

PROJECT: FRAMEWORK CONTRACTS FOR CIVIL ENGINEERING CONTRACTS - ROADS UPGRADES & NEW

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
CE.2200	PREFABRICATED CULVERTS				
CE22.01	Excavation				
	(i) 0m up to 1,5 m	m³	210		
	(ii) Exceeding 1,5 m and up to 3, 0m	m³	225		
22,02	Backfilling				
	(a) Using excavated material	m³	225		
	(b) Using imported selected material				
	(i) Imported selected material from commercial sources (medium grade)	m³	140		
	(c) Extra over subitems 22.02 (a) and (b) for soil cement backfilling (3% CEM II 32.5 or similar)	m³	50		
22,3	Concrete pipe culverts:				
	(a) Concrete encased bedding				
	(i) 300 mm diameter, class 100 D	m	60		
	(iii) 450 mm diameter, class 100 D	m	60		
	(iv) 600 mm diameter, class 100 D	m	20		
	(b) On class B bedding:				
	(i) 300 mm diameter, class 100 D	m	60		
	(ii) 375 mm diameter, class 100 D	m	60		
	(iv) 600 mm diameter, class 100 D	m	20		
22,07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork				
	(i) Class 20/19	m³	120		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including class U2 surface finish				

	(i) Class 30/19	m ³	30		
	(d) Formwork of concrete under subitem 22.07 (c) above:				
	(i) F1 surface finish on unexposed surfaces	m ²	70		
22.10	Steel reinforcement:				
	(a) Mild steel bars (Hot Dipped Galvanised)	t	1		
	(b) High-tensile steel bars (Hot Dipped Galvanised)	t	4		
	(c) Welded steel fabric (Hot Dipped Galvanised)	kg	500		
22.11	Dowels for joining old and new concrete (Hot dipped Galvanised as per B63.1)	kg	360		
22.12	Removing existing concrete & brickwork:				
	(a) Plain concrete and masonry	m ³	20		
	(b) Reinforced concrete	m ³	20		
	(c) Brickwork (up to 345mm thick)	m2	120		
22.15	Treating existing concrete and steel surfaces for joining new to old concrete				
	(a) Epoxy resin (wet to dry)	l	10		
	(b) Coating of cut steel with suitable rust inhibitor	l	10		
22.18	Brickwork:				
	(a) 115mm thick	m2	20		
	(b) 230mm thick	m2	70		
	(c) 345mm thick	m2	40		
22.2	Benching	m2	30		
22.21	Accessories:				
	(a) Manhole covers and grid inlets including frames	Prov Sum	1	Work package stage	
	(b) Handling costs and profit in respect of sub-item 22.21 (a)	%		Work package stage	
22.23	Service ducts:				

	(a) Ordinary pipes (110mm dia)	m	100		
	Duct Marker Blocks	no	10		
SUBTOTAL SECTION CE2200 CARRIED FORWARD TO SUMMARY					

PROJECT: FRAMEWORK CONTRACTS FOR CIVIL ENGINEERING CONTRACTS - ROADS UPGRADES & NEW

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
CE2400	THE RE-INSTATEMENT AND UPGRADING OF THE 40 TON ROAD SURFACE				
	SITE CLEARANCE				
24,01	Demolish, removal and disposal from site 9of miscellaneous structures consisting):				
	(a) Unreinforced concrete	m ³	4		
	(b) Masonry and stone pitching	m ³	8		
	(c) Reinforced concrete	m ³	2		
	(d) Pipe culvert (450mm-600mm)	m ³	15		
24,02	Demolish and remove from site reinforced concrete surface bed	m ³	200		
24,03	Demolish and remove from site reinforced concrete edge beam 200x250 mm high,laser or thermal cut in new outline of new projecting beam	m	50		
	EARTHWORKS				
24,04	Cut to spoil in all materials	m ³	1000		
24,05	Restricted Excavation in all materials and dispose to a site provided by the Contractor:				
(a)	Foundations	m ³	38		
24,06	Excavate in all materials and use for backfill:				
(b)	next to Foundations	m ²	80		
	Extra over for:				
24,07	Intermediate excavate	m ³	38		
24,08	Allowance for dewatering	sum		Work package stage	
	EARTHWORKS (SMALL WORKS)				
24,09	Over Excavation in all materials and dispose to a site provided by the Contractor:				

24.10	Imported G5 Layer in 150mm thicklayers,constructed from material imported from commercial sources compacted to 95% of	m³	600		
24,11	Imported G6 Layer in 150mm thicklayers, constructed from material imported	m³	600		
	(c) Welded steel fabric ref 311	kg	22		
SUBTOTAL SECTION CE2400 CARRIED FORWARD TO SUMMARY					

PROJECT: FRAMEWORK CONTRACTS FOR CIVIL ENGINEERING CONTRACTS - ROADS UPGRADES & NEW

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
CE2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS				
23,01	Concrete kerbing				
	(a) Pre-cast kerbing to SABS 927 (typical designs)				
	(i) Radii less than 12 meters	m	100		
	(ii) Radii in excess of 12 meters	m	100		
23,02	(a) Pre-cast Figure 4 kerb and channel (20/19)	m	1750		
23,03	Concrete chutes (typical designs)	m	80		
23,05	Inlet, outlet, transition and similar structures (typical designs):				
(a)	Insitu, inlet structures for downpipes (typical designs), class 25/19 concrete	m	10		
(b)	Insitu, outlet structures for downpipes (typical designs), class 25/19 concrete	m	10		
(c)	Insitu, transition (typical designs), class 25/19 concrete	m	10		
(d)	Down chute inlet at catchwater banks (typical designs), class 25/19 concrete	m	10		
23,05	Trimming of excavations for concrete-lined open drains:				
(a)	In soft material	m2	1200		
(a)	In hard material	m2	800		
23,08	Concrete lining for open drains:				
	(a) Cast in situ concrete lining (Class 30/19 concrete) lining in concrete drains: 125mm thick				
	(i) Trapezoidal open drain	m³	100		
	(ii) 1m wide side drain Concrete V-drain	m³	85		
	(iii) Box channel	m³	25		
	(iv) Concrete lining for mini-circles splitter islands and walkways:				

	(1) Cast in situ concrete lining (Class 30/19 concrete, 100mm thick)	m³	150		
	(2) Class U2 surface finish to cast in situ concrete for mini-circles splitter islands and walkways	m²	235		
	(b) Class U2 surface finish to cast in situ concrete for all drain types	m²	650		
23,09	Formwork to cast in situ concrete lining for open drains (Class F2 surface finish):				
	(b) To sides with formwork on both internal and external faces (each face measured)	m²	1050		
	(c) To ends of slabs	m²	1200		
23,1	Sealed joints in concrete linings of open drains:				
	(a) Silicone sealant in expansion joints at 10m intervals	m	1500		
23,12	Steel reinforcement:				
	(c) Welding steel fabric (ref. 311)	m2	1200		
23,13	Polyethylene sheeting (0.15mm thick) for concrete-lined open drains (DPC / DPM 150 micron acceptable)	m2	1200		
23.16	Demolition and removal of existing kerbs and/or channel, concrete lined drains:				
	(a) On curves of radii more than or equal to 5,0m but less than 20,0 m	m	174		
	(b) On on curves with radii more than or equal to 1,0m but less than 5, m	m	20		
	(c) On curves with radii less than 1,0 m	m	20		
23.18	Construction/Rehabilitation of miscellaneous stormwater related infrastructure	Prov Sum	1	Work package stage	
	(a) Handling costs and profit in respect of sub-item CE23.18 (a)	%		Work package stage	
SUBTOTAL SECTION CE2300 CARRIED FORWARD TO SUMMARY					

PROJECT: FRAMEWORK CONTRACTS FOR CIVIL ENGINEERING CONTRACTS - ROADS UPGRADES & NEW

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
CE.2600	PRECAST CONCRETE				
26,01	Supply Precast reinforced concrete beams. Length of beams may need modification depending on actual position of piles therefore lengths to be verified on site after piling is complete:				
26,03	Beam PB2 size 450x600mm high overall with notch 100x120mm high on 2edges, overall length of 7290mm	No	13		
26,05	Beam PB4 size 450x400mm high overall with notch 100x120mm high on 2edges, overall length of 2185mm	No	3		
26,06	Beam PB5 size 450x400mm high overall with notch 100x120mm high on 2edges, overall length of 2790mm	No	3		
26,07	Beam PB6 size 450x400mm high overall with notch 100x120mm high on 2edges, overall length of 2685mm	No	10		
26,08	Beam PB9 size 450x400mm high overall with notch 100x120mm high on 2edges, overall length of 2300mm	No	2		
26,09	Beam PB7 size 450x600mm high overall with notch 100x120mm high on 1 edge, overall length of 2685mm	No	1		
26.10	Beam PB8 size 450x600mm high overall with notch 100x120mm high on 1 edge, overall length of 5315mm	No	1		
26,11	Beam PB10 size 450x600mm high overall with notch 100x120mm high on 1 edge, overall length of 2300mm	No	2		
26,12	Beam PB11 size 450x600mm high overall with notch 100x120mm high on 2edges, overall length of 7290mm	No	2		
SUBTOTAL SECTION CE2500 CARRIED FORWARD TO SUMMARY					

