

C2.2: BILL OF QUANTITIES

The Bill of Quantities follows and comprises of 18 pages. The pages are numbered BoQ 67 to BoQ 85

C.2.2.1 : INDEX TO BILL OF QUANTITIES**SECTION 1 PRELIMINARY AND GENERAL ITEMS****PART 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS****PART 0103 C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND****SECTION 2 SITE CLEARANCE****PART 0106 C1.6 CLEARING AND GRUBBING****SECTION 3 SERVICES****PART 023A C2.3A WET SERVICES - SEWERS****PART 023B C2.3B WET SERVICES - WATER MAINS****SECTION 4 KERBING****PART 0303 C3.3 CONCRETE KERBING AND CHANNELING****SECTION 5 EARTHWORKS****PART 0402 C4.2 CUT MATERIALS****PART 0403 C4.3 EXISTING ROAD MATERIALS****PART 0404 C4.4 COMMERCIAL MATERIALS****PART 0502 C5.2 FILL****SECTION 6 LAYERWORKS AND SURFACING****PART 0404 C4.4 COMMERCIAL MATERIALS****PART 0501 C5.1 ROADBED****PART 0503 C5.3 ROAD PAVEMENT LAYERS****PART 0901 C9.1 ASPHALT LAYERS****PART 1304 C13.4 CONCRETE****SECTION 7 RETAINING WALLS****PART 1206 C12.6 MECH STABILISED FILL AND GABIONS**

C.2.2.2 : 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>Environmental Management</u>				
1	C1.2.1.1	Monitoring of compliance with and reporting on the EMP	months	4		
		<u>Programming and Reporting</u>				
2	C1.2.2.4	Submission of a Full Contract Programme	Lump sum	1		
		<u>Other Documentation</u>				
3	C1.2.2.6	Preparation and submission of all information and reports specified in the Contract Documentation, including reporting on local labour	months	4		
		<u>Stakeholder Management & Liaison (CLO)</u>				
4	C1.2.4 (COTO) C1.2.3	Stakeholder Management and Liaison (CLO)	months	4		
		<u>Health and Safety</u>				
5	C1.2.5.1	Health and safety plan	Lump sum	1		
6	C1.2.5.2	Implementation of health and safety plan	months	4		
7		Survey and Setting out	PC Sum	27000	1.00	27,000.00

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

PART 0103 C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>The Contractor's General Obligations</u>				
1	C1.3.1.1	Fixed obligations	Lump sum	100000		
2	C1.3.1.3	Time-related obligations	months	4		
3	PS.8	Submission of As-Built Data	sum	1		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

MSINSI AVENUE - WARD 45 GRAVEL TO SURFACE**SECTION 2 SITE CLEARANCE****PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.6.1.1	<u>Clearing</u> Clearing with machines and some hand labour where necessary	ha	0.2		
2	C1.6.3.3	<u>Removal and grubbing of large trees and tree stumps:</u> Girth exceeding 3,0 m	no	2		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

MSINSI AVENUE - WARD 45 GRAVEL TO SURFACE**SECTION 3 SERVICES****PART 023A C2.3A WET SERVICES - SEWERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Raising and lowering existing sewer manholes</u>				
1	C2.3.9.1(a)	Raising manholes: (a) Sewer Concrete Ring manhole (Drawing ref 38570) - 1m Height	no	4		
2	C2.3.9.2(a)	Lowering manholes:(a) Sewer Concrete Ring manhole (Drawing ref 38570) - 1m Height	no	5		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R**PART 023B C2.3B WET SERVICES - WATER MAINS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Supply and lay water mains complete with couplings:</u>				
1	C2.3.21.1(a)	State for each water main the pipe material type, class, coupling type and the class of bedding etc.(a) State diameter(RiderMain)	m	250		
		<u>Extra over item C2.3.21 for supplying and fixing water main valves:</u>				
2	C2.3.23.1(a)	State for each water main valve the type, class etc.(a) State diameter	no	3		
		<u>Excavation For Water Mains</u>				
3	C3.2.1.1(a)	Excavation for culvert structures: in all material situated within the following depth ranges below the surface level:(a) 0 m to 1,5 m	m3	230		
		<u>Backfilling For Water Mains</u>				
4	C3.2.2.2(a)	Backfilling: Using imported selected material:(a) From commercial sources (State type)	m3	230		
		<u>Bedding for water mains (Class B and C) and fill blanket compacted to 90 % of MDD (100 % for sand):</u>				
5	C2.3.29.1(e)	Bedding using selected granular material: (e) From commercial sources - Clean Course River Sand	m3	90		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

