTION 1500 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 1700	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1700</b>	<b>CLEARING AND GRUBBING</b>				
<b>B17.01</b>	<b>Clearing and grubbing of:</b>				
	(a) Using normal construction machinery	ha	0.6372		
	(b) Using hand methods	ha			Rate Only
<b>17.02</b>	<b>Removal and grubbing of large trees and tree stumps</b>				
	(a) Girth exceeding 1m up to and including 2m	No.			Rate Only
	(b) Girth exceeding 2m up to and including 3m	No.			Rate Only
<b>17.04</b>	<b>Clearing and grubbing at inlets and outlets of hydraulic structures</b>				
		m <sup>2</sup>	40		
<b>17.05</b>	<b>Cleaning out of hydraulic structures</b>				
	(a) Pipes with an internal diameter up to and including 750 mm	m <sup>3</sup>	10		
	(b) Pipes with an internal diameter exceeding 750 mm	m <sup>3</sup>	10		
	(c) Box culverts up to and including 1,5 m vertical dimension	m <sup>3</sup>			Rate Only
	(d) Box culverts exceeding 1,5 m vertical dimension	m <sup>3</sup>			Rate Only
<b>B17.07</b>	<b>Trimming of existing trees</b>				
	(a) Chainsaw	hr			Rate Only
	(b) By hand	hr			Rate Only
<b>TOTAL SECTION 1700 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 1800	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1800</b>	<b>DAYWORKS</b>				
<b>B18.01</b>	<b>Labourers:</b>				
	(i) Unskilled	hr			Rate Only
	(ii) Semi-skilled	hr			Rate Only
	(iii) Skilled	hr			Rate Only
<b>B18.02</b>	<b>Foreman</b>	hr			Rate Only
<b>B18.03</b>	<b>Tipper trucks:</b>				
	(i) 3 - 5 ton	hr			Rate Only
	(ii) 5,1 - 10 ton	hr			Rate Only
<b>B18.04</b>	<b>Loader (0,5m³) (55kW) - TLB</b>	hr			Rate Only
<b>B18.05</b>	<b>Grader (CAT 140G or similar)</b>	hr			Rate Only
<b>B18.06</b>	<b>LDV</b>	hr			Rate Only
<b>B18.07</b>	<b>Compaction Rollers:</b>				
	(b) Rubber tyred loader (60kW)	hr			Rate Only
	(e) Pedestrian vibrating roller (1,4 ton)	hr			Rate Only
	(f) Self propelled vibrating roller (80kW)	hr			Rate Only
	(g) Pneumatic tyred roller (60kW, 20 ton)	hr			Rate Only
	(l) Excavator (92kW)	hr			Rate Only
	(m) Dozer (123kW)	hr			Rate Only
<b>B18.08</b>	<b>Hand Controlled Compactors</b>				
	(i) Pedestrian roller (Bomag BW90 or similar)	hr			Rate Only
	(ii) Vibratory plate	hr			Rate Only
	(iii) Rammers	hr			Rate Only
<b>B18.09</b>	<b>Water truck (min 10 000 l )</b>	hr			Rate Only
	<b>WET RATE MINIMUM HOURS 6hrs</b>				
<b>TOTAL SECTION 1800 CARRIED TO SUMMARY</b>					



SCHEDULE A: ROADWORKS				SECTION 2100	
ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<b>SECTION 2100: DRAINS</b>				
<b>B21.01</b>	<b>Excavation for open drains:</b>  (a) Excavating soft material situated within the following depth ranges below the surface level:  (i) 0 m up to 1,5 m (ii) Exceeding 1,5 m and up to 3,0 m  (b) Extra over subitem B21.01(a) for excavation in hard material, irrespective of depth	m <sup>3</sup> m <sup>3</sup>  m <sup>3</sup>	2294		Rate Only   Rate Only
<b>21.02</b>	<b>Clearing and shaping existing open drains</b>	m <sup>3</sup>			Rate Only
<b>21.03</b>	<b>Excavation for subsoil drainage systems:</b>  (a) Excavating soft material situated within the following depth ranges below the surface level: (i) 0 m up to 1,5 m  (b) Extra over subitem 21.03(a) for excavation in hard material irrespective of depth	m <sup>3</sup>  m <sup>3</sup>			Rate Only  Rate Only
<b>B21.04</b>	<b>Impermeable backfilling to subsoil drainage systems</b>  (a) Unstabilised natural gravel (b) G5 material stabilised with 4% stabilising agent	m <sup>3</sup> m <sup>3</sup>			Rate Only Rate Only
<b>21.06</b>	<b>Natural permeable material in subsoil drainage systems (crushed stone):</b>  (b) Crushed stone obtained from commercial sources (i) 19mm nominal size	m <sup>3</sup>			Rate Only
<b>TOTAL SECTION 2100 CARRIED FORWARD TO NEXT PAGE</b>					

