

ITEM NO.	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
	SANS 1200 A	SECTION A : PRELIMINARY & GENERAL				
A1	PSA 8.24	Fixed-charge items				
A1.1	8.3.1 PSA 8.3.1 PSA 8.21	Contractual Requirements	Sum	-	-	
		Establishment of facilities on site				
A1.2	8.3.2.1 PSA 8.3.2.1	Facilities for the Engineer	Sum	-	-	
A1.3	8.3.2.2 PSA 8.3.2.2 PSA 8.18	Facilities for Contractor including offices, storage sheds, laboratories, living accommodation, ablution and latrine facilities, tools and equipment, water supplies, electric power, communication, setting out of works, dealing with water, security and access	Sum	-	-	
A1.4	8.3.3	Other fixed-charges obligations	Sum	-	-	
A1.5	8.3.4	Removal of Site Establishment	Sum	-	-	
A2	PSA 8.4.2 PSA 8.24	Time-related items				
A2.1	8.4.1 PSA 8.4.1	Contractual Requirements & General Responsibilities	Sum	-	-	
	8.4.2	Operate and maintain facilities on Site for the duration of construction except where otherwise stated				
A2.2	8.4.2.1	Facilities for the Engineer as for Item A1.2	Sum	-	-	
A2.3	8.4.2.2 PSA 8.18	Facilities for the Contractor as for Item A1.3	Sum	-	-	
A2.4	8.4.3	Supervision for duration of construction	Sum	-	-	
A2.5	8.4.4	Company and Head Office overhead costs for the duration of the contract	Sum	-	-	
A2.6	8.4.5	Other time-related obligations	Sum	-	-	
A2.7	PSA 8.17	Employment of labour liaison officer <i>(Contractor to enter the quantity and extend as an amount)</i>	Week		675.00	
A2.8		Contractor's overheads, charges and profit on Item A2.7. State % and extend as an amount. <i>(Contractor to enter the quantity based on the amount of Item A2.7)</i>	%			
A3	8.5 PSA 8.5	Sums stated provisionally by the Engineer				
A3.1		Convert existing substation building into canteen and ablution facilities	Provisional Sum			150,000.00
A3.2		Contractor's overheads, charges and profit on Item A3.1 (State % and extend as an amount)	%	R 150 000.00		
A3.3		Alterations to existing chlorine room and office (below new control room) as detailed on the Architect's Drawing PE 265/302	Provisional Sum			50,000.00
A3.4		Contractor's overheads, charges and profit on Item A3.3 (State % and extend as an amount)	%	R 50 000.00		
Carried forward / ...						

ITEM NO.	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
	1200A	Brought forward / ...				
A3.5		Alterations to existing Operations building		Provisional Sum		50,000.00
A3.6		Contractor's overheads, charges and profit on Item A3.5 (State % and extend as an amount)	%	R 50 000.00		
A3.7		Re-establish the OEM warranty on the mechanical plant already delivered to Site				
A3.7.1		ABS		Provisional Sum		800,000.00
A3.7.2		Huber		Provisional Sum		900,000.00
A3.6		Contractor's overheads, charges and profit on Item A3.7 (State % and extend as an amount)	%	R 1 700 000		
A4	PSA 8.4.6	Compensation in terms of Subclause 42(3)(5) of the GCC and Clause 54.3 of the Contract Data for delays incurred				
A4.1		a) TLB Digger Loader 6t (55kW)	Sum/day	5		Rate Only
A4.2		b) Loader 10T (130kW)	Sum/day	5		Rate Only
A4.3		c) Excavator 25-30 t (110kW)	Sum/day	5		Rate Only
A4.4		d) Dozer 15 t (100 kW)	Sum/day	5		Rate Only
A4.5		e) Tipper Truck 5 m ³	Sum/day	5		Rate Only
A5	8.7 PSA 8.7	Dayworks				
A5.1		Labour				
A5.1.1		Unskilled	hr	45		Rate Only
A5.1.2		Semi - skilled	hr	45		Rate Only
A5.1.3		Artisan	hr	45		Rate Only
A5.1.4		Gang supervisor	hr	45		Rate Only
A5.1.5		Construction foreman	hr	45		Rate Only
A5.1.6		Survey assistant	hr	45		Rate Only
A5.2		Plant				
A5.2.1		Loader 10T (130kW)	hr	45		Rate Only
A5.2.2		Excavator 25-30 t (110kW)	hr	45		Rate Only
A5.2.3		Tipper Truck (5 m ³)	hr	45		Rate Only
A5.2.4		Water cart (7 000 litre)	hr	45		Rate Only
A5.2.5		Pedestrian roller (1t)	hr	45		Rate Only
A5.2.6		Compressor (min 250cfm)	hr	45		Rate Only
A6	8.8	Temporary works				
A6.1	PSA 8.23	Planning and managing connections into existing sewer pipelines, aerator basin, clarifiers, manholes etc including liaison with relevant BCM staff.	Sum	-	-	
Carried forward / ...						

ITEM NO.	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
	1200A	Brought forward / ...				
A7	8.8.4	Existing services				
A7.1	PSA 8.12	Excavation by hand in soft and intermediate material to expose services	m ³	250		
A8	PSA 8.9	Health and Safety				
A8.1		Fixed-charged costs	Sum	-	-	
A8.2		Time related costs	Sum	-	-	
A9		Environmental management				
A9.1	PSA 8.15	The cost of additional works not covered elsewhere required to ensure compliance with the Environmental Management Plan and Record of Decision	Sum	-	-	
A10	PSA 8.19 PSA 8.20	Installation and Commissioning				
A10.1	PSA 8.19.1	Install and commission all mechanical equipment (previously supplied) as specified under Contract BCC/DES/MIG/987/2007 complete				
A10.1.1		ABS	Sum	-	-	
A10.1.2		Huber	Sum	-	-	
A10.2	PSA 8.19.2	Provide process control & equipment commissioning technician for the adjustment & calibration of all mechanical equipment. The technician shall be available for 40 hours per week.				
A10.2.1		ABS	Month	4		
A10.2.2		Huber	Month	4		
A10.3	PSA 8.21	Conduct re-calibration exercise of all mechanical equipment (Allow for the same commissioning technician in A10.2 for 80 hours per 6 month visit)				
A10.3.1		ABS	Sum	-	-	
A10.3.2		Huber	Sum	-	-	
A11		Extended service and maintenance agreement				
	PSA 8.22	Provide an extended service and maintenance agreement on all mechanical equipment supplied.				
A11.1		ABS	Sum	-	-	
A11.2		HUBER	Sum	-	-	
		TOTAL SECTION A: Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
B1	SANS 1200 C	SECTION B : EARTHWORKS				
B1.1	8.2.1 PSC 8.2.1	Site clearance Clear and grub small areas with mechanical plant	m ²	1,500		
B1.2	8.2.1 PSC 8.2.1	Clear and grub by hand (vegetation, rubble) for (Provisional):				
B1.2.1		Sports Field	m ²	4,500		
B1.2.2		Sludge lagoon embankment	m ²	3,000		
B1.3	8.2.10	Remove topsoil to nominal depth of 150mm to stockpile and maintain	m ³	300		
B2	8.2.8 PSC 8.2.8	Demolish and remove structures / buildings				
B2.1		Carefully take down existing brick buildings with concrete roofs complete and cart to spoil for:				
B2.1.1		Gonubie inlet works	Sum	-	-	
B2.1.2		Beacon Bay inlet works	Sum	-	-	
B2.1.3		Pump room (between two chlorine contact tanks)	Sum	-	-	
B2.2		Remove fence around existing substation building and cart to spoil	m	70		
B2.3		Excavate and remove of site, abandoned 525mm concrete pipe, approx. 45m long including two manholes, at an average depth of 1.5m (after commissioning of new inlet works)	Sum	-	-	
B3	1200 D	Excavation				
B3.1	8.3.3	Restricted excavation				
	PSD 8.3.3 PSD 8.3.6	Excavate for restricted foundations, footings and pipe trenches in all materials and use for backfill or embankment (compact to 95 % MOD AASHTO Max Dry density, (100% if sand) or dispose (on site) for :				
B3.1.1		Substation building strip footings	m ³	95		
B3.1.2		RAS plinths and pipework	m ³	75		
B3.1.3		Load cell Pits	m ³	30		
B4	1200 DM	Excavation ancillaries				
B4.1	8.3.3	Compact 150 mm layer insitu material to 95 % MOD AASHTO Max Dry density (100% if sand) under building platform and hardstand	m ³	20		
B4.2	PSDM 8.3.18	Additional density control test as instructed by the Engineer	No.	10		
B5	1200 D	Grassing and landscaping				
B5.1	8.3.10 PSD 8.3.10	Provision of topsoil from:				
B5.1.1		Stockpiles	m ³	75		
B5.1.2		Commercial sources	m ³	50		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
B5.2	8.3.11 PSD 8.3.11	Supply and plant approved grass seeds, including watering, cutting, weed control and top dressing :				
B5.2.1		Cynodon (8kg/ha)	ha	1.5		
B5.2.2		Cynodon, Rhodes, Teff Mix Ratio 3:1:2 (17kg/ha)	ha	1.0		
B5.3	PSD 8.3.12	Fertilizer:				
B5.3.1		2.3.2	kg	300		
B5.3.2		Limestone ammonium nitrate (28% N)	kg	300		
B5.4		Weed Control				
B5.4.1	PSA 8.15	Prepare and comply with an approved weed control programme for the duration of the contract				
			Provisional Sum			25,000.00
		TOTAL SECTION B:				
		Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
C1	SANS 1200 C	SECTION C : WATER RETICULATION				
C1.1	8.2.1 PSC 8.2.1	Site clearance Clear and grub vegetation up to 1m wide for pipelines in areas not cleared under Item B1.1	m	50		
C2	1200 DB	Trench excavation Excavate in all materials for trenches (including intermediate material), backfill and compact to 95% Mod AASHTO Density, including disposal of surplus and unsuitable material as directed for :				
C2.1	8.3.2 (a) PSDB 8.3.2	Water mains up to 200 mm dia for depths: Over and Up to				
C2.1.1		0.0 m 1.5 m	m	750		
C3	1200 D	Excavation Ancillaries				
C3.1	8.3.8.1 PSA 8.12	Hand excavation in soft material to expose exiting services or where directed by the Engineer	m³	10		
