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**BILL OF QUANTITIES****SECTION 1 Preliminary and General****PART 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS**

<b>Item</b>	<b>Clause</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
		<b><u>Contract</u></b>				
1	GCC	GENERAL CONDITIONS OF CONTRACT (GCC 2015) READ IN CONJUNCTION WITH THE CONTRACT DATA	sum	1		
2	GCC	Time Related obligations	sum	1		
3	SANS 1921-1	SANS 1921-1 : GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS	sum	1		
4	GCC	Time Related Obligations	sum	1		
		<b><u>Enviromental Management</u></b>				
5	C1.2.1.1	Dedicated environmental officer	months	10		
6	C1.2.1.1	Monitoring of compliance with and reporting on the EMP	months	10		
		<b><u>Programming and Reporting</u></b>				
7	C1.2.2.1	Submission of a Scheme 1 Programme	Lump sum	1		
8	C1.2.2.2	Reviewing and updating a Scheme 1 Programme	months	10		
		<b><u>Other Documentation</u></b>				
9	C1.2.2.6	Preparation and submission of all information and reports specified in the Contract Documentation	months	10		
		<b><u>Stakeholder Management and Liaison</u></b>				
10	C1.2.4	Stakeholder Liaison	months	0		
		<b><u>Routine site maintenance</u></b>				
11	C1.2.3.4	Collection of rubbish / litter	m	500		
12	C1.2.3.11	Other road maintenance work ordered by the Engineer	PC Sum	10000	1.00	10,000.00
13	C1.2.3.12	Handling cost, profit and all other charges in respect of item C1.2.3.11	%	10000		
		<b><u>Health and Safety</u></b>				
14	C1.2.5.1	Safety:Health and safety plan	Lump sum	1		

**CONSTRUCTION OF 36m REINFORCED CONCRETE PEDESTRIAN BRIDGE IN ZAMBIA AREA, AMAOTI WARD 57.****Part Continued PART 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
15	C1.2.5.2	Implementation of health and safety plan  <b>Community Liaison Officer</b>	months	10		
16	PS.12	Allow for CLO's be appointed	PC Sum	400000	1.00	400,000.00
17	PS.12	Handlin costs and profit in respect of the above item	%	400000		
18	PS.12	Local Labour  <b>Security</b>	sum	1		
19	PS.11	Provision of Security on site to guard against any disruption of works throughout the duration of the project	months	10		
20		Allow for the following Additional Items which the tenderer requires to be priced separately :-	sum	1		
21		(b)	sum	1		
22		( c)	sum	1		
23		(d)	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminary and General

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**PART 0103 C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b>The Contractor's general obligations</b>				
1	C1.3.1.1	The Contractor's general Obligations:Fixed obligations	Lump sum	1		
2	C1.3.1.2	Value-related obligations	Lump sum	1		
3	C1.3.1.3	Time-related obligations	months	10		
4	C1.3.2	Contract sign boards	m2	4		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminary and General

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**PART 0104 C1.4 FACILITIES FOR THE ENGINEER**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b>Site Accommodation</b>				
1	C1.4.1.1	Offices and conference room	m2	30		
2	C1.4.1.7	Ablution unit (equipped as specified)	no	2		
3	C1.4.1.9	Kitchen unit (equipped as specified)	no	1		
4	C1.4.3.2	Office chair	no	10		

**CONSTRUCTION OF 36m REINFORCED CONCRETE PEDESTRIAN BRIDGE IN ZAMBIA AREA, AMAOTI WARD 57.****Part Continued PART 0104 C1.4 FACILITIES FOR THE ENGINEER**

