

THE MSUNDUZI MUNICIPALITYCONTRACT No. SCM 6 OF 26/27UPGRADE OF ROAD M89 IN FRANCE - WARD 18BILL OF QUANTITIES

BILL OF QUANTITIES: SCHEDULE 1

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
C3.2, PS1-15		SECTION 1 - PRELIMINARY AND GENERAL				
1.1	PS1 (2); A 8.3.1	Contractual Requirements: Performance guarantee, insurances (Works, Public Liability, SASRIA), and Professional Indemnity, all as required by the Contract Data.	Sum	1		
1.2	PS1 (3) ; A 8.2.2;	Establishment on Site: Site office, stores, plant yard, security fencing, rain gauge, male & female latrines, and all initial establishment activities.	Sum	1		
1.3	PS1 (4); A 8.2.3	Project Signboards: Supply and erect two (2) municipal-specification project boards including all required project details.	No.	2		
1.4	PS1 (3) ; A 8.2.4	Removal of Establishment: Clear site, dismantle offices, remove temporary facilities, and final cleaning upon completion.	Sum	1		
1.5	PS1 (5) ; A 8.3	Sub-Contractor: Allowance for subcontractor preliminary and general costs, including all additional costs arising from subcontracted work exceeding the Contractor's tendered rates and prices, at the Contractor's risk.	Prov. Sum	1	435,000.00	
1.6	PS1 (6) ; A 8.4.2	Profit and Attendance: Contractor's markup for profit, coordination, and attendance on subcontractor P&G.	%	10		
1.7	PS1 (7) ; A 8.4	Surveying and Verification: Provision of a Professional Land Surveyor for full resurvey, setting out, and as-built records; and a Registered Quantity Surveyor for measurement and verification of quantities in support of the Employer's Agent.	Sum	1		

Schedule 1. Section 1 (continued overleaf)

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<i>Schedule 1 , Section 1 (continued)</i>				
1.8	PS1 (8) ; A 8.4.3	Laboratory Testing: Accredited testing for G7, G5, G2, asphalt, and concrete.	Sum	1		
1.9	PS1 (9) ; A 8.3.1	Time-related Contractual Requirements: Monthly costs for surety, insurances, and statutory compliance (Workmen's Compensation Act, CEITB contributions).	Month	9		
2.0		<u>CONTRACTOR'S ON-SITE STAFF & FACILITIES</u>				
2.1	PS1 (10.1) ; A 8.3	Contractor's On-Site Staff: Provision of site agent, foreman, and administrative support for duration of works.	Month	9		
2.2	PS1 (10.2) A 8.3.2	Plant and Equipment: Core road-building fleet including operators, fuel, and maintenance.	Month	9		
2.3	PS1 (10.3) ; A 8.3.3	Facilities for Engineer: Dedicated 6 m mobile office, electricity, air-conditioning, desk, meeting table, weekly cleaning, and serviced latrine access.	Sum	9		
2.4	PS1 (10.4) ; A 8.2.1	Environmental Control Officer (ECO): Monthly monitoring, EMPr compliance, audits, and reporting.	Month	9		
2.5	PS1 (10.5)	Handling Fee on ECO	%	5		
2.6	PS1 (10.6) A 8.2.2	Safety Officer (SACPCMP): Full-time safety officer ensuring compliance with OHS Act and Construction Regulations.	Month	9		
2.7	PS1 (10.7)	Handling Fee on Safety Officer	%	5		
2.8	PS1 (10.8); A 8.2.3	Community Liaison Officer (CLO): Facilitation between Project Team and local community.	Month	9		
2.9	PS1 (10.9)	Security (Night & High-Risk Periods)	Month	9		
2.10	PS1 (10.10)	Provisional Sum: Social Contingency	Prov. Sum	1	120 000.00	120 000.00
		<i>Schedule 1, Section 1 (continued overleaf)</i>				

