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BILL OF QUANTITIES**SECTION 1 PRELIMINARY AND GENERAL ITEMS****PART 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS</u>				
1	C1.3.1.1 PS.C1.3.1 PS.C1.3.2	The Contractors General Obligations Fixed Obligations	sum	1		
2	C1.3.1.2 PS.C1.3.1 PS.C1.3.2	The Contractors General Obligations Value-related Obligations	sum	1		
3	C1.3.1.3 PS.C1.3.1 PS.C1.3.2	The Contractors General Obligations Time-related Obligations	months	4		
		<u>Programming and Reporting</u>				
4	C1.2.2.1 PS.1	Submission of a Scheme 1 Programme	sum	1		
5	C1.2.2.2 PS.1	Reviewing and updating a Scheme 1 Programme	months	4		
		<u>Health and Safety</u>				
6	C1.2.5.1 PS.10	Implementation of Health and Safety Plan	months	4		
		<u>Security</u>				
7	C1.4.8 PS.11	Provision of security on site to guard against any disruption of the works throughout the duration of the contract	months	4		
8	C1.2.4 PS.14	Liasing, coordinating and mentoring CPG Sub-contractors	months	4		
		<u>Stakeholder Management</u>				
9	C1.2.4 PS.13	Stakeholder Management and Liaison	months	4		
		<u>CLO</u>				
10	C1.2.4.1 PS.13	Community Liaison Officer	PC Sum	70000	1.00	70,000.00
11	C1.2.4 PS.13	Enter % of Work Package Order	%	70000		
12	C1.2.6 PS.16	Submission of As-Built Data	sum	1		

Construction of Umsilinga Way, Ward 42

Part Continued **PART** 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
13	PS.18	Testing and Equipment for the Engineer (Provisional)	PC Sum	25000	1.00	25,000.00
14	PS.18	Enter % of Work Package Order	%	25000		
<u>ACCOMMODATION OF TRAFFIC</u>						
15	C1.3.2 PS.C1.3.2	Contract sign boards	no.	1		
16	C1.5.7.1(b)	Delineators including mounting bases and ballast: Double sided, reversible left or right (1200mm x 250mm)	no	20		
17	PS.1.3.4	Temporary barriers for accommodation of traffic, concrete New Jersey type, Contractor's own source	m	10		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS**R**

Construction of Umsilinga Way, Ward 42

SECTION 2 SITE CLEARANCE**PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		Clearing				
1	C1.6.1.1 PS.C.1.6.1	Clearing with machines where necessary, to spoil including haulage	m2	420		
2	C1.6.1.2 PS.C.1.6.1	Clearing with hand labour only when labour enhanced work is specified, to spoil including haulage	m2	30		
		Grubbing				
3	C1.6.2.1 PS.C.1.6.1	Grubbing with machines where necessary, to spoil including haulage	m2	420		
4	C1.6.2.2 PS.C.1.6.1	Grubbing with hand labour when labour enhancement work is specified or it is not practical to use a machine, to spoil including haulage	m2	30		
		Removal and Grubbing of Large Trees and Tree Stumps				
5	C1.6.3.1	Girth equal to or exceeding 1,0 m up to and including 2,0 m, to spoil including haulage	no	2		
6	C1.6.3.2	Girth exceeding 2,0 m up to and including 3,0 m, to spoil including haulage	no	2		

TOTAL CARRIED TO SECTION 2 SUMMARY: SITE CLEARANCE**R**

Construction of Umsilinga Way, Ward 42

SECTION 3 SERVICES**PART 0201 C2.1 GEN REQMENTS AND TRENCHING SERVICE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Relocation of Services by Others:</u>				
		<u>Water, Sewer, Electricity and Telecommunications</u>				
1	C2.1.1.2 PS.2	Permanent services relocation or protection work by others	PC Sum	40000	1.00	40,000.00
2	C2.1.1.3 PS.1	Handling costs and profit in respect of item above	%	40000		
		<u>Relocation of Services by the Contractor</u>				
		<u>Water, Sewer, Electricity and Telecommunications</u>				
3	C2.1.1.4 PS.2	Permanent services relocation or protection work by the Contractor	ProvSum	1	50,000.00	50,000.00
4	C2.1.2.5 PS.2	Using hand excavation to locate, expose and verify services	m3	5		
5	C2.1.27.1 PS.C2.1.27.1	Demolition of existing manholes, access chambers and other service structures consisting of: Unreinforced concrete, to spoil including haulage	m3	1		
6	C2.1.27.2 PS.C2.1.27.2	Demolition of existing manholes, access chambers and other service structures consisting of: Reinforced concrete, to spoil including haulage	m3	1		
7	C2.1.27.3 PS.C2.1.27.3	Demolition of existing manholes, access chambers and other service structures consisting of: Masonry, to spoil including haulage	m3	1		
8	C2.2.5.2	Concrete encasement of services (class 20/26)	m3	2		

