

**BILL OF QUANTITIES****SECTION 1 Preliminaries and General****PART AA PRELIMINARIES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	GCC 2015	GENERAL CONDITIONS OF CONTRACT (GCC 2015) READ IN CONJUNCTION WITH THE CONTRACT DATA  Fixed Charge obligations	sum	1		
2	GCC 2015	Time Related obligations	sum	1		
3	SANS 1921-1 & SABS 1200 A	SANS 1921-1 & SABS 1200 A: GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS  Fixed Charge Items	sum	1		
4	SANS 1921-1	Time Related Items	sum	1		
5	C.1.2.3.1	COMMUNITY LIAISON OFFICER  Allow for a CLO to be appointed.	PC Sum	99840	1.00	99,840.00
6	C.1.2.3.1	% Mark-up for item 5 above	%	99840		
7	C.1.2.3.4	LOCAL LABOUR  Allow for the weekly submission of proof of employment of local labour	sum	1		

**TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and General****R****PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.AB.14	Setting out	sum	1		
2	PS.AB.14	Additions to setting out (fixing of control points)	sum	1		
3	AB.4	Contractor's Camp Site / Store Yard	sum	1		
4	AB.5	Notice Board	sum	1		
5	AB.6	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
6	AB.7	Initial supply of all signs, barricades and delineators	sum	1		
7	AB.7	Maintenance of all signs, barricades and delineators	sum	1		
8	PS.AB.8	Road Deviations (Temporary by-pass of Type B category)	sum	1		

## Construction of Culvert, Road and Gabion Protection Works along 108736 Street in Inada: - Ward 55

Part Continued **PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
9	PS.AB.9	Survey coordination of existing valves, manholes, catchpits, and cable duct markers	sum	1		
10	PS.AB.15	Temporary stream diversion and removal of stream diversion	sum	1		
11	PS.AB.10	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
12	C1.2.3.7	Excepted Risks: Establishment	sum	1		
13	C1.2.3.7	Excepted Risks: De-establishment	sum	1		
14	PS.11	Site Security	sum	1		
15	PS.AB.8	Deduction for re-test requested when density and cube is not as per specification as determined by acceptance test (- R 1000.00 day/set)	sum	1		
16	PS.AB.16	Construct an access route to the Construction on site	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and General

R

**PART AH OCCUPATIONAL HEALTH and SAFETY**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.AH.10 and AH14.1	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
2	PS.AH.10 and AH14.2	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
3	PS.AH.10 and AH14.3	Submission of the Health and Safety File	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and General

R

## Construction of Culvert, Road and Gabion Protection Works along 108736 Street in Inada: - Ward 55

**SECTION 2 Culvert Construction****PART B SITE CLEARANCE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance of the site area and remove all debris such as gabbage and the existing concrete structures and brickwork from the site and spoil at tip. Rate to include all haulage	m2	1000		
2	B.8.2	General clearance and grubbing in contractor's camp site	m2	300		
3	B.8.2	General clearance and grubbing in temporary stockpile area	m2	96		
4	B.8.9	Removal of brickwork	m3	17		
5	B.8.10	Removal of unreinforced concrete	m3	33		
6	B.8.11	Removal of reinforced concrete	m3	37		
7	B.8.14	Removal of roadways to tip	m3	47		
8	B.8.16	Removal of kerb and channel/fillet to tip	m	55		
9	B.9.19	Removal of disused pipes, greater than 900 mm diameter and spoil at tip. Rate to include haulage	m	47		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

**PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 15/26 concrete blinding of thickness 75 mm	m2	92		
2	C.8.1	Grade 30/26 concrete in base slab of culvert	m3	17		
3	C.8.1	Grade 30/26 concrete in deck slab of culvert	m3	19		
4	C.8.1	Grade 30/26 concrete in apron slabs of culvert	m3	13.8		
5	C.8.1	Grade 30/26 concrete in wing walls of culvert	m3	37		
6	C.8.2	High tensile steel reinforcement	t	3		
7	C.8.3	Class 3a shuttering to base slabs	m2	23		
8	C.8.3	Class 3a shuttering to deck slabs	m2	9		
9	C.8.3	Class 3a shuttering to apron slabs of culvert	m2	19		
10	C.8.3	Class 3a shuttering to wing walls of culvert	m2	201		

