

**C.2.2.1 : INDEX TO BILL OF QUANTITIES****SECTION 1      PRELIMINARY AND GENERAL**

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**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	Fixed Charge obligations	sum	1		
2	GCC 2015	Time Related obligations	sum	1		
		<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	sum	1		
		<b><u>COMMUNITY LIAISON OFFICER</u></b>				
5	PS.15.1	Allow for a CLO to be appointed.	PC Sum	135000	1.00	135 000.00
6	PS.15.1	Allow for a percentage (%) mark-up on item 5	%	135000		
		<b><u>LOCAL LABOUR</u></b>				
7	PS.15.2	Allow for the weekly submission of proof of employment of local labour	week	32		
		<b><u>STAKEHOLDER MANAGEMENT AND LIAISON</u></b>				
8	PS.20	Stakeholder Management and Liaison	months	8		

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

R

**PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>FIXED ITEMS</u></b>				
1	AB.5	Notice Board	no.	1		
2	GCC 6.2.1	Surities	sum	1		
3	GCC 8.6.1.1	Workmans compensation	sum	1		
4	GCC 8.6.1.1	Insurance of works, damage to persons and property etc.	sum	1		
5	AB.4	Contractor's Camp Site / Store Yard	no.	1		
6	AB.7	Initial supply of all signs, barricades and delineators	sum	1		
7	AB.7	Road Deviations	sum	1		

Part Continued on next page

## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9\_OUTER WEST

Part Continued **PART** AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
8	PS.AB.7	Survey coordination of existing valves, manholes, catchpits, and cable duct markers	sum	1		
9	PS.AB.8	Proving of existing services by hand	m3	50		
10	PS.AB.7	Survey control and setting out of works	sum	1		
11	AB.6	Allowance for samples, geotechnical and acceptance testing by a SANAS accredited specialist material labas required by Engineer	PC Sum	50000	1.00	50 000.00
12	AB.6	Contractors mark-up on item 11	%	50000		
13	PS.AB.19	Procurement of materials	PC Sum	30000	1.00	30 000.00
14	PS.AB.19	Contractors handling cost, profit and all other charges in respect of item 13	%	30000		
15		Allowance for using additional local labour	sum	1		
16	AB.6	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
17		Raise / Lower existing services or mains. Rate to include for all pipes, fittings, concrete/cast iron covers, plant and labour.	sum	1		
18		Raise / Lower (valves, stand pipes, taps). Rate to include all material, plant and labour necessary.	no.	10		
19	PS.17,PS.19	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
<b><u>TIME RELATED ITEMS</u></b>						
20	PS.AB.10	Allow for Progress Photographs (Contractor to submit BOTH a CD and USB weekly with photographs depicting works on site and as required by the Engineer, be able to print out a minimum of 30 photographs in colour per month)	week	32		
21	AB.7	Maintenance of Pedestrian and Traffic Facilities	week	32		
22	AB.7	Maintenance of all signs, barricades and delineators	week	32		
23		Contractors superintendence	week	32		
24	PS 11	Site Security	week	32		
25	PS.DW	Dayworks (TLB hire)	hr	20		
26	PS.DW	Dayworks (LDV hire)	hr	20		
27	PS.DW	Dayworks (Skilled Labour)	hr	20		

Part Continued on next page

Part Continued

PART

AB

GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
28	PS.DW	Dayworks (Unskilled Labour)	hr	20		

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

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PART

AH

OCCUPATIONAL HEALTH and SAFETY

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AH.14.1	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
2	AH.14.2	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	week	32		
3	AH.14.3	Submission of the Health and Safety File	sum	1		

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

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## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9\_OUTER WEST

**SECTION 2 SITE CLEARANCE****PART B SITE CLEARANCE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance and grubbing in road reserve	m2	1100		
2	B.8.2	General clearance and grubbing in contractor's camp site	m2	400		
3	B.8.14	Removal of asphalt roadways to tip	m3	15		
4	B.8.4	Removal and grubbing of large trees and stumps	no.	20		
5	B.8.5,	Removal of wire mesh fence and store on site safely for reinstatement	m	100		
6	B.8.10	Removal of unreinforced concrete	m3	10		
7	B.8.11	Removal of reinforced concrete	m	15		
8	PS.B.3	Removal of reinforced / unreinforced concrete v-drains to spoil	m	300		
9	PS.B.4	Removal of existing boulders of size not exceeding 1.5m3, within the road reserve and tip on site	m3	90		

