

**BILL OF QUANTITIES****SECTION 1 PRELIMINARIES****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 obligations	sum	1		
4	SANS 1921-1	Time Related obligations	sum	1		
		<b><u>COMMUNITY LIAISON OFFICER</u></b>				
5	PS.13	Allow for a CLO to be appointed	PC Sum	220000	1.00	220,000.00
6	PS.13	Allow for a percentage (%) mark-up on item above	%	220000		
		<b><u>LOCAL LABOUR</u></b>				
7	PS.14	Allow for the weekly submission of proof of employment of local labour	week	36		
		<b><u>STAKEHOLDER MANAGEMENT AND LIAISON</u></b>				
8	PS.AB.14	Stakeholder Management and Liaison	week	36		

**TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARIES****R****PART AB GENERAL SPECIFICATIONS**

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

## TRK 83662 in SENZOKUHLE AREA WARD 3, OUTER WEST

Part Continued **PART** AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	PS.AB.5	Road Deviations	sum	1		
7	PS.AB.8	Notice Board	no.	1		
8	PS.AB.10	Proving of existing services by hand	m3	110		
9	PS.AB.9	Survey coordination of existing valves, manholes, catchpit and cable duct markers	sum	1		
10	PS.AB.9	Survey control and Setting out of works	sum	1		
11	PS.16	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
12	AB.6	Acceptance Testing to be carried out by an external independent accredited SANAS Soil Laboratory	PC Sum	25000	1.00	25,000.00
13	AB.6	Contractors mark-up on item above	%	25000		
14	AB.6	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
15	PS.AB.11	Raise/Lower, disconnect, relocate and installation of existing services (makers, water meter, water pipes, electricity cables, etc) inclusive of all fittings, pipes, plant and labour	sum	1		
16	PS.AB.11	Repairing of existing services inclusive of all fittings, pipes, plant and labour	sum	1		
17		Adjudicator	PC Sum	30000	1.00	30,000.00
<b>TIME RELATED ITEMS</b>						
18	PS.AB.3	Contractors superintendence	week	36		
19	AB.7	Maintenance of Pedestrian and Traffic Facilities	week	36		
20	AB.7	Maintenance of all signs, barricades and delineators	week	36		
21	PS.AB.7	Allow for Progress Photographs (The contractor is required to provide a USB drive monthly containing photographs that document the work being performed on site, as specified by the Engineer.)	week	36		
22	PS.11	Provision of security on site to guard against any disruption of the works through out the duration of the contract	week	36		
23	PSDW3.1	Dayworks (Plant and equipment)	hr	20		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARIES

R

**PART AH OCCUPATIONAL HEALTH and SAFETY**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AH.14	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
2	AH.14.1	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	week	36		
3	AH.14.3	Submission of the Health and Safety File	sum	1		

**TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARIES****R****SECTION 2 SITE CLEARANCE****PART B SITE CLEARANCE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance and grubbing in contractor's camp site	m2	550		
2	B.8.2	General clearance and grubbing in road reserve	m2	800		
3	B.8.2	General clearance and grubbing in temporary stockpile area.	m2	300		
4	B.8.4 PS.B.1	Removal and Grubbing of Large trees and Stumps	no.	12		
5	B.8.5 PS.B.3	Removal of wire mesh fence and poles and store on site safely for reinstatement. Rate to include removal of posts and concrete where necessary.	m	120		
6		Removal of existing damaged fences to spoil. Rate to include removal of posts and concrete where necessary.	m	30		
7		Removal of existing damaged concrete fence to spoil. Rate to include removal of posts and concrete where necessary.	m	50		
8	B.8.14 PS.B.5	Removal of asphalt roadways to tip	m3	1		

**TOTAL CARRIED TO SECTION 2 SUMMARY: SITE CLEARANCE****R****SECTION 3 ROAD WORKS****PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.C.16	1.0 wide x 0.2m depth Concrete V-Drain (Grade 25/19 Mpa concrete plus Ref 395 Mesh) as per Standard Drawing. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m	350		