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	C1.4.3.6	Office desk with 3 drawers (at least one lockable drawer)	no	2		
6	C1.4.3.8	Conference table	no	1		
7	C1.4.3.24	Air-conditioning unit	no	2		
8	C1.4.3.30	A4 colour printer, copier, scanner	no	1		
9	C1.4.3.31	Rain gauge	no	1		
10	C1.4.3.36	Measuring wheel	no	2		
11	C1.4.3.37	First aid kit	no	1		
12	C1.4.4.5	The provision of internet connectivity and WiFi data for Engineer's site staff	PC Sum	10000	1.00	10,000.00
13	C1.4.4.6	Handling costs and profit in respect of item C1.4.4.5	%	10000		
14	C1.4.4.7	The provision of paper and ink for a combination colour printer/copier/scanner	PC Sum	3000	1.00	3,000.00
15	C1.4.4.8	Handling costs and profit in respect of item C1.4.4.7	%	3000		
		<b><u>Services at Site Offices, Laboratories and Site Accommodation</u></b>				
16	C1.4.5.1	Fixed costs	Lump sum	1		
17	C1.4.5.2	Running costs	months	10		
18	PS13	Community and Public Relations	PC Sum	50000	1.00	50,000.00
19	PS13	Handling costs in respect of item above	%	50000		
20	PS15	Progress photographs	PC Sum	40000	1.00	40,000.00
21	PS15	Handling costs and profit in respect of item PS15	%	40000		
22	PS16	Allocation for professional services	PC Sum	50000	1.00	50,000.00
23	PS16	Handling costs and profit in respect of above item	%	50000		
24	PS17	Allowance for Geotechnical Engineer for Investigation borehole drilling	PC Sum	250000	1.00	250,000.00
25	PS17	Handling costs and profit in test in respect of item above	%	250000		
26	PS 19	Concrete test	sum	1		

**TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminary and General****R**

**CONSTRUCTION OF 36m REINFORCED CONCRETE PEDESTRIAN BRIDGE IN ZAMBIA AREA, AMAOTI WARD 57.****PART      0105    C1.5 ACCOMMODATION OF TRAFFIC**

<b>Item</b>	<b>Clause</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
		<b><u>Accommodation of pedestrian and non-motorised traffic:</u></b>				
1	C1.5.1.1	Accommodation of pedestrian and non-motorised traffic	months	10		
2	C1.5.1.2	Construction of temporary pedestrian crossing and walkways	sum	1		
3	C1.5.5.1	Maintenance of temporary deviations:Grass cutting	m2	120		
		<b><u>Provision of safety equipment for visitors:</u></b>				
4	C1.5.11.1	Provision of reflective safety vests for visitors	no	5		
5	C1.5.11.2	Provision of hard hats for visitors	no	5		
		<b><u>Additional traffic accommodation facilities ordered by the Engineer:</u></b>				
6	C1.5.12.1	Provision of additional traffic accommodation facilities	PC Sum	30000	1.00	30,000.00
7	C1.5.12.2	Handling cost, profit and all other charges in respect of item C1.5.12.1	%	30000		
<b>TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminary and General</b>					<b>R</b>	

**CONSTRUCTION OF 36m REINFORCED CONCRETE PEDESTRIAN BRIDGE IN ZAMBIA AREA, AMAOTI WARD 57.****SECTION 2 Bridgeworks****PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.6.1.1	Clearing with machines and some hand labour where necessary	m2	500		
2	C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	m2	200		
3	C1.6.3.4	Removal of trees in forests and plantations	m2	250		
4		General clearance and grubbing in river bed and track	m2	100		
		<b><u>Disposal of hazardous waste material:</u></b>				
5	C1.6.10.1	Disposal of hazardous waste material at an approved hazardous waste material facility.	PC Sum	20000	1.00	20,000.00
6	C1.6.10.2	Handling cost, profit and all other charges in respect of item C1.6.10.1	%	20000		

TOTAL CARRIED TO SECTION 2 SUMMARY: Bridgeworks

R

**PART 0107 C1.7 LOADING AND HAULING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.7.1.1	Loading from stockpile using machines and some hand labour where necessary	m3	80		

TOTAL CARRIED TO SECTION 2 SUMMARY: Bridgeworks

R

**PART 1201 C12.1 PILING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C12.1.2.2	Access and drainage: Drainage by pumping or other means	sum	1		
2	C12.1.3	Establishment on site for piling Mhlathuzana River in Nazareth Ward 16	sum	1		
3	C12.1.4	Moving to, and setting up equipment at each position for installing CFA piles Rigde 1:8	no	12		
		<b><u>Augered holes CFA for piles with a diameter of 400mm through material situated within the following successive depth ranges :</u></b>				
4	C12.1.5.1.(a)	(a) 0 m up to 10 m	m	120		
5	C12.1.5.1.(b)	(b) Exceeding 10 m and up to 15 m	m	30		
6	C12.1.8	Forming augered or bored pile holes through unidentified materials	ProvSum	10000	1.00	10,000.00

