

INDEX TO BILL OF QUANTITIES

SECTION 1 PRELIMINARY AND GENERAL

PART AA	PRELIMINARIES
PART AB	GENERAL SPECIFICATIONS
PART AH	OCCUPATIONAL HEALTH and SAFETY

SECTION 2 ROADWORKS & FOOTPATHS

PART B	SITE CLEARANCE
PART C	CONCRETE WORK
PART DA	EARTHWORKS : BULK
PART EF	KERBS AND HAUNCHES
PART EG	SIDEWALKS, FOOTPATHS and MEDIAN AREAS
PART F	PROTECTION WORKS
PART TA	ROAD SIGNS
PART TB	ROAD MARKINGS

SECTION 3 STORMWATER DRAINAGE

PART B	SITE CLEARANCE
PART C	CONCRETE WORK
PART F	PROTECTION WORKS

SECTION 4 RETAINING STRUCTURES - CIVIL WORKS

PART B	SITE CLEARANCE
PART C	CONCRETE WORK
PART DA	EARTHWORKS : BULK
PART DB	EARTHWORKS FOR PIPE TRENCHES
PART DD	EARTHWORKS FOR STRUCTURES
PART F	PROTECTION WORKS
PART PG	NON PRESSURE PIPELINES and PC CULVERTS

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

BILL OF QUANTITIES

SECTION 1 PRELIMINARY AND GENERAL

PART AA PRELIMINARIES

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>GENERAL CONDITIONS OF CONTRACT (GCC2015) READ IN CONJUNCTION WITH CONTRACT DATA</u>				
1	GCC 2015	Fixed Charge obligations	sum	1		
2	GCC 2015	Time Related obligations	sum	1		
		<u>SANS 1921-1: GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS</u>				
3	SANS 1921-1	Fixed Charge Items	sum	1		
4	SANS 1921-1	Time Related Items	sum	1		
5	C1.2.3.1	COMMUNITY LIAISON OFFICER	PC Sum	90000	1.00	90 000.00
6		Allow for CLO to be appointed	%	90000		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL

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PART AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>FIXED CHARGES</u>				
1	PS.AB.2	Offices for Engineer and Staff	sum	1		
2	PS.AB.4	Contractor's Camp Site / Store Yard	sum	1		
3	PS.15.3	Deductions for re-tests requested when density of a layer is not as per specification as determined by Acceptance Testing (minus R1000 per set)	set	1		
4	PS.AB.7	Initial Supply of all signs, barricades and delineators	sum	1		
5	AB.5	Notice Board as per Annexure C3.6.1	no.	1		
6	PS.11.1	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
7	PS.11.3	Additional Site Survey	PC Sum	2500	1.00	2 500.00
8	PS.11.3	Contractor's markup on item 7	%	2500		
		<u>TIME RELATED CHARGES</u>				
9	PS.AB.2	Offices for Engineer and Staff	sum	1		
10	PS.AB.4	Contractors Camp Site/Store Yard	sum	1		
11	AB.6	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

Part Continued **PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
12	AB.7	Maintenance of Pedestrian and Traffic Facilities	sum	1		
13	AB.7	Maintenance of all signs, barricades and delineators	sum	1		
14	PS.9.3	All work to comply with Environmental Management Plan including all reports, meetings, approvals (etc)	sum	1		
15	PS.11.2	Setting out of works	sum	1		
16	PS.12	Site Security	sum	1		
17	C1.2.3.6/PS.A B.8	Expected Risks: De-establishment costs	sum	1		
18	C1.2.3.6/PS.A B.8	Expected Risks: Re-establishment costs	sum	1		
19	PS.19.1	Penalties for not removing unwanted material by end of work day	day	0		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL

R

PART AH OCCUPATIONAL HEALTH and SAFETY

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

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL

R

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

SECTION 2 ROADWORKS & FOOTPATHS

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance and grubbing including trees up to a maximum girth of 1.5m and including the contractor's campsite	m2	1690		
2	B.8.4	Removal of trees of girth exceeding 1,5 m	no.	2		
3	PS.B.8.5	Removal of 1,2 m - 2,4 m high wire mesh fence, stockpile and reinstate. Rate to include all haulage	m	70		
4	B.8.9	Removal of brickwork	m3	10		
5	PS.B.8.13	Removal of reinforced/unreinforced concrete	m3	50		
6	B.8.13	Removal of existing asphalt roadway to tip	m3	30		
7	PS.B.8.24	Removal of informal retaining structures	m2	85		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 20MPa/19mm concrete for Footpaths (Class 3 - Wood Float Surface Finish)	m3	25		
2	C.8.1	Grade 20MPa/19mm concrete for Handrail Post Bases and Bollard Bases	m3	1.5		
3	C.8.1	Grade 30MPa/28mm concrete for 3m wide Access Roads	m3	90		
4	C.8.2	Welded steel reinforcing mesh - Ref 193	t	0.5		
5	C.8.2	Welded fabric reinforcement - Ref Mesh 311	t	2		
6	C.8.3	Class 1 Formwork for concrete works	m2	170		
7	PS.C.8.4	Movement Joints for footpaths as per Detail E on Drawing No. 74604 Sheet 3 of 3	m	85		
8	PS.C.8.5	Saw cut joints for footpaths as per Detail E on Drawing No. 74604 Sheet 3 of 3	m	200		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