Part Continued **PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
2	PS.C.15, 17 & 18	Driveways surfaced with 100mm thick concrete (Grade 25/19 Mpa concrete plus Ref 395 Mesh) laid with a 100mm G2 graded crushed stone compacted to 93% Mod. A.A.S.H.T.O. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	26		
3	PS.C.15, 17 & 18	Grade 25/19 Mpa with reinforcing Mesh Ref 395 Mesh to be used at Engineers discretion. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	15		
4	PS.C.30	Supply and install precast concrete heavy duty driveway access slabs to be placed over v-drain. Slabs should be 1,5m x 0,7m x 0,15m deep (40Mpa concrete @ 28 days) with Y12 @ steel reinforcement to placed @ 0,2 c/c.	no.	48		
5	PS.C.16	Stone pitched drain of 100mm depth - Grade 25/19 concrete. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m2	40		
6	PS.C.16	0.5 m wide x 0.1m depth Concrete chute - Grade 25/19 concrete plus Ref 395 Mesh. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m	10		
7	PS.C.5	Base Type A including Grade 25/19 Mpa. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	4		
8	PS.C.5	Base Type B including Grade 25/19 Mpa with Mesh ref 395. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	18		

## TRK 83662 in SENZOKUHLA AREA WARD 3, OUTER WEST

Part Continued **PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
9	PS.C.5	Base Type C including Grade 25/19 Mpa with Mesh ref 395. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	55		
10	PS.C.5	Geofabric for Geolok or Loffestain blocks extended into fill and laid under 2nd row, as per detail.	m3	27		
11	PS.F.6.6	Geofabric for Geolok or Loffestain blocks extended into fill and laid under 2nd row, as per detail.	m2	1220		
12	PS.C.16	0.5m wide x 0.1m depth Concrete V-Drain top of Geolok / Loffestain walls (Grade 25/19 Mpa concrete plus Ref 245 Mesh). Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m	315		
13	PS.F.4 PS.C.6, 13 & 14	Supply and construct Geolok 400 Concrete Retaining Wall or similar approved. Rate to include for the compaction, sand filling to the blocks and approved weepholes at 2,5m c/c.	m2	39		
14	PS.F.4 PS.C.6, 13 & 14	Supply and construct Geolok 500 Concrete Retaining Wall or similar approved. Rate to include for the compaction, sand filling to the blocks and approved weepholes at 2,5m c/c.	m2	234		
15	PS.F.4 PS.C.6, 13 & 14	Supply and construct Type C Loffestain Blocks or similar approved. Rate to include for the compaction, sand filling to the blocks and approved weepholes at 2,5m c/c.	m2	395		
16	PS.F.4 PS.C.6, 13 & 14	Supply and construct Type D Loffestain Blocks or similar approved. Rate to include for the compaction, sand filling to the blocks and approved weepholes at 2,5m c/c.	m2	225		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

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 and compact to 95% MOD A.A.S.H.T.O.	m3	1150		

## TRK 83662 in SENZOKUHLA AREA WARD 3, OUTER WEST

Part Continued **PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
2	DA.8.3	Excavate in all material to spoil. Rate to include haulage and royalties.	m3	250		
3	DA.8.3	Extra over above for excavation in hard material to spoil at tip. Rate to include haulage and royalties.	m3	30		
4	DA.8.3	Extra over above for excavation of boulders to tip. Rate to include haulage and royalties.	m3	10		
5	DA.8.3	Excavate unsuitable material below embankments or formation and spoil at tip. Rate to include haulage and royalties.	m3	15		
6	DA.8.4	Supply, load, transport and process upper selected G7 Natural Gravel, 150mm thick from commercial source compacted to 95% Mod A.A.S.H.T.O inclusive of haulage and royalties	m3	374		
7	DA.8.4	Import suitable fill material (G9 or better quality) from Contractors off-site source and compact to 93% MOD A.A.S.H.T.O inclusive of haulage and royalties	m3	2200		
8	PS.DA.15	Rip and recompact 150mm insitu material to 95% Mod A.A.S.H.T.O.	m3	300		
9	DA.8.9	Formation	m2	2000		
10	DA.8.3	Excavation in all material to spoil for dumprock subgrade improvement	m3	600		
11	DA.8.6	Trimming of embankments	m2	3000		
12	DA.8.10	Overhaul material in excess of freehaul distance 1.0km - Spoil site to be approved by Engineer prior to spoiling	m3 * km	4500		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R