C4	1200 DB	Exiting services that intersect or adjoin a trench				
C4.1	8.3.5.a	Services that intersect a trench:				
C4.1.1		Underground cables	No	4		
C4.1.2		Overhead cables	No	2		
C4.1.3		Water mains up to 110mm dia	No	2		
C4.1.4		Sewer mains up to 110mm dia	No	2		
C4.1.5		Stormwater pipelines up to 600mm dia	No	10		
C4.2	8.3.5.b	Services that adjoin a trench:				
C4.2.1		Underground cables	m	10		Rate Only
C4.2.2		Overhead cables	m	10		Rate Only
C4.2.3		Water mains up to 110mm dia	m	10		Rate Only
C4.2.4		Sewer mains up to 110mm dia	m	10		Rate Only
C4.2.5		Stormwater pipelines up to 600mm dia	m	30		
C5	1200 LB	Bedding				
C5.1	8.2.2.1	Provision of bedding from trench excavations (Provisional)				
C5.1		Selected granular material	m³	11		
C5.2		Selected fill material	m³	5		Rate Only
C6	1200 LB	Test ordered by the Engineer				
C6.1		Density Tests	No	20		
C6.2		Modified AASHTO max. dry density tests	No	5		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
C7	1200 L	Pipework				
	8.2.1 PSL 8.2.1	Supply, lay, joint, bed (bedding for flexible pipes), test and disinfect pipes complete with couplings for:				
C7.1		PVC-U Class 9				
C7.1.1		75 mm dia	m	100		
C7.1.2		110 mm dia	m	650		
C8	8.2.2	Pipe specials				
		Extra-over Items C7 for supplying, laying and bedding of specials complete with couplings for:				
		PVC-u bends Class 16				
C8.1.1		11,25°				
C8.1.1.1		75 mm dia	No	2		Rate Only
C8.1.1.2		110 mm dia	No	1		
C8.1.2		22,5°				
C8.1.2.1		75 mm dia	No	5		Rate Only
C8.1.2.2		110 mm dia	No	1		
C8.1.3		45°				
C8.1.3.1		75 mm dia	No	2		Rate Only
C8.1.3.2		110 mm dia	No	1		
C8.1.4		90°				
C8.1.4.1		75 mm dia	No	4		
C8.1.4.2		110 mm dia	No	8		
C8.2		Tees p.e (FBE coated)				
C8.2.1		75 mm dia	No	2		Rate Only
C8.2.2		110 mm dia	No	5		
C8.3		Hydrant tees p.e (CI)				
C8.3.1		110 mm dia	No	13		
C8.4		Reducers p.e (CI)				
C8.4.1		75 x 110 mm dia	No	4		
C9	8.2.3	Gate valves and Fire hydrants				
		Extra-over Items C7 for supplying, fixing and bedding of valves and hydrants complete including additional fittings and corrosion protection:				
C9.1		Resilient seal gate valves (AVK or similar approved by the Engineer) Class 16 socket ended, anti clock-wise closing with non-rising spindle and cap top for :				
C9.1.2		110 mm dia	No	9		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
C9.2	PSA 8.15	Brought forward / ... 64 mm dia fire hydrants (pedestal type) including fire hydrant T-piece, steel spool piece and bend complete as shown on Drawing 408703/008	No	13		
C10		Ancillaries				
C10.1	8.2.11	Anchor / thrust blocks Grade 15/20 mm concrete	m ³	5		
C11	8.2.13	Chambers Construct valve chambers complete as shown on the Standard Details of the Nelson Mandela Bay Municipality's Water Division (or similar approved)				
C11.1		In non-trafficable areas (PSL 2/1)				
C11.1.1		Valves	No	4		
C11.2		In trafficable areas (PSL 2/3)				
C11.2.1		Valves	No	5		
C12		Markers				
	PSL 8.2.17	Supply and install valve and hydrant markers				
C12.1		Valves	No	9		
C13		Standpipes				
C13.1	PSA 8.15	Construct standpipes complete as detailed on Drawing 408703/008	No	4		
C14	1200 L	Connection into existing water reticulation				
	PSL 8.2.18	Connect into existing water pipelines including all labour and materials to complete the connections				
C14.1		75 mm dia	No	1		
		TOTAL SECTION C: Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		SECTION D : SEWER RETICULATION				
D1	SANS 1200 C	Site clearance				
D1.1	8.2.1 PSC 8.2.1	Clear and grub vegetation up to 1m wide for pipelines in areas not cleared under Item B1.1	m	30		
D2	1200 DB	Trench excavation				
	8.3.2 (a) PSDB 8.3.2	Excavate in all materials for trenches (including intermediate material), backfill and compact to 95% Mod AASHTO Density (100% if sand), including disposal of surplus and unsuitable material as directed for :				
D2.1		Sewer mains up to 400 mm dia for depths:				
		Over and Up to				
D2.1.1		0.0 m 1.5 m	m	70		
D2.1.2		1.5 m 2.5 m	m	30		
D2.1.3		2.5 m 3.5 m	m	10		
D2.1.4		3.5 m 4.5 m	m	2		
D2.2		Sewer mains over 400 mm and up to 800 mm dia for depths:				
		Over and Up to				
D2.2.1		0.0 m 1.5 m	m	10		
D2.2.2		1.5 m 2.5 m	m	4		
D2.2.3		2.5 m 3.5 m	m	3		
D2.2.4		3.5 m 4.5 m	m	1		
D3	1200 D	Excavation Ancillaries				
D3.1	8.3.8.1	Excavate by hand in soft material to locate existing services or where directed by the Engineer	m³	10		
D4	1200 DB	Exiting services that intersect or adjoin a trench				
D4.1	8.3.5 (a)	Services that intersect a trench:				
D4.1.1		Underground cables	No	2		Rate Only
D4.1.2		Overhead cables	No	2		Rate Only
D4.1.3		Water mains up to 160mm dia	No	2		Rate Only
D4.1.4		Sewer mains up to 200mm dia	No	2		Rate Only
D4.1.5		Stormwater pipelines up to 600mm dia	No	2		Rate Only
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
D4.2	8.3.5 (b)	Services that adjoin a trench:				
D4.2.1		Underground cables	m	10		Rate Only
D4.2.2		Underground cables	m	10		Rate Only
D4.2.3		Overhead cables	m	10		Rate Only
D4.2.4		Water mains up to 110mm dia	m	10		Rate Only
D4.2.5		Sewer mains up to 110mm dia	m	10		Rate Only
D4.2.6		Stormwater pipelines up to 600mm dia	m	10		Rate Only
D5	1200 LB	Bedding				
	8.2.2.1	Provision of bedding from trench excavations (Provisional)				
D5.1		Selected granular material	m ³	40		
D5.2		Selected fill material	m ³	5		Rate Only
D6	1200 LB	Test ordered by the Engineer				
D6.1		Density Tests	No	10		
D6.2		Modified AASHTO max. dry density tests	No	2		
D7	1200 LD	Pipework				
	8.2.1 PSLD 8.2.1	Supply, lay, joint, bed (bedding for flexible pipes) pipes for :				
D7.1		PVC-u Class 34 (Heavy Duty) Solidwall				
D7.1.1		110 mm dia	m	70		
D7.1.2		140 mm dia	m	12		
D7.1.3		160 mm dia	m	6		
D7.1.4		200 mm dia	m	6		
D7.1.5		250 mm dia	m	6		
D7.1.6		315 mm dia	m	6		
D7.1.7		355 mm dia	m	6		
D7.2		Weholite (8 kN)				
D7.2.1		600 mm	m	12		
	8.2.1 PSLD 8.2.1	Supply, lay and joint (class D bedding) prefabricated spigot and socket ended concrete sewer pipes with 13mm sacrificial layer as follows:				
D7.3		Class T2				
D7.3.1		525 mm ND	m	3		
D7.3.2		600 mm ND	m	3		
D7.3.3		750 mm ND	m	3		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
D7.4		Class 75D				
D7.4.1		525 mm ND	m	3		
D7.4.2		600 mm ND	m	3		
D7.4.4		750 mm ND	m	3		
D8	8.2.2	Pipe specials				
		Extra-over Items D7 for supplying, laying and bedding of specials complete with couplings for:				
		PVC-u bends Class 16				
D8.1		11,25°				
D8.1.1		110 mm dia	No	1		
D8.1.2		140 mm dia	No	1		Rate Only
D8.1.3		160 mm dia	No	1		Rate Only
D8.1.4		200 mm dia	No	1		Rate Only
D8.1.5		250 mm dia	No	1		Rate Only
D8.1.6		315 mm dia	No	1		Rate Only
D8.1.7		355 mm dia	No	1		Rate Only
D8.2		22,5°				
D8.2.2		110 mm dia	No	1		
D8.2.2		140 mm dia	No	1		Rate Only
D8.2.3		160 mm dia	No	1		Rate Only
D8.2.4		200 mm dia	No	1		Rate Only
D8.2.5		250 mm dia	No	1		Rate Only
D8.2.6		315 mm dia	No	1		Rate Only
D8.2.7		355 mm dia	No	1		Rate Only
D8.3		45°				
D8.3.3		110 mm dia	No	8		
D8.3.2		140 mm dia	No	1		Rate Only
D8.3.3		160 mm dia	No	1		Rate Only
D8.3.4		200 mm dia	No	1		Rate Only
D8.3.5		250 mm dia	No	1		Rate Only
D8.3.6		315 mm dia	No	2		
D8.3.7		355 mm dia	No	1		Rate Only
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
D8.4		Brought forward / ...				
		90°				
D8.4.4		110 mm dia	No	1		
D8.4.2		140 mm dia	No	1		Rate Only
D8.4.3		160 mm dia	No	1		Rate Only
D8.4.4		200 mm dia	No	1		Rate Only
D8.4.5		250 mm dia	No	1		Rate Only
D8.4.6		315 mm dia	No	1		Rate Only
D8.4.7		355 mm dia	No	1		Rate Only
		Weholite bends (8 kN)				
D8.5		Up to 45°				
D8.5.1		600 mm dia	No	1		Rate Only
D8.6		Up to 90°				
D8.6.1		600 mm dia	No	1		
D8.7		PVC-u 45° Y- Junctions (Class 9)				
D8.7.1		110 mm dia	No	7		
D8.7.2		140 mm dia	No	1		Rate Only
D8.7.3		160 mm dia	No	1		Rate Only
D8.7.4		200 mm dia	No	1		Rate Only
D8.7.5		250 mm dia	No	1		Rate Only
D8.7.6		315 mm dia	No	2		
D8.7.7		355 mm dia	No	1		Rate Only
D8.8		PVC-u Tees (Class 9)				
D8.8.1		110 mm dia	No	1		
D8.8.2		140 mm dia	No	1		Rate Only
D8.8.3		160 mm dia	No	1		Rate Only
D8.8.4		200 mm dia	No	1		Rate Only
D8.8.5		250 mm dia	No	1		Rate Only
D8.8.6		315 mm dia	No	1		Rate Only
D8.8.7		355 mm dia	No	1		Rate Only
D8.9		PVC-u Gully head and grate (Class 9)				
D8.9.1		110 mm dia	No	6		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
D9		Brought forward / ... Galvanized steel pipework All pipework shall be fabricated in accordance with SANS 62 medium class / SANS 719, with a Carboline epoxy finish internally and externally to a 0.3mm dry film thickness, and all flanges to be fabricated to SANS 1123 - Table 1000/3 flat faced. Rates shall include all jointing material, bolts, nuts, washers and gaskets to suit the pipe pressure rating.				