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

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## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9\_OUTER WEST

**SECTION 3 ROADWORKS****PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 25/19 concrete for kerb base. Rate to include shuttering, formwork, expansion joints and finishes	m3	30		
2	PS.C.4	Supply and place 25/19 mass concrete in and between top row of loffelstein retaining wall blocks as detailed in the STD drawings and as directed by the Engineer	m3	15		
3	PS.C.4	Grade 25/19 concrete for loffelstein wall base. Rate to include, mesh ref 245, excavation for base and compaction of subgrade to 95% Mod A.A.S.H.T.O	m3	30		

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

**R****PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.3	Excavate soft material and place directly into fill and compact to 95% Mod A.A.S.H.T.O. Rate to include haulage and royalties	m3	850		
2	DA.8.3	Excavate soft material and spoil at spoil site approved by Engineer prior to spoiling.	m3	720		
3	DA.8.3	Extra over above for excavation in intermediate material to spoil at spoil site approved by Engineer prior to spoiling	m3	30		
4	DA.8.3	Extra over for excavation in hard material to spoil at spoil site approved by Engineer prior to spoiling	m3	20		
5	DA.8.3	Extra over above for excavation of boulders greater than 0,15 m3 to spoil at spoil site approved by Engineer prior to spoiling	m3	30		
6	DA.8.3	Excavate unsuitable material below embankments or formation and spoil at spoil site approved by Engineer prior to spoiling	m3	100		
7	DA.8.3	Rip and recompact 150mm insitu material (subgrade below formation) to 95% Mod A.A.S.H.T.O	m3	600		
8	DA.8.4	Import suitable G7 fill material from contractor's off-site source inclusive of haulage and royalties	m3	100		
9	DA.8.6	Trimming of embankments	m2	2500		
10	DA.8.6	Excavation, shaping and trimming of driveway accesses.	m2	1500		

Part Continued on next page

## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9\_OUTER WEST

Part Continued **PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
11	DA.8.9	Formation	m2	3100		
12	DA.8.10	Overhaul material in excess of freehaul distance of 1.0 km	m3km	1000		

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	Excavate in all material for all structures including loffelstein wall or gabion retaining structure	m3	420		
2	DD.8.2	Extra over for item 1 above	m3	100		
3	DD.8.3	Backfill and compact using material from stockpile	m3	50		

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

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**PART EB GRADED CRUSHED STONE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EB.8(1)	Supply, load, transport and process base layer G2 graded crushed stone, 150 mm thick from commercial or off-site source, compacted to 98% MOD A.A.S.H.T.O	m3	600		
2	EB.8(1)	Supply, load, transport and process upper selected G5 graded crushed stone, 150 mm thick from commercial or off-site source, compacted to 93% MOD A.A.S.H.T.O	m3	640		
3	EB.8(2)	Supply and apply prime coat at 0.6l/m2	m2	3100		

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	ED.8.1	Continuously graded wearing course of thickness 40mm. Private Plant Asphalt Sa-S14. Bitumen content 5% as per mix design entered at time of use.	t	16		
2	ED.8.4	Tack coat	m2	150		
3	PS.ED.7	Saw Cut existing road edge. Saw cut to expose 50mm wide G2 layer of the existing roadway to aid as a key between existing and new asphalt wearing course	m	35		

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

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## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9 OUTER WEST

**PART EF KERBS AND HAUNCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Supply and lay Fig.12 edge restraint at road edges. Rate to include for haunching as per the Std Drawings.	m	750		
2	EF.8.1	Supply and lay Fig.6 (Type A) kerbing with 300mm channel. Rate to include for channel/fillet as per the Std Drawing 38557	m	600		
3	EF.8.1	Supply and lay Fig.6 (Type D) kerbing with 150mm channel. Rate to include for channel/fillet as per the Std Drawing	m	170		
4	EF.8.1	Scoop kerbs and channel (Type A) including transision kerb	m	80		
5	EF.8.1	Scoop kerbs and channel (Type D) including transision kerb	m	60		
6	EF.8.1	Extra over for curves of radius less than 25 mm	m	50		