SCHEDULE A: ROADWORKS				SECTION 2100	
ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL SECTION 2100 CARRIED FROM PREVIOUS PAGE					
21.08	(i) Coarse Grade	m <sup>3</sup>			Rate Only
	(ii) Fine Grade	m <sup>3</sup>			Rate Only
21.09	Pipes in subsoil drainage system				
	(b) Unplasticised PVC pipes and fittings, normal duty complete with couplings				
21.09	(i) 150 mm internal dia. perforated or slotted	m			Rate Only
	(ii) 150 mm internal dia. unperforated	m			Rate Only
21.09	Polyethylene sheeting, 0,15mm thick, or similar approval material, for lining subsoil drainage systems	m <sup>2</sup>			Rate Only
21.10	Synthetic-fibre filter fabric - grade 2: Kaytech U14 or approved equivalent	m <sup>2</sup>			Rate Only
B21.12	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems:				
21.13	(a) Outlet structures	No			Rate Only
	(d) Cleaning eyes	No			Rate Only
21.13	Concrete caps for subsoil drain pipes	No			Rate Only
21/B16.02	Overall for material hauled in excess of 5,0km	m <sup>3</sup> -km			Rate Only
TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 2200	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>2200</b>	<b>PREFABRICATED CULVERTS</b>				
	<b>EXCAVATION</b>				
<b>B22.01</b>	<b>Excavation</b> (a) Excavating soft material situated within the following depth ranges below the surface level (i) 0m up to 1,5m (ii) Exceeding 1,5m and up to 3,0m (iii) Exceeding 3,0m and up to 4,5m (b) Extra over subitem 22.01(a) for excavation in hard material irrespective of depth	m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup>	96 19.2  25		
	<b>BACKFILLING</b>				
<b>B22.02</b>	<b>Backfilling</b> (a) Using the excavated material (b) Using imported selected material (c) Extra over subitems 22.02(a)&(b) for soil cement backfilling (ii) 8% OPC	m <sup>3</sup> m <sup>3</sup>  m <sup>3</sup>	28.8 4.8  		Rate Only
	<b>PIPE CULVERTS</b>				
<b>22.03</b>	<b>Concrete pipe culverts</b> (b) On class B bedding (i) Ogee class 50 D (i) 300mm dia Class 50D (ii) 450mm dia Class 50D (iii) 600mm dia Class 50D (iv) 750mm dia Class 50D (v) 900mm dia Class 50D (vi) 1050mm dia Class 50D (vii) 1200mm dia Class 50D  (ii) Ogee class 100 D (i) 300mm dia Class 100D (vi) 750mm dia Class 100D (vii) 1200mm dia Class 100D (vii) 1500mm dia Class 100D	   m m m m m m m m   m m m m			Rate Only Rate Only Rate Only Rate Only Rate Only Rate Only Rate Only Rate Only  Rate Only Rate Only Rate Only Rate Only
<b>SECTION 2200 TOTAL CARRIED FORWARD</b>					

SCHEDULE A: ROADWORKS				SECTION 2200	
ITEM NO		UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
	<b>PORTAL CULVERTS</b>				
<b>22.05</b>	<b>Portal and rectangular culverts</b>				
	(a) Complete with prefabricated floor slabs				
	(i) 450mm x 300mm	No			Rate Only
	(ii) 450mm x 450mm	No			Rate Only
	(iii) 600mm x 300mm	No			Rate Only
	(iv) 600mm x 450mm	No			Rate Only
	(v) 600mm x 600mm	No	120		
	(vi) 750mm x 300mm	No			Rate Only
	(vii) 750mm x 750mm	No			Rate Only
	(viii) 1500mm x 1500mm	No			Rate Only
	<b>CONCRETE AND FORMWORK</b>				
<b>22.07</b>	<b>Cast in situ concrete and formwork</b>				
	(a) In class A bedding, screeds, and the encasing for pipes, including formwork and Ref. 395 Steel Mesh				
	(i) Class 15/19	m <sup>3</sup>			Rate Only
	(ii) Class 20/19	m <sup>3</sup>			Rate Only
	(iii) Class 25/19	m <sup>3</sup>	30		
	(b) In floor slabs for portal or rectangular culverts, including formwork and class U2 surface finish				
	(i) Class 25/19	m <sup>3</sup>			Rate Only
	(ii) Class 30/19	m <sup>3</sup>			Rate Only
	(c) In Inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks excluding formwork but including class U2 surface finish				
	(i) Class 25/19	m <sup>3</sup>			Rate Only
	(ii) Class 30/19	m <sup>3</sup>			Rate Only
	(d) Formwork of concrete under subitem 22.07(c) above				
	(i) Class F2				
	(i) Horizontal	m <sup>2</sup>			Rate Only
	(ii) Vertical	m <sup>2</sup>			Rate Only
SECTION 2200 TOTAL CARRIED FORWARD					