**PART EB GRADED CRUSHED STONE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.EB.8.1	Supply, load, transport and process Sub-base layer G5 graded crushed stone, 150mm thick from commercial source compacted to 95% Mod ASSHTO on Site	m3	300		
2	PS.EB.8.1	Supply, load, transport and process Base layer G2 graded crushed stone, 150mm thick from commercial source compacted to 98% Mod ASSHTO on Site	m3	300		
3	EB.8.2	Supply and Apply Prime Coat at 0.6l/m2	m2	2000		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R

## TRK 83662 in SENZOKUHLE AREA WARD 3, OUTER WEST

**PART ED ROAD ASPHALT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	ED.8.2	Continuously graded base course of compacted thickness 40mm (Mix Sa-S10) compacted at 93% - Private Plant.	t	200		
2	PS.ED.7	Saw cut existing road edge	m	20		
3	ED.8.4	Supply and Apply Tack Coat	m2	2000		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R

**PART EF KERBS AND HAUNCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Type D Barrier kerb and 150mm channel. Rate inclusive of concrete base of 65mm to 75mm thick grade 20/19 mPa, haunching, all excavation, levelling and compaction work	m	360		
2	EF.8.1	Precast concrete 1.0m transition to scoop. [Type D Kerb]. Rate inclusive of concrete base of grade 20/19 mPa, haunching, all excavation, levelling, compaction work	m	40		
3	EF.8.1	Fig 12 Edge Restraint for sidewalk. Rate inclusive of all levelling, compaction work and haunching.	m	400		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R

**PART EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EG.6.1	Asphalt Sidewalks / Footpath with 100mm G2 graded crushed stone overlaid by 25mm Sa-S7 (Rate to include Tack Coat and Weedkiller)	m2	50		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R

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

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EH.8.1	Supply and Erect Galvanised Straight steel guard rails on Concrete Posts	m	100		
2	EH.8.1	Supply and Erect Galvanised Precurved steel guard rails on Concrete Posts	m	30		
3	EH.8.1	Supply and Install Concrete posts	no.	35		
4	PS.EH.8.1 (e)	Supply and install reflective plates at 3,75 c/c	no.	35		
5	EH.8.1	Supply and erect end wings	no.	4		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R

## TRK 83662 in SENZOKUHLE AREA WARD 3, OUTER WEST

**PART EL DUMPROCK SUBGRADE IMPROVEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.EL.1	Supply and lay dumprock subgrade improvement, 1000mm thick.	m3	600		
2	PS.EL.1	Provision and lay of clean coarse sand above dumprock, 300 mm thick.	m3	180		
3	PS.EL.1	Supply and lay draining grade geofabric blanket as surround to dumprock.	m2	1600		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R

**PART S REINSTATEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	S.8.4	Reinstatement of existing fences stored on site. Rate to include instalation of posts and concrete for footings.	m	120		
2	PS.S.2	Repairs to existing damaged fences stored on site. Rate to include fence reinstatement, the supply of materials, fittings, plant and labour required.	m	30		
3		Supply and lay new concrete fence to match existingl. Rate to include the supply of concrete fence material and posts, fittings, plant and labour required.	m	50		
4	PS.S.3	Supply new type of fences to match existing on site. Rate to include the supply of all material, fittings, plant and labour required.	PC Sum	20000	1.00	20,000.00
5	PS.S.3	Allow for a percentage (%) mark up on item above	%	20000		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