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

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**PART EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EH.8.1	Supply and erect galvanised curved steel guard rails on precast concrete posts	m	50		
2	EH.8.1	Supply and erect galvanised straight steel guard rails on precast concrete posts	m	50		
3	EH.8.1	Supply and install Precast concrete posts at 3.81m c/c	no.	27		
4	EH.8.1	Supply and install reflective plates at 7.62 c/c	no.	14		
5	EH.8.1	Supply and erect end wings	no.	8		

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

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**PART EL DUMPROCK SUBGRADE IMPROVEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EL.8	Dumprock subgrade improvement, 300 mm thick (short rock with no fines)	m3	60		
2	PS.DA.9	Provision for drainage grade geofabric as surround to dumprock	m2	420		
3	DB.8.13	Provision for clean coarse sand above dumprock, 150mm thick	m3	30		

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

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## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9\_OUTER WEST

**PART      EM      CONCRETE SURFACE TO ROADS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.EM.1-4 & PS.EM.7 -12	Concrete pavement,150mm thick, grade 40MPa as detailed in construction drawing. Panel size 2.5m wide x 5m long. Rate to include Mesh ref 245, texturing and curing of concrete pavement and sealing of joints.	m2	1500		
2	PS.EM.1-4 & PS.EM.7 -12	Concrete pavement,150mm thick, grade 40MPa as detailed in construction drawing. Panel size 2.0m wide x 4m long. Rate to include Mesh ref 245, texturing and curing of concrete pavement and sealing of joints.	m2	1200		
3	PS.EM.1-4 & PS.EM.7 -12	Concrete pavement,150mm thick, grade 40MPa as detailed in construction drawing. Panel size 1.5m wide x 3m long. Rate to include Mesh ref 245, texturing and curing of concrete pavement and sealing of joints.	m2	500		
4	PS.EM.13	Additional concrete, grade 40MPa, in panel anchor as detailed in construction drawing	m3	30		
5	PS.EM.6	Y10 (hot dipped galvanised) tiebars in longitudinal joint, 500mm in length as detailed in construction drawing	no.	1300		
6	PS.EM.1-4 & PS.EM.7 -13	Concrete trial pavement, 150mm thick, grade 40MPa as detailed in construction drawing. Panel size 2.5m wide x 5m long. Rate to including texturing and curing of concrete pavement and sealing of joints.	m2	40		

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

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## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9\_OUTER WEST

**SECTION 4 STORMWATER DRAINAGE****PART DB EARTHWORKS FOR PIPE TRENCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.5	Excavate,backfill and compact in all material for 450 mm diameter pipe where depth is :- - Over 0,0 m and not exceeding 1,5 m. Rate to include disposal of surplus material and preparation of Class C bedding.	m	25		
2	DB.8.5	Excavate, backfill and compact in all material for 450 mm diameter pipe where depth is :- - Over 1,5 m and not exceeding 3,0 m.Rate to include disposal of surplus material and preparation of Class C bedding.	m	5		
3	DB.8.5	Excavate,backfill and compact in all material for 600 mm diameter pipe where depth is :- - Over 0,0 m and not exceeding 1,5 m. Rate to include disposal of surplus material and preparation of Class C bedding.	m	280		
4	DB.8.5	Excavate, backfill and compact in all material for 600 mm diameter pipe where depth is :- - Over 1,5 m and not exceeding 3,0 m.Rate to include disposal of surplus material and preparation of Class C bedding.	m	20		
5	DB.8.6	Extra over above for depth exceeding 3m or excavation in hard material.	m	50		
6	DB.8.9	Excavate and backfill in all material for 100mm diamter subsoil pipe. Rate to include provision for 19mm stone and clean coarse sand	m3	20		
7	DB.8.2	Excavation for headwall to stockpile	m3	20		

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

R

**PART PG NON PRESSURE PIPELINES and PC CULVERTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.2	Supply and lay 450 mm diameter concrete Class 100D	m	30		
2	PG.8.2	Supply and lay 600 mm diameter concrete Class 100D	m	300		
3	PG.8.12.2	100mm diamter pitch fibre subsoil pipe. Rate to include the (a) supply and laying of drainage grade geofabric blanket and (b) supply and laying of clean coarse sand and stone	m	30		