PART DA EARTHWORKS : BULK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.2	Remove 100mm topsoil to stockpile and if surplus to requirements, spoil in an approved dump site. Rate to include for stockpile handling.	m3	115		
2	DA.8.3	Excavate in all material, deposit and spread material as fill or stockpile or,if surplus to requirements, spoil in an approved dump site. Rate to include for stockpile handling.	m3	600		
3	DA.8.3	Excavate soft material in the road reserve and place directly into fill	m3	120		
4	DA.8.3	Extra over on item 2 for excavation in hard material	m3	90		
5	DA.8.3	Extra over on item 2 for excavation in rock material	m3	60		
6	DA.8.3	Extra over on item 2 for excavation of boulders greater than 0.15m3 to spoil	m3	30		
7	DA.8.3	Excavation of unsuitable material below embankments or formation and spoil on site	m3	40		
8	DA.8.5	Compact soft material to 93% Mod. AASHTO	m3	165		
9	DA.8.4	Import G5 Material from commercial sources	m3	130		
10	DA.8.4	Import G7 material from commercial sources	m3	50		
11	DA.8.5	Compact imported G5 material to 95% Mod. AASHTO.	m3	130		
12	DA.8.5	Compact imported G7 material to 93% Mod. AASHTO.	m3	50		
13	PS.DA.8.11	Rip and re-compact insitu material to DN 3.7 - 5.7	m3	165		
14	DA.8.6	Trimming of embankments	m2	370		
15	DA.8.9	Formation	m2	900		
16	DA.8.9	Extra over item 17 above for areas of cut or where the fill layer thickness is less than 150mm	m2	20		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART EF KERBS AND HAUNCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Fig.12 kerb	m	330		
2	EF.8.1	Extra over item 1 for curves of radius less than 25 m	m	20		

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

Part Continued **PART EF KERBS AND HAUNCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
3	EF.8.1	Type F mountable kerb and cast insitu channel as per drawing 38577	m	400		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.EG.8.7	Precast Concrete Steps (Base steps or similar approved) including Grade 15MPa/13mm base as per Detail A on Drawing No. 74604 Sheet 3 of 3	no.	75		
2	PS.EG.8.8	Handrails as per Detail A on Drawing No. 74604 Sheet 3 of 3	m	20		
3	PS.EG.8.9	Precast Handrail Posts as per Detail A on Drawing No. 74604 Sheet 3 of 3	no.	12		
4	PS.EG.8.10	Precast Concrete Bollards as per Detail D on Drawing No. 74604 Sheet 3 of 3	no.	7		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Topsoiling on banks, verges and service lines from stockpile - thickness 100mm	m2	190		
2	PS.F.8.3	Grass planting on banks, verges and service lines. Rate to include for supply and lay of Cynodon 'Dactylon' grass, fertilizer and maintenance etc.	m2	190		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

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 including galvanising	m2	5		
2	TA.8.2	Supply and erect standard 76mm diameter hot dipped galvanised road name sign supports	no.	5		
3	TA.8.3	Excavate and backfill for road sign supports	m3	3		
4	TA.8.4	Concrete grade 20MPa/19mm for road sign footings	m3	3		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

PART TB ROAD MARKINGS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TB.8.1.1	Road marking for letters, symbols and traffic islands (white). Symbol RTM1 EB4 Road markings for letters, symbols and traffic islands (white). Symbol RTM1	km	0.3		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS R

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

SECTION 3 STORMWATER DRAINAGE

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.3	General clearance and grubbing for pipelines within a servitude for a width of 2m	m2	28		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 20MPa/19mm concrete for 600mm wide x 100mm thick 'trapezodial' drain.	m3	2		
2	C.8.2	Welded steel reinforcing mesh - Ref 193	t	0.1		
3	C.8.3	Class 1 Formwork for concrete drain	m2	6		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Topsoiling from stockpile as directed by the Engineer - thickness 100mm	m2	15		
2	PS.F.8.3	Grass planting as directed by the Engineer. Rate to include for supply and lay of Cynodon 'Dactylon' grass, fertilizers, pesticides etc	m2	15		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