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	no.	1		
2	TA.8.2.2	Supply and erect 75mm x 75mm square hot dipped galvanised steel supports. Rate to include all haulage.	m	4		
3	TA.8.3	Excavate and backfill for road sign supports	m3	1		
4	TA.8.4	Concrete grade 20/19 for road sign footings	m3	1		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R



## TRK 83662 in SENZOKUHLA AREA WARD 3, OUTER WEST

**PART TB ROAD MARKINGS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.TB.1	Painted road lines 150mm wide white (broken or unbroken) lines with retroreflective road marking paint including setting out and premarking.	m	400		
2	PS.TB.1	Painted road lines 300mm wide (white), including setting out and premarking	m	15		
3	PS.TB.3	Road Marking for lettering, symbols and traffic islands (white), including setting out lettering, symbols and traffic island markings.	m2	15		

TOTAL CARRIED TO SECTION 3 SUMMARY: ROAD WORKS

R

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

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.5	Excavate in all material for 600mm diameter stormwater pipes where depth is :- - 0.0m -1.5m. Rate to include for preparation of Class C bedding, compaction, placing of pipe and selected backfill.	m	170		
2	DB.8.5	Excavate in all material for 600mm diameter stormwater pipes where depth is :- - Over 1,5 m and not exceeding 2,0 m. Rate to include for preparation of Class C bedding, compaction, placing of pipe and selected backfill.	m	140		
3	DB.8.5	Excavate in all material for 600mm diameter stormwater pipes where depth is :- - Over 2,0 m and not exceeding 2,5 m. Rate to include for preparation of Class C bedding, compaction, placing of pipe and selected backfill.	m	60		
4	DB.8.5	Excavate in all material for 600mm diameter stormwater pipes where depth is :- - Over 2,5 m and not exceeding 3,0 m. Rate to include for preparation of Class C bedding, compaction, placing of pipe and selected backfill.	m	20		
5	DB.8.5	Extra over item above for excavation in hard material	m3	10		
6	DB.8.5	Excavate in all material for 110mm subsoil pipe where depth is :- - 0.0m - 1.5m. Rate to include for preparation of bedding, compaction and placing of pipe.	m3	55		
7	PS.DB.4	Trench shoring to remain in excavation	m	10		

## TRK 83662 in SENZOKUHLA AREA WARD 3, OUTER WEST

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

Item	Clause	Description	Unit	Quantity	Rate	Amount
8	DB.8.13	Import backfill material upper selected G7 Natural Gravel from commercial source compacted to 95% Mod A.A.S.H.T.O inclusive of haulage and royalties	m3	200		
9	DB.8.8	Disposal of unsuitable or surplus material including material displaced by pipe from trench excavation	m3	43		

TOTAL CARRIED TO SECTION 4 SUMMARY: STORMWATER DRAINAGE

R

**PART DD EARTHWORKS FOR STRUCTURES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2	Excavate in all material for gabions in temporary stockpile area.	m3	280		
2	DD.8.2	Excavate in all material for Type A Geolok 300 wall and base in temporary stockpile area.	m3	6		
3	DD.8.2	Excavate in all material for Type B Geolok 500 wall and base in temporary stockpile area.	m3	61		
4	DD.8.2	Excavate in all material for Type C wall and base in temporary stockpile area.	m3	190		
5	DD.8.2	Excavate in all material for Type D wall and base in temporary stockpile area.	m3	150		
6	DD.8.2	Excavate in all material for headwall to spoil.	m3	5		
7	DD.8.3	Import mngeni sand for backfilling behind retaining walls. Use a stabilization ratio of 1 packet of cement per 3 cubic meters of Mngeni sand. Rate to include placement and compaction.	m3	700		