PROJECT: FRAMEWORK CONTRACTS FOR CIVIL ENGINEERING CONTRACTS - ROADS UPGRADES & NEW

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
CE.2600	PRECAST CONCRETE				
26,01	Supply Precast reinforced concrete beams. Length of beams may need modification depending on actual position of piles therefore lengths to be verified on site after piling is complete:				
26,03	Beam PB2 size 450x600mm high overall with notch 100x120mm high on 2edges, overall length of 7290mm	No	13		
26,05	Beam PB4 size 450x400mm high overall with notch 100x120mm high on 2edges, overall length of 2185mm	No	3		
26,06	Beam PB5 size 450x400mm high overall with notch 100x120mm high on 2edges, overall length of 2790mm	No	3		
26,07	Beam PB6 size 450x400mm high overall with notch 100x120mm high on 2edges, overall length of 2685mm	No	10		
26,08	Beam PB9 size 450x400mm high overall with notch 100x120mm high on 2edges, overall length of 2300mm	No	2		
26,09	Beam PB7 size 450x600mm high overall with notch 100x120mm high on 1 edge, overall length of 2685mm	No	1		
26,10	Beam PB8 size 450x600mm high overall with notch 100x120mm high on 1 edge, overall length of 5315mm	No	1		
26,11	Beam PB10 size 450x600mm high overall with notch 100x120mm high on 1 edge, overall length of 2300mm	No	2		
26,12	Beam PB11 size 450x600mm high overall with notch 100x120mm high on 2edges, overall length of 7290mm	No	2		
SUBTOTAL SECTION CE2500 CARRIED FORWARD TO SUMMARY					

PROJECT: FRAMEWORK CONTRACTS FOR CIVIL ENGINEERING CONTRACTS - ROADS UPGRADES & NEW

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
CE.3300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND ND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS				
33.01	Cut and borrow to fill, including free-haul up to 1.0km				
	(a) Material in compacted layer thickness of 200mm and less:				
	(i) Compacted to 93 % of modified AASHTO density	m³	1500		
	(b) Material in compacted layer thickness of 200mm - 500mm :				
	(i) Compacted to 90 % of modified AASHTO density	m³	1500		
	(ii) Compacted to 93 % of modified AASHTO density	m³	1500		
	(iii) Eight roller passes compaction	m³	1500		
	(c) Rock fill (as specified in subclause 3209	m³	450		
	(d) Pioneer layer (as specified in subclause 3207 (m³	450		
33.03	Extra over item 33.01 for excavating and breaking down material in:				
	(a) Intermediate excavation	m³	150		
	(b) Hard excavation	m³	450		
	(c) Boulder excavation class A	m³	500		
	(d) Boulder excavation class B	m³	500		
33.04	Cut and borrow to fill, including free-haul up to 1.0km, material obtained from:				

	(a) Soft excavation	m ³	35		
	(a) Intermediate excavation	m ³	20		
	(c) Boulder excavation class A	m ³	15		
	(d) Boulder excavation class B	m ³	15		
33,7	(a) Non-plastic sand with up to 2% passing through the 0.075 sieve, compacted to 100% Mod AASHTO density	m ³	1000		
	Removal of unsuitable material (including free-haul up to 1.0 km):				
	(a) In layer thicknesses of 200 mm and less:				
	(i) Stable material	m ³	375		
33,1	(b) In layer thicknesses exceeding 200 mm:				
	(i) Stable material	m ³	375		
	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93 % of modified AASHTO density	m ³	43		
33,11	Three roller passes compaction:				
	(a) Vibratory roller	m ²	1500		
	(c) Grid roller	m ²	1500		
	(f) Pneumatic-tyred roller	m ²	1500		
33,12	In-situ treatment of roadbed (cutting):				
	(a) In situ treatment by ripping	m ³	4300		
	(b) In situ treatment by blasting	m ³	86		
33,13	Finishing-off cut and fill slopes, medians and interchange areas				
	(a) Cut slopes	m ²	4300		
	(b) Fill slopes	m ²	4300		
SUBTOTAL SECTION CE3300 CARRIED FORWARD TO SUMMARY					

PROJECT: FRAMEWORK CONTRACTS FOR CIVIL ENGINEERING CONTRACTS - ROADS UPGRADES & NEW

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
CE.4200	ASPHALT BASE & SURFACING				
42,01	Asphalt base: Asphalt surfacing 40mm thick using 50/70 penetration grade bitumen (a) 40mm, Continuously graded Hot Mix Asphalt with 35/50 Pen Grade binder	m2	Rate Only		
42,04	Tack coat of 30% stale-grade emulsion	l	Rate Only		
42,05	Binder variations (a) 60/70 Penetration Grade Binder	t	Rate Only		
42,06	Variation in active filler content (a) Cement (b) Lime	t t	Rate Only Rate Only		
42.08	100mm diameter cores in asphalt paving	no	5		
42,13	Placing and compacting asphalt in restricted areas: (a) Extra over item 42.01	m2	48		
42,14	Extra over item 42.04 for applying tack coat in restricted areas	l	48		
SUBTOTAL SECTION CE4200 CARRIED FORWARD TO SUMMARY					

SCHEDULE A : ROUTINE ROADS MAINTENANCE
PART A : MANAGEMENT
RD.M01

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
RD.M01	<u>CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS</u>				
	FIXED RELATED ITEMS				
RD.M01.1	Contractual requirements, including NEC 3 Core, Dispute Resolution, Secondary Option	LS	1	Work package stage	
RD.M01.2	Establishment of Facilities on the Site	LS	1	Work package stage	
	a) Furnished offices - TYPE 2 -PSAB 3.2.1	month	1		
	b) Telephones.	month	1		
	c) Name boards.	LS	1	Work package stage	
	d) Rented Housing	PROV. SUM	1	Work package stage	
	Handling costs and profit in respect of sub-item RD.M01.2(d) above	%		Work package stage	
RD.M01.4	Facilities for Contractor See PS A 4.2 : Offices and storage sheds.				
	a) Workshops	m2	150		
	b) Laboratories	m2	200		
	c) Living accomodation	month	12		
	d) Ablution and latrine facilities (chemical portable toilets to be well maintained / serviced for the entire duration of the contract).	month	1		
	e) Open concrete working floors, 150 mm thick	m2	100		
	f) Roofs over open concrete working floors	m2	80		
	g) Kitchen unit (for a contractor and his employees)	No	2		
	h) Change room with shower (for different genders)	m2	3 500		

RD.M01.5	Tools and equipment (basic)	Sum	1	
	The Contractor is to note that all Security and Access Control requirements must be in accordance with and conform to TNPA requirements	month	12	
	Office and laboratory furniture:			
	(a) Chairs:			
	(i) Office swivel chair	No	6	
	(ii) Office chair	No	12	
	(c) High chairs for laboratory	No	12	
	d) Office desk with 3 drawers (at least one lockable drawer)	No	8	
	(f) Conference table (including 12 No. sturdy chairs)	No	1	
RD.M01.9	Office and laboratory fittings Installations and equipment:			
	a) Items measured by number:			
	(i) 220/250 volt power outlet plug point	No	50	
	(ii) 400/231 volt 3-phase power outlet plug point	No	1	
	(iii) Single 80 watt fluorescent tube ceiling light complete with ballast and tubes	No	1	
	(iv) Double 80 watt fluorescent tube ceiling light complete with ballast and tubes	No	20	
	(vii) Laboratory basins complete with swan-neck taps and drains	No	8	
	(viii) Extractor fans installed complete with own power connections	No	1	
	(x) Fire extinguishers (9,0 kg), all purpose dry powder type, complete, mounted on wall with brackets	No	12	
	(xi) Air-conditioning unit with own power connection	No	12	

	(xiii) Curing chamber for UCS specimens, complete with water connection, including the provision of brick partitions, plaster, paint and shelving, all complete according the drawings	No	4		
	xiv) General-purpose steel cupboards with shelves	No	4		
	xv) General-purpose steel cupboards with drawers	No	4		
	(xviii) UPS / Voltage stabilizer for use with a single computer	No	6		
	(xix) Plan holder	No	6		
	(xx) Floodlights complete with poles, 500 Watt (minimum) globes and photocell for security	No	6		
	(xxi) Rain gauge	No	1		
	(xxii) Minimum/maximum atmospheric temperature gauge	No	1		
	(xxiii) Digital thermometer	No	1		
	(xxiv) Mobile outdoor weather station	No	1		
	(xxv) Measuring wheel	No	3		
	xxvii) First aid kit	No	3		
RD.M01.10	Environmental obligations: The Contractor is to take cognizance of the Environmental Management Programme Act the Contractor is to allow a lump-sum price which he deems sufficient to enable him to meet any costs he will encounter in the application of the various clauses in the Environmental Management Programme, for the entire duration of the contract.	Sum	1	Work package stage	
RD.M01.10.1	Reporting obligations	Month	10		
RD.M01.11	Health and Safety obligations: The Contractor is to allow for compliance with ALL CURRENT Ports Authority Health and Safety requirements, procedures & legislation (OHSACT), which includes the employment of registered safety Personnel, as required in terms of the Conditions of Contract				
RD.M01.11.1	Reporting obligations	Month	10		