SECTION 4 RETAINING STRUCTURES - CIVIL WORKS

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General site clearance and grubbing	m2	45		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 25MPa/19mm concrete for retaining wall bases	m3	5		
2	C.8.2	Welded steel reinforcing mesh - Ref 245	t	0.03		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART DA EARTHWORKS : BULK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.4	Import G7/G9 material from commercial sources	m3	20		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART DB EARTHWORKS FOR PIPE TRENCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.9	Provision of 19 mm single size stone chippings for subsoil drain from commercial or off-site source	m3	2		
2	DB.8.9	Provision of clean coarse sand for pipe trench bedding from commercial or offsite source	m3	35		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART DD EARTHWORKS FOR STRUCTURES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2	Excavate in all material, load, haul, deposit, stockpile or if surplus to requirements or unsuitable spoil in an approved dump site. Rate to include for stockpile handling	m3	35		
2	DD.8.2	Extra over item 1 for hard material	m3	5		
3	DD.8.2	Extra over item 1 for rock	m3	5		
4	DD.8.3	Backfill G7/G9 material and compact to 93% MOD AASHTO	m3	40		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Supply and construct the following blocks:</u>				
1	PS.F.8.9	Supply and construct dry stack retaining wall using Geolok - G400 or similar approved	m2	45		
2	PS.F.8.11	50mm dia. uPVC Pipe for retaining wall	no.	25		
3	PS.F.8.10	Soilcrete or stabilised fill material	m3	18		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART PG NON PRESSURE PIPELINES and PC CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.12.1	Geotextile blanket for gabion baskets(2.3mm thick, Penetration load = 2.5KN, Porosity = 93%)	m2	100		
2	PG.8.12.1	Geotextile blanket as surround to Subsoil Drains (1.6mm thick, Penetration load = 1.7KN, Porosity = 93%)	m2	38		
3	PG.8.12.2	110 mm diameter pitch fibre sub-soil pipes	m	30		
4	PS.PG.8.14	Sub-soil drains and outlets	no.	1		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

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BILL OF QUANTITIES SECTION SUMMARY

SECTION 1 PRELIMINARY AND GENERAL

PART	AA	PRELIMINARIES	
PART	AB	GENERAL SPECIFICATIONS	
PART	AH	OCCUPATIONAL HEALTH and SAFETY	
TOTAL CARRIED TO FINAL SUMMARY			

BILL OF QUANTITIES SECTION SUMMARY**SECTION 2 ROADWORKS & FOOTPATHS**

PART B	SITE CLEARANCE	
PART C	CONCRETE WORK	
PART DA	EARTHWORKS : BULK	
PART EF	KERBS AND HAUNCHES	
PART EG	SIDEWALKS, FOOTPATHS and MEDIAN AREAS	
PART F	PROTECTION WORKS	
PART TA	ROAD SIGNS	
PART TB	ROAD MARKINGS	
TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY**SECTION 3 STORMWATER DRAINAGE**

PART B	SITE CLEARANCE	
PART C	CONCRETE WORK	
PART F	PROTECTION WORKS	
TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY**SECTION 4 RETAINING STRUCTURES - CIVIL WORKS**

PART B	SITE CLEARANCE	
PART C	CONCRETE WORK	
PART DA	EARTHWORKS : BULK	
PART DB	EARTHWORKS FOR PIPE TRENCHES	
PART DD	EARTHWORKS FOR STRUCTURES	
PART F	PROTECTION WORKS	
PART PG	NON PRESSURE PIPELINES and PC CULVERTS	
TOTAL CARRIED TO FINAL SUMMARY		

Provision of Incremental Services to Informal Settlements within the Western Region: Thornwood: Access Roads, Footpaths and Associated Stormwater Control (Ward 14)

SUMMARY OF BILL OF QUANTITIES

1	PRELIMINARY AND GENERAL		R	
AA	PRELIMINARIES	R		
AB	GENERAL SPECIFICATIONS	R		
AH	OCCUPATIONAL HEALTH and SAFETY	R		
2	ROADWORKS & FOOTPATHS		R	
B	SITE CLEARANCE	R		
C	CONCRETE WORK	R		
DA	EARTHWORKS : BULK	R		
EF	KERBS AND HAUNCHES	R		
EG	SIDEWALKS, FOOTPATHS and MEDIAN AREAS	R		
F	PROTECTION WORKS	R		
TA	ROAD SIGNS	R		
TB	ROAD MARKINGS	R		
3	STORMWATER DRAINAGE		R	
B	SITE CLEARANCE	R		
C	CONCRETE WORK	R		
F	PROTECTION WORKS	R		
4	RETAINING STRUCTURES - CIVIL WORKS		R	
B	SITE CLEARANCE	R		
C	CONCRETE WORK	R		
DA	EARTHWORKS : BULK	R		
DB	EARTHWORKS FOR PIPE TRENCHES	R		
DD	EARTHWORKS FOR STRUCTURES	R		
F	PROTECTION WORKS	R		
PG	NON PRESSURE PIPELINES and PC CULVERTS	R		
SUB TOTAL			R	
ADD VAT (15%) - (only if a registered VAT Vendor)			R	
TOTAL CARRIED TO FORM OF TENDER			R	