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
3.0	PS1 (11)	<i>Schedule 1, Section 1 (continued)</i>				
3.1	PS1 (11.1)	<u>EPWP & TEMPORARY WORKS</u>				
3.1	PS1 (11.1)	Additional Costs for Local Labour (EPWP)	Prov. Sum	1	495 000.00	495 000.00
3.2	PS1 (11.2); A 8.8.1	Temporary Works: Construct and maintain main access to road and works.	Sum	1		
3.3	PS1 (11.3); A 8.8.2	Accommodation of Traffic: Access to site and properties.	Sum	1		
3.4	PS1 (11.4); A 8.8.3	Protection of Building Structures during construction.	Sum	1		
3.5	PS1 (11.5); A 8.8.5	Survey in terms of Land Survey Act: Locate and record boundary pegs; re-establish missing pegs.	Sum	1		
SECTION 1:		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 2

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
C3.2 S2- (2.1 - 2.5)		<u>SECTION 2: SITE CLEARANCE</u>				
2.1	C3.2 S2-2.1 C 8.2.1	Clear and Grub: Clearing of the 800 m road reserve (average width 12 m) of all vegetation, boulders, and organic debris. Includes stripping of topsoil to 150 mm depth and hauling to temporary stockpiles within site boundaries. Rate includes precautions near septic tanks and domestic services.	m ²	4 400		
2.2	C3.2 S2-2.2	Provisional Sum — Tree Management: Felling, de-stumping, removal of hedges/trees (all sizes), and professional pruning of overhanging branches. Includes backfilling stump holes with G7 compacted to 93% Mod AASHTO and specialised felling near boundary walls, septic tanks, and overhead services.	Prov. Sum	1	45 000.00	
2.3	C3.2 S2-2.3 C 8.2.8	Relocation of Existing Fences: Careful dismantling and re-erection of wire, palisade, or timber fences on the correct boundary line as indicated by the Engineer. Includes new concrete pole footings, replacement of damaged components, and matching existing heights/styles.	Prov. Sum	1	30 000.00	
2.4	C3.2 S2-2.4	Provisional Sum — Boundary Wall Repairs: Repair or stabilisation of existing brick/block boundary walls affected by excavation or vibration from compaction plant.	Prov. Sum	1	50 000.00	
2.5	C3.2 S2-2.5 C 8.2.9	Removal of Debris: Loading and hauling of organic matter, stumps, and non-soil debris from clear-and-grub operations to a municipal dump site (Provisional).	m ³ . km	5 000		
SECTION 2:		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 3

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
C3.2 S3- (3.1- 3.7)		<u>SECTION 3 - EARTHWORKS (PIPE TRENCHES)</u>				
3.1	C3.2 S3-3.1 DB 8.3.2	Excavate in all materials for pipe trenches, backfill, compact and dispose of surplus material.	m ³	807		
3.2 (i)	C3.2 S3-3.2(i) DB 8.3.2 (b)	Extra-over for Intermediate Excavation: Material requiring ripping or heavy-duty backhoe to loosen before removal.	m ³	125		
3.2 (ii)	C3.2 S3-3.2(ii) DB 8.3.2 (b)	Extra-over for Hard Rock Excavation (Provisional): Material requiring pneumatic tools or mechanical rock-breakers.	m ³	40		
3.3	C3.2 S3-3.3 DB 8.3.2	Extra-over for excavation in depths exceeding 1.5 m and up to 2.0 m.	m ³	580		
3.4	C3.2 S3-3.4 DB 8.3.2	Extra-over for excavation in depths exceeding 2.0 m and up to 4.5 m (Portal Area).	m ³	226		
3.5	C3.2 S3-3.5 DB 8.3.7	Lateral Support: Provide lateral support to trench sides where depths exceed 1.5 m or where required by the Engineer (Provisional Quantity).	m ²	450		
3.6	C3.2 S3-3.6 DB 8.3.7	Extra-over for specially designed timber or steel shoring (Portal Culvert area).	m ²	130		
3.7	C3.2 S3-3.7 DB 8.3.8	Manual Trial Pitting to locate existing services in road reserves.	m ³	25		
SECTION 3		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 4