D9.1		75 mm dia				
D9.1.1		1000 mm long spool piece, flanged both ends	No	2		
D9.1.2		90° bend, flanged both ends	No	6		
D9.1.3		Tee piece, flanged all ends.	No	2		
D9.1.4		Blank flange	No	4		
D9.2		140 mm dia				
D9.2.2		1000 mm long spool piece, flanged both ends	No	2		
D9.2.2		90° bend, flanged both ends	No	6		
D9.2.3		Tee piece, flanged all ends.	No	2		
D9.2.4		Blank flange	No	4		
D9.3		355mm dia				
D9.3.3		1000 mm long spool piece, flanged both ends	No	2		
D9.3.2		90° bend, flanged both ends	No	6		
D9.3.3		Tee piece, flanged all ends.	No	2		
D9.3.4		Blank flange	No	4		
D10		Viking Johnson flange adaptor couplings to SANS 1123 Table 1600/3 with Denso protection for:				
D10.1		110 mm dia	No	2		
D10.2		140 mm dia	No	2		
D10.3		160 mm dia	No	1		Rate Only
D10.4		200 mm dia	No	1		Rate Only
D10.5		250 mm dia	No	1		Rate Only
D10.6		315 mm dia	No	1		Rate Only
D10.7		355 mm dia	No	2		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
D11		Brought forward / ... Viking Johnson type stepped coupling for steel to PVC-u, working pressure up to 1600kPa with Denso protection				
D11.1		110 mm dia	No	2		
D11.2		140 mm dia	No	2		
D11.3		160 mm dia	No	1		Rate Only
D11.4		200 mm dia	No	1		Rate Only
D11.5		250 mm dia	No	1		Rate Only
D11.6		315 mm dia	No	1		Rate Only
D11.7		355 mm dia	No	2		
D12	8.2.3	Manholes				
D12.1	PSLD 8.2.3	Construct precast concrete manholes (1,5m ND) complete as detailed on the drawing (Nelson Mandela Bay Municipal Standard's PSLD 1) for depths :				
		Over and Up to				
D12.1.1		0.0 m 1.5 m	No	10		
D12.1.2		1.5 m 2.5 m	No	1		Rate Only
D12.1.3		2.5 m 3.5 m	No	1		Rate Only
D12.1.4		3.5 m 4.5 m	No	1		Rate Only
D13		Connection into existing sewers				
	8.2.11	Connect into existing sewer pipelines, manholes and chambers complete including all labour and materials to complete the connections				
D13.1						
D13.1.1		Pipelines up to 400 mm dia	No	1		Rate Only
D13.1.2		Pipelines over 400 mm and up to 800 mm dia	No	1		Rate Only
D13.1.3		Manholes	No	3		
D13.1.4		Splitter Box	No	2		
D13.1.5		Existing aeration basin	No	1		
D14		Conservancy Tank				
D14.1		Supply and install 1000L conservancy tank (Atlas Digester or similar Approved) to Guard House including excavation, backfilling, pipework and fittings	Sum	-	-	
D15		Alterations to Sludge Lagoon Pipework				
D15.1		Existing Gonubie Inlet Works	Provisional Sum			20,000.00
D15.2		Existing Beacon Bay Inlet Works	Provisional Sum			20,000.00
		TOTAL SECTION D: Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
E1	SANS 1200 C	SECTION E : STORMWATER RETICULATION				
		Site clearance				
E1.1	8.2.1 PSC 8.2.1	Clear and grub vegetation up to 1m wide for pipelines in areas not cleared under Item B1.1	m	20		
E2	1200 DB	Trench excavation				
	8.3.2 (a) PSDB 8.3.2	Excavate in all materials for trenches (including intermediate material), backfill and compact to 95% Mod AASHTO Density (100% if sand), including disposal of surplus and unsuitable material as directed for :				
E2.1		Stormwater pipes up to 450 mm dia for depths:				
		Over and Up to				
E2.1.1		0.0 m 1.0 m	m	50		
E2.1.2		1.0 m 2.0 m	m	15		Rate Only
E2.1.3		2.0 m 3.0 m	m	10		Rate Only
E2.2		Stormwater pipes over 450mm and up to 600 mm dia for depths:				
		Over and Up to				
E2.2.1		0.0 m 1.0 m	m	15		Rate Only
E2.2.2		1.0 m 2.0 m	m	10		Rate Only
E2.2.3		2.0 m 3.0 m	m	5		Rate Only
E3	1200 D	Excavation Ancillaries				
E3.2	8.3.8.1	Excavate by hand in soft material to locate existing services or where directed by the Engineer	m³	10		
E4	1200 DB	Exiting services that intersect or adjoin a trench				
E4.1	8.3.5 (a)	Services that intersect a trench:				
E4.1.1		Underground cables	No	2		
E4.1.2		Overhead cables	No	2		Rate Only
E4.1.3		Water mains up to 160 mm dia	No	2		Rate Only
E4.1.4		Sewer mains up to 200 mm dia	No	2		Rate Only
E4.1.5		Stormwater pipelines up to 600 mm dia	No	1		
E4.2	8.3.5 (b)	Services that adjoin a trench:				
E4.2.1		Underground cables	m	10		Rate Only
E4.2.2		Underground cables	m	10		Rate Only
E4.2.3		Overhead cables	m	10		Rate Only
E4.2.4		Water mains up to 110 mm dia	m	10		Rate Only
E4.2.5		Sewer mains up to 110 mm dia	m	10		Rate Only
E4.2.6		Stormwater pipelines up to 600 mm dia	m	10		Rate Only
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
E5	1200 LB	Brought forward / ... Bedding				
	8.2.2.1	Provision of bedding from trench excavations (Provisional)				
E5.1		Selected granular material	m ³	20		
E5.2		Selected fill material	m ³	2		Rate Only
E6		Test ordered by the Engineer				
E6.1	1200 LB	Density Tests	No	10		
E6.2		Modified AASHTO max. dry density tests	No	2		
E7	1200 LE	Pipework				
	8.2.1	Supply, lay and joint (Class D bedding) prefabricated spigot and socket ended concrete pipes as follows:				
E7.1		Class 75D				
E7.1.1		75 mm dia	m	50		
E7.1.2		450 mm dia	m	15		Rate Only
E7.1.3		600 mm dia	m	15		Rate Only
E8		Catchpits and chambers				
		Construct catchpits and chambers complete as detailed on the drawings for:				
E8.1	8.2.8	Type B grid inlet CP, 1160 mm x 930 mm complete as shown on the Standard Details of the Nelson Mandela Bay Municipality (PSLE 6) for depths:				
		Over and Up to				
E8.1.1		0,0 m 1,5 m	No	1		
E8.1.2		1,5 m 2,0 m	No	2		Rate Only
E8.1.3		2,0 m 3,0 m	No	2		Rate Only
E9	PSLE 8.2.14	Connecting into system				
E9.1		Break into existing manhole or catchpit, alter benching, build in pipe and make good	No	2		
E9.2		Break into existing chlorine contact tank, grout in pipe (non-shrink grout) and make good	No	1		
E10		Miscellaneous				
E10.1		Clean existing stormwater system by means of water jetting				
				Provisional Sum		10,000.00
E10.2		Contractor's overheads, charges and profit on Item E10.1 (State % and extend as an amount)	%	R 10 000.00		
E10.3		Repair / alter existing manholes and inlet structures including adjusting levels to suit new road levels				
				Provisional Sum		10,000.00
		TOTAL SECTION E: Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
F1	SANS 1200 C	SECTION F : CABLE DUCTS				
F1.1	8.2.1 PSC 8.2.1	Site clearance Clear and grub vegetation up to 1m wide for trench in areas not cleared under Item B1.1	m	20		
F2	1200 LC	Trench excavation				
	8.2.2	Excavate in all materials for trenches (including intermediate material), backfill, compact to 95% Mod AASHTO Max Dry Density (100% if sand), including disposal of surplus and unsuitable material as directed for :				
F2.1		Cable ducts up to 160 mm dia and depth up to 1,5 m for :				
F2.1.1		Up to two ducts per trench	m	210		
F2.1.2		Up to four ducts per trench	m	50		Rate Only
F2.2		1200 mm x 1200 mm brick cable trench	m	210		
F3	1200 D	Excavation ancillaries				
F3.1	8.3.8.1	Hand excavation in soft material to expose exiting services or where directed by the Engineer	m ³	10		
F4	1200 DB	Exiting services that intersect or adjoin a trench				
F4.1	8.3.5.a	Services that intersect a trench:				
F4.1.1		Underground cables	No	4		
F4.1.2		Overhead cables	No	1		
F4.1.3		Water mains up to 110mm dia	No	2		
F4.1.4		Sewer mains up to 110mm dia	No	2		
F4.1.5		Stormwater pipelines up to 600mm dia	No	5		
F4.2	8.3.5.b	Services that adjoin a trench:				
F4.2.1		Underground cables	m	5		
F4.2.2		Overhead cables	m	5		
F4.2.3		Water mains up to 110mm dia	m	5		
F4.2.4		Sewer mains up to 110mm dia	m	5		
F4.2.5		Stormwater pipelines up to 600mm dia	m	5		
F5	1200 LB	Bedding				
	8.2.2.1	Provision of bedding from trench excavations (Provisional)				
F5.1		Selected granular material	m ³	20		
F5.2		Selected fill material	m ³	2		Rate Only
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
F6	1200 LC	Cable ducts				
F6.1	8.2.5	PVC SABS Approved Conduit Supply, delivery and installation of conduit chased in brickwork or cast in concrete, including bushes, couplings, saddles, bends, wastage, etc., excluding outlet boxes				
F6.1.1		20 mm diameter conduit	m	600		
F6.1.2		25 mm diameter conduit	m	100		
F6.1.3		32 mm diameter conduit	m	10		
F6.1.4		50 mm diameter conduit	m	10		
F6.2	8.2.5	PVC SABS Approved Conduit Accessories Supply, delivery and installation of conduit accessories chased in brickwork or cast in concrete				
F6.2.1		100 mm x 100 mm x 50 mm conduit box	No	44		
F6.2.2		100 mm x 50 mm x 50 mm conduit box	no.	20		
F6.2.3		50 mm diameter conduit box for 20 mm conduit	no.	50		
F6.2.4		50 mm diameter conduit box for 25 mm conduit	no.	10		
F6.2.5		300 mm x 300 mm x 50 mm conduit box	no.	10		
F6.3	8.2.5	Sleeves / Ducts Supply and installation of "Kabelflex" high density (internal to plant rooms and external in the Site) polyethylene (HDPE) ducts with double wall construction, corrugated outer wall and smooth inner wall finish & couplings in accordance with the Electrical Engineers Drawings				
F6.3.1		50 mm diameter (black)	m	50		
F6.3.2		50 mm diameter, slow bend (black)	No	10		
F6.3.3		110 mm diameter (black)	m	1 450		
F6.3.4		110 mm diameter, slow bend (black)	No	10		
F6.3.5		110 mm diameter (green)	m	350		
F6.3.6		110 mm diameter, slow bend (green/orange)	No	5		
F6.3.7		160 mm diameter (black)	m	40		
F6.3.8		160 mm diameter, slow bend (black)	No	2		
F6.3.9		110 mm diameter (orange)	m	1 320		
F6.3.10		Supply and install 1.6mm 304 stainless steel draw wires in HDPE conduit	m	3 160		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
F7	8.2.7	Brought forward / ... Construction of Manholes Construction of manholes including excavation, temporary support of sides, keeping excavation dry, bedding material backfilling and compaction to standard specifications Construction to be 230 mm brick walls, plastered internally, complete with 100 mm thick concrete base and heavy duty GRP frame and lid (padlockable)				
F7.1		11kV Manhole size : 1200 mm long x 1200 mm wide x 1000 mm deep	No	2		
F7.2		LV Manhole size : 800 mm long x 800 mm wide x 800 mm deep	No	20		
F8	8.2.7	HDPE junction boxes Supply and installation of "Kabelflex" high density polyethylene (HDPE) stacking junction boxes 450mm or 600mm, each comprising three boxes stacked vertically, including concrete base and concrete support for heavy duty lid (all boxes to be black in colour)				
F8.1		3 No 600 mm x 600 mm stacking boxes in one vertical manhole unit	No	42		
F8.2		600 mm x 600 mm heavy duty GRP frame and lid (padlockable)	No	42		
F9		Cable Markers Supply and install pre-cast concrete cable markers, complete with galvanised wire fastened to cable or sleeve and aluminium marker plate, engraved with cable and / or sleeve details				
F9.1		Cable markers	No	10		
F10		Cable Warning Tape "Skull and Crossbones" danger tape, installed 100 mm above cable / sleeve				
F10.1		Danger tape	m	1 700		
		TOTAL SECTION F: Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
G1	SANS 1200 C	SECTION G : ROADWORKS				
G1.1	8.2.1 PSC 8.2.1	Site clearance Clear and grub	m ²	4,000		
G1.2	8.2.10	Remove topsoil to nominal depth 150 mm stockpile and maintain	m ³	600		
G2	1200 DM	Subgrade				
G2.1	8.3.3	Treatment of road-bed. Road- bed Preparation (to a depth 150 mm) and compaction of material to 90% of Mod AASHTO (100% if sand)	m ³	600		
G2.2	8.3.4 PSDM 8.3.12	Cut-to-fill in all materials (including intermediate material) and compact to 93% Mod AASHTO (100% for Sand) to road embankment (to underside of subbase layer)	m ³	300		
G2.3	8.3.7 PSDM 8.3.12	Cut-to-spoil in all material (including intermediate material) as directed by the engineer	m ³	100		
G2.4		Extra-over item G2.3 for the removal of existing road surface layer (Premix)	m ²	60		
G3	1200 ME	Subbase from commercial sources				
G3.1	8.3.3	Construct G7 subbase layer, 200 mm thick, compacted to 95% Mod AASHTO Max Dry Density	m ³	800		
G4	1200 MFL	Base from commercial sources				
G4.1	8.3.1	Construct G5 base layer, 150mm thick, compacted to 98% Mod AASHTO Max Dry Density	m ³	600		
G4.2		Construct G5 layer, 150mm thick, compacted to 98% Mod AASHTO Max Dry Density to Chemical Toilet Disposal Area	m ³	15		
G5	1200 MJ	Segmented paving				
G5.1		Trafficked areas				
G5.1.1	8.2.2	Supply and lay 80 mm interlocking concrete pavers including 20 mm sand bed (max 30 mm); edge restraint and cutting of units where required: Strength: 25 MPa - Colour: Charcoal / Dark Grey	m ²	4,000		
G5.1.2		Extra-over Item G5.1.1 for coloured pavers (Tan/Brown/Red)	m ²	1,000		
G5.2		Non-trafficked areas				
G5.2.1	8.2.2	Supply and lay 60 mm bevelled edge concrete pavers including 20 mm sand bed (max 30 mm); edge restraint and cutting of units where required: Strength: 25 MPa - Colour: Charcoal / Dark Grey	m ²	1,700		
G5.2.2		Extra-over Item G5.2.1 for coloured pavers (Tan/Brown/Red)	m ²	400		
G6	1200 MK 8.2.2	Kerbing				
G6.1		Type B2 Barrier kerb:				
G6.1.1		Radius up to 4 m	m	10		
G6.1.2		Radius 4 m to 20 m	m	15		
Carried forward / ...						Rate Only

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
G6.1.3		Radius over 20 m and straight	m	60		
G6.2		Sunken kerb Construct 250 mm x 250 mm sunken kerb complete as detailed on Drawing 408703/007 incl. excavation, backfill, formwork and construction joints.				