TOTAL CARRIED TO SECTION 3 SUMMARY: SERVICES**R**

Construction of Umsilinga Way, Ward 42

SECTION 4 DRAINAGE**PART 0302 C3.2 CULVERTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>450mm Pipes</u>				
1	C3.2.1.1(a) PS.C3.2.1.1 PS.C2.1	Excavation for culvert structures (pipes): in all material situated within the following depth ranges below the surface level:(a) 0 m to 1,5 m, to spoil including haulage	m	60		
2	C3.2.2.1 PS.C3.2.3.2	Backfilling: Using the excavated material	m	60		
3	C3.2.2.2(a) PS.C3.2.3.2	Backfilling: Using granular material	m	5		
		<u>Inlets and Manholes</u>				
4	C3.2.1.1(a) PS.C3.2.1.1 PS.C2.1	Excavation for culvert structures (Inlets and Manholes): in all material situated within the following depth ranges below the surface level:(a) 0 m to 1,5 m, to spoil including haulage	m3	2		
5	C3.2.1.1(b) PS.C3.2.1.1 PS.C2.1	(b) Exceeding 1,5 m and up to 3,0 m, to spoil including haulage	m3	2		
6	C3.2.2.1 PS.C3.2.3.2	Backfilling: Using the excavated material	m3	4		
7	C3.2.2.2(a) PS.C3.2.3.2	Backfilling: Using granular material	m3	2		
8	C3.2.1.4 PS.C3.2.1.1 PS.C2.1	Extra over sub-item C3.2.1.1 for excavation in hard or boulder material,irrespective of depth, to spoil including haulage	m3	5		
9	C3.2.3.2 PS.C3.2.3.2	Concrete pipe culverts: On Class B bedding (450mm diameter concrete Class 100D)	m	60		
10	C3.2.15.2 PS.C3.2.15.2	Inlet: Type S2; Depth: Exceeding 0,0m and up to 1,5m, including brickwork for inlet walls	no	1		
11	C3.2.15.2 PS.C3.2.15.2	Inlet: Type S2; Depth: Exceeding 0,0m and up to 1,5m, demolish existing brickwork and relocate inlet cover including new brickwork and concrete slab. See drawing 38573 - "Details of Inlet / Manhole Affected by Road Widening"	no	1		
12	C2.1.19.2	Dealing with subsurface water	sum	1		

TOTAL CARRIED TO SECTION 4 SUMMARY: DRAINAGE**R**

Construction of Umsilinga Way, Ward 42

PART 0303 C3.3 CONCRETE KERBING AND CHANNELING

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C3.3.4 PS.C3.3.2.1	Drop kerbs EXCLUDING channel / Fillet at pedestrian crossings and driveways (Drawing 38579)	m	6		
2	C13.4.11	Cast in situ concrete for Pedestrian / Vehicular Scoop (Grade 20/13)	m ³	5		
3	C2.1.16 PS.C2.1.16	Subsurface drains in trench bottoms (Drawing 38575 - Type A)	m	30		
4	C.3.3.1	Prefabricated Kerbing (Fig. 8 Type C as per Drawing 38577) EXCLUDING channel / fillet	m	220		

TOTAL CARRIED TO SECTION 4 SUMMARY: DRAINAGE**R**

Construction of Umsilinga Way, Ward 42

SECTION 5 EARTHWORKS & LAYERWORKS**PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.2.9.1 PS.C4.2	Excavating of materials to spoil, including haulage, in sites designated by the Contractor, material obtained from: Soft excavation	m3	240		
2	C4.2.9.3 PS.C4.2	Boulder excavation class B to spoil, including haulage	m3	5		
3	C4.2.9.4 PS.C4.2	Hard excavation (other than by blasting) to spoil, including haulage	m3	5		
4	C4.2.12.1(a)	Finishing the side slopes of Cuttings:(a) In soft material	m2	240		

TOTAL CARRIED TO SECTION 5 SUMMARY: EARTHWORKS LAYERWORKS

R

PART 0403 C4.3 EXISTING ROAD MATERIALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.3.4.1(a)	<u>Saw-cut</u> Saw-cutting existing materials within the following average depth ranges:Asphalt:(a) Up to 50 mm	m	10		
2	C4.3.18.1 PS.C4.2	Excavate non-compliant or excess pavement layer material to spoil in sites designated by the Contractor, including haulage,, material consisting of: Asphalt material	m3	2		
3	C4.3.18.2 PS.C4.2	Excavate non-compliant or excess pavement layer material to spoil in sites designated by the Contractor, including haulage, material consisting of: Crushed stone, macadam, gravel and sand material	m3	6		

