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BILL OF QUANTITIES**SECTION 1 P's and G's****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	SANS 1921-1 : 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	C1.2.3.1	COMMUNITY LIAISON OFFICER Allow for a CLO to be appointed.	PC Sum	60100	1.00	60,100.00
6	C1.2.3.1	% Mark-up for item 5 above	%	60100		
7	C1.2.3.2	LOCAL LABOUR Allow for the weekly submission of proof of employment of local labour	sum	1		
8	C1.2.3.6	Expected risks (de-establishment)	sum	1		
9	C1.2.3.6	Expected risks (re-establishment)	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: P's and G's**R****PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AB.4	Contractor's Camp Site / Store Yard	sum	1		
2	AB.5	Notice Board	sum	1		
3	AB.7/PS.AB.8	Road Deviations	sum	1		
4	AB.7	Initial supply of all signs, barricades and delineators	sum	1		
5	PS.2.5	Survey coordination of existing valves, manholes, catchpits, and cable duct markers	sum	1		
6	PS.13	Allow for the following Additional Items which the tenderer requires to be priced separately :- a)	sum	1		

Upgrade and repairs of roads stormwater- Impala drive ,Meranti street and auxiliary routes in MobeNi Heights , Ward 69 : Phase 2

Part Continued **PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
7	AB.6	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
8	PS.AB.6	Deduction for re-tests requested when density and cubes tests is not as per specification as determined by acceptance Testing (-R1000/set)	set	0		
9	AB.7	Maintenance of Pedestrian and Traffic Facilities	sum	1		
10	AB.7	Maintenance of all signs, barricades and delineators	sum	1		
11	PS.11	Site Security	sum	1		
12	PS.AB.14	Survey and Setting out	sum	1		
13	PS.AB.10	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
14	PS.DA.26	Geotechnical investigations	sum	1		
15	PS.16/ PS.DD.7.1	Temporary stream diversion and maintenance of the diversion throughout the project .Rate to include removal of sream/river diversion.	sum	1		
16	PS.1.3.3	Traffic Safety officer	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: P's and G's

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.To include Covid-19 Requirements	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: P's and G's

R

Upgrade and repairs of roads stormwater- Impala drive ,Meranti street and auxiliary routes in Mobei Heights , Ward 69 : Phase 2

SECTION 2 STORMWATER UPGRADE

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.3	General clearance and grubbing for pipelines in road reserve	m2	1200		
2	B.8.2	General clearance and grubbing in contractor's camp site	m2	50		
3	B.8.4	Removal of trees of girth exceeding 0.1m	no.	7		
4	B.8.5	Removal of 1.5-2m high wire mesh fence and store on site for re-use	m	25		
5	B.8.15	Removal of concrete,tar,etc paving to tip.rate to include all haulage off-site.	m3	35		
6	B.8.15	Removal of brick paving and store on-site for reuse	m3	15		
7	PS.B.8.23	Demolish and removal of manholes and inlets.rate to include all haulage of rubble to tip.	no.	15		
8	B.8.9	Removal of brickwork	m3	10		
9	B.8.14	Removal of roadways to tip	m3	10		
10	B.8.19	Removal of disused pipes, 500 - 900 mm diameter and spoil at tip. Rate to include all haulage	m	20		
11	B.8.19	Removal of disused pipes, 300 - 500 mm diameter and spoil at tip. Rate to include all haulage	m	20		
12	B.8.19	Removal of disused pipes, 0 - 300 mm diameter and spoil at tip. Rate to include all haulage	m	15		
13	B.8.21	Backfilling with suitable material from stockpile on site	m3	30		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.2	High tensile steel reinforcement	t	35		
2	C.8.2	High tensile welded mesh steel fabric wire reinforcement.(ref 888) (Y12@200mm)	t	2.5		
3	C.8.1	Supply and lay Grade 40/19 concrete in culvert base,retaining wall & wing walls. Surface finish to be class 3a	m3	120		
4	C.8.1	Supply and lay Grade 15/19 concrete blinding of thickness 75 mm	m2	150		
5	C.8.2	Mild steel reinforcement	t	0.01		

Upgrade and repairs of roads stormwater- Impala drive ,Meranti street and auxiliary routes in Mobeni Heights , Ward 69 : Phase 2