G6.2.1		Radius up to 4 m	m	60		
G6.2.2		Radius 4 m to 20 m	m	70		
G6.2.3		Radius over 20 m and straight	m	750		
G6.3	8.2.6.1	Transition kerb: Sunken to barrier	No	5		
G7	PSDM 8.3.18	Additional testing: Testing of compacted layers, as requested by Engineer				
G7.1		Dry density	No	10		
G7.2		Maximum dry density test (MOD)	No	10		
G8	1200 MM	Road marking				
G8.1	8.4.1	Painting of lines (white and yellow):				
G8.1.1		100 mm wide	m	330		
G8.1.2		200 mm wide	m	20		
G8.1.3		300 mm wide	m	15		Rate Only
G8.2		Special markings ("Stop", yield sign, etc)	m²	5		
G9		Ancillary roadworks				
G9.1	8.3.6	Supply and install permanent regulatory road signs:				
G9.1.1		Stop sign	No	2		
G9.1.2		Yield sign	No	2		
G10		Shadecloth parking covers				
G10.1		Supply and erect shade cloth parking covers by selected subcontractor		Provisional Sum		30,000.00
G10.2		Contractor's overheads, charges and profit on Item G10.1 (State % and extend as an amount)	%	R 30 000.00		
G11		Miscellaneous				
G11.1	PSA 8.15	Re-locate existing vehicular gate to new position in existing fence including re-instatement of fence and gate posts	Sum	-	-	
		TOTAL SECTION G: Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
	SANS 1200 G	SECTION H : CONCRETE WORKS				
H1	8.1.1.6	Formwork				
H1.1	8.2.1	Rough vertical to walls below ground:				
H1.1.1		RAS plinth footings	m ²	8		
H1.1.2		Load cell pit	m ²	50		
H1.2	8.2.2	Smooth vertical:				
H1.2.1		RAS plinths	m ²	15		
H1.2.2		Load cell pit	m ²	30		
H1.2.3		De-aeration chamber to existing aeration basin	m ²	115		
H1.3	8.2.5	Narrow widths up to 300 mm wide including small angle fillets not exceeding 20mm x 20mm to :				
H1.3.1		Sides of concrete hardstand	m	40		
H2	8.1.2.3 PSG 8.1.2	Reinforcement				
H2.1		High-Tensile Steel Bars of all diameters	t	12		
H3	8.1.3.3	Concrete				
H3.1		Strength concrete : 15 MPa / 19 mm to:				
H3.1.1	8.4.2	50 mm Blinding layer	m ²	230		
H3.1.2		Mass concrete where ordered by the Engineer	m ³	15		
H3.2	8.4.3	Strength concrete : 30 MPa / 19 mm (with 30% PFA) to:				
H3.2.1		RAS plinth	m ³	20		
H3.2.2		Load cell pit	m ³	35		
H3.2.3		Cable trench	m ³	30		
H3.2.4		De-aeration chamber to existing aeration basin	m ³	12		
H3.3		Screed (30MPa) applied to surfaces to produce a slope with a minimum thickness of 30 mm to:				
H3.3.1		Clarifier floor	m ²	620		
H4	8.4.4	Unformed Surfaces Finishes				
H4.1		Wood float to floors, footings and plinths	m ²	43		
H4.2		Steel float to top of walls and plinths	m ²	170		
H5	8.1.3.3	Concrete surfacing				
H5.1		Strength concrete mix 35 MPa/ 19 mm (max w/c ratio = 0,55) to road and hardstand areas:				
H5.1.1		150 mm thick	m ³	20		
H5.2		Surface finishes:				
H5.2.1	8.4.4	Broom-swept finish to hardstand areas	m ²	100		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
H5.3	8.5	Construction joints, including sealing and cutting (as per Drawing 346617/003-5) for:				
H5.3.1		Joint B (Toggle joint)	m	40		
H5.3.2		Joint C (Saw-cut joint)	m	40		
H6		Concrete Demolition and Repair				
		Aeration Basin / Sludge Splitter Box				
H6.1		Clean existing concrete surfaces by high pressure hydro blasting (approximately 300 bar @ 25l/s) and remove rubble and dirt from site to an approved waste disposal site	m ²	2 625		
H6.2		Carefully remove spalled concrete to a minimum of 20mm deep behind the reinforcement and along the reinforcement to beyond corroded bars by mechanical demolition, using 12kg electric breaker or equivalent pneumatic (max) (average depth of cover concrete: 40mm), including saw cutting 10mm deep in neat straight lines. Note: minimum depth 10mm to prevent feathered edges:				
H6.2.1		to tank floor (provisional)	m ²	10		
H6.2.2		to tank wall sides	m ²	150		
H6.2.3		to 'bridge' slab soffit	m ²	10		
H6.2.4		to weir corners, up to 90mm wide x 90mm deep	m	50		
H6.2.5		to 'bridge' slab corners, up to 90mm wide x 90mm deep	m	20		
H6.3		Carefully demolish reinforced concrete elements, including providing temporary propping as required and removal upon completion, and remove rubble from site to an approved waste disposal site. Note: reinforcement cut off 40mm deep into existing floor and wall concrete:				
H6.3.1		to walkway slabs	m ³	40		
H6.3.2		to columns	m ³	10		
H6.3.3		to walls	m ³	66		
H6.4		Shot blast exposed reinforcement to Swedish pictorial standard SA2 (including behind the bars)	m	2 600		
H7		Concrete repairs by an approved specialist sub-contractor				
H7.1		Apply two coats SikaTop-Armatec 110 EpoCem to exposed reinforcement, approximately 1mm thick (1.0m ² /l), all in strict accordance with manufacturer's instructions	m	2,600		
H7.2		Apply two coats SikaTop-Armatec 110 EpoCem to concrete and exposed reinforcement, approximately 0.5mm thick (1.5-2.0m ² /l) prior to applying repair mortar, all in strict accordance with manufacturer's instructions	m ²	180		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
H7.3		Repair concrete using Sika Rep LW in strict accordance with manufacturer's instructions. Note: 20mm minimum cover over reinforcement, 10mm thick minimum				
H7.3.1		To tank floor up to 90mm deep (i.e. 2 layers)	m ²	10		
H7.3.2		To tank wall sides up to 90mm deep (i.e. 2 layers)	m ²	150		
H7.3.3		To 'bridge' slab soffit up to 90mm deep (i.e. 2 layers)	m ²	10		
H7.3.4		To weir corners, up to 90mm wide and 90mm deep up to 90mm deep (i.e. 2 layers)	m	50		
H7.3.5		To 'bridge' slab corners, up to 90mm wide and 90mm deep up to 90mm deep (i.e. 2 layers)	m	20		
H8		Miscellaneous				
H8.1		Hand railing				
		Supply deliver and install ball and tube hand railing, top mounted, Stainless steel grade 304, including all fixings, rivets, bends etc. to:				
H8.1.1		Aeration Tank Walkway	m	8		
H8.1.2		Inlet Works	m	30		
H8.1.3		Existing Structures (including the removal of existing hand railing and making good)	m	80		
H8.2		Alterations to existing Inlet Works				
		Carry-out alterations to the existing Gonubie and Beacon Bay inlet works				
H8.2.1		Clean existing concrete surfaces by high pressure hydro blasting (approximately 300 bar @ 25l/s) and remove rubble and dirt from site to an approved waste disposal site	m ²	150		
H8.2.2		Drill 12mm diameter holes x 100mm deep in inclined concrete surface at 1000mm ^c / _c .	No	100		
H8.2.3		Supply and grout in R8 dowel bars 300mm long, 100mm deep into existing inclined concrete surfaces	No	100		
H8.2.4	8.2.2	Smooth vertical formwork	m ²	50		
H8.2.5	8.4.3	Concrete strength 30MPa/19mm with 30% PFA	m ³	15		
H8.2.6	8.4.4	Wood float finish to unformed surfaces	m ²	25		
H8.3		Alterations to splitter box				
H8.3.1		Cut 450mm dia concrete pipe running through new section of sludge splitter box, reinstate two holes with non-shrink grout and make good	Sum	-	-	
H8.4		Alterations to existing concrete structures				
H8.4.1	PSA 8.15	Alterations to existing concrete structures where ordered by the Engineer	Provisional Sum			25,000.00
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
H9		Brought forward / ...				