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S4- (4.1-4.9)	<u>SECTION 4: SUBGRADE IMPROVEMENT</u>				
4.1	C3.2 S4- 4.1 M 8.8.3	Preparation of Formation: Preparation, shaping and compaction of formation layer to 90% Mod AASHTO density, including trimming, moisture control and finishing to required levels.	m ²	5 448		
4.2	C3.2 S4- 4.2 DM 8.3.5	Improved Subgrade (Selected Layer): Construct 300 mm thick compacted selected layer using G7 or better material, including supply, haul, spreading in layers, moisture conditioning, compaction to 93% Mod AASHTO, trimming and testing. Provisional Quantity.	m ³	1 683		
4.3	C3.2 S4- 4.3 DM 8.3 / D 8.3	Rockfill Replacement at Soft Spots (Provisional Quantity): Excavate and remove unsuitable subgrade material and replace with approved rockfill, including haul, placing in layers, compaction and trimming.	m ³	80		
4.5	C3.2 S4- 4.5 DM 8.2 / D 8.2	Geotextile Separation Layer (Provisional): Supply and place Class A2 (or approved equivalent) geotextile at soft spots or weak subgrade areas, including cutting, laying, overlapping, pinning and all incidental work.	m ²	800		
4.6	C3.2 S4- 4.6 D 8.3 / D 8.4	Subsoil Drainage (Provisional): Subsoil drainage trench including excavation, perforated pipe, geotextile wrapping, filter stone, backfilling and all incidental work as directed.	m	100		
4.7	C3.2 S4- 4.7 D 8.2	Dewatering and Pumping (Provisional): Dewatering of excavations, trenches or soft spot areas, including labour, plant and all incidental items.	Prov. Sum	1	15 000.00	15 000.00
4.8	C3.2 S4- 4.8 D 8.3 / C 8.3	Cement Stabilisation (Provisional): Cement stabilisation of subgrade at 2–4% cement content, including spreading, mixing, moisture conditioning, compaction and trimming. As instructed by the Employer's Agent.	m ³	600		

Schedule 4 , section 4 (continued over leaf)

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.9	C3.2 S4-4.9	<i>Schedule 4, Section 4 (continued)</i> Segmental Retaining Wall (Design & Construction Complete): Design, engineer, certify, supply and construct a 3.0 m high Löffelstein (or similar approved) segmental retaining wall system, including all excavation for footing, preparation of founding layer, concrete levelling pad, supply and installation of precast blocks, geogrid/geofabric reinforcement, drainage layer, 100 mm perforated subsoil drain, backfilling and compaction in layers, trimming, finishing, testing, as-built documentation, and all professional design certificates, complete in accordance with SANS 1200 DA/DB/DM/GA and the Project Specifications. Provisional Quantity.	m2	90		
SECTION 4:		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 5

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S5- (5.1 -5.11)	<u>SECTION 5: BULK EXCAVATION</u>				
5.1	C3.2 S5- 5.1 D 8.3.8	Existing Services (Manual Exploration): Hand-excavation to locate, expose and protect existing underground services (water pipes, septic outflows). Includes careful excavation, verification with Engineer, backfilling with approved material and compaction. Provisional Quantity.	m³	50		
5.2	C3.2 S5- 5.2 D 8.3.8	Adjustments to Existing Services: Rerouting/lowering/protection of domestic services affected by works. Includes fittings, couplings etc. Includes temporary water supply, liaison with residents, reinstatement, backfilling and compaction.	Sum	1		
5.3	C3.2 S5- 5.3 D 8.3.2	Removal of Existing Structures: Demolition and removal of concrete structures, pipes, manholes, end-walls, kerbing or obstructions within the road prism. Includes breaking up, loading, hauling and disposal.	Sum	1		
5.4	C3.2 S5- 5.4 D 8.3.2	Bulk Excavation to Formation Level: Excavation in all materials (excluding hard rock) to required formation/subgrade levels, including trimming, shaping, moisture control, compaction and disposal of surplus material to spoil site within 1 km. Provisional Quantity.	m³	2 610		
5.5	C3.2 S5- 5.5 D 8.3.3	Extra-over for Restricted Excavation: Excavation in restricted areas or near residential infrastructure where heavy plant cannot be used. Provisional Quantity.	m³	150		
5.6	C3.2 S5- 5.6 D 8.3.2 (b)	Extra-over for Intermediate Material: Excavation in material requiring ripping or heavy-duty backhoe (e.g., weathered shale, dense gravels). Provisional Quantity.	m³	150		
5.7	C3.2 S5- 5.7 D 8.3.2 (b)	Extra-over for Hard Rock: Excavation requiring pneumatic tools or mechanical rock-breakers (e.g., unweathered dolerite). Includes vibration control near septic tanks. Provisional Quantity.	m³	50		
5.8	C3.2 S5- 5.8 D 8.3.6	Overhaul (Provisional): Extra-over for every additional 1 km haul beyond the initial 5 km free haul distance.	m³. km	24516		