RD.M01.11.2	The Contractor is to allow for the procurement of ALL necessary PPE wear for the duration of the project. This allowance is to include for own workers and personnel, as well as sub- contractors working on this project	Month	12	
RD.M01.12	Prime-cost items and items paid for in a lump sum:			
	i) The Contractor is to allow for the provision of all required communication equipment on site (includes fax machine, printers, copier machine, scanner, land telephone lines, 3G cards, Cell phones costs, including pro-rata rentals, for calls made in connection with contract administration)	Month	12	
	ii) The provision of internet connectivity and Wi-Fi data for Employer's Agent's site staff	Month	12	
RD.M01.13	Items measured by area:			
	(i) Notice boards (not exceeding 5m2)	m2	4	
	ii) Whiteboards and pens (not exceeding 5m2)	m2	4	
RD.M01.14	Carports:			
	Car ports, as specified, at offices and laboratory buildings	No	13	
RD.M01.15	Services:			
	a) Services at office and laboratories (including backup power generation)			
	(i) Fixed costs	month	1	
	(ii) Running costs	month	1	
RD.M01.16	The Contractor is to allow for the preparation, compilation and submission of all design drawings (as specified in the Scope of Work - plans, sections, elevations, electrical, plumbing, etc.) for Client approval	Sum	1	
RD.M01.17	The Contractor is to allow for the compilation and submission of all as-built drawings, warranties, test certificates, certificates of compliance, etc., complete (electrical, plumbing, roof trusses, weedkiller, compaction tests, concrete cube tests, etc.)	Sum	1	

RD.M01.18	Removal of entire site establishment, upon completion of the project, including making good and rehabilitation of areas utilized, all in accordance with the latest Environmental Management requirements.	Sum	1	
RD.M01.19	Tenders Process for Targeted Enterprises			
RD.M01.19(a)	Contractor's charge for the management and execution of the Targeted Enterprise procurement process:			
RD.M01.19(a) (i)	Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 1 CE and 2 CE contractor grading	No	5	
RD.M01.19(a) (ii)	Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 3 CE and 4 CE contractor grading	No	3	
RD.M01.19(a) (ii)	Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 5 CE and higher contractor grading	No	1	
RD.M01.21(a)	Preparing and maintaining a Portfolio of Evidence for each subcontractor	Fortnightly	30	
RD.M02	<u>GENERAL REQUIREMENTS AND PROVISIONS</u>			
RD.M02.01	Information sign boards			
RD.M02.01(a)	Type 1 (large)	No	8	
RD.M02.01(a)	Type 2 (small)	No	16	
RD.M02.03	Advertising cost			
RD.M02.03(a)	Advertising cost	LS	1	
RD.M02.04	Stakeholder and Community Liaison and Social Facilitation			
RD.M02.04(a)	Cost of Liaison, Social Facilitation and PLC Support	Month	12	
RD.M02.05	Target Group Participation:			
RD.M02.05(a)	Contract Participation Performance Bonus	LS	1	
RD.M02.06	Training, coaching, guidance, mentoring and assistance			

RD.M02.06(a)	Training Costs:			
RD.M02.06(a)(i)	Accredited generic skills training	Prime.Cost	1	Work package stage
RD.M02.06(a)(ii)	Community skills training	Prime.Cost	1	Work package stage
RD.M02.06(a)(iii)	Handling cost and profit in respect of subitems RD.M02.06(a)(i) and (ii)	%	R -	Work package stage
RD.M02.06(b)	Training Venue	Lump Sum	1	Work package stage
RD.M02.07	Wellness Program			
RD.M02.06(a)	Office Facilities for Wellness Champion	Month	60	
RD.M02.06(b)	Wellness Champion	Lump Sum	1	
RD.M02.06(c)	Venue for ACT process	Lump Sum	1	Work package stage
RD.M02.06(d)	Transport for workers and their immediate families for ACT process	Lump Sum	1	Work package stage
RD.M02.06(e)	Remuneration for workers during ACT process	Lump Sum	1	Work package stage
RD.M02.08	Transport for Wellness Champion:			
RD.M02.08(a)	Transport for Wellness Champion	Lump Sum	1	Work package stage
RD.M03	<u>ROUTE PATROL SERVICES</u>			
RD.M03.01	Route Patrol	Month	12	
RD.M03.02	Temporary repair of potholes	Month	12	
RD.M03.03	Procurement and implemenation of visual capturing devices for route patrol services			
RD.M03.03(a)	Procurement and implementation of visual capturing devices for route patrol services	Lump Sum	1	Work package stage
RD.M03.03	Temporary pothole repair material for the route patrol			
RD.M03.03(a)	Cold mix asphalt	kg	20 000	
RD.M04	<u>SKILLS DEVELOPMENT</u>			

RD.M04.01	Skills Development:				
RD.M04.01(a)	Contract Skills Development Goals (CSDG)(formula to be inserted 0.25% of Subtotal of Construction works	Prime.Cost	1	Work package stage	
RD.M05	<u>EMERGENCY STANDBY TEAM</u>				
RD.M05.01	Emergency standby				
RD.M05.01(a)	Emergency team on standby	month	12		
RD.M05.01(b)	Emergency equipment on standby	month	12		
RD.M05.01(c)	Call out cost	km	50 000		
RD.M06	<u>ALL-EMERGENCY NORMALISATION</u>				
RD.M06.01	All-emergency normalisation				
RD.M06.01(a)	Accident restoration and cleaning of spillages	hour	2 000		
RD.M06.01(b)	Sheltering of animals (whilst waiting to be collected)	hour	100		
RD.M06.01(c)	Fire fighting	hour	100		
RD.M06.01(d)	Safeguarding of dangerous area	hour	1 000		
RD.M06.02	Procurement of materials:				
RD.M06.02(a)	Procurement of materials	LS	1	Work package stage	
RD.M06	TOTAL CARRIED TO SUMMARY				R -

SCHEDULE A : ROUTINE ROADS MAINTENANCE					
PART B : OPERATIONAL					RD.W01
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
RD.W01	<u>ACCOMMODATION OF TRAFFIC</u>				
RD.W01.1	Provision of temporary traffic control facilities				
RD.W01.1(a)	Portable STOP/GO signs: 750mm	No	20		
RD.W01.1(b)	Road signs:R- and TR- series				
RD.W01.1(b)(i)	900mm	No	80		
RD.W01.1(c)	Road signs: TW- series:				
RD.W01.1 (c) (i)	1500mm	No	20		
RD.W01.1 (c) (ii)	1200mm	No	10		
RD.W01.1(d)	Rectangular road signs:TGS-, TIN- and TW-series (excluding delineators and barricades)	m ²	50		
RD.W01.1(e)	Delineators:				
RD.W01.1(e)(i)	1000mm x 250mm	No	200		
RD.W01.1(e)(ii)	800mm x 200mm	No	200		
RD.W01.1(e)(iii)	Solid rubber moulded heavy duty Bases for (e) (i)	No	200		
RD.W01.1(e)(iv)	Solid rubber moulded heavy duty Bases for (e) (ii)	No	400		
RD.W01.1(f)	Barricades:				
RD.W01.1(f)(ii)	2400mm x 400mm	No	10		
RD.W01.1(f)(iii)	1800mm x 300mm	No	10		
RD.W01.1(f)(iv)	Traffic Cones: 750mm	No	200		
RD.W01.1(f)(v)	Work undertaken by contractor	Month	60		
RD.W01.2.3	Work undertaken by subcontractor	Month	60		
RD.W01.2.4	Traffic Safety Officer	Month	60		
RD.W03	<u>PAVEMENT LAYERS REPAIR</u>				
RD.W03.1	Removal and excavating material from existing pavements (except milled material)				