H9		Barrier Rails (Load cell area)				
H9.1		Supply, deliver and install barrier rails complete as detailed for:				
H9.1.1		Rails	m	56		
H9.1.2		± 1m Posts (incl. base plate and capping plate)	No	12		
H9.1.3		± 0.3m Posts (incl. base plate and capping plate)	No	44		
H9.1.3		M24 Hilti HVU with HAS adhesive anchor (4 no per post)	No	224		
H9.2		Extra over to Item H9.1.1 for:				
H9.2.1		Rails of radius up to 2m	m	1		Rate Only
H9.3		Grouting				
H9.3.1		Grout up solidly under base plates (using "Prostruct 5 Star" grout)	m ³	0.30		
H10		Cast In Items				
		Labour component to position and cast-in or fix the following items in place				
H10.1		50x50x6 mild steel angle hot dipped galvanised in accordance with ISO 1461-1999, with 40 x 6 x 200mm long lugs fishtailed at 300mm crs.	m	80		
		TOTAL SECTION H:				
		Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		SECTION I : MECHANICAL WORKS				
I1		Inlet works				
I1.1	PSXE	Supply & install stainless steel, handwheel operated sluice gates, 750mm (W) x 1800mm (D) to fit flush with channel wall (SAME or similar approved), with all necessary fittings	No	2		
I2		Clarifier				
I2.1	PSXK	Supply, deliver and fit fixed bridge centre drive mechanicals (Bonfiglioli) for 28m internal diameter clarifier (Hallmark Echelon, or similar approved), including all motors, drives, sludge and scum collection, weirs, weir plates and scum baffle plates, hand railing and rectagrid walkway and all ancillaries for a fully operational system. All collection systems, weirs, weir and baffle plates, hand railing and rectagrid to be manufactured from Stainless Steel 304	No	1		
I3	PSXF	Odour control (inlet works)				
I3.1		Supply, deliver and fit structural GRP covers to inlet works channels		Provisional Sum		300,000.00
I3.2		Contractor's overheads, charges and profit on Item I3.1 (State % and extend as an amount)	%	R 300 000.00		
I3.3		Supply, deliver and fit structural GRP covers to screening and grit skips		Provisional Sum		100,000.00
I3.4		Contractor's overheads, charges and profit on Item I3.3 (State % and extend as an amount)	%	R 100 000.00		
I3.5		Supply, deliver and fit PVC-u extraction pipework to skips and channel		Provisional Sum		25,000.00
I3.6		Contractor's overheads, charges and profit on Item I3.5 (State % and extend as an amount)	%	R 25 000.00		
I3.7		Supply, deliver and fit PVC-u covers to HUBER rotating drum screens		Provisional Sum		15,000.00
I3.8		Contractor's overheads, charges and profit on Item I3.7 (State % and extend as an amount)	%	R 15 000.00		
I4		Chlorine dosing equipment				
I4.1		Supply, deliver and install a complete chlorine dosing system for a 18 Ml/d plant including all safety and monitoring equipment required		Provisional Sum		250,000.00
I4.2		Contractor's overheads, charges and profit on Item I4.1 (State % and extend as an amount)	%	R 600 000.00		
I5		Load cells (dewatering building)				
I5.1		Supply, deliver and install load cells and levelling plates complete including all fittings to complete the installation, calibration and certification. (as from OptoEastCoast or similarly approved)		Provisional Sum		900,000.00
I5.2		Contractor's overheads, charges and profit on Item I5.1 (State % and extend as an amount)	%	R 900 000.00		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
I6		WAS to Lagoon Pumpstation - Line 37				
I6.1		Relocate 2 No. existing surface mounted Gorman Rupp self-priming centrifugal type pumps, Model Super T6A3-B sludge pumps from existing sludge pumpstation to new WAS tank. Rate to include all fittings, equipment and labour required to relocate the pumps	Sum	-		
I7		Removal of existing equipment				
		Carefully remove existing equipment and make good. Equipment to be deliver to Municipal Stores				
I7.1		Aerator basin tilting weir	Sum	-		
I7.2		Screens at Gonubie and Beacon Bay inlet works	Sum	-		
I7.3		Mechanical Surface Aerators from existing aerator basin	Sum	-		
I8		Flumes				
		Supply, installation and callabration of fibreglass flumes to:				
I8.1		Existing Gonubie Inlet Works	No	1		
I8.2		Existing Beacon Bay Inlet Works	No	1		
I8.3		New combined Inlet Works	No	1		
		TOTAL SECTION I:				
		Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		SECTION J : PUMPSTATION PIPEWORK				
		Pipework				
		All pipework shall be fabricated in accordance with SANS 62 medium class / SANS 719, with a Carboline epoxy finish internally and externally to a 0.3mm dry film thickness, and all flanges to be fabricated to SANS 1123 - Table 1000/3 flat faced. Rates shall include all jointing material, bolts, nuts, washers and gaskets to suit the pipe pressure rating.				
J1		New Aerobic Reactor to WAS - Line 33 Drawing 408703/210P				
J1.1		Suction Pipework				
J1.1.1		PS1 - Reducer - 100x80 ND concentric reducer welded to 650mm long x 100ND, final site measure, P.E spool piece. 80 end flanged to suit pump suction flange.	No	2		
J1.1.2		PS2 - Bend - 100ND, 90°, P.E medium radius bend. One end welded to 100ND spool piece C/PE 5500mm. Other end welded to PS1.	No	2		
J1.1.3		PS3 - Special - 200x100ND bell mouth with 100ND end welded to PS2.	No	2		
J1.2		Delivery Pipework				
J1.2.1		PD1 - Reducer - 100x80mmND concentric reducer flanged both ends. 80ND end flanged to suit pump delivery flange.	No	2		
J1.2.2		PD2 - Spool - 500mm x 100ND spool piece, flanged both ends.	No	2		
J1.2.3		PD3 - Bend - 100ND, 90° medium radius bend, flanged both ends.	No	6		
J1.2.4		VO1 - Valve - 100NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron	No	2		
J1.2.5		VO2 - Valve - 100NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	4		
J1.2.6		PD4 - Spool - 1000mm x 100ND spool piece, flanged both ends.	No	2		
J1.2.7		PD5 - Special - 100ND x 60o lateral, flanged all ends.	No	1		
J1.2.8		PD6 - Tee-Piece - 100x50ND tee piece, flanged all ends.	No	1		
J1.2.9		VO3 - Valve - 50NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet, with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J1.2.10		VO4 - Valve - 50NB PN10 ARV/Vacuum Breaker, Vent-O- Mat, RGX series, stainless steel AISI 304, double Orifice, flanged studded inlet to SANS 1123 - table 1000/3.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J1.2.11		PD7 - Special - 100ND sweep tee, flanged all ends.	No	1		
J1.2.12		PD8 - Pipe - 100ND Pipe, flanged both ends, approx. 1700 f/f. Final site measure to ensure 600mm cover.	No	1		
J1.2.13		PD9 - Pipe - 100ND pipe, flanged both ends, approx 1900 f/f. Final site measure to ensure 600mm cover.	No	1		
J1.2.14		PD10 - Coupling - Viking Johnson flange adaptor to suit 140OD mPVC class 9 pipe.	No	2		
J2		Existing Aerator Pumpstation to WAS - Line 32 Drawing 408703/220P				
J2.1		Suction Pipework				
J2.1.1		PS1 - Reducer - 100x80ND concentric reducer welded to 650mm long x 100ND, final site measure, P.E spool piece. 80ND end flanged to suit pump suction flange.	No	2		
J2.1.2		PS2 - Bend - 100ND, 90°, P.E medium radius bend. One end welded to 100ND spool piece C/PE 5500mm (final length to be determined on site) other end welded to PS1.	No	2		
J2.1.3		PS3 - Special - 200x100ND bell mouth with 100ND end welded to PS2.	No	2		
J2.2		Delivery Pipework				
J2.2.1		PD1 - Reducer - 100x80mmND concentric reducer flanged both ends. 80ND end flanged to suit pump delivery flange.	No	2		
J2.2.2		PD2 - Spool - 500mm x 100ND spool piece, flanged both ends.	No	2		
J2.2.3		PD3 - Bend - 100ND, 90° medium radius bend, flanged both ends.	No	6		
J2.2.4		VO1 - Valve - 100NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron	No	2		
J2.2.5		VO2 - Valve - 100NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	4		
J2.2.6		PD4 - Spool - 1000mm x 100ND spool piece, flanged both ends.	No	2		
J2.2.7		PD5 - Special - 100ND X 60° lateral, flanged all ends.	No	1		
J2.2.8		PD6 - Tee-Piece - 100x50ND tee piece, flanged all ends.	No	1		
J2.2.9		VO3 - Valve - 50NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non-rising spindle, handwheel operated, SG iron body and bonnet, with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J2.2.10		VO4 - Valve - 50NB PN10 ARV/Vacuum breaker, Vent-O-Mat, RGX Series, stainless steel AISI 304, double Orifice, flanged studded inlet to SANS 1123 - table 1000/3.	No	1		
J2.2.11		PD7 - Special - 100ND, sweep tee, flanged all ends.	No	1		
J2.2.12		PD8 - Pipe - 100ND pipe, flanged both ends, approx. 1700 f/f. Final site measure to ensure 600mm cover.	No	1		
J2.2.13		PD9 - Pipe - 100ND pipe, flanged both ends, approx. 1900 f/f. Final site measure to ensure 600mm cover.	No	1		
J2.2.14		PD10 - Coupling - Viking Johnson flange adaptor to suit 140OD mPVC class 9 pipe.	No	2		
J3		RAS Pumpstation No. 2 Drawing 408703/230P				
J3.1		Suction Pipework				
J3.1.1		PS1 - Coupling - Viking Johnson stepped coupling to suit 250NB steel pipe to be coupled to existing 300ND asbestos cement R.A.S pipe.	No	1		
J3.1.2		PS2 - Special - 250NB steel pipe to be developed on site linking PS1 to PS3.	No	1		
J3.1.3		PS3 - Closure - 250NB pipe flanged both ends, final site measure.	No	1		
J3.1.4		PS4 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J3.1.5		PS5 - Closure - 250NB pipe flanged both ends, final site measure.	No	1		
J3.1.6		VO1 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J3.1.7		PS6 - Special - 250NB steel pipe, flanged both ends, 2800mm f/f with two equal gusset tee's welded 405mm c/f from both ends of pipe. Gusset tee's to be 405mm c/f on all sides.	No	1		
J3.1.8		VO2 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J3.1.9		PS7 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J3.1.10		PS8 - Closure - 250NB pipe flanged both ends, approximately 730mm f/f, final site measure.	No	1		
J3.1.11		PS9 - Bend - 250NB, 45° M.R.B. Flanged both ends.	No	1		
J3.1.12		PS10 - Closure - 250NB pipe flanged both ends, approximately 2900mm f/f, final site measure.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J3.1.13		PS11 - Special - 250NB, 45° bend, flanged one end. Other end plain ended 400mm C/PE - final site measure with puddle flange welded 115mm from plain ended side.	No	1		
J3.1.14		VO3 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J3.1.15		VO4 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J3.1.16		PS12 - Closure - 250NB pipe flanged both ends, approximately 300mm f/f, final site measure.	No	1		
J3.1.17		PS13 - Reducer - 250x200ND concentric reducer. The 200mm end flanged to suit pump suction flange.	No	1		