SCHEDULE A: ROADWORKS				SECTION 2200	
ITEM NO		UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>					
	(ii) Class F1				
	(i) Horizontal	m <sup>2</sup>			Rate Only
	(ii) Vertical	m <sup>2</sup>			Rate Only
	<b>CONCRETE BACKFILL</b>				
22.08	<b>Concrete backfill for culverts</b>				
	(i) Class 20/19	m <sup>3</sup>	12		
	<b>REINFORCEMENT</b>				
22.10	<b>Steel reinforcement</b>				
	(a) Mild steel bars	ton			Rate Only
	(b) High tensile steel bars	ton			Rate Only
	(c) Welded steel fabric	kg			Rate Only
	<b>REMOVE CONCRETE</b>				
22.12	<b>Removing existing concrete, brickwork and stonework</b>				
	(a) Plain concrete	m <sup>3</sup>	20		
	(b) Reinforced concrete	m <sup>3</sup>	10		
	(c) Brickwork	m <sup>3</sup>	20		
	(d) Masonary walls and grouted stone pitching	m <sup>3</sup>			
	<b>MANHOLES, CATCHPITS, Etc.</b>				
22.17	<b>Manholes, catchpits, precast inlet and outlet structures complete</b>				
	(a) Manholes as per drawing				
	(i) Type A, up to 2.5m deep	no			
	(ii) Type A, up to 5.0m deep	no			
	Cast insitu base slab, 100mm thick, 25Mpa concrete including 2 layers of ref.193 mesh, on bedding prepared.	no			
	(b) Catchpits (kerbmaster or similar )				
	(i) 2,8m long for outgoing pipe up to 750mm dia	no			
	(ii) 3,35m long for outgoing pipe up to 750mm dia	no			Rate Only
	(c) Precast inlet and outlet structures				
	(i) For box culverts	no			Rate Only
	(ii) For Pipe culverts upto 1200mm dia. Outlets. As per Typical DWG	no	4		
<b>SECTION 2200 TOTAL CARRIED FORWARD</b>					

SCHEDULE A: ROADWORKS				SECTION 2200	
ITEM NO		UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>					
	<b>BRICKWORK</b>				
<b>22.18</b>	<b>Brickwork</b>				
	(a) 115mm Thick	m <sup>2</sup>			Rate Only
	(b) 230mm Thick	m <sup>2</sup>			Rate Only
	(c) 345mm Thick	m <sup>2</sup>			Rate Only
	<b>PLASTER AND BENCHING</b>				
<b>22.19</b>	<b>Plaster</b>	m <sup>2</sup>			Rate Only
<b>22.20</b>	<b>Benching (20mm average thick)</b>	m <sup>2</sup>			Rate Only
	<b>ACCESSORIES</b>				
<b>22.21</b>	<b>Accessories</b>				
	(a) Manhole cover and frame as per drawing	no			Rate Only
	(b) Inlet grid and frame as per drawing	no			Rate Only
	(c) Step iron as per drawing	no			Rate Only
<b>22.22</b>	<b>Anchors for pipes</b>				
	(a) As per drawing	no			Rate Only
<b>22.23</b>	<b>Service ducts</b>				
	(a) Ordinary pipes				
	(i) uPVC pipes				
	(i) 110mm Diameter	m			Rate Only
	(ii) 160mm Diameter	m			Rate Only
<b>22.24</b>	<b>Duct marker blocks</b>				
	(a) As per drawing	no			Rate Only
	<b>OVERHAUL</b>				
<b>22.25</b>	<b>Overhaul on excavated material carted to spoil, backfill existing structures demolished and removed to spoil, and removing and relaying, and removing and stacking existing prefabricated culverts, for haul in excess of the free haul distance</b>	m <sup>3</sup> /km			Rate Only
<b>B22.29</b>	<b>Removing and disposal of existing concrete pipe culverts of diameters:</b>				
	i) 450 mm	m			Rate Only
	ii) 600 mm	m			Rate Only
	iii) 900 mm	m			Rate Only
	iv) 1050 mm	m			Rate Only
<b>TOTAL SECTION 2200 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 2300	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>2300</b>	<b>CONCRETE KERBING, CONCRETE CHANNELING, CHUTES &amp; DOWNPIPES &amp; CONCRETE LININGS FOR OPEN DRAINS</b>				
	<b>PRECAST CONCRETE KERBS</b>				
<b>23.01</b>	<b>Class 30/19 precast concrete kerbing</b>				
	(a) Straight sections				
	(i) Figure `8b	m			Rate Only
	(ii) Figure 8c	m	1221		
	(iii) Figure 16	m	1221		
	(iv) Figure 12	m			Rate Only
	(b) Circular sections				
	(i) Figure `8b	m			Rate Only
	(ii) Figure 8c	m	920		
	(iii) Figure 10	m			Rate Only
	(iv) Figure 12	m			Rate Only
	<b>CHUTES</b>				
<b>23.04</b>	<b>Cast in situ concrete chutes (measured by components)</b>				
	(a) Class 30/19 concrete				
	(i) Chutes	m <sup>3</sup>	10		
	(b) Formwork class F1				
	(i) Vertical sides	m <sup>2</sup>	10		
	<b>CONCRETE LINED OPEN DRAINS</b>				
<b>B23.07</b>	<b>Trimming of excavation for concrete lined open drains</b>				
	(a) In Soft material	m <sup>2</sup>	2112		
	(b) In hard material	m <sup>2</sup>			Rate Only
<b>23.08</b>	<b>Concrete lining for open drains</b>				
	(a) To sides with formwork on the internal face only	m <sup>2</sup>	46		
	(b) To sides with formwork on both internal and external faces	m <sup>2</sup>	184		
	(c) To ends of slabs	m <sup>2</sup>			Rate Only
<b>SECTION 2300 CARRIED FORWARD</b>					