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<i>Schedule 5, Section 5 (Continued)</i>				
5.9	C3.2 S5-5.9	Final Trimming: Trimming and shaping of verges (1.5–3.0 m wide) to required profiles for drainage. Includes removal of stones >50 mm and debris.	m ²	1 800		
5.10	C3.2 S5-5.10 D 8.3.10	Topsoiling from Stockpile: Hauling, spreading and levelling to 100 mm compacted thickness. Includes loosening ground to 50 mm depth before spreading.	m ²	1 800		
5.11	C3.2 S5-5.11	Extra-over for Imported Topsoil (Provisional): Only used if stockpiled material is insufficient or contaminated.	m ³	50		
5.12	C3.2 S5-5.12 D 8.3.11	Grassing with Sods (Instant Lawn): Supply and lay Kikuyu or Berea/LM sods in staggered pattern, lightly rolled, including initial saturation watering.	m ²	1 800		
SECTION 5:		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 6

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S6- (6.1 to 6.12)	<u>SECTION 6: STORMWATER PIPEWORK</u>				
6.1	C3.2 S6-6.1 L 8.2.1	Supply, lay and bed 450 mm Ø Class 75D concrete pipes , including jointing and testing. Rate includes bedding material.	m	128		
6.2	C3.2 S6-6.2 L 8.2.1	Supply, lay and bed 600 mm Ø Class 75D concrete pipes , including jointing and testing. Rate includes bedding material.	m	178		
6.3	C3.2 S6-6.3 LE 8.2.1	Supply, deliver and install 1.8 m × 0.6 m precast rectangular culvert units complete with 35 MPa precast invert slabs, placed on 150 mm compacted G7 base (95% Mod AASHTO). Rate includes G7 material. Item includes construction of matching reinforced concrete headwalls and wingwalls, complete with all excavation, formwork, reinforcement, concrete, backfilling and finishing required for a fully completed culvert structure.	m	15		
6.4	C3.2 S6-6.4 LB 8.2.2	Extra-over for imported selected granular material for Class C bedding where in-situ material is unsuitable (Provisional).	m³	75		
6.5	C3.2 S6-6.5 L 8.2.3	Extra-over for cutting 450 mm Ø concrete pipes to required lengths (Provisional).	No.	6		
6.6	C3.2 S6-6.6 L 8.2.3	Extra-over for cutting 600 mm Ø concrete pipes to required lengths (Provisional).	No.	8		
6.7	C3.2 S6-6.7 LB 8.2.5	Concrete Encasement: Provide concrete encasement to pipes at critical service intersections (Provisional).	m³	10		
6.8	C3.2 S6-6.8 L 8.3.4	Keeping Excavations Free of Water: Dewatering at outfalls	Sum	1		
6.9	C3.2 S6-6.9 L 8.3.8	Temporary Support for Existing Services (Provisional): Provide temporary supports, slings or hangers etc. for services crossing trenches; remove after completion.	No.	10		
		<i>Section 6 (continued overleaf)</i>				