RD.W03.1 (a)	Area up to 50m ²	m ³	2 000		
RD.W03.1 (b)	Area exceeding 50m ² but smaller than 100m ²	m ³	2 000		
RD.W03.1 (c)	Area exceeding 100m ²	m ³	1 000		
RD.W03.2	Milling out material from existing pavements				
RD.W03.2 (a)	Not exceeding 30 mm	m ³	1 000		
RD.W03.2 (b)	Exceeding 30mm but not 60mm	m ³	1 000		
RD.W03.2 (c)	Exceeding 60mm but not exceeding 150mm	m ³	1 000		
RD.W03.2 (d)	Exceeding 150mm but not exceeding 250mm	m ³	1 000		
RD.W03.2 (e)	Exceeding 250mm but not exceeding 350mm	m ³	1 000		
RD.W03.2 (f)	Establishing of milling machine on site	No	4		
RD.W03.2 (g)	Moving the milling machine on site for distance exceeding 5,0 km	No	4		
RD.W03.2	Backfilling of base layer for surface failures with (98% of modified AASHTO density):				
RD.W03.2(a)	Chemically stabilised gravel excavated from the existing pavement				
RD.W03.2(a) (i)	Areas up to 50m ²	m ³	300		
RD.W03.2(a) (ii)	Areas exceeding 50m ² up to 100m ²	m ³	400		
RD.W03.2(a) (iii)	Areas exceeding 100m ²	m ³	200		
RD.W03.2(a) (iv)	Extra over sub-item (a)(i), (ii) and (iii) for procuring and importing gravel material	m ³	500		
RD.W03.2(b)	Emulsion-treated crushed stone pavement:				
RD.W03.2(b)(i)	Areas up to 50m ²	m ³	500		
RD.W03.2(b)(ii)	Areas exceeding 50m ² up to 100m ²	m ³	500		
RD.W03.2(b)(iii)	Areas exceeding 100m ²	m ³	100		
RD.W03.2(b)(iv)	Extra over sub-item (a)(i), (ii) and (iii) for importing crushed stone	m ³	850		

RD.W03.2(c)	Asphalt base (hot mix– continuously graded 28mm max.)				
RD.W03.2(c) (i)	Areas up to 50m ²	ton	500		
RD.W03.2(c) (ii)	Areas exceeding 50m ² up to 100m ²	ton	500		
RD.W03.2(c) (iii)	Areas exceeding 100m ²	ton	500		
RD.W03.4	Surfacing of base layer repairs with:				
RD.W03.4(a)	Asphalt surfacing (hot mix - continuously graded medium)				
RD.W03.4(b)(iii)	Areas exceeding 100m ²	ton	100		
RD.W03.5	Establishment and moving of asphalt paver on site				
RD.W03.5(a)	Establishment of asphalt paver	No	1		
RD.W03.5(b)	Moving the paver on site for distance exceeding 5,0 km	No	3		
RD.W03.6	Backfilling of pavement layers				
RD.W03.6(a)	Subbase layer				
RD.W03.6(a)(i)	Areas up to 50m ²	m ³	100		
RD.W03.6(a)(ii)	Areas exceeding 50m ² up to 100m ²	m ³	100		
RD.W03.6(a)(iii)	Areas exceeding 100m ²	m ³	100		
RD.W03.6(b)	Selected layer				
RD.W03.6(b)(i)	Areas up to 50m ²	m ³	50		
RD.W03.6(b)(ii)	Areas exceeding 50m ² up to 100m ²	m ³	50		
RD.W03.6(b)(iii)	Areas exceeding 100m ²	m ³	50		
RD.W03.6(c)	Fill layer				
RD.W03.6(c)(i)	Areas up to 50m ²	m ³	50		
RD.W03.6(c)(ii)	Areas exceeding 50m ² up to 100m ²	m ³	50		
RD.W03.6(c)(iii)	Areas exceeding 100m ²	m ³	100		
RD.W03.7	Binder Variation				
RD.W03.7(a)	Penetration grade bitumen	ton	10		
RD.W03.7(b)	Anionic bitumen emulsion	litre	1 500		
RD.W03.7(c)	Cationic bitumen emulsion	litre	1 000		

RD.W03.7(d)	Invert bitumen emulsion	litre	900		
RD.W03.8	Variation in active filler content				
RD.W03.8(a)	Cement	ton	5		
RD.W03.8(b)	Lime	ton	5		
RD.W03.9	Overhaul of material hauled in excess of 1,0 km	m ³ -km	3 000		
RD.W03.10	Milling and Paving				
RD.W03.10(a)	Milling and Paving	Prov.Sum	1	Work package stage	
RD.W03.10(b)	Overhead charges and profit in respect of subitem RD.W03.10(a)	%	R -	Work package stage	
RD.W03.11	100mm cores in asphalt paving	No	50		
RD.W04	<u>REPAIR OF POTHOLES</u>				
RD.W04.01	Pothole repair (non-performance based)				
RD.W04.01(a)	Hot mix continuously graded asphalt. Average size of 0.3mm2 and 60mm deep (per pothole)	No	1		
RD.W04.01(b)	Cold mix asphalt. Average size of 0.3mm2 and 60mm deep (per pothole)	No	1		
RD.W04.02	<u>REPAIR OF EDGE BREAKS</u>				
RD.W04.02.1	Repair of edge breaks (non performance based)				
RD.W04.02.01(a)	Hot mix continuously graded asphalt.	m	10 000		
RD.W04.02.01(b)	Cold mix asphalt.	m	1 000		
RD.W04.03	<u>REPAIR OF SURFACE FAILURES</u>				
RD.W04.03	Repair of Surface failures (non performance based)				
RD.W04.03(a)	Hot mix continuously graded asphalt. Average size of 0.2mm2 and 50mm deep (per surface)	No	1		
RD.W04.03(b)	Cold mix asphalt. Average size of 0.2mm2 and 50mm deep (per surface)	No	1		
RD.W04.04	ASPHALT AND CONCRETE BERMS				
RD.W04.04(a)	Asphalt berms:				
RD.W04.04(a)(i)	Placed where there are no guardrails (Cold premix)	m	50		
RD.W04.04(a)(ii)	Placed at existing guardrails (Cold premix)	m	50		
RD.W04.04(b)	Prime and tack coats:				
RD.W04.04(b)(i)	Prime coat: Under asphalt berms (MC-30 cutback bitumen)	m ²	50		

RD.W04.04(b)(ii))	Tack coat	m ²	50		
RD.W04.05	BITUMINOUS SINGLE SEAL WITH SLURRY (CAPE SEAL)				
RD.W04.05(a)	Bituminous single seal with 13.2mm aggregate and slurry:	m ²	60		
RD.W04.05(b)	Bituminous binder variations:				
RD.W04.05(b)(i)	MC-3000 cut back bitumen	litre	50		
RD.W04.05(b)(ii))	Spray grade emulsion (65% bitumen content)	litre	50		
RD.W04.05(c)	Aggregate variations: 13.2mm nominal sized aggregate	m ³	3		
RD.W07	<u>CRACK SEALING</u>				
RD.W07.01	Cleaning and sealing the cracks				
RD.W07.01(a)	Cleaning cracks per metre with:				
RD.W07.01(a) (i)	Cold compressed air	m	2 000		
RD.W07.01(b)	Cleaning cracks per area with:				
RD.W07.01(b) (i)	Cold compressed air	m ²	100		
RD.W07.01(c)	Applying herbicides for sealing cracks	litre	100		
RD.W07.01(d)	Priming of cracks	m	1 000		
RD.W07.01(e)	Sealing the cracks with:				
RD.W07.01(e) (i)	C-E1 modified binder	m	500		
RD.W07.01(e) (ii)	CC-E1 modified binder	m	500		
RD.W07.01(e) (iii)	C-R1 modified binder	m	500		
RD.W07.01(f)	Extra over RD.W07.01(e) for filling wide cracks with fine sand to underside of base layer as specified	m	500		
RD.W07.01(g)	Heating of surface before rolling	m	1 000		
RD.W07.01(h)	Rolling the cracks	m	1 000		
RD.W07.02	Geotextile crack sealing				
RD.W07.02(a)	Sealing cracks with 200mm wide geotextile "bandage" using:				
RD.W07.02(a) (i)	65% Cationic bitumen emulsion (solvents omitted)	m	500		
RD.W07.02(a) (ii)	SC-E1 modified emulsion (solvents omitted)	m	500		
RD.W07.02(a) (iii)	Other appropriate product	m	500		

