

**C.2.2.1 : INDEX TO BILL OF QUANTITIES**

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## Upgrade of Ndlebenye Road Ntuzuma A, Ward 38

**C.2.2.2 : BILL OF QUANTITIES****SECTION 1 PRELIMINARY AND GENERAL****PART AA PRELIMINARIES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>GENERAL CONDITIONS OF CONTRACT (GCC 2015) READ IN CONJUNCTION WITH THE CONTRACT DATA</u></b>				
1	GCC 2015	Contractor fixed obligations	sum	1		
2	GCC 2015	Time Related obligations	months	4		
		<b><u>SANS 1921-1: GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS</u></b>				
3	SANS 1921-1	Fixed Charge Items	sum	1		
4	SANS 1921-1	Time Related Items	months	4		
		<b><u>COMMUNITY LIAISON OFFICER</u></b>				
5	PS.13	Allow for a Community Liaison Officer to be appointed	PC Sum	60000	1.00	60,000.00
		<b><u>LOCAL LABOUR</u></b>				
6	PS.14	Allow for the weekly submission of proof of employment of local labour	sum	1		
7	PS.15	Stakeholder Management and Liaison	months	4		

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

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**PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AB.4	Contractor's Camp Site / Store Yard	sum	1		
2	PS.AB.5	Notice Board	sum	1		
3	AB.6 PS.AB.8	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
4	AB.2	Services Connection Fee (electrical / water / telephone) (Provisional)	PC sum	5000	1.00	5,000.00
5	AB.7	Initial supply of all signs, barricades and delineators	sum	1		
6	AB.7	Maintenance of all signs, barricades and delineators	sum	1		
7	AB.8	Survey co-ordination of existing valves, manholes, catchpits, and cable duct markers	sum	1		
8	PS.AB.9	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		

Part Continued on next page

**Upgrade of Ndlebenye Road Ntuzuma A, Ward 38****Part Continued PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
9	PS.11	Provision of security on site to guard against any disruption of the works through out the duration of the contract	months	4		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R****PART AH OCCUPATIONAL HEALTH and SAFETY**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AH.14.1 PS.10 C3.4.3 to 3.4.5	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations.	sum	1		
2	AH.14.2 PS.10 C3.4.3 to 3.4.5	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations.	months	4		
3	AH.14.3 PS.10 C3.4.3 to 3.4.5	Submission of the Health and Safety File.	sum	1		

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

**Upgrade of Ndlebenye Road Ntuzuma A, Ward 38****SECTION 2 SITE CLEARANCE****PART B SITE CLEARANCE**

<b>Item</b>	<b>Clause</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
1	B.8.2	General clearance and grubbing in road reserve	m2	1080		
2	B.8.4 PS.B.8.4	Removal of trees of girth exceeding 1,5 m	no.	2		
3	B.8.5 PS.B.8.5	Removal of 1.8m high wire mesh fence and store on site for re-use	m	80		
4	B.8.7 PS.B.8.7	Removal of street/traffic signs and posts and store on site for re-use	no.	1		
5	B.8.16	Removal of kerb and channel/fillet to tip	m	12		
6	B.8.11 PS.B.8.11	Removal of reinforced concrete (including v-drain)	m3	5		
7	B.8.19 PS.B.8.19	Removal of disused pipes, 375 - 450 mm diameter and spoil at tip. Rate to include all haulage and all earthworks.	m	8		
8	B.8.20 PS.B.8.20	Removal of disused stormwater manhole to spoil. Rate to include manhole cover, brickwork, unreinforced concrete slab and all earthworks.	no.	2		

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

**Upgrade of Ndlebenye Road Ntuzuma A, Ward 38****SECTION 3      **CONCRETE WORK******PART      C      **CONCRETE WORK****

<b>Item</b>	<b>Clause</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
1	PS.C.1 to 3 PS.C.5 to 6 PS.C.13 to 14	Supply and lay Geolock 400 retaining wall or similar approved, where depth is:- - Over 0,0 m and not exceeding 2,0 m. Rate to include all excavations, concrete foundations for the wall, laying of geofabric blanket laid behind the wall, sand infill to the blocks and placing of concrete on the top row of the retaining wall.	m2	180		
2	PS.C.1 to 3 PS.C.5 to 6 PS.C.13 to 14	Supply and lay Geolock 400 retaining wall or similar approved, where depth is:- - Over 2,0 m and not exceeding 3,0 m. Rate to include all excavations, concrete foundations for the wall, laying of geofabric blanket laid behind the wall, sand infill to the blocks and placing of concrete on the top row of the retaining wall.	m2	90		