J3.1.18		VO5 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J3.1.19		VO6 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J3.1.20		PS14 - Closure - 250NB pipe flanged both ends, approximately 300mm f/f, final site measure.	No	1		
J3.1.21		PS15 - Reducer - 250x200ND concentric reducer. The 200mm end flanged to suit pump suction flange.	No	1		
J3.2		Delivery Pipework				
J3.2.1		PD1 - Reducer - 250X200ND concentric reducer. The 200mm end flanged to suit pump delivery flange.	No	1		
J3.2.2		PD2 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J3.2.3		VO7 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J3.2.4		VO8 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J3.2.5		PD3 - 250NB pipe flanged both ends, approximately 520mm f/f, final site measure.	No	1		
J3.2.6		PD4 - Reducer - 250x200ND concentric reducer. The 200mm end flanged to suit pump delivery flange.	No	1		
		Carried forward / ...				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J3.2.7		PD5 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J3.2.8		VO9 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J3.2.9		V10 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J3.2.10		PD6 - Closure - 250NB pipe flanged both ends, approximately 520mm f/f, final site measure.	No	1		
J3.2.11		PD7 - Y-Piece - 45° lateral, flanged all ends.	No	1		
J3.2.12		PD8 - Unequal-Tee - 250x80ND tee, flanged all ends.	No	1		
J3.2.13		PD9 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J3.2.14		PD10 - Closure - 250NB pipe flanged both ends, approximately 2100mm f/f, final site measure - to ensure 600mm pipe crest cover.	No	1		
J3.2.15		PD11 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J3.2.16		PD12 - Adaptor - Viking Johnson flange adaptor to suit 200ND mPVC, class 6 pipe.	No	1		
J3.2.17		V11 - Valve - 80NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J3.2.18		V12 - Valve - 80NB PN10 ARV/Vacuum Breaker, Vent-O- Mat, RGX series, stainless steel AISI 304, double Orifice, flanged studded inlet to SANS 1123 - table 1000/3.	No	1		
J3.2.19		V13 - Valve - 123ND Orifice plate.	No	1		
J3.2.20		RL1 - Coupling - Coupling, galvanised screwed, 1½" male/1" female. Male screwed into pump air valve socket.	No	1		
J3.2.21		RL2 - Coupling - 1" galvanised coupling male/male. One end screwed into RL1. The other end screwed into 1" ball valve.	No	1		
J3.2.22		RL3 - Valve - 1" galvanised ball valve.	No	1		
J3.2.23		RL4 - Coupling - 1" galvanised coupling male/male. One end screwed into RL3. The other end screwed into union.	No	1		
J3.2.24		RL5 - Union - 1" galvanised union.	No	1		
J3.2.25		RL6 - Coupling - 1" galvanised coupling male/male. One end screwed into RL5. The other end screwed into air release valve.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J3.2.26		RL7 - Valve - Gorman Rupp GRP 33-30 air release valve.	No	1		
J3.2.27		RL8 - Coupling - Coupling, galvanised screwed, 1¼" male/1" female. Male screwed into outlet of air release valve.	No	1		
J3.2.28		RL9 - Piping - 1" galvanised piping to be cast into clarifier 2.	No			
J4		RAS Pumpstation No. 3 Drawing 408703/240P				
J4.1		Suction Pipework				
J4.1.1		PS1 - Bend - 90° M.R.B, 510mm C/PE, PE both ends.	No	2		
J4.1.2		PS2 - Pipe - 250NB pipe, plain ended both ends, approx 3540mm long, final site measure. One end welded to PS1 and the other end welded to PS3.	No	2		
J4.1.3		PS3 - Bellmouth - 250x350 Bellmouth welded to PS2.	No	2		
J4.1.4		PS4 - Closure - 250NB pipe, PE both ends, final site measure.	No	2		
J4.1.5		PS5 - 250x200ND concentric reducer. The 200mm end flanged to suit pump suction flange.	No	2		
J4.2		Delivery Pipework	No	2		
J4.2.1		PD1 - Reducer - 250x200ND concentric reducer. The 200mm end flanged to suit pump delivery flange.	No	1		
J4.2.2		PD2 - Closure - 250NB pipe, flanged both ends, final site measure.	No	1		
J4.2.3		PD3 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J4.2.4		VO1 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J4.2.5		VO2 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J4.2.6		PD4 - Closure - 250NB pipe flanged both ends, approximately 520mm f/f, final site measure.	No	1		
J4.2.7		PD5 - Reducer - 250x200ND concentric reducer. The 200mm end flanged to suit pump delivery flange.	No	1		
J4.2.8		PD6 - Closure - 250NB pipe, flanged both ends, final site measure.	No	1		
J4.2.9		PD7 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J4.2.10		VO3 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J4.2.11		VO4 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J4.2.12		PD8 - Closure - 250NB pipe flanged both ends, approximately 520mm f/f, final site measure.	No	1		
J4.2.13		PD9 - Y-Piece - 45° Lateral, flanged all ends.	No	1		
J4.2.14		VO5 - Valve - 123ND Orifice plate.	No	1		
J4.2.15		PD10 - Unequal-Tee - 250x80ND tee, flanged all ends.	No	1		
J4.2.16		VO6 - Valve - 80NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J4.2.17		VO7 - Valve - 80NB PN10 ARV/Vacuum Breaker, Vent-O- Mat, RGX series, stainless steel AISI 304, double Orifice, flanged studded inlet to SANS 1123 - table 1000/3.	No	1		
J4.2.18		PD11 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J4.2.19		PD12 - Closure - 250NB pipe flanged both ends, approximately 2440mm f/f, final site measure to ensure 600mm min. pipe crest cover.	No	1		
J4.2.20		PD13 - Bend - 250NB, 90° M.R.B. Flanged both ends.	No	1		
J4.2.21		PD14 - Adaptor - Viking Johnson flange adaptor to suit 200ND mPVC, class 6 pipe.	No	1		
J4.2.22		RL1 - Coupling - Coupling, galvanised screwed, 1½" male/1" female. Male screwed into pump air valve socket.	No	1		
J4.2.23		RL2 - Coupling - 1" galvanised coupling male/male. One end screwed into RL1. The other end screwed into 1" ball valve.	No	1		
J4.2.24		RL3 - Valve - 1" galvanised ball valve.	No	1		
J4.2.25		RL4 - Coupling - 1" galvanised coupling male/male. One end screwed into RL3. The other end screwed into union.	No	1		
J4.2.26		RL5 - Union - 1" galvanised union.	No	1		
J4.2.27		RL6 - Coupling - 1" galvanised coupling male/male. One end screwed into RL5. The other end screwed into air release valve.	No	1		
J4.2.28		RL7 - Valve - Gorman Rupp GRP 33-30 air release valve.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J4.2.29		RL8 - Coupling - Coupling, galvanised screwed, 1½" male/1" female. Male screwed into outlet of air release valve.	No	1		
J4.2.30		RL9 - Piping - 1" galvanised piping to be cast into clarifier 2.	No	1		
J5		RAS Pumpstation No. 1 Drawing 408703/250P				
J5.1		Suction Pipework				
J5.1.1		PS1 - Coupling - Viking Johnson stepped coupling to suit 250NB steel pipe to be coupled to new 300ND mPVC, class 9 R.A.S pipe.	No	1		
J5.1.2		PS2 - Special - 250NB steel pipe to be developed on site linking PS1 to PS3.	No	1		
J5.1.3		PS3 - Bend - 250NB, 45o medium radius bend, flanged both ends.	No	1		
J5.1.4		PS4 - Y-Piece - 45o lateral, flanged all ends.	No	1		
J5.1.5		PS5 - Closure - 250NB pipe flanged both ends, to be developed on site.	No	1		
J5.1.6		VO1 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J5.1.7		VO2 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J5.1.8		PS6 - Bend - 250NB, 45° medium radius bend, flanged both ends, to be developed on site.	No	1		
J5.1.9		PS7 - Reducer - 250x200ND concentric reducer. The 200mm end flanged to suit pump suction flange.	No	1		
J5.1.10		PS8 - Closure - 250NB pipe flanged both ends, to be developed on site.	No	1		
J5.1.11		VO3 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J5.1.12		VO4 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J5.1.13		PS9 - Bend - 250NB, 45o medium radius bend, flanged both ends, to be developed on site.	No	1		
J5.1.14		PS10 - Reducer - 250x200ND concentric reducer. The 200mm end flanged suit pump suction flange.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J5.1.15		PS11 - Closure - 250NB pipe, approximately 5200mm long, flanged both ends. Pipe to be developed on site.	No	1		
J5.2		Delivery Pipework				
J5.2.1		PD1 - Reducer - 250x200ND concentric reducer. The 200mm end flanged to suit pump delivery flange.	No	1		
J5.2.2		PD2 - Bend - 250NB, 90° M.R.B. flanged both ends.	No	1		
J5.2.3		VO5 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J5.2.4		VO6 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J5.2.5		PD3 - Closure - 250NB pipe flanged both ends, approximately 520mm F/F, Final site measure.	No	1		
J5.2.6		PD4 - Y-piece - 45° lateral, flanged all ends.	No	1		
J5.2.7		PD5 - Reducer - 250x200ND concentric reducer. The 200mm end flanged to suit pump delivery flange.	No	1		
J5.2.8		PD6 - Bend - 250NB, 90° M.R.B. flanged both ends.	No	1		
J5.2.9		VO7 - Valve - 250NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J5.2.10		VO8 - Valve - 250NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J5.2.11		PD7 - Closure - 250NB pipe flanged both ends, approximately 520mm F/F, final site measure to ensure 600mm min. cover to crest.	No	1		
J5.2.12		VO9 - Valve - 137ND Orifice plate.	No	1		
J5.2.13		PD8 - Unequal-Tee - 250/80 ND tee, flanged all ends.	No	1		
J5.2.14		PD9 - Bend - 250NB, 90° M.R.B. flanged both ends.	No	1		
J5.2.15		PD10 - Closure - 250NB pipe flanged both ends, approximately 2100mm F/F, final site measure.	No	1		
J5.2.16		PD11 - Bend - 250NB, 90° M.R.B. flanged both ends.	No	1		
J5.2.17		PD12 - Adaptor - Viking Johnson flange adaptor to suit 200ND mPVC, class 6 pipe	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J5.2.18		V10 - Valve - 80NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J5.2.19		V11 - Valve - 80NB PN10 ARV/Vacuum Breaker, Vent-O- Mat, RGX series, stainless steel AISI 304, double Orifice, flanged studded inlet to SANS 1123 - table 1000/3.	No	1		
J5.2.20		RL1 - Coupling - Coupling, galvanised screwed, 1¼ "male/1" female. Male screwed into pump air valve socket.	No	1		
J5.2.21		RL2 - Coupling - 1" Galvanised coupling male/male. One end screwed into RL1. The other end screwed into 1" ball valve.	No	1		
J5.2.22		RL3 - Valve - 1" galvanised ball valve.	No	1		
J5.2.23		RL4 - Coupling - 1" galvanised coupling male/male. One end screwed into RL3. The other end screwed into RL5.	No	1		
J5.2.24		RL5 - Union - 1" galvanised union.	No	1		
J5.2.25		RL6 - Coupling - 1" galvanised coupling male/male. One end screwed into RL5. The other end screwed into air release valve.	No	1		
J5.2.26		RL7 - Valve - Gorman Rupp GRP 33-30 air release valve.	No	1		