SCHEDULE A: ROADWORKS				SECTION 2300	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SECTION 2300 BROUGHT FORWARD					
23.10	Sealed joints in concrete linings of open drains (As per drawing)	m	410		
23.11	Concrete screed or backfill below chutes (a) Class 20/19 concrete	m <sup>3</sup>			Rate Only
23.12	Steel Reinforcement (a) Ref 395 Mesh Wire	ton			Rate Only
23.13	150 Micron black polyethelene sheeting for concrete lined open drains	m <sup>2</sup>	2112		
23.14	Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete lined drains	m			Rate Only
23.15	Precast concrete blocks in outlet structures (As per drawing)	no			Rate Only
B23.16	Demolition and removal of existing kerb and/or channel	m <sup>3</sup>			Rate Only
	EDGE BEAMS				
B23.17	Concrete edge beams (300mm x 200mm) Class 30/19 concrete				
	(a) Straight sections	m			Rate Only
	(b) Circular sections	m			Rate Only
TOTAL SECTION 2300 CARRIED TO SUMMARY					



SCHEDULE A: ROADWORKS				SECTION 3100	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>3100</b>	<b>BORROW MATERIALS</b>				
<b>31.01</b>	<b>Excess overburden</b>	m <sup>3</sup>	100		
	<b>FINISHING OFF</b>				
<b>31.03</b>	<b>Finishing off borrow areas in</b>				
	(a) Hard material	ha	1.0		
	(c) Soft material	ha	1.0		
<b>B31.04</b>	<b>Construction and maintenance of haul roads for materials from borrow pits and quarries</b>	km	1.0		
<b>B31.05</b>	<b>Exploration of borrow pits</b>				
	(a) Sampling of borrow materials by an approved materials laboratory	Prov Sum	1	35000	R 35 000.00
	(b) Handling cost and profit in respect of sub-item B31.05(a) above	%	R 35 000.00	5%	R 1 750.00
<b>B31.06</b>	<b>Royalties for the use of borrow pit</b>				
	(a) Royalty as agreed with Employer	Prov Sum	1	25000	R 25 000.00
	(b) Handling cost and profit in respect of sub-item B31.06(a) above	%	R 25 000.00	5%	R 1 250.00
<b>TOTAL SECTION 3100 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 3300	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>3300</b>	<b>MASS EARTHWORKS</b>				
	<b>CUT AND BORROW TO FILL</b>				
<b>B33.01</b>	<b>Cut and borrow to fill, including free-haul up to 5km</b>				
	(a) Material in compacted layer thickness of 200mm and less				
	(i) Compacted to 90% mod.AASHTO density	m <sup>3</sup>	3150		
	(ii) Compacted to 93% mod.AASHTO density				
	(1) At gravel access bellmouths	m <sup>3</sup>			Rate Only
	(iii) Eight roller passes compaction	m <sup>3</sup>			Rate Only
	(b) Material in compacted layer thickness exceeding 200mm				
	(i) Compacted to 90% mod.AASHTO density	m <sup>3</sup>			Rate Only
	(ii) Compacted to 93% mod.AASHTO density	m <sup>3</sup>			Rate Only
	(iii) Eight roller passes compaction	m <sup>3</sup>			Rate Only
	(c) Rock fill (as specified in subclause 3209(c))	m <sup>3</sup>			Rate Only
	(e) Pioneer layer (as specified in subclause 3307(c))	m <sup>3</sup>			Rate Only
<b>33.03</b>	<b>Extra over item B33.01 for excavating and breaking down material in</b>				
	(a) Intermediate excavation	m <sup>3</sup>			Rate Only
	(b) Hard excavation	m <sup>3</sup>			Rate Only
	(c) Boulder excavation class A	m <sup>3</sup>			Rate Only
	(d) Boulder excavation class B	m <sup>3</sup>			Rate Only
<b>TOTAL SECTION 3300 CARRIED FORWARD</b>					