TOTAL CARRIED TO SECTION 4 SUMMARY: STORMWATER DRAINAGE

R

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

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.2	Supply and lay 600 mm diameter concrete pipe Class 100D.	m	170		
2	PG.8.12	Supply and lay 110mm diameter approved slotted HDPE subsoil pipes.	m	155		
3	PS.PG.2.5	Supply and lay 19mm stone for subsoil drainage system from commercial or off-site source.	m3	18		
4	PS.PG.2.4	Supply and lay clean coarse sand for subsoil drainage from commercial or off-site source.	m3	20		

## TRK 83662 in SENZOKUHLA AREA WARD 3, OUTER WEST

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

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	PS.PG.2.3	Supply and lay approved Kaymat U44 or an equivalent drainage-grade geofabric separation blanket.	m2	205		

TOTAL CARRIED TO SECTION 4 SUMMARY: STORMWATER DRAINAGE

R

**PART** PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PH.8.3	Standard inlet type S1. Depth :- - Over 0.0m and not exceeding 1.5m	no.	2		
2	PH.8.3	Standard inlet type S2. Depth :- - Over 0,0m and not exceeding 1.5m	no.	2		
3	PH.8.3	Standard inlet type D3. Depth :- - Over 0,0m and not exceeding 2m	no.	1		
4	PH.8.3	Standard inlet type S1. Depth :- - Over 1.5m and not exceeding 2.5m	no.	2		
5	PH.8.3 PS.PH.8	Construct headwall as per Standard Drawing 38576	no.	4		

TOTAL CARRIED TO SECTION 4 SUMMARY: STORMWATER DRAINAGE

R

**SECTION 5** PROTECTION WORKS**PART** F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.F.4	Supply and lay of PVC coated 1m high gabion boxes. Rate to include stones	m3	40		
2	PS.F.4	Supply and lay of PVC coated 2m high gabion boxes. Rate to include stones	m3	375		
3	PS.F.4	Supply and lay of PVC coated 3m high gabion boxes. Rate to include stones	m3	144		
4	PS.F.4	Supply and construction of 2m x 1m x 0.3m deep Reno Mattress. Rate to include stones.	m3	5		
5	PS.F.6.6	Geofabric as surround cage for the PVC coated gabion boxes and reno mattress	m3	590		
6	F.8.1	Imported topsoil: thickness 100 mm	m2	1200		
7	F.8.1	Grass hydroseeding and watering	m2	1200		

TOTAL CARRIED TO SECTION 5 SUMMARY: PROTECTION WORKS

R

## TRK 83662 in SENZOKUHLE AREA WARD 3, OUTER WEST

**SECTION 6 PORTAL CULVERT****PART B SITE CLEARANCE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.3 PS.B.4	General clearance of stones, boulders and rubble	m3	1200		
2		Access, drainage & river diversion	sum	1		
3		River training	sum	1		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

**PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.C.15, 17 & 18	Blinding_ Portal Culvert @ 75mm depth. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	10		
2	PS.C.15, 17 & 18	Base Slab_Portal Culvert @ 175mm depth (Grade 25/19 Mpa concrete plus Ref 395 Mesh @ 50mm bottom of slab & 50mm top of slab). Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	22		
3	PS.C.15, 17 & 18	Downstand Beam @ 500mm (Grade 25/19 Mpa concrete plus Ref 395 Mesh). Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	2		
4	PS.C.15, 17 & 18	Blinding_ Inlet and Outlet @ 75mm depth. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	3		
5	PS.C.15, 17 & 18	Inlet & outlet_Apron Slab @ 175mm (Grade 25/19 Mpa concrete plus Ref 395 Mesh @ 50mm bottom of slab & 50mm top of slab). Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	6		