J5.2.27		RL8 - Coupling - Coupling, Galvanised screwed, 1¼ "male/1" female. Male screwed into outlet of air release valve.	No	1		
J5.2.28		RL9 - Piping - 1" Galvanised piping to be cast into clarifier 1.	No	1		
J6		Scum Pumpstation No. 2 & 3 Drawing 408703/260P				
J6.1		Suction Pipework				
J6.1.1		PS1 - Special - 80NB, 90° M.R.B, one leg flanged 790mm long C/F and the other leg P.E 3370mm C/PE. Final Site Measure.	No	2		
J6.1.2		PS2 - Reducer - 80x50NB concentric reducer. The 50mm end flanged to suit pump suction flange.	No	2		
J6.1.3		PS3 - Bellmouth - 100x80NB bell mouth with 80NB end welded to 3370mm leg of PS1.	No	2		
J6.2		Delivery Pipework				
J6.2.1		PD1 - Reducer - 80x50ND concentric reducer. The 50mm end flanged to suit pump delivery flange.	No	1		
J6.2.2		PD2 - Closure - 80NB pipe flanged both ends, final measurement on site.	No	1		
J6.2.3		PD3 - Bend - 80NB, 90° M.R.B. Flanged both ends.	No	1		
		Carried forward / ...				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J6.2.4		VO1 - Valve - 80NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J6.2.5		VO2 - Valve - 80NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J6.2.6		PD4 - Closure - 80NB pipe flanged both ends, approximately 580mm f/f, final site measure.	No	1		
J6.2.7		PD5 - Y-Piece - 45° lateral, flanged all ends.	No	1		
J6.2.8		PD6 - Reducer - 80x50ND concentric reducer. The 50mm end flanged to suit pump delivery flange.	No	1		
J6.2.9		PD7 - Closure - 80ND pipe flanged both ends, final measurement on site.	No	1		
J6.2.10		PD8 - Bend - 80ND, 90° M.R.B. Flanged both ends.	No	1		
J6.2.11		VO3 - Valve - 80NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J6.2.12		VO4 - Valve - 80NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J6.2.13		PD9 - Closure - 80NB pipe flanged both ends, approximately 580mm f/f, final site measure.	No	1		
J6.2.14		PD10 - Unequal-tee - 80x50NB tee, flanged all ends.	No	1		
J6.2.15		VO5 - Valve - 50NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J6.2.16		VO6 - Valve - 50NB PN10 ARV/Vacuum Breaker, Vent-O- Mat, RGX series, stainless steel AISI 304, double Orifice, flanged studded inlet to SANS 1123 - table 1000/3.	No	1		
J6.2.17		PD11 - Bend - 80NB, 90° M.R.B. flanged both ends.	No	1		
J6.2.18		PD12 - Closure - 80NB pipe flanged both ends, approximately 1800mm f/f, final site measure to 600mm min. Cover to pipe crest.	No	1		
J6.2.19		PD13 - Bend - 80NB, 90° M.R.B. flanged both ends.	No	1		
J6.2.20		PD14 - Adaptor - Viking Johnson flange adaptor to suit 75ND mPVC, class 6 pipe.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J7		Scum Pumpstation No. 1 Drawing 408703/270P				
J7.1		Suction Pipework				
J7.1.1		PS1 - Special - 80NB, 90° M.R.B, one leg flanged 790mm long C/F and the other leg P.E 3370mm C/PE. Final site measure.	No	2		
J7.1.2		PS2 - Reducer - 80x50NB concentric reducer. The 50mm end flanged to suit pump suction flange.	No	2		
J7.1.3		PS3 - Bellmouth - 100x80NB Bell mouth with 80NB end welded to 3370mm leg of PS1.	No	2		
J7.2		Delivery Pipework				
J7.2.1		PD1 - Reducer - 80x50NB concentric reducer. The 50mm end flanged to suit pump delivery flange.	No	2		
J7.2.2		PD2 - Closure - 80NB pipe flanged both ends, final measure on site.	No	2		
J7.2.3		PD3 - Bend - 80NB, 90° M.R.B. flanged both ends.	No	2		
J7.2.4		VO1 - Valve - 80NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	2		
J7.2.5		VO2 - Valve - 80NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J7.2.6		PD4 - Closure - 80NB pipe flanged both ends, approximately 580mm F/F, final site measure.	No	1		
J7.2.7		PD5 - Y-piece - 45° lateral, flanged all ends	No	1		
J7.2.8		PD6 - Reducer - 80x50NB concentric reducer. The 50mm end flanged to suit pump delivery flange.	No	1		
J7.2.9		PD7 - Closure - 80NB pipe flanged both ends, final measure on site.	No	1		
J7.2.10		PD8 - Bend - 80NB, 90° M.R.B. flanged both ends.	No	1		
J7.2.11		VO3 - Valve - 80NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	1		
J7.2.12		VO4 - Valve - 80NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J7.2.13		PD9 - Closure - 80NB pipe flanged both ends, approximately 580mm F/F, final measure on site.	No	1		
J7.2.14		PD10 - Unequal-Tee - 80/50 NB Tee, flanged all ends.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J7.2.15		VO5 - Valve - 50NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J7.2.16		VO6 - Valve - 50NB PN10 ARV/Vacuum Breaker, Vent-O- Mat, RGX series, stainless steel AISI 304, double Orifice, flanged studded inlet to SANS 1123 - table 1000/3.	No	1		
J7.2.17		PD11 - Bend - 80NB, 90° M.R.B. flanged both ends.	No	1		
J7.2.18		PD12 - Closure - 80NB pipe flanged both ends, approximately 1800mm F/F, final site measure to 600mm min. pipe crest cover.	No	1		
J7.2.19		PD13 - Bend - 80NB, 90° M.R.B. flanged both ends.	No	1		
J7.2.20		PD14 - Adaptor - Viking Johnson flange adaptor to suit 75ND mPVC, class 6 pipe.	No	1		
J8		Final Effluent Pumpstation to Inlet/Dewatering Drawing 408703/280P				
J8.1		Suction Pipework				
J8.1.1		PS1 - Reducer - 100/80ND eccentric reducer welded to 650mm long x 100ND, final site measure, P.E. spool piece. 80ND end flanged to suit pump suction flange .	No	2		
J8.1.2		PS2 - Bend - 100ND, 90 degree, P.E. medium radius bend. One end welded to 100ND spool piece C/PE 5100mm. Other end welded to PS1	No	2		
J8.1.3		PS3 - Special - 200/100ND Bell mouth with 100ND end welded to PS2.	No	2		
J8.2		Delivery Pipework				
J8.2.1		PD1 - Reducer - 100/80mm ND concentric reducer flanged both ends. 80ND end flanged to suit pump delivery flange.	No	2		
J8.2.2		PD2 - Spool - 500mm x 100ND spool piece, flanged both ends.	No	2		
J8.2.3		PD3 - Bend - 100ND, 90° medium radius bend, flanged both ends.	No	6		
J8.2.4		VO1 - Valve - 100NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door, cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum.	No	2		
J8.2.5		VO2 - Valve - 100NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet, with fusion bonded epoxy coating internally and externally to 250micron minimum.	No	4		
J8.2.6		PD4 - Spool - 1000mm x 100ND spool piece, flanged both ends.	No	2		
J8.2.7		PD5 - Special - 100ND x 60° lateral, flanged all ends.	No	1		
J8.2.8		PD6 - T-piece - 100/50 tee piece, flanged all ends.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J8.2.9		VO3 - Valve - 50NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non rising spindle, handwheel operated, SG iron body and bonnet, with fusion bonded epoxy coating internally and externally to 250 Micron minimum.	No	1		
J8.2.10		VO4 - Valve - 50NB PN10 ARV/Vacuum breaker, vent-o-mat, RGX series, stainless steel AISI 304, double orifice, flanged studded inlet to SANS 1123 - Table 1000/3	No	1		
J8.2.11		PD7 - Special - 100ND, sweep tee, flanged all ends.	No	1		
J8.2.12		PD8 - Pipe - 100ND pipe, flanged both ends, aprox. 1700 F/F. Final site measure to ensure 600mm cover.	No	1		
J8.2.13		PD9 - Pipe - 100ND pipe, flanged both ends, aprox. 1900 F/F. Final site measure to ensure 600mm cover.	No	1		
J8.2.14		PD10 - Coupling - Viking Johnson flange adaptor to suit 110 OD mPVC class 9 pipe.	No	2		
J9		WAS to Lagoon Pumpstation Drawing 408703/290P				
J9.1		Suction Pipework				
J9.1.1		PS1 - Bend - 150ND, 90° P.E. medium radius bend. One end welded to 150ND P.E. spool piece, C/PE approx. 4850mm long (FSM), the tother end welded to PS3.	No	2		
J9.1.2		PS2 - Special - 250x150ND bell mouth with 150ND end welded to PS1.	No	2		
J9.1.3		PS3 - Spool - 150ND, spool piece, approx 500mm long, one end flanged to suit pump suction flange, the other end welded to PS1.	No	2		
J9.2		Delivery Pipework				
J9.2.1		PD1 - Spool -250mmx150ND spool piece, flanged both ends, FSM.	No	2		
J9.2.2		PD2 - Bend - 150ND, 90° medium radius bend, flanged both ends.	No	4		
J9.2.3		V13 - Valve - 150NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door; cast iron hinge, 304 S/S hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum thickness.	No	1		
J9.2.4		V14 - Valve - 150NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non-rising spindle, handwheel operated, SG iron body and bonnet, with fusion bonded epoxy coating internally and externally to 250 micron minimum thickness.	No	1		
J9.2.5		PD3 - Spool - 495mm x 150ND spool piece, flanged both ends. FSM	No	2		
J9.2.6		PD4 - Special - 150ND x 60° lateral, flanged all ends.	No	1		
J9.2.7		V15 - Valve - 150NB PN10 single door non return valve to SANS 144 (AVK or similar approved), SG iron body, cover and door; cast iron hinge, 304 s/s hinge pin, double flanged with epoxy paint coating internally and externally to 250 micron minimum thickness.	No	1		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
J9.2.8		V16 - Valve - 150NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise closing, non-rising spindle, handwheel operated, SG iron body and bonnet, with fusion bonded epoxy coating internally and externally to 250 micron minimum thickness.	No	1		
J9.2.9		PD5 - Tee-piece - 150x80ND tee piece, flanged all ends.	No	1		
J9.2.10		V17 - Valve - 80NB PN10 RSV gate valve (AVK or similar approved), flanged both ends, clockwise, non-rising spindle, handwheel operated, SG iron body and bonnet, with fusion bonded epoxy coating internally and externally to 250 micron minimum.	No	1		
J9.2.11		V18 - Valve - 80NB PN10 ARV/Vacuum breaker, Vent-O-Mat, RGX Series, stainless steel AISI 304, double Orifice, flanged studded inlet to SANS 1123 - table 1000/3.	No	1		
J9.2.12		PD6 - Pipe - 150ND pipe, flanged both ends, approx. 2300 f/f. Final site measure to ensure 600mm cover.	No	1		
J9.2.13		PD7 - Coupling - Viking Johnson flange adaptor to suit 160ND mPVC class 9 pipe.	No	1		
J9.2.14		I1 - Instrument - Pear ball level controllers, controlling high level on and low level off functionality. To be installed according to manufacturers specification.	No	4		
J9.2.15		RL1 - Coupling - Coupling, galvanised screwed, 1½" male/1" female. Male screwed into pump air valve socket.	No	1		
J9.2.16		RL2 - Coupling - 1" Galvanised coupling male/male. One end screwed into RL1. The other end screwed into 1" ball valve.	No	1		
J9.2.17		RL3 - Valve - 1" galvanised ball valve.	No	1		
J9.2.18		RL4 - Coupling - 1" Galvanised coupling male/male. One end screwed into RL3. The other end screwed into RL5.	No	1		
J9.2.19		RL5 - Union - 1" galvanised union.	No	1		