SCHEDULE A: ROADWORKS				SECTION 3300	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SECTION 3300 BROUGHT FORWARD					
<b>B33.04</b>	<b>CUT TO SPOIL</b>				
	<b>Cut to spoil including freehaul up to 5km with material obtained from</b>				
	(a) Soft excavation	m <sup>3</sup>	2103		
	(b) Intermediate excavation	m <sup>3</sup>	210		
	(c) Hard excavation	m <sup>3</sup>	105		
	(d) Boulder excavation class A	m <sup>3</sup>	10		
	(e) Boulder excavation class B	m <sup>3</sup>	10		
<b>VARIATIONS</b>					
<b>33.06</b>	<b>Variation in the number of roller passes</b> (applicable to subitems B33.01(a)(iii) and B33.01(b)(iii) and item 33.11)				
	(a) Vibratory rollers	m <sup>2</sup> /pass			Rate Only
	(b) Oscillatory rollers	m <sup>2</sup> /pass			Rate Only
	(c) Grid rollers	m <sup>2</sup> /pass			Rate Only
	(d) Tamping rollers	m <sup>2</sup> /pass			Rate Only
	(e) Impact rollers	m <sup>2</sup> /pass			Rate Only
	(f) Pneumatic-tyred rollers	m <sup>2</sup> /pass			Rate Only
<b>UNSUITABLE MATERIAL</b>					
<b>B33.07</b>	<b>Removal of unsuitable material (including free-haul of 5km)</b>				
	(a) In layer thicknesses of 200mm and less				
	(i) Stable material	m <sup>3</sup>			Rate Only
	(ii) Unstable material	m <sup>3</sup>			Rate Only
	(b) In layer thicknesses exceeding 200mm				
	(i) Stable material	m <sup>3</sup>			Rate Only
	(ii) Unstable material	m <sup>3</sup>			Rate Only
<b>WIDENING OF CUTS</b>					
<b>33.08</b>	<b>Widening of cuts</b> (extra over items B33.01, 33.02 and B33.04)				
	(a) In hard material	m <sup>3</sup>			Rate Only
	(b) In boulder material class A or class B	m <sup>3</sup>			Rate Only
	(c) In all other materials	m <sup>3</sup>			Rate Only
<b>TOTAL SECTION 3300 CARRIED FORWARD</b>					

SCHEDULE A: ROADWORKS				SECTION 3300	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SECTION 3300 BROUGHT FORWARD					
	<b>ROADBED</b>				
<b>33.10</b>	<b>Roadbed preparation and the compaction of material</b>				
	(a) Compaction to 90% mod AASHTO density	m <sup>3</sup>			Rate Only
	(b) Compaction to 93% mod AASHTO density	m <sup>3</sup>	1102		
<b>33.11</b>	<b>Three roller passes compaction</b>				
	(a) Vibratory rollers	m <sup>2</sup>			Rate Only
	(b) Oscillatory rollers	m <sup>2</sup>			Rate Only
	(c) Grid rollers	m <sup>2</sup>			Rate Only
	(d) Tamping rollers	m <sup>2</sup>			Rate Only
	(e) Impact rollers	m <sup>2</sup>			Rate Only
	(f) Pneumatic-tyred rollers	m <sup>2</sup>			Rate Only
<b>33.12</b>	<b>In situ treatment of roadbed by</b>				
	(a) Ripping	m <sup>3</sup>	1002		Rate Only
	(b) Blasting	m <sup>3</sup>			
	<b>FINISHING</b>				
<b>33.13</b>	<b>Finishing off cut and slopes, medians and interchange areas</b>				
	(a) Cut slopes	m <sup>2</sup>	2124		
	(b) Fill slopes	m <sup>2</sup>	637		
	(c) Medians and interchange areas	m <sup>2</sup>			Rate Only
<b>33.14</b>	<b>Extra over item 33.01 for excavating material from the pavements and fills of the existing roads</b>				
	(a) Non-cemented material	m <sup>3</sup>			Rate Only
	(b) Cemented material	m <sup>3</sup>			Rate Only
TOTAL SECTION 3300 CARRIED FORWARD					