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

## Upgrade of Ndiebenye Road Ntuzuma A, Ward 38

**SECTION 4 RELOCATION OF EXISTING SERVICES****PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.DA.14 PS.DB.5 PS.DB.9	Electrical services to be relocated by an approved Ethekwini Electrical sub-contractor and as directed by the Engineer on site. Rate to include all excavations and backfilling of service trenches.	PC Sum	50000	1.00	50,000.00
2	PS.DA.14 PS.DB.5 PS.DB.9	Handling costs in respect of item 1 above. Tenderer to state % markup. (Markup = .....%)	%	50000		
3	PS.DA.14 PS.DB.5 PS.DB.9 PS.DB.12	Water services to be relocated by an approved Ethekwini Water and Sanitation sub-contractor and as directed by the Engineer on site. Rate to include all excavations and backfilling of service trenches.	PC Sum	100000	1.00	100,000.00
4	PS.DA.14 PS.DB.5 PS.DB.9 PS.DB.12	Handling costs in respect of item 3 above. Tenderer to state % markup. (Markup = .....%)	%	100000		
5	PS.DA.14 PS.DB.5 PS.DB.9	Waste water/sewer services to be relocated by an approved Ethekwini Water and Sanitation sub-contractor and as directed by the Engineer on site. Rate to include all excavations and backfilling of service trenches.	PC Sum	40000	1.00	40,000.00
6	PS.DA.14 PS.DB.5 PS.DB.9	Handling costs in respect of item 5 above. Tenderer to state % markup. (Markup = .....%)	%	40000		
7	PS.DA.14	Private services to be relocated by an approved service provider and as directed by the Engineer on site.	PC Sum	20000	1.00	20,000.00
8	PS.DA.14	Handling costs in respect of item 7 above. Tenderer to state % markup. (Markup = .....%)	%	20000		

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

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## Upgrade of Ndlebenye Road Ntuzuma A, Ward 38

**SECTION 5 BULK EARTHWORKS****PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.3 PS.DA.2 PS.DA.3 PS.DA.10	Excavate soft material and place directly to stockpile	m3	174		
2	DA.8.3 PS.DA.2 PS.DA.3	Excavate soft material to spoil	m3	130		
3	DA.8.3 PS.DA.2 PS.DA.3	Extra over for item 2 for excavation in hard rock material to spoil	m3	62		
4	DA.8.3 PS.DA.2 PS.DA.3	Extra over for item 3 for the excavation of boulders greater than 0,15 m3 to spoil	m3	30		
5	PS.DA.8.2 PS.DA.3	Excavate unsuitable material below embankments or formation and spoil at tip	m3	26		
6	DA.8.4 PS.DA.5	Import suitable fill material from contractor's off-site source inclusive of haulage and royalties	m3	50		
7	DA.8.5 PS.DA.6	Compact imported fill material to 95% Mod. A.A.S.H.T.O.	m3	50		
8	DA.8.5 PS.DA.6	Compact soft material from site to 95% Mod. A.A.S.H.T.O.	m3	126		
9	DA.8.6	Trimming of embankments	m2	195		
10	DA.8.9 PS.DA.7 to 8	Formation	m2	1080		

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

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**PART DB EARTHWORKS FOR PIPE TRENCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.5 PS.DB.1.1 PS.DB.2 to 4 PS.DB.7 to 10	Excavate and backfill in all material to stockpile	m3	166		
2	DB.8.5 PS.DB.1.1 PS.DB.2 to 4 PS.DB.7 to 10	Excavate and backfill in all material where depth is:- - Over 1,5 m and not exceeding 2,0 m	m3	95		
3	DB.8.5 PS.DB.1.1 PS.DB.2 to 4 PS.DB.7 to 10	Extra over for item 2 and 3 for rock to spoil	m3	28		
4	DB.8.5 PS.DB.1.1 PS.DB.2 to 4 PS.DB.7 to 10	Excavation of unsuitable material from trench bottom and spoil at tip	m3	13		
5	DB.8.5 PS.DB.1.1 PS.DB.8 to 10	Provision of selected backfill material for pipe trenches from scheduled excavation in excess of freehaul distance.	m3	8		