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
6.10		<i>Schedule 6, Section 6 (continued)</i> <u>Manholes & Catchpits</u> Construct complete catchpit/manhole to the required depth (typically between 1.5 m and 2.5 m), including excavation, shoring, reinforced concrete works, foundation slab, transitions, benching, support beams, cover slab, backfilling, compaction, finishing and all incidental work necessary to deliver a fully completed and functional structure. Depth variation within the 1.5–2.5 m range is deemed included in the tendered rate. Item measured per complete unit constructed. No separate payment will be made for any component listed; item is measured per complete unit constructed				
6.10.1	C3.2 S6-6.10.1 LE 8.2.8	Catchpit Without Splay (Complete):	No.	5		
6.10.2	C3.2 S6-6.10.2 LE 8.2.8	Catchpit With Single Splay (Complete).	No.	5		
6.10.3	C3.2 S6-6.10.3 LE 8.2.8	Catchpit With Double Splay (Complete).	No.	2		
6.11	C3.2 S6-6.11 PSLE 8.2.10	Outlet Headwall for 600 mm Pipe (Complete): Reinforced concrete headwall, wingwalls, apron, cut-off wall, pipe opening and grouting.	No.	6		
6.12	C3.2 S6-6.12 PSLE 8.2.11	Anchor Block to Stormwater Pipeline (Provisional): Concrete anchor block including excavation, formwork, reinforcement, concrete and backfilling.	No.	10		
SECTION 6:		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 7

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S7- (7.1-7.6)	<u>SECTION 7 : SUBBASE</u>				
7.1	C3.2 S7- 7.1 ME 8.3.1	Subbase Construction (Category D Roadway): Source, haul from commercial supplier, unload, spread and compact G5 gravel in 150 mm layers to 95% Mod AASHTO density. Includes watering, shaping to 2.5% cross-fall and protection of completed layer.	m³	830		
7.2	C3.2 S7- 7.2 ME 8.3.3	Extra-over for Chemical Stabilisation: Labour, plant and equipment for in-situ mixing of stabilising agent into gravel, including water application for OMC, specialised mixing, final rolling and 7-day curing (surface kept damp).	m³	755		
7.3	C3.2 S7- 7.3 ME 8.3.3	Supply and Spread of Stabilising Agent: Provide CEM II 32.5N cement in bags or bulk, including transport and secure storage. Spread uniformly at rate determined by Engineer (nominally 5% by mass).	t	78		
7.4	C3.2 S7- 7.4 M 8.5.1	Laboratory Testing (Provisional Sum): UCS and ITS testing to verify stabilisation strength to C3/C4 requirements.	Prov. Sum	1	15 000.00	15 000.00
SECTION 7		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 8

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
8.1	C3.2 S8-8.1 MF 8.3.1	<u>SECTION 8 - BASE (ASPHALT PAVEMENT)</u> G2 Base Layer: Construct a 125 mm thick base layer using G2 crushed-stone material from commercial sources. Compact to 102% Mod AASHTO density. Rate includes supply, hauling, spreading, watering, slushing, and final trimming to a 10 mm tolerance.	m³	37		
SECTION 8		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 9

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S9- (9.1-9.5)	<u>SECTION 9 : ASPHALT SURFACE</u>				
9.1	C3.2 S9-9.1 MH 8.5.1	Prime Coat: Apply MC-30 cutback bitumen at 0.9 l/m ² on prepared base surface, including cleaning, heating and spraying.	m ²	245		
9.2	C3.2 S9-9.2 MH 8.5.3	Tack Coat: Apply 30% stable-grade bitumen emulsion at 0.35 l/m ² between asphalt layers, including surface preparation and spraying.	m ²	245		
9.3	C3.2 S9-9.3 MH 8.5.4	S14 Asphalt Surfacing: Supply, lay, and compact asphalt surfacing to a nominal compacted thickness of 40 mm using approved mix design, including all heating, rolling, and finishing to specified tolerances.	t	26		
9.4	C3.2 S9-9.4	Variations in application of bitumen binders (Provisional)				
9.4.1	C3.2 S9-9.4.1	Extra-over for MC30 cutback bitumen in lieu of item 9.1	litre	50		
9.4.2	C3.2 S9-9.4.2	Extra-over for MSP1 petroprime in lieu of item 9.1	litre	50		
9.4.3	C3.2 S9-9.4.3	Extra-over for 60/70 penetration grade bitumen in lieu of item 9.2	litre	20		
9.5	C3.2 S9-9.5 SANS 1200 MF / MK	Construct asphalt speed hump (complete): 125 mm high, 5 m long and 4.5 m wide, including setting out; saw-cutting and trimming existing surfacing; shaping and compaction of base; placing and compacting asphalt to required profile; forming smooth tie-ins; application of road markings (yellow/white chevrons and edge lines) using approved road marking paint or thermoplastic; includes signage before and after, cleaning of surface; all labour, plant and materials; complete as specified and in accordance with SANS 1200.	No.	2		
SECTION9		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 10