## TRK 83662 in SENZOKUHLA AREA WARD 3, OUTER WEST

Part Continued **PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	PS.C.15, 17 & 18	Cut Off Wall @ 500mm depth (Grade 25/19 Mpa concrete plus Ref 395 Mesh). Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m3	3		
7	PS.C.16	Stone pitched drain of 100mm depth (Grade 25/19 concrete). Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m	20		
8	PS.C.16	Concrete chute 0.5 m wide x 0.1m depth (Grade 25/19 concrete plus Ref 245 Mesh). Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m	20		
9	PG.5.3	Barrel joints: 10mm thick polystyrene joint former	m2	75		
10	PG.5.3	Apron slab: 10mm thick polystyrene joint former	m2	3		
11	PS.C.27	Barrel joints: 10mm x 10mm APPROVED silicone sealant	m	140		
12	PS.C.27	Apron slab: 10mm x 10mm APPROVED silicone sealant	m	35		
13		300mm APPROVED Bituminous emulsion coated membrane	m	130		
14		65mm Nelton diameter perforated drainage pipe wing wall & culvert length, wrapped in filter fabric	m	26		
15		Concrete screed 200mm x 75mm @ length of culvert and wingwalls	m3	1		
16		Weep holes 65mm diameter uPVC pipes	m	7		
17	PS.C.21	Y20 Galvanised dowel 1,5m long @ 500mm c/c with bituthene wrapping (to be cast in with apron slab)	no.	55		
18		325mm wide DN1 Nelton drainage strips covered with filter fabric Grade 2	m	170		
19	PS.C.7	Filter fabric Grade B	m2	150		

## TRK 83662 in SENZOKUHLA AREA WARD 3, OUTER WEST

Part Continued **PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
20	PS.C.29	Anchor blocks	no.	12		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

**PART DD EARTHWORKS FOR STRUCTURES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.DD.5	Excavate, spoil and compact to 95% MOD A.A.S.H.T.O.	m3	2400		
2	DD.5.6	Supply, load, transport and process upper selected G7 Natural Gravel fill behind galvanised gabion box, from commercial source compacted to 95% MOD A.A.S.H.T.O. inclusive of haulage and royalties.	m3	40		
3	DD.5.6	Backfill with stabilize mngeni sand behind galvanised gabion box, from commercial source compacted to 95% MOD A.A.S.H.T.O. inclusive of haulage and royalties, use a stabilization ratio of 1 packet of cement per 3 cubic meters of mngeni sand	m3	25		
4	DD.5.6	Supply, load, transport and process upper selected G7 Natural Gravel fill within restricted area, from commercial source compacted to 95% MOD A.A.S.H.T.O. inclusive of haulage and royalties. Stabilized by ratio of 2 packets of cement per cubic meter	m3	140		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

**PART EF KERBS AND HAUNCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Type D Barrier kerb on either side of the sidewalk, with no channel. Rate inclusive of concrete base of 65mm to 75mm thick grade 20/19 mPa, levelling, compaction work and haunching.	m	25		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

**PART EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EG.6.1	Sidewalk 1.1m wide with 100mm G2 graded crushed stone overlaid by 25mm Asphalt. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m	10		

## TRK 83662 in SENZOKUHLE AREA WARD 3, OUTER WEST

Part Continued **PART** EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS

Item	Clause	Description	Unit	Quantity	Rate	Amount
2	EG.6.1	Same as item above, extended one sidewalk by 1 meter on both sides, with a sloped design, to facilitate wheelchair accessibility. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m	2		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

**PART** EL DUMPROCK SUBGRADE IMPROVEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.EL.1	Supply and lay dumprock subgrade improvement, 1000mm thick.	m3	1200		
2	PS.EL.1	Provision and lay of clean coarse sand above dumprock, 300mm thick.	m3	360		
3	PS.EL.1	Supply, load, transport and process Sub-base layer G5 graded crushed stone, 150mm thick from commercial source compacted to 95% Mod ASSHTO on Site	m3	180		
4	PS.EL.1	Supply and lay draining grade geofabric blanket as surround to dumprock.	m2	3520		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