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

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PARTPHMANHOLES and APPURTENANT DRAINAGE WORKS						
Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PH.8.3	Manhole Type A (inlet type S1) with heavy duty concrete cover. Depth :- - Over 0,0 m and not exceeding 2.0 m	no.	3		
2	PH.8.3	Manhole Type A (field /inlet type S2) with heavy duty concrete cover Depth :- - Over 0,0 m and not exceeding 2.0 m	no.	8		
3	PH.8.3	Extra over above for manhole depth exceeding 2m	m	30		
4	PS.PH.13	Construct headwall as per Standard Drawing 38576	no.	3		
TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES					R	

## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9\_OUTER WEST

**SECTION 5 ROAD SIGNS AND ROAD MARKINGS****PART TA ROAD SIGNS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TA.8.1	Supply and erect road sign boards, area not exceeding 2m2	m2	5		
2	TA.8.4	Concrete grade 20/19 for road sign footings	m3	3		
3	TA.8.3	Excavate and backfill for road sign supports	m3	3		
4	TA.8.2	Supply and erect 75mm x 75mm square hot dipped galvanised steel supports. Rate to include all haulage.	m	10		

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.8.1.2	Road Marking for lettering, symbols and traffic islands (white), including setting out lettering, symbols and traffic island markings.	m2	30		
2	TB.8.1.1 AA.TB.1	Painted road lines 150mm wide (white), including setting out and premarking	m	200		
3	TB.8.1.1 AA.TB.1	Painted road lines 300mm wide (white), including setting out and premarking	m	20		

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

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## UPGRADING OF TRK 99587 AT THE LOWER MOLWENI IN WARD 9\_OUTER WEST

**SECTION 6 ADDITIONAL WORKS****PART F PROTECTION WORKS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Topsoiling from stockpile	m2	400		
2	F.8.6	Gabion Boxes: 1.0m x1.0m x 2.0m	m3	30		
3	F.8.6	Gabion mattresses, 6.0m X 2.0m X 300 mm thick. Rate to include spacer blacks, mattress cage and geofabric as surround to mattress	m3	22		
4	F.8.3	Grass planting	m2	1500		
5	PS.F.3	Reinstatement of fence or materials stored on site.	m	100		
6	PS.F.4	Supply and lay stackable TB300 loffelstein blocks (or approved equivalent) inclusive of sand filling as per detail, 12:1 cement stabilised geofabric extended into fill and laid under 3rd row. Kaymat U44 or approved weepholes at 1.0m c/c. Base Type B including Mesh Ref 245, excavation and compaction of subgrade to 95% MOD A.A.S.H.T.O	m2	150		
7	PS.F.4	Supply and lay stackable TB500 loffelstein blocks (or approved equivalent) inclusive of sand filling as per detail, 12:1 cement stabilised geofabric extended into fill and laid under 3rd row. Kaymat U44 or approved weepholes at 1.0m c/c. Base Type B including Mesh Ref 245, excavation and compaction of subgrade to 95% MOD A.A.S.H.T.O	m2	200		

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

**R**

C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

Section

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AH	OCCUPATIONAL HEALTH and SAFETY	R		
2	SITE CLEARANCE		R	
B	SITE CLEARANCE	R		
3	ROADWORKS		R	
C	CONCRETE WORK	R		
DA	EARTHWORKS : BULK	R		
DD	EARTHWORKS FOR STRUCTURES	R		
EB	GRADED CRUSHED STONE	R		
ED	ROAD ASPHALT	R		
EF	KERBS AND HAUNCHES	R		
EH	STEEL GUARDRAILS & CONC. MEDIAN BARRIERS	R		
EL	DUMPROCK SUBGRADE IMPROVEMENT	R		
EM	CONCRETE SURFACE TO ROADS	R		
4	STORMWATER DRAINAGE		R	
DB	EARTHWORKS FOR PIPE TRENCHES	R		
PG	NON PRESSURE PIPELINES and PC CULVERTS	R		
PH	MANHOLES and APPURTENANT DRAINAGE WORKS	R		
5	ROAD SIGNS AND ROAD MARKINGS		R	
TA	ROAD SIGNS	R		
TB	ROAD MARKINGS	R		
6	ADDITIONAL WORKS		R	
F	PROTECTION WORKS	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	