RD.W07.02	Sealing "crocodile" cracks with geotextile over areas using:				
RD.W07.02(b)(i)	65% Cationic bitumen emulsion (solvents omitted)	m ²	1 000		
RD.W07.02(b)(ii)	SC-E1 modified emulsion (solvents omitted)	m ²	500		
RD.W07.03	Prefabricated road patch for crack sealing				
RD.W07.03(a)	Sealing "crocodile" cracks with pre-fabricated road patch over areas using:				
RD.W07.03(a)(i)	10mm nominal size aggregate (single seal)	m ²	1 000		
RD.W07.03(a)(ii)	14mm nominal size aggregate (single seal)	m ²	500		
RD.W08	<u>BLEEDING REPAIR</u>				
RD.W08.01	Repair of bleeding (Method 1)				
RD.W08.01(a)	Using 14,0 mm aggregate	m ²	50		
RD.W08.01(b)	Using 10,0 mm aggregate	m ²	100		
RD.W08.01(c)	Using 7,0 mm aggregate	m ²	200		
RD.W08.01(d)	Using 5,0 mm aggregate	m ²	200		
RD.W08.02	Repair of bleeding (Method 2)				
RD.W08.02(a)	Using 14,0 mm aggregate	m ²	50		
RD.W08.02(b)	Using 10,0 mm aggregate	m ²	100		
RD.W08.02(c)	Using 7,0 mm aggregate	m ²	200		
RD.W08.03	Repair of bleeding (Method 3)				
RD.W08.03(a)	Using 14,0 mm aggregate	m ²	50		
RD.W08.03(b)	Using 10,0 mm aggregate	m ²	50		
RD.W08.03(c)	Using 7,0 mm aggregate	m ²	100		
RD.W08.04	Precoating of aggregate	m ³	10		
RD.W08.05	Aggregate Variation				
RD.W08.05(a)	14,0 mm aggregate	m ³	10		
RD.W08.05(b)	10,0 mm aggregate	m ³	10		
RD.W08.05(c)	7,0 mm aggregate	m ³	10		
RD.W08.06	Application of fog spray				
RD.W08.06(a)	60 % Spray-grade emulsion	Litre	5 000		
RD.W08.06(b)	30 % Spray-grade emulsion	Litre	2 500		
RD.W08.07	Aggregate for blinding using				
RD.W08.07(a)	Natural sand	m ³	50		

RD.W08.07(b)	Crusher sand	m ³	50		
RD.W08.08	Bleeding Repair by water cutting				
RD.W08.08(a)	Bleeding Repair by water cutting	Prov Sum	1	Work package stage	
RD.W08.08(b)	Contractor overhead charges and profit in respect of subitem RD.W08.08(a)	%		Work package stage	
RD.W09	<u>SURFACE TREATMENT - TEXTURE CORRECTION</u>				
RD.W09.01	Application of slurry mixed on site				
RD.W09.01(a)	Tack coating using 30 % stable grade bitumen emulsion	Litre	5 000		
RD.W09.01(b)	Slurry applied for texture treatment (Fine Slurry Fine Grade with 60% stable-grade anionic bitumen emulsion)				
RD.W09.01(b)(i)	Applied by hand	m ³	10		
RD.W09.01(c)	Slurry applied for texture treatment (Fine Slurry Fine Grade,60% stable-grade anionic bitumen emulsion + 3% Latex)				
RD.W09.01(c)(i)	Applied by hand	m ³	10		
RD.W09.01(c)(ii)	Applied by spreader box	m ³	10		
RD.W09.02	Application of slurry from commercial soures				
RD.W09.02(a)	Tack coating using 30 % stable grade bitumen emulsion	Litre	1 000		
RD.W09.02(b)	Slurry applied for texture treatment (Fine Slurry Fine Grade with 60% stable-grade anionic bitumen emulsion)				
RD.W09.02(b)(i)	Applied by hand	m ³	10		
RD.W09.02(b)(ii)	Applied by spreader box	m ³	10		
RD.W09.03	Application of slurry for rut filling from commercial sources				
RD.W09.03(a)	Application of slurry for rut filling from commercial sources	Prov Sum	1	Work package stage	
RD.W09.03(b)	The Contractors overhead charges and profit in respect of sub-item RD.W09.03(a)	%		Work package stage	
RD.W10	<u>REPAIR OF SLOPE FAILURES AND WASHAWAYS</u>				
RD.W10.01	Reconstruction of slope failures and washaways - mass earth works				
RD.W10.01 (a)	Excavation and removing excavated material to spoil or stockpile as directed by Engineer. A distinction shall be made between:				

RD.W10.01 (a) (i)	Soft Material	m ³	2 000		
RD.W10.01 (a) (ii)	Intermediate material	m ³	500		
RD.W10.01 (a) (iii)	Hard and boulder class material	m ³	500		
RD.W10.01 (b)	Drying excavated material suitable for re-use	m ³	500		
RD.W10.01 (c)	Roadbed compaction to 90% of modified AASHTO density	m ³	500		
RD.W10.01 (d)	Backfill at excavated area in				
RD.W10.01 (d) (i)	Fill embankments to 90% of modified AASHTO density	m ³	1 000		
RD.W10.01 (d) (ii)	Cut embankments to 90% of modified AASHTO density including haul for a free distance of 1.0km	m ³	1 000		
RD.W10.02	Reconstruction pavement layers				
RD.W10.02(a)	Natural gravel selected subgrade	m ³	100		
RD.W10.02(b)	Cement stabilised natural gravel subbase	m ³	100		
RD.W10.02(c)	Emulsion treated crushed stone base	m ³	100		
RD.W10.02(d)	Crushed stone base	m ³	100		
RD.W10.02(e)	Hot mix asphalt(continously graded medium)	m ³	100		
RD.W10.03	Prime and Tack coats				
RD.W10.03(a)	30% Stable grade emulsion	Litre	500		
RD.W10.03(b)	Inverted bitumen emulsion prime	Litre	500		
RD.W10.03(c)	PRIME COAT				
RD.W10.03 (c) (i)	RTH 3/12P or RTL 3/12P tar prime	Litre	5		
RD.W10.03 (c) (ii)	Quick drying RTH 1/4P tar prime	Litre	5		
RD.W10.03 (c) (iii)	MC-30 cut-back bitumen	Litre	100		
RD.W10.03 (c) (iv)	MC-70 cut-back bitumen	Litre	100		
RD.W10.03 (c) (v)	Invert bitumen emulsion	Litre	100		
RD.W10.03 (c) (vi)	MC - 30 SP	Litre	100		
RD.W10.04	Overhaul on natural gravel material	m ³ -km	5 000		
RD.W10.05	Repair of slope failures and washaways				
RD.W10.05(a)	Provisional sum for repair of slope failures and washaways	Prov Sum	1	Work package stage	

RD.W10.05(b)	The contractors overhead charges and profit in respect of sub-item RD.W10.05(a)	%	R	-	Work package stage
RD.W11.01	Excavation				
RD.W11.01(a)	Excavating soft material (not exceeding 1.5m deep)	m ³	100		
RD.W11.01(b)	Excavating hard material (not exceeding 1.5m deep)	m ³	100		
RD.W11.02	Backfilling				
RD.W11.02(a)	Using the excavated material	m ³	100		
RD.W11.02(b)	Using stabilised excavated material	m ³	50		
RD.W11.03	Reconstruction of inlet and outlet structures				
RD.W11.03(a)	In concrete (class indicated)				
RD.W11.03(a)(i)	25/19	m ³	10		
RD.W11.03(b)	In brickwork	m ³	10		
RD.W11.03(c)	Plastering	m ²	100		
RD.W11.04	Demolition of existing structures				
RD.W11.04(a)	Plain concrete	m ³	5		
RD.W11.04(b)	Reinforced concrete	m ³	5		
RD.W11.04(c)	Brickwork	m ³	10		
RD.W11.04(d)	Stone masonry	m ³	5		
RD.W11.05	Repairing of existing structures (type indicated)				
RD.W11.05(a)	Concrete (class indicated)				
RD.W11.05(a)(i)	25/19	m ³	30		
RD.W11.05(b)	Brickwork	m ³	10		
RD.W11.05(c)	Stone masonry with rock material obtained from				
RD.W11.05(c)(i)	Natural sources	m ³	10		
RD.W11.05(c)(ii)	Commercial sources	m ³	10		
RD.W11.05(d)	Plastering	m ²	100		
RD.W11.06	Steel reinforcement				
RD.W11.06(a)	Mild steel bars	ton	1		
RD.W11.06(b)	High tensile steel bars	ton	1		
RD.W11.06(c)	Welded steel mesh	kg	100		

RD.W11.07	Overhaul on materials for haul in excess of 1.0 km				
RD.W11.07(a)	Excavated materail to spoil	m ³ -km	1 000		
RD.W11.07(b)	Existing structured demolished	m ³ -km	500		
RD.W12	<u>SUBSOIL DRAIN INSTALLATION AND MAINTENANCE</u>				
RD.W12.01	Excavation				
RD.W12.01(a)	Excavating soft material	m ³	50		
RD.W12.01(b)	Excavating hard material	m ³	10		
RD.W12.02	Impermeable backfilling	m ³	20		
RD.W12.03	Natural permeable material				
RD.W12.03(a)	Crushed stone from commercial source (state grade)				
RD.W12.03(a)(i)	Course grade	m ³	10		
RD.W12.03(b)	Sand obtained from approved source on site				
RD.W12.03(b)(i)	Course grade	m ³	20		
RD.W12.03(c)	Sand from commercial source				
RD.W12.03(c)(i)	Course grade	m ³	50		
RD.W12.04	Pipes				
RD.W12.04 (a)	Unplasticized PVC pipes and fittings, normal duty, complete with couplings				
RD.W12.04a(i)	110 mm slotted pipe	m	50		
RD.W12.04a(ii)	110 mm perforated pipe	m	50		
RD.W12.04a(iii)	150mm Perforated pitchfibre pipe	m	50		
RD.W12.04a(vi)	150mm Non perforated pitchfibre pipe	m	50		
RD.W12.04 (b)	High density type polyethylene pressure pipes and fittings, complete with couplings (state size, type and class and whether or not perforated)				
RD.W12.04 (b)(i)	110 mm	m	10		
RD.W12.05	Polyethylene sheeting 0,25 mm thick	m ²	100		
RD.W12.06	Synthetic fibre filter fabric (grade 2)	m ²	100		
RD.W12.07	Composite in-place drainage systems (fin drain)	m	20		
RD.W12.08	Inlet and outlet structures				
RD.W12.08(a)	Rodding eyes	No	5		