**PART** F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.F.4	Supply and construction of 1m x 1m deep galvanised gabion box with 80x100mm mesh, 2.7mm dia. nominal wire, as per detail. Rate to include stones.	m3	105		
2	PS.F.4	Supply and construction of 2m x 1m x 0.3m deep Reno Mattress. Rate to include stones.	m3	12		
3	PS.F.5	Supply and lay of PVC coated 2m high gabion boxes. Rate to include stones and geofabric as surround cage.	m3	135		
4	PS.F.5	Supply and lay of PVC coated 3m high gabion boxes. Rate to include stones and geofabric as surround cage.	m3	60		
5	PS.F.6.6	Supply and lay approved U14 Bidium or an equivalent drainage-grade geofabric separation blanket.	m2	1130		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

## TRK 83662 in SENZOKUHLE AREA WARD 3, OUTER WEST

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

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.7	Standard precast concrete portal culvert Class C - 3600 x 1200 mm	no.	24		
2	PG.3.6	160mm diamter U.P.V.C cable ducts. Rate to include for the weedkiller, handling, levelling, compaction, vibrating, supply of all materials required to fully construct, shuttering, formwork and soft board expansion joints.	m	12		
3	PG.3.6	160mm diamter end caps to cable ducts end	no.	4		
4	PG.3.6	Cable duct makers	no.	4		
5	PG.5.7	Grade 20/26 concrete encasement to duct	m3	6		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

**PART PH MANHOLES and APPURTENANT DRAINAGE WORKS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1		Construct Inlet and Outlet Type A Headwall for entry/exit point of 3600 x 1200mm portal culvert (supply and construct triple brickwall, with brickforce every 3 course)	no.	2		

TOTAL CARRIED TO SECTION 6 SUMMARY: PORTAL CULVERT

R

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SUMMARY OF BILL OF QUANTITIES

Section

1	PRELIMINARIES		R	
	AA	PRELIMINARIES	R	
	AB	GENERAL SPECIFICATIONS	R	
	AH	OCCUPATIONAL HEALTH and SAFETY	R	
2	SITE CLEARANCE		R	
	B	SITE CLEARANCE	R	
3	ROAD WORKS		R	
	C	CONCRETE WORK	R	
	DA	EARTHWORKS : BULK	R	
	EB	GRADED CRUSHED STONE	R	
	ED	ROAD ASPHALT	R	
	EF	KERBS AND HAUNCHES	R	
	EG	SIDEWALKS, FOOTPATHS and MEDIAN AREAS	R	
	EH	STEEL GUARDRAILS & CONC. MEDIAN BARRIERS	R	
	EL	DUMPROCK SUBGRADE IMPROVEMENT	R	
	S	REINSTATEMENT	R	
	TA	ROAD SIGNS	R	
	TB	ROAD MARKINGS	R	
4	STORMWATER DRAINAGE		R	
	DB	EARTHWORKS FOR PIPE TRENCHES	R	
	DD	EARTHWORKS FOR STRUCTURES	R	
	PG	NON PRESSURE PIPELINES and PC CULVERTS	R	
	PH	MANHOLES and APPURTENANT DRAINAGE WORKS	R	
5	PROTECTION WORKS		R	
	F	PROTECTION WORKS	R	
6	PORTAL CULVERT		R	
	B	SITE CLEARANCE	R	
	C	CONCRETE WORK	R	
	DD	EARTHWORKS FOR STRUCTURES	R	
	EF	KERBS AND HAUNCHES	R	
	EG	SIDEWALKS, FOOTPATHS and MEDIAN AREAS	R	
	EL	DUMPROCK SUBGRADE IMPROVEMENT	R	
	F	PROTECTION WORKS	R	
	PG	NON PRESSURE PIPELINES and PC CULVERTS	R	
	PH	MANHOLES and APPURTENANT DRAINAGE WORKS	R	

Section

SUB TOTAL	R	
ADD VAT (15%) - (only if a registered VAT Vendor)	R	
TOTAL CARRIED TO FORM OF TENDER	R	