SCHEDULE A: ROADWORKS				SECTION 3300	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SECTION 3300 BROUGHT FORWARD					
33.16	Widening of fills as specified in subclause B3307(i) extra over				
	(a) Item B33.01(a)	m <sup>3</sup>	50		
	(b) Item B33.01(b)	m <sup>3</sup>	50		
	<b>STOCKPILING MATERIAL</b>				
B33.20	Fill constructed with material obtained from commercial sources provided by the contractor including all haul				
	(a) Gravel material in compacted layers thickness of 200mm and less				
	(i) Compacted to 93% of MDD	m <sup>3</sup>			Rate Only
33/32.06	Stockpiling of material	m <sup>3</sup>			Rate Only
	<b>RESTRICTED AREAS</b>				
	Refer to clause B1155 : Under this contract, no additional or extra over payment will be made for work in restricted areas				
TOTAL SECTION 3300 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 3400	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>3400</b>	<b>PAVEMENT LAYERS OF GRAVEL MATERIAL</b>				
<b>B34.01</b>	<b>Pavement layers constructed from gravel taken from cut or borrow, including free-haul up to 5,0 km:</b>				
	(d) Gravel subbase (chemically stabilized material) (150mm thick) compacted to 96% of MDD (i) C4	m <sup>3</sup>	1323		
	(f) Gravel base (chemically stabilised material) (150mm thick) compacted to 96% of MDD: C4	m <sup>3</sup>	1 521		
<b>34.02</b>	<b>Extra over item B34.01 for excavation of material in</b>				
	(a) Intermediate excavation	m <sup>3</sup>			Rate Only
	(b) Hard excavation	m <sup>3</sup>			Rate Only
<b>34/B16.02</b>	<b>Overhaul on material hauled in excess of 5,0 km (ordinary overhaul)</b>	m <sup>3</sup> -km			Rate Only
<b>34/32.04</b>	<b>Removal of oversize pavement material</b>	m <sup>3</sup>			Rate Only
<b>34/32.05</b>	<b>Additional normal grid rolling</b>	m <sup>3</sup>			Rate Only
<b>TOTAL SECTION 3400 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 3500	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>3500</b>	<b>STABILIZATION</b>				
<b>B35.01</b>	<b>Chemical stabilisation extra-over unstabilized compacted layers:</b>				
	(a) Subbase (C4 nominal cement 3.5%, Extra over B34.04(e))				
	(1) 150mm	m <sup>3</sup>	1 323		
	(b) Base (C4 nominal cement 3,5%, 150mm thick)(Extra over B34.01(f))				
	(2) 150mm	m <sup>3</sup>	1 521		
<b>B35.02</b>	<b>Chemical stabilising agent:</b>				
	(a) CEM II/A-V 32.5	t	171		
	(c) Road lime (type indicated)	t			Rate Only
<b>35.03</b>	<b>Mechanical modification (extra over untreated layer)</b>				
	(b) By mixing materials from different sources	m <sup>3</sup>			Rate Only
<b>35.05</b>	<b>Curing by covering with the subsequent layer</b>				
	(a) 150mm Subbase with C4 base	m <sup>2</sup>			Rate Only
<b>35.13</b>	<b>Extra over B35.01 for trial section</b>	m <sup>3</sup>			Rate Only
<b>35/33.11</b>	<b>Three roller compaction (before mixing of cement by recycler)</b>				
	(a) Vibratory roller (smooth drum)	0			
	(i) Subbase (B35.01)	m <sup>2</sup>			Rate Only
<b>35/B34.14</b>	<b>Provisional sum for sampling and testing of material for stabilisation design</b>				
<b>TOTAL SECTION 3500 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 5100	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>5100</b>	<b>PITCHING, STONEWORK AND PROTECTION AGAINST EROSION</b>				
<b>51.01</b>	<b>Stone pitching</b>				
	c) Grouted stone pitching on a concrete bed (concrete class 20/19 and total thickness of 100mm)	m <sup>2</sup>	32		
	<b>SEGMENTED PAVING FOR SIDEWALKS</b>				
<b>51.04</b>	<b>Concrete pitching and block paving</b>				
	(d) Prefabricated concrete paving blocks for sidewalks pavement and road surfacing				
	(i) Sidewalks				
	(1) Z-interlocking paver 50mm thickness (200x100) Grey	m <sup>2</sup>			Rate only
<b>TOTAL SECTION 5100 CARRIED TO SUMMARY</b>					