RD.W12.08(b)	Outlet structures	No	5	
RD.W12.09	Exposing of existing drains	m ³	50	
RD.W12.10	Clearing of subsoil drains	m	100	
RD.W12.11	Overhaul for material hauled in excess of 1,0 km free-haul	m ³ -km	100	
RD.W13	<u>CLEANING OF WATERWAY STRUCTURES</u>			
RD.W13.01	Cleaning of waterway structures, inlet and outlets areas			
RD.W13.01(a)	Cleaning of waterway structures, inlets and outlets areas	Prov Sum	1	Work package stage
RD.W13.01(b)	The Contractor's overhead charges and profit in respect of sub-item RD.W13.01(a)	%	R -	Work package stage
RD.W13.02	Overhaul of material in excess of the free-haul distance of 1,0 km	m ³ -km	1 000	
RD.W14	<u>CLEANING OF PREFABRICATED CULVERTS</u>			
RD.W14.01	Initial Cleaning of prefabricated culverts (non performance based)			
RD.W14.01(a)	0-10km Route			
RD.W14.01(a)(i)	Pipes with an internal diameter up to and including 750mm	No.	150	
RD.W14.01(a)(ii)	Pipes with an internal diameter exceeding 750mm	No.	150	
RD.W14.01(a)(iii)	Box culverts up to and including 1,5 m vertical dimension	No.	15	
RD.W14.01(a)(iv)	Box culverts exceeding 1,5 m vertical dimension	No.	15	
RD.W14.01(b)	11-30km Route			
RD.W14.01(b)(i)	Pipes with an internal diameter up to and including 750mm	No.	100	
RD.W14.01(b)(ii)	Pipes with an internal diameter exceeding 750mm	No.	50	
RD.W14.01(b)(iii)	Box culverts up to and including 1,5 m vertical dimension	No.	10	
RD.W14.01(b)(iv)	Box culverts exceeding 1,5 m vertical dimension	No.	10	
RD.W14.02	New Prefabricated culverts			
RD.W14.02(a)	Excavating soft material situated within the following depth ranges below the level surface level			
RD.W14.02(a)(i)	i) 0m up to 1,5m	m ³	25	
RD.W14.02(a)(ii)	ii) Exceeding 1,5m and up to 3,0m	m ³	25	

RD.W14.02(b)	Extra over sub item 14.02(a) for excavation in hard material, irrespective of depth	m ³	5		
RD.W14.03	Backfilling				
RD.W14.03(a)	Using the excavated material	m ³	10		
RD.W14.03(b)	Using imported selected material	m ³	10		
RD.W14.03(c)	Extra over subitem RD.W14.03(a) and (b) for soil cement backfilling	m ³	5		
RD.W14.04	Concrete pipe culvert				
RD.W14.04(a)	On Class B bedding				
RD.W14.04(a)(i)	600 mm dia class 100D	m	10		
RD.W14.04(a)(ii)	900 mm dia class 100D	m	10		
RD.W14.04(a)(iii)	Box Culvert 1,2m X 1.8m W	m	10		
RD.W14.05	Cast in situ concrete and formwork				
RD.W14.05(a)	In Class A bedding, screeds and encasing of pipes, Class 25/19 concrete	m ³	10		
RD.W14.05(b)	In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including class U2 surface finish (25MPa / 19)	m ³	10		
RD.W14.05(c)	Formwork for concrete under subitem RD.W14.05(a) and (b) above	m ²	100		
RD.W14.06	Steel reinforcement				
RD.W14.06(a)	High tensile steel	t	10		
RD.W14.06(b)	Welded mesh	kg	70		
RD.W14.07	Removing and re-laying existing pipes				
	600mm dia	m	10		
RD.W14.08	Removing and disposing of existing pipes	m	10		
RD.W14.09	Overhaul on excavated material as described, in excess of the free haul distance of 1.0 km	m ³ -km	10		
RD.W15	<u>CLEANING OF CONCRETE DRAINS AND CHANNELS</u>				
RD.W15.01(a)	Initial cleaning of concrete drains (including all Side walks)				
RD.W15.01(a)(i)	0-10km	Lump Sum	1		
RD.W15.01(a)(ii)	11-30km	Lump Sum	1		
RD.W15.01(b)	Cleaning of concrete drains (including all Side walks)				
RD.W15.01(b)(i)	0-10km	Month	6		

RD.W15.01(b) (ii)	11-30km	Month	6	
RD.W16	<u>CLEANING AND MAINTENANCE OF EXISTING EARTH CHANNELS</u>			
RD.W16.01	Cleaning earth drains and channels	m ³	500	
RD.W16.02	Repairing of earth drains and channels	m ³	250	
RD.W16.03	Banks and dykes	m ³	50	
RD.W16.04	Construction of new earth drains	m ³	50	
RD.W16.05	Overhaul of material in excess of the free-haul distance of 1,0 km	m ³ -km	1 000	
RD.W17	<u>EDGE BUILD-UP REMOVAL</u>			
RD.W17.01	Removal edge build-up			
RD.W17.01(a)	Removal edge build-up			
RD.W17.01(a)(i)	Remove material by hand and dispose of adjacent to road	m	50 000	
RD.W17.01(a)(ii)	Remove material by hand and load for spoil	m	30 000	
RD.W17.01(a)(iii)	Remove material by machine and dispose of adjacent to the road	km	50	
RD.W17.01(a)(iv)	Remove material by machine and load for spoil	km	100	
RD.W17.01(b)	Overhaul on material hauled in excess of 1,0 km	m ³ -km	5 000	
RD.W18	<u>CONCRETE CHANNEL CONSTRUCTION AND MAINTENANCE OF EXISTING CHANNELS</u>			
RD.W18.01	Excavation			
RD.W18.01(a)	For open drains			
RD.W18.01(a)(i)	Soft material	m ³	50	
RD.W18.01(a)(ii))	Hard material	m ³	15	
RD.W18.01(b)	Chutes and kerb-channel combinations			
RD.W18.01(b)(i)	Soft material	m ³	50	
RD.W18.01(b)(ii)	Hard material	m ³	10	
RD.W18.02	Cast in situ concrete			
RD.W18.02(a)	Linings (Grade 25/19)	m ³	50	
RD.W18.02(b)	Chutes (Grade 25/19)	m ³	10	
RD.W18.02(c)	Channels for kerb and channel (Grade 25/19)	m ³	10	
RD.W18.02(d)	Concrete berms	m ³	5	

RD.W18.03	Concrete screed or backfill below chutes (Grade 25/19)	m ³	10		
RD.W18.04	Precast concrete kerbing and chutes				
RD.W18.04(a)	Kerbing (Figure 6)	m	100		
RD.W18.04(b)	Chutes (500mm)	m	50		
RD.W18.05	Steel reinforcement				
RD.W18.05(a)	Mild steel bars	ton	1		
RD.W18.05(b)	High tensile steel bars	ton	1		
RD.W18.05(c)	Welded steel mesh	kg	200		
RD.W18.06	Sealed joints in concrete lining of open drains (12mm Bitumen impregnated softboard)	m	200		
RD.W18.07	Demolition and removal of damaged existing structures				
RD.W18.07(a)	Plain concrete	m ³	10		
RD.W18.07(b)	Reinforced concrete	m ³	10		
RD.W18.07(c)	Kerbing and channelling	m ³	10		
RD.W18.08	Down chutes				
RD.W18.08(a)	Corrugated steel (450mm diameter)	m	10		
RD.W18.08(b)	Plastic (450mm diameter)	m	10		
RD.W18.09	Overhaul on material for haul in excess of 1,0 km				
RD.W18.09(a)	Excavated material to spoil	m ³ -km	50		
RD.W18.09(b)	Existing structures demolished	m ³ -km	50		
RD.W18.10	Asphalt Berms	ton	3		
RD.W19	<u>SHOULDER REPAIRS</u>				
RD.W19.01	Reinstating gravel shoulder				
RD.W19.01(a)	Ripping, watering, mixing, placing and compacting existing shoulders to 93 % of Mod AASHTO density	m ³	800		
RD.W19.01(b)(i)	Extra over sub-item RD.W19.01(a) for adding extra material				
RD.W19.01(b)(ii)	Commercial sources	m ³	200		
RD.W19.01(b)(iii)	Milled material	m ³	100		
RD.W19.01(c)	Extra over for sub-item RD.W19.01(a) for stabilising material	m ³	200		
RD.W19.01(d)	Extra over for sub-item RD.W19.01(a) for adding chemical stabilising agent				
RD.W19.01(d)(i)	Ordinary Portland cement	ton	1		
RD.W19.02	Blading of gravel shoulders				