Part Continued on next page

**Upgrade of Ndlebenye Road Ntuzuma A, Ward 38****Part Continued PART DB EARTHWORKS FOR PIPE TRENCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	PS.PG.3	Provision of 19 mm stone material for pipe bedding from commercial or off-site source	m3	25		
7	PS.DB.11 PS.PG.4	Provision of drainage Grade 2A geofabric blanket or similar approved for subsoil pipe	m2	210		
8	PS.PG.5 PS.DB.8.9	Provision of clean coarse sand for pipe bedding from commercial or off-site source	m3	30		
9	DB.8.10 PS.DB.1.2	Placing and compacting of Class B bedding for pipe bedding.	m	140		
10	DB.8.19	Prove existing services by hand excavation (provisional), where depth is: - - Over 0,0 m and not exceeding 1,5 m	m3	162		

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

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**PART DD EARTHWORKS FOR STRUCTURES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2 PS.DD.8.1	Excavate in all material for structures to stockpile	m3	10		
2	DD.8.3	Backfill and compact using material from stockpile	m3	20		

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

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## Upgrade of Ndlebenye Road Ntuzuma A, Ward 38

**SECTION 6 GRADED CRUSHED STONE****PART EB GRADED CRUSHED STONE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EB.8.1 PS.EB.1.1	Supply and lay graded crushed stone, 125 mm G4 material and compact to 98% Mod AASHTO	m3	140		
2	EB.8.1 PS.EB.1.2	Supply and lay graded crushed stone, 125 mm G6 material and compact to 95% Mod AASHTO	m3	140		
3	EB.8.1 PS.EB.1.3	Supply and lay 150 mm G7 natural gravel material and compact to 95% Mod AASHTO	m3	168		

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

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**PART ED ROAD ASPHALT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.ED.1 to 6 PS.DA.9	Continuously graded wearing course of compacted thickness 35mm Sa-S10. Asphalt Private Plant	t	110		
2	EB. 8.2 PS.EB.2	Prime Coat 0.6litres/m2	m2	1120		
3	PS.ED.7	Saw Cut existing road edge	m	12		

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

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**PART EF KERBS AND HAUNCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1 PS.EF.1	Supply and lay Figure 6 precast concrete mountable kerb with 150mm wide channel/fillet for bellmouths. Kerb to be laid on 350 x 140mm 20/19 concrete foundation on grade 20/19.	m	300		
2	EF.8.1 PS.EF.1	Extra over item 1 for curves of radius less than 25 m	m	50		
3	EF.8.1 PS.EF.1	Supply and lay Figure 12 edge restraint precast concrete kerb. Kerb to be laid on grade 20/19 concrete foundation.	m	300		
4	EF.8.1 PS.EF.1	Extra over item 3 for curves of radius less than 25 m	m	30		
5	EF.8.1	Scoop kerb and channel (Type C - mountable) including transition kerb	m	120		

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

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**Upgrade of Ndlebenye Road Ntuzuma A, Ward 38****PART EL DUMPROCK SUBGRADE IMPROVEMENT**

<b>Item</b>	<b>Clause</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
1	EL.8 PS.EL.1	Dumprock subgrade improvement, 150 mm thick. Rate to include all excavations, supply and lay of geofabric biddum and compaction.	m3	45		

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

**Upgrade of Ndlebenye Road Ntuzuma A, Ward 38****SECTION 7 PROTECTION WORK****PART F PROTECTION WORKS**

<b>Item</b>	<b>Clause</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
1	F.8.1 PS.F.1 to 1.3	Imported topsoil: thickness 100 mm	m2	165		
2	F.8.3 PS.F.3	Grass planting: Cynodon Dictalon	m2	195		
3	F.8.8	Standard 1,8m high mesh fence with security apron (rate to include for supply, excavation, wooden poles, concrete foundation for the poles and erection of the fence)	m	30		
4	PS.F.2 PS.C.6	Re-erect 1,8 m high precast concrete fence using materials stored on site	m	80		