SCHEDULE A: ROADWORKS				SECTION 5600	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>5600</b>	<b>ROAD SIGNS</b>				
<b>56.01</b>	<b>Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class I retro-reflective material, where the board is constructed from</b>				
	(c) Prepainted galvanized steel plate ( 2mm Chromadec)				
	(i) Area not exceeding 2 m <sup>2</sup>	m <sup>2</sup>	40		
	(ii) Area exceeding 2 m <sup>2</sup> but not exceeding 10 m <sup>2</sup>	m <sup>2</sup>			Rate Only
	(iii) Area exceeding 10 m <sup>2</sup>	m <sup>2</sup>			Rate Only
<b>56.02</b>	<b>Extra over item 56.01 for using:</b>				
	(a) Background of retro reflective material				
	(i) Class I	m <sup>2</sup>			Rate Only
	(ii) Class II	m <sup>2</sup>			Rate Only
	(iii) Class III	m <sup>2</sup>			Rate Only
	(b) Lettering, symbols, numbers, arrows, emblems, and borders of retro-reflective material				
	(i) Class II	m <sup>2</sup>			Rate Only
	(ii) Class III	m <sup>2</sup>			Rate Only
	<b>SIGN SUPPORTS</b>				
<b>56.03</b>	<b>Road sign supports</b> (overhead road sign structures excluded)				
	(b) Timber posts				
	(i) 150mm Diameter CCA treated	m	70		
<b>56.05</b>	<b>Excavation &amp; backfilling for road sign supports (not applicable to kilometer posts)</b>				
		m <sup>3</sup>	10		
<b>56.06</b>	<b>Extra over item 56.05 for cement-treated soil backfill</b>				
<b>TOTAL SECTION 5600 CARRIED FORWARD</b>					

SCHEDULE A: ROADWORKS				SECTION 5600	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL SECTION 5600 BROUGHT FORWARD					
	<b>EXISTING SIGNAGE</b>				
<b>56.08</b>	<b>Dismantling, storing and re-erecting road signs with</b>				
	(a) Area not exceeding 2 m <sup>2</sup>	m <sup>2</sup>			Rate Only
	(b) Area exceeding 2 m <sup>2</sup> but not exceeding 10 m <sup>2</sup>	m <sup>2</sup>			Rate Only
	(c) Area exceeding 10 m <sup>2</sup>	m <sup>2</sup>			Rate Only
	<b>TRAFFIC SIGNS ERECTED COMPLETE</b>				
<b>B56.10</b>	<b>Statutory signs, street names, etc. supplied and erected complete</b>				
	(a) Provision and erection of regulatory traffic signs for 60km/h design standard, complete				
	(i) Stop sign (R1)	No	14		
	(ii) R201 (Speed limit 40km/h)	No	10		
	(b) Provision and erection of warning traffic signs for 60km/h design standard, complete				
	(i) W104 (T-junction)	No			Rate Only
	(ii) W307 (pedestrians)	No	4		
	(iii) W332 (Speed humps)	No	14		
	(c) Provision and erection of information traffic signs for 60km/h design standard, complete				
	(i) W401 or W402 (Danger Plates 150mm x 600mm)	No			Rate Only
	(ii) W202 or W203 (Gentle curve chevron 450mm x 450mm)	No			Rate Only
TOTAL SECTION 5600 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 5700	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>5700</b>	<b>ROAD MARKINGS</b>				
<b>57.02</b>	<b>Retro-reflective road-marking paint:</b>				
	(a) White lines (broken or unbroken)				
	(i) 100 mm wide	km	1.06		
	(ii) 300 mm wide	km	1		
	(iii) 500 mm wide	km	80.00		
	(b) Yellow lines (broken or unbroken)				
	(i) 100 mm wide	km			Rate Only
	(d) White lettering and symbols	m <sup>2</sup>	56		
<b>57.04</b>	<b>Variations in rate of application:</b>				
	(a) White paint	l			Rate Only
	(b) Yellow paint	l			Rate Only
<b>57.06</b>	<b>Setting out and pre-marking the lines (excluding traffic island markings, lettering and symbols)</b>	km	1.06		
<b>57.07</b>	<b>Re-establishing the painting unit at the end of the maintenance period</b>	No	1		
<b>TOTAL SECTION 5700 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 5900	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
59.01	Finishing the road and road reserve:				
	(b) Single carriageway road	m <sup>2</sup>	334		
TOTAL SECTION 5900 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 5900	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>7300</b>	<b>CONCRETE BLOCK PAVING FOR ROADS</b>				
<b>73.01</b>	<b>Finishing the road and road reserve:</b>				
	(a) Provide and Construct interlocking paving lain in herringbone pattern 80 mm thick, 25 Mpa Type S-A concrete paving blocks. Price must include bedding, 20mm Sand layer, Compaction and finishing ( Colour to suit Client)	m <sup>2</sup>	7682		
<b>TOTAL SECTION 5900 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 8100	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>8100</b>	<b>TESTING MATERIALS AND WORKMANSHIP</b>				
81.02	(a) Acceptance control testing by the Engineer	PC Sum	1	R 105 000	R 105 000.00
	Handling cost and profit in respect of subitem B81.04(a)	%	105 000	5.00%	R 5 250.00
	<b>Note:</b>				
	<b>The cost for process control by the contractor must be included in his tendered rates.</b>				
<b>TOTAL SECTION 8100 CARRIED TO SUMMARY</b>					