No	Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
10	C3.2 S10-10 C3.2 S10-10 CC1 / G	<u>SECTION 10: CONCRETE PAVEMENT</u> In-situ Jointed Plain Concrete Pavement, 150 mm Thick, Class 30/19 (C30): Provide all labour, materials, plant and equipment to construct in-situ jointed plain concrete pavement, 150 mm thick, Class 30/19 (C30), in full accordance with SANS 2001-CC1, read with COLTO Section 8 and SANS 1200 G. Rate includes batching, mixing, transporting, placing, compacting and finishing; curing by approved method; formwork to exposed edges; construction joints at maximum 4.5 m centres (unreinforced slab); saw-cut contraction joints to specified depth and timing; and expansion joints at maximum 45 m centres and at all fixed structures, intersections, cul-de-sacs, and transitions to existing concrete, complete with approved compressible filler board, dowels, sleeves and elastomeric sealant. Includes protection of works and all incidental items to complete the pavement layer to the satisfaction of the Engineer.	m ²	4 450		
SECTION 10:		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 11

No	SANS ref	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S11- (11.1-11.9)	<u>SECTION 11: KERBING & CHANNELS</u>				
11.1	C3.2 S11-11.1 MK 8.2.1.1	Precast concrete kerbing (Fig. 6), 1 m units, including supply, laying, alignment, jointing, finishing and all incidental work required for a complete kerb installation, in accordance with SANS 1200 MK. Provisional Quantity.	m	1 129		
11.2	C3.2 S11-11.2 MK 8.2.1.2	Extra-over Item 8.2.1.1 for curved kerbing (radius >1 m to 20 m), including forming, cutting, alignment and all additional work required to achieve smooth curvature. No separate payment for tighter radii within this range. Provisional Quantity.	m	240		
11.3	C3.2 S11-11.3 MK 8.2.1.1	Precast concrete kerbing (Fig. 12), 1 m units , including supply, laying, alignment, jointing, finishing and all incidental work required for a complete kerb installation, in accordance with SANS 1200 MK. Provisional Quantity.	m	245		
11.4	C3.2 S11-11.4 MK 8.2.1.2	Extra-over Item 8.2.1.3 for curved kerbing (radius >1 m to 20 m), including forming, cutting and alignment. Provisional Quantity.	m	60		
11.5	C3.2 S11-11.5 MK 8.2.6.1	Bedding & backing: Mass concrete bedding and haunching (15 MPa), including placing, compaction, shaping, finishing and all incidental work to complete the bedding and haunching to the satisfaction of the Engineer. Provisional Quantity.	m ³	37		
11.6	C3.2 S11-11.6 LE 8.2.6	Inlet, outlet, transition and similar structures (per drawing TLS1067TP-D-28-C-TD). Prov.Quant.	No.	25		
11.7	C3.2 S11-11.7 ME 8.3 + GA 8.2	Formalised driveway crossings (150 mm thick) using 20 MPa concrete with Ref 193 mesh, shaped to match existing channel. Prov. Quant.	No.	20		
11.8	C3.2 S11-11.8 ME 8.3 + GA 8.2 + D 8.3	Repair of 1.5 m wide concrete channel including breakout, removal, subgrade compaction, Ref 193 mesh and 25 MPa concrete (100 mm thick). Prov.Quant.	m ²	180		

No	SANS ref	Description	Unit	Qty	Rate (R)	Amount (R)
11.9	C3.2 S11-11.9 DK 8.2.2 / GA 8.2 / ME 8.3	<i>Section 11 (continued)</i> Flow-retardation weirs (check dams) constructed from grouted stone masonry or 25 MPa concrete, keyed into existing lining.	No.	20		
SECTION 11:		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 12