**CONSTRUCTION OF 36m REINFORCED CONCRETE PEDESTRIAN BRIDGE IN ZAMBIA AREA, AMAOTI WARD 57.**Part Continued **PART 1201 C12.1 PILING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
7	C12.1.9	Forming augered or bored pile holes through obstructions	ProvSum	1000	1.00	1,000.00
8	C12.1.13.1	Extra over items C12.1.5 and for raking of piles: Holes for piles of 400mm and 1:8	m	120		
9	C12.1.15.1	Steel reinforcement in cast in situ piles: Mild-steel bars ®	t	0.5		
10	C12.1.15.2	Steel reinforcement in cast in situ piles: High-yield-stress-steel bars (Y)	t	2		
11	C12.1.31.2	Pile Integrity Testing on augered/bored piles: Carrying out of Impact Frequency Response (IFR) measurements or Sonic Tapping tests and interpretation of results (per pile diameter)	no	12		

TOTAL CARRIED TO SECTION 2 SUMMARY: Bridgeworks

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**PART 1206 C12.6 MECH STABILISED FILL AND GABIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Excavating all material situated within the following depth ranges below the surface level</u></b>				
1	C12.6.14.1	(a) 0 m to 1,5 m	m3	120		
2	C12.6.14.1	(b) Exceeding 1,5 m and up to 3,0 m	m3	120		
3	C12.6.14.2	Extra over sub-item C11.2.1.1 for excavation in hard material, irrespective of depth	m3	24		
		<b><u>Gabions and mattresses:</u></b>				
4	C12.6.15	Surface preparation for bedding the gabions	m2	200		
5	C12.6.16.2	PVC coated gabion boxes (1m x 1m x 1m)	m3	100		
6	C12.6.16.2	PVC coated gabion boxes (2m x 1m x 1m)	m3	120		
7	C12.6.16.2	PVC coated gabion mattresses (3m x 1m x 0.3m)	m3	80		
8	C12.6.17	Geotextile (Drainage grade B)	m2	300		

TOTAL CARRIED TO SECTION 2 SUMMARY: Bridgeworks

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**CONSTRUCTION OF 36m REINFORCED CONCRETE PEDESTRIAN BRIDGE IN ZAMBIA AREA, AMAOTI WARD 57.****PART 1302 C13.2 FALSEWORK, FORMWORK AND CONCRETE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Substructure</u></b>				
1	C13.2.1	Formwork to provide class of finish indicated as F1, board surface finish to pile caps/ footings	m2	27		
2	C13.2.2	Vertical formwork to provide class of finish F1 surface finish to hidden abutments wall surfaces	m2	50		
3	C13.2.2	Vertical formwork to provide class of finish F3 surface finish to visible Pier & abutment wall surfaces	m2	82		
		<b><u>Superstructure</u></b>				
4	C13.2.3	Horizontal formwork to provide class of finish F3, surface finish to the bridge deck soffits	m2	95		
5	C13.2.2	Vertical formwork to provide class of finish indicated as F3 surface finish to deck web beams	m2	190		
6	C13.2.5.1	Permanent formwork: To form voids of diameter 50mm scuppers in the deck 5000mm spacing 16 in total	no	16		
7	C13.2.10	Provision of designs and drawings of falsework and formwork by an ECSA registered Professional Engineer or Technologist	sum	1		
		<b><u>Retaining Walls</u></b>				
8	C13.2.2	Vertical formwork to provide class of finish F1 surface finish to hidden retaining walls surfaces	m2	100		
9	C13.2.2	Vertical formwork to provide class of finish F3 surface finish to visible Retaining walls surfaces	m2	100		