SCHEDULE B: ENVIRONMENTAL MANAGEMENT					
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>PART C</b>	<b>ENVIRONMENTAL MANAGEMENT</b>				
C10.01	Environmental Control Officer				
	(a) Payment of Environmental Officer	Prov. Sum	1	R 55 000.00	R 55 000.00
	(d) Handling cost and profit in respect of subitem C10.01(a)	%	55 000	5.00%	R 2 750.00
<b>TOTAL SCHEDULE B CARRIED TO SUMMARY</b>					

SCHEDULE C: OHS ACT OBLIGATIONS					
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>PART E</b>	<b>OCCUPATIONAL HEALTH AND SAFETY ACT OBLIGATIONS (As and when required by the client)</b>				
E10.01	(a) Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Prov. Sum	1.00	R 10 000.00	R 10 000.00
	(b) Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Months	12.00		
	(c) Submission of the Health and Safety File	Lump Sum	1.00		
	(d) Provision for personal protection equipment and clothing	Lump Sum	1.00		
	(e) OHS training	Prov. Sum	1.00	R 30 000.00	R 30 000.00
E10.02	<b>Occupational Health &amp; Safety Agent on behalf of the Employer</b>				
	(a) Payment of OHS Agent	Prov Sum	12	R 45 000.00	R 540 000.00
	(d) Handling cost and profit in respect of subitem E10.02(a)	%	540 000	5.00%	R 27 000.00
<b>TOTAL SCHEDULE C CARRIED TO SUMMARY</b>					



SCHEDULE D: TRAINING					
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>PART F</b>	<b>STRUCTURED TRAINING</b>				
F10.01	<b>Training</b>				
	(a) CETA Accredited training	Prov. Sum	1	R50 000.00	R 50 000.00
	(i) Generic skills	Prov Sum	1	R50 000.00	R 50 000.00
	(ii) Entrepreneurial skills	Prov Sum	1	R10 000.00	R 10 000.00
	(iii) Experiential training for S4 civil students.	Prov Sum	12	R15 000.00	R 180 000.00
	(d) Handling cost and profit in respect of subitems F10.01(i) to (iii)	%	R180 000.00	5%	R 9 000.00
	(e) Training venue	Lump Sum	1		
	(f) Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity of the site	Lump Sum	1		
	(g) Handling cost and profit in respect of subitem F10.01(f)	%		5.00%	
<b>TOTAL SCHEDULE C CARRIED TO SUMMARY</b>					

<b>SUMMARY OF BILL OF QUANTITIES</b>		
<b>SCHEDULE A : ROADWORKS</b>		
<b>SECTION</b>	<b>DESCRIPTION</b>	<b>AMOUNT</b>
1200	General requirements and provisions	
1300	Contractor's establishment on site and general obligations	
1400	Offices and laboratory for site personnel	
1500	Accommodation of traffic	
1700	Clearing and grubbing	
1800	Dayworks	
2100	Drains	
2200	Prefabricated culverts	
2300	Concrete kerbing, concrete channeling, chutes and downpipes, and concrete linings for open drains	
3100	Borrow materials	
3300	Mass earthworks	
3400	Pavement layers of gravel materials	
3500	Stabilization	
5100	Pitching, Stonework and Protection	
5600	Road signs	
5700	Road markings	
5900	Finishing the road and road reserve and treating old roads	
7300	Concrete Block Paving For Roads	
8100	Testing materials and workmanship	
<i>SCHEDULE A: ROADWORKS</i>		
<i>SCHEDULE B : ENVIRONMENTAL MANAGEMENT</i>		
<i>SCHEDULE C : OHS ACT OBLIGATIONS</i>		
<i>SCHEDULE D: TRAINING</i>		
<b>SUB-TOTAL</b>		
10% CONTINGENCIES (This amount is under the sole control of the employer)		
<b>TOTAL COST OF CONSTRUCTION (Excl VAT)</b>		
VAT @ 15%		
<b>TOTAL COST OF CONSTRUCTION (Incl VAT)</b>		