MSINSI AVENUE - WARD 45 GRAVEL TO SURFACE**SECTION 4 KERBING****PART 0303 C3.3 CONCRETE KERBING AND CHANNELING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C3.3.2.1,	<u>Kerb and Channel / Fillet for Roadway</u> Prefabricated kerbing excluding cast in-situ channeling: Type B Barrier Kerb, fig. 6, as per Drawing 38577	m	570		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

MSINSI AVENUE - WARD 45 GRAVEL TO SURFACE**SECTION 5 EARTHWORKS****PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Excavation to Stockpile or Fill</u>				
1	C4.2.3.1	Excavating of materials in cuttings for use in the works, material obtained from: Soft excavation	m3	351		
2	C1.7.1.1	Loading from stockpile using machines and some hand labour where necessary	m3	351		
		<u>Removal of Unsuitable (Undercut)</u>				
3	C4.2.7.1	Removal of unsuitable stable cut material to spoil: In layer thicknesses of 200 mm and less	m3	385		
		<u>Designated excavations</u>				
4	C4.2.5.1	Excavating of materials in designated excavations, material obtained from:Soft excavation	m3	545		
		<u>Spoil</u>				
5	C4.2.9.1	Excavate material to spoil in sites designated by the Contractor, material obtained from:Soft excavation, overburden and unsuitable material	m3	355		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R**PART 0403 C4.3 EXISTING ROAD MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Saw-cut</u>				
1	C4.3.4.1(a)	Saw-cutting existing materials within the following average depth ranges: Asphalt: (a) Up to 50 mm	m	10		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R**PART 0404 C4.4 COMMERCIAL MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	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	500		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

MSINSI AVENUE - WARD 45 GRAVEL TO SURFACE**PART 0502 C5.2 FILL**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.2.2.1(b)	Fill construction: Normal fill material (G7) in compacted layer thicknesses of 200 mm and less: (b) Compacted to 93 % of MDD	m3	500		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES**R**

MSINSI AVENUE - WARD 45 GRAVEL TO SURFACE**SECTION 6 LAYERWORKS AND SURFACING****PART 0404 C4.4 COMMERCIAL MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Import Layerworks</u>				
1	C4.4.2.1(d)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G4	m3	275		
		<u>Sidewalks</u>				
2	C4.4.2.1(e)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers:(for sidewalk) Pavement layer material:Type G4	m3	30		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

PART 0501 C5.1 ROADBED

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.1.1.2	Roadbed construction and compaction to 95 % of MDD	m3	1280		
2	C5.1.5.1	In-place treatment of roadbed in hard material: by ripping	m3	385		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

PART 0503 C5.3 ROAD PAVEMENT LAYERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Processing and Compaction</u>				
1	C5.3.2.1(k)	Construction of layers: Upper subbase (G4) layer compacted to 98 % of MDD	m3	275		
		<u>Sidewalk</u>				
2	C5.3.2.1(m)	Sidewalk selected layer (G4) compacted to 98 % of MDD	m3	30		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

PART 0901 C9.1 ASPHALT LAYERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Sidewalk / Median Surface</u>				
1	C9.1.5.1 (e)	New construction Sidewalks (a) Stone skeletal mix – continuously graded (SA-S7) (25mm layer)	m2	290		
2	C8.1.1.2	Prime coat: MC -30 cut-back bitumen. 0.6l/m2	l	175		

MSINSI AVENUE - WARD 45 GRAVEL TO SURFACE**PART 0901 C9.1 ASPHALT LAYERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES						R

PART 1304 C13.4 CONCRETE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1		Supply and install Multi-cell (150mm)	m2	1280		
2	C13.3.3 PS.10	Labour enhanced cast in situ concrete of 30 Mpa (19mm stone) - Road : Commercially- Sourced concrete (Rate to include the supply, lay and vibrating of the concrete)	m3	255		
TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES						R