TOTAL CARRIED TO SECTION 2 SUMMARY: Bridgeworks

R

**PART 1303 C13.3 STEEL REINFORCEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.3.1.1(b)	Reinforcement for: Pile Caps: (b) High-yield-stress-steel bars (Y)	t	4		
2	C13.3.1.1(b)	Reinforcement for: Abutment and Peir walls: (b) High-yield-stress-steel bars (Y)	t	6		
3	C13.3.1.1(b)	Reinforcement for: Bridge Deck: (b) High-yield-stress-steel bars (Y)	t	10		

**CONSTRUCTION OF 36m REINFORCED CONCRETE PEDESTRIAN BRIDGE IN ZAMBIA AREA, AMAOTI WARD 57.**Part Continued **PART 1303 C13.3 STEEL REINFORCEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b>Retaining Walls</b>				
4	C13.3.1.1(b)	Reinforcement for: Foundations and Retaining Walls: (b) High-yield-stress-steel bars (Y)	t	15		

TOTAL CARRIED TO SECTION 2 SUMMARY: Bridgeworks

R

**PART 1304 C13.4 CONCRETE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.4.1.1	Cast in situ concrete: Strength concrete C12/15 : Blinding	m3	10		
		<b>Durable Concrete (Class D)</b>				
2	C13.4.1.2	Cast in situ concrete: Deck slab D25/30-20-XC4	m3	60		
3	C13.4.1.2	Cast in situ concrete: Pier & Abutment walls D25/30-20-XC4	m3	40		
4	C13.4.1.2	Cast in situ concrete: Base D25/30-20-XC4	m3	18		
		<b>Walkway</b>				
5	C13.4.1.1	Cast in situ concrete: Approaches C20/25-20	m3	0		
6	C13.4.5.1	Curing and surface protection of cast in situ concrete, as and where specifically required: Indicate structural element and surface to be cured Liquide membrane compounds	m2	150		
7	PS20	Fairing Compound	m2	350		
		<b>Retaining Walls</b>				
8	C13.4.1.1	Cast in situ concrete: Strength concrete C12/15 : Blinding	m3	40		
9	C13.4.1.2	Cast in situ concrete: Wing walls D25/30-20-XC4	m3	80		

TOTAL CARRIED TO SECTION 2 SUMMARY: Bridgeworks

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**PART 1308 C13.8 ANCILLARY STRUCTURAL ELEMENTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.8.4	Polycrete handrians for walkways	m	200		
2	C13.8.7.3	Bridge number: (refer to drawings) : Numbers formed in concrete parapet bridge	no	1		
3	C13.8.10.2(a)	Drainage pipes and weep holes: Weep holes: behind the abutments walls 3 each abutment	m	6		

**CONSTRUCTION OF 36m REINFORCED CONCRETE PEDESTRIAN BRIDGE IN ZAMBIA AREA, AMAOTI WARD 57.**Part Continued **PART 1308 C13.8 ANCILLARY STRUCTURAL ELEMENTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	C13.8.14	Crushed stone in drainage strips 40mm stone size	m <sup>3</sup>	6		
5	C13.8.16.1	Perforated drainage pipes: Size 65mm dia and type of pipe wrapped in synthetic – filter fabric as specified 200mm wide filter elements secured to backface of the abutments 45' slope	m	3		

**TOTAL CARRIED TO SECTION 2 SUMMARY: Bridgeworks****R**

**BILL OF QUANTITIES SECTION SUMMARY**

**SECTION 1 Preliminary and General**

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TOTAL CARRIED TO FINAL SUMMARY		

**BILL OF QUANTITIES SECTION SUMMARY****SECTION 2    **Bridgeworks****

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TOTAL CARRIED TO FINAL SUMMARY		

**SUMMARY OF BILL OF QUANTITIES****Section**

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1206	C12.6 MECH STABILISED FILL AND GABIONS	R		_____	
1302	C13.2 FALSEWORK, FORMWORK AND CONCRETE	R		_____	
1303	C13.3 STEEL REINFORCEMENT	R		_____	
1304	C13.4 CONCRETE	R		_____	
1308	C13.8 ANCILLARY STRUCTURAL ELEMENTS	R		_____	
SUB TOTAL				R	_____
ADD VAT (15%) - (only if a registered VAT Vendor)				R	_____
TOTAL CARRIED TO FORM OF TENDER				R	_____