No	SANS ref	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S12- (12.1-12.10)	<u>SECTION 12 : TRAFFIC SIGNAGE & ROAD MARKINGS</u>				
12.1	C3.2 S12- 12.1 MM 8.2.1	Supply and erect permanent Speed Limit Sign R201 (40 km/h) , Class 1 retro-reflective, complete with galvanised post, concrete footing, excavation, backfilling and finishing.	No.	4		
12.2	C3.2 S12- 12.2 MM 8.2.1	Supply and erect permanent STOP Sign R1 (900 mm), Class 1 , complete with post, footing and all incidentals.	No.	4		
12.3	C3.2 S12- 12.3 MM 8.2.1	Supply and erect Side-Road Warning Sign W201 for gravel-road clusters, complete.	No.	4		
12.4	C3.2 S12- 12.4 MM 8.2.1	Supply and erect Curve Warning Signs (W207 right / W208 left) , complete.	No.	2		
12.5	C3.2 S12- 12.5 MM 8.2.1	Supply and erect Road Name Signs (G1 intersections), complete.	No.	5		
12.6	C3.2 S12- 12.6 MM 8.2.1	Apply 100 mm centre line (broken) at approaches to major junctions, thermoplastic with reflective beads, including surface preparation.	m	300		
12.7	C3.2 S12- 12.7 MM 8.2.1	Apply 100 mm solid line (no-overtaking) on curves only, thermoplastic with reflective beads.	m	120		
12.8	C3.2 S12- 12.8 MM 8.2.1	Apply STOP line (300 mm) at major junctions, thermoplastic.	m	12		
12.9	C3.2 S12- 12.9 MM 8.2.1	Apply thermoplastic speed marking "40", including beads and layout complete.	No.	2		
12.10	C3.2 S12- 12.10 MM 8.2.1	Apply "STOP" word road marking (300 mm letters) at 4 intersections on minor approaches, complete.	No.	4		
SECTION 12		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 13

No	SANS ref	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S13- (13.1-13.14)	<u>SECTION 13: SCOUR PROTECTION</u>				
		<u>Stormwater Pipe Outlets Protection</u>				
13.1	C3.2 S13-13.1 DM 8.2	Supply & place non-woven geotextile	m ²	48		
13.2	C3.2 S13-13.2 DM 8.2	Supply & install Reno mattress 6.0 m × 2.0 m × 0.30 m at 600 mm outlets, incl. rock fill & lacing	m ²	48		
13.3	C3.2 S13-13.3 DM 8.2	Anchor / tie Reno mattress to headwall and stake downstream edge	item	4		
13.4	C3.2 S13-13.4 DM 8.2	Trim & shape channel for Reno mattress scour apron around headwalls	m ³	3		
13.5	C3.2 S13-13.5 DK	Stone pitching 150–200 mm thick on slopes around 600 mm pipe outlets	m ²	36		
13.6	C3.2 S13-13.6 DK	Geotextile under stone pitching	m ²	36		
		<u>Box Culvert Scour Protection</u>				
13.7	C3.2 S13-13.7 SANS 1200 DA	Geotextile under stone pitching	m ²	36		
13.8	C3.2 S13-13.8 SANS 1200 DK	Reno mattress scour apron 6.0 m × 2.0 m × 0.30 m at outlet	m ²	12		
13.9	C3.2 S13-13.9 SANS 1200 DA	Geotextile under Reno mattress	m ²	12		
13.10	C3.2 S13-13.10 SANS 1200 DK	Anchor / tie Reno mattress to outlet apron and stake downstream edge	No.	1		
13.11	C3.2 S13-13.11 SANS 1200 DK	Trim & shape outlet channel (~3 m × 2 m × 0.2 m)	m ³	1		
13.12	C3.2 S13-13.12 DK	Stone pitching 150–200 mm on slopes around culvert (3 m each side × 3 m up, both ends)	m ²	36		
13.13	C3.2 S13-13.13 SANS 1200 DK	Plastic-coated gabion training walls — 3 stepped rows of 3 m × 1 m × 1 m on each side of inlet	m ³	18		
13.14	C3.2 S13-13.14 SANS 1200 DA	Geotextile behind and under gabion training walls	m ²	24		
SECTION 13		TOTAL CARRIED FORWARD TO SUMMARY				