## Construction of Culvert, Road and Gabion Protection Works along 108736 Street in Inada: - Ward 55

Part Continued **PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
11	PS.C.2	Sealant in expansion joint POLYSULPHIDE OR SIMILAR APPROVED (Applied strictly to manufacturers instruction)	m	113		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

**PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.2	Excavate topsoil and spoil at tip	m3	83		
2	DA.8.3	Excavate unsuitable material below embankments or formation and spoil at tip	m3	157		
3	PS.DA.5	Import suitable fill material from contractor's off-site source inclusive of all haulage and royalties	m3	157		
4	DA.8.5	Compact imported fill material to 93% Mod. A.A.S.H.T.O.	m3	157		
5	DA.8.6	Trimming of embankments	m2	105		
6	DA.8.9	Formation	m2	157		
7	PS.DA.8.11	Removal of siltation	m3	191		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

**PART DB EARTHWORKS FOR PIPE TRENCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.5	Excavate and backfill in all material where depth is:- - Over 0,0 m and not exceeding 1,5 m	m	133		
2	DB.8.5	Excavate and backfill in all material where depth is:- - Over 1,5 m and not exceeding 2,0 m	m	118		
3	DB.8.5	Excavate and backfill in all material where depth is:- - Over 2,0 m and not exceeding 2,5 m	m	70		
4	DB.8.9	Provision of clean coarse sand for pipe bedding from commercial or off-site source	m3	45		
5	DB.8.10	Placing and compacting of Class C pipe bedding.	m	318		
6	DB.8.13	Provision of selected backfill material for pipe trenches from commercial or off-site source	m3	87		
7	DB.8.19	Prove existing services by hand excavation (provisional), where depth is:- - Over 0,0 m and not exceeding 1,5 m	m3	21		

## Construction of Culvert, Road and Gabion Protection Works along 108736 Street in Inada: - Ward 55

Part Continued **PART DB EARTHWORKS FOR PIPE TRENCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
8	DB.8.15	Disposal of unsuitable or surplus material from trench excavation at the tip	m3	57		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

**PART DD EARTHWORKS FOR STRUCTURES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2	Excavate in all unsuitable material for culvert to spoil at an approve tip. Rate to include all haulage)	m3	183		
2	DD.8.2	Extra over item for hard material	m3	10		
3	DD.8.2	Extra over item for excavation in excess of planned depth [provisional]	m3	20		
4	DD.8.3	Backfill and compact (90% Mod A.A.S.H.T.O) using imported material from contractor's own source. Rate to include all haulage and royalties	m3	167		
5	DD.8.5	Culvert bedding ([19] mm stone mat)	m3	33		
6	PS.DD.2	Design, installation and removal of a ground lateral support system to secure the excavated surfaces	sum	1		
7	PS.DD.8.7	Prove existing services by hand excavation (provisional), where depth is: - - Over 0.0 m and not exceeding 0,5 m	m3	27		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

**PART EB GRADED CRUSHED STONE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EB.8(1)	G2 Graded crushed stone and gravel CBR @ 98% MDD>80%, 150 mm thick	m3	47		
2	EB.8(1)	G5 Natural gravel or soil CBR @ 93% MDD>45%, 200 mm thick	m3	41		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

**PART ED ROAD ASPHALT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.ED.2	Saw Cut existing road	m	103		
2	ED	Private Plant Asphalt Sa-V14. Bitumen content & as per mix design entered at time of use	t	10		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

**Construction of Culvert, Road and Gabion Protection Works along 108736 Street in Inada: - Ward 55****PART EF KERBS AND HAUNCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Type A barrier kerb and channel	m	300		

**TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction****R****PART EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EH 8.1	Straight steel guard rails	m	80		
2	EH.8.1	End wings	no.	16		
3	EH.8.1	Precast concrete posts	no.	50		
4	EH.8.2	In-situ concrete foundation for precast concrete posts	m3	10		

**TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction****R****PART F PROTECTION WORKS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Imported topsoil: thickness 100 mm	m2	100		
2	F.8.3	Grass planting	m2	300		
3	F.8.4	Stone pitching	m2	102		
4	F.8.7	230 mm brickwork	m2	61		

**TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction****R****PART PG NON PRESSURE PIPELINES and PC CULVERTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.7	Supply and install Standard precast concrete portal culvert Class C - (1500 x 1500 mm)2	m	33		
2	PG.8.9	Form recess for portal legs	m	24		
3	PG.8.2	450 mm diameter concrete Class 100D	m	133		
4	PG.8.2	600 mm diameter concrete Class 100D	m	118		
5	PG.8.2	900 mm diameter concrete Class 100D	m	70		

**TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction****R****PART PH MANHOLES and APPURTENANT DRAINAGE WORKS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PH.8.2	Manhole type A with light duty concrete cover. Depth :- - Over 0,0 m and not exceeding 1,5 m	no.	3		
2	PH.8.2	Manhole type A with light duty concrete cover. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	3		

## Construction of Culvert, Road and Gabion Protection Works along 108736 Street in Inada: - Ward 55

Part Continued **PART** PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
3	PH.8.2	Manhole type A with light duty concrete cover. Depth :- - Over 2,0 m and not exceeding 2,5 m	no.	2		
4	PH.8.2	Manhole type A with inlet type cover S2. Depth :- - Over 0,0 m and not exceeding 1,5 m	no.	3		
5	PH.8.2	Manhole type A with inlet type cover S2. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	2		
6	PH.8.2	Manhole type A with inlet type cover S2. Depth :- - Over 2,0 m and not exceeding 2,5 m	no.	2		
7	PS.PH.8.10	Construct standard outlet headwall as per drawing no. [38576]	no.	1		
8	PS.PH.8.10	Construct standard inlet headwall as per drawing no. [38576]	no.	1		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

## Construction of Culvert, Road and Gabion Protection Works along 108736 Street in Inada: - Ward 55

**SECTION 3 Gabion Protection Works****PART B SITE CLEARANCE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance of the site area and remove all debris such as gabbage and all debris	m2	903		
2	B.8.2	General clearance and grubbing within a servitude	m2	200		
3	B.8.2	General clearance and grubbing in private property	m2	300		
4	B.8.5	Removal of 1.5 m high wire mesh fence and store on site for re-use	m	401		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works

R

**PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.3	Excavate unsuitable material below embankments or formation and spoil at tip	m3	331		
2	DA.8.3	Extra over above for excavation in hard material to fill	m3	11		
3	PS.DA.5	Import suitable fill material from contractor's off-site source inclusive of haulage and royalties	m3	517		
4	DA.8.5	Compact imported fill material to 93% Mod. A.A.S.H.T.O. Rate to include all haulage and royalties	m3	517		
5	DA.8.6	Trimming of embankments	m2	900		
6	DA.8.9	Formation	m2	800		
7	PS.DA.8.11	Removal of siltation This is a test Of the number of lines	m3	147		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works

R

**PART DC EARTHWORKS FOR CONCRETE LINED CANALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DC.8.2	Excavate in all unsuitable material for gabions to spoil at an approved tip. Rate to include stockpile handling	m3	784		
2	DC.8.2	Extra over item 1 for excavating in hard material	m3	30		
3	DC.8.3	Backfilling and compaction (90% Mod A.A.S.H.T.O) using material from contractor's own source. Rate to include all haulage and royalties	m3	903		



## Construction of Culvert, Road and Gabion Protection Works along 108736 Street in Inada: - Ward 55

Part Continued **PART** DC EARTHWORKS FOR CONCRETE LINED CANALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	DC.8.4	Overhaul	m3km	20		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works

R

**PART** EL DUMPROCK SUBGRADE IMPROVEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EL.8	Dumprock subgrade improvement, 300 mm thick	m3	300		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works

R

**PART** F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Imported topsoil: thickness 100 mm	m2	240		
2	F.8.3	Grass planting	m2	240		
3	F.8.6	Supply and placement of Galvanised PVC Coated Gabion boxes : 1000 mm depth	m3	1500		
4	F.8.6	Supply and placement of Galvanised PVC Coated Gabion mattresses, 300 mm thick	m3	600		
5	F.8.6	Supply and placement of Galvanised PVC Coated Gabion boxes : 500 mm depth	m3	300		
6	PS.F.8.9	Supply and place general grade geofabric	m2	1500		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works

R

**SECTION 4      Reinstatement**

**PART        S        REINSTATEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	S.8.1	Reinstatement of ground surface	m2	1073		
2	S.8.2	Road Category C-Permanent road reinstatement 80 mm Mix D, 150mm Crusher run, Trench backfill with CBr 4 or more	m2	60		
3	S.8.2	Reinstatement of in-situ concrete sidewalk/median	m2	72		
4	S.8.4	Reinstatement of wire or plastic coated mesh fence, 1,5 m high	m	180		

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