MSINSI AVENUE - WARD 45 GRAVEL TO SURFACE**SECTION 7 RETAINING WALLS****PART 1206 C12.6 MECH STABILISED FILL AND GABIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Gabions</u>				
1	C12.6.14.1(b)	Foundation trench excavation: Excavating all material for gabions situated within the following depth ranges (b) Exceeding 1,5 m and up to 3,0 m	m3	125		
2	C12.6.15	Surface preparation for bedding the gabions	m2	250		
3	C12.6.16.2	Polimac and Galfan gabion boxes (2m x 1m x1m) - Rock Unweathered and solid without flaking evident. Baskets to be handpacked in 1/3 heights layers - Baskets to be retensioned per lift. Inclusive of baskets frames if required to maintain line and level without bulging.	m3	350		
4	C12.6.17	Geotextile (Filtertation and separation for use with gabions, min Grade 7)	m2	270		
		<u>Segmented Block walls (Geolock or similar approved)</u>				
5	C12.6.2	Excavation for wall base foundation	m3	30		
6	C12.6.3	Concrete for wall base foundation (25/26)	m3	12		
7	C12.6.7	Metallic reinforcing mesh (Mesh Ref. 245)	m2	75		
8	C12.6.12.2	Facings (Geolock wall as per drawing for wall 0-2m): For concrete block wall facing	m2	80		
9	C12.6.13	Drainage (50mm weepholes installed inclusive of all elements as per drawing)	no	10		
10	C12.6.17	Geotextile (Drainage A3)	m2	75		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

BILL OF QUANTITIES SECTION SUMMARY**SECTION 1 PRELIMINARY AND GENERAL ITEMS**

PART 0102	C1.2 GENERAL REQUIREMENTS AND PROVISIONS	
PART 0103	C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND	
TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY**SECTION 2 SITE CLEARANCE**

PART	0106	C1.6 CLEARING AND GRUBBING	
TOTAL CARRIED TO FINAL SUMMARY			

BILL OF QUANTITIES SECTION SUMMARY**SECTION 3 SERVICES**

PART	023A	C2.3A WET SERVICES - SEWERS	
PART	023B	C2.3B WET SERVICES - WATER MAINS	
TOTAL CARRIED TO FINAL SUMMARY			

BILL OF QUANTITIES SECTION SUMMARYSECTION 4 **KERBING**

PART	0303	C3.3 CONCRETE KERBING AND CHANNELING	
TOTAL CARRIED TO FINAL SUMMARY			

BILL OF QUANTITIES SECTION SUMMARY**SECTION 5 DRAINAGE**

PART 0302 C3.2 CULVERTS	
TOTAL CARRIED TO FINAL SUMMARY	

BILL OF QUANTITIES SECTION SUMMARY**SECTION 6 EARTHWORKS**

PART	0402	C4.2 CUT MATERIALS	
PART	0403	C4.3 EXISTING ROAD MATERIALS	
PART	0404	C4.4 COMMERCIAL MATERIALS	
PART	0502	C5.2 FILL	
TOTAL CARRIED TO FINAL SUMMARY			

BILL OF QUANTITIES SECTION SUMMARY**SECTION 7 LAYERWORKS AND SURFACING**

PART 0404	C4.4 COMMERCIAL MATERIALS	
PART 0501	C5.1 ROADBED	
PART 0503	C5.3 ROAD PAVEMENT LAYERS	
PART 0901	C9.1 ASPHALT LAYERS	
TOTAL CARRIED TO FINAL SUMMARY		

C.2.2.3 : SUMMARY OF BILL OF QUANTITIES**Section**

1	PRELIMINARY AND GENERAL ITEMS		R	_____
	0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS	R	_____	
	0103 C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND	R	_____	
2	SITE CLEARANCE		R	_____
	0106 C1.6 CLEARING AND GRUBBING	R	_____	
3	SERVICES		R	_____
	023A C2.3A WET SERVICES - SEWERS	R	_____	
	023B C2.3B WET SERVICES - WATER MAINS	R	_____	
4	KERBING		R	_____
	0303 C3.3 CONCRETE KERBING AND CHANNELING	R	_____	
5	EARTHWORKS		R	_____
	0402 C4.2 CUT MATERIALS	R	_____	
	0403 C4.3 EXISTING ROAD MATERIALS	R	_____	
	0404 C4.4 COMMERCIAL MATERIALS	R	_____	
	0502 C5.2 FILL	R	_____	
6	LAYERWORKS AND SURFACING		R	_____
	0404 C4.4 COMMERCIAL MATERIALS	R	_____	
	0501 C5.1 ROADBED	R	_____	
	0503 C5.3 ROAD PAVEMENT LAYERS	R	_____	
	0901 C9.1 ASPHALT LAYERS	R	_____	
	1304 C13.4 CONCRETE	R	_____	
7	RETAINING WALLS		R	_____
	1206 C12.6 MECH STABILISED FILL AND GABIONS	R	_____	
SUB TOTAL			R	_____
ADD VAT (15%) - (only if a registered VAT Vendor)			R	_____
TOTAL CARRIED TO FORM OF OFFER AND ACCEPTANCE (C.1.1)			R	_____