Part Continued PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	C.8.3	Class 3a shuttering to footings	m2	140		
7	C.8.3	Class 1 shuttering to footings	m2	50		
8	C.8.1	Supply and lay Grade 25/19 concrete in concrete channel	m3	145		
9	C.8.2	High tensile wlded mesh steel fabric wire reinforcement .(ref 617) (Y10@200mm)	t	0		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART DB EARTHWORKS FOR PIPE TRENCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.5/ PS.DB.8.22	Excavate and backfill in all material for 600 mm diameter pipe where depth is :- - Over 1 m and not exceeding 2,0 m	m	100		
2	DB.8.5	Excavate and backfill in all material for 900 mm diameter pipe where depth is :- - Over 2,0 m and not exceeding 2,5 m	m	48		
3	DB.8.5	Excavate and backfill in all material for 450 mm diameter pipe where depth is :- - Over 1 m and not exceeding 2,0 m	m	300		
4	DB.8.6	Extra over item 1,2 & 3 for hard material	m3	10		
5	DB.8.6	Extra over item 1,2 & 3 for rock	m3	5		
6	DB.8.14	Extra over item 1,2 & 3 for cement stabilised backfill	m3	10		
7	DB.8.7	Extra over item 1,2 & 3 for road hardening	m3	15		
8	DB.8.10	Placing and compacting of class C & B bedding for 400mm-900mm dia stormwater pipe	m	250		
9	DB.8.9	Provision of suitable sand for pipe bedding (Class B) from commercial or off-site source	m3	50		
10	DB.8.13	Provision of selected backfill material for pipe trenches from commercial or off-site source.rate to include all haulage.	m3	50		
11	PS.DB.8.15	Disposal of unsuitable or surplus material from trench excavation.Rate to include all haulage	m3	60		
12	PS.DD.2	Lateral support system	m2	210		
13	PS.2.2	Proving Underground Services	m3	10		
14	DB.8.9	Provision of 19 mm stone material for pipe bedding from commercial or off-site source	m3	60		

Upgrade and repairs of roads stormwater- Impala drive ,Meranti street and auxiliary routes in Mobeni Heights , Ward 69 : Phase 2

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

Item	Clause	Description	Unit	Quantity	Rate	Amount
15	DB.8.20	Trench shoring for pipe installation	m2	60		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART DD EARTHWORKS FOR STRUCTURES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2	Excavate in all material for Culvert , retaining wall ,gabions to stockpile	m3	350		
2	DD.8.2	Extra over item 1 for hard material	m3	15		
3	DD.8.2	Extra over item 1 for rock	m3	15		
4	DD.8.2	Excavate in all material for culvert , retaining wall ,gabions to spoil	m3	10		
5	DD.8.3	Backfill and compact using material from stockpile	m3	250		
6	DD.8.3	Provision of Backfill and compaction using imported material from contractor's own source. Rate to include all haulage and royalties	m3	100		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART EB GRADED CRUSHED STONE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EB.8(1) EB123 EB1234	Graded crushed stone G2, 100 mm thick compacted to 98% Mod.A.A.S.H.T.O This is a test line This is another test	m3	60		
2	EB.8(1) EB123 EB1234	Graded crushed stone G5, 150 mm thick compacted to 98% Mod.A.A.S.H.T.O This is a test line This is another test	m3	60		
3	EB.8(2)	Prime coat @ 0,6Litres/m2	m2	100		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART ED ROAD ASPHALT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.ED.8.5	Saw Cutting paved areas and road edge.	m	90		
2	ED	Private Plant Asphalt Sa-S10. Bitumen content % as per mix design entered at time of use.	t	34		
3	ED.8.4	Tack Coat 0.3litres/m2	m2	1000		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

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Upgrade and repairs of roads stormwater- Impala drive ,Meranti street and auxiliary routes in Mobeni Heights , Ward 69 : Phase 2

PART EF KERBS AND HAUNCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Supply and Lay Figure 6 kerbs and channel	m	560		
2	EF.8.1	Supply and lay Figure 12 kerbs	m	280		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EG.8.1 EG187.7 EG1567	Supply and lay 100mm thick G2 and Asphalt sidewalk 25mm - Asphalt Private Plant	m2	650		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EH.8.1	Straight steel guard rails	m	35		
2	EH.8.1	End wings	no.	8		
3	EH.8.1	Precast concrete posts	no.	14		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.3	Grass planting	m2	400		
2	PS.F.8.9	Supply and Lay 75mm Diameter PVC weephole pipes wrapped with grade 4 geofabric material at end.	no.	5		
3	PS.F.8.10	1300mm Wide geofabric bidim (grade A4) extended into fill laid into under 2nd row.(kaymet U44 or approved equivalent) as detailed on Drawing No.49144	m2	1500		
4	PS.F.8.11	Supply and lay 160mm perforated sub-soil pipe (HDPE Geo-pipe)	m	200		
5	F.8.1	Imported topsoil	m2	100		
6	F.8.6	Gabion boxes with galvernised pvc coated mesh wire. Rate to include supply and packing with gabion handstones approved by engineer.	m3	550		
7	F.8.6	Gabion mattresses, 300 mm thick.with galvernised pvc coated mesh wire. Rate to include supply and packing with gabion handstones approved by engineer.	m3	160		

Upgrade and repairs of roads stormwater- Impala drive ,Meranti street and auxiliary routes in Mobeni Heights , Ward 69 : Phase 2

Part Continued PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
8	PS.F.8.12	Supply and Lay GEOLOK 400 block (or approved equivalent) inclusive of 500mm cement stabilised behind and in blocks as detailed on drawing	m2	69		
9	EB.8.1/PS.PG.3	Supply and lay 150mm layer 19mm stone behind stabilised fill from an approved commercial source as detailed on drawing	m3	15		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

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	150		
2	PG.8.2	Supply and Lay 900 mm diameter concrete Class 100D	m	120		
3	PG.8.2	Supply and lay 600 mm diameter concrete Class 100D	m	548		
4	PG.8.2	Supply and lay 600mm diameter HDPE 4KN structured wall pipe with welded collars.	m	50		
5	PG.8.2	Supply and lay 1500 mm diameter concrete Class 100D	m	20		
6	PG.8.7	Supply and install Standard precast concrete portal culvert Class C - 2400 x 1500 mm	m	15		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PH.8.2	Construct Standard Manhole type A with Heavy duty concrete cover. Depth :- - Over 0,0 m and not exceeding 1,5 m	no.	10		
2	PH.8.2	Construct Standard Manhole type A with Heavy duty concrete cover. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	20		
3	PH.8.2	Construct Standard Manhole type A with Heavy duty concrete cover. Depth :- - Over 2,0 m and not exceeding 2,5 m	no.	10		
4	PH.8.2	Construct Standard Manhole type A with Heavy duty blind concrete cover. Depth :- - Over 0,0 m and not exceeding 0.5 m	no.	2		
5	PH.8.2	Manhole type A with inlet type cover D4. Depth :- - Over 2,5 m and not exceeding 3,0 m	no.	1		

Upgrade and repairs of roads stormwater- Impala drive ,Meranti street and auxiliary routes in Mobeeni Heights , Ward 69 : Phase 2

Part Continued PART PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	PH.8.2	Manhole type A with inlet type cover S2. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	5		
7	PH.8.2	Manhole type A with light duty concrete cover. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	3		
8	PH.8.2	Manhole type A with light duty concrete cover. Depth :- - Over 2,0 m and not exceeding 2,5 m	no.	1		
9	PH.8.2	Manhole type A with light duty concrete cover. Depth :- - Over 2,5 m and not exceeding 3,0 m	no.	1		
10	PH.8.2	Manhole type B with light duty concrete cover. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	1		
11	PH.8.2	Manhole type B with light duty concrete cover. Depth :- - Over 2,0 m and not exceeding 2,5 m	no.	1		
12	PH.8.2	Manhole type B with light duty concrete cover. Depth :- - Over 2,5 m and not exceeding 3,0 m	no.	1		
13	PH.8.2	Manhole type B with heavy duty concrete cover. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	1		
14	PH.8.2	Manhole type B with heavy duty concrete cover. Depth :- - Over 2,0 m and not exceeding 2,5 m	no.	1		
15	PS.PH.19/PH.8.2	Construct standard inlet headwall as per municipal standard drawings, drawing number (38571)	no.	4		
16	PS.PH.19 /PS.PH.19/PH.8.2	Construct standard outlet headwall as per municipal standard drawings, drawing number (38571).	no.	4		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

PART S REINSTATEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	S.8.1	Reinstatement of ground surface on pipeline route	m2	460		
2	S.8.1	Reinstatement of ground surface in private property	m2	100		
3	S.8.2	Reinstatement of paved areas - brick paving from stockpile .	m2	20		
4	S.8.2	Reinstatement of 15/19 in-situ concrete paving . 100mm thick	m2	380		

Upgrade and repairs of roads stormwater- Impala drive ,Meranti street and auxiliary routes in Mobeni Heights , Ward 69 : Phase 2

Part Continued **PART** **S** **REINSTATEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	S.8.4	Reinstatement of wire/plastic coated fence, 1,5-2 m high from stockpile .	m	20		
6	S.8.4	Reinstatement of precast concrete fence 1,5-2m m high from stockpile .	m	60		
7	S.8.4	Reinstatement of block concrete fence 1,5.2 m high	m	60		
8	S.8.4	Reinstatement of Loffelstein type retaining wall from stockpile .	m2	20		

TOTAL CARRIED TO SECTION 2 SUMMARY: STORMWATER UPGRADE

R

BILL OF QUANTITIES SECTION SUMMARY

SECTION 1 P's and G's

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 STORMWATER UPGRADE**

PART B	SITE CLEARANCE	
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PART EB	GRADED CRUSHED STONE	
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TOTAL CARRIED TO FINAL SUMMARY		

SUMMARY OF BILL OF QUANTITIES

1	P's and G's		R	_____
	AA	PRELIMINARIES	R	_____
	AB	GENERAL SPECIFICATIONS	R	_____
	AH	OCCUPATIONAL HEALTH and SAFETY	R	_____
2	STORMWATER UPGRADE		R	_____
	B	SITE CLEARANCE	R	_____
	C	CONCRETE WORK	R	_____
	DB	EARTHWORKS FOR PIPE TRENCHES	R	_____
	DD	EARTHWORKS FOR STRUCTURES	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	_____
	F	PROTECTION WORKS	R	_____
	PG	NON PRESSURE PIPELINES and PC CULVERTS	R	_____
	PH	MANHOLES and APPURTENANT DRAINAGE WORKS	R	_____
	S	REINSTATEMENT	R	_____
SUB TOTAL				R _____
ADD VAT (15%) - (only if a registered VAT Vendor)				R _____
TOTAL CARRIED TO FORM OF TENDER				R _____