RD.W19.02(a)	Blading of gravel shoulders	km	40	
RD.W19.02(b)	Cutting of mitre drains	m	200	
RD.W19.03	Overhaul on material in excess of the free-haul distance of 1,0km	m ³ - km	600	
RD.W20	<u>ERECTION AND REPAIR OF PERMANENT ROAD TRAFFIC SIGNS</u>			
RD.W20.01	Erection or re-erection of road sign boards			
RD.W20.01(a)	Area not exceeding 2 m ²	m ²	100	
RD.W20.01(b)	Area exceeding 2 m ² but not 10 m ²	m ²	50	
RD.W20.01(c)	Area exceeding 10 m ²	m ²	50	
RD.W20.01(d)	Overhead road sign boards	m ²	10	
RD.W20.02	Hazard plates			
RD.W20.02(a)	Hazard plate and post (W401/402)			
RD.W20.02(a)(i)	600 mm x 150 mm	No	10	
RD.W20.02(a)(ii)	800 mm x 150 mm	No	400	
RD.W20.02(a)(iii)	1200 mm x 300 mm	No	50	
RD.W20.02(b)	Hazard Plate (W401/402)			
RD.W20.02(b)(i)	600 mm x 150 mm	No	10	
RD.W20.02(b)(ii)	800 mm x 150 mm	No	50	
RD.W20.02(b)(iii)	1200 mm x 300 mm	No	10	
RD.W20.02(c)	Hazard plate and post (W405/406)			
RD.W20.02(c)(i)	450mmx450mm	No	10	
RD.W20.02(c)(ii)	600mmx600mm	No	20	
RD.W20.02(c)(iii)	900mmx900mm	No	10	
RD.W20.02(d)	Hazard Plate (W405/406)			
RD.W20.02(d)(i)	450mmx450mm	No	10	
RD.W20.02(d)(ii)	600mmx600mm	No	20	
RD.W20.02(d)(iii)	900mmx900mm	No	10	
RD.W20.03	Reference marker boards			
RD.W20.03(a)	Reference marker board and post			
RD.W20.03(a)(i)	km Triangular board	No	50	
RD.W20.03(a)(ii)	Board Drawing No SP-S-1-3/3	No	60	
RD.W20.10(a)(i)	SABS 1519 Class II material	m ²	5	
RD.W20.10(a)(ii)	SABS 1519 ClassIII material	m ²	5	
RD.W20.10(a)(iii)	SABS 1519 ClassIV material	m ²	5	
RD.W20.10(a)(iv)	1mm thick chromadek plate only	m ²	10	

RD.W20.10(a)(v)	1.4 mm thick Chromadek or approved plate as per SANS 1519-2	m ²	5		
RD.W20.11	Gravel drainage layer below road sign footings	m ³	10		
RD.W20.12	Procurement of road sign boards:				
RD.W20.12(a)	Procurement of road sign boards	Prov.sum	1	Work package stage	
RD.W20.12(b)	Overhead charges and profit in respect of subitem RD.W20.12(a)	%	R -	Work package stage	
RD.W20.13	Erection and repairs of gantry structures				
RD.W20.13(a)	Erection and repairs of gantry structures	Prov.sum	1	Work package stage	
RD.W20.13(b)	Overhead charges and profit in respect of subitem RD.W20.13(a)	%	R -	Work package stage	
RD.W20.14	Supply of Road Signs				
RD.W20.14(a)	Road signs: R - and TR- series				
RD.W20.14(a)(i)	900mm	No	5		
RD.W20.14(a)(ii)	1200mm	No	5		
RD.W20.14(b)	Road signs: W- series				
RD.W20.14(b)(i)	1200mm	No	10		
RD.W20.14(b)(ii)	1500mm	No	5		
RD.W20.14(c)	Road signs: TW- series				
RD.W20.14(c)(i)	1200mm	No	10		
RD.W20.14(c)(ii)	1500mm	No	5		
RD.W21	<u>ROAD SIGN CLEANING</u>				
RD.W21.01	Road sign cleaning				
RD.W21.01(a)	Cleaning of guard rail reflectors (all types)				
RD.W21.01(a)(i)	Cleaning of guard rail reflectors	No	2 000		
RD.W21.01(a)(ii)	Re-taping of standard guard rail reflectors - Type V Diamond Grade	No	500		
RD.W21.01(b)	Cleaning of road signs				
RD.W21.01(b)(i)	Area up to 2 m ²	No	200		
RD.W21.01(b)(ii)	Area exceeding 2 m ² up to 10 m ²	No	40		
RD.W21.01(b)(iii)	Area exceeding 10 m ²	No	12		
RD.W21.01(c)	Cleaning of overhead road signs (all sizes)	No.	2		
RD.W21.01(d)	Cleaning of danger plates				
RD.W21.01(d)(i)	W401/402	No.	2 000		
RD.W21.01(d)(ii)	W405/W406	No.	1 000		
RD.W21.02	Removal of graffiti				

RD.W21.02(a)	From road signs	m ²	10		
RD.W21.02(b)	From structures	m ²	20		
RD.W21.03	Painting of metal road sign elements				
RD.W21.03(a)	Road sign supports	Litre	100		
RD.W21.03(b)	Road sign frames	Litre	20		
RD.W21.04	<u>REMOVAL OF ILLEGAL SIGNS</u>				
RD.W21.04.1	Removal of illegal signs				
RD.W21.04.1(a)	Signs within the road reserve:				
RD.W21.04.1(a)	Area exceeding 0,5 m ² up to 2 m ²	No	10		
RD.W21.04.1(a)	Area exceeding 2 m ² up to 10 m ²	No	5		
RD.W21.04.1(a)	Area exceeding 10 m ²	No	5		
RD.W21.04.2	Signs outside the road reserve:				
RD.W21.04.2(a)	Signs outside the road reserve (Any size)	Prov Sum	1	Work package stage	
RD.W21.04.2(a)	The Contractor's overhead charges and profit in respect of sub-item RD.W21.04.2(a)(i)	%		Work package stage	
RD.W22	<u>ROADSTUDS</u>				
RD.W22.01	Procurement and Installation of roadstuds				
RD.W22.01(a)	Procurement and Installation of roadstuds	Prov Sum	1	Work package stage	
RD.W22.01(b)	The Contractor's overhead charges and profit in respect of sub-item RD.W22.01(a)	%	R -	Work package stage	
RD.W22.02	Removal of damaged roadstuds				
RD.W22.02(a)	Surface type				
RD.W22.02(a)(i)	Bituminous pavements	No	400		
RD.W22.02(a)(ii)	Concrete pavements	No	200		
RD.W22.02(b)	Embedded type				
RD.W22.02(i)	Bituminous pavements	No	400		
RD.W22.02(ii)	Concrete pavements	No	10		
RD.W24	<u>Road-marking paint:</u>				
RD.W24.01	Removal of existing, temporary or permanent road markings by:				
RD.W24.01(a)	Sand Blasting	m ²	10		
RD.W24.01(b)	Overpainting as a temporary measure	m ²	20		
RD.W24.02	Road markings:				
RD.W24.02.1	Retro-reflective road-marking paint:				

RD.W24.02.1(a)	White lines:				
RD.W24.02.1(a)	100mm wide solid	km	25		
RD.W24.02.1(a)	100mm wide broken	km	25		
RD.W24.02.1(a)	100mm wide solid (Wet Reflective Tape Series 380 WR ES or similar approved	km	25		
RD.W24.02.1(a)	100mm wide broken (Wet Reflective Tape Series 380 WR ES or similar approved	km	20		
RD.W24.02.1(b)	Yellow lines: 150mm wide solid	km	15		
RD.W24.02.1(c)	White lettering and symbols	m ²	10		
RD.W24.02.1(d)	Yellow lettering and symbols	m ²	10		
RD.W24.03	"Glowline" or similar approved Retro-reflective cementitious road marking compound	m ²	10		
RD.W24.04	Variations in rate of application:				
RD.W24.04(a)	White paint	Litre	10		
RD.W24.04(b)	Yellow paint	Litre	10		
RD.W24.04(c)	Retro-reflective beads	Litre	10		
RD.W24.04(d)	Retro-reflective beads	Litre	10		
RD.W24.04(e)	Glowline compound	Litre	10		
RD.W24.05	Roadstuds (Rhino Yellow/Red or similar approved)	No	10		
RD.W24.06	Setting out and premarking the lines (excluding traffic island markings, lettering and symbols)	km	10		
RD.W24.07	Removal of existing, temporary and permanent road markings by: Sandblasting	m ²	10		
RD.W24.08	Removal of existing roadstuds	No	10		
RD.W24.09	Supply and lay "Vuka" bumps (or similar approved) as per Manufacturer's specifications, inclusive of fitment complete	No	10		
RD.W25	<u>MAINTENANCE OF LAY-BYES AND REST AREAS</u>				
RD.W25.01	Maintenance of lay-byes and rest areas				
RD.W25.01(a)	Maintenance of lay-byes and rest areas	Prov Sum	1	Work package stage	
RD.W25.01(b)	The Contractor's overhead charges and profit in respect of sub-item RD.W25.01(a)	%	R -	Work package stage	
RD.W29	<u>CHEMICAL CONTROL OF UNDESIRABLE VEGETATION</u>				
RD.W29.01	Annual chemical eradication of undesirable vegetation				