TOTAL CARRIED TO SECTION 5 SUMMARY: EARTHWORKS LAYERWORKS

R

PART 0404 C4.4 COMMERCIAL MATERIALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.3.1	Compiling and implementing M&U plans for the construction of all the pavement layers.	no	1		
2	C4.4.2.1(d)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G2	m3	70		
3	C5.3.2.1(b)	150mm Selected layer (G2) compacted to 98 % of MDD	m3	70		

Construction of Umsilinga Way, Ward 42

Part Continued **PART** 0404 C4.4 COMMERCIAL MATERIALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	C4.4.2.1(e)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G5	m3	70		
5	C5.3.2.1(b)	150mm Selected layer (G5) compacted to 98 % of MDD	m3	70		
6	C4.4.2.1(g)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G7	m3	75		
7	C5.3.2.1(b)	150mm Selected layer (G7) compacted to 95 % of MDD	m3	75		
8	C5.3.11.1	Using a 3,0 m straight edge	m	1		
9	C5.3.11.2	Using a rolling straight edge	m	1		
10	C5.3.2.1(b)	Selected layer (G2) compacted to 98 % of MDD for driveways and restricted areas	m3	5		
11	C5.1.1.2 PS.C5.1.1.2	Roadbed construction and compaction to 95 % of MDD	m3	75		
12	C5.1.3.1(a) PS.C4.2	Excavate material to spoil from roadbed construction, material obtained from:(a) Soft excavation	m3	10		

TOTAL CARRIED TO SECTION 5 SUMMARY: EARTHWORKS LAYERWORKS**R**

Construction of Umsilinga Way, Ward 42

SECTION 6 CONCRETE**PART 0901 C9.1 ASPHALT LAYERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C6.1.2.1(a)	Construction of jointed concrete pavement (JCP) (Excluding texturing and curing)JCP with dowels:(Hand laid construction (150mm, 40MPa)	m2	400		
2	C6.1.5.2	Burlap-dragged and broom finish only	m2	400		
3	C6.1.5.3(b)	(b) Curing: Labour enhanced construction	m2	400		
4	C6.1.7.1	Expansion joints complete (excluding dowels)	m	230		
5	C6.1.7.4(a)	Dowel bars: mild steel inserted in new concrete (Y10, 500mm length):	no	350		
6	C6.1.8.2	Steel reinforcement in concrete pavements: Mesh ref 395	m2	400		

TOTAL CARRIED TO SECTION 6 SUMMARY: CONCRETE**R**

Construction of Umsilinga Way, Ward 42

SECTION 7 ANCILLARY ROAD WORKS**PART 1106 C11.6 ROAD SIGNS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.6.1.3(a)	Road signboards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class I retro-reflective material, where the sign board is constructed from:Prepainted galvanized steel plate:(a) Area 0 to 0,5 m2	m2	2		
2	C11.6.5.1 PS.C2.1	Excavation and backfilling for road sign supports (not applicable to kilometre posts):Excavating soft material and backfilling	m3	1		
3	C13.4.11	Cast in situ concrete for road sign footings as directed by the Engineer (Grade 20/19)	m3	1		

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

PART 1107 C11.7 ROAD MARKINGS AND ROAD STUDS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Lettering and Symbols</u>				
1	C11.7.1.4	White lettering and symbols (Thermoplastic)	m2	2		
		<u>Transverse Lines and Islands</u>				
2	C11.7.1.7	Transverse lines, painted island and arrestor bed markings (White) (Thermoplastic)	m2	2		
		<u>Broken and Unbroken Lines</u>				
3	C11.7.3.1	Thermoplastic road marking, broken or unbroken (White, 100mm wide)	m	10		
4	C11.7.8	Setting out and premarking the lines	m	10		

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

PART 1109 C11.9 FINISHING ROAD AND ROAD RESERVE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.9.1.1	Finishing the road and road reserve: Single carriageway road	m	95		

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

SUMMARY OF BILL OF QUANTITIES

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5	EARTHWORKS & LAYERWORKS		R	_____
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	0404 C4.4 COMMERCIAL MATERIALS	R		_____
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	0901 C9.1 ASPHALT LAYERS	R		_____
7	ANCILLARY ROAD WORKS		R	_____
	1106 C11.6 ROAD SIGNS	R		_____
	1107 C11.7 ROAD MARKINGS AND ROAD STUDS	R		_____
	1109 C11.9 FINISHING ROAD AND ROAD RESERVE	R		_____
SUB TOTAL				R _____
ADD VAT (15%) - (only if a registered VAT Vendor)				R _____
TOTAL CARRIED TO FORM OF TENDER				R _____