BILL OF QUANTITIES: SCHEDULE 14

No	SANS ref	Description	Unit	Qty	Rate (R)	Amount (R)
	C3.2 S14 -(14.1-14.20)	SECTION 14: DAYWORKS SCHEDULE <u>Dayworks Personnel — Normal Working Hours</u>				
14.1	C3.2 S14-14.1	Unskilled labour	hr	9		
14.2	C3.2 S14-14.2	Semi-skilled labour	hr	9		
14.3	C3.2 S14-14.3	Skilled labour	hr	9		
14.4	C3.2 S14-14.4	Foreman	hr	9		
14.5	C3.2 S14-14.5	Dayworks Personnel — Outside Normal Hours	—	—		
14.6	C3.2 S14-14.6	Unskilled labour	hr	9		
14.7	C3.2 S14-14.7	Semi-skilled labour	hr	9		
14.8	C3.2 S14-14.8	Skilled labour	hr	9		
14.9	C3.2 S14-14.9	Foreman	hr	9		
14.10	C3.2 S14-14.10	Construction Equipment (Hire Rates)	—	—		
14.11	C3.2 S14-14.11	Grader (CAT 140G or similar)	hr	6		
14.12	C3.2 S14-14.12	Pedestrian Roller (Bomag BW 90)	hr	6		
14.13	C3.2 S14-14.13	Vibratory Roller (10 t or similar)	hr	6		
14.14	C3.2 S14-14.14	Water Truck (5000 litres)	hr	50		
14.15	C3.2 S14-14.15	Tipper Truck (10 m³)	km	50		
14.16	C3.2 S14-14.16	Backhoe TLB (CAT 428 or similar)	hr	6		
14.17	C3.2 S14-14.17	Dewatering Pump (50 mm) incl. accessories	hr	6		
14.18	C3.2 S14-14.18	Compressor incl. hoses & tools (180 cfm)	hr	6		
		<u>Materials</u>		—		
14.19	C3.2 S14-14.19	Procurement of materials (Provisional Sum)	Prov Sum	1		
14.20	C3.2 S14-14.20	Overheads, charges & profit on item (a) above	%	10		
SECTION 14:		TOTAL CARRIED FORWARD TO SUMMARY				

THE MSUNDUZI MUNICIPALITY

CONTRACT No. SCM 6 OF 26/27

UPGRADE OF ROAD M89 IN FRANCE - WARD 18

BILL OF QUANTITIES SUMMARY

(Schedules 1 through 14 to be bound herein as priced by the Tenderer)

SUMMARY TO SCHEDULE OF QUANTITIES

SECTION	DESCRIPTION	Amount (R)
SECTION 1	PRELIMINARY AND GENERAL	
SECTION 2	SITE CLEARANCE	
SECTION 3	EARTHWORKS (PIPE TRENCHES)	
SECTION 4	SUBGRADE IMPROVEMENT	
SECTION 5	BULK EXCAVATION	
SECTION 6	STORMWATER PIPEWORK	
SECTION 7	SUBBASE	
SECTION 8	BASE (ASPHALT PAVEMENT)	
SECTION 9	ASPHALT SURFACE	
SECTION 10	CONCRETE PAVEMENT	
SECTION 11	KERBING & CHANNELS	
SECTION 12	TRAFFIC SIGNAGE & ROAD MARKINGS	
SECTION 13	SCOUR PROTECTION	
SECTION 14	DAYWORKS	

TOTAL EXCLUDING VAT & CONTINGENCIES	
CONTINGENCIES @ 10%	
TOTAL INCLUDING CONTINGENCIES EXCLUDING VAT	
VAT @15%	
TOTAL INCLUDING VAT & INCLUDING CONTINGENCIES	

Note:

When submitting this tender, tenderers are advised that regardless of the VAT status of being a VAT or non VAT vendor, the price must include for VAT.

Further to the above, the price shall be deemed to be VAT inclusive regardless of whether the tenderer is a VAT vendor or not.

SIGNED ON BEHALF OF THE TENDERER:

Name of Tenderer.....

Name of Signatory.....

Capacity of Signatory.....

SignatureDate