RD.W29.01(a)	Reserve with dual carriageway including intersections and interchanges				
RD.W29.01(a)(i)	5 - 10km Route	No	1		
RD.W29.01(a)(ii)	11 - 30km Route	No	1		
RD.W29.01(b)	<u>Reserve with single carriageway including intersections and interchanges</u>				
RD.W29.01(b)(i)	5 - 10km Route	No	1		
RD.W29.01(b)(ii)	11 - 30km Route	No	1		
RD.W29.02	Additional chemical eradication of undesirable vegetation and control of vegetation growth on instruction from the Engineer				
RD.W29.02(a)	Isolated areas	m ²	4 000		
RD.W29.02(b)	Dense areas (areas more than 20% infested)	ha	0,20		
RD.W29.02(c)	Shoulder weedspray	km	2		
RD.W29.02(d)	Extra over sub-item RD.W29.02(c) under guardrails	km	15		
RD.W29.02(e)	Between road reserve fence and neighbouring solid wall				
RD.W29.02(e)(i)	5 - 10km Route	m ²	500		
RD.W29.02(e)(ii)	11 - 30km Route	m ²	2 000		
RD.W29.02(f)	Around road signs, marker boards and traffic counting stations				
RD.W29.02(f)(i)	Reserve with dual carriageway including intersections and interchanges				
RD.W29.02(f)(i)(5 - 10km Route	No	1		
RD.W29.02(f)(i)(11 - 30km Route	No	1		
RD.W29.02(f)(ii)	<u>Reserve with single carriageway including intersections and interchanges</u>				
RD.W29.02(f)(ii)	5 - 10km Route	No	1		
RD.W29.02(f)(ii)	11 - 30km Route	No	1		
RD.W30	<u>REMOVAL OF UNDESIRABLE VEGETATION: PHYSICAL ERADICATION</u>				
RD.W30.01	Eradication of undesired vegetation				
RD.W30.01(a)	Initial eradication				
RD.W30.01(a)(i)	Undesirable vegetation and trees with a girth of 0 to 150mm (specify section and km distance incl interchanges).				
RD.W30.01(a)(i)	In 500m intervals	LS	1		
RD.W30.01(a)(i)2		LS	1		

RD.W30.01(b)	Annual eradication				
RD.W30.01(b)(i)	In 500m intervals	No	1		
RD.W30.02	Tree felling on instruction from the Engineer				
RD.W30.02(a)	Girth exceeding 150 mm to 500 mm	No	10		
RD.W30.02(b)	Girth exceeding 500 mm up to 1 000 mm	No	10		
RD.W30.02(c)	Girth exceeding 1 000 mm up to 2 000 mm	No	2		
RD.W30.02(d)	Girth exceeding 2 000 mm up to 4 000 mm	No	1		
RD.W30.02(e)	Girth exceeding 4 000 mm	No	1		
RD.W30.03	Burning of fire breaks per operation				
M630.03(b)	5 m wide fire breaks from edge of road surface to road reserve fence				
RD.W30.03(b)(i)	5 - 10km Route	No	3		
RD.W30.03(b)(ii)	11 - 30km Route	No	3		
M630.03(b)	5m wide fire breaks next to road reserve fence	km	3		
RD.W30.04	Additional eradiction of undesired vegetation as instructed by the Engineer	ha	1		
RD.W31	<u>SMALL REPAIRS OF STRUCTURES</u>				
RD.W31.01	Minor repairs to structures				
RD.W31.01(a)	Minor repairs to structures	Prov Sum	1	Work package stage	
RD.W31.01(b)	The Contractor's overhead charges and profit in respect of sub-item RD.W31.01(a)	%	R -	Work package stage	
RD.W32	<u>DAYWORKS SCHEDULE</u>				
RD.W32.01	Labour during normal working hours				
RD.W32.01(a)	Unskilled	hour	500		
RD.W32.01(b)	Semi-skilled	hour	400		
RD.W32.01(c)	Skilled	hour	200		
RD.W32.01(d)	Team Leader (Ganger)	hour	200		
RD.W32.01(e)	Flagmen	hour	400		
RD.W32.02	Labour outside normal working hours				
RD.W32.02(a)	Outside normal working hours and Saturdays				
RD.W32.03	Equipment and Transport				
RD.W32.03(a)	Tipper Trucks				
RD.W32.03(a)(i)	3 to 5 ton capacity	hour	25		
RD.W32.03(a)(ii)	More than 5 ton capacity	hour	25		
RD.W32.03(b)	Loader (0,5 m3) bucket	hour	16		
RD.W32.03(c)	Grader(CAT 140G or similar)	hour	16		

	BROUGHT FORWARD				
RD.W32.03(d)	Compactor (Bomag BW 90)	hour	16		
RD.W32.03(e)	Water truck (5 000 l)	hour	16		
RD.W32.03(f)	Mechanical broom	hour	16		
RD.W32.03(g)	Tractor-trailer combination (43 kW, 3 ton min.)	hour	16		
RD.W32.03(h)	Suitable truck/bus for transporting labourers (40 seater)	hour	16		
RD.W32.03(i)	Safety vehicle for pre-marking purposes	hour	16		
RD.W32.03(j)	Compressor (air) including hoses and tools (up to 10m ³ / min)	hour	16		
RD.W32.03(k)	Dewatering pump including generators and accessories (500lt/ min)	hour	10		
RD.W32.03(l)	Mobile electric welding sets and accessories (up to 10kw: 50-190 amp)	hour	20		
RD.W32.03(m)	Cutting torch with mobile electric & oxy acetylene installation	hour	20		
RD.W32.03(n)	Mobile concrete mixers (150lt)	hour	20		
RD.W32.03(o)	Flat bed truck (specify size)				
RD.W32.03(o)(i)	6 ton	hour	50		
RD.W32.03(o)(ii)	10 ton	hour	50		
RD.W32.03(p)	Light delivery vehicle (LDV)	hour	50		
RD.W321.03(q)	Centremount cranes (20t)	hour	10		
RD.W32.03(r)	Portable generator set (6.5 KVa)	hour	100		
RD.W32.03(s)	TLB	hour	50		
RD.W32.03(t)	Bobcat	hour	25		
RD.W32.03(u)	Excavator (18-22 ton tracked)	hour	10		
RD.W32.03(v)	Establishment of loader (bucket 0,5 cubic metre) to site	No	1		
RD.W32.03(w)	Establishment of grader (CAT 140 G or similar)	No	1		
RD.W32.03(x)	Establishment of Excavator (18-22 ton tracked)	No	1		
RD.W32.04	Procurement of materials				
RD.W32.04(a)	Procurement of materials	Prov Sum	1	Work package stage	
RD.W32.04(b)	The Contractor's overhead charges and profit in respect of sub-item RD.W32.04(a)	%		Work package stage	
RD.W32.05	Extra over item RD.W32.03 for establishment, within 24 hours of				

RD.W32.05(a)	Tipper trucks				
RD.W32.05(a)(i)	3 to 5 ton capacity	No	2		
RD.W32.05(a)(ii)	More than 5 ton capacity	No	2		
RD.W32.05(b)	Dewatering pump including generators and accessories (1000 l/min)	No	2		
RD.W32.05(c)	Water truck (5 000 l)	No	2		
RD.W32.05(d)	TLB	No	3		
RD.W32.05(e)	Bobcat (Skid steer loader)	No	3		
RD.W32.06	Repairs to the road network				
RD.W32.06(a)	Repairs to the road network	Prov Sum	1	Work package stage	
RD.W32.06(b)	The Contractor's overhead charges and profit in respect of sub-item RD.W32.06(a)	%	R -	Work package stage	
RD.W32.07	Minor road infrastructure				
RD.W32.07(a)	Minor Infrastructure	Prov Sum	1	Work package stage	
RD.W32.07(b)	The Contractors overhead charges and profit in respect of subitem RD.W32.07(a)	%	R -	Work package stage	
RD.W32	TOTAL CARRIED TO SUMMARY				