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

**Upgrade of Ndlebenye Road Ntuzuma A, Ward 38****SECTION 8 NON PRESSURE PIPELINES & PC CULVERTS****PART PG NON PRESSURE PIPELINES and PC CULVERTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.2 PS.PG.1	Supply and lay 375 mm diameter concrete Class 100D	m	140		
2	PG.8.12 PS.PG.2	Supply and lay 110 mm diameter subsoil pipe	m	110		
3	PG.8.6 PS.PG.1	Connection to existing 300 - 525 mm diameter stormwater pipe	no.	2		

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

R

**PART PH MANHOLES and APPURTENANT DRAINAGE WORKS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PH.8.2 PS.PH.1 to 4	Standard inlet type S1. :- - Over 0,0 m and not exceeding 1,5 m	no.	4		
2	PH.8.2 PS.PH.1 to 4	Standard inlet type S1. :- - Over 1,5 m and not exceeding 2,0 m	no.	3		
3	PH.8.2 PS.PH.1 to 4	Standard inlet type S2.:- - Over 0,0 m and not exceeding 1,5 m	no.	1		
4	PH.8.7	Raise/lower existing manhole concrete cover and frame in paved area by :- - 0 to 250 mm	no.	4		
5	PS.PH.6 PS.8.8	Break into existing brick manhole wall for 375 - 600 mm diameter pipe and make good	no.	1		

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

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**Upgrade of Ndlebenye Road Ntuzuma A, Ward 38****SECTION 9 ROAD SIGNS****PART TA ROAD SIGNS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TA.8.1 PS.TA.1 to 7	Supply and erect R1.1 high visibility STOP road sign. Rate to include supply of clamps, bolts and assembling.	no.	2		
2	TA.8.2 PS.TA.1 to 7	Supply and erect standard 76mm diameter hotted dipped galvanised posts with 5mm cap at the top end of the pole and 2 x 240mm R0 bars welded in 150mm from the bottom end of the pole. Rate to include excavation and backfill of the post pole, grade 20/19 concrete infill to the post and the removal of excess material to tip.	no.	2		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R****PART TB ROAD MARKINGS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TB.8.1.1 PS.TB.1 PS.TB.3	Painted road lines 150mm wide white (broken or unbroken) lines with retroreflective road marking paint including setting out and premarking	m	120		
2	TB.8.1.2 PS.TB.2 PS.TB.3	Road Marking for lettering, symbols and traffic islands (white), including setting out lettering, symbols and traffic island markings.	m2	40		

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

Upgrade of Ndlebenye Road Ntuzuma A, Ward 38

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

**Section**

1	PRELIMINARY AND GENERAL		R	_____
	AA PRELIMINARIES	R		_____
	AB GENERAL SPECIFICATIONS	R		_____
	AH OCCUPATIONAL HEALTH and SAFETY	R		_____
2	SITE CLEARANCE		R	_____
	B SITE CLEARANCE	R		_____
3	CONCRETE WORK		R	_____
	C CONCRETE WORK	R		_____
4	RELOCATION OF EXISTING SERVICES		R	_____
	DA EARTHWORKS : BULK	R		_____
5	BULK EARTHWORKS		R	_____
	DA EARTHWORKS : BULK	R		_____
	DB EARTHWORKS FOR PIPE TRENCHES	R		_____
	DD EARTHWORKS FOR STRUCTURES	R		_____
6	GRADED CRUSHED STONE		R	_____
	EB GRADED CRUSHED STONE	R		_____
	ED ROAD ASPHALT	R		_____
	EF KERBS AND HAUNCHES	R		_____
	EL DUMPROCK SUBGRADE IMPROVEMENT	R		_____
7	PROTECTION WORK		R	_____
	F PROTECTION WORKS	R		_____
8	NON PRESSURE PIPELINES & PC CULVERTS		R	_____
	PG NON PRESSURE PIPELINES and PC CULVERTS	R		_____
	PH MANHOLES and APPURTENANT DRAINAGE WORKS	R		_____
9	ROAD SIGNS		R	_____
	TA ROAD SIGNS	R		_____
	TB ROAD MARKINGS	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	_____