J9.2.20		RL6 - Coupling - 1" galvanised coupling male/male. One end screwed into RL5. The other end screwed into air release valve.	No	1		
J9.2.21		RL7 - Valve - Gorman Rupp GRP 33-30 air release valve.	No	1		
J9.2.22		RL8 - Coupling - Coupling, galvanised screwed, 1½" male/1" female. Male screwed into outlet of air release valve.	No	1		
J9.2.23		RL9 - Piping - 1" galvanised piping to be cast into Clarifier 1.	No	1		
		TOTAL SECTION J: Carried to Summary				

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		SECTION K : BUILDING WORKS				
		SUBSTATION BUILDING				
K1	SANS 1200 D	Earthworks & Preparation				
K1.1	8.3.3 (a)	Restricted Excavation to trenches including intermediate material for strip footings, backfill and compact to 95 % MOD AASHTO Max Dry density (100% if sand) and spoil on site	m ³	100		
K1.2	8.3.4	Import and place 150 mm G5 material, compacted to 95% MOD AASHTO Max Dry density, under solid floor.	m ³	25		
K1.3	8.3.4	Import and place granular fill material where required, compacted to 98% MOD AASHTO Max Dry density (100% if sand), under solid floors, outside landing and ducts.	m ³	5		
K1.4	8.3.4	50mm thick layer of approved clean builders sand raked smooth under solid floors to receive damp proof sheeting and compact to 100% MOD AASHTO Max Dry density	m ³	5		
K2	8.1.1.6	Formwork				
K2.1	8.2.2	Smooth Formwork, including cutting, small angle fillets not exceeding 20mm x 20mm etc., to produce a smooth finish as from a new steel shutter including filling imperfections with cement grout and rubbing down excrescences, etc., to:				
K2.1.1		Soffits of suspended slabs	m ²	120		
K2.1.2		Extra-over Item K2.1.1 to form 16mm half round drip channel along roof slab edges	m	50		
K2.2	8.2.5	Narrow widths up to 300 mm wide including small angle fillets not exceeding 20mm x 20mm to :				
K2.2.1		Sides of suspended roof slab	m	50		
K2.2.2		Surface beds	m	60		
K3	8.1.2.3 PSG 8.1.2	Reinforcement				
K3.1		High-Tensile Steel Bars of all diameters	t	3		
K3.2	8.3.2	High-tensile welded mesh (standard sheets of 6.0 m x 2.4 m) for :				
K3.2.1	8.3.2	Mesh Ref 617	m ²	230		
K3.2.2	8.3.2	Mesh Ref 245	m ²	90		
K3.2.3	8.3.2	Mesh Ref 193	m ²	40		
K4	8.1.3.3	Concrete				
K4.1		Strength concrete : 15 MPa / 19 mm to:				
K4.1.1	8.4.2	50 mm Blinding layer	m ²	5		
K4.1.2		Mass concrete where ordered by the Engineer	m ³	15		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
K4.2	8.4.3	Strength concrete : 20 MPa / 19 mm to:				
K4.2.1		Strip footings and landings	m ³	20		
K4.3	8.4.3	Strength concrete : 25 MPa / 19 mm to:				
K4.3.1		Surface bed 170 mm thick	m ³	20		
K4.4	8.4.3	Strength concrete : 30 MPa / 19 mm (with 30% PFA) to:				
K4.4.1		Suspended roof slab	m ³	25		
K4.5	8.4.3	Strength concrete : 40 MPa / 19 mm to:				
K4.5.1		Surface bed 170 mm thick with Degree of Accuracy of 1	m ³	15		
K4.6	8.4.3	Strength concrete : 25 MPa / 13 mm to:				
K4.6.1		Brickwork cavity infill up to finished floor level	m ³	10		
K4.6.1		Brickwork cavity infill above lintols	m ³	2		
K4.7		Extra-over Item K3.4.1 for:				
K4.7.1		Slushing to underside of suspended slab to accept plaster	m ²	90		
K4.7.2		Plaster to underside of roof slab	m ²	90		
K5	8.4.4	Unformed Surfaces Finishes				
K5.1		Wood float to suspended roof slab	m ²	120		
K5.2		Steel float to surface beds, landings and aprons	m ²	80		
K6		Joints				
	8.5	Construction joints, including sealing and cutting (as per Drawing 408703/006-2) for:				
K6.1		Joint C (Toggle joint)	m	90		
K6.2		Movement Joint	m	15		
K6.3		Two layers ABE 5 mm tempered Masonite placed on top of brickwork prior to casting concrete roof to form slip joint	m	60		
K7		Rectagrid covers				
K7.1		Supply and cast into concrete 45 x 45 x 5 angles with 10 mm dia. X 150 mm long split ended lugs welded to angle at 500mm c/c	m	60		
K7.2		Supply and install RS40 Rectagrid (40mm x 3mm bearer with banding) complete	m ²	20		
K8		Brickwork				
K8.1		230 mm wide brickwork - both faces, plastered and painted. Rate to include brickforce at every fourth coarse. (Above floor)	m ²	50		
K8.2		230 mm wide brickwork to internal trenches - both faces, plastered and painted. Rate to include brickforce at every fourth coarse and 3 x ABE Flintcote to internal face of wall. (Below floor)	m ²	20		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
K8.3		230 mm wide brickwork (Engineering bricks) to external cable trench - internal face pointed. Rate to include brickforce at every fourth coarse and 3 x ABE Flintcote to internal face of wall.	m ²	510		
K8.4		110 mm wide brickwork (Engineering bricks) to external cable trench - both faces pointed.	m ²	105		
K8.5		270 mm wide cavity wall in stretcher bond with 50mm cavity between the faces, external skin face brick (Iron Spot Satin), internal skin stock, plastered and painted. Rate to include wall ties at 1000 mm ^c / _c every fourth course, all pointing and nosing, 10 MPa mortar and 3 x ABE Flintcote to internal face of wall. (Above floor)	m ²	110		
K8.6		270 mm wide cavity wall in stretcher bond with 50 mm cavity between the faces, both skins stock, face brick min 3 courses below final ground level, 3 x ABE flintcote on all inner skin brickwork. Rate to include brickforce every course, 10 MPa mortar. (Below floor)	m ²	95		
K8.7		110mm wide brickwork to internal walls (Provisional)	m ²	10		
K8.9		Supply and bed on 10 MPA mortar precast concrete lintols for :				
K8.9.1		110 mm	No			
K8.9.2		160 mm	No			
K8.9		108 mm lintols for duct openings	m	10		
K8.10		108 mm lintols for door/louvre openings	m	20		
K8.11		150 mm lintols for door/louvre openings	m	20		
K8.12		Construct sump complete as shown on Drawing 408703/006-2	Sum	-	-	
K9		Waterproofing				
K9.1		Supply, deliver and apply 4mm TORCHON water proofing membrane (EX ABE) to roof slab	m ²	130		
K9.2		250 Micron Polyethylene sheet to underside of floor slabs	m ²	65		
K9.4		Sikaflex-Pro 2HP around doors, louvres and fans internal and external	m	100		
K9.5		375 micron brickgrip DPC on mortar fillet to 370 external wall at floor level	m	45		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
K10		Carpentry and Joinery				
K10.1		Doors and Frames				
K10.1.1		Supply and install weatherproof Aluminium - Black powder coated double door as per IDZ spec D 1, 960(W) x 2550mm(H) , with 450mm(H) removable louvre panel, including frame. Rate to include tying in of doorframe and all jointing / nosing required.	No	5		
K10.1.2		Supply and install weatherproof Aluminium - Black powder coated door as per IDZ spec D 1, 020(W) x 2550mm(H) , with 450mm(H) removable louvre panel, including frame. Rate to include tying in of doorframe and all jointing / nosing required.	No	1		
K10.1.3		Supply and install 600 x 425mm TROX (code awr +wms) stove enamelled weathererd louvres fixed back to back with nylon insect screen sandwiched between galvanized mesh and rear of louvre screw fixed to 50x50mm sub-frame painted with 3 x coats ABE Flintcote	No	6		
K10.1.4		Supply, deliver and install Permanent Louvres 1413mm (W) x 1333mm (H),Black powder coated, including Mesh and insect screen. Rate to include tying in and all jointing / nosing required.	No	1		
K10.1.5		Supply and install 3 lever locksets to external doors. Rate to include all reaming, cutting and sundries.	No	5		
K11		Painting				
		Prepare and apply one filler coat, one undercoat and two coats "Plascon" acrylic emulsion paint for: (as per specification on Architect Drawings PE 265/141)				
K11.1		External walls				
K11.1.1		Plaster Band (Pebble Beach)	m ²	30		
K11.2		Internal walls				
K11.2.1		Plastered walls (Oatmeal)	m ²	220		
K11.2.2		Plastered soffit (White)	m ²	90		
K12		Ancillary works				
K12.1		Ducts				
		Supply and installation of "Kabelflex" high density (internal to plant rooms and external in the Site) polyethylene (HDPE) ducts with double wall construction, corrugated outer wall and smooth inner wall finish & couplings as detailed on Drawings 408703/006-1, -2 &-3				
K12.1.1		50 mm diameter (black)	m	25		
K12.1.2		110 mm diameter (black)	m	25		
K12.1.3		160 mm diameter (black)	m	10		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
		Brought forward / ...				
		EXISTING BUILDINGS				
K13		Painting				
K13.1		Internal walls				
		Prepare and apply one filler coat, one undercoat and two coats Professional super acrylic matt (Oatmeal) paint to internal walls of (as per Architect specification):				
K13.1.1		Dewatering Building (Drawing PE 265/311)	m ²	470		
K13.1.2		New Chlorine Dosing Building (Drawing PE 265/121)	m ²	125		
K13.1.3		Inlet works Building (Drawing PE 265/803)	m ²	300		
K13.1.4		Control Room (Drawing PE 265/101)	m ²	95		
K13.1.5		Blower Room (Drawing PE 265/131)	m ²	220		
K13.1.6		Guard House (Drawing PE 265/801)	m ²	75		
K13.1.7		Existing Substation Building	m ²	240		
K13.1.8		Existing Chlorine Dosing Building (Below Control Room)(Drawing PE 265/302)	m ²	175		
K13.2		External walls				
K13.2.1		Prepare and apply as per Architect detail two coats "Wall and All" (Pebble Beach) paint to external walls of:				
K13.2.2		Existing Gonubie Inlet Works flow monitoring building	m ²	15		
K13.2.3		Existing Beacon Bay Inlet Works flow monitoring building	m ²	15		
K14		Tiling				
K14.1		Supply and fix approved, 1st grade quality, glazed ceramic tiles, to walls as per Architects specification for :				
K14.1.1		Control Room (Drawing PE265/101)	m ²	2		Rate Only
K14.1.2		Guard House (Drawing PE265/801)	m ²	2		Rate Only
K14.2		Supply and fix approved, 1st grade quality, glazed ceramic tiles, to floors as per Architects specification for :				
K14.2.1		Control Room (Drawing PE265/101)	m ²	40		
K14.2.2		Guard House (Drawing PE265/801)	m ²	20		
Carried forward / ...						

ITEM No	PAY REF	DESCRIPTION	UNIT	QTY	RATE	Total
K15		Brought forward / ... Miscellaneous Cut holes into existing 270mm cavity brickwork and make good for :				
K15.1		400 mm x 400 mm				
K15.1.1		Dewatering Building	No	2		
K15.1.2		Blower Room	No	3		
K15.2		500 mm x 500 mm				
K15.2.1		Blower Room	No	3		
		TOTAL SECTION K: Carried to Summary				

SUMMARY OF CIVIL SCHEDULE OF QUANTITIES

SECTION	DESCRIPTION	AMOUNT
A	Preliminary and General	R
B	Earthworks	R
C	Water Reticulation	R
D	Sewer Reticulation	R
E	Stormwater Reticulation	R
F	Cable Ducts	R
G	Roadworks	R
H	Concrete Works	R
I	Mechanical Works	R
J	Pumpstation Pipework	R
K	Building Works	R
TOTAL OF PRICED ITEMS Carried to Main Summary Page		R

Signed